

## INSTALLATION/OPERATION & TECHNICAL MANUAL

FOR JACKSON MODELS:

*Avenger™ HT*

*Avenger™ LT*



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## **MANUFACTURERS WARRANTY**

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

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

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

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

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

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

#### **TRAVEL LIMITATIONS**

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

#### **WARRANTY REGISTRATION CARD**

The warranty registration card supplied with the machine must be returned to Jackson MSC within 30 days to validate the warranty.

#### **REPLACEMENT PARTS WARRANTY**

Jackson replacement parts are warranted for a period of 90 days from the date of installation or 180 days from the date of shipment from the factory, whichever ever occurs first.

#### **PRODUCT CHANGES AND UPDATES**

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

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

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

#### **ITEMS NOT COVERED**

This warranty does not cover cleaning or deliming of the unit or any component such as, but not limited to, wash arms, rinse arms or strainers at anytime. Nor does it cover adjustments such as, but not limited to timer cams, thermostats or doors, beyond 30 days from the date of installation. In addition, the warranty will only cover the replacement of wear items such as curtains, drain balls, door guides or gaskets during the first 30 days after installation. Also, not covered are conditions caused by the use of incorrect (non-Commercial) grade detergents, incorrect water temperature or pressure, or hard water conditions.

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**CALL 1-888-800-5672 TO REGISTER THIS PRODUCT!  
FAILURE TO DO SO WILL VOID THE WARRANTY!**

**LLAME AL 1-888-800-5672 PARA REGISTRAR ESTE PRODUCTO!  
AL NO HACERLO LA GARANTIA SERA ANULADA!**

**S.V.P. APPELER 1-888-800-5672 POUR ENREGISTRER CE PRODUIT,  
LA GARANTIE SERA ANNULEE POUR TOUT PRODUIT NON- ENREGISTREE**

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## Avenger™ LT

Avenger™ HT = High temperature, hot water sanitizing, with a booster tank.  
Detergent & rinse aid chemical feeder pumps.

Avenger™ LT = Low temperature, chemical sanitizing, no booster tank.  
Detergent, rinse aid & sanitizer chemical feeder pumps.

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

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

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

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

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

Jackson MSC LLC. 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.

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# **SECTION 1: SPECIFICATION INFORMATION**

## SECTION 1: SPECIFICATION INFORMATION

### SPECIFICATIONS of the AVENGER™ HT

#### PERFORMANCE/CAPABILITIES

##### OPERATING CAPACITY (RACKS/HOUR)

RACKS PER HOUR	30
DISHES PER HOUR	600
GLASSES PER HOUR	600

##### OPERATING CYCLE (SECONDS)

WASH TIME	82
DRAIN TIME	28
RINSE TIME	10
TOTAL CYCLE TIME (MINUTES)	2

##### 5 MINUTE TIMER OPERATING CYCLE (SECONDS)

WASH TIME	262
DRAIN TIME	28
RINSE TIME	10
TOTAL CYCLE TIME (MINUTES)	5

##### TANK CAPACITY (LITERS) (GALLONS)

WASH TANK	(4.2) 1.1
RINSE TANK	(11.4) 3

#### TEMPERATURES

WASH--- (MINIMUM)	(65.6°C) 150°F
RINSE---(MINIMUM)	(82.2°C) 180°F

#### WATER REQUIREMENTS

INLET TEMPERATURE (MINIMUM)*	(43.3°C) 110°F
INLET TEMPERATURE (RECOMMENDED)	(60°C) 140°F
WATER LINE SIZE I.P.S. (MINIMUM)	1/2"
DRAIN LINE SIZE I.P.S. (MINIMUM)	1 1/2"
FLOW PRESSURE P.S.I.	20 ± 5

\* In some cases, this may automatically extend the wash cycle time.

#### ELECTRICAL REQUIREMENTS

WASH MOTOR HP 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.**

##### Avenger™ HT:

VOLTS	PH	HZ	RINSE HEATER RATINGS	TOTAL AMPS	TYPICAL ELECTRICAL CIRCUIT
208	1	60	8.2KW @ 230V	39 A	50 AMP
230	1	60	8.2KW @ 230V	42 A	60 AMP

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

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## SECTION 1: SPECIFICATION INFORMATION

### SPECIFICATIONS of the AVENGER™ LT

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#### PERFORMANCE/CAPABILITIES

##### OPERATING CAPACITY (RACKS/HOUR)

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

##### OPERATING CYCLE (SECONDS)

WASH TIME	56
DRAIN TIME	26
RINSE TIME	35
TOTAL CYCLE TIME	120

#### TEMPERATURES

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

#### WATER REQUIREMENTS

INLET TEMPERATURE (RECOMMENDED)	(60°C) 140°F
INLET TEMPERATURE (MINIMUM)	(48.9°C) 120°F
WATER LINE SIZE I.P.S. (MINIMUM)	1/2"
DRAIN LINE SIZE I.P.S. (MINIMUM)	1 1/2"
FLOW PRESSURE P.S.I.	20 ± 5
MINIMUM CHLORINE REQUIRED (PPM)	50

#### ELECTRICAL REQUIREMENTS

WASH MOTOR HP 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.**

#### Avenger™ LT:

<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	14 A	20 AMP

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

# SECTION 1: SPECIFICATION INFORMATION

## Avenger™ HT DIMENSIONS

**LEGEND:**

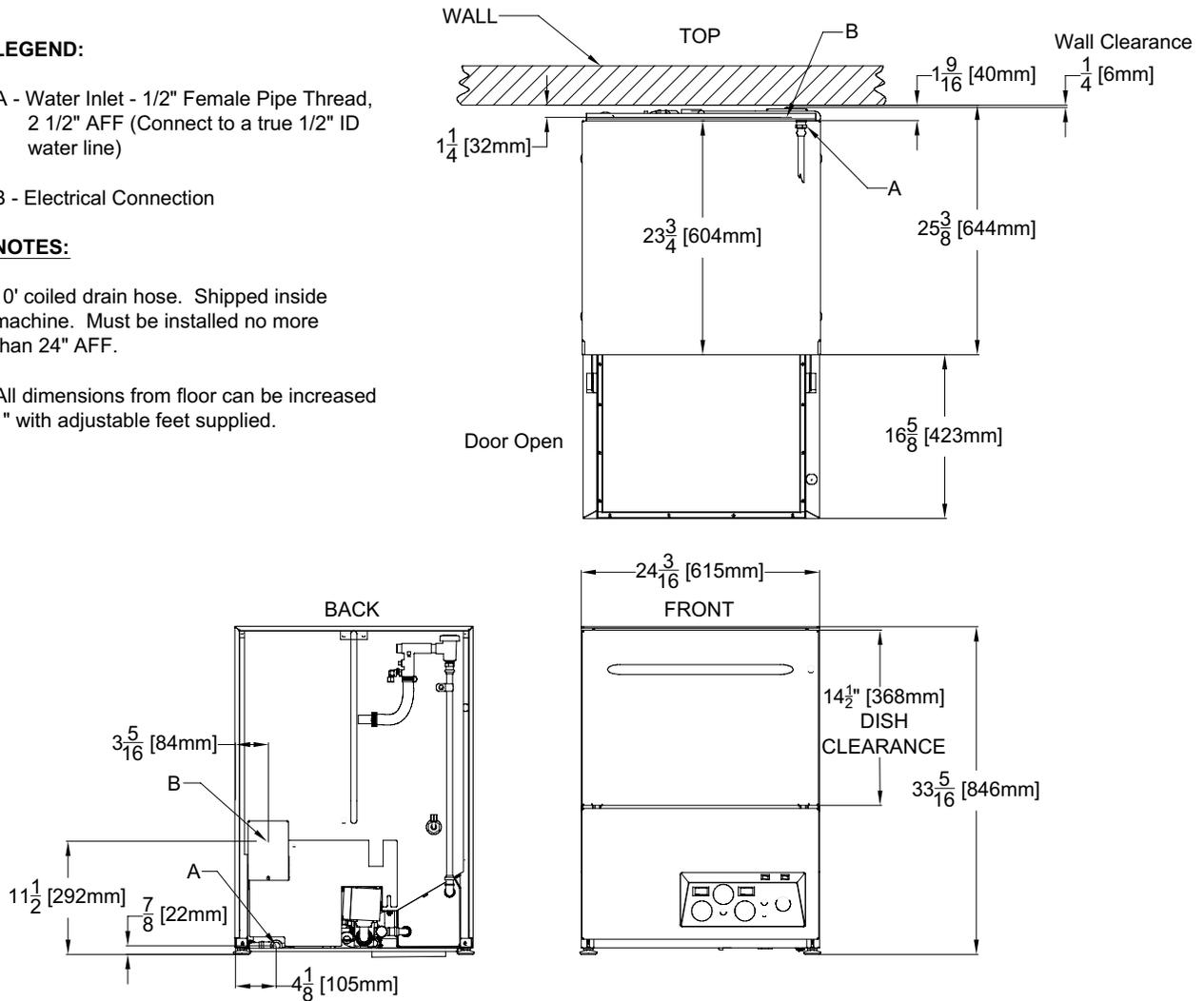
A - Water Inlet - 1/2" Female Pipe Thread, 2 1/2" AFF (Connect to a true 1/2" ID water line)

B - Electrical Connection

**NOTES:**

10' coiled drain hose. Shipped inside machine. Must be installed no more than 24" AFF.

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



\*All dimensions are for reference only and are subject to change without notice.

# SECTION 1: SPECIFICATION INFORMATION

## Avenger™ LT DIMENSIONS

### LEGEND:

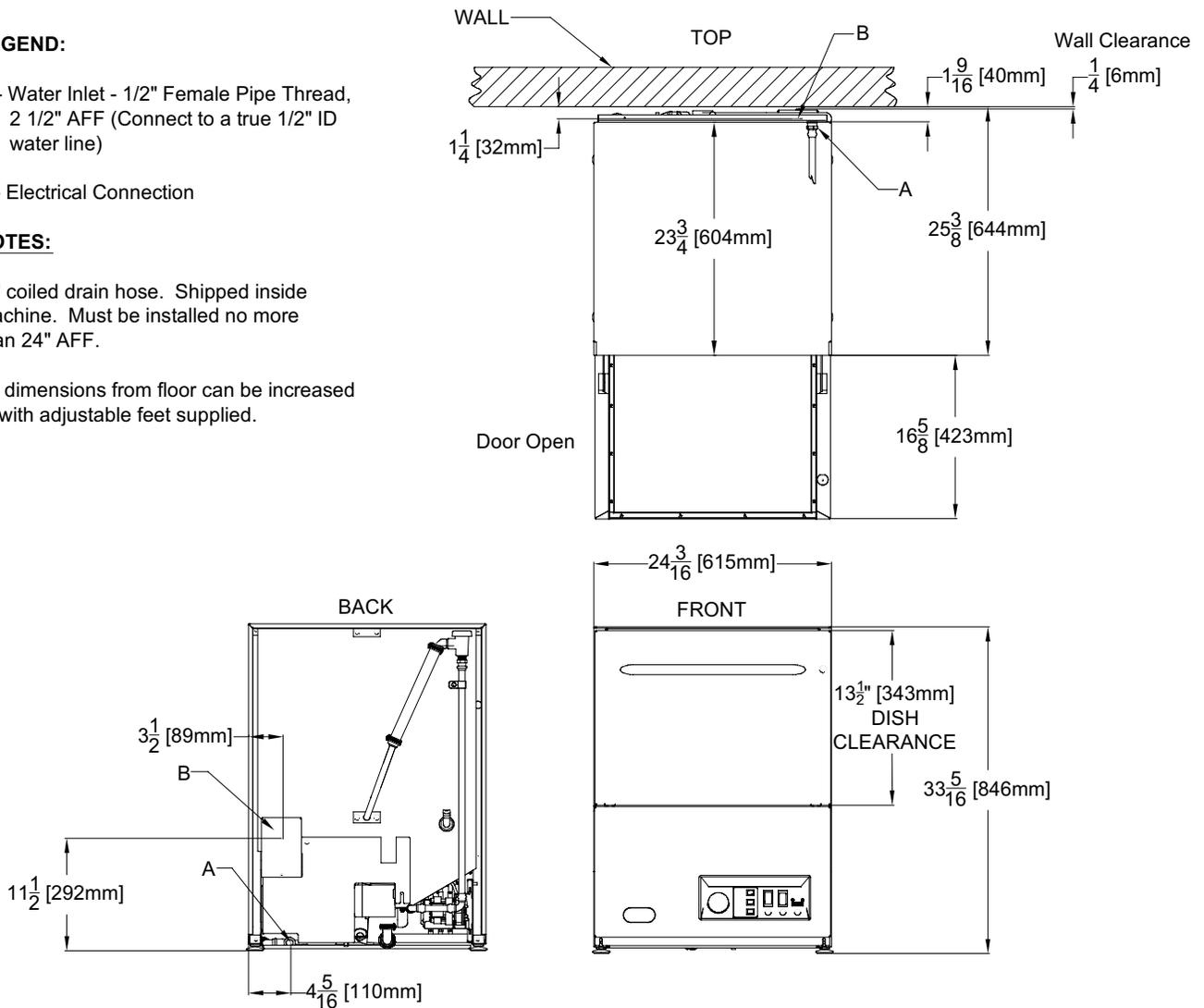
A - Water Inlet - 1/2" Female Pipe Thread,  
2 1/2" AFF (Connect to a true 1/2" ID  
water line)

B - Electrical Connection

### NOTES:

10' coiled drain hose. Shipped inside  
machine. Must be installed no more  
than 24" AFF.

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



\*All dimensions are for reference only and are subject to change without notice.

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**SECTION 2:  
INSTALLATION/OPERATION  
INSTRUCTIONS**

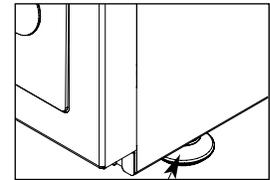
## SECTION 2: INSTALLATION/OPERATION INSTRUCTIONS

### 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 through which you purchased the unit.

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

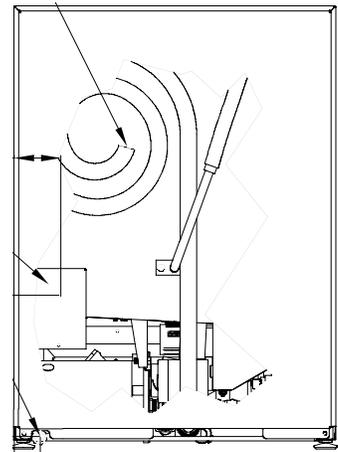
**LEVEL THE DISHMACHINE:** The dishmachine is designed to operate while being level. This is important to prevent any damage to the machine during operation and to ensure the best results when washing ware. The unit comes with adjustable bullet feet, which can be turned using a pair of channel locks or by hand if the unit can be raised safely. Ensure that the unit is level from side to side and from front to back before making any connections.



Adjustable Bullet Foot

**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. A water hardness test must be performed to determine if the HTS-11 (scale prevention and corrosion control) need to be installed. A hardness test kit is attached to the warning tag that is attached to the incoming plumbing connection on the back of the machine. If the hardness is higher than 5 GPG the HTS-11 will need to be installed, please contact Jackson immediately to have this item shipped to you.

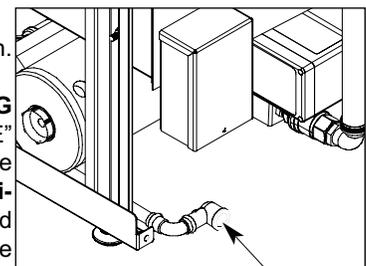
Drain Hose



Back of Machine Showing Drain Hose

**WATER SUPPLY CONNECTION FOR MACHINES WITH A WATER HARDNESS GREATER THAN 5 GPG:** Ensure that you have read the section entitled "PLUMBING THE DISHMACHINE" above before proceeding. Install the HTS-11 into the water line (1/2" ID pipe size minimum) before the dishmachine line incoming water connection point using copper pipe. The HTS-11 must be installed vertically. A mounting bracket is provided to facilitate the venture metering head to the wall. Observe proper inlet/outlet water directions. Flow directions are molded into the top of the head. It is recommended that a water shut-off valve be installed before the HTS-11 to allow access for servicing. Plumb from the HTS-11 outlet to the incoming water connection point using copper pipe (or order the 1/2" ID flexible hose kit offered by Jackson). The water supply line is to be capable of  $20 \pm 5$  PSI "flow" pressure at the recommended temperature indicated on the data plate. See "Shock Absorber" section.

**WATER SUPPLY CONNECTION FOR MACHINES WITH A WATER HARDNESS OF 5 GPG OR LESS:** Ensure that you have read the section entitled "PLUMBING THE DISHMACHINE" above before proceeding. Install the water supply line (1/2" ID pipe size minimum) to the dishmachine incoming water connection point using copper pipe (or order the 1/2" ID flexible hose kit offered by Jackson). 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  $20 \pm 5$  PSI "flow" pressure at the recommended temperature indicated on the data plate.



Back of unit showing Incoming Plumbing Water Connection

**PRESSURE REGULATOR:** Jackson has provided a water pressure regulator due to areas where the water pressure fluctuates or is lower than the recommended pressure. In some cases, you may not need the regulator and in those cases, the regulator may be removed. 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.

## SECTION 2: INSTALLATION/OPERATION INSTRUCTIONS

### ELECTRICAL INSTALLATION INSTRUCTIONS

**SHOCK ABSORBER:** It is also recommended that a shock absorber (not supplied) 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.

**CONNECTING THE DRAIN LINE:** The dishmachine has a pumped (pressure) drain capable of pumping waste water to a height of 24 inches from the floor to the kitchen's drain system. Each dishmachine is supplied with a 10 foot long hose. This ships inside the unit. When installed, it will extend from the rear side of the machine. There must also be an air gap between the machine drain line and the floor sink or drain. If a grease trap is required by code, it should have a flow capacity of 12 gallons per minute.

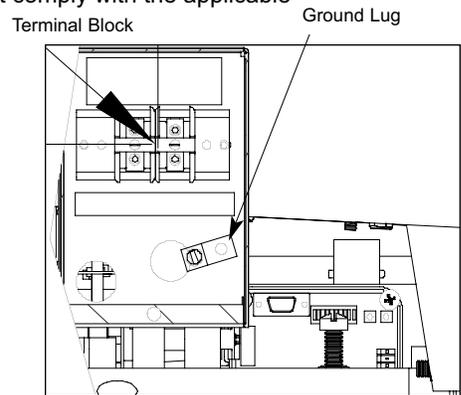
**PLUMBING CHECK:** Slowly turn on the water supply to the machine after the incoming fill line and the drain line have been installed. Check for any leaks and repair as required. All leaks must be repaired prior to placing the machine in operation.

**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 data plate is located toward the right front side of the dishmachine. Refer to the data plate for machine operating requirements, machine voltage, total amperage load and serial number.

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



Back of unit showing Terminal Block Box  
Electrical Connection

**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.

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## SECTION 2: INSTALLATION/OPERATION INSTRUCTIONS

### CHEMICAL DISPENSING EQUIPMENT



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

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

#### **TO PREPARE CHEMICAL FEEDER PUMPS FOR OPERATION**

The Avenger™ HT dishmachine is supplied with integral detergent and rinse aid chemical feeder pumps. The Avenger™ LT dishmachine is supplied with integral detergent, rinse additive and sanitizer chemical feeder pumps. Locate the open ends of the chemical tubes with the tube stiffeners and place each one in the appropriate container.

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

#### **PRIMING CHEMICAL 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 prime switches located on the control panel at the bottom of the unit to prime each pump. The switches are clearly marked as to what chemical feeder pump they are assigned to.
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.
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.
6. Sanitizer (either chlorine or iodine) is dispensed into the final rinse. The amount of sanitizer may need to be adjusted depending on the concentration and type of sanitizer used.
7. Please refer to the next page for instruction on adjusting the chemical feeder pumps on the universal 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.

## SECTION 2: INSTALLATION/OPERATION INSTRUCTIONS

### PROGRAMMING 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 and hold both the MOVE and ENTER buttons on the timer board simultaneously for two seconds.

The PROGRAM (PGM) light and light A will illuminate.

Note: 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 solid light to the desired location of FILL, RINSE AID, DETERGENT or SANITIZER. Please note that options A, B, C, and D are not adjustable outputs.

Press the ENTER button for the chosen category. Now, the (PGM) light will illuminate along with lights corresponding to the time values for the chosen category. The ACCEPT light will blink.

The PROGRAM light will illuminate.

To change the value of a parameter, use the MOVE button to illuminate the light next 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 illuminates 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.

The wash and drain settings are not adjustable.

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

Timer Programming Board

		PGM	<input type="checkbox"/>	
		A	<input type="checkbox"/>	8.0
		B	<input type="checkbox"/>	4.0
		C	<input type="checkbox"/>	2.0
		D	<input type="checkbox"/>	1.0
<b>Avenger™ HT</b>	<b>Avenger™ LT</b>	E	<input type="checkbox"/>	0.8
Not adjustable	Rinse Aid	F	<input type="checkbox"/>	0.4
Rinse	Fill	G	<input type="checkbox"/>	0.2
Detergent	Sanitizer	H	<input type="checkbox"/>	0.1
Rinse Aid	Detergent	ACCEPT	<input type="checkbox"/>	



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## SECTION 2: INSTALLATION/OPERATION INSTRUCTIONS

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### DETERGENT CONTROL

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

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

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

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

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

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

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

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

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

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## SECTION 2: INSTALLATION/OPERATION INSTRUCTIONS

### OPERATION INSTRUCTIONS

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

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

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

**FILLING THE WASH TUB:** For the initial fill, close the door and ensure that the MANUAL switch light is not on. Depress and hold the START CYCLE switch until the auto light comes on and then release the button. For the initial fill, run the machine through 3 cycles to fill the tub sump. The machine will run a partial cycle and fill to the bottom of the pan strainer. Open the door and verify that the water level is correct.



**NOTE: For the Avenger™ HT: Ensure the orange/white wires at the heater contactor are connected properly. They have been purposely disconnected at the factory to avoid damage to the heater element when there is no water in the booster heater.**

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

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

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

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

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

Push the START CYCLE button and hold until the green cycle light is on and then release, 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.

**WASHING A RACK OF WARE:** To wash a rack, open the door completely and slide the rack into the unit. Close the door, press the START CYCLE button and hold until the green cycle light is on and release, the unit will start. Once the cycle is completed, open the door and remove the rack of clean ware. Replace with a rack of soiled ware and close the door. The process will then repeat itself.

