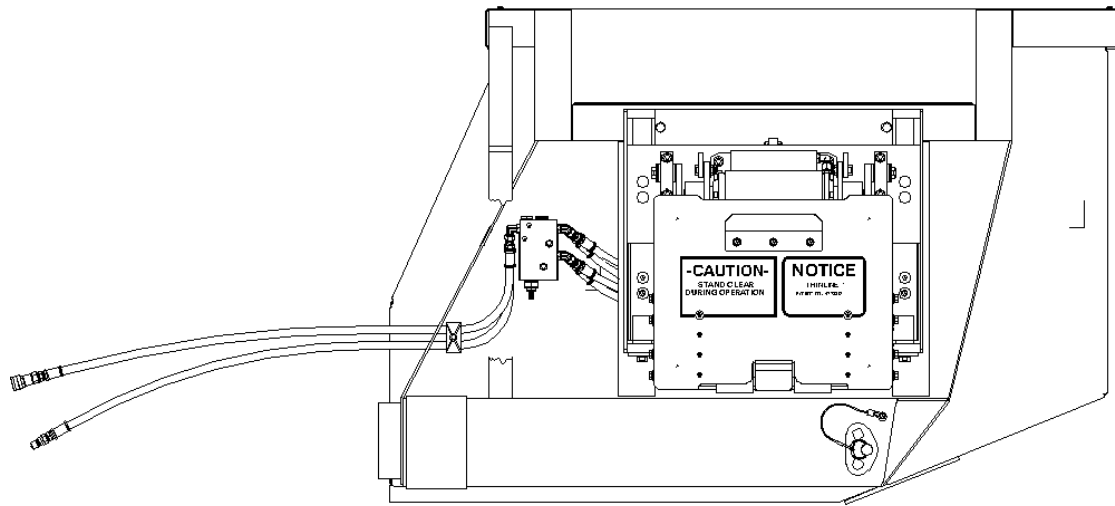




Premium Lift Systems

OPERATION AND PARTS MANUAL



**VBTL 1114 + 9”
CURBSIDE CARRY CAN**

MODEL NUMBER : _____

PART NUMBER : **1910-0002** _____

SERIAL NUMBER : _____

BAYNE MACHINE WORKS, INC.
910 FORK SHOALS ROAD
GREENVILLE SC, 29605
WEBSITE: www.baynethinline.com

PHONE: 864.288.3877
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E-MAIL: sales@baynethinline.com

LICENSED UNDER ONE OR MORE OF
THE FOLLOWING U.S. AND CANADIAN PATENTS:

- | | | | |
|-----------|-----------|-----------|-----------|
| 5,503,512 | 4,773,812 | 1,327,765 | 5,447,405 |
| 1,335,648 | 5,308,211 | 5,333,984 | 5,826,485 |

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SPECIFICATIONS (WI-0081-A)
Bayne **THINLINE**[®] Premium Lift Systems

- A. Rotary Actuator - rack and pinion style design.
- Rack, pinion, and shaft bearings are constantly lubricated by the hydraulic oil for extended life.
 - Body and caps are made of high quality ductile iron.
 - Pinion output shaft and racks are made of high tensile alloy steel.
 - The rotary actuator provides smooth motion throughout the lift cycle, which results in longer cart life with virtually no cart damage or abuse.
- B. Arm bearings are made of a composite material which provides superior compression strength along with self-lubrication, thus eliminating the need to grease the arm bearings.
- C. The THINLINE[®] lift unit can measure as little as 5” thick from the front of the mainframe to the front of the faceplate depending on the types of arms used. This allows for easy dumping of large commercial containers without interference.
- D. The faceplate is normally at 45 degrees in the dump position and extends 13” to 15” from the back of the mainframe into the hopper or container opening. This places the cart or barrel 16” to 18” into the truck or container opening thus reducing any potential spillage of materials.
- E. Cycle times for safe, fast, efficient service.
- **6 - 8 seconds** for rear-load and side-load units
 - **8 - 10 seconds** for units with 9” and 15” vertical lifts
 - **10 - 12 seconds** for stationary, recycling, and double wide, and 24” vertical units
 - **15 - 30 seconds** for 3300 series and 3300 series stationary units

Note : Cycle time is controlled by flowrate, as flowrate increases, cycle times decrease.

Warning : Never exceed the cycle times listed above. In order to avoid injury and maintain manufacturer’s warranty never operate outside of these recommendations.

