

# PREWETTING SYSTEM CLOSED LOOP HYDRAULIC

### **Service and Parts Manual**



MONROE TRUCK EQUIPMENT 1051 W. 7th Street Monroe, WI 53566 Phone: 608-328-8127 Fax: 608-329-8488

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- Use only Monroe Truck Equipment O.E.M. replacement parts. Failure to do so will void the warranty.
- Location descriptions are noted in direction of travel (i.e. front, rear, left and right).
- Delivery of replacement parts is subject to our sales delivery terms.
- Replacement parts listed in this manual reflect the most common items for this product. If you do not find the part you require, please call your distributor.
- Monroe Truck Equipment reserves the right to make revisions or alterations to the parts manual at any time.

### **How to Order Parts**

To order or inquire about replacement parts, please contact the distributor or store that the product was purchased through. To speed the information flow, please have the following information available:

- Model Number
- Serial Number
- Part Number and/or Description of the Part
- Quantity Needed

For further information about Monroe Truck Equipment replacement parts, please call 877-834-9049.

#### **Return Policy**

Merchandise returned to Monroe Truck Equipment must have a Warranty Service Request (WSR) form filled out completely and signed by authorized personnel.

To get your WSR form for whole goods, call Snow & Ice Sales at 800-880-0109.

To get your WSR form for replacement parts, call Warranty at 877-834-9049..

All returned items are subject to a 15% restocking fee and **must be sent freight pre-paid.** 

Rev. 09/26/13

Warning: Before working on or around a pumped liquid system, shut off the truck engine and remove the key from the ignition. Prevent accidental startup and operation of the pumping system to avoid personal injury.

Warning: Many liquid systems are used to pump chemicals that are corrosive and/or poisonous. Wear appropriate Personal Protective Equipment (PPE) to prevent contact between these chemicals and eyes or skin. Avoid accidental ingestion of hazardous chemicals. Provide eye wash equipment and neutralization liquids to operators where appropriate. Keep applicable Material Safety Data Sheets (MSDS) near the equipment for quick reference.

- Locate and read all safety decals on the unit before beginning operation. Familiarize yourself with all potential hazards in operating this equipment.
- Read all installation, operation, and maintenance instructions before operating the equipment.
- Stay away from open pump drives, belts, pulleys, PTOs, and drive shafts during operation. Hands, feet, hair, and clothing can become entangled in moving parts, causing death or severe injury.
- Where pump or PTO drives are supplied with guards, keep these guards in place unless maintenance or repairs are being performed.
- Wear eye and face protection when working with corrosive chemicals. Wear protective clothing and chemical-resistant gloves when appropriate. Follow all instructions given on the associated MSDS for handling chemicals and preventing personal injury.
- Stay away from spray nozzles when the pumping system is operating. High-pressure sprays of hazardous chemicals can cause severe eye injuries or blindness.
- f the system is supplied with a storage tank large enough for human entry, follow confined-space entry procedures when entering the tank.
- Watch for liquid leaks at fittings and hoses in the liquid delivery plumbing. Repair leaks immediately.
- Watch for hydraulic fluid leaks at fittings and hoses. High-pressure fluid leaks can penetrate skin and cause severe injury. Repair hydraulic leaks immediately.
- If the unit needs repair or the controls are not functioning properly, repair the unit immediately. Do not continue to operate a malfunctioning unit—further and more serious damage may occur.
- Follow all environmental protection guidelines when filling or draining the liquid system. Avoid spilling or draining liquids on to the ground where they could enter ground waters. Liquid filling and draining is best done on a concrete pad surrounded by a containment berm. In the event of a large chemical spill, consult the MSDS for the material/chemical involved for cleanup procedures, and contact local authorities if necessary.

#### In Season

Rev. 09/27/13

Warning: Before working on or around a pumped liquid system, shut off the truck engine and remove the key from the ignition. Prevent accidental startup and operation of the pumping system to avoid personal injury.

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Warning: Monroe Truck Equipment does not sell or recommend chemicals to be used in any liquid-delivery system. The end user is responsible for selecting chemicals compatible with the system materials of construction and for proper storage, use, and handling of those chemicals.

#### **Routine Care**

- During short periods of non-use, drain the system of all process liquid. Some chemical solutions are subject to gelling, precipitation, and separation when not used within a short time or when not continuously mixed, and the effect of corrosive chemicals on system components is increased during continuous contact.
- Whenever the process liquid is drained, flush the entire system with water or a flush liquid recommended by the chemical supplier. Water may cause gelling of some chemicals. Hot water may be recommended for some chemicals.
- If ambient temperatures are below freezing and the vehicle must be parked outside, make sure all water is drained from the system or fill the pump and piping with RV anti-freeze. Freezing and expanding water can cause severe and expensive damage to the liquid system. Be sure to flush and fill all areas of the system, including hose reels and "dead ends" such as bulk fill connections.
- Recover and re-use all process liquids where feasible. Do not drain process chemicals on to the ground or into storm sewers or municipal sewer systems.
- Recover and re-use anti-freeze used for storage of the system. Anti-freeze in this application can be reused indefinitely.
- Pressure-wash the vehicle and the liquid-delivery system frequently to remove any spilled or leaking chemicals that could corrode mechanical components. Do not contact any electrical enclosures or wiring connections with the high-pressure spray—electrical components may not be sealed tight enough to with-stand a high-pressure spray of water.
- During operation of the system, watch for leaking fittings and hoses. Repair leaks immediately.
- Check and tighten hose clamps once a month during regular use.
- Inspect spray nozzles after each use of the system. Disassemble and clean the nozzles if material buildup is seen or if a nozzle is visibly not spraying correctly.

### **Maintenance Instructions**

- If liquid continues to run out of sprayer booms and other circuits after the system is shut off, disassemble and inspect the check valve(s) for the circuit. Check valves may be worn, broken, or plugged with material from the process liquid.
- Disassemble and clean strainers (Y-strainer) at least once a month during regular use or more often if plugging is common.
- Prior to refilling the liquid supply tank, check the interior of the tank for any foreign materials or dirt that may be collecting at the bottom of the tank. Flush and clean the tank interior as required.
- At the beginning and end of each season of use, separate any "weather-pack" type electrical connectors and reapply dielectric grease for corrosion protection.

#### Hydraulic System Maintenance (If Applicable)

- Tighten all hydraulic fittings after the first 8 hours of use.
- Inspect hydraulic fittings for leaks every week and tighten as required. If a hydraulic fitting continues to leak after being tightened, replace the fitting as soon as possible.
- Inspect the hydraulic motors each week for oil leakage.
- Maintain the hydraulic oil level at the upper black line on the reservoir sight gauge or two inches below top of tank if there is no sight gauge. Use a high-grade, non-foaming hydraulic oil. Do not mix different types and grades of hydraulic oil.
- Keep dirt and other contaminants out of the reservoir. Pour oil through filter or screen when adding oil. Never operate the system with the filler cap not installed.
- Change the hydraulic oil annually or more often if it appears milky or discolored, or if it smells burned. If the oil needs to be changed frequently, investigate for a source of contamination or system overheating.
- Change the oil filter after the first 50 hours of operation, and then every 6 months or when the pressure differential gauge indicates the filter is plugging.
- When quick-disconnects are separated, cover and cap the ends to prevent the entry of contaminants into the hydraulic system and possible impact damage to the ends.
- Inspect the hydraulic hoses for wear or damage every month, especially hoses attached to moving components.

#### **Maintenance Schedule**

• Due to the typical harsh operating conditions of a liquid-delivery system, regular inspection and maintenance is critical to safe operation and durability of the system. The end user of the equipment must create and enforce the use of an inspection and maintenance schedule.

#### **Off Season/Long-Term Storage**

#### **General Guidelines**

- Liquid systems must be placed in long-term storage using one of the two procedures given here. These procedures are based on the expected ambient storage temperature (above freezing or below freezing).
- For all systems, begin by draining all process liquid and flushing the system to remove all chemical residues.
- Inspect all hoses, fittings, and wiring for abrasions, cuts, and other damage. Repair as required.
- Disassemble and clean strainers.
- Disassemble and clean spray nozzles. Replace any nozzles that are visibly worn or damaged.
- Disassemble and clean check valves.
- Inspect the interior of liquid-supply tanks and clean as required.
- Reassemble and tighten all components so the system can be filled with anti-freeze.

#### **Protect the Environment**

- Recover and re-use all process liquids where feasible. Do not drain process chemicals on to the ground or into storm sewers or municipal sewer systems. Most chemical solutions must not be allowed to enter ground or surface waters.
- If available, large volume draining and flushing of liquid systems should be performed on bermed pads that will trap any spills of liquid. Portable bermed pads are also available for preventing ground and surface water contamination.
- For small systems with a few spray nozzles, 5-gallon pails may be used to collect flush and rinse solutions.
- If not re-usable, some high or low-pH chemicals may have to be sent to a neutralization tank and neutralized before being dumped to sewer. Refer to the chemical supplier's instructions and to local regulations for more information.
- Rinse water ("rinsate") should also be recovered and re-used if possible. Rinse water will contain at least traces of the process chemical and may still be considered hazardous material.
- Rinsate can often be returned to a bulk storage tank and then used as "makeup" water for the next batch of full-strength solution.
- For pesticides and herbicides, rinsate water may be disposed of by spraying on areas already designated for chemical application. Refer to local regulations and restrictions for more information.
- f a highly corrosive or hazardous chemical is accidentally spilled on the ground or into a sewer, contact local Haz/Mat authorities immediately for instructions.

#### Liquid System Long-Term Storage

This information covers extended storage of liquid delivery systems at above freezing temperatures ("summerizing") and below freezing temperatures ("winterizing").

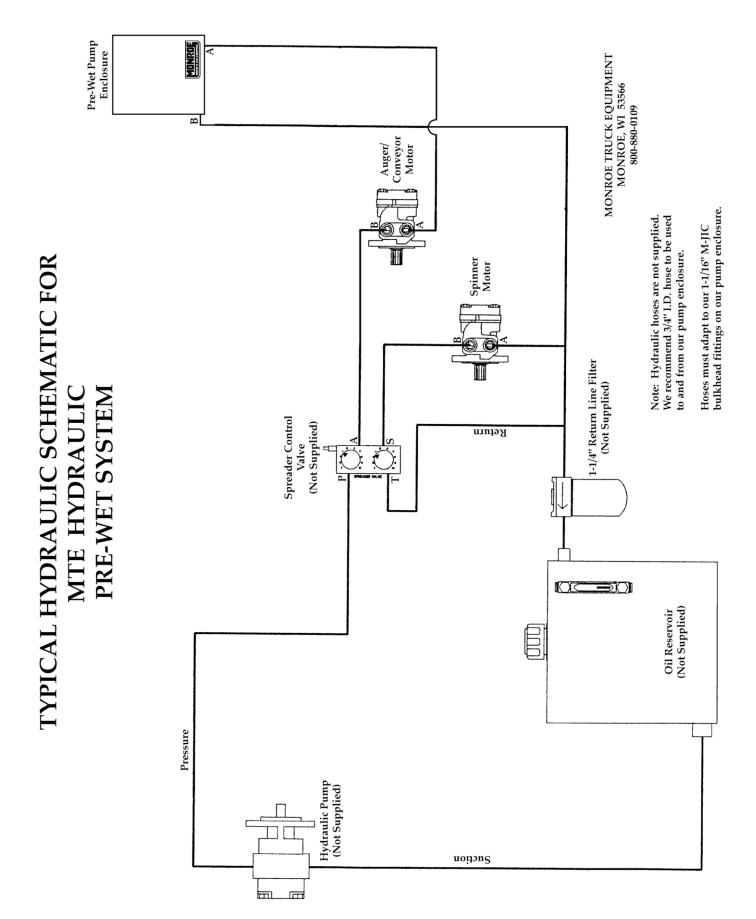
The primary concern in storing liquid systems at above freezing temperatures is preventing corrosion of metal parts due to extended contact with corrosive chemicals. With some chemical mixes, separation, precipitation, or gelling may also be a problem during extended storage.

The primary concern in storing liquid systems at below freezing temperatures is mechanical damage from expanding ice, with a secondary concern of preventing corrosion of metal parts due to extended contact with corrosive chemicals.

- Drain and recover as much of the process liquid as possible. Never drain the process liquid on to the ground or down a sewer. High or low pH solutions must typically be neutralized before being released to a sewer or municipal waste water system.
- If the process chemical has a high or low pH, flush the system with a neutralizing solution to help remove all chemical from the system.
- Roller pumps have tight internal tolerances that will be affected by buildup of material from the chemical solution. Roller pumps must be flushed thoroughly before extended storage.
- For systems that use impeller (centrifugal) or roller pumps where metal parts are exposed, flush and fill the pump and piping with automotive anti-freeze (ethylene glycol) that contains a rust inhibitor (Prestone®, Zerex®, etc.). Mix the anti-freeze 50/50 with water.
- Fill the supply tank with just enough anti-freeze to all the pump to run and circulate the antifreeze through the entire system.
- Run the pump and "crack" drain, vent, and fill valves momentarily to allow the anti-freeze to reach all areas of the piping. If the system has a hose reel, operate the spray wand until the hose is completely flushed.
- Do not run a pump with no liquid in it or with the suction and/or discharge valves closed. Pumps can be damaged by running dry or by "deadheading".
- For systems with diaphragm pumps where no metal parts are exposed, flush and fill the pump and piping with RV anti-freeze (propylene glycol) mixed 50/50 with water. RV anti-freeze does not contain rust inhibitors.
- Make sure all valves are completely closed and quick-disconnects are capped or covered to prevent leakage during the storage period.
- For long-term storage, disconnect the pump motive power (electrical or hydraulic) to prevent accidental operation.
- Do not tarp or wrap the equipment tightly for storage. This can trap moisture on the components and overheat items if the unit is stored in direct sunlight in the summer. Maintain air flow around the unit. In summer, store uncovered and under shade to protect from UV light.