**OPERATIONAL INSPECTION:** Based upon usage, the pan strainer may become clogged with soil and debris as the workday progresses. Operators should regularly inspect the pan strainer to ensure it has not become clogged. If the strainer does, it will reduce the washing capability of the machine. Instruct operators to clean out the pan strainer at regular intervals or as required by work load.

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## SECTION 2: INSTALLATION/OPERATION INSTRUCTIONS

### OPERATION INSTRUCTIONS (CONTINUED)/DELIMING INSTRUCTIONS

**SHUTDOWN AND CLEANING:** At the end of the workday, close the door. Start a cycle. Wait approximately five seconds after the green cycle light comes on and then push the POWER OFF switch. This will put the machine in shutdown mode which will let the machine drain completely prior to shutting off. Once the wash tub is drained and power light is off, remove the pan 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 strainer and close the door.

**DELIMING OPERATIONS:** In order to maintain the dishmachine at its optimum performance level, it will be required to remove lime and corrosion deposits on a frequent basis. A deliming solution should be available from your detergent supplier. Read and follow all instructions on the label of the deliming solution.

**NOTE:** If this machine is equipped with a HTS-11, scale prevention and corrosion control device, and lime is becoming a frequent problem, the cartridge needs to be replaced. To order a replacement cartridge, call Jackson immediately to have one shipped to you.

To proceed with the deliming operation, fill the dishmachine and add the correct amount of deliming solution as recommended by the deliming solution manufacturer. The water capacity of the tank can be verified on the specification sheet(s) of this manual.

Perform the following operations to delime the dishmachine:

1. Push Manual Switch on the front of the control panel.
2. Close the door (after adding the deliming solution).
3. Run the machine for the recommended period of time.
4. Press the Power Switch to turn the unit off and open the door.
5. Wait five minutes, then inspect the inside of the machine. If the machine is not delimed, run another time cycle as per the deliming solution's instructions.
6. When clean, drain and re-fill the machine.
7. Run in MANUAL for 10 minutes to remove residual deliming solution.
8. Drain and re-fill the machine.

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## **SECTION 3: PREVENTATIVE MAINTENANCE**

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## SECTION 3: PREVENTATIVE MAINTENANCE

### PREVENTATIVE MAINTENANCE

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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.

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

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

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.

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## **SECTION 4: TROUBLESHOOTING**

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## SECTION 4: TROUBLESHOOTING SECTION

### COMMON PROBLEMS

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**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: Water overflow from bottom of door.**

1. Clogged drain. Remove obstruction.
2. Machine not level. Level machine, or increase height to the front.
3. Excessive inlet pressure. Install pressure reducing valve, or adjust if one is present. Ensure flow is 20 ± 5 PSI.
4. Detergent foaming. Reduce detergent quantity.

**Problem: Wash motor doesn't operate on manual wash.**

1. Loose or broken wires. Reconnect or replace wires in motor.
2. Defective manual wash switch. Replace.
3. Defective motor starting relay. Replace.

**Problem: Motor operates on manual wash but not on automatic.**

1. Defective circuit in manual wash switch. Replace switch.

**Problem: No water comes through the rinse arms when the "ON/FILL" switch is depressed.**

1. Water not turned on. Turn water on.
2. Defective solenoid valve. Replace solenoid valve.

**Problem: Little or no water coming through the rinse assemblies.**

1. Limed up rinse heads or piping. Delime rinse heads.
2. Low water pressure. Increase pipe size to machine. Adjust pressure regulator.

**Problem: Rinse water runs continuously with breaker turned off.**

1. Defective plunger in solenoid valve. Replace.
2. Defective diaphragm in solenoid valve. Replace diaphragm.

**Problem: Wash temperature not at required reading on thermometer.**

1. Check that orange/white wires are connected. See note on page 12.
2. Defective thermometer. Replace.
3. Defective thermostat. Adjust thermostat. Replace thermostat.
4. Rinse heater defective. Replace heater element.
5. Defective heater contactor R1. Replace.

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## SECTION 4: TROUBLESHOOTING SECTION

### COMMON PROBLEMS



**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: Rinse water not at required temperature range.**

1. Check that orange/white wires are connected. See note in installation instructions.
2. Thermometer is defective. Replace.
3. Thermostat is defective. Adjust the thermostat. Replace if necessary.
4. Incoming rinse water does not meet minimum criteria indicated on machine data plate. Adjust as required.

**Problem: Machine doesn't drain when "OFF/DRAIN" switch is pressed.**

1. Drain solenoid clogged. Remove obstruction.
2. Defective motor or motor start relay. Replace.
3. Defective drain valve. Replace.

**Problem: No indication of pressure.**

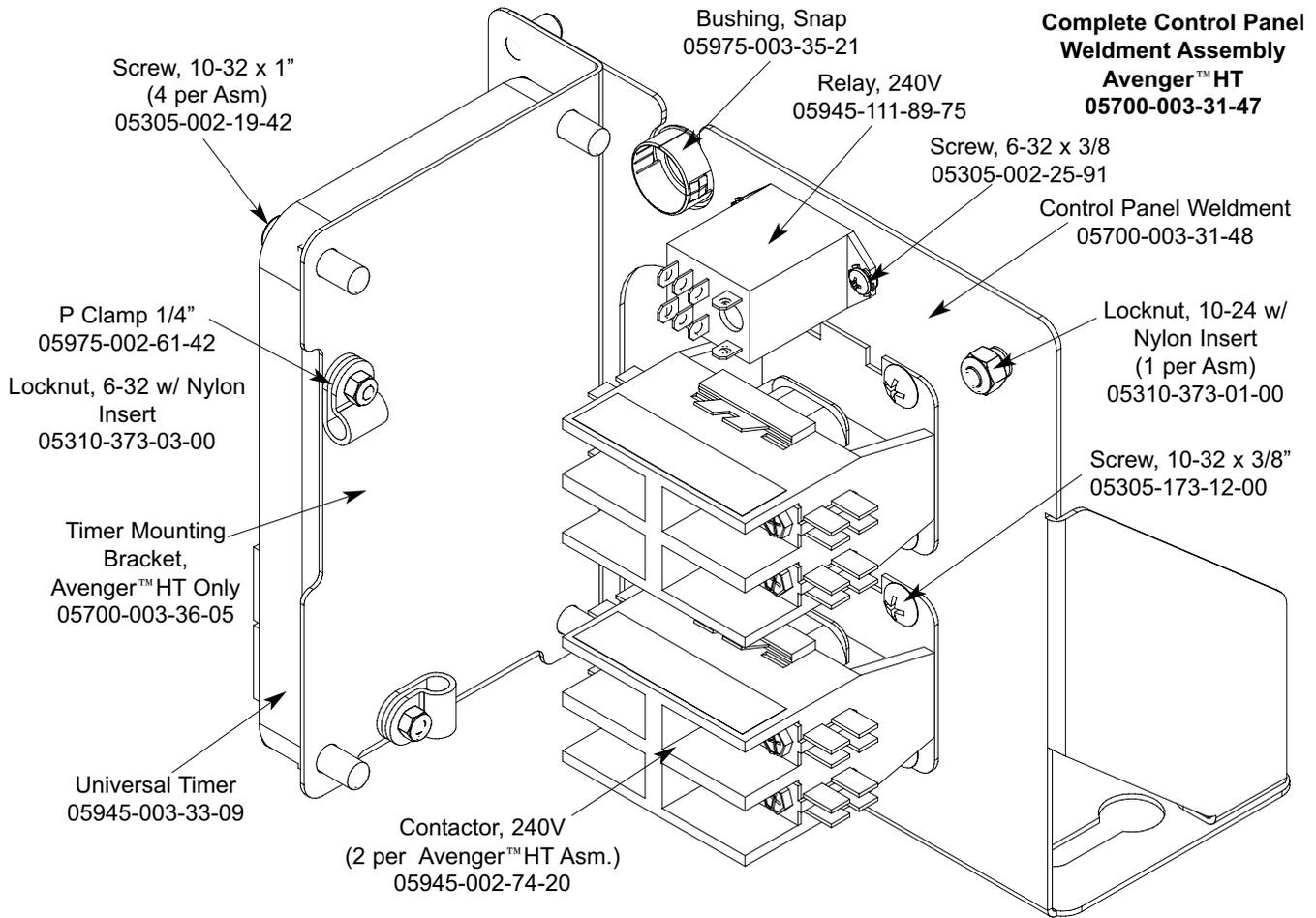
1. Water turned off. Turn water on.
2. Pressure gauge defective. Replace pressure gauge.

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# **SECTION 5: PARTS SECTION**

**SECTION 5: PARTS SECTION**  
**CONTROL PANEL WELDMENT ASSEMBLIES**

**Avenger™ HT Complete Control Panel Assembly**



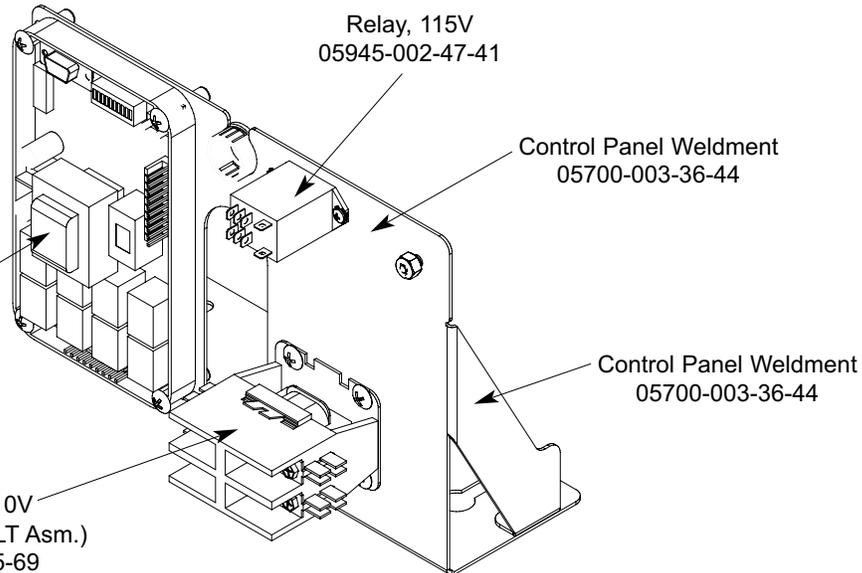
**Avenger™ LT Complete Control Panel Assembly**

**Complete Control Panel Weldment Assembly Avenger™ LT 05700-003-34-63**

Unless specified here, other components are the same as above.

Universal Timer 05945-003-33-09

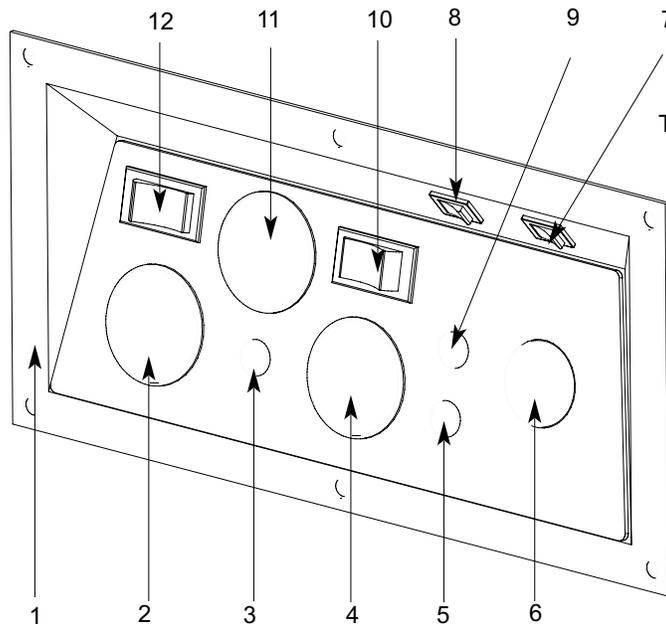
Contactor, 110V (1 per Avenger™ LT Asm.) 05945-109-05-69



## SECTION 5: PARTS SECTION

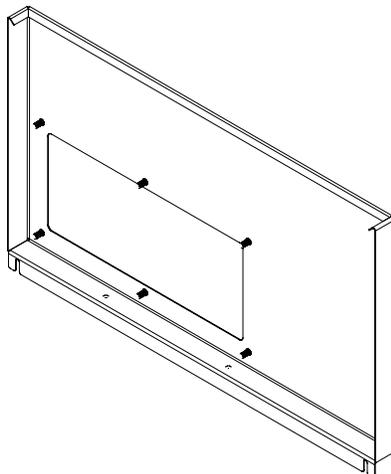
### CONTROL PANEL ASSEMBLY/KICK PANEL WELDMENT - AVENGER™ HT

**Complete Control Panel  
Assembly  
05700-003-31-64**



To order the wire harness use  
number: 05999-003-34-61.

ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Control Panel	09330-003-31-66
	1	Decal, Control Panel	09905-003-31-65
	6	Locknut, 1/4"-20 S/S Hex w/Nylon Insert	05310-374-01-00
2	1	Thermometer, 48" Rinse	06685-111-68-48
3	1	Light, Amber	05945-111-44-44
4	1	Thermometer, 96" Wash	06685-111-68-49
5	1	Light, Red	05945-111-44-45
6	1	Window Plug	05975-003-31-72
7	1	Switch, Rinse Aid	05930-011-49-54
8	1	Switch, Detergent	05930-011-49-54
9	1	Light, Green	05945-111-44-43
10	1	Switch, On-Off	05930-301-49-00
11	1	Gauge, 0-100 PSI with Green Zone	06680-011-86-42
	1	Bell Adapter, 1/4FNPT x 1/8 FNPT	04730-003-33-02
	1	Hose, Pressure Gauge	04730-003-33-39
12	1	Switch, Auto-Manual	05930-011-49-55



**Kick Plate Weldment  
05700-003-32-91**

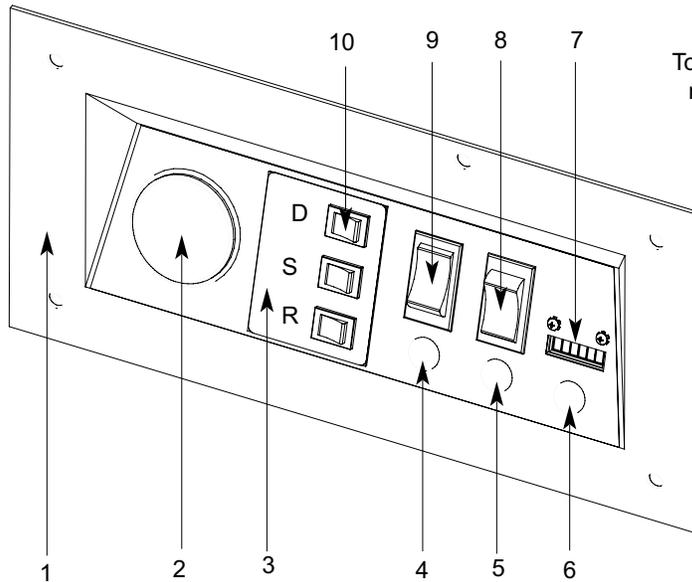
## SECTION 5: PARTS SECTION

### CONTROL PANEL ASSEMBLY/KICK PANEL WELDMENT - AVENGER™ LT

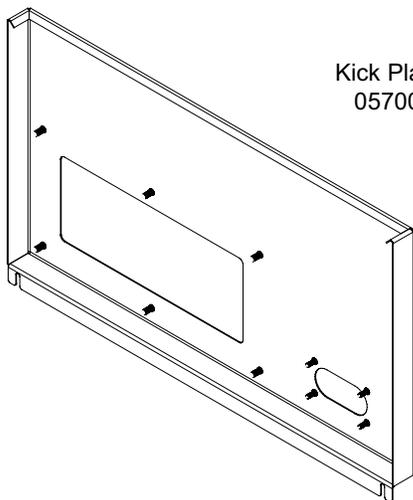
**Complete Control Panel Assembly**  
05700-003-34-23

D - Detergent  
S - Sanitizer  
R - Rinse Aid

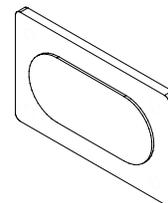
To order the wire harness use  
number: 05999-003-34-62.



ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Control Panel	09330-041-73-90
	1	Decal, Control Panel	09905-031-73-95
	6	Locknut, 1/4"-20 S/S Hex w/Nylon Insert	05310-374-01-00
2	1	Thermometer, 48" Rinse	06685-111-68-48
3	1	Plate, Switch Mounting	05700-011-80-40
	1	Decal, Prime Switch	09905-011-49-52
	4	Locknut, 6-32 Hex w/Nylon Insert	05310-373-03-00
4	1	Light, Red	05945-111-44-45
5	1	Light, Amber	05945-111-44-44
6	1	Light, Green	05945-111-44-43
7	1	Counter, 115V	05990-111-35-38
	2	Screw, 4-40 x 1/4" Phillips Pan Head	05305-002-32-38
8	1	Switch, Auto-Manual	05930-301-49-00
9	1	Switch, On-Off	05930-011-49-55
10	3	Switch, Peripump	05930-011-49-54

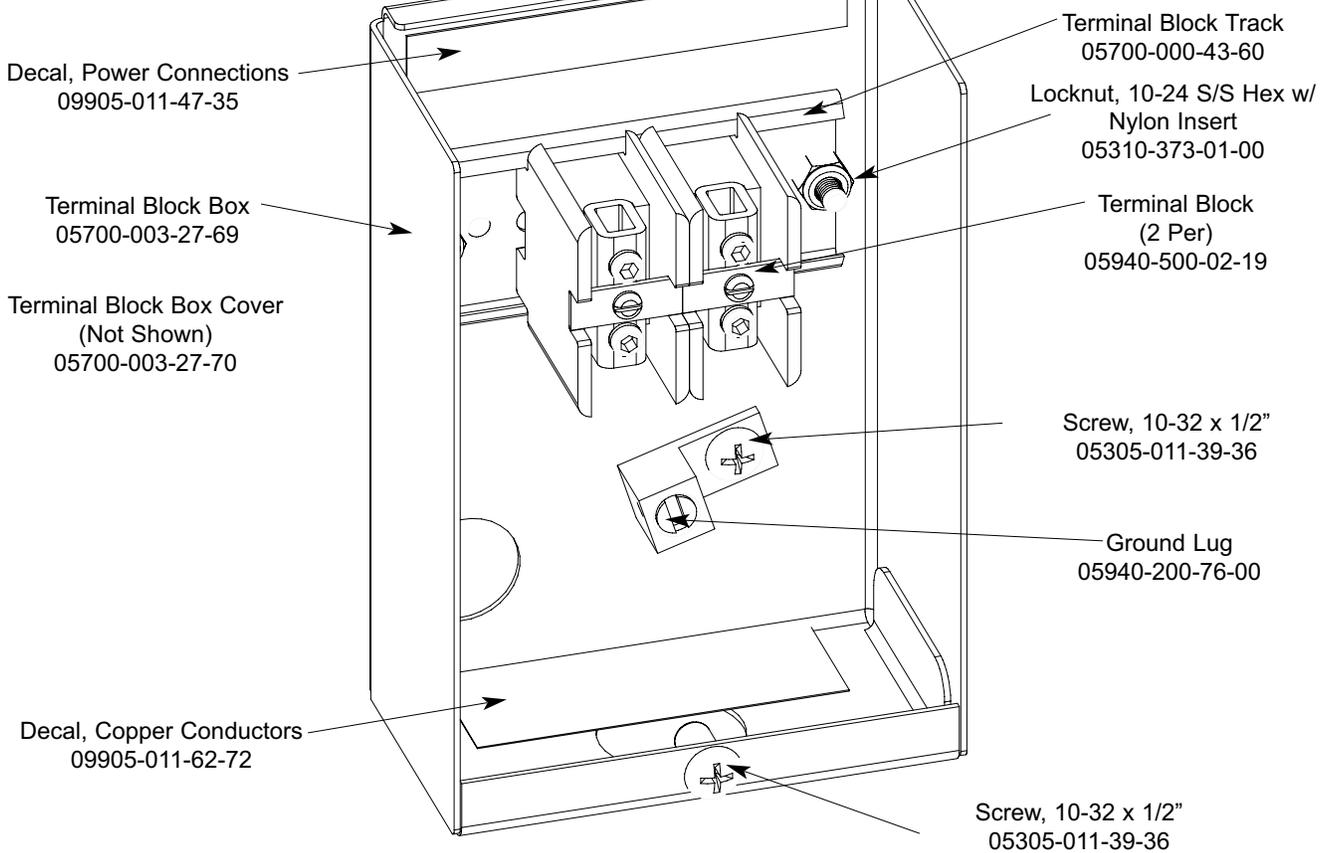
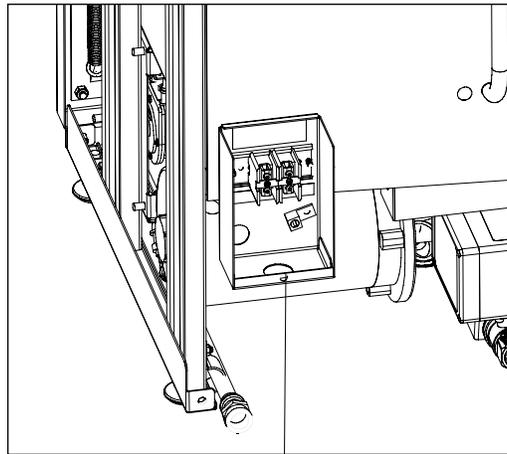