- F. Recommended flowrates are as follows:
- **2 to 2 1/2 GPM** for 1100 series units
 - **2 to 4 GPM** for 2200 series units
 - **2 1/2 to 6 GPM** for 3300 series units
- G. Hydraulic pressure requirements are as follows:
- **2000 to 2500 PSI** normal working pressure
 - **3000 PSI** maximum pressure
- H. All lifters can be a bolt on type installation for easy, quick maintenance and less downtime.

- I. All parts are manufactured and kept in stock at Bayne Machine Works, Inc. for fast response to customer request.
- J. Two (2) year limited warranty from date of delivery on all units and models when properly maintained and operated within the recommended cycle time.

All lift units and parts are inspected by our Quality Control Department before shipment to insure that you always receive the highest quality available in the lift business.

For more information, please contact us at 1/800/535-2671 or by fax at 1/864/458-7519.

INSTALLATION INSTRUCTIONS (WI-0207-B)

Bayne *THINLINE*[®] Premium Lift Systems

The following information is intended to be a **GENERAL GUIDE** to installing the **Bayne THINLINE**[®] lifter on a typical refuse truck. Before starting the installation, read these instructions completely. **ALWAYS** use the proper tools, lift devices, and personal protective equipment to prevent injury while performing the installation.

NOTE: If a **Bayne THINLINE**[®] Tap-In Kit was also acquired for this installation, refer to the installation instructions included in the Tap-In Kit manual for more detailed information.

I. Mounting lifter on the truck:

1. Place the **Bayne** front load box and lifter assembly on the ground in front of the truck fork arms. Insert the fork arms into the fork pockets on each side of the box as shown in figure I-1. Insert the locking pins either under or thru each fork to lock the box to the truck fork arms. **DO NOT DUMP THE BOX INTO THE HOPPER UNTIL THE HYDRAULICS HAS BEEN CONNECTED AND ALL AIR IS PURGED FROM THE SYSTEM.**
2. Adjust the ride height of the front load box to obtain a distance of approximately 34" from the pocket of the lift saddle to the ground as shown in figure I-1.

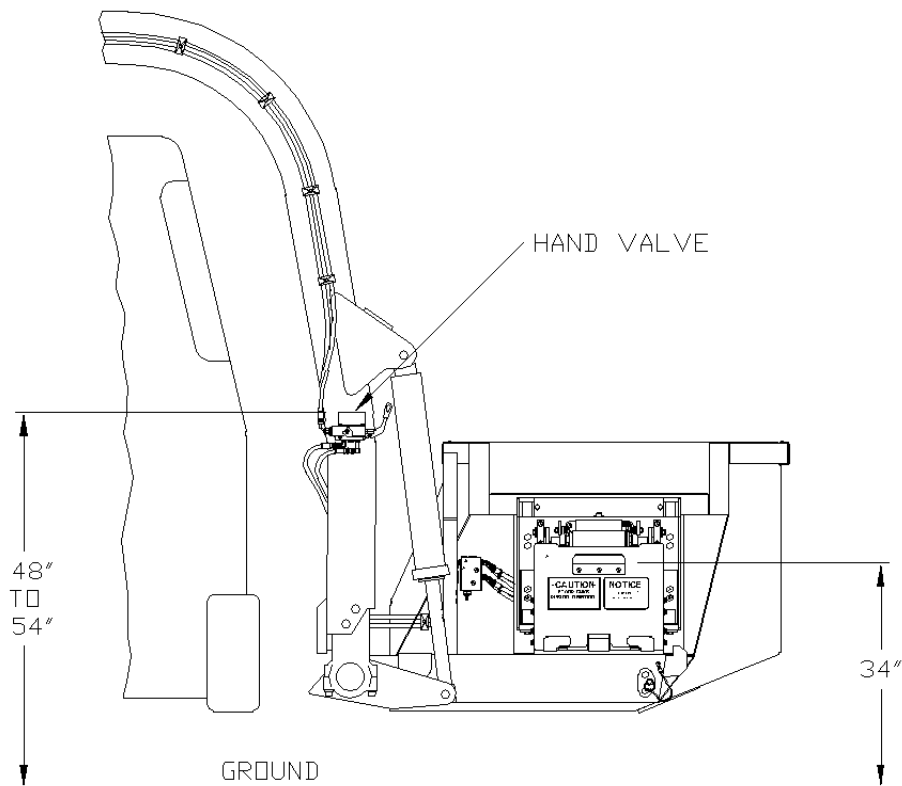


figure I-1

II. Mounting hand valve on the truck:

1. Choose and mark an acceptable location on the truck approximately 48” to 54” from the ground to mount the hand valve assembly as shown in figure I-1.
2. Remove the mounting bracket from the hand valve assembly and weld it to the truck.
3. After the weld has cooled, paint the mounting bracket to match the truck color.
4. After the paint has dried, reassemble the hand valve assembly on the mounting bracket.