### **Maintenance Instructions**

- Where possible, liquid-delivery units should be stored in a heated area after being flushed to avoid freezing problems. Where feasible, expensive individual components such as pumps, valves, and piping manifolds can be removed from the truck body or equipment skid after flushing and then stored in a heated building.
- When removing the unit from storage, drain and save the anti-freeze (if used). The anti-freeze can be re-used during the next storage period. Never drain anti-freeze on to the ground or down a sewer.
- Flush the system with clean water and drain completely before filling with the process chemical.



### **Pump Enclosure Plumbing (Hydraulic Oil)**

#### Pump Enclosure and Nozzle Mounting Instructions Closed Loop Hydraulic System

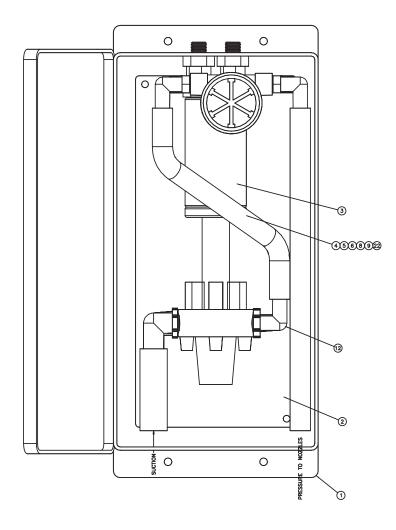
1. Fasten the pump enclosure to the spreader or use optional pump enclosure mounting bracket.

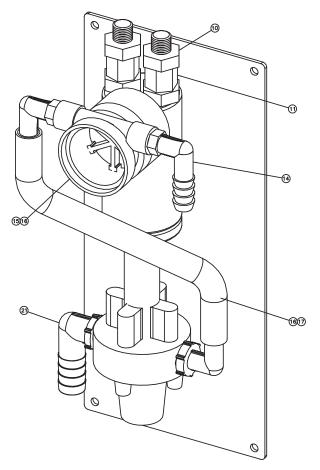
**NOTE:** (Mount enclosure in an accessible area for ease of service.)

- 2. Pre-assemble the spray nozzles.
- 3. Install nozzle assemblies on spinner chute or other desired location.
- 4. Install ½" hose between pressure side of pump to poly check valve and nozzle assembly using fittings and hose clamps provided.
- 5. Install a  $1\frac{1}{4}$ " to  $\frac{3}{4}$ " reducing nipple into the tank.
- 6. Install a <sup>3</sup>/<sub>4</sub>" ball valve onto the reducing nipple.
- 7. Install a <sup>3</sup>/<sub>4</sub>" short nipple into suction strainer and into ball valve. The arrow on the strainer should be pointing in the direction of flow.
- 8. Install a 90° hose barb, <sup>3</sup>/<sub>4</sub>" MNPT x <sup>3</sup>/<sub>4</sub>" Male Barb, into the other end of the suction strainer. **NOTE:** (Optional fittings may be needed to fit application.)
- 9. Install <sup>3</sup>/<sub>4</sub>" EPDM, 150 PSI hose onto hose barb, located next to strainer, and route to suction side of pump enclosure using clamps provided.
- 10. Wire unit per controller manufacturers recommendations.

### NOTES

#### 00098190 PLUMBING KIT, HYD, PREWET, 4GPM MTE CNT, FM, W/O VALVE 00098191 PLUMBING KIT, HYD, PREWET, 7GPM MTE CNT, FM, W/O VALVE

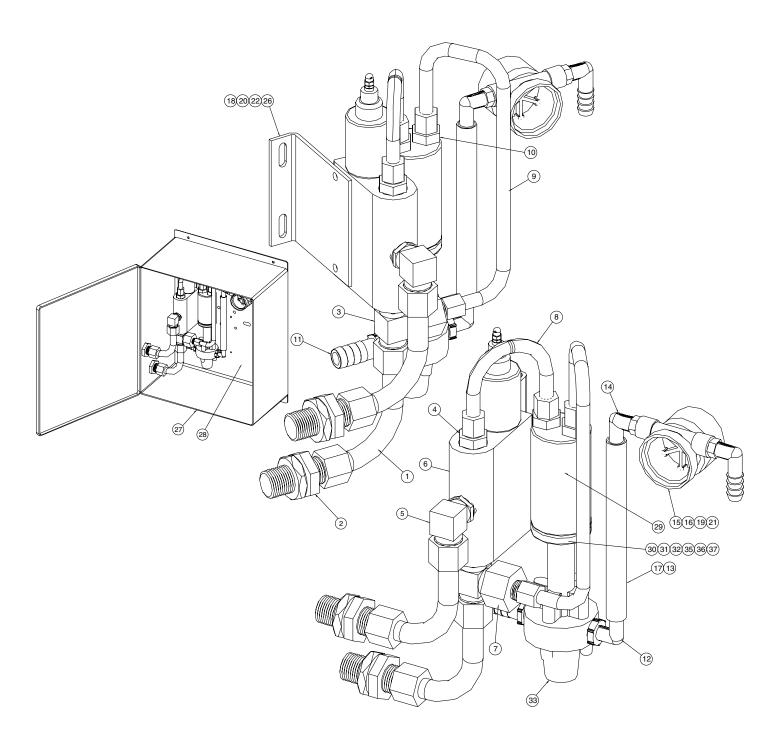




#### 00098190 PLUMBING KIT, HYD, PREWET, 4GPM MTE CONT, FM, W/O VALVE 00098191 PLUMBING KIT, HYD, PREWET, 7GPM MTE CONT, FM, W/O VALVE

Item	Qty.	Part Number	Description
1	1	05041602	JUNCTION BOX, 14" X 7" X 6.5", NEMA, HYD, PREWET
2	1	00088289	MOUNTING PLATE, PLUMBING/PUMP, JUNCTION BOX
3	1	05006735	MOTOR, HYD, .79 CI, 3-B MOUNT, 5/8" OD SHAFT
4	1	05050529	MOTOR MOUNTING ANGLE, DIRECT COUPLE, PUMP & MOTOR
5	1	05037811	Coupling, lovejoy, w/ set srew & keyway
6	1	05051530	INSERT, RUBBER, LOVEJOY, MOTOR TO PUMP
7	1	05008068 05008067	PUMP, BRASS, DIRECT COUPLE, 4GPM W/ RELIEF VALVE   on page 53     PUMP, BRASS, DIRECT COUPLE, 7GPM W/ RELIEF VALVE   on page 54
8	2	05016138	BOLT, .313-18 X 1, HHCS, SST
9	2	05020901	NUT, .313-18, SPINLOCK, SST
10	2	05037493	BULKHEAD FITTING, #8 MALE JIC
11	2	05039855	ADAPTER, STRAIGHT, 9/16-18 MALE ORB X 3/4-16 FJIC
12	1	05037305	HOSE BRB, 90 DEG POLY, .5" MNPT X .5" BARB
13	2	05037281	CLAMP, HOSE, .75" SST
14	2	05037730	HOSE BARB, 90 DEG, PVC, .25" MNPT X .5 BARB
15	1	05040422	METER, FLOW, .250" FNPT, 0-5 GPM Call for replacement.
16	1	05050418	CLAMP, HOSE, .75" SST
17	1 FT	05037307	HOSE, .5 BLACK EPDM 150 PSI WORKING PRESSURE
18	1	05051880	MANUAL, CLOSED LOOP HYDRAULIC
19	1	05041491	FITTING, COMPRESSION, .5 ID
20	1	05041120	NUT, JAM PLASTIC, F/ TRUCKLITE
21	1	05037509	HOSE BARB, 90 DEG POLY, .5" MNPT X .75 BARB
22	3	05016935	BOLT, .25-28 X .75 SHCS, SST
24	1	05050095	TAG, SERIAL NUMBER

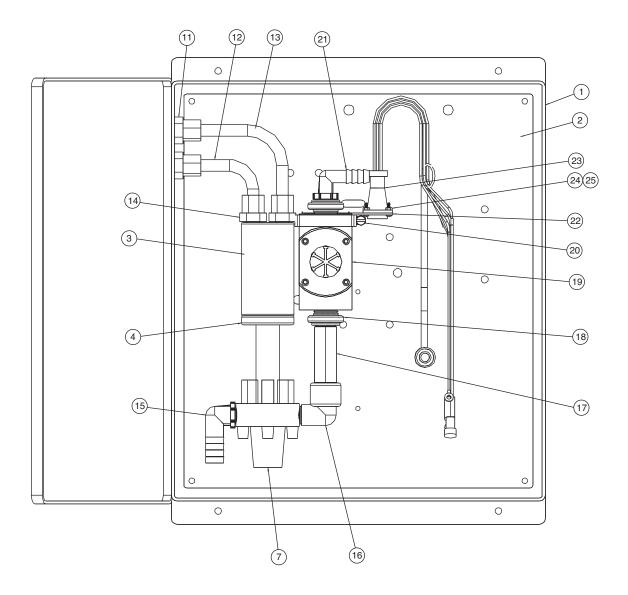
### 00098193 PLUMBING KIT, HYD PREWET, 4GPM MTE CNT, FM, W/ VALVE 00098194 PLUMBING KIT, HYD PREWET, 7GPM MTE CNT, FM, W/ VALVE



### 00098193 PLUMBING KIT, HYD, PREWET, 4GPM MTE CNT, FM W/ VALVE 00098194 PLUMBING KIT, HYD, PREWET, 7GPM MTE CNT, FM W/ VALVE

Item	Qty.	Part Number	Description
1	2	05037350	TUBE, STEEL, .75 W/ 2 FJIC, 1.0625, LG ELBOW
2	2	05037346	ADAPTER, BULKHEAD, 1.0625 MJIC BOTH ENDS
3	1	05037344	ADAPTER, TEE (2) 1.0625 MJIC X (1) 1.0625 MORB
4	1	05037345	ADAPTER, STRAIGHT, REDUCER, 1.0625 FJIC X .75 - 16 MJIC
5	1	05037340	ADAPTER, 90 DEG, 1.0625MJIC X 1.0625MORB
6	1	05037861	VALVE, FLOW CONTROL, 12VDC, 5GPM HYD
7	1	05037904	ADAPTER, STRAIGHT, 1.0625" M-ORB X .75 MJIC
8	1	05037348	TUBE, STEEL, .5" W/ (2) .750-8FJIC C-SHAPE
9	1	00045013	TUBE, SS, .5" W/ (2) .750-16 JIC NUTS
10	2	05037341	ADAPTER, STRAIGHT, .75 - 16MJIC X .5625 -18 MORB
11	1	05037587	HOSE BARB, POLY, .5 MNPT X .75 BARB
12	1	05037305	HOSE BARB, 90 DEG POLY, .5 MNPT X .75 BARB
13	2	05037281	CLAMP HOSE, .75" SS
14	2	05037730	HOSE BARB, 90 DEG, PVC, .250 MNPT X .5 BARB
15	1	05040422	METER, FLOW, .250 FNPT, .0-5GPM, GEMS Call for replacement
16	1	05050418	CLAMP CUSHIONED METAL, 2" SST, #32
17	1 FT	05037307	HOSE, .5 BLACK, EPDM, 150PSI
18	2	05016113	BOLT, .250-20 X .750, HHCS, SST
19	1	05016040	BOLT, .250-20 X 1, HHCS, SST
20	2	05016119	BOLT, .250-20 X 2.5, HHCS, SST
21	1	05021403	WASHER, .250, FLAT, SST
22	6	05020906	NUT, .250-20, NYLON LOCK, SST
23	1	05051880	MANUAL, CLOSED LOOP HYD
24	1	05041491	FITTING, COMPRESSION, .5 ID
25	1	05041120	NUT, JAM, PLASTIC F/ TRUCKLITE
26	1	00047983-A	BRACKET, MOUNTING VALVE
27	1	05041358	JUNCTION BOX, 18" X 16" X 8", NEMA, HYD
28	1	00056100-A	MOUNTING PLATE, INNER
29	1	05006735	MOTOR, HYD, .79 DI, 3-B MOUNT
30	1	05050529	MOTOR MOUNTING ANGLE, DIRECT COUPLE
31	1	05037811	COUPLING, LOVEJOY, SPECIAL, W/ SET SCREW
32	1	05051530	INSERT, RUBBER
33	1	05008068 05008067	PUMP, BRASS DIRECT COUPLE, 4GPM , W/ RELIEFon page 53PUMP, BRASS DIRECT COUPLE, 7GPM , W/ RELIEFon page 54
34	1	05051625	DECAL, MONROE SNOW & ICE CONTROL
35	2	05016138	BOLT, .313-18 X 1, HHCS, SST
36	2	05020901	NUT, .313-18, SPINLOCK, SST
37	3	05016935	BOLT, .25-28 X .75, SHCS, SST

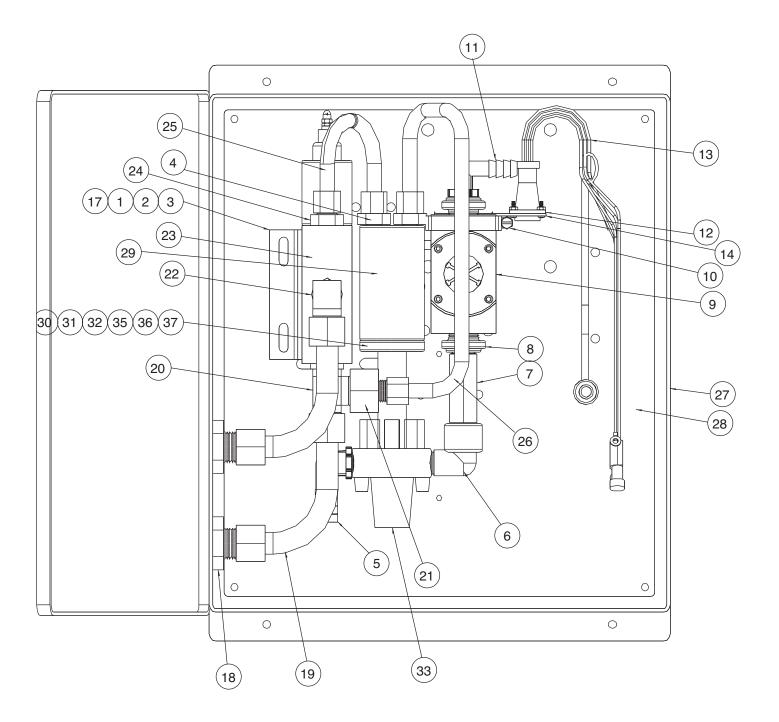
#### 00017046 PLUMBING KIT, HYD, PREWET, 4GPM COMP TECH FM, W/O VALVE 00017233 PLUMBING KIT, HYD, PREWET, 7GPM COMP TECH FM, W/O VALVE