Kick Plate Weldment  
05700-003-32-94



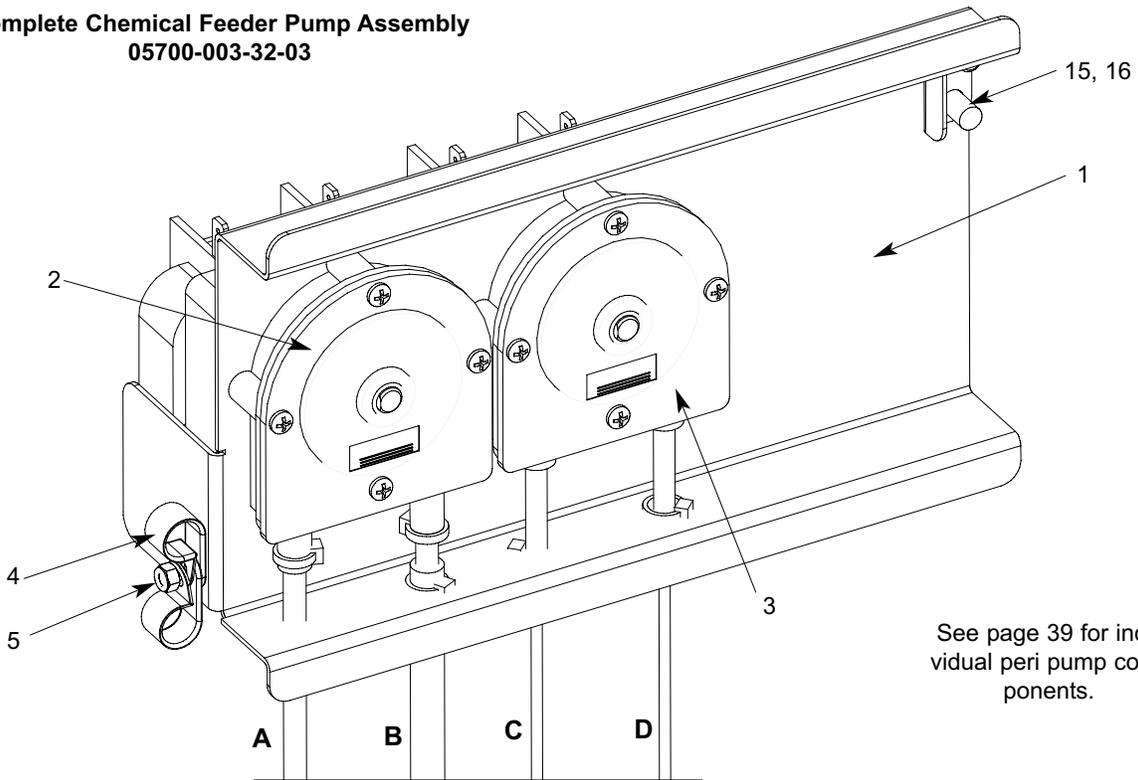
Window, Peripump  
05700-003-33-35

**SECTION 5: PARTS SECTION**  
**TERMINAL BLOCK BOX ASSEMBLY**

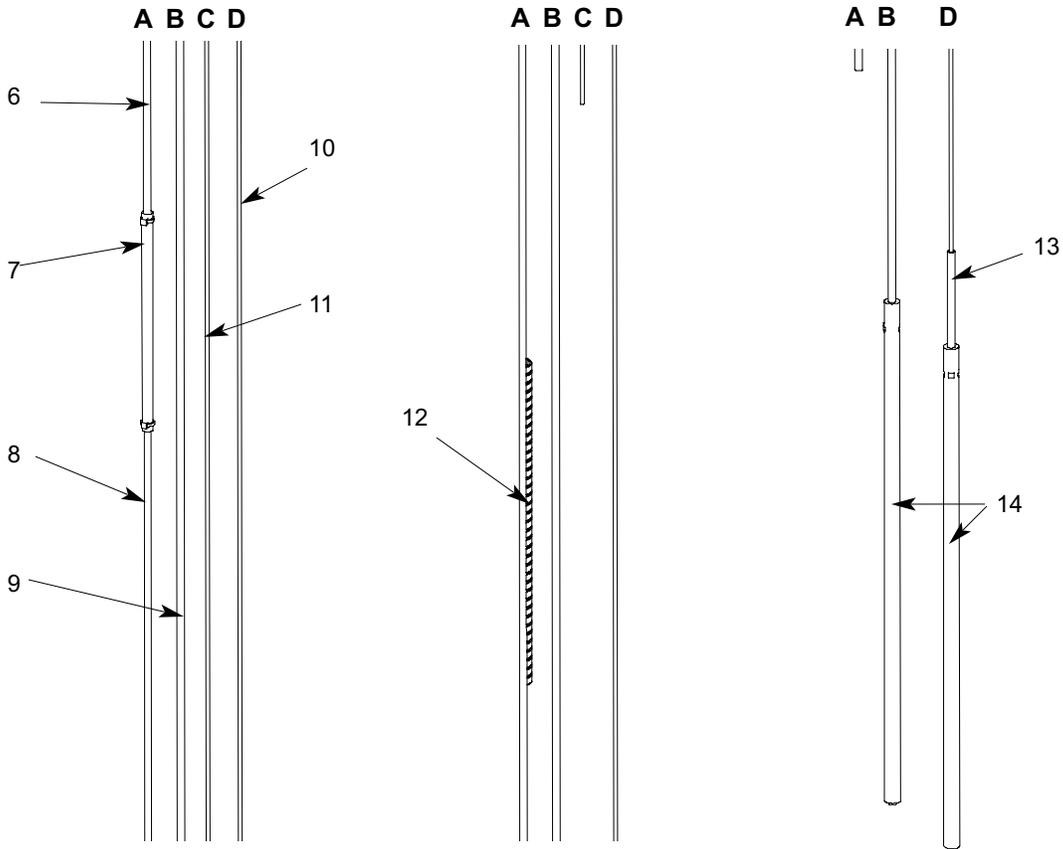


**SECTION 5: PARTS SECTION**  
**CHEMICAL FEEDER PUMP ASSEMBLY - AVENGER™ HT**

**Complete Chemical Feeder Pump Assembly**  
**05700-003-32-03**



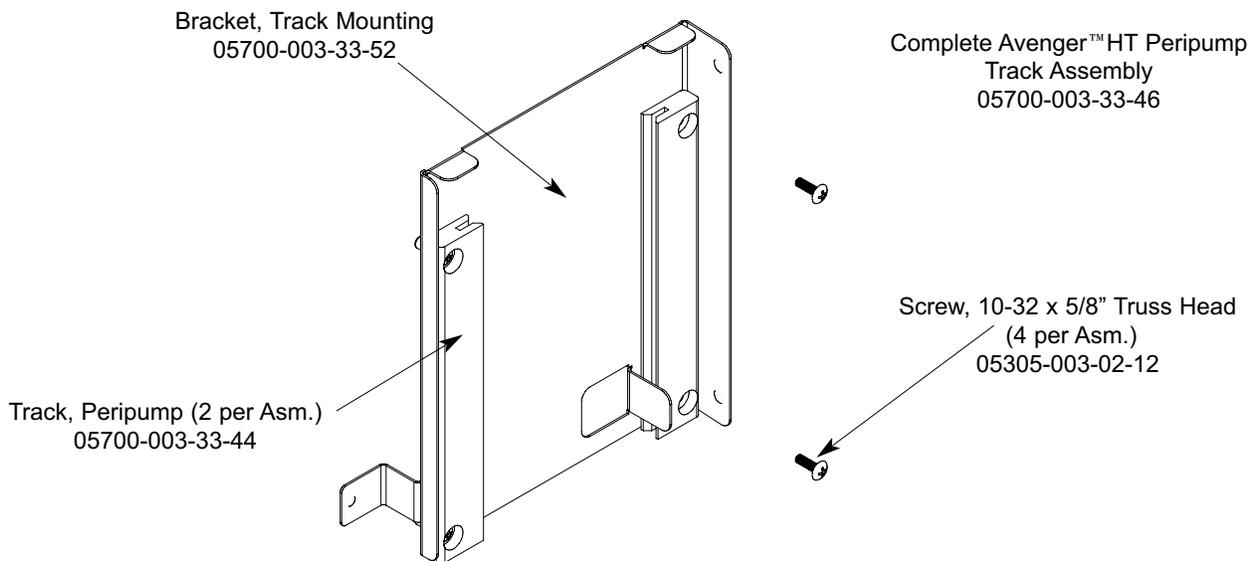
See page 39 for individual per pump components.



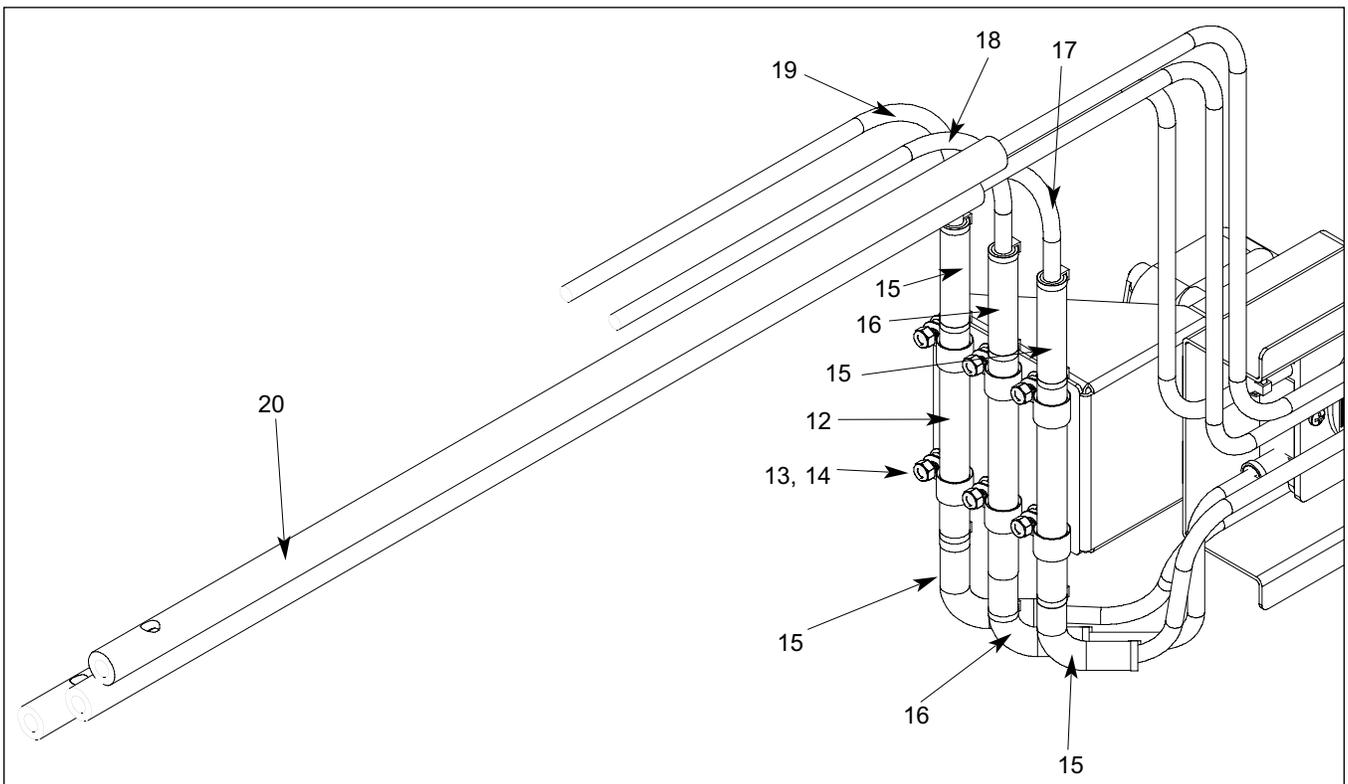
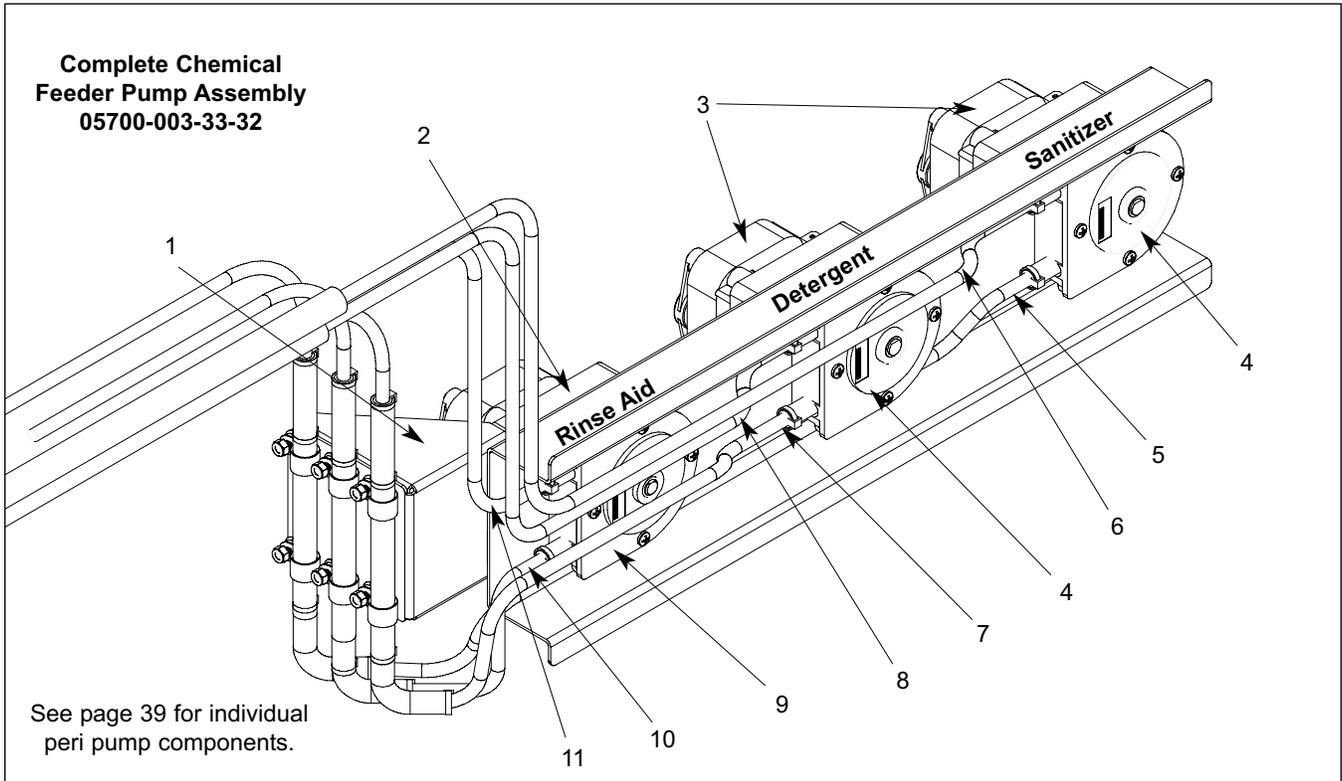
## SECTION 5: PARTS SECTION

### CHEMICAL FEEDER PUMP ASSEMBLY - AVENGER™ HT (CONTINUED)

ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Peri Pump Plate Weldment	05700-003-33-48
2	1	Detergent Feeder Pump, (Red Roller) 36RPM, 240V	05700-002-72-49
3	1	Rinse Aid Feeder Pump, (Black Roller), 14RPM, 240V	05700-002-72-48
4	2	Nylon Loop Strap	04320-002-71-22
5	2	Locknut, 6-32 W/Nylon Insert	05310-373-03-00
6	1	Red Tube 1/4" x 14 1/2"	05700-003-33-59
7	1	Tube, Tygoprene 3/16" x 8"	05700-003-22-89
8	1	Red Tube 1/4" x 72"	05700-003-33-58
9	1	Red Tube 1/4" x 120"	05700-003-33-57
10	1	1/8" x 120" Clear Tube	05700-003-33-61
11	1	1/8" x 93" Clear Tube	05700-003-33-60
12	1	12" Long Black Sleeve	05700-003-33-63
13	1	Blue Tube 1/4" x 22"	05700-001-86-78
14	2	Chemical Tube Stiffener	05700-002-66-49
15	1	Stop Bracket	05700-003-36-24
16	2	Screw, 10-32 x 3/8"	05305-173-12-00