III. Mounting diverter valve on the truck :

1. Choose and mark an acceptable location to mount the diverter valve assembly. This location should be near the truck’s main hydraulic pressure and tank lines.
2. Weld diverter valve mounting bracket to the truck.
3. After the weld has cooled, paint the mounting bracket to match the truck color.
4. After the paint has dried, bolt the diverter valve to the mounting bracket using the 1/4” bolts, washers and elastic lock nuts.

IV. Making hydraulic connections:

Before attempting any hydraulic connections, turn the truck’s engine off and release all pressure from the hydraulic system. Refer to the hydraulic layout (figure I-2) and hydraulic schematic (Appendix A) while performing the following steps. Always clean & lubricate fitting threads before installation.

1. Cut or disconnect truck’s main hydraulic pressure line and install the diverter valve in series using the “IN” and “OUT” ports.
2. Connect the “T” port on the diverter valve to the truck’s hydraulic tank line with an appropriate size line to handle the lifter system flow. (Approximately 5 GPM max.)
3. Connect port “P1” on the diverter valve to the “IN” port on the hand valve.
4. Connect port “T1” on the diverter valve to the “OUT” port on the hand valve.
5. Connect port “A” on the hand valve to the “VA” port on the sequence valve.
6. Connect port “B” on the hand valve to the “VB” port on the sequence valve.