#### 00017046 PLUMBING KIT, HYD, PREWET, 4GPM COMP TECH FM, W/O VALVE 00017233 PLUMBING KIT, HYD, PREWET, 7GPM COMP TECH FM, W/O VALVE

Item	Qty.	Part Number	Description
1	1	05041358	JUNCTION BOX, 18" X 16" X 8" NEMA
2	1	00056100-A	MOUNTING PLATE, INNER, JB, MS, VERSA COAT
3	1	05006735	MOTOR, HYD, .79 CI, 3-B MOUNT, .625" OD SHAFT
4	1	05050529	MOTOR MOUNTING ANGLE, DIRECT COUPLE, PUMP & MOTOR
5	1	05037811	COUPLING LOVEJOY W/ SET SCREW &KEYWAY
6	1	05051530	INSERT, RUBBER, LOVEJOY
7	1	05008068 05008067	PUMP, BRASS DIRECT COUPLE, 4GPM W/ RELIEF VALVEon page 53PUMP, BRASS DIRECT COUPLE, 7GPM W/ RELIEF VALVEon page 54
8	1	05051625	DECAL, MONROE SNOW & ICE CONTROL
9	2	05016138	BOLT, .313-18 X 1, HHCS, SST
10	2	05020901	NUT, .313-18 SPINLOCK, SST
11	2	05037493	BULKHEAD FITTING, #8, MALE JIC
12	1	05037487	TUBE, SST, .5 "L" SHAPE, 2' X 3"
13	1	05037486	TUBE, SST, .5 "L" SHAPE, 3.5" X 4.25"
14	2	05037341	ADAPTER, STRAIGHT, .75-16 M JIC X .5625 -18 M ORB
15	1	05037509	HOSE BARB, 90 DEG POLY, .5" MNPT X .75" BARB
16	1	05037621	ELBOW, .5 POLY STREET, 90 DEG
17	1	05037630	NIPPLE, .5" NPT 3.5" BRASS
18	2	05038643	BUSHING, REDUCER, .75" MNPT X .5"FNPT, BRASS
19	1	05040377	METER, FLOW, C METRIX on page 52
20	1	05037400	CLAMP, HOSE, 2.75" SST
21	1	05037305	HOSE BARB, .5 X .5 MNPT, POLY, 90 DEG
22	1	00045066	MOUNT, VALVE FLOW AND CONNECTOR TANK
23	1	00045945	BULKHEAD, 9-POLE
24	4	05020983	NUT, #4-40, NYLON LOCK, 18-8 SST
25	4	05016966	SCREW #4-40 X .5 PH ROUND HEAD, SST
26	1	05051880	MANUAL, CLOSED LOOP HYDRAULIC
27	3	05016935	BOLT, .25-28 X .75 SHCS SST ( <b>USED ON THE 7GPM UNIT</b> )

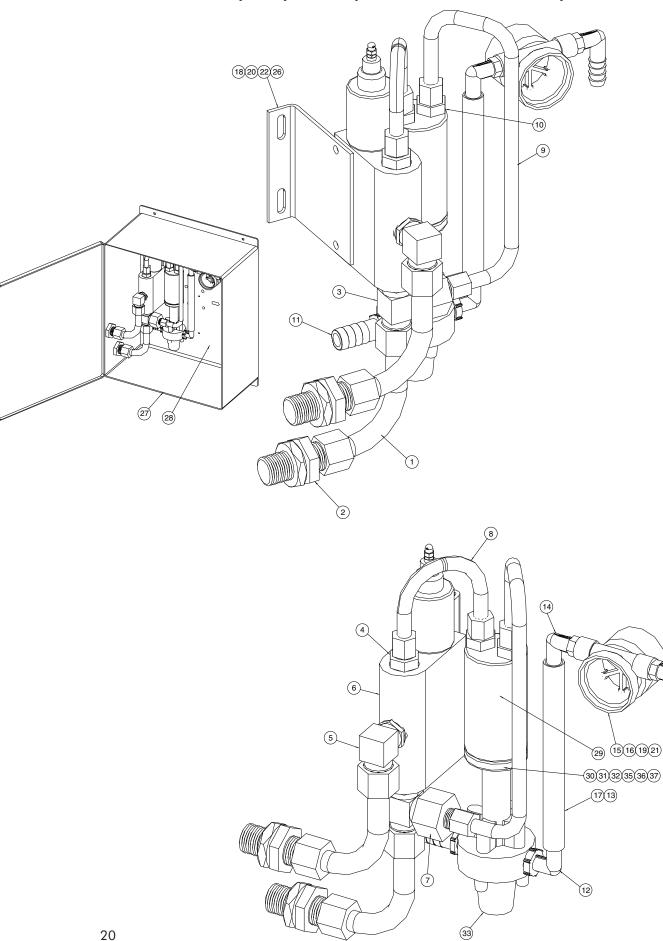
#### 00088459 PLUMBING KIT, HYD, PREWET, 4GPM COMP TECH FM, W/VALVE 00088458 PLUMBING KIT, HYD, PREWET, 7GPM COMP TECH FM, W/VALVE



#### 00088459 PLUMBING KIT, HYD, PREWET, 4GPM COMP TECH FM, W/ VALVE 00088458 PLUMBING KIT, HYD, PREWET, 7GPM COMP TECH FM, W/ VALVE

Item	Qty.	Part Number	Description
1	4	05016113	BOLT, .250-20 X .750 HHCS, SST
2	6	05020904	NUT, .250-20 SPINLOCK, SST
3	2	05016119	BOLT, .250-20 X 2.5, HHCS, SST
4	2	05037341	ADAPTER, STRAIGHT, .75-16 MJIC X .5625-18 MORB
5	1	05037509	HOSE BARB, 90 DEG, POLY, .5 MNPT X .75 BARB
6	1	05037621	ELBOW, .5" POLY, STREET, 90 DEG
7	1	05037630	NIPPLE, .5 NPT X 3.5" BRASS
8	2	05038643	BUSHING, REDUCER, .75 MNPT X .5 FNPT, BRASS
9	1	05040377	METER, FLOW, C METRIX on page 52
10	1	05037400	CLAMP, HOSE, 2.75 SST
11	1	05037305	HOSE BARB, .5 X .5 MNPT, POLY, 90 DEG
12	1	00045066	MOUNT, VALVE FLOW AND CONNECTOR
13	1	00045945	BULKHEAD, 9-POLY
14	4	05020983	NUT, #4-40, NYLON LOCK, 18-8, SST
15	4	05016966	SCREW #4-40 X .5 PH ROUND HD, SST
16	1	05051880	MANUAL, CLOSED LOOP HYD
17	1	00047983-A	BRACKET, MOUNTING, VALVE
18	2	05037346	ADAPTER, BULKHEAD, 1.0625 MJIC BOTH ENDS
19	2	05037350	TUBE, STEEL, .75" W/2 FJIC 1.0625, LG ELBOW
20	1	05037344	ADAPTER, TEE, (2) 1.0625 MJIC X (1) 1.0625 MORB
21	1	05037345	ADAPTER, STRAIGHT, REDUCER, 1.0625 FJIC X .75-16MJIC
22	1	05037340	ADAPTER, 90 DEG, 1.0625 MJIC X 1.0625 MORB
23	1	05037861	VALVE, FLOW CONTROL, 12VDC, 5GPM HYD FLOW
24	1	05037904	ADAPTER, STRAIGHT, 1.0625 MORB X .75 MJIC
25	1	05037348	TUBE, STEEL, .5 W/ (2) .75 8 FJIC C-SHAPE
26	1	00045013	TUBE, SS, .5" W/ (2) .75-16 JIC NUTS
27	1	05041358	JUNCTION BOX, 18" X 16" X 8", NEMA, HYD
28	1	00056100-A	MOUNTING PLATE, INNER
29	1	05006735	MOTOR, HYD, .79 DI, 3-B MOUNT
30	1	05050529	MOTOR MOUNTING ANGLE, DIRECT COUPLE
31	1	05037811	COUPLING, LOVEJOY, SPECIAL, W/ SET SCREW
32	1	05051530	INSERT, RUBBER
33	1	05008068 05008067	PUMP, BRASS DIRECT COUPLE, 4GPM , W/ RELIEF on page 53   PUMP, BRASS DIRECT COUPLE, 7GPM , W/ RELIEF on page 54
34	1	05051625	DECAL, MONROE SNOW & ICE CONTROL
35	2	05016138	BOLT, .313-18 X 1, HHCS, SST
36	2	05020901	NUT, .313-18, SPINLOCK, SST
37	3	05016935	BOLT, .25-28 X .75, SHCS, SST

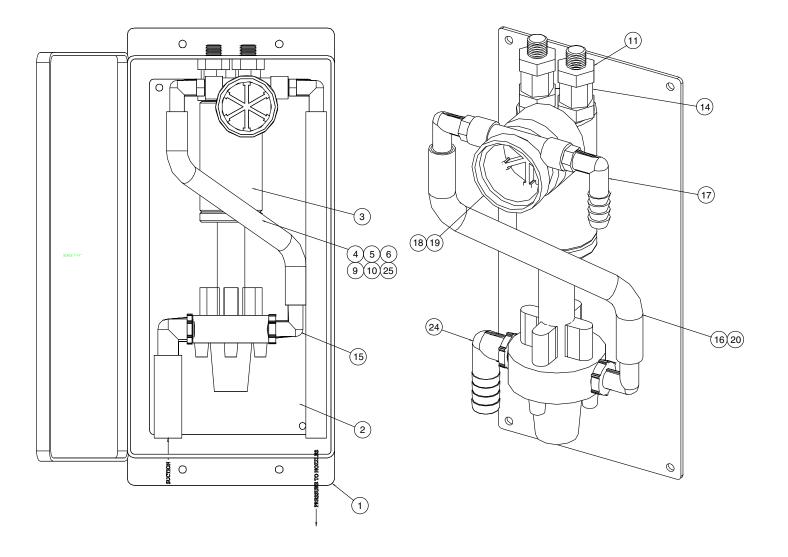
00017222 PLUMBING KIT, HYD, PREWET, 4GPM DICKEY JOHN FM, W/ VALVE 00017229 PLUMBING KIT, HYD, PREWET, 7GPM DICKEY JOHN FM, W/ VALVE



### 00017222 PLUMBING KIT, HYD, PREWET, 4GPM, DICKEY JOHN FM, W/ VALVE 00017229 PLUMBING KIT, HYD, PREWET, 7GPM, DICKEY JOHN FM, W/ VALVE

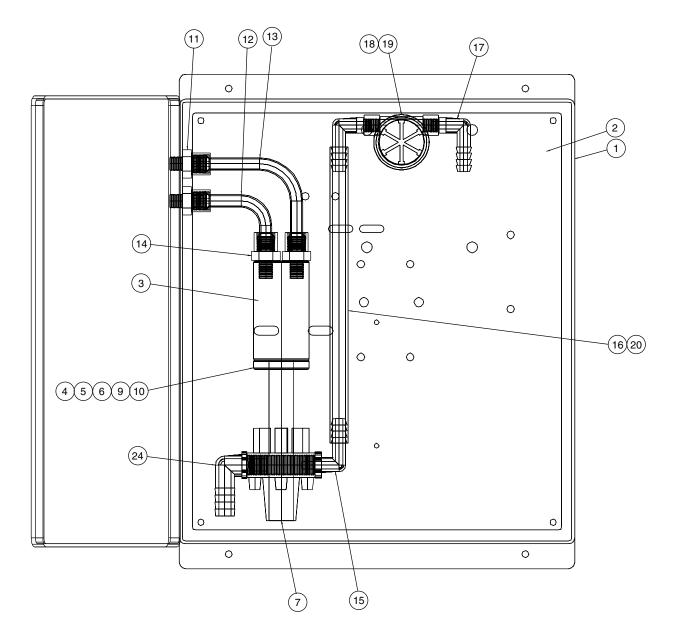
Item	Qty.	Part Number	Description
1	2	05037350	TUBE, STEEL, .75 W/ 2 FJIC, 1.0625, LG ELBOW
2	2	05037346	ADAPTER, BULKHEAD, 1.0625 MJIC BOTH ENDS
3	1	05037344	ADAPTER, TEE (2) 1.0625 MJIC X (1) 1.0625 MORB
4	1	05037345	ADAPTER, STRAIGHT, REDUCER,1.0625 FJIC X .75-16MJIC
5	1	05037340	ADAPTER, 90DEG, 1.0625 MJIC X 1.0625 MORB
6	1	05037861	VALVE, FLOW CONTROL, 12VDC
7	1	05037904	ADAPTER, STRAIGHT, 1.0625" MORB X .75 MJIC
8	1	05037348	TUBE, STEEL, .5 W/ (2) .75 8FJIC C-SHAPE
9	1	00045013	TUBE, SS, .5" W/(2) .75-16 JIC NUTS
10	2	05037341	ADAPTER, STRAIGHT, .75-16 MJIC X .562-18MORB
11	1	05037587	HOSE BARB, POLY, .5 MNPT X .75 BARB
12	1	05037305	HOSE BARB, 90DEG POLY, .5 MNPT X .75 BARB
13	2	05037281	CLAMP, HOSE, .75, SS
14	2	05037730	HOSE BARB, 90 DEG,PVC, .250 MNPT X .5 M BARB
15	1	05040234	METER, FLOW, .250 FNPT, .3-5 GPM POLY on page 50
16	1	05050418	CLAMP, CUSHIONED METAL, 2" SST
17	1 FT	05037307	HOSE, .5 BLACK EPDM, 150PSI
18	2	05016113	BOLT, .250-20 X .75, HHCS, SST
19	1	05016040	BOLT, .250-20 X 1, HHCS, SST
20	2	05016119	BOLT, .250-20 X 2.5, HHCS, SST
21	1	05021403	WASHER, .250, FLAT, SST
22	6	05020906	NUT, .250-20, NYLOCK, SST
23	1	05051880	MANUAL, CLOSED LOOP HYD
24	1	05041147	FITTING, .5 COMP, PLASTIC WIRE ENTRANCE
25	1	05041149	NUT, .5 W/ SEAL
26	1	00047983-A	BRACKET, MOUNTING, VALVE
27	1	05041358	JUNCTION BOX, 18" X 16" X 8", NEMA, HYD
28	1	00056100-A	MOUNTING PLATE, INNER
29	1	05006735	MOTOR, HYD, .79 DI, 3-B MOUNT
30	1	05050529	MOTOR MOUNTING ANGLE, DIRECT COUPLE
31	1	05037811	COUPLING, LOVEJOY, SPECIAL, W/ SET SCREW
32	1	05051530	INSERT, RUBBER
33	1	05008068 05008067	PUMP, BRASS DIRECT COUPLE, 4GPM , W/ RELIEFon page 53PUMP, BRASS DIRECT COUPLE, 7GPM , W/ RELIEFon page 54
34	1	05051625	DECAL, MONROE SNOW & ICE CONTROL
35	2	05016138	BOLT, .313-18 X 1, HHCS, SST
36	2	05020901	NUT, .313-18, SPINLOCK, SST
37	3	05016935	BOLT, .25-28 X .75, SHCS, SST