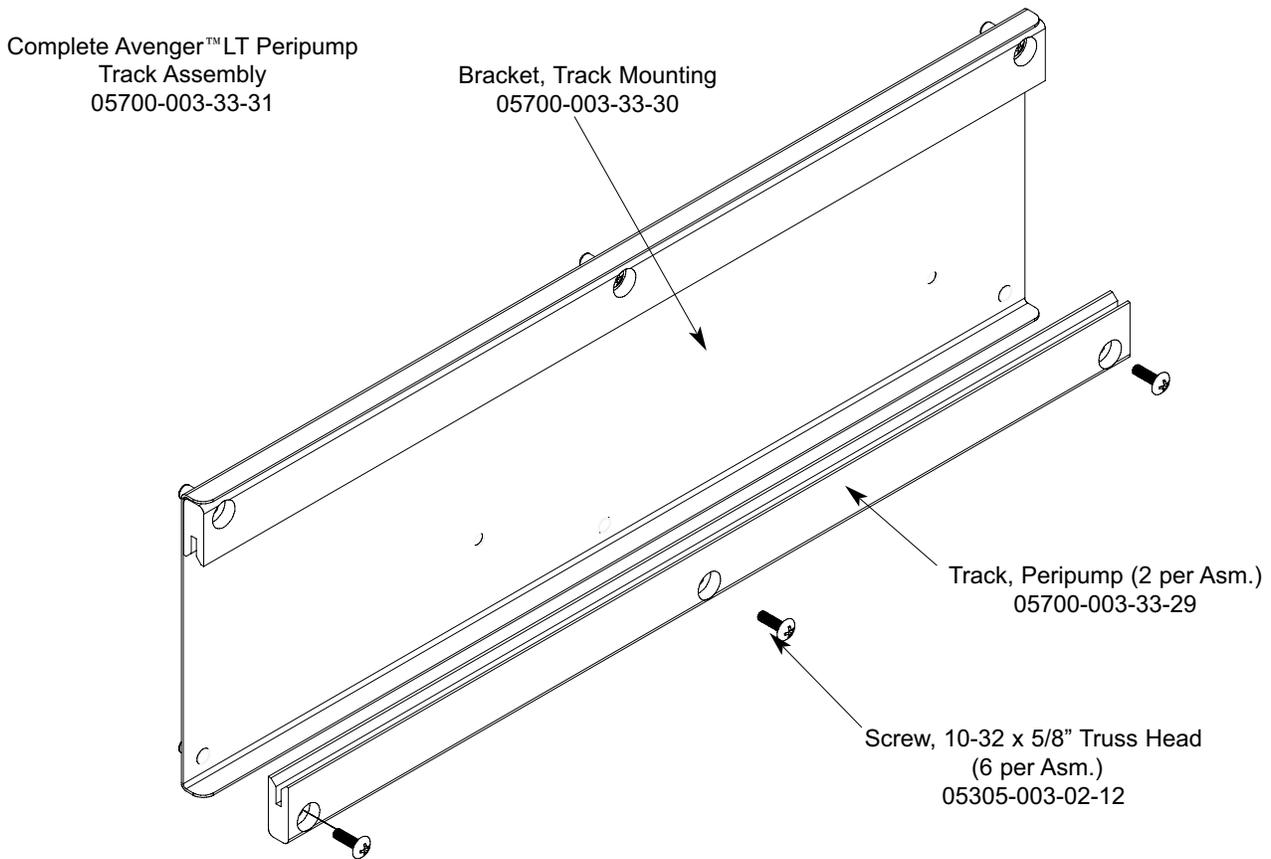
**SECTION 5: PARTS SECTION**  
**CHEMICAL FEEDER PUMP ASSEMBLY - AVENGER™ LT**



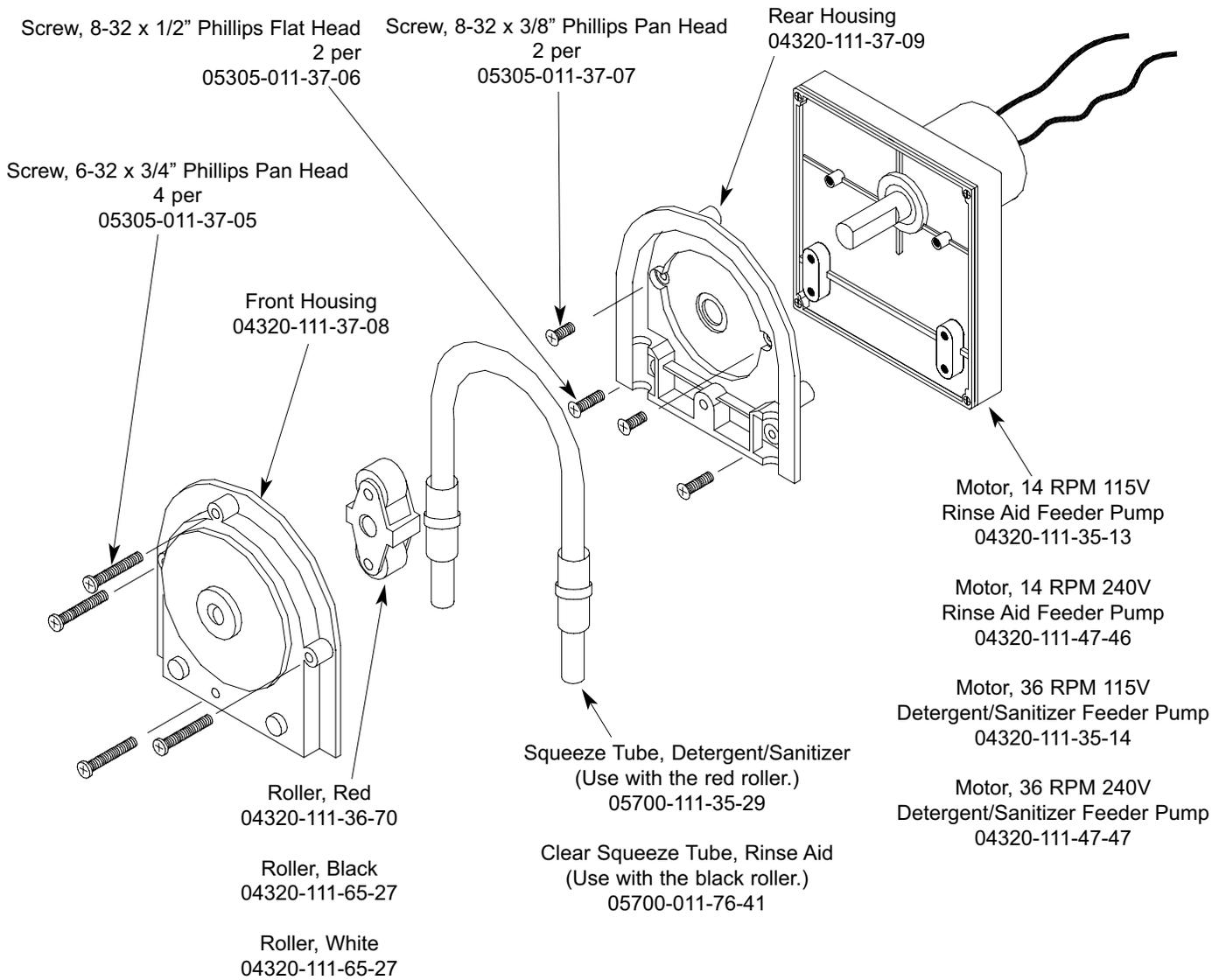
## SECTION 5: PARTS SECTION

### CHEMICAL FEEDER PUMP ASSEMBLY - AVENGER™ LT (CONTINUED)

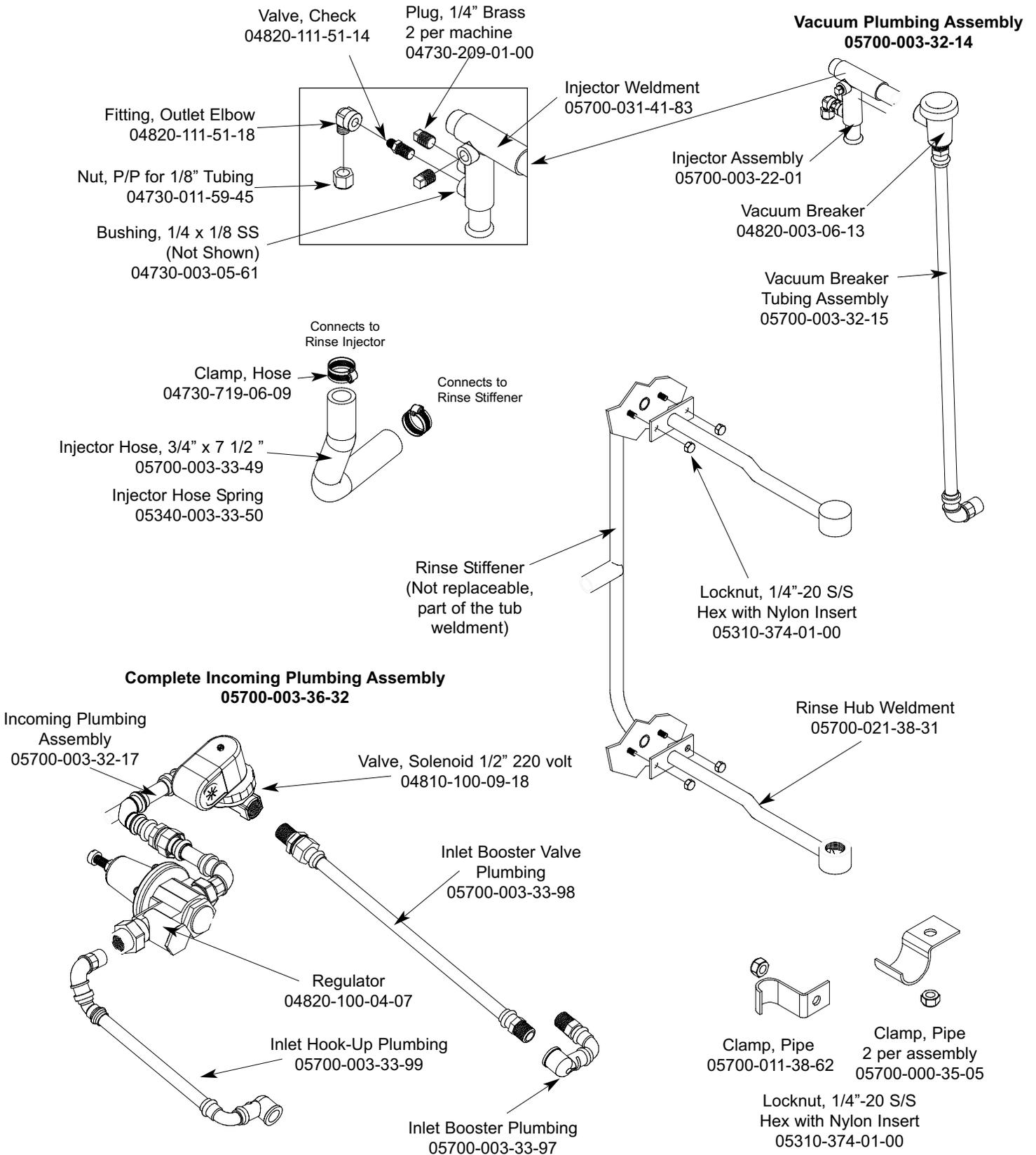
ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Peri Pump Plate Weldment	05700-002-84-23
2	1	Motor, 14 RPM 115V	04320-111-35-13
3	2	Motor, 36 RPM 115V	04320-111-35-14
4	2	Peri Pump Kit (Red Roller)	04320-121-37-10
5	1	White Tube 1/4" x 16"	05700-003-20-64
6	1	White Tube 1/4" x 100"	05700-003-20-67
7	1	Red Tube 1/4" x 8"	05700-003-20-65
8	1	Red Tube 1/4" x 100"	05700-003-03-45
9	1	Peri Pump Kit (White Roller)	04320-002-83-90
10	1	Blue Tube 1/4" x 4"	05700-003-20-66
11	1	Blue Tube 1/4" x 100"	05700-003-20-68
12	3	5/16" x 5" Clear Tube	05700-003-20-69
13	6	Nylon Loop Strap	04320-002-71-22
14	6	Locknut, 6-32 W/Nylon Insert	05310-373-03-00
15	4	Tube, 3/16" ID x 2" Long	05700-111-35-33
16	2	Tube, 3/16" ID x 1.6" Long	05700-002-44-33
17	1	Blue Tube 1/4" x 48"	05700-002-62-11
18	1	Red Tube 1/4" x 48"	05700-002-62-12
19	1	White Tube 1/4" x 48"	05700-002-62-13
20	3	Chemical Tube Stiffener	05700-002-66-49



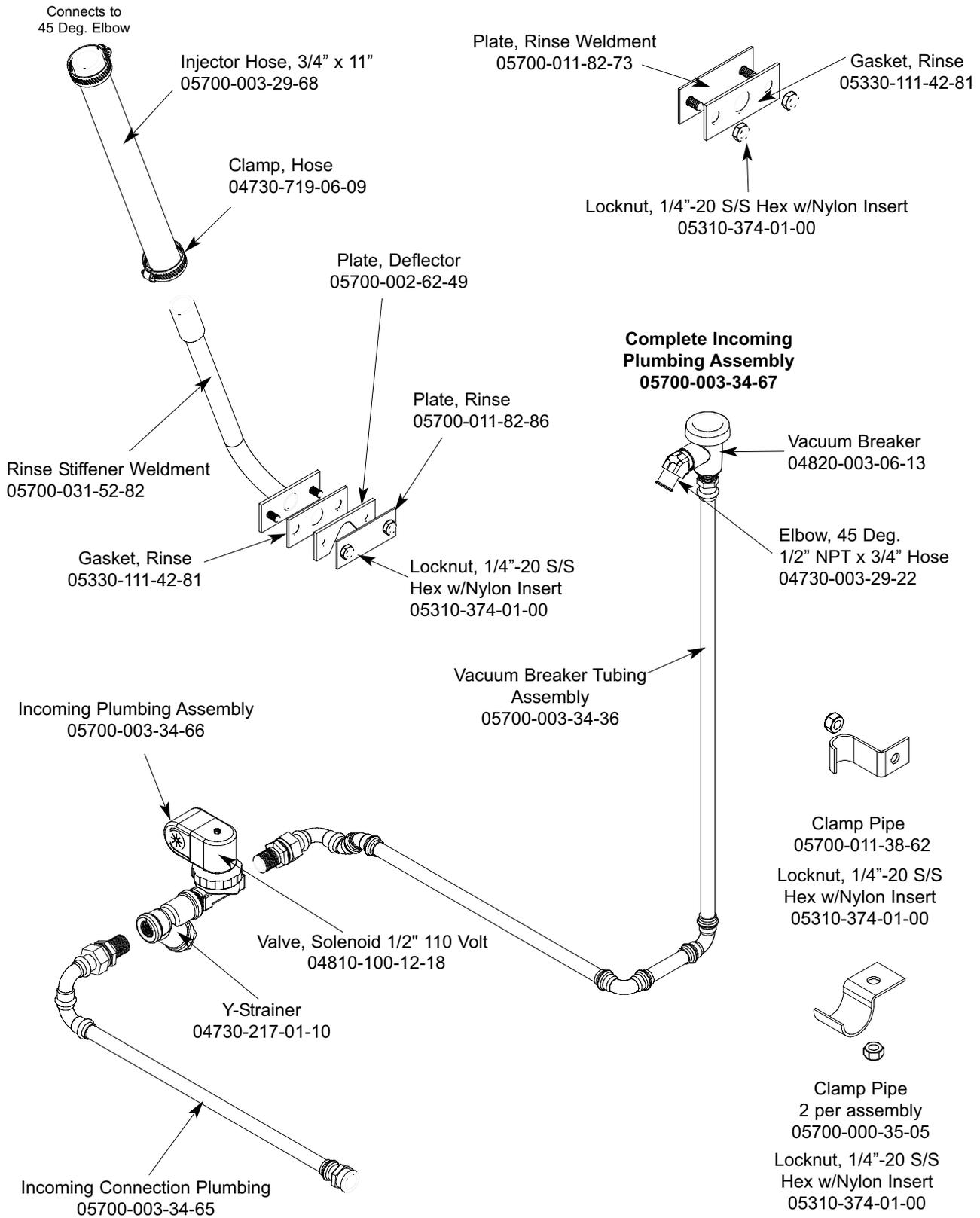
**SECTION 5: PARTS SECTION**  
**CHEMICAL FEEDER PUMP COMPONENTS**



**SECTION 5: PARTS SECTION**  
**PLUMBING ASSEMBLIES - AVENGER™ HT**

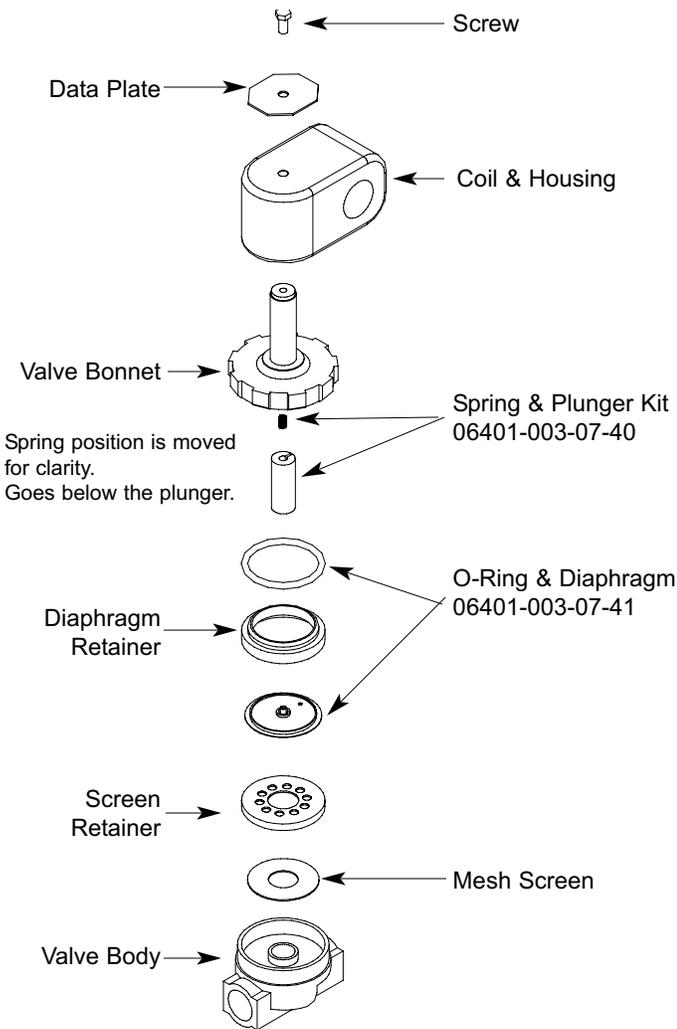


**SECTION 5: PARTS SECTION**  
**PLUMBING ASSEMBLIES - AVENGER™ LT**



## SECTION 5: PARTS SECTION

### RINSE SOLENOID VALVE & VACUUM BREAKER REPAIR PARTS KITS/WATER HAMMER ARRESTOR KIT OPTION

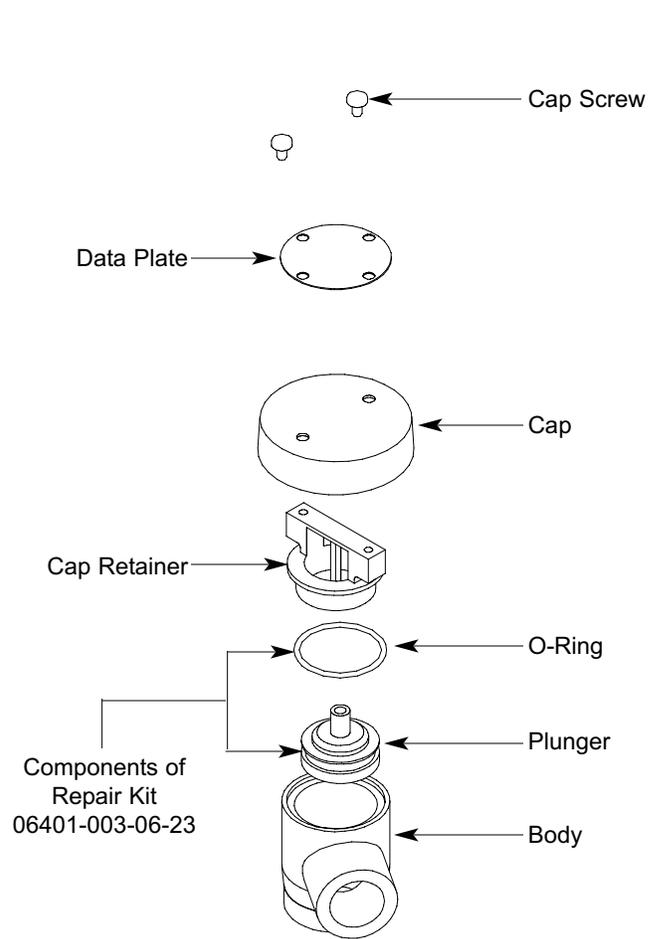


**Complete 110 Volt Solenoid Valve Assembly, 1/2"**  
04810-100-12-18

**Coil & Housing only, 1/2"**  
06401-003-07-43

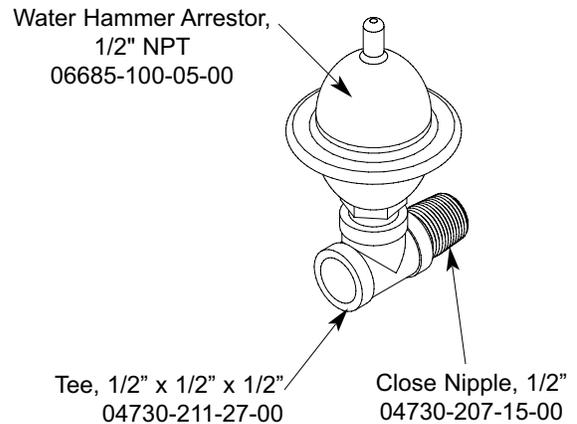
**Complete 220 Volt Solenoid Valve Assembly, 1/2"**  
04810-100-09-18

**Coil & Housing only, 1/2"**  
06401-003-07-44



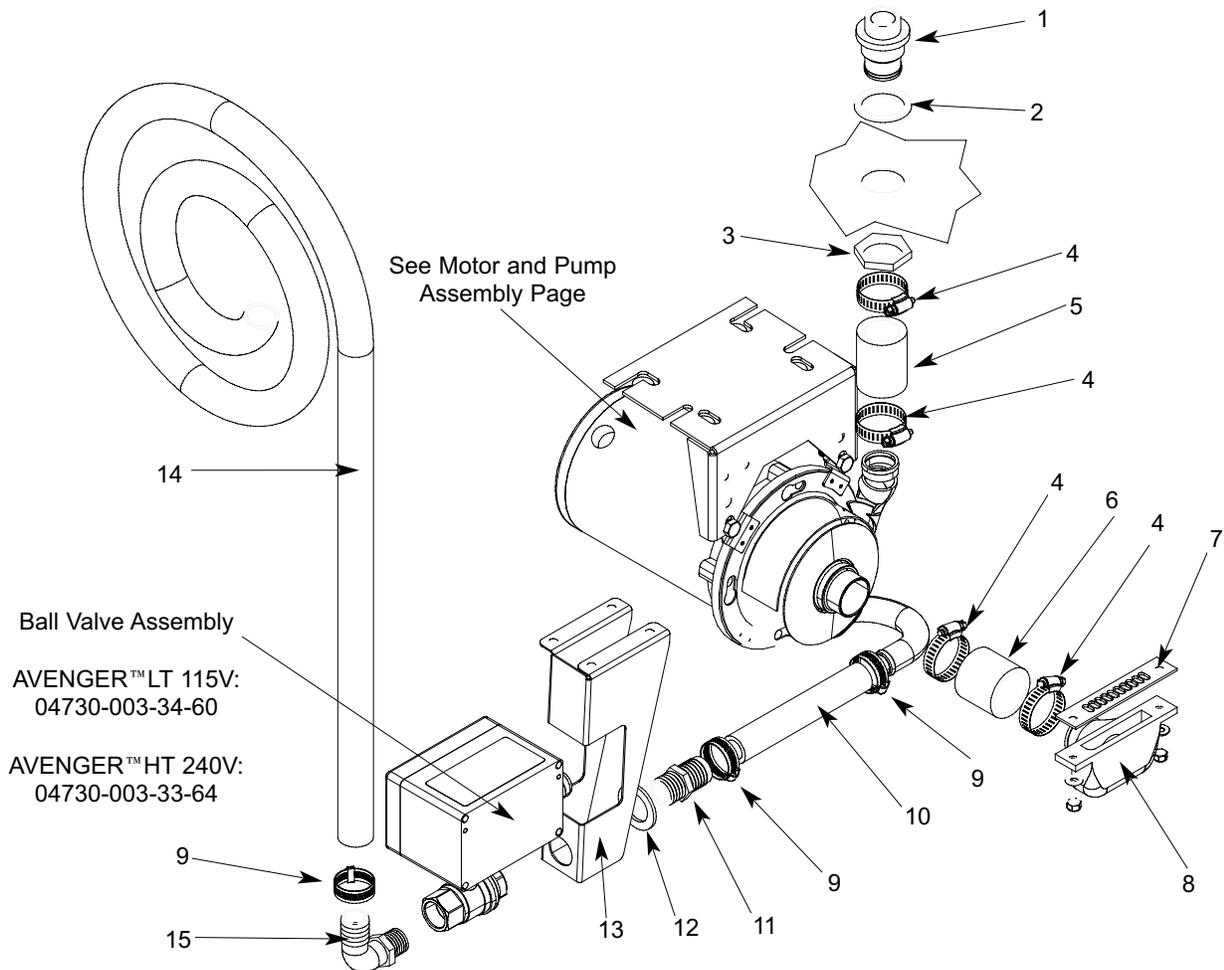
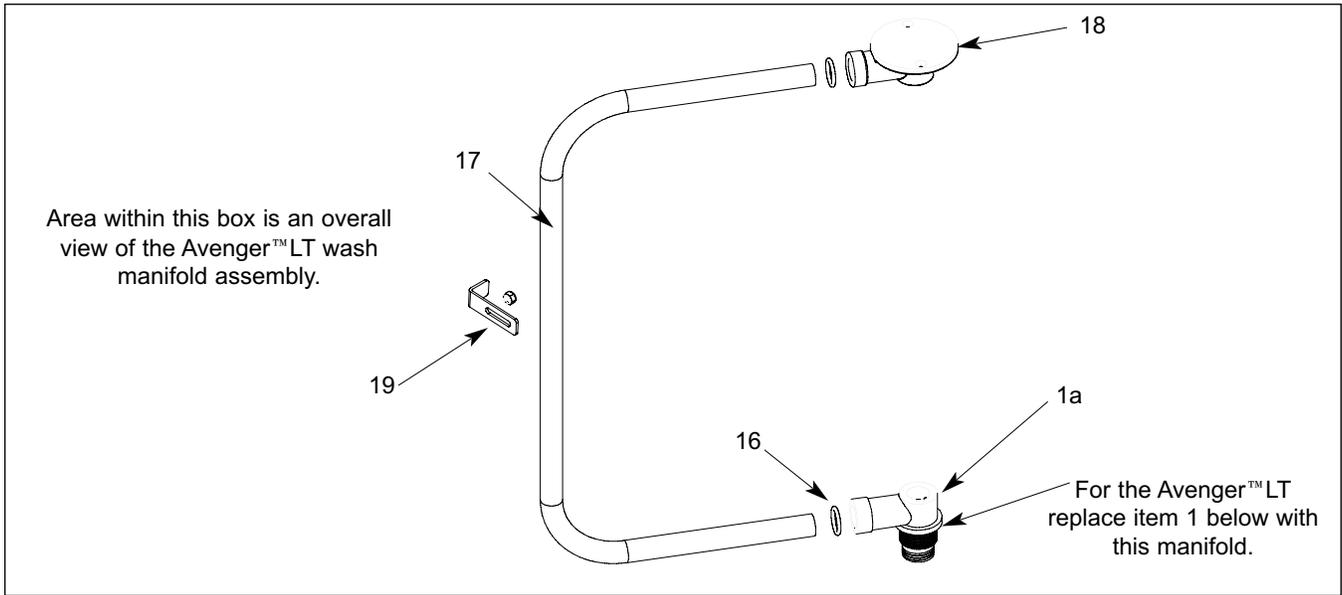
**Complete Vacuum Breaker Assembly, 1/2" NPT**  
04820-003-06-13

**Water Hammer Arrestor Assembly**  
05700-002-64-67



## SECTION 5: PARTS SECTION

### WASH MOTOR/DRAIN PLUMBING/ AVENGER™ LT WASH MANIFOLD ASSEMBLY



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## SECTION 5: PARTS SECTION

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### WASH MOTOR / DRAIN PLUMBING/ AVENGER™ LT WASH MANIFOLD ASSEMBLY

ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Hub, Discharge Machined (Avenger™ HT Shown)	05700-021-37-90
1a	1	Lower Wash Manifold (Avenger™ LT)	05700-021-52-80
2	1	Gasket, Manifold	05330-200-23-00
3	1	Nut, Jam 1 1/2"-12 NPT	05700-000-86-23
4	4	Hose Clamp, 1 5/16" - 2 1/4", #28	04730-719-01-37
5	1	Hose, 1 1/4" x 2 1/4" Reinforced	05700-011-44-48
6	1	Hose, Bottom Manifold Pump	05700-001-22-92
7	1	Gasket, Suction Adapter	05330-003-32-82
8	1	Casting, Suction Adapter	09515-031-39-86
	2	Washer, S/S 1/4"-20 I.D.	05311-174-01-00
	2	Locknut, 1/4"-20 S/S	05310-374-01-00
9	3	Clamp, 3/16" to 1 1/2"	04730-719-06-09
10	1	Hose, 8" Straight Drain	04720-003-27-95
11	1	Hosebarb, 1" x 3/4" NPT Polypropylene	04730-011-65-86
12	1	Spacer, Drain Valve	05700-003-31-93
13	1	Bracket, Drain Valve Support	05700-003-31-74
14	1	Hose, 1" I.D. x 10 Feet Long	05700-011-39-72
15	1	Hosebarb, 90° 1" x 3/4" NPT	04730-011-65-87
16	2	O-ring, Manifold	05330-111-35-15
17	1	Tube, Wash Manifold	05700-002-13-75
18	1	Upper Wash Manifold	05700-031-34-82
19	1	Bracket, Manifold Tube Positioning	05700-011-34-63
	1	Locknut, 1/4"-20 S/S	05310-374-01-00