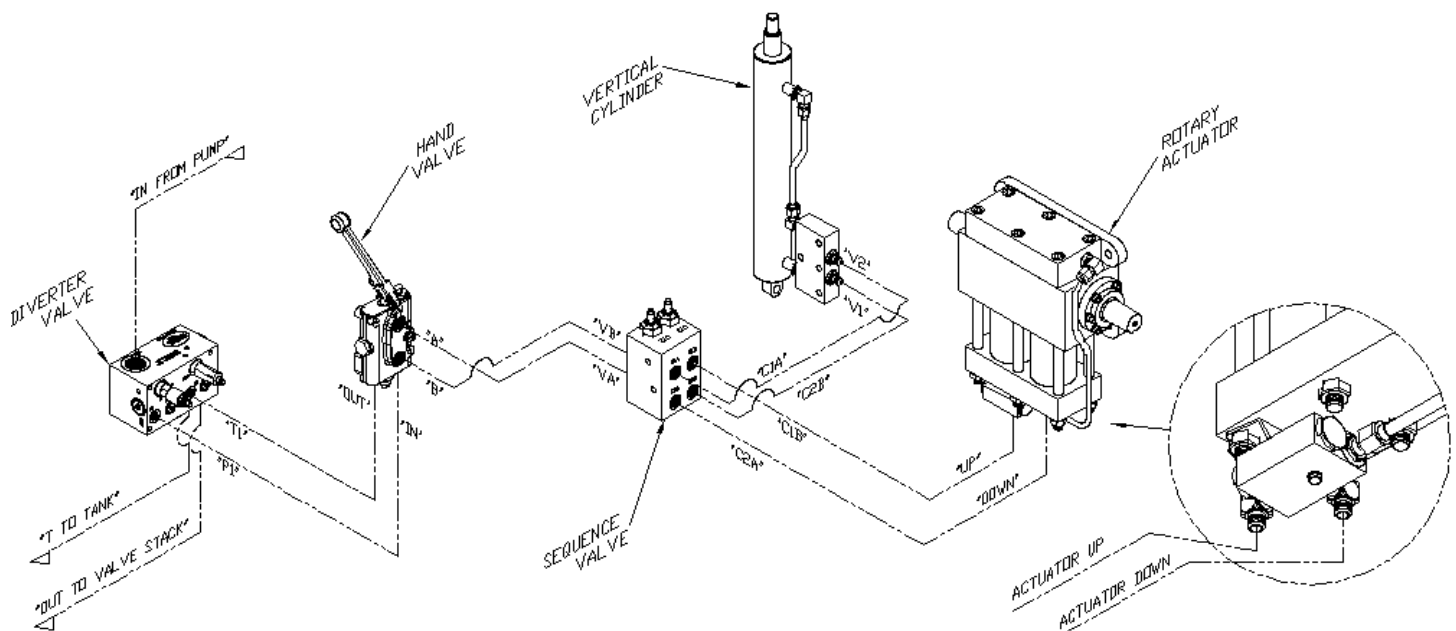


figure I-2

7. Disassemble each hose clamp assembly and position weld plates where needed and weld in place.
8. After the weld has cooled, paint the weld plates to match the truck color.
9. After the paint has dried, reassemble the hose clamp assemblies around the hoses.

V. Adjusting relief valve settings:

The diverter valve (1) (figure I-3) supplies the cart lifter hydraulic system with approximately 2 GPM of oil flow. This diverter valve is equipped with a lifter circuit relief valve (3) set at 2500 psi, to prevent the diverter valve from shutting down if a blockage occurs in the lifter circuit. There is also a relief valve (5) set at 1800 psi in the hand valve (2) to protect the lifter from excessive pressure. These relief valves are preset from the factory to operate properly on most trucks with a system pressure between 2300 and 2500 psi without any adjustment. However, if any adjustment is necessary, follow these instructions.

WARNING : *Bayne equipment is rated for a maximum pressure of 3000 psi. Operation at pressures above 3000 psi may damage equipment and cause personal injury. In order to avoid injury and maintain manufacturer's warranty never operate above 3000 psi.*

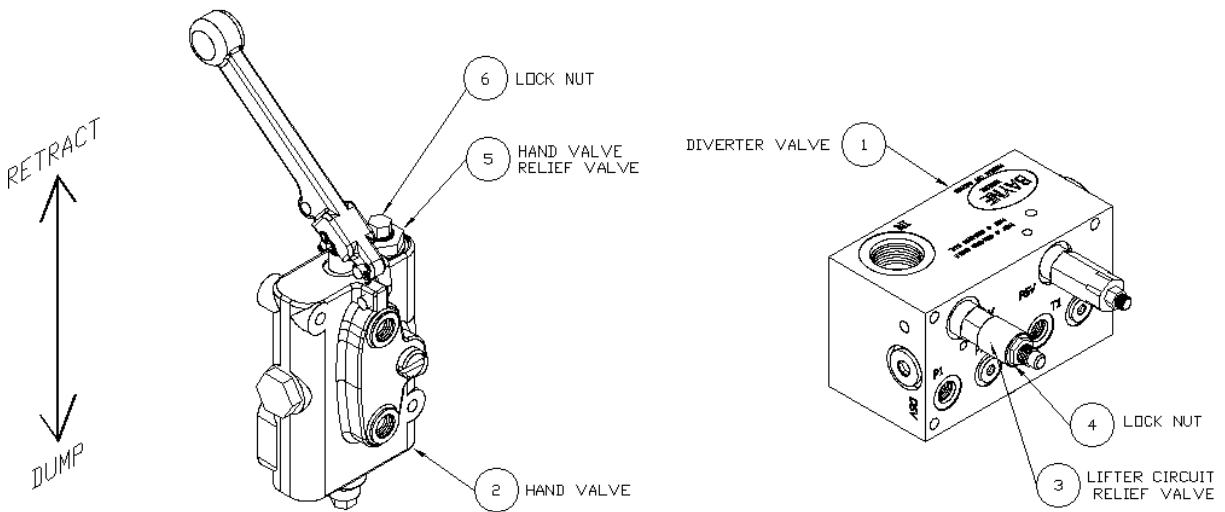


figure I-3

1. Determine the truck system pressure setting.
2. Loosen the lock nut (6) (*figure I-3*) from the hand valve relief valve (5) and turn the adjustment screw clockwise until it bottoms out.
3. Loosen the lock nut (4) (*figure I-3*) on the lifter circuit relief valve (3) and turn the adjustment screw clockwise until it bottoms out.
4. Start the truck’s engine and engage the hydraulic system.
5. Operate the handle on the hand valve (2) (*figure I-3*) back and forth a few times to bleed all air from the lifter hydraulic system.
6. Turn the truck’s engine off and release all hydraulic pressure from the system.
7. Install a 3000 psi hydraulic pressure gauge with the necessary adapter in the hydraulic line connected to the “IN” port of the hand valve as shown in figure I-4.