### 00017223 PLUMBING KIT, HYD, PREWET, 4GPM DICKEY JOHN FM, W/O VALVE 00017232 PLUMBING KIT, HYD, PREWET, 7GPM DICKEY JOHN FM, W/O VALVE



#### 00017223 PLUMBING KIT, HYD, PREWET, 4GPM DICKEY JOHN FM, W/O VALVE 00017232 PLUMBING KIT, HYD, PREWET, 7GPM DICKEY JOHN FM, W/O VALVE

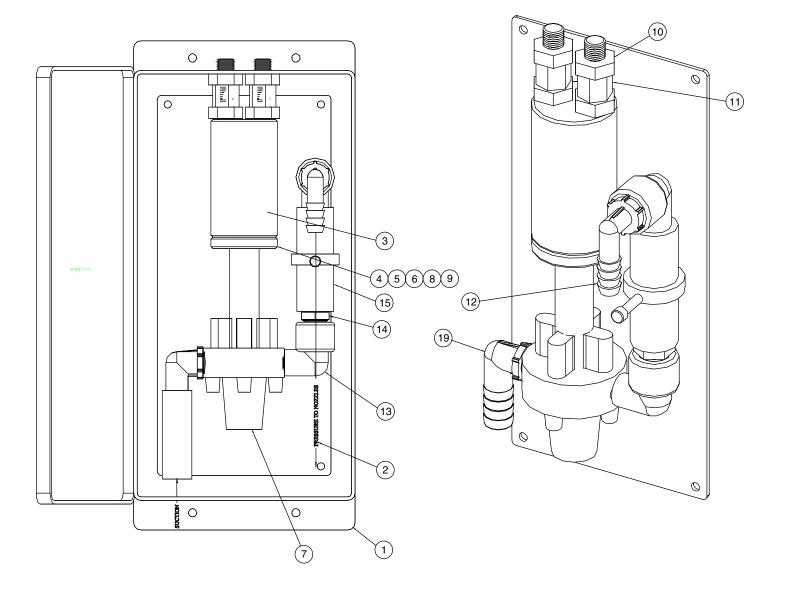
Item	Qty.	Part Number	Description
1	1	05041602	JUNCTION BOX, 14" X 7" X 6.5"
2	1	00088289	MOUNTING PLATE, PLUMBING/PUMP
3	1	05006735	MOTOR, HYD, .79 CI 3-B MOUNT, .375" OD SHAFT
4	1	05050529	MOTOR MOUNTING ANGLE, DIRECT COUPLE, PUMP & MOTOR
5	1	05037811	COUPLING, LOVEJOY, W/ SET SCREW & KEYWAY
6	1	05051530	INSERT, RUBBER, LOVEJOY, L050
7	1	05008068 05008067	PUMP BRASS DIRECT COUPLE, 4GPMon page 53PUMP BRASS DIRECT COUPLE, 7GPMon page 54
9	2	05016138	BOLT, .313-18 X 1, HHCS, SST
10	2	05020901	NUT, .313-18 SPINLOCK, SST
11	2	05037493	BULKHEAD FITTING, #8
14	2	05039855	ADAPTER, STRAIGHT, .5625-18 MALE ORB X .75-16 FJIC
15	1	05037305	HOSE BARB, 90 DEG POLY, .5" MNPT X .5" BARB
16	2	05037281	CLAMP, HOSE, .75" SST
17	2	05037730	HOSE BARB, 90 DEG, PVC
18	1	05040234	METER, FLOW, .250" FNPT on page 50
19	1	05050418	CLAMP, CUSHIONED METAL 2" SST
20	1 FT	05037307	HOSE, .5" BLACK EPDM 150 PSI WORKING PRESS
21	1	05051880	MANUAL, CLOSED LOOP HYD
22	1	05041147	FITTING, .5" COMPRESSION, PLASTIC
23	1	05041149	NUT, .5" W/ SEAL
24	1	05037509	HOSE BARB, 90 DEG, POLY
25	3	05016935	BOLT, .25 - 28 X .75 SHCS, SST



#### 00015375 BASE/PLUMBING KIT, HYD, 7GPM DICKEY JOHN FM, W/O VALVE, LARGE ENCLOSURE

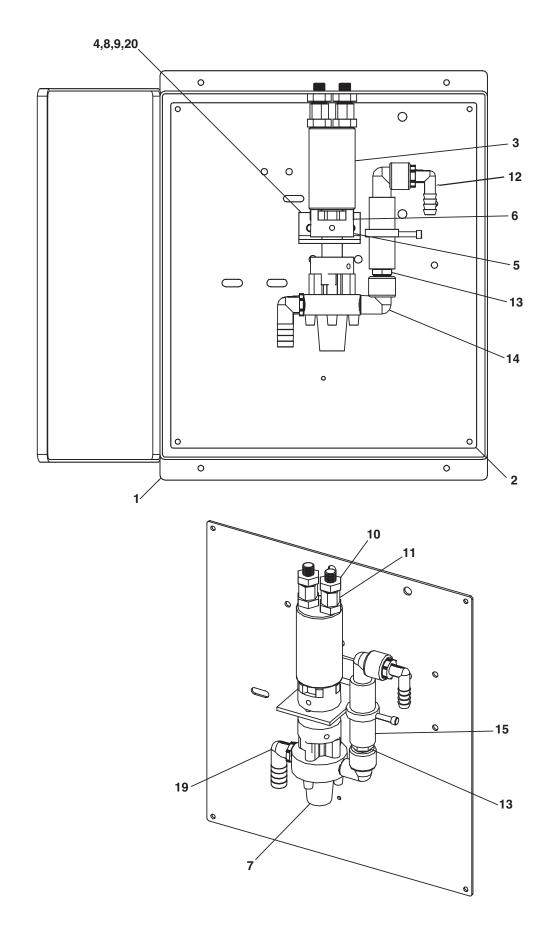
	00015375 BASE/PLUMBING KIT, HYD, 7GPM, DICKEY JOHN, FM W/O VALVE, LARGE ENCLOSURE					
ltem	Qty.	Part Number	Description			
1	1	05041358	JUNCTION BOX, 18" X 16" X 8"			
2	1	00056100-A	MOUNTING PLATE, JP, MS			
3	1	05006735	MOTOR, HYD, DFS, .79 CI, 3-B MOUNT			
4	1	05050529	MOTOR MOUNTING ANGLE, DIRECT COUPLE on page ???			
5	1	05037811	COUPLING, LOVEJOY, W/SET SCREW			
6	1	05051530	INSERT, RUBBER, LOVEJOY			
7	1	05008067	PUMP, BRASS DIRECT COUPLE on page 54			
8	1	05051625	DECAL, MONROE SNOW & ICE CONTROL			
9	2	05016138	BOLT, .313-18 X 1, HHCS, SST			
10	2	05020901	NUT, .313-18 SPINLOCK, SST			
11	2	05037493	BULKHEAD FITTING, #8 MALE JIC			
12	1	05037487	TUBE, SST, .5 "L" SHAPE, 2" X 3"			
13	1	05037486	TUBE, SST, .5 "L" SHAPE, 3.5" X 4.25"			
14	2	05037341	ADAPTER, STRAIGHT, .75-16 MJIC X .526-18 MORB			
15	1	05037305	HOSE BARB, 90 DEG POLY, .5" MNPT X .5" BARB			
16	2	05037281	CLAMP, HOSE, .75 SST			
17	2	05037730	HOSE BARB, 90 DEG, PVC, .250 MNPT X .5 BARB			
18	1	05040234	METER, FLOW, .250" FNPT on page 50			
19	1	05050418	CLAMP, CUSHIONED METAL, 2" SST			
20	1 FT	05037307	HOSE, .5 BLACK EPDM 150 PSI WORKING PRESSURE			
21	1	05051880	MANUAL, CLOSED LOOP HYDRAULIC			
22	1	05041147	FITTING, .5" COMPRESSION PLASTIC			
23	1	05041149	NUT, .5 W/ SEAL			
24	1	05037509	HOSE BARB, 90 DEG POLY, .5" MNPT X .75 BARB			

#### 00017095 PLUMBING KIT, HYD, PREWET, 4GPM GRESSEN/FA, FM, W/O VALVE 00017231 PLUMBING KIT, HYD, PREWET, 7GPM GRESSEN/FA, FM, W/O VALVE



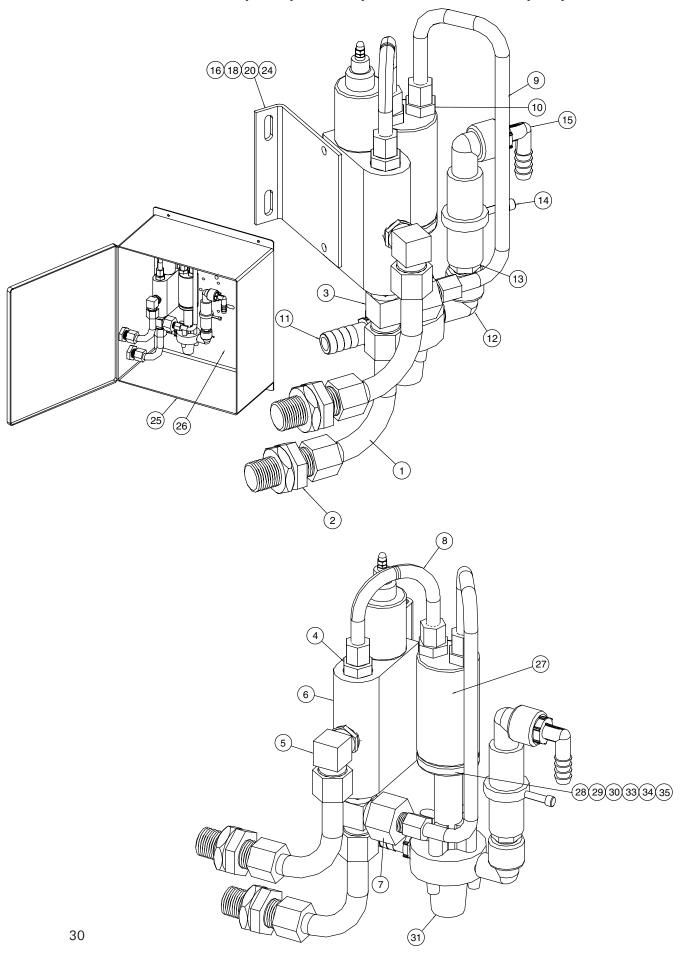
#### 00017095 PLUMBING KIT, HYD, PREWET, 4GPM, GRESSEN/FA, FM, W/O VALVE 00017231 PLUMBING KIT, HYD, PREWET, 7GPM, GRESSEN/FA, FM, W/O VALVE

Item	Qty.	Part Number	Description
1	1	05041602	JUNCTION BOX, 14" X 7" X 6.5"
2	1	00088289	MOUNTING PLATE, JP, MS
3	1	05006735	MOTOR, HYD, .79 CI, 3-B MOUNT
4	1	05050529	MOTOR MOUNTING ANGLE, DIRECT COUPLE
5	1	05037811	COUPLING, LOVEJOY, W/SET SCREW
6	1	05051530	INSERT, RUBBER, LOVEJOY
7	1	05008068 05008067	PUMP, BRASS DIRECT COUPLE, 4GPM on page 53   PUMP, BRASS DIRECT COUPLE, 7GPM on page 54
8	2	05016138	BOLT, .313-18 X 1, HHCS, SST
9	2	05020901	NUT, .313-18 SPINLOCK, SST
10	2	05037493	BULKHEAD FITTING, #8 MALE JIC
11	2	05039855	ADAPTER, STRAIGHT, .5625 -18 MALE ORB X .75-16 FJIC
12	1	05037305	HOSE BARB, 90 DEG POLY, .5" MNPT X .5 BARB
13		05037621	ELBOW, STREET, .5" NPT, 90°, POLY
14		05037314	FITTING, NIPPLE, PIPE, .5" SHORT, POLY
15		05040429	METER, FLOW, .5 FNPT, 0-5 on page 51
16	1	05051880	MANUAL, CLOSED LOOP HYD
17	1	05041147	FITTING, .5 COMPRESSION PLASTIC
18	1	05041149	NUT, .5 W/ SEAL
19	1	05037509	HOSE BARB, 90 DEG POLY
20	3	05016935	BOLT, .25-28 X .75 SHCS, SST
21	1	05050095	TAG, SERIAL NUMBER