# SECTION 5: PARTS SECTION

## MOTOR & PUMP ASSEMBLY

Complete Pump & Motor Assembly, 60 HZ, With Bracket  
05700-003-31-57

Complete Pump & Motor Assembly, 60 HZ, No Bracket  
06105-002-72-75

Pump Only Assembly, 60 HZ  
(Area indicated within box, Casing is included)  
05700-002-79-50

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

### Hardware:

Bolt, 3/8"-16 x 1" (2 per)  
05305-276-03-00

Lockwasher, 3/8" (2 per)  
05311-276-01-00

Nut, Hex, 3/8"-16 (2 per)  
05310-276-01-00

Shim Kit  
05700-002-82-58

Case Capscrew  
05305-002-81-88

Mechanical Seal, 60 HZ  
05330-002-34-22

Case O-Ring, 60 HZ  
05330-002-81-83

Seal Plate, 60 HZ  
05700-002-81-87

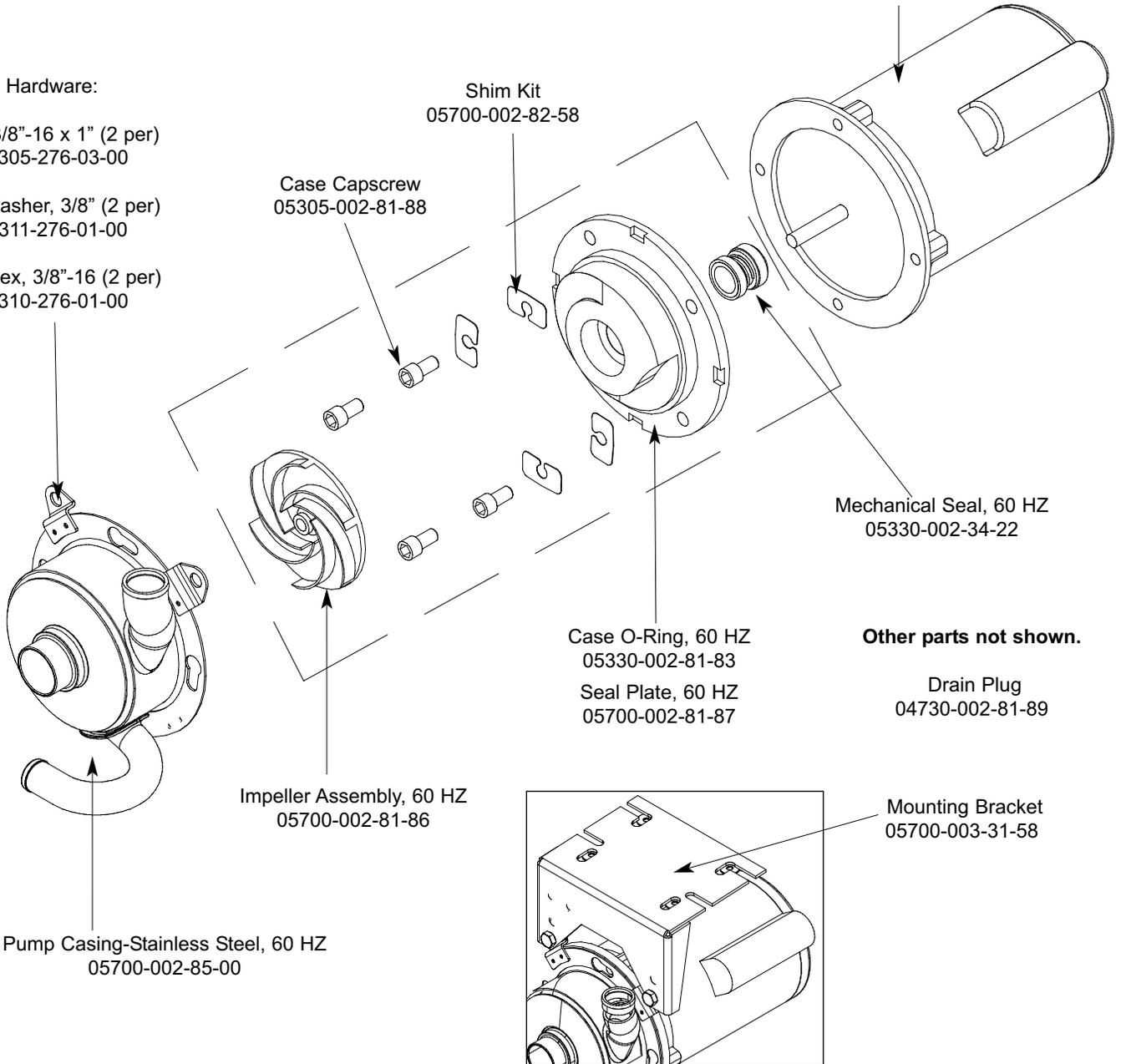
**Other parts not shown.**

Drain Plug  
04730-002-81-89

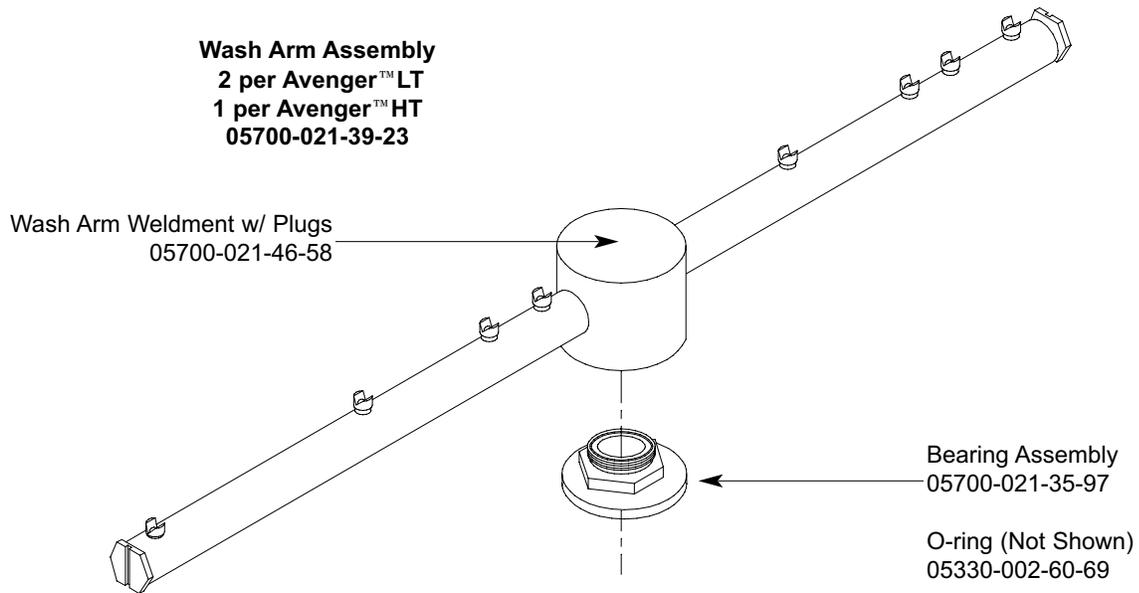
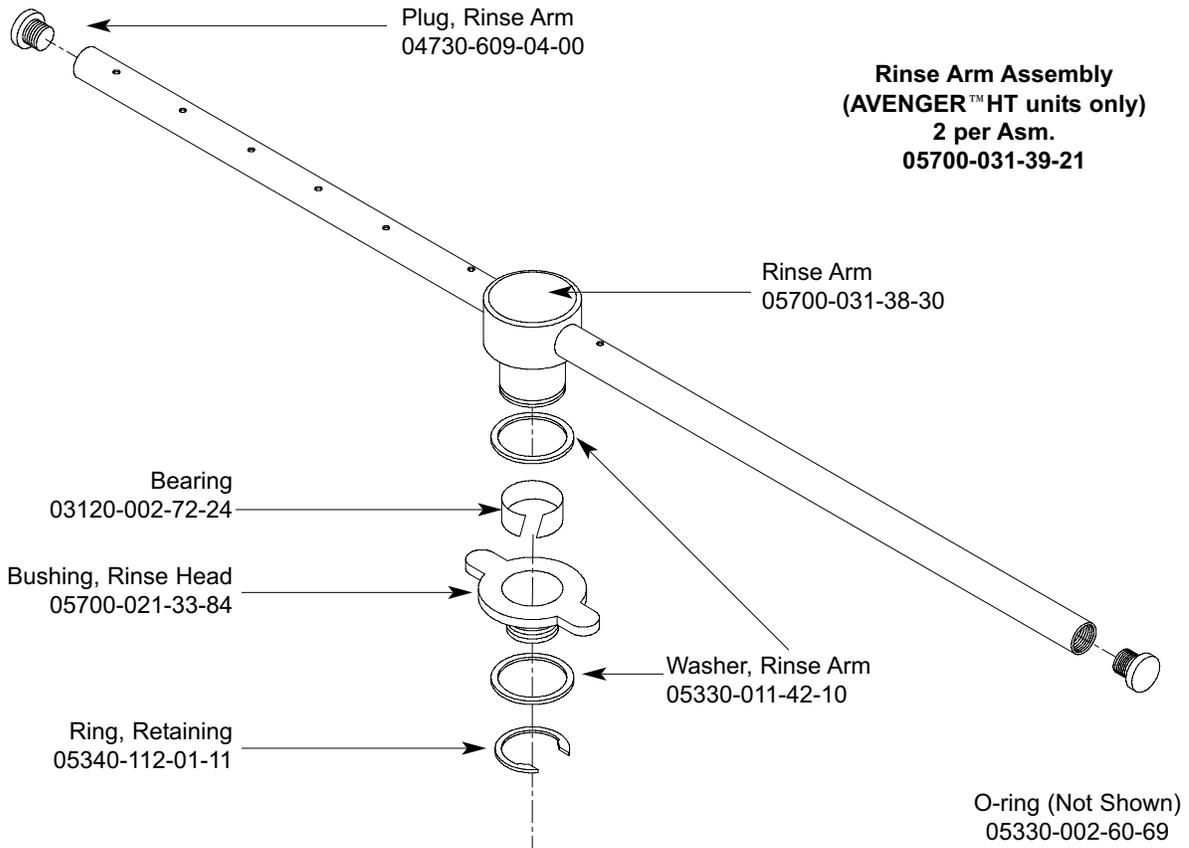
Impeller Assembly, 60 HZ  
05700-002-81-86

Pump Casing-Stainless Steel, 60 HZ  
05700-002-85-00

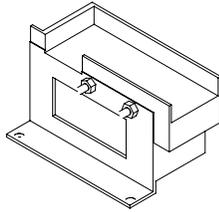
Mounting Bracket  
05700-003-31-58



**SECTION 5: PARTS SECTION**  
**RINSE ARM & WASH ARM ASSEMBLIES**

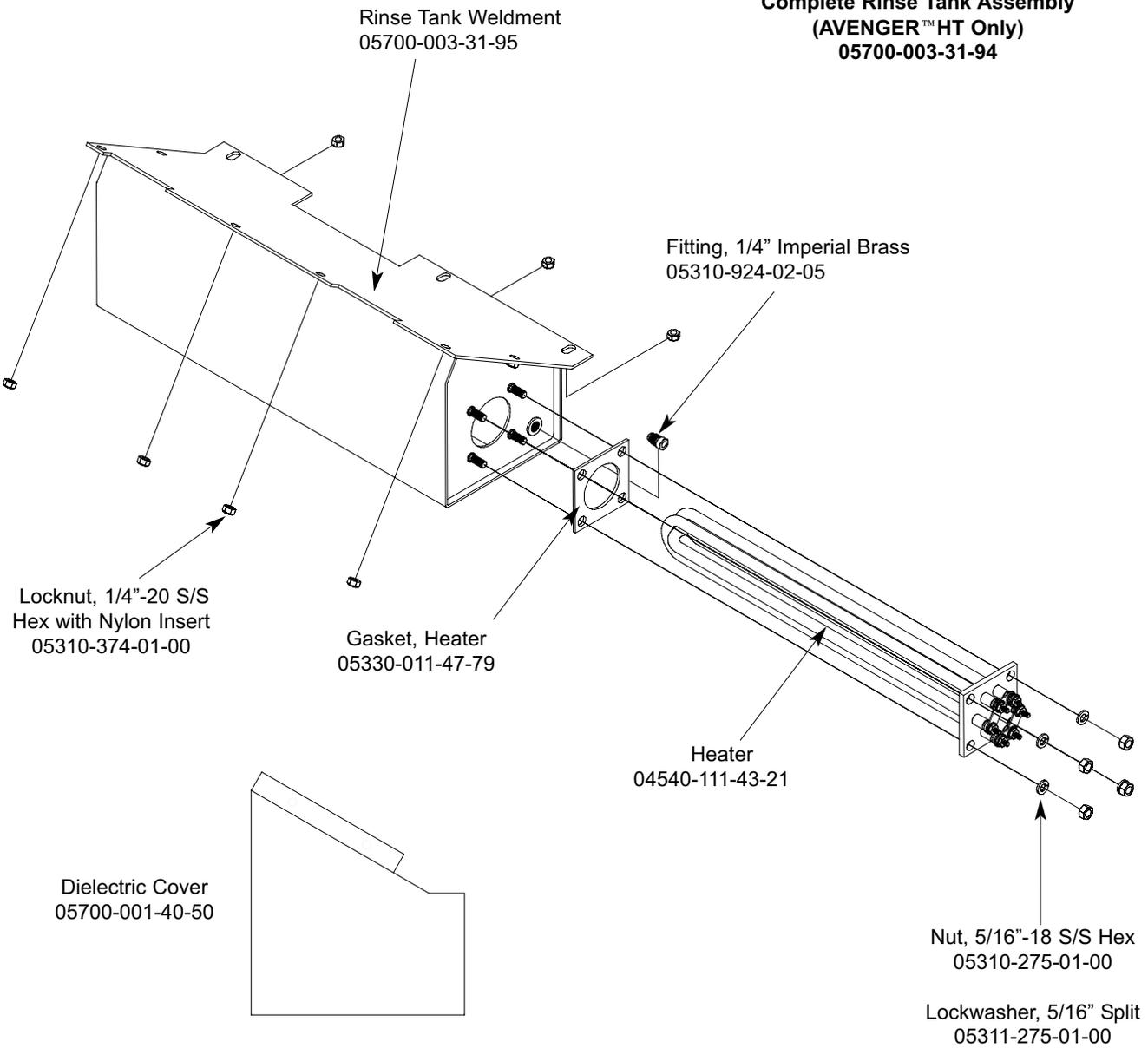


**SECTION 5: PARTS SECTION**  
**THERMOSTAT & RINSE TANK ASSEMBLY**



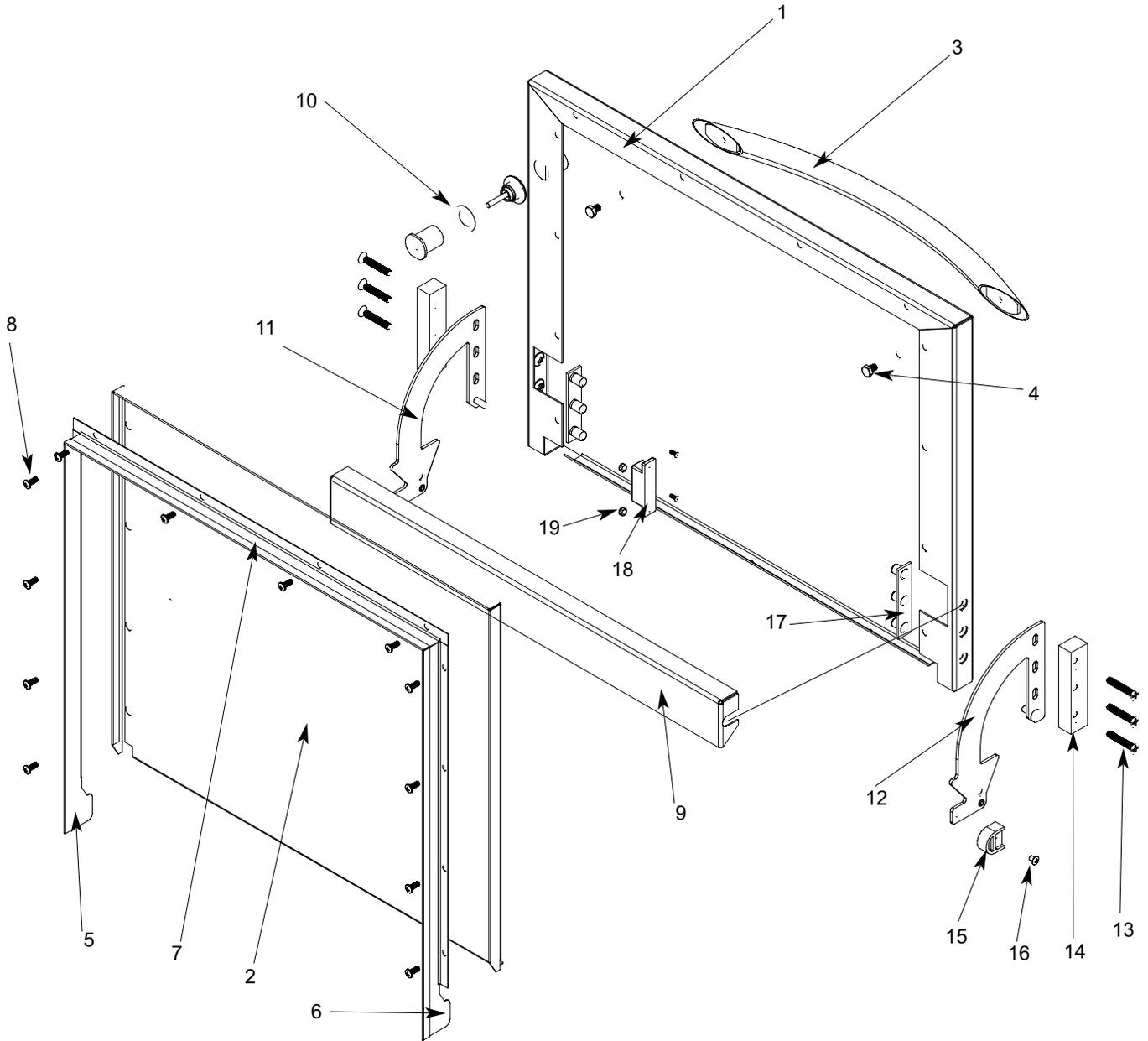
Thermostat  
 05930-003-06-48

**Complete Rinse Tank Assembly**  
**(AVENGER™ HT Only)**  
 05700-003-31-94



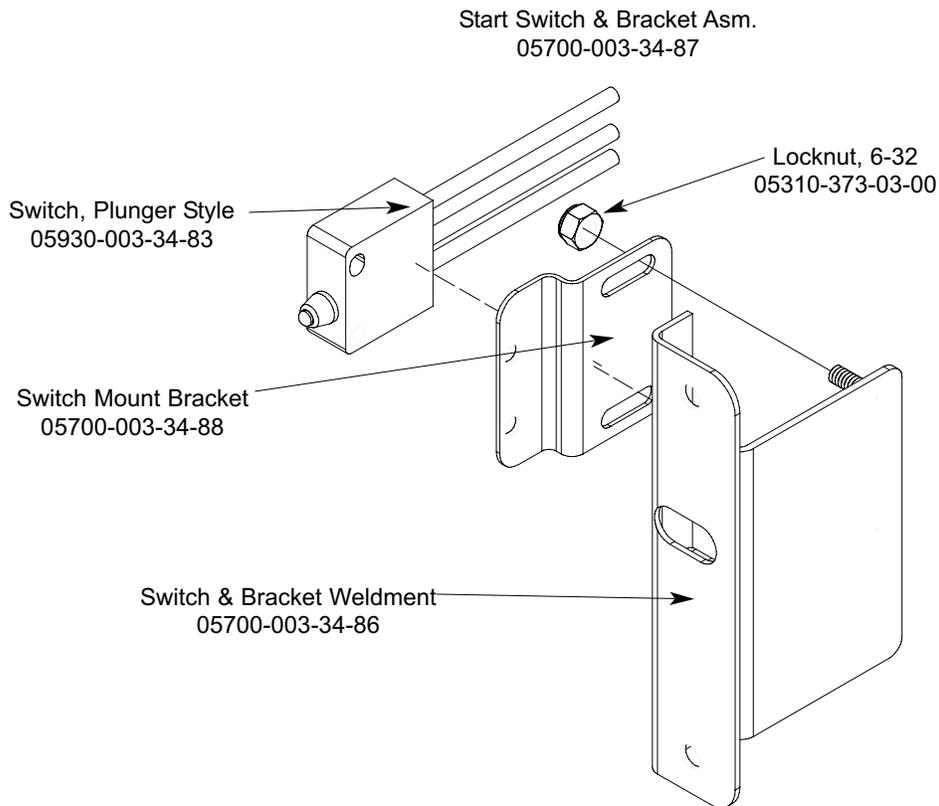
**SECTION 5: PARTS SECTION**  
**DOOR ASSEMBLY**

**Complete Door Assembly**  
**05700-003-32-09**



**SECTION 5: PARTS SECTION**  
**DOOR ASSEMBLY (CONTINUED)**

ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Outer Door Weldment	05700-003-33-37
2	1	Inner Door	05700-003-33-21
3	1	Door Handle	05700-003-26-62
4	2	Bolt, 1/4"-20 x 3/8" Long	05305-274-20-00
5	1	Channel, Right Seal	05700-003-33-19
6	1	Channel, Left Seal	05700-003-33-20
7	1	Channel, Top Seal	05700-003-33-22
8	12	Screw, 10-32 x 1/2" Pan Phillips Head	05305-011-44-52
9	1	Baffle, door	05700-003-33-38
10	1	Start Switch Assembly	05700-003-34-80
11	1	Hinge, Right Weldment	05700-003-32-72
12	1	Hinge, Left Weldment	05700-003-32-71
13	6	Screw, 1/4"-20 x 1-1/2" Flat Phillips Head	05305-011-44-50
14	2	Hinge Spacer	05700-003-33-42
15	2	Stop, Door Hinge	05700-003-32-55
16	2	Screw, No. 10 Pan Head, 18-8 S/S x 1/2"	05305-173-01-00
17	2	Retaining Plate Assembly	05700-011-44-37
18	1	Magnet, Reed Switch	05930-002-68-53
19	2	Locknut, 6-32 S/S Hex with Nylon Insert	05310-373-03-00