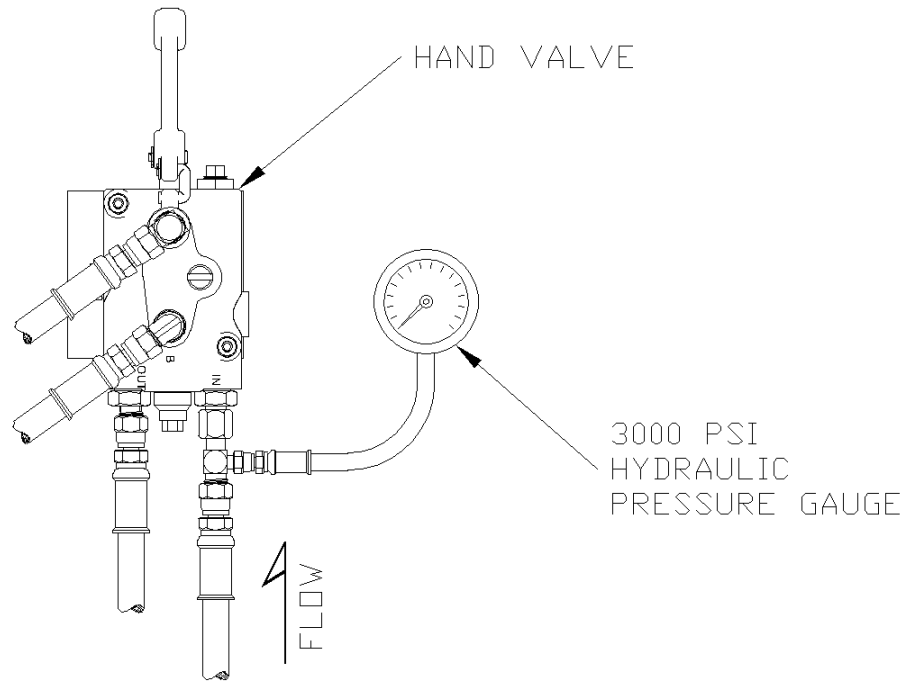


figure I-4

8. Start the truck's engine and engage the hydraulic system.

9. Setting the diverter valve lifter circuit relief valve :

- a) Have an assistant hold the handle on the hand valve (2) (*figure I-3*) (*with pressure gauge installed at the "IN" port*) in the "retract" position to show pressure on the gauge.
- b) Turn the pressure relief adjusting screw on the lifter circuit relief valve (3) counter-clockwise until the pressure reading on the gauge is either 100 psi less than the truck system pressure or 2300 psi, which ever is the lowest.
- c) Release the handle on the hand valve.

10. Setting the hand valve relief valve :

- a) Hold the handle on the hand valve (2) (*figure I-3*) (*with pressure gauge installed at the "IN" port*) in the "retract" position to show pressure on the gauge.
- b) Turn the pressure relief adjusting screw on the hand valve relief valve (5) counter-clockwise until the pressure reading on the gauge is either 200 psi less than truck system pressure or 1800 psi, which ever is the lowest.
- c) Release the handle on the hand valve.

11. Turn the truck's engine off and release all hydraulic pressure from the system.
12. Remove the hydraulic pressure gauge from the hydraulic line connected to the "IN" port of the hand valve.
13. Tighten the lock nut (6) (*figure I-3*) on the hand valve relief valve (5) to secure the correct pressure setting.
14. Tighten the lock nut (4) (*figure I-3*) on the lifter circuit relief valve (3) to secure the correct pressure setting.
15. The hydraulic circuit pressures are now set for optimum performance.

VI. Adjusting sequence valve settings:

The sequence valve operates as follows:

Oil flowing into port "VB" flows directly through the valve and out port "C2B" causing the vertical cylinder to extend. When the pressure on port "C2B" reaches the factory setting of 1700 psi, the sequence valve cartridge in port "CT3" shifts and directs the oil flow out port "C1B" causing the actuator to dump. The return oil from the lifter circuit flows through port "VA" and back to tank.

Oil flowing into port "VA" flows directly through the valve and out port "C2A" causing the actuator to reverse. When the pressure on port "C2A" reaches the factory setting of 1700 psi, the sequence valve cartridge in port "CT2" shifts and directs the oil flow out port "C1A" causing the vertical cylinder to retract. The return oil from the lifter circuit flows through port "VB" and back to tank. The factory settings