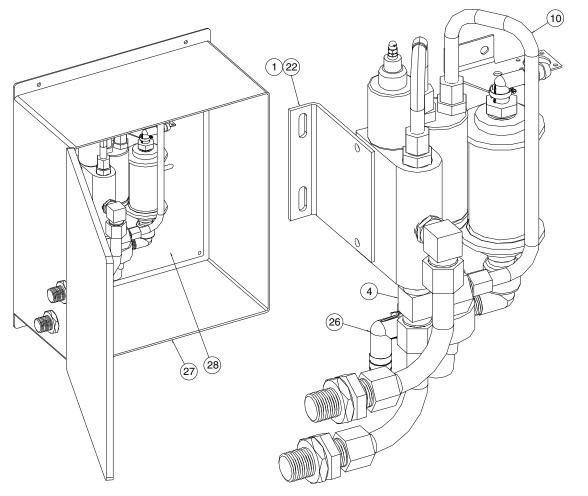
ltem	Qty.	Part Number	Description
2	1	00056100-A	MTG PL,INNER,JB,MS,VERSA COAT
3	1	05006735	MOTOR,HYD,.79CI,3B,.625"OD SHAFT
4	1	00025493-A	MOUNT,PUMP MOTOR,MS
5	2	05050260	COUPLER,LOVEJOY,.625"BORE
6	1	05050261	INSERT,RUBBER,LOVEJOY,LO90/95,MOTOR TO PUMP
7	1	05008008	PUMP,BRASS,HYDRAULIC,PRE-WET on page 55
8	2	05016138	BOLT .313-18 x 1.000 HHCS SST
9	2	05020901	NUT .313-18 SPINLOCK SS
10	2	05037493	FITTING,BULKHEAD,.750-16 MALE JIC,BOTH ENDS
11	2	05039855	FITTING,STRAIGHT,.563-18 ORBx.750-16 FJIC
12	1	05037305	FITTING,BARB,.5x.5"MNPT,POLY,90DEG
13	1	05037314	FITTING,NIPPLE,PIPE,.5"SHORT,POLY
14	2	05037621	ELBOW,STREET,.5"NPT,90DEG,POLY
15	1	05040429	METER,FLOW,.5 FNPT 0-5 GPM on page 51
16	1	05090147	MANUAL INSERT, PRE-WET, PLUMBING KIT, 9.9GPM
17	1	05041147	FITTING,.5" COMPRESSION, DOME, WIRE ENTRANCE
18	1	05041149	NUT,.500 W/SEAL FOR #05041147 WIRE ENTRANCE
19	1	05037509	FITTING,BARB,.75x.5"MNPT,POLY,90DEG
20	3	05016935	BOLT .25-28 x .75 SHCS SST

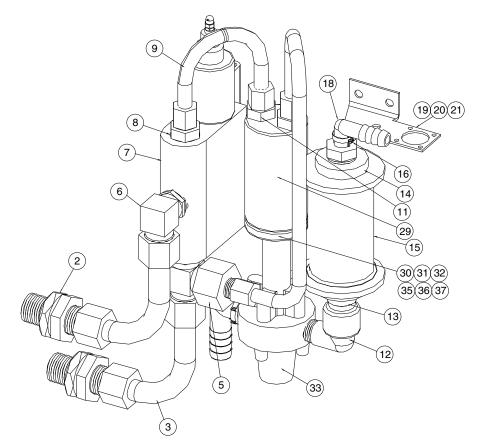
00017221 PLUMBING KIT, HYD, PREWET, 4GPM GRESSEN/FA, FM, W/ VALVE 00017228 PLUMBING KIT, HYD, PREWET, 7GPM GRESSEN/FA, FM, W/ VALVE



		PLUMB	ING KIT, HYD, 4/7 GPM, FRESSEN/FA, FM, W/ VALVE
ltem	Qty.	Part Number	Description
1	2	05037350	TUBE,HYD,SS,.75",LG ELBOW W/2 1.0625 FJIC
2	2	05037346	FITTING,BULKHEAD,1.063 MJIC BOTH ENDS
3	1	05037344	FITTING,TEE,2-1.063 MJICx1-1.603 MORB
4	1	05037345	FITTING,STRAIGHT REDUCER,1.063FJICx.75-16MJIC
5	1	05037340	FITTING,90DEG,1.063MJICx1.063MORB
6	1	05037861	VALVE,FLOW CONTROL,12VDC,5GPM HYD
7	1	05037904	FITTING,STRAIGHT,1.063" MORB x .75 MJIC
8	1	05037348	TUBE,HYD,SS,.5","C"SHAPE,W/(2) .75-8FJIC
9	1	00045013	TUBE,HYD,SS,.5",16.40"OAL
10	2	05037341	FITTING,STRAIGHT,.75-16MJICx.5625-18MORB
11	1	05037587	FITTING,BARB,.75x.5"MNPT,POLY,STRAIGHT
12	2	05037621	ELBOW,STREET,.5"NPT,90DEG,POLY
13	1	05037314	FITTING,NIPPLE,PIPE,.5"SHORT,POLY
14	1	05040429	METER,FLOW,.50 FNPT 0-5 GPM on page 51
15	1	05037305	FITTING,BARB,.5x.5"MNPT,POLY,90DEG
16	2	05016113	BOLT .250-20 x .750 HHCS SST
17	1	05016040	BOLT .250-20 x 1.000 HHCS SST
18	2	05016119	BOLT .250-20 x 2.500 HHCS SST
19	1	05021403	WASHER .250 FLAT SST
20	6	05020906	NUT .250-20 NYLON LOCK 316 SS
21	1	05051880	MANUAL, CLOSED LOOP HYDRAULIC
22	1	05041147	FITTING,.5"COMPRESSION,DOME,WIRE ENTRANCE
23	1	05041149	NUT .500 W/SEAL,F/#05041147 WIRE ENTRANCE
24	1	00047983-A	BRACKET,MTG,VALVE,AZ PRE-WET
25	1	05041358	JUNCTION BOX,18x16x8,FIB,HYD,PRE-WET ENCL
26	1	00056100-A	MTG PL,INNER,JB,MS,VERSA COAT & CL
27	1	05006735	MOTOR,HYD,.79CI,3B,.625"OD SHAFT
28	1	05050529	MOTOR MOUNTING ANGLE, DIRECT COUPLE
29	1	05037811	COUPLER,LOVEJOY,L050 x .625"
30	1	05051530	INSERT, URETHANE, LOVEJOY, LO50, MOTOR TO PUMP
31	1	05008067	PUMP,BRASS DIRECT COUPLE,7GPM ,W/RELIEF on page 54
31	1	05008068	PUMP,BRASS DIRECT COUPLE,4GPM ,W/RELIEF on page 53
32	1	05051625	DECAL,11.75" x 5",MONROE S&I CONTROL
33	2	05016138	BOLT .313-18 x 1.000 HHCS SST
34	2	05020901	NUT .313-18 SPINLOCK SST
35	3	05016935	BOLT .25-28 x 75 SHCS SST

#### 00017220 PLUMBING KIT, HYD, PREWET, 4GPM RAVEN FM, W/ VALVE 00017227 PLUMBING KIT, HYD, PREWET, 7GPM RAVEN FM, W/ VALVE

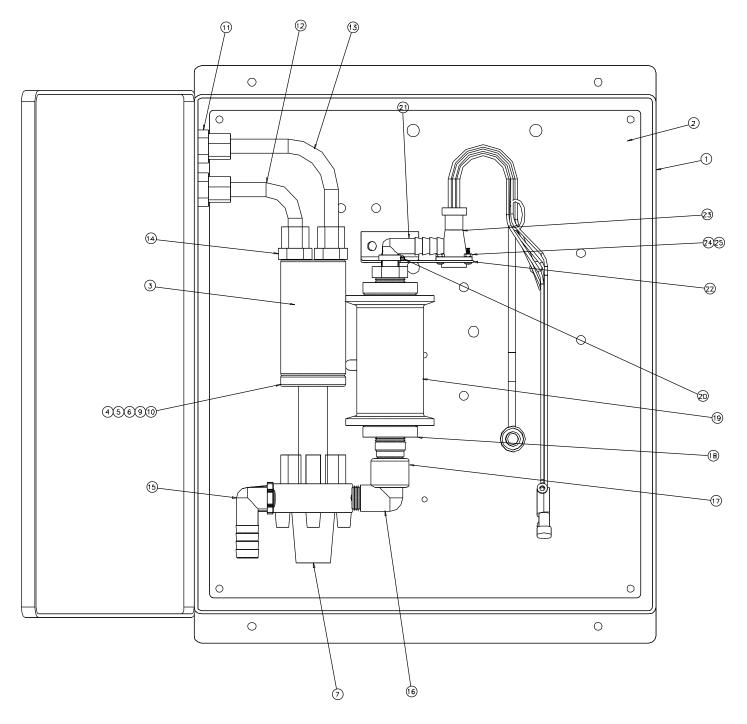




#### 00017220 PLUMBING KIT, HYD, PREWET, 4GPM RAVEN FM, W/ VALVE 00017227 PLUMBING KIT, HYD, PREWET, 7GPM RAVEN FM, W/VALVE

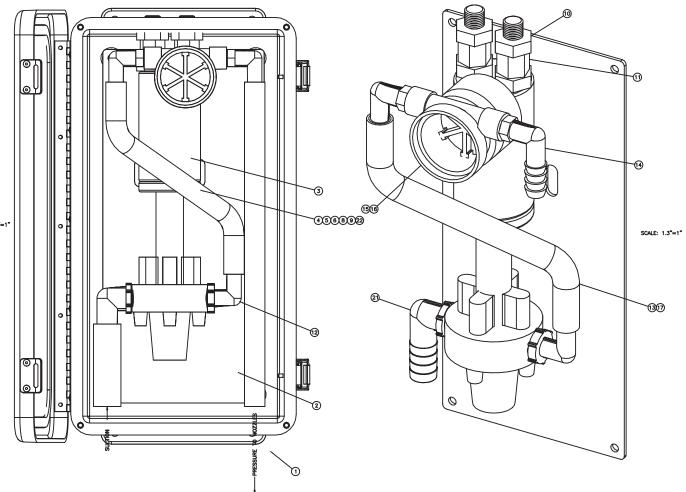
ltem	Qty.	Part Number	Description
1	1	00047983-A	BRACKET, MOUNTING, VALVE
2	2	05037346	ADAPTER, BULKHEAD, 1.0625 MJIC BOTH ENDS
3	2	05037350	TUBE, STEEL, .75 W/ 2 FJIC, 1.0625, LG ELBOW
4	1	05037344	ADAPTER, TEE, (2) 1.0625 MJIC X (1) 1.0625 MORB
5	1	05037345	ADAPTER, STRAIGHT, REDUCER, 1.0625 FJIC X .75-16 MJIC
6	1	05037340	ADAPTER, 90 DEG, 1.0625 MJIC X 1.0625 MORB
7	1	05037861	VALVE, FLOW CONTROL, 12VDC, 5GPM HYD
8	1	05037904	ADAPTER, STRAIGHT, 1.0625 M-ORB X .75 MJIC
9	1	05037348	TUBE, STEEL, .5 W/ (2) .75 8 FJIC C-SHAPE
10	1	00045013	TUBE, SS5 W/ (2) .750-16 JIC NUTS
11	2	05037341	ADAPTER, STRAIGHT, .75-16 MJIC X .0625-18 MORB
12	1	05037621	ELBOW, .5" POLY STREET, 90 DEG
13	1	05037356	NIPPLE, REDUCER, .75" NPT X .5" NPT, POLY
14	2	05037596	BUSHING, REDUCER, 1.5" MNPT X .75 FNPT , POLY
15	1	05040378	METER, FLOW, .25 NPT, 5 GPM, W/PIGTAIL on page 49
16	1	05037932	CLAMP, HOSE, 1.250 SST
17	1	00045945	BULKHEAD, 9-POLE, W/ RAVEN FLOW METER
18	1	05037303	HOSE BARB, .5 X .75 MNPT, POLY, 90 DEG
19	1	00045066	MOUNT, VALVE FLOW AND CONNECTOR TANK, 140 GAL
20	4	05016113	BOLT, .250-20 X .750 HHCS, SST
21	6	05020904	NUT, .250-20 SPINLOCK, SST
22	2	05016119	BOLT, .250-20 X 2.5, HHCS, SST
23	4	05016966	SCREW, #4-40 X .5 PH ROUND HEAD
24	4	05020983	NUT, #4-40, NYLON LOCK, 18-8 SST
25	1	05051880	MANUAL, CLOSED LOOP HYD
26	1	05037509	HOSE BARB, 90 DEG, POLY, .5 MNPT X .75 BARB
27	1	05041358	JUNCTION BOX, 18" X 16" X 8", NEMA, HYD
28	1	00056100-A	MOUNTING PLATE, INNER
29	1	05006735	MOTOR, HYD, DFS, .79 DI, 3-B MOUNT
30	1	05050529	MOTOR MOUNTING ANGLE, DIRECT COUPLE
31	1	05037811	COUPLING, LOVEJOY, SPECIAL, W/ SET SCREW
32	1	05051530	INSERT, RUBBER
33	1	05008068 05008067	PUMP, BRASS DIRECT COUPLE, 4GPM , W/ RELIEF   on page 53     PUMP, BRASS DIRECT COUPLE, 7GPM , W/ RELIEF   on page 54
34	1	05051625	DECAL, MONROE SNOW & ICE CONTROL
35	2	05016138	BOLT, .313-18 X 1, HHCS, SST
36	2	05020901	NUT, .313-18, SPINLOCK, SST
37	3	05016935	BOLT, .25-28 X .75, SHCS, SST