**SECTION 5: PARTS SECTION**  
**MISCELLANEOUS DOOR COMPONENTS**

Switch Mounting Plate Assembly  
 05700-003-33-54



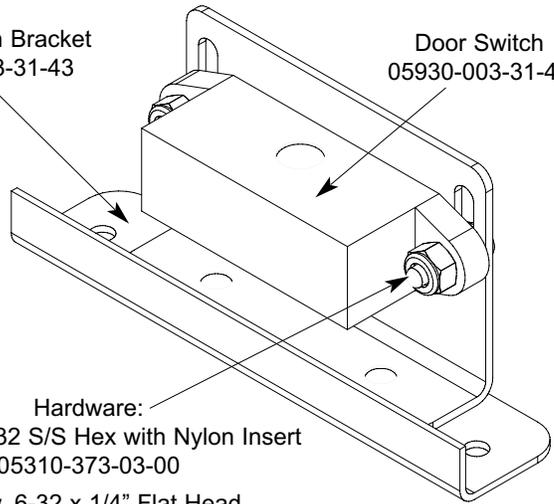
Door Spring  
 05700-003-32-85



Door Switch & Bracket Assembly  
 05700-003-32-21

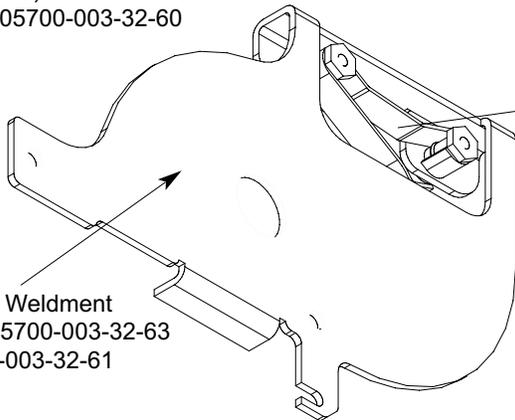
Door Switch Bracket  
 05700-003-31-43

Door Switch  
 05930-003-31-44



Hardware:  
 Locknut, 6-32 S/S Hex with Nylon Insert  
 05310-373-03-00  
 Screw, 6-32 x 1/4" Flat Head  
 05305-171-01-00

Hinge Stop Assembly  
 Right (Shown): 05700-003-32-61  
 Left: 05700-003-32-60

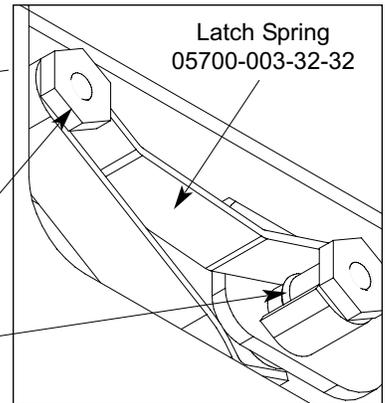


Hinge Stop Weldment  
 Right (Shown): 05700-003-32-63  
 Left: 05700-003-32-61

Latch Nut (2 per Asm)  
 05700-003-32-33

O-ring (2 per Asm)  
 05330-003-32-34

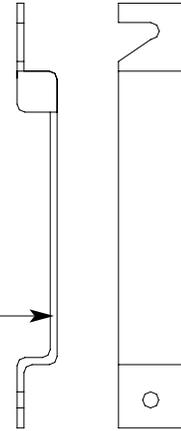
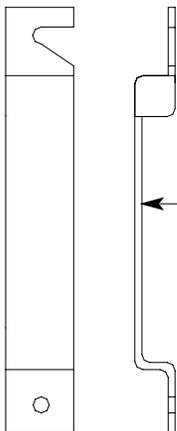
Latch Spring  
 05700-003-32-32



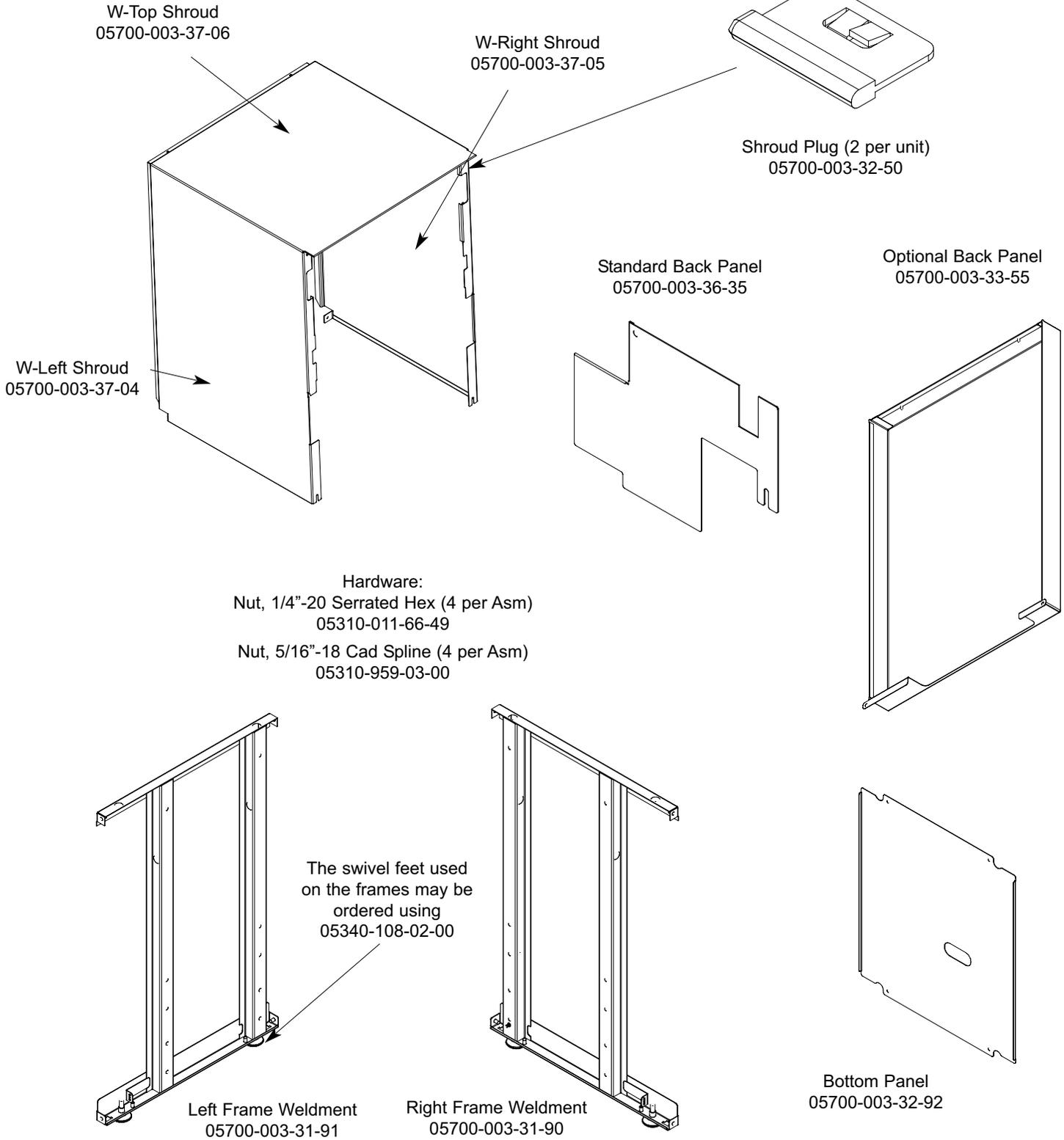
Hinge Components secured with:  
 Locknut, 1/4"-20 S/S Hex with Nylon Insert  
 05310-374-01-00

Cover, Left Hinge Weldment  
 05700-002-18-41

Cover, Right Hinge Weldment  
 05700-002-18-42



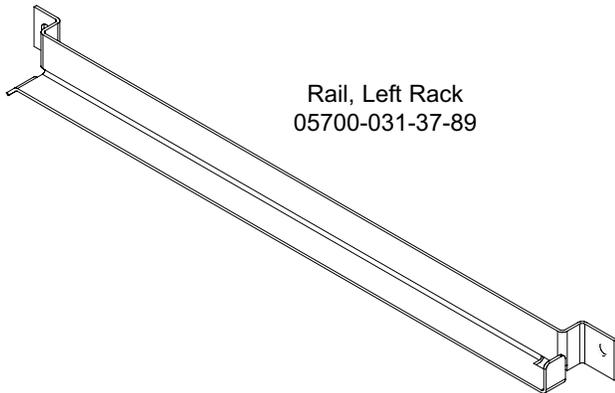
**SECTION 5: PARTS SECTION**  
**FRAME & PANEL COMPONENTS**



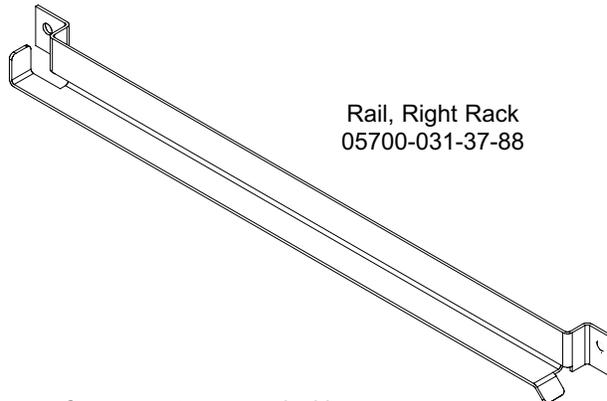
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## SECTION 5: PARTS SECTION

### MISCELLANEOUS PARTS

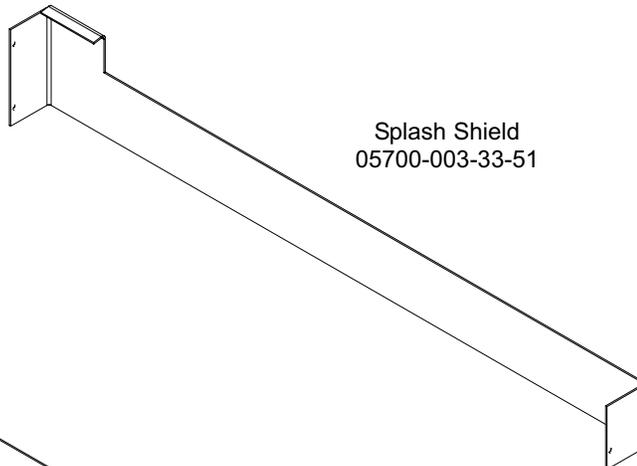


Rail, Left Rack  
05700-031-37-89

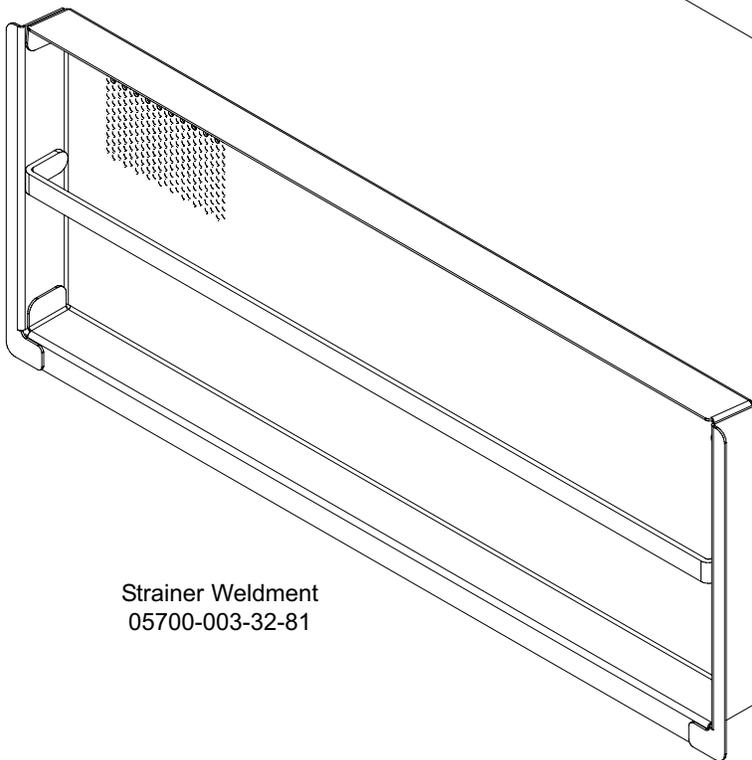


Rail, Right Rack  
05700-031-37-88

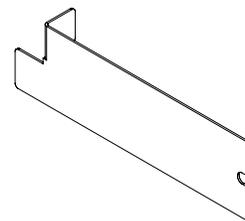
Components secured with:  
Locknut, 1/4"-20 S/S Hex with Nylon Insert  
05310-374-01-00



Splash Shield  
05700-003-33-51



Strainer Weldment  
05700-003-32-81



Strainer Spacer  
05700-001-35-83  
Attaches with:  
Nut, Nylon Wing, 1/4"-20  
05310-994-01-00

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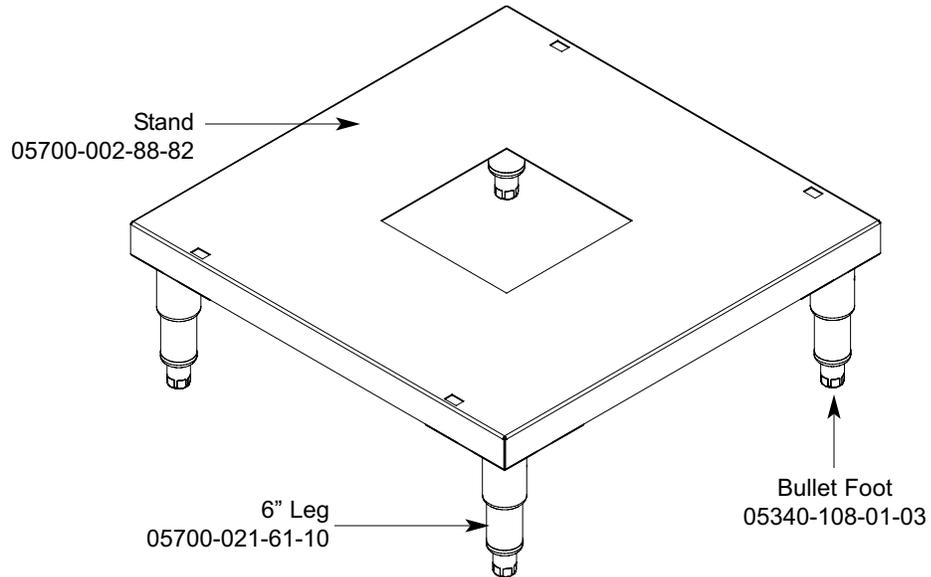
## SECTION 5: PARTS SECTION

### STANDS & COMPONENTS

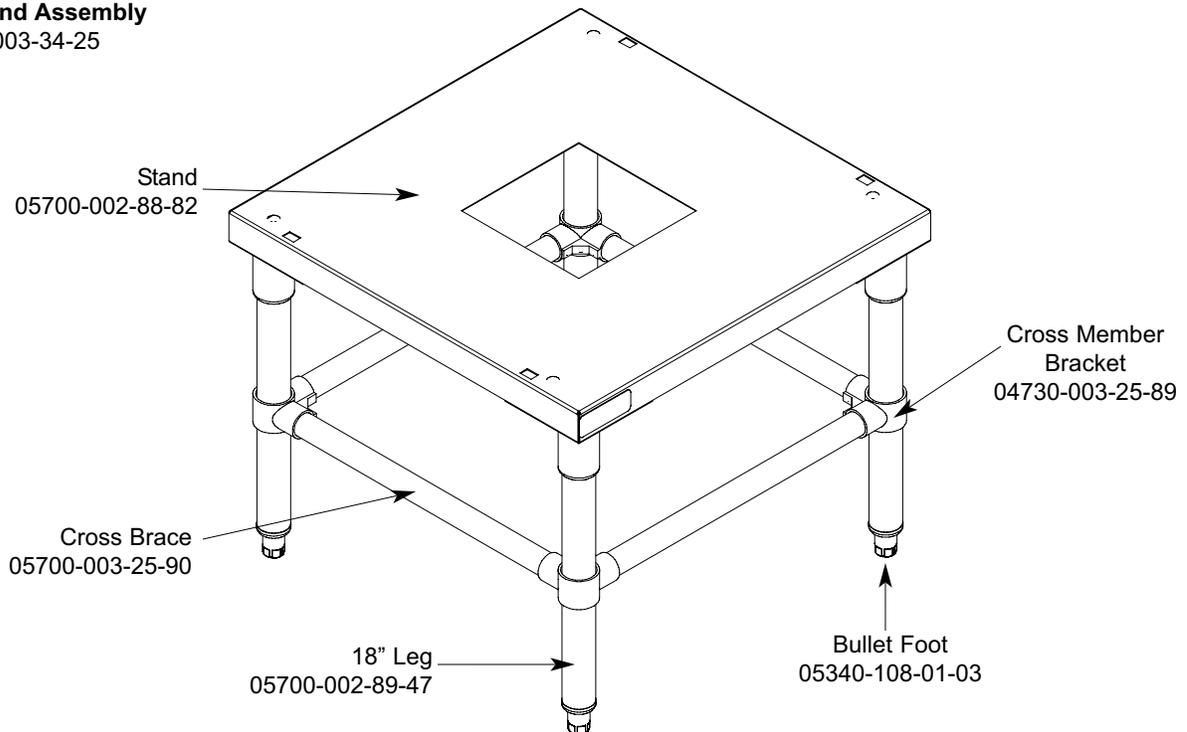
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**Installation Instructions:** To install the stand, first remove the adjustable feet from the machine. Place machine on table and use the square mounting holes to line up the machine. Re-insert adjustable feet through bottom of table top and tighten to lock machine to table.

#### 6" Stand Assembly 05700-003-34-24



#### 18" Stand Assembly 05700-003-34-25

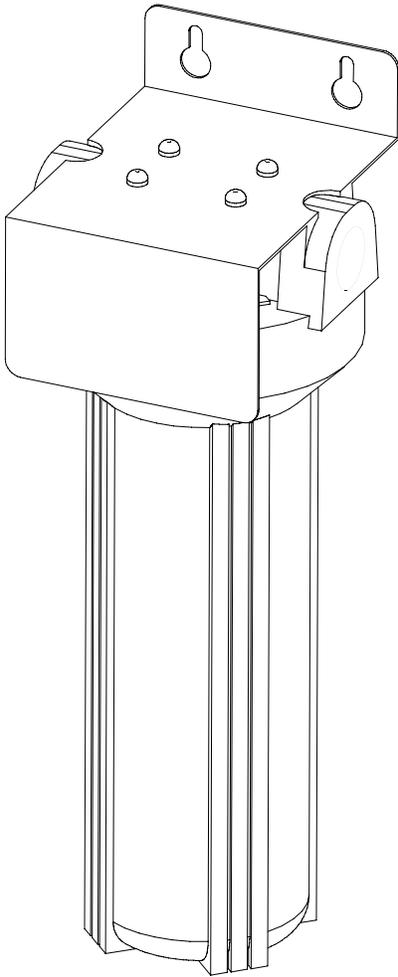


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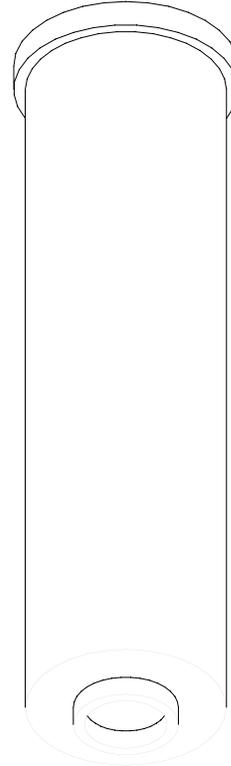
## SECTION 5: PARTS SECTION

### HTS-11 (SCALE PREVENTION & CORROSION CONTROL DEVICE)

Kleenware HTS-11 System  
04730-003-28-03



Replacement Cartridge  
(Inspect at least every 6 months)  
04730-003-28-04



The HTS-11 must be installed vertically. The provided bracket is to be secured to the wall. Observe proper inlet/outlet water directions. Flow directions are molded into the top of the head. Line pressure should be released prior to changing cartridges. De-liming of equipment prior to installation is recommended, but not required.

Replacement Test Strip  
06401-003-28-06

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## SECTION 5: PARTS SECTION

### GO BOX KIT

A GO\*Box is a kit of the most needed parts for a particular model or model family to successfully effect a repair in the first call 90% or more of the time.