#### 00017047 PLUMBING KIT, HYD, PREWET, 4GPM RAVEN FM, W/O VALVE 00017230 PLUMBING KIT, HYD, PREWET, 7GPM RAVEN FM, W/O VALVE



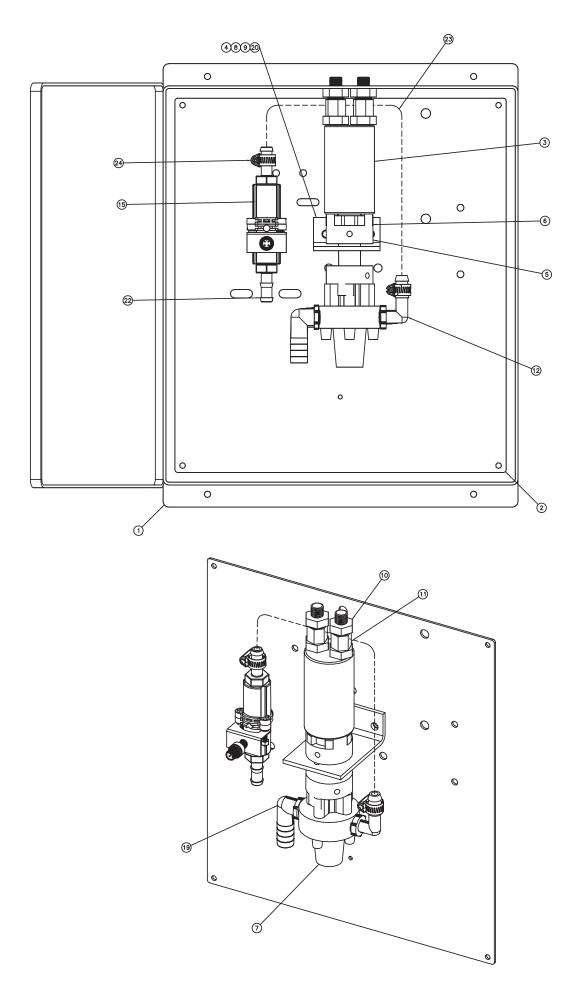
### 00017047 PLUMBING KIT, HYD, PREWET, 4GPM RAVEN FM, W/O VALVE 00017230 PLUMBING KIT, HYD, PREWET, 7GPM RAVEN FM, W/O VALVE

ltem	Qty.	Part Number	Description	
1	1	05041358	JUNCTION BOX, 18" X 16" X 8"	
2	1	00056100-A	MOUNTING PLATE, INNER, JB, MS	
3	1	05006735	MOTOR, HYD, .79 CI, 3-B MOUNT	
4	1	05050529	MOTOR MOUNTING ANGLE, DIRECT COUPLE	
5	1	05037811	COUPLING, LOVEJOY, W/SET SCREW	
6	1	05051530	INSERT, RUBBER, LOVEJOY	
7	1	05008068 05008067	PUMP, BRASS DIRECT COUPLE, 4GPMon page 53PUMP, BRASS DIRECT COUPLE, 7GPMon page 54	
8	1	05051625	DECAL, MONROE SNOW & ICE CONTROL	
9	2	05016138	BOLT, .313-18 X 1, HHCS, SST	
10	2	05020901	NUT, .313-18 SPINLOCK, SST	
11	2	05037493	BULKHEAD FITTING, #8 MALE JIC	
12	1	05037487	TUBE, SST, .5 "L" SHAPE, 2" X 3"	
13	1	05037486	TUBE, SST, .5 "L" SHAPE, 3.5" X 4.25"	
14	2	05037341	ADAPTER, STRAIGHT, .75-16 MJIC X .0625-18 MORB	
15	1	05037509	HOSE BARB, 90 DEG, POLY	
16	1	05037621	ELBOW, .5" POLY, STREET, 90 DEG	
17	1	05037356	NIPPLE, REDUCER, .75 NPT X .5" NPT POLY	
18	2	05037596	BUSHING, REDUCER, 1.5" MNPT X .75" FNPT, POLY	
19	1	05040378	METER, FLOW, 15GPM, 2 FLANGE, 1.5 FNPT on page 49	
20	1	05037932	CLAMP, HOSE, 1.250, SST	
21	1	05037303	HOSE BARB, .5 X .75 MNPT, POLY, 90 DEG	
22	1	00045066	MOUNT, VALVE FLOW AND CONNECTOR TANK, 140GAL	
23	1	00045945	BULKHEAD, 9-POLE	
24	4	05020983	NUT, #4-40, NYLON LOCK, 18-8, SST	
25	4	05016966	SCREW #4-40 X .5 PH ROUND	
26	1	05051880	MANUAL, CLOSED LOOP HYD	



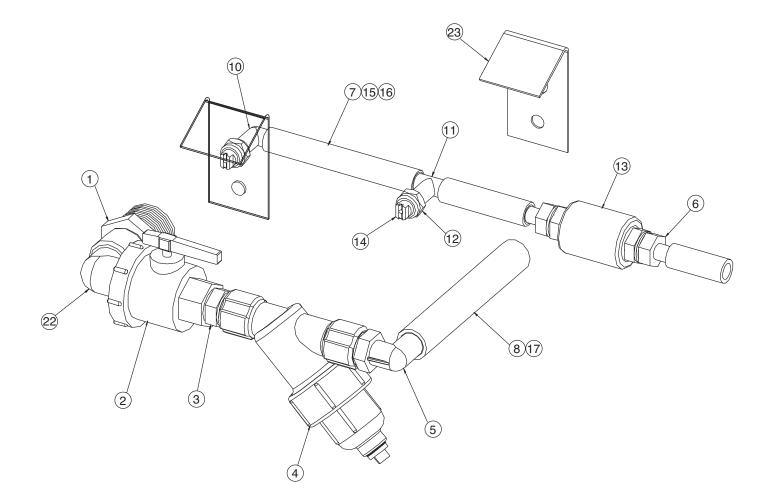
SCALE: 1"=1"

		00151857 P	LUMBING KIT, HYD, PRE-WET, 4GPM
ltem	Qty.	Part Number	Description
1	1	05041602	JUNCTION BOX,14x7x6.5,FIB,HYD,PRE-WET
2	1	00088289-A	MTG PL,PLUMBING/PUMP,MS
3	1	05006735	MOTOR,HYD,.79CI,3B,.625"OD SHAFT
4	1	05050529	MOTOR MOUNTING ANGLE, DIRECT
5	1	05037811	COUPLER,LOVEJOY,L050 x.625"
6	1	05051530	INSERT,URETHAN,LOVEJOY,L050
7	1	05008068	PUMP,BRASS,DIRECT COUPLE 4GPM on page 53
8	2	05016138	BOLT .313-18 x 1.00 HHCS SST
9	2	05020901	NUT .313-18 SPINLOCK SS
10	2	05037493	FITTING,BULKHEAD,.750-16 MALE
11	2	05039855	FITTING,STRAIGHT,.563-18ORB x .750-16FJIC
12	1	05037305	FITTING,BARB,.5x.5"MNPT,POLY,90-DEG
13	2	05037281	CLAMP,HOSE,.75",SST
14	2	05037730	FITTING,BARB,.5x.25"MNPT,POLY,90-DEG
15	1	05044198	METER,FLOW,.250 FNPT .5-5GPM
16	1	05050418	CLAMP,2",CUSHIONED SST,#32,.5" WIDE
17	1'	05037307	HOSE,1/2" BLACK EPDM 150PSI
18	1	05051880	MANUAL,PRE-WET,HYDR
19	1	05041147	FITTING,.5"COMPRESION,DOME
20	1	05041149	NUT .500 W/SEAL F/05041147
21	1	05037509	FITTING,BARB,.75x.5"MNPT,POLY,90-DEG
22	3	05016935	BOLT .25-28 x .50 SHCS SST/18

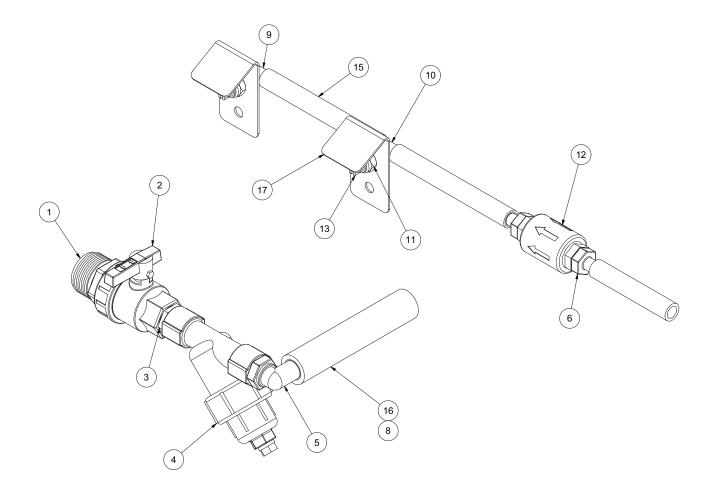


	00157793 PLUMBING KIT, HYD, PRE-WET, 9.9GPM FORCE FM				
ITEM	QTY	PART NUMBER	DESCRIPTION		
1	1	05041358	JUNCTION BOX,18x16x8,FIB,HYD,PRE-WET		
2	1	00056100-A	MTG PL,INNER,JB,MS,VERSA COAT		
3	1	05006735	MOTOR,HYD,.79CI,3B,.625"OD SHAFT		
4	1	00025493-A	MOUNT, PUMP MOTOR, MS		
5	2	05050260	COUPLER,LOVEJOY,.625"BORE		
6	1	05050261	INSERT,RUBBER,LOVEJOY,LO90/95,MOTOR TO PUMP		
7	1	05008008	PUMP,BRASS,HYDRAULIC,PRE-WET See page 55		
8	2	05016138	BOLT .313-18 x 1.000 HHCS SST		
9	2	05020901	NUT .313-18 SPINLOCK SS		
10	2	05037493	FITTING,BULKHEAD,.750-16 MALE JIC,BOTH ENDS		
11	2	05039855	FITTING,STRAIGHT,.563-18 ORBx.750-16 FJIC		
12	1	05037305	FITTING,BARB,.5x.5"MNPT,POLY,90DEG		
15	1	05040478	METER,FLOW,0-5GPM,.50FNPT		
16	1	05051880	MANUAL,PRE-WET,CLOSED LOOP,HYDRAULIC		
17	1	05041147	FITTING,.5" COMPRESSION,DOME,WIRE ENTRANCE		
18	1	05041149	NUT,.500 W/SEAL FOR #05041147 WIRE ENTRANCE		
19	1	05037509	FITTING,BARB,.75x.5"MNPT,POLY,90DEG		
20	3	05016935	BOLT .25-28 x .75 SHCS SST		
21	1	05050095	TAG,SERIAL NUMBER,STANDARD		
22	2	05037302	FITTING,BARB,.5x.5"MNPT,POLY		
23	2FT	05037307	HOSE,1/2" BLACK EPDM 150PSI		
24	2	05037281	CLAMP,HOSE,.75",SST		

# NOZZLE KIT, HYDRAULIC UNIT, 2 NOZZLE

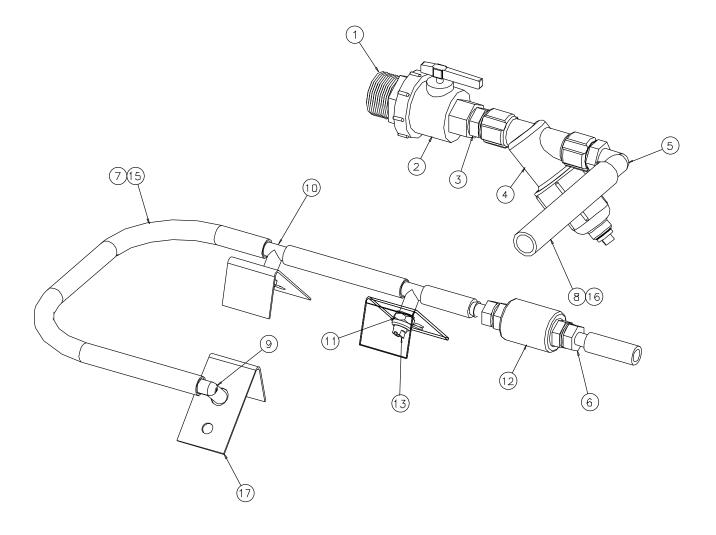


	00020034 NOZZLE KIT, HYDR UNIT, 2GPM 2 NOZZLE, PREWET					
ltem	Qty.	Part Number	Part Number Description			
1	1	05037311	NIPPLE, REDUCING, POLY, 1.25 MNPT X .75" MNPT			
2	1	05037315	VALVE, BALL-UNION TYPE, POLY, .75 FNPT			
3	1	05037355	NIPPLE, .75" NPT SHORT POLY			
4	1	05037309	STRAINER, Y-TYPE, .75 FNPT, 20 MESH SCREEN on page 48			
5	1	05037304	HOSE BARB, 90 DEG, POLY, .75 MNPT X .75 BARB			
6	2	05037302	HOSE BARB, .5 X .5 MNPT, POLY, STRAIGHT			
7	6	05037281	CLAMP HOSE, .75 SST			
8	2	05037300	CLAMP HOSE, 1 SS			
9	1	05038197	NOZZLE BODY, POLY, .5 HOSE BARB, 90 DEG			
10	1	05038196	NOZZLE BODY, POLY, .5 HOSE BARB, TEE			
11	2	05038179	VALVE, IN-LINE CHECK,			
12	1	05050202	VALVE, IN-LINE CHECK, .5 NPT, PVC			
13	2	05038198	NOZZLE, TIP, BRASS, 2GPM@50PSI, QUICK			
14	1	05050485	CLAMP, 1" ID, CUSHIONED METAL, #16 HEAVY DUTY			
15	20 FT	05037307	HOSE, .5 BLACK EPDM, 150 PSI WORKING			
16	5 FT	05037308	HOSE, .75 BLACK EPDM, 150PSI WORKING			
17	2	00050939	Shield, NOZZLE, PREWET			
18	4	05016138	BOLT, .313-18 X 1, HHCS, SST			
19	4	05020901	NUT, .313-18 SPINLOCK, SST			
20	1	05016040	BOLT, .250-20 X 1, HHCS, SST			
21	1	05020904	NUT, .250-20 SPINLOCK, SST			
22	1	05037464	SEALANT, THREAD W/ TEFLON, TRU-BLU			
23	1	05037585	ELBOW, .75 NPT, POLY, STREET, 90 DEG			
24	1	05037301	HOSE BARB, POLY, .75" NPT X .75" BARB			
25	1	05050484	Clamp, 1.75" ID, CUSHIONED METAL, #28 HD			