The following components may be ordered together using 06401-003-35-26

ITEM	QTY	DESCRIPTION	Mfg. No.
1	1	Rinse Thermostat	05930-003-06-48
2	1	Contact/Heater	05945-002-74-20
3	1	Pump Seal	05330-002-34-22
4	1	Pump Gasket O-Ring	05330-002-81-83
5	1	Door Switch (Reed)	05930-003-31-44
6	1	Relay, 220-240 Volt	05945-111-89-75
7	1	Relay, 115 Volt	05945-002-47-41
8	2	Switch, Det./Rinse Aid Prime	05930-011-49-54
9	2	Switch, On/Off	05930-301-49-00
10	2	Switch, Auto/Manual	05930-011-49-55
11	1	Fill Solenoid Valve 1/2"	04810-100-09-18
12	1	Vacuum Breaker	04820-003-06-13
13	1	Timer, Universal	05945-003-33-09
14	4	Washer Rinse Arm	05330-011-42-10
15	2	Ring , Retaining	05340-112-01-11
16	2	Bearing Assembly, Wash Arm	05700-021-35-97
17	2	Squeeze Tube, 3/16 ID X 3/8 OD	05700-111-35-29
18	2	Squeeze Tube	05700-011-76-41
*Special Pricing available when purchased with above Go*Box. Call for details.			
19*	1	Pump & Motor Assy. S/S	06105-002-72-75

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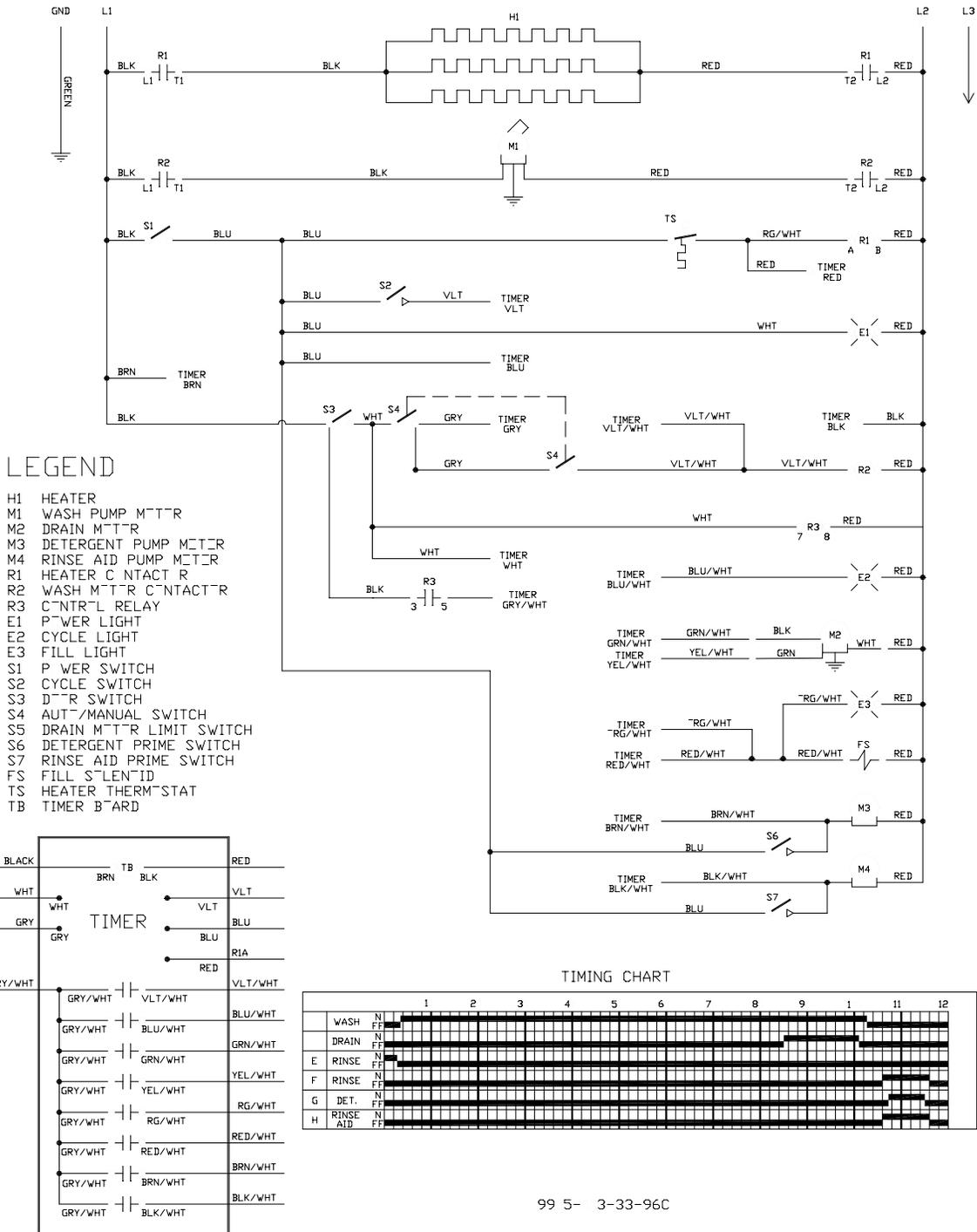
# **SECTION 6: ELECTRICAL SCHEMATICS**

# SECTION 6: ELECTRICAL SCHEMATICS

## Avenger™ HT 208-230 VOLT - 60 HERTZ - SINGLE PHASE

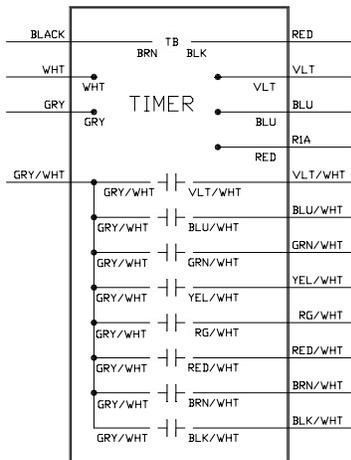
### AVENGERHT ELECTRICAL DIAGRAM

208/240 VOLT 50/60 HERTZ 1/3 PHASE

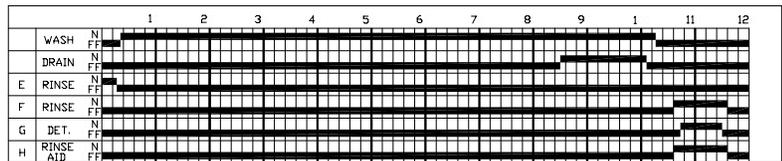


#### LEGEND

- H1 HEATER
- M1 WASH PUMP MOTOR
- M2 DRAIN MOTOR
- M3 DETERGENT PUMP MOTOR
- M4 RINSE AID PUMP MOTOR
- R1 HEATER CONTACTOR
- R2 WASH MOTOR CONTACTOR
- R3 CONTROL RELAY
- E1 POWER LIGHT
- E2 CYCLE LIGHT
- E3 FILL LIGHT
- S1 POWER SWITCH
- S2 CYCLE SWITCH
- S3 DRAIN SWITCH
- S4 AUTO/MANUAL SWITCH
- S5 DRAIN MOTOR LIMIT SWITCH
- S6 DETERGENT PRIME SWITCH
- S7 RINSE AID PRIME SWITCH
- FS FILL SILENTER
- TS HEATER THERMISTAT
- TB TIMER BOARD



#### TIMING CHART



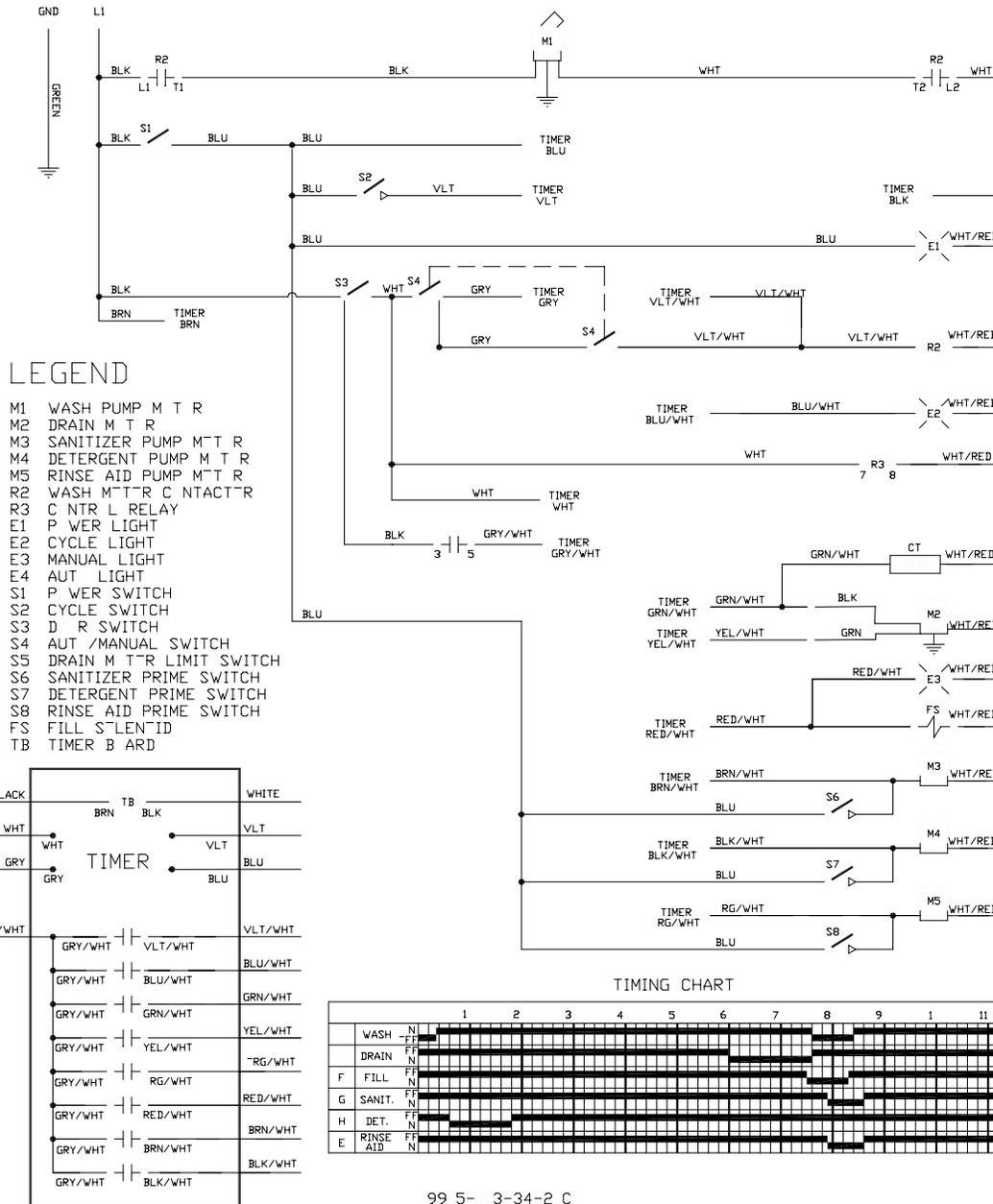
99 5- 3-33-96C

# SECTION 6: ELECTRICAL SCHEMATICS

## Avenger™ LT 115 VOLT - 60 HERTZ - SINGLE PHASE

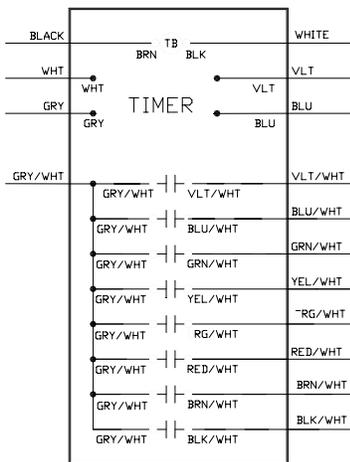
### AVENGERLT ELECTRICAL DIAGRAM

115 VOLT 50/60 HERTZ 1 PHASE



#### LEGEND

- M1 WASH P M T R
- M2 DRAIN M T R
- M3 SANITIZER P M T R
- M4 DETERGENT P M T R
- M5 RINSE AID P M T R
- R2 WASH M T T R C N T A C T R
- R3 C N T R L R E L A Y
- E1 P W E R L I G H T
- E2 C Y C L E L I G H T
- E3 M A N U A L L I G H T
- E4 A U T L I G H T
- S1 P W E R S W I T C H
- S2 C Y C L E S W I T C H
- S3 D R A I N M T T R S W I T C H
- S4 A U T / M A N U A L S W I T C H
- S5 D R A I N M T T R L I M I T S W I T C H
- S6 S A N I T I Z E R P R I M E S W I T C H
- S7 D E T E R G E N T P R I M E S W I T C H
- S8 R I N S E A I D P R I M E S W I T C H
- FS F I L L S O L E N O I D
- TB T I M E R B A R D



#### TIMING CHART

		1	2	3	4	5	6	7	8	9	10	11	12
WASH	N												
	FF												
DRAIN	N												
	FF												
F	FILL												
	N												
G	SANIT.												
	FF												
H	DET.												
	N												
E	RINSE AID												
	FF												
	N												

99 5- 3-34-2 C

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**SECTION 7:  
JACKSON MAINTENANCE &  
REPAIR CENTERS**

## SECTION 7: JACKSON MAINTENANCE & REPAIR CENTERS

### ALABAMA TO FLORIDA

#### ALABAMA

##### **JONES-McLEOD APPLIANCE SVC**

1616 7TH AVE. NORTH  
BIRMINGHAM, AL 35203  
(205) 251-0159  
800-821-1150  
FAX: (205) 322-1440  
service@jones-mcleod.com

##### **JONES-McLEOD APPLIANCE SVC**

854 LAKESIDE DRIVE  
MOBILE, AL 36693  
(251) 666-7278  
800-237-9859  
FAX: (251) 661-0223

#### ALASKA

##### **RESTAURANT APPLIANCE SERVICE**

7219 ROOSEVELT WAY NE  
SEATTLE, WA 98115  
(206) 524-8200  
800-433-9390  
FAX: (206) 525-2890  
info@restappl.com

#### ARIZONA

##### **AUTHORIZED COMMERCIAL FOOD EQMT. SVC**

4832 SOUTH 35TH STREET  
PHOENIX, AZ 85040  
(602) 234-2443  
800-824-8875  
FAX: (602) 232-5862  
acsboss@aol.com

##### **GCS SERVICE INC.**

PHOENIX, AZ  
(602) 474-4510  
800-510-3497  
FAX: (602) 470-4511

#### ARKANSAS

##### **BROMLEY PARTS & SVC**

10TH AND RINGO  
P.O. BOX 1688  
LITTLE ROCK, AR 72202  
(501) 374-0281  
800-482-9269  
FAX: (501) 374-8352  
service@bromleyparts.com  
parts@bromleyparts.com

##### **GCS SERVICE, INC.**

3717 CHERRY ROAD  
MEMPHIS, TN 38118  
(901) 366-4587  
800-262-9155  
FAX: (901) 366-4588

#### CALIFORNIA

##### **BARKERS FOOD MACHINERY SERVICES**

5367 SECOND STREET  
IRWINDALE, CA 91706  
(626) 960-9390  
800-258-6999  
FAX: (626) 337-4541  
service@barkers.com

##### **GCS SERVICE INC.**

LOS ANGELES, CA  
(213) 683-2090  
800-327-1433  
FAX: (213) 683-2099

##### **GCS SERVICE INC.**

SANTA ANA, CA  
(714) 542-1798  
800-540-0719  
FAX: (714) 542-4787

##### **GCS SERVICE INC.**

S. SAN FRANCISCO, CA  
(650) 635-0720  
800-969-4427  
FAX: (650) 871-4019

##### **COMMERCIAL APPLIANCE SERVICE, INC.**

6507 PACIFIC AVENUE, SUITE 102  
STOCKTON, CA 95207  
(916) 567-0203  
(800) 464-2222  
(916) 567-0266 FAX

##### **GCS SERVICE INC.**

SAN DIEGO, CA  
(650) 549-8411  
800-422-7278  
FAX: (650) 549-2323

##### **INDUSTRIAL ELECTRIC SVC.**

5662 ENGINEER DRIVE  
HUNTINGTON BEACH, CA 92649  
(714) 379-7100  
(800-457-3783  
FAX: (714) 379-7109

##### **P & D APPLIANCE SVC**

100 SOUTH LINDEN AVE.  
S. SAN FRANCISCO, CA 94080  
(650) 635-1900  
800-424-1414  
FAX: (650) 635-1919  
pndappl@aol.com

#### P & D APPLIANCE

4220-C ROSEVILLE ROAD  
NORTH HIGHLANDS, CA 95660  
(916) 974-2772  
800-824-7219  
FAX: (916) 974-2774

##### **COMMERCIAL APPLIANCE SERVICE, INC.**

281 LATHROP WAY, #100  
SACRAMENTO, CA 95815  
(916) 567-0203  
(800) 464-2222  
(916) 567-0324 FAX

#### COLORADO

##### **GCS SERVICE INC.**

SHERIDAN, CO  
(303) 371-9054  
800-972-5314  
FAX: (303) 371-4754

##### **HAWKINS COMMERCIAL APPLIANCE SERVICE**

3000 S. WYANDOT ST.  
ENGLEWOOD, CO 80110  
(303) 781-5548  
(800) 624-2117  
FAX: (303) 761-5561  
johns@hawkinscommercial.com

##### **METRO APPLIANCE SERVICE**

1640 S BROADWAY  
DENVER, CO 80210  
(303) 778-1126  
800-525-3532  
FAX: (303) 778-0268  
metroappls@aol.com

#### CONNECTICUT

##### **GCS SERVICE INC.**

HARTFORD, CT  
(860) 549-5575  
800-423-1562  
FAX: (860) 527-6355

##### **SUPERIOR KITCHEN SERVICE INC.**

22 THOMPSON ROAD  
WINDSOR, CT 06088  
(888) 590-1899  
(888) 590-1996 FAX

#### DELAWARE

##### **FOOD SERVICE EQMT.**

2101 PARKWAY SOUTH  
BROOMALL, PA 19008  
(610) 356-6900  
FAX: (610) 356-2038  
dancerule@aol.com

#### GCS SERVICE INC.

PHILADELPHIA, PA  
(215)925-6217  
800-441-9115  
FAX: (215) 925-6208

##### **ELMER SCHULTZ SERVICE**

36 BELMONT AVE.  
WILLMINGTON, DE 19804  
(302) 655-8900  
800-225-0599  
FAX: (302) 656-3673  
elmer2@erols.com

##### **EMR SERVICE DIVISION**

106 WILLIAMSPORT CIRCLE  
SALISBURY, MD 21804  
(410) 543-8197  
FAX: (410) 548-4038

#### FLORIDA

##### **COMMERCIAL APPLIANCE SERVICE**

8416 LAUREL FAIR CIRCLE  
BLDG 6, SUITE 114  
TAMPA, FL 33610  
(813) 663-0313  
800-282-4718  
FAX: (813) 663-0212  
commercialappliance@world-net.att.net

##### **GCS SERVICE INC**

MIAMI, FL  
(305) 621-6666  
800-766-8966  
FAX: (305) 621-6656

##### **GCS SERVICE INC**

ORLANDO, FL  
(407) 841-2551  
800-338-7322  
FAX: (407) 423-8425

##### **NASS PARTS AND SERVICE, INC.**

1144 BELVILLE ROAD, UNIT 359  
DAYTONA BEACH, FL 32114  
(386) 226-2642  
(800) 432-2795  
(386) 736-7695 FAX

##### **GCS SERVICE INC**

TAMPA, FL  
(813) 626-6044  
800-282-3008  
FAX: (813) 621-1174

## SECTION 7: JACKSON MAINTENANCE & REPAIR CENTERS

### FLORIDA TO MARYLAND

#### JONES-McLEOD APPLIANCE SVC

854 LAKESIDE DRIVE  
MOBILE, AL 36693  
(251) 666-7278  
800-237-9859  
FAX: (251) 661-0223  
service@jones-mcleod.com

#### NASS PARTS AND SERVICE, INC.

1108 SOUTH WOODS AVENUE  
ORLANDO, FL 32805  
(407) 425-2681  
(800) 432-2795  
(407) 425-3463 FAX

#### NASS PARTS AND SERVICE, INC.

1376 HEIDE AVENUE  
PALM BAY, FL 32907  
(321) 952-2012  
(800) 432-2795  
(321) 953-0266 FAX

#### GEORGIA

#### GCS SERVICE INC

ATLANTA, GA  
(770) 452-7322  
800-334-3599  
FAX: (770) 452-7473

#### HERITAGE FOODSERVICE

**GROUP OF ATLANTA**  
2100 NORCROSS PKWY.  
SUITE 130  
NORCROSS, GA 30071  
(770) 368-1465  
866-388-9837  
FAX: (866) 388-9838

#### WHALEY FOODSERVICE REPAIRS

109-A OWENS INDUSTRIAL DRIVE  
SAVANNAH, GA 31405  
(912) 447-0827  
888-765-0036  
FAX: (912) 447-0826

#### PIERCE PARTS & SERVICE

2422 ALLEN ROAD  
MACON, GA 31216  
(478) 781-6003  
800-368-2512  
FAX: (478) 781-7186

#### HAWAII

#### FOOD EQMT. PARTS & SERVICE CO.

300 PUUHALE RD.  
HONOLULU, HI 96819  
(808) 847-4871  
FAX: (808) 842-1560  
fepsco@hula.net

#### IDAHO

#### RESTAURANT APPLIANCE SVC.

7219 ROOSEVELT WAY NE  
SEATTLE, WA 98115  
(206) 524-8200  
800-433-9390  
FAX: (206) 525-2890  
info@restappl.com

#### RON'S SERVICE

703 E 44TH STREET STE 10  
GARDEN CITY, ID 83714  
(208) 375-4073  
FAX: (208) 375-4402

#### ILLINOIS

#### CONES REPAIR SVC.

2408 40TH AVE.  
MOLINE, IL 61265  
(309) 797-5323  
800-716-7070  
FAX: (309) 797-3631  
jackb@cones.com

#### EICHENAUER SERVICES INC.

130 S OAKLAND ST.  
DECATUR, IL 62522  
(217) 429-4229  
800-252-5892  
FAX: (217) 429-0226  
esi@esiquality.com

#### GCS SERVICE INC.

ELMHURST, IL  
(630) 941-7800  
800-942-9689  
FAX: (630) 941-6048

#### GCS SERVICE INC.

ST. LOUIS, MO  
(314) 683-7444  
800-284-4427  
FAX: (314) 638-0135

#### GENERAL PARTS, INC.

248 JAMES STREET  
BENSONVILLE, IL 60106  
(630) 595-3300  
(800) 880-3604  
FAX: (630) 595-0006

#### INDIANA

#### GCS SERVICE INC.

INDIANAPOLIS, IN  
(317) 545-9655  
800-727-8710  
FAX: (317) 549-6286

B622 LA PAS TRAIL

INDIANAPOLIS, IN 46268  
(317) 290-8060  
(800) 410-9794  
(317) 290-8085 FAX

#### IOWA

#### GOODWIN TUCKER GROUP

#### 2900 DELAWARE AVENUE

DES MOINES, IA 50317  
(515) 262-9308  
800-372-6066  
FAX: (515) 262-2936  
parts@goodwintucker.com

#### CONES REPAIR SVC.

1056 27TH AVENUE SW  
CEDAR RAPIDS, IA 52404  
(319) 365-3325  
800-747-3326  
FAX: (319) 365-0885

#### KANSAS

#### GCS SERVICE INC.

KANSAS CITY, MO  
(816) 920-5999  
800-229-6477  
FAX: (816) 920-7387

#### GENERAL PARTS, INC.

1101 E. 13TH STREET  
KANSAS CITY, MO 64106  
(816) 421-5400  
(800) 279-9967  
(816) 421-1270 FAX

#### KENTUCKY

#### CERTIFIED SERVICE CENTER

127 DISHMAN LANE  
BOWLING GREEN, KY 42101  
(270) 783-0012  
(877) 907-0012  
FAX: (270) 783-0058

#### CERTIFIED SERVICE CENTER

#### RAMCO BUSINESS PARK

4283 PRODUCE ROAD  
LOUISVILLE, KY 40218  
(502) 964-7007  
800-637-6350  
FAX: (502) 964-7202  
cwalker@certifiedsc.com  
droenigk@certifiedsc.com