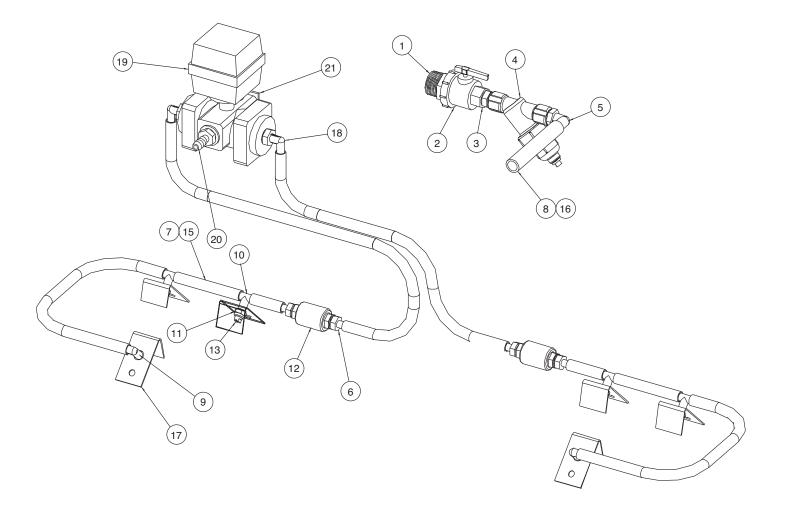
	0006	5209 NOZZLE	KIT, HYDR UNIT, 3GPM, 2 NOZZLE, PRE-WET
ltem	Qty.	Part Number	Description
1	1	05037311	FITTING,NIPPLE,RDCR,1.25x.75
2	1	05037315	VALVE BALL-UNION,.75"FNPT
3	1	05037355	FITTING,NIPPLE,PIPE,.75"SHORT
4	1	05037309	STRAINER,"Y",.75"FNPT,POLY,20 on page 48
5	1	05037304	FITTING,BARB,.75x.75"MNPT,POLY
6	2	05037302	FITTING,BARB,.5x.5"MNPT,POLY
7	7	05037281	CLAMP,HOSE,.75",SST
8	2	05037300	CLAMP,HOSE,1"SST
9	1	05038197	NOZZLE BODY,POLY,HOSE SHANK
10	1	05038196	NOZZLE BODY,POLY,HOSE SHANK
11	2	05038179	NOZZLE CAP,BRASS,F/05038180
12	1	05050202	VALVE,IN-LINE CHECK,.5"NPT,PVC
13	2	05038221	NOZZLE,TIP,BRASS,3GPM @ 40PSI
14	1	05050417	CLAMP,.75",CUSHIONED SST,#12
15		05037307	HOSE,.5"BLACK EPDM 150PSI
16		05037308	HOSE,.75"BLACK EPDM 150PSI WP
17	2	00050939	SHIELD,NOZZLE,PRE-WET - 304SST
18	2	05016138	BOLT .313-18 x 1.00 HHCS SST
19	2	05020901	NUT .313-18 SPINLOCK SS
20	1	05016040	BOLT .250-20 x 1.00 HHCS SST
21	1	05020904	NUT .250-20 SPINLOCK SS
22	1	05037464	SEALANT,THREAD W/TEFLON,PREWET
23	1	05037585	ELBOW,STREET,.75"NPT,90DEG
24	1	05037301	FITTING,BARB,.75x.75"MNPT,POLY
25	1	05050484	CLAMP,1.75 ID,CUSHIONED METAL,#28

# NOZZLE KIT, HYDRAULIC UNIT, 3 NOZZLE



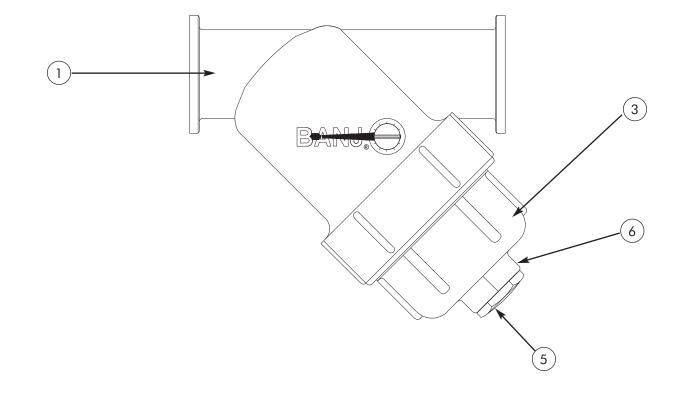
	00065210 NOZZLE KIT, HYDRAULIC UNIT 2GPM, 3 NOZZLE, PREWET				
Item	Qty.	Part Number	Description		
1	1	05037311	NIPPLE, REDUCING, POLY, 1.25 MNPT X .75" MNPT		
2	1	05037315	VALVE, BALL-UNION TYPE, POLY, .75 FNPT		
3	1	05037355	NIPPLE, .75" NPT SHORT POLY		
4	1	05037309	STRAINER, Y-TYPE, .75 FNPT, 20 MESH SCREEN on page 48		
5	1	05037304	HOSE BARB, 90 DEG, POLY, .75 MNPT X .75 BARB		
6	2	05037302	HOSE BARB, .5 X .5 MNPT, POLY, STRAIGHT		
7	8	05037281	CLAMP HOSE, .75 SST		
8	2	05037300	CLAMP HOSE, 1 SS		
9	1	05038197	NOZZLE BODY, POLY, .5 HOSE BARB, 90 DEG		
10	2	05038196	NOZZLE BODY, POLY, .5 HOSE BARB, TEE		
11	3	05038179	VALVE, IN-LINE CHECK,		
12	1	05050202	VALVE, IN-LINE CHECK, .5 NPT, PVC		
13	3	05038198	NOZZLE, TIP, BRASS, 2GPM@50PSI, QUICK		
14	1	05050271	CLAMP, CUSHIONED METAL, .75", #12		
15	20 FT	05037307	HOSE, .5 BLACK EPDM, 150 PSI WORKING		
16	5 FT	05037308	HOSE, .75 BLACK EPDM, 150PSI WORKING		
17	3	00050939	SHIELD, NOZZLE, PREWET		
18	3	05016138	BOLT, .313-18 X 1, HHCS, SST		
19	3	05020901	NUT, .313-18 SPINLOCK, SST		
20	1	05016040	BOLT, .250-20 X 1, HHCS, SST		
21	1	05020904	NUT, .250-20 SPINLOCK, SST		
22	1	05037464	SEALANT, THREAD W/ TEFLON, TRU-BLU		
23	1	05037585	ELBOW, .75 NPT, POLY, STREET, 90 DEG		
24	1	05037301	HOSE BARB, POLY, .75" NPT X .75" BARB		

# NOZZLE KIT, HYDRAULIC UNIT, 6 NOZZLE



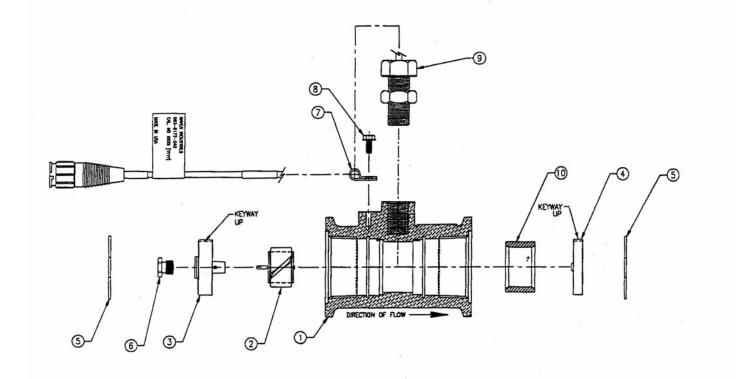
		0006521	1 NOZZLE KIT, HYDRAULIC, 6 NOZZLE
ltem	Qty.	Part Number	Description
1	1	05037311	NIPPLE, REDUCING, POLY, 1.25 MNPT X .75" MNPT
2	1	05037315	VALVE, BALL-UNION TYPE, POLY, .75 FNPT
3	1	05037355	NIPPLE, .75" NPT SHORT POLY
4	1	05037309	STRAINER, Y-TYPE, .75 FNPT, 20 MESH SCREEN on page 48
5	1	05037304	HOSE BARB, 90 DEG, POLY, .75 MNPT X .75 BARB
6	4	05037302	HOSE BARB, .5 X .5 MNPT, POLY, STRAIGHT
7	18	05037281	CLAMP HOSE, .75 SST
8	2	05037300	CLAMP HOSE, 1 SS
9	2	05038197	NOZZLE BODY, POLY, .5 HOSE BARB, 90 DEG
10	4	05038196	NOZZLE BODY, POLY, .5 HOSE BARB, TEE
11	6	05038179	VALVE, IN-LINE CHECK,
12	2	05050202	VALVE, IN-LINE CHECK, .5 NPT, PVC
13	6	05038198	NOZZLE, TIP, BRASS, 2GPM@50PSI, QUICK
14	1	05050271	CLAMP, CUSHIONED METAL, .75", #1
15	20 FT	05037307	HOSE, .5 BLACK EPDM, 150 PSI WORKING
16	5 FT	05037308	HOSE, .75 BLACK EPDM, 150PSI WORKING
17	6	00050939	SHIELD, NOZZLE, PREWET
18	2	05037303	HOSE BARB, 90 DEG, POLY, .75 MNPT X .5 BARB
19	1	05038214	VALVE, 3-WAY DIVERTER, .75 NPT
20	1	05037354	HOSE BARB, POLY, .75 MNPT X .5 BARB, STRAIGHT
21	1	00065255	BRACKET, MOUNTING, VALVE, DIVERTER, 3-WAY, .75 NPT, 12VDC
22	1	05037464	SEALANT, THREAD W/ TEFLON, TRU BLU
23	1	05037585	ELBOW, .75 NPT, POLY, STREET, 90 DEGREE
24	1	05037301	HOSE BARB, POLY, .75 NPT X .75" BARB
25	4	05016138	BOLT, .313-18 X 1, HHCS, SST
26	4	05020901	NUT, .313-18 SPINLOCK, SST
27	1	05016040	BOLT, .250-20 X 1, HHCS, SST
28	1	05020904	NUT, .250-20 SPINLOCK, SST
29	2	05050420	CLAMP, 1.5" ID, CUSHION METAL
30	2	05016986	BOLT, .250-20 X 1, CARRIAGE, SST
31	2	05020904	NUT, .250-20, SPINLOCK, SST

# 05037309 STRAINER, Y-TYPE, ¾" FNPT, 20 MESH SCREENS



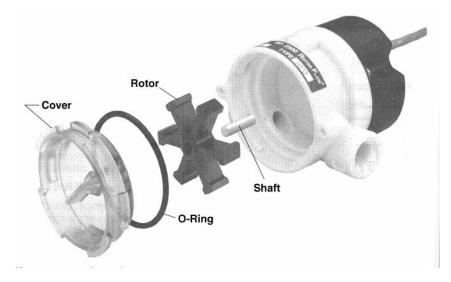
ITEM	QTY	PART #	DESCRIPTION
1	1	05038390	Y″ Body and Cap
2	1	05038107	Gasket (Not Shown)
3	1	05038391	End Cap
4	1	05039392	20 Mesh Screen
5	1	05039393	1/4″ Drain Plug
6	1	05039394	EPDM O-Ring for Drain Plug (Not Shown)

Meter, Flow, 2" FNPT



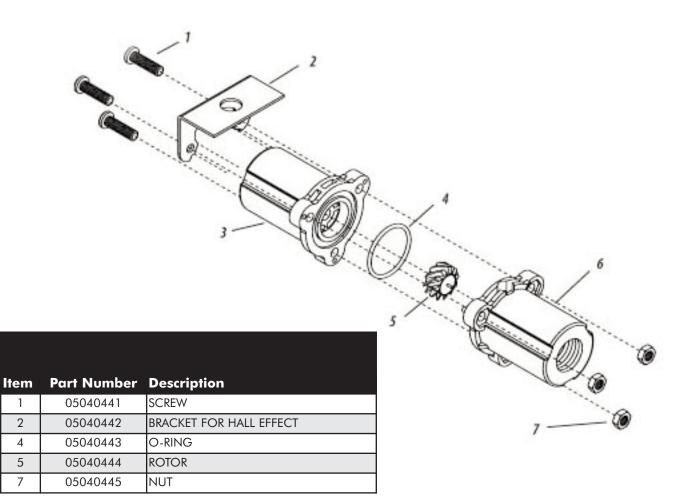
ITEM	QTY	PART #	DESCRIPTION
1	1	05040389	Body
2	1	05040390	Rotor/Magnet Assembly
3	1		Hub/Bearing Assembly, Upstream
4	1	05040391	Hub Assembly, Downstream
5	2	05040392	Ring, Retaining, Internal
6	1	05040393	Stud, Bearing
7	1	05040394	Clamp, Cable
8	1	05040395	Screw, Thread Forming
9	1	05040396	Sensor, Assembly, External
10	1	05040397	Sleeve, Flow Reducing

## 05040234 Meter, Flow, Dickey John, ¼" FNPT, .3-5 GPM, Poly w/ Pigtail & Weathepack



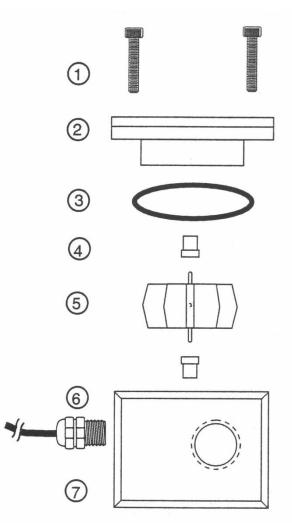
ITEM	QTY	PART #	DESCRIPTION
1	1	05040364	Meter, Flow, Repair Kit (1) Cover (1) Rotor (1) O-Ring (1) Shaft Items in the Repair Kit cannot be purchased separately.

#### 05040429 METER, FLOW, .5 FNPT, 0-5GPM, FM500

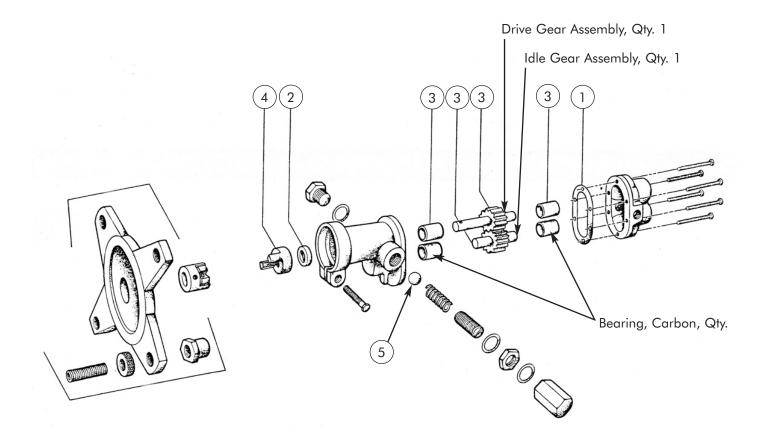


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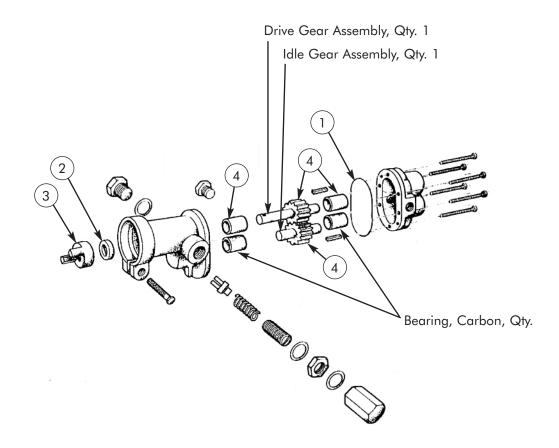
## 05040377 Meter, Flow, 3/4" FNPT, .2-20GPM, Poly w/ Pigtail & Brad Harrison Connector



ITEM	QTY	PART #	DESCRIPTION
1	4	05040385	SPX Screw
2	1	05040386	SPX Lens
3	1	05040383	O-Ring, EPDM
4	2	05040387	Bearing Assembly
5	1	05040384	Rotor with Shaft
6	1	05040388	Sensor
7	1		Body

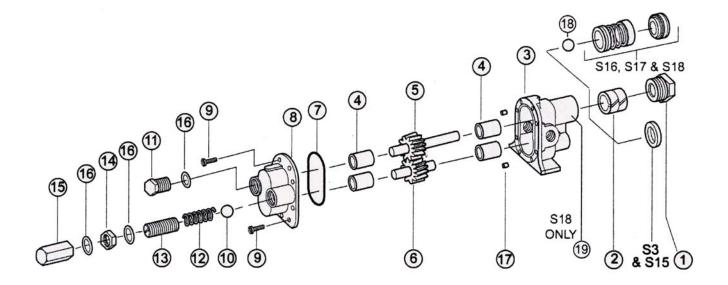


ITEM	QTY	PART #	DESCRIPTION
1	1	05051609	Gasket
2	1	05051610	Seal, Lip
3	-	05051611	Kit, Repair (Also Contains items 1 & 2)
4	1	05037811	Coupling Half
5	1	05008294	Poppet, Relief Valve

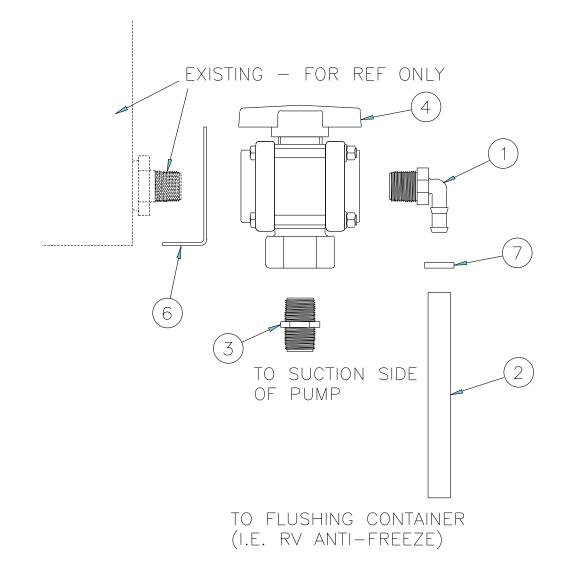


ITEM	QTY	PART #	DESCRIPTION
1	1	05051612	Gasket
2	1	05051610	Seal, Lip
3	1	05037811	Coupling Half
4	-	05051614	Kit, Repair (Also Contains items 1 & 2)

## 05008008 PUMP, BRASS, HYDRAULIC PRE-WET SYSTEM, 9.9GPM@50PSI, 1725 RPM

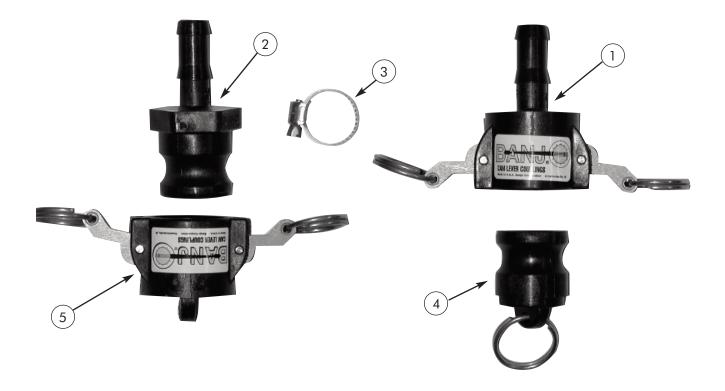


ITEM	QTY	PART #	DESCRIPTION
2	1	05051547	SEAL
4	4		BEARING
5	1		DRIVE GEAR ASSEMBLY
6	1		IDLE GEAR ASSEMBLY
7	1		O-RING
		05008663	REPAIR KIT (contains Items 2,4,5,6 and 7)



#### 05050319 FLUSHER KIT

ITEM	QTY	PART #	DESCRIPTION
1	1	05037303	Hose Barb, ½" x ¾" MNPT, Poly
2	3 FT	05037307	Hose, ½" Black, EPDM, 150 PSI
3	1	05037355	Nipple, ¾″ NPT, Short, Poly
4	1	05037363	Valve, 3-Way Ball Type, ¾″ FNPT
5	1	05037300	Clamp, Hose, 1¼", SST (Not Shown)
6	1	00050989	Bracket, Mounting, Valve, 2" Ball
7	1	05037281	Clamp, Hose, ¾″, SST



#### 00020043 QUICK DISCONNECT KIT

ITEM	QTY	PART #	DESCRIPTION	
1	1	05037637	Coupler, Cam, ¾″ Female, Poly	
2	1	05037900	Coupler, Cam, ¾" Male x ½" Hose, Poly	
3	2	05037281	Clamp, Hose, ¾″ SST	
4	1	05038313	Plug	
5	1	05038312	Сар	

## MONROE TRUCK EQUIPMENT, INC. WARRANTY SNOW & ICE CONTROL PRODUCTS

Monroe Truck Equipment, Inc. warrants to the original purchaser, that if any part of the product proves to be defective in workmanship or material within **ONE YEAR** of the original installation, and is returned to us within 30 days of the discovered defect, we will (at our option) repair or replace the defective part. This warranty does not apply to damage resulting from misuse, neglect, accident, improper installation, normal wear items or lack of maintenance. This warranty is exclusive and supersedes all other warranties, whether expressed or implied. Monroe Truck Equipment, Inc. neither assumes, nor authorizes anyone to assume for it, any other obligation or liability in connection with this warranty and will not be liable for consequential damages.

All engines, pumps, motors, cylinders and valves are warranted by their manufacturer and not by Monroe Truck Equipment, Inc.. The manufacturer's warranty will apply to these parts. Electrical and hydraulic components are not to be disassembled without the express written permission of Monroe Truck Equipment. Use of replacement parts other than original equipment voids this warranty.

All defective parts returned must be accompanied by the model number, serial number, date installed, date of defect, description of defect, and the name of the distributor from whom it was purchased. All warranty claims must have prior written approval from Monroe Truck Equipment, Inc.

Please return the warranty registration card that accompanies this manual to confirm receipt of this parts catalog and acknowledge the information contained within. Failure to return the attached card may result in a voided warranty.







#### 1051 West 7<sup>th</sup> Street Monroe, WI 53566 608-328-8127 ~ Fax: 608-328-4278

#### Warranty Policy Uninstalled Parts and Equipment Provided by Monroe Truck Equipment

Monroe Truck Equipment will provide the following limited warranty for a period of one year to the original purchaser of all uninstalled goods provided by Monroe Truck Equipment:

LIMITED WARRANTY: All goods provided by Monroe Truck Equipment (MTE) will be free from defects in material and workmanship for a period of one year from the date of purchase by the original purchaser. This limited warranty shall be the sole and exclusive remedy for any such product found to be defective. This limited warranty supercedes all previous warranties and is exclusive and in lieu of all other warranties, whether expressed or implied.

This limited warranty applies only to parts or accessories manufactured by MTE and/or provided by same. Except with respect to title, this limited warranty does not pertain to parts or accessories not manufactured and/or provided by MTE, regardless of whether such parts or accessories were selected and/or recommended by MTE. MTE will, as a service to the buyer, pass on any warranties received from the original manufacturer of MTE provided parts and/or accessories.

MTE will not under any circumstances be liable for any incidental or consequential damages whether in tort, contract, or otherwise, for any bodily injury, death, property damage, loss of use, or loss of income resulting from or in any way arising out of any goods provided by MTE, or their sale, use, or manufacture.

Any warranty claim deemed to be arising from the result of misuse, abuse, neglect, accident, improper installation, lack of maintenance, act of war (whether declared or otherwise), or act of God will be denied. Any repair or modification by the buyer or any third party, without the prior written consent of MTE, will void any possible warranty compensation. Any damage deemed to be the result of abnormal operation will not be compensated by this warranty.

Normal or special maintenance items such as fuels, fluids, tires, belts, hoses, filters, air cleaners, light bulbs, and any other items subject to normal wear and tear that are supplied in connection with goods provided by MTE are not allowed under this warranty.

All engines, pumps, cylinders, valves, and motors are warranted by their manufacturer and not by Monroe Truck Equipment. The manufacturer's warranty will apply to these parts. Electrical and hydraulic components are not to be disassembled without the express written consent of MTE. Any disassembly of MTE provided components without prior authorization will void the applicable warranty.

Monroe Truck Equipment shall be the sole and final determining authority as it applies to the administration of this warranty policy. Purchaser acknowledges receipt of Monroe Truck Equipment Warranty Policy and agrees to be bound by same.



#### **GLOBAL SOLUTIONS**

ARMORED VEHICLES ~ SPORT TRUCK CONVERSIONS MUNICIPAL SNOW & ICE CONTROL ~ FIRE APPARATUS PICKUP TRUCK ACCESSORIES ~ TRUCK EQUIPMENT/MODIFICATIONS









#### 1051 West 7<sup>th</sup> Street Monroe, WI 53566 608-328-8127 ~ Fax: 608-328-4278

Any and all warranty claims must be forwarded to MTE within 10 days of defect discovery. A copy of the original Monroe Truck Equipment invoice as well as the manufacturer's model number, serial number, and date of installation must accompany all correspondence regarding said claims. MTE will, at their option, choose whether to repair or replace the defective part unless otherwise specified by the original manufacturer of said part.

#### **Procedures for Warranty Claims Notification**

For submission of any warranty claim please contact Monroe Truck Equipment – Warranty Department at 800-356-8134

The following documentation will be needed when you call for initial warranty authorization:

- 1. A copy of the original MTE invoice.
- 2. Make, Model, and VIN or Serial Number of the equipment involved.
- 3. Part number and serial number of the part in question.
- 4. A complete description of the problem.

The following must accompany any claim submitted to Monroe Truck Equipment:

- 1. Documented photographs of any physical damage.
- 2. Inspection notes by MTE personnel or MTE authorized 3<sup>rd</sup> party.
- 3. Authorization number issued by Monroe Truck Equipment Warranty Department.

# Defective parts must be returned to Monroe Truck Equipment (freight prepaid) within 30 days of issuance of Authorization Number.

Monroe Truck Equipment reserves the right to void any warranty for failure to comply with Monroe Truck Equipment Warranty Policy.

This policy is effective October 11, 2012