#### CERTIFIED SERVICE CENTER

1051 GOODWIN DRIVE  
LEXINGTON, KY 40505  
(606) 254-8854  
800-432-9269  
FAX: (606) 231-7781  
jatkens@certifiedsc.com

#### GCS SERVICE INC.

LOUISVILLE, KY  
(502) 367-1788  
800-752-6160  
FAX: (502) 367-0400

#### GCS SERVICE INC.

LEXINGTON, KY  
(606) 255-0746  
800-432-9260  
FAX: (606) 255-0748

#### LOUISIANA

#### HERITAGE SERVICE GROUP

1532 RIVER OAKS WEST  
NEW ORLEANS, LA 70123  
(504) 734-8864  
(800) 499-2351  
(504) 733-2559 FAX

#### MAINE

#### GCS SERVICE INC.

CHELSEA, MA  
(617) 889-9393  
800-225-1155  
FAX: (617) 889-1222

#### MASSACHUSETTS RESTAURANT SUPPLY

34 SOUTH STREET  
SOMERVILLE, MA 02143  
(617) 868-1930  
800-338-6737  
FAX: (617) 686-5331

#### PINE TREE FOOD EQUIPMENT

175 LEWISTON ROAD  
GRAY, ME 04039  
(207) 657-6400  
(800) 540-5427  
(207) 657-5464 FAX

#### MARYLAND

#### EMR SERVICE DIVISION

700 EAST 25TH STREET  
BALTIMORE, MD 21218  
(410) 467-8080  
800-879-4994  
FAX: (410) 467-4191  
baltparts@emrco.com

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**SECTION 7: JACKSON MAINTENANCE & REPAIR CENTERS**

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**MARYLAND TO NEW YORK**

**EMR SERVICE DIVISION**  
106 WILLIAMSPORT CIRCLE  
SALISBURY, MD 21804  
(410) 543-8197  
888-687-8080  
FAX: (410) 548-4038  
baltparts@emrco.com

**EMR SERVICE DIVISION**

5316 Sunnyside Ave.  
Beltsville, MD 20715  
(301) 931-7000  
800-348-2365  
FAX: (301) 931-3060  
baltparts@emrco.com

**GCS SERVICE INC.**

SILVER SPRING, MD  
(301) 585-7550 (DC)  
(410) 792-0338 (BALT)  
(800) 638-7278  
FAX: (301) 495-4410

**MASSACHUSETTS****ACE SERVICE CO.**

95 HAMPTON AVE.  
NEEDHAM, MA 02494  
(781) 449-4220  
800-225-4510 MA & NH  
FAX: (781) 444-4789  
taceservice@aol.com

**MASSACHUSETTS RESTAU-  
RANT SUPPLY**

34 SOUTH STREET  
SOMERVILLE, MA 02143  
(617) 868-1930  
800-338-6737  
FAX: (617) 868-5331

**GCS SERVICE INC.**

CHELSEA, MA  
(617) 889-9393  
800-225-1155  
FAX: (617) 889-1222

**GCS SERVICE INC.**

HARTFORD, CT  
(860) 549-5575  
800-723-1562  
FAX: (860) 527-6355

**SUPERIOR KITCHEN SER-  
VICE INC.**

399 FERRY STREET  
EVERETT, MA 02149  
(617) 389-1899  
(888) 590-1899  
(617) 389-1996 FAX

**MICHIGAN****GCS SERVICE INC.**

LIVONIA, MI  
(248) 426-9500  
800-772-2936  
FAX: (248) 426-7555

**JACKSON SERVICE COMPA-  
NY**

3980 BENSTEIN RD.  
COMMERCE TWSHP, MI 48382  
(248) 363-4159  
800-332-4053  
FAX: (248) 363-5448

**GCS SERVICE INC.**

GRAND RAPIDS, MI  
(616) 241-0200  
800-823-4866  
FAX: (616) 241-0541

**MINNESOTA****GCS SERVICE INC.**

MINNEAPOLIS, MN  
(612) 546-4221  
800-345-4221  
FAX: (612) 546-4286

**GENERAL PARTS, INC.**

11311 HAMPSHIRE AVENUE  
SOUTH  
BLOOMINGTON, MN 55438-  
2456  
(952) 944-5800  
(800) 279-9980  
(800) 279-9980 FAX

**MISSISSIPPI****GCS SERVICE INC.**

JACKSON, MS  
(601) 956-7800  
800-274-5954  
FAX: (601) 956-1200

**GCS SERVICE INC.**

MEMPHIS, TN  
(901) 366-4587  
800-262-9155  
FAX: (901) 366-4588

**MISSOURI****GCS SERVICE INC.**

KANSAS CITY, MO  
(816) 920-5999  
800-229-6477  
FAX: (816) 920-7387

**GCS SERVICE INC.**

ST. LOUIS, MO  
(314) 638-7444  
800-284-4427  
FAX: (314) 638-0135

**KAEMMERLIN PARTS & SVC.**

2728 LOCUST STREET  
ST. LOUIS, MO 63103  
(314) 535-2222  
FAX: (314) 535-6205  
petek@kps.stl.com

**GENERAL PARTS, INC.**

1101 EAST 13TH STREET  
KANSAS CITY, MO 64106  
(816) 421-5400  
(800) 279-9967  
(816) 421-1270 FAX

**MONTANA****RESTAURANT APPLIANCE  
SVC.**

7219 ROOSEVELT WAY NE  
SEATTLE, WA 98115  
(206) 524-8200  
800-433-9390  
FAX: (206) 525-2890  
info@restappl.com

**NEBRASKA****GOODWIN - TUCKER GROUP**

7535 D STREET  
OMAHA, NE 68124  
(402) 397-2880  
800-228-0342  
FAX: (402) 397-2881  
askme@goodwintucker.com

**NEVADA****HI TECH COMMERCIAL SER-  
VICE**

1840 STELLA LAKE STREET  
NORTH LAS VEGAS, NV 89106  
(702) 649-4616  
(877) 924-4832  
FAX: (702) 649-4607  
larry@hitechnv.com

5454 LOUIE LANE  
RENO, NV 89511  
(775) 852-9696  
FAX: (775) 852-5104

**GCS SERVICE INC.**

LAS VEGAS, NV  
(702) 450-3495  
800-500-9060  
FAX: (702) 450-3491

**NEW HAMPSHIRE****GCS SERVICE INC.**

CHELSEA, MA  
(617)889-9393  
800-225-1155  
FAX: (617) 889-1222

**ACE SERVICE CO.**

95 HAMPTON AVE.  
NEEDHAM, MA 02494  
(781) 449-4220  
800-225-4510 MA & NH  
FAX: (781) 444-4789  
taceservice@aol.com

**MASSACHUSETTS RESTAU-  
RANT SUPPLY**

34 SOUTH STREET  
SOMERVILLE, MA 02143  
(617) 868-1930  
800-338-6737  
FAX: (617) 868-5331

**NEW JERSEY****JAY HILL REPAIRS**

90 CLINTON RD.  
FAIRFIELD, NJ 07004  
(973) 575-9145  
800-836-0643  
FAX: (973) 575-5890  
jhrepair@aol.com

**GCS SERVICE INC.**

EAST RUTHERFORD, NJ  
(973) 614-0003  
800-399-8294  
FAX: (973) 614-0230

**GCS SERVICE INC.**

PHILADELPHIA, PA  
(215) 925-6217  
800-441-9115  
FAX: (215) 925-6208

**ELMER SCHULTZ SERVICES**

201 W. WASHINGTON AVE.  
PLEASANTVILLE, NJ 08232  
(609) 641-0317  
800-378-1641  
FAX: (609) 641-8703  
elmer2@erols.com

**NEW YORK****APPLIANCE INSTALLATION  
AND SERVICE CORP.**

1336 MAIN STREET  
BUFFALO, NY 14209  
(716) 884-7425  
800-722-1252  
FAX: (716) 884-0410  
ais@worldnet.att.net

## SECTION 7: JACKSON MAINTENANCE & REPAIR CENTERS

### NEW YORK TO PENNSYLVANIA

#### **B.E.S.T. INC.**

3003 GENESEE STREET  
BUFFALO, NY 14225  
(716) 893-6464  
800-338-5011  
FAX: (716) 893-6466  
bestserv@aol.com

#### **DUFFY'S EQUIPMENT SVC.**

3138 ONEIDA STREET  
SAUQUOIT, NY 13456  
(315) 737-9401  
800-443-8339  
FAX: (315) 737-7132  
duffyequip@aol.com

#### **NORTHERN PARTS & SVC.**

21 NORTHERN AVENUE  
PLATTSBURGH, NY 12903  
(518) 563-3200  
800-634-5005  
FAX: (800) 782-5424  
info@northernparts.com

#### **GCS SERVICE INC.**

BROOKLYN, NY  
(718) 486-5220  
800-969-4271  
FAX: (718) 486-6772

#### **ALL SERVICE KITCHEN**

EQUIPMENT REPAIR  
10 CHARLES ST.  
NEW HYDE PARK, NY 11040  
(516) 378-1176  
FAX: (516) 378-1735

#### **ALL ISLAND REPAIRS**

40-9 BURT DRIVE  
DEER PARK, NY 11729  
(631) 242-5588  
FAX: (631) 242-6102

#### **NORTH CAROLINA**

#### **AUTHORIZED APPLIANCE**

SERVICECENTER  
1020 TUCKASEEGEE RD.  
CHARLOTTE, NC 28208  
(704) 377-4501  
(800) 532-6127  
FAX:(704) 377-4504

#### **AUTHORIZED APPLIANCE**

SERVICECENTER  
800 N. PERSON ST.  
RALEIGH, NC 27604  
(919) 834-3476  
FAX:(919) 834-3477

#### **AUTHORIZED APPLIANCE SERVICECENTER**

904 S. MARSHALL ST.  
WINSTON-SALEM, NC 27403  
(336) 725-5396  
FAX:(336) 721-1289

#### **AUTHORIZED APPLIANCE SERVICECENTER**

104 HINTON AVE.  
WILMINGTON, NC 28403  
(910) 313-1250  
FAX:(910) 313-6130

#### **WHALEY FOODSERVICE**

8334-K ARROWRIDGE BLVD  
CHARLOTTE, NC 28273  
(704) 529-6242  
FAX: (704) 529-1558  
info@whaleyfoodservice.com

#### **WHALEY FOODSERVICE REPAIRS**

203-D CREEK RIDGE RD.  
GREENSBORO, NC 27406  
(336) 333-2333  
FAX: (336) 333-2533  
info@whaleyfoodservice.com

#### **WHALEY FOODSERVICE REPAIRS**

335-105 SHERWEE DRIVE  
RALEIGH, NC 27603  
(919) 779-2266  
FAX: (919) 779-2224  
info@whaleyfoodservice.com

#### **WHALEY FOODSERVICE REPAIRS**

6418-101 AMSTERDAM WAY  
WILMINGTON, NC 28405  
(910) 791-0000  
FAX: (910) 791-6662  
info@whaleyfoodservice.com

#### **NORTH DAKOTA**

#### **GCS SERVICE INC.**

MINNEAPOLIS, MN  
(612) 546-4221  
800-345-4221  
FAX: (612) 546-4286

#### **GENERAL PARTS, INC.**

10 SOUTH 18TH STREET  
FARGO, ND 58103  
(701) 235-4161  
(800) 279-9987  
(701) 235-0539 FAX

#### **OHIO**

#### **CERTIFIED SERVICE CENTER**

890 REDNA TERRACE  
CINCINNATI, OH 45215  
(513) 772-6600  
800-543-2060  
FAX: (513) 612-6600  
sbarasch@certifiedsc.com

#### **CERTIFIED SERVICE CENTER**

171J-K NORTH HAMILTON RD.  
COLUMBUS, OH 43213  
(614) 751-3769  
(866) 862-1252  
FAX: (614) 751-5792  
jadkins@certifiedsc.com

#### **CERTIFIED SERVICE CENTER**

6025 N. DIXIE DRIVE  
DAYTON, OH 45414  
(937) 898-4040  
(800) 257-2611  
FAX: (937) 898-4177  
dharvey@certifiedsc.com

#### **COMMERCIAL PARTS & SVC. OF COLUMBUS**

5033 TRANSAMERICA DRIVE  
COLUMBUS, OH 43228  
(614) 221-0057  
800-837-8327  
FAX: (614) 221-3622

#### **GCS SERVICE INC.**

COLUMBUS, OH  
(614) 476-3225  
800-282-5406  
FAX: (614) 476-1196

#### **ELECTRICAL APPLIANCE REPAIR SVC.**

5805 VALLEY BELT ROAD  
CLEVELAND, OH 44131  
(216) 459-8700  
800-621-8259  
FAX: (216) 459-8707  
tomr@electapplprep.com

#### **OKLAHOMA**

#### **HAGAR RESTAURANT EQMT.**

1229 W MAIN STREET  
OKLAHOMA CITY, OK 73106  
(405) 235-2184  
800-445-1791  
FAX: (405) 236-5592

#### **OREGON**

#### **RON'S SERVICE**

16364 SW 72ND AVE  
PORTLAND, OR 97224  
(503) 624-0890  
800-851-4118  
FAX: (503) 684-6107  
robinson@ronsservice.com

#### **PENNSYLVANIA**

#### **A.I.S. COMMERCIAL PARTS & SERVICE**

1816 WEST 26TH STREET  
ERIE, PA 16508  
(814) 456-3732  
800-332-3732  
FAX: (814) 452-4843  
aiserie@aol.com

#### **ELMER SCHULTZ SVC.**

540 NORTH 3RD STREET  
PHILADELPHIA, PA 19123  
(215) 627-5400  
FAX: (215) 627-5408  
elmer2@erols.com

#### **GCS SERVICE INC.**

PHILADELPHIA, PA  
(215) 925-6217  
800-441-9115  
FAX: (215) 925-6208

#### **GCS SERVICE INC.**

HARRISBURG, PA  
(717) 564-3282  
800-367-3225  
FAX: (717) 564-9286

#### **GCS SERVICE INC.**

PITTSBURGH, PA  
(412) 787-1970  
800-738-1221  
FAX: (412) 787-5005

#### **K & D PARTS AND SERVICE CO.**

1833-41 N CAMERON STREET  
HARRISBURG, PA 17103  
(717) 236-9039  
800-932-0503  
FAX: (717) 238-4367  
kdparts-service@paonline.com

#### **CLARK SERVICE & PARTS**

306 AIRPORT DRIVE  
BOX 10  
SMOKETOWN, PA 17576  
(717) 392-5590  
(717) 392-5735

## SECTION 7: JACKSON MAINTENANCE & REPAIR CENTERS

### RHODE ISLAND TO WISCONSIN

#### RHODE ISLAND

**GCS SERVICE INC.**  
EAST PROVIDENCE, RI  
(401) 434-6803  
800-462-6012  
FAX: (401) 438-9400

#### SUPERIOR KITCHEN SERVICE INC.

669 ELMWOOD AVENUE  
PROVIDENCE, RI 02907  
(888) 590-1899  
(401) 781-1996 FAX

#### SOUTH CAROLINA

#### AUTHORIZED APPLIANCE SERVICECENTER

1811 TAYLOR ST.  
COLUMBIA, SC 29202  
(803) 254-8414  
FAX: (803) 254-5146

#### AUTHORIZED APPLIANCE SERVICECENTER

2249 AUGUSTA RD.  
GREENVILLE, SC 29605  
(864) 235-9616  
FAX: (864) 235-9623

#### WHALEY FOODSERVICE REPAIRS

I 26&US1  
P.O. BOX 4023  
WEST COLUMBIA, SC 29170  
(803) 791-4420  
800-877-2662  
FAX: (803) 794-4630  
info@whaleyfoodservice.com

#### WHALEY FOODSERVICE REPAIRS

748 CONGAREE ROAD  
GREENVILLE, SC 29607  
(864) 234-7011  
800-494-2539  
FAX: (864) 234-6662  
info@whaleyfoodservice.com

#### WHALEY FOODSERVICE REPAIRS

1406-C COMMERCE PL.  
MYRTLE BEACH, SC 29577  
(843) 626-1866  
FAX: (843) 626-2632  
info@whaleyfoodservice.com

#### WHALEY FOODSERVICE REPAIRS

4740-A FRANCHISE STREET  
N. CHARLESTON, SC 29418  
(843) 760-2110  
FAX: (843) 760-2255  
info@whaleyfoodservice.com

#### SOUTH DAKOTA

#### GCS SERVICE INC.

MINNEAPOLIS, MN  
(612) 546-4221  
800-345-4221  
FAX: (612) 546-4286

#### GENERAL PARTS, INC.

10 SOUTH 18TH STREET  
FARGO, ND 58103  
(701) 235-4161  
(800) 279-9987  
(701) 235-0539 FAX

#### TENNESSEE

#### GCS SERVICE INC.

MEMPHIS, TN  
(901) 366-4587  
800-262-9155  
FAX: (901) 366-4588

#### GCS SERVICE INC.

NASHVILLE, TN  
(615) 244-8050  
800-831-7174  
FAX: (615) 244-8885

#### TEXAS

#### ARMSTRONG REPAIR CENTER

5110 GLENMOUNT DRIVE  
HOUSTON, TX 77081  
(713) 666-7100  
800-392-5325  
FAX: (713) 661-0520  
gm@armstrongrepair.com

#### COMMERCIAL KITCHEN REPAIR CO.

1377 N BRAZOS  
P.O. BOX 831128  
SAN ANTONIO, TX 78207  
(210) 735-2811  
800-292-2120  
FAX: (210) 735-7421  
brock@commercialkitchen.com

#### GCS SERVICE INC.

DALLAS, TX  
(972) 484-2954  
800-442-5026  
FAX: (972) 484-2531

#### GCS SERVICE INC.

HOUSTON, TX  
(713)785-9187  
800-868-6957  
FAX: (713) 785-3979

#### GCS/STOVE PARTS

2120 SOLANA STREET  
FORT WORTH, TX 76117  
(817) 831-0381  
800-433-1804  
FAX: (817) 834-7754  
bud@stoveparts.com

#### UTAH

#### LA MONICA'S RESTAURANT EQMT. SVC.

6182 SOUTH STRATLER AVENUE  
MURRAY, UT 84107  
(801) 263-3221  
800-527-2561  
FAX: (801) 263-3229  
lamonica81@aol.com

#### VERMONT

#### NORTHERN PARTS & SVC.

4874 S. CATHERINE STREET  
PLATTSBURGH, NY 12901  
(518) 563-3200  
800-634-5005  
FAX: (800) 782-5424  
info@northernparts.com

#### GCS SERVICE INC.

CHELSEA, MA  
(617)889-9393  
800-225-1155  
FAX: (617) 889-1222

#### VIRGINIA

#### DAUBERS, INC.

7645 DYNATECH COURT  
SPINGFIELD, VA 22153  
(703) 866-3600  
800-554-7788  
FAX: (703) 866-4071  
daubers@aol.com

#### GCS SERVICE INC.

SILVER SPRING, MD  
(301) 585-7550(DC)  
(410) 792-0388(BALT)  
800-638-7278  
FAX: (301)495-4410

#### GCS SERVICE INC.

RICHMOND, VA  
(804) 672-1700  
800-899-5949  
FAX: (804) 672-2888

#### GCS SERVICE INC.

VIRGINIA BEACH, VA  
(757) 464-3500  
800-476-4278  
FAX: (757) 464-4106

#### WASHINGTON

#### GCS SERVICE INC.

SEATTLE, WA  
(206) 763-0353  
800-211-4274  
FAX: (206) 763-5943

#### RESTAURANT APPLIANCE SERVICE

7219 ROOSEVELT WAY, NE  
SEATTLE, WA 98115  
(206) 524-8200  
800-433-9390  
FAX: (206) 525-2890  
info@restappl.com

#### WEST VIRGINIA

#### STATEWIDE SERVICE, INC.

603 MAIN AVE.  
NITRO, WV 25143  
(304) 755-1811  
(800) 441-9739  
FAX: (304) 755-4001  
sws3182@aol.com

#### WISCONSIN

#### APPLIANCE SERVICE CENTER, INC.

2439 ATWOOD AVE  
MADISON, WI 53704  
(608) 246-3160  
800-236-7440  
FAX: (608) 246-2721  
ascmad@execpc.com

#### APPLIANCE SERVICE CENTER, INC.

6843 W. BELOIT RD.  
WEST ALLIS, WI 53219  
(414) 543-6460  
800-236-6460  
FAX: (414) 543-6480  
ascmil@execpc.com

#### APPLIANCE SERVICE CENTER

786 MORRIS AVE  
GREEN BAY, WI 54304  
(920) 496-9993  
800-236-0871  
FAX: (920) 496-9927  
ascfox@execpc.com

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## SECTION 7: JACKSON MAINTENANCE & REPAIR CENTERS

### WISCONSIN TO WYOMING/INTERNATIONAL

#### **GENERAL PARTS, INC.**

W223 N735 SARATOGA DRIVE  
WAUKESHA, WI 53186  
(262) 650-6666  
(800) 279-9946  
(262) 650-6660 FAX

#### **WYOMING**

#### **HAWKINS COMMERCIAL APPLIANCE SERVICE**

3000 S. WYANDOT ST.  
ENGLEWOOD, CO 80110  
(303) 781-5548  
(800) 624-2117  
FAX: (303) 761-5561  
johns@hawkinscommercial.com

#### **METRO APPLIANCE SERVICE**

1640 S BROADWAY  
DENVER, CO 80210  
(303) 778-1126  
800-525-3532  
FAX: (303) 778-0268  
metroappls@aol.com

#### **INTERNATIONAL**

#### **GLOBAL PARTS AND SUPPLY**

7758 NW 72ND ST  
MIAMI, FL 33166  
(305) 885-6353

#### **H.D. SHELDON AND CO**

19 UNION SQUARE, WEST  
NEW YORK, NY 10003  
(212) 627-1759  
(212) 924-6920

#### **CANADA**

#### **THE GARLAND GROUP**

1177 KAMATO ROAD  
MISSISSAUGA, ONTARIO L4W  
1X4  
(905) 206-8380  
SALES  
(905) 624-1419  
FAX: (905) 624-1851  
SERVICE  
800-427-6668  
FAX: 800-361-7745

March 13, 2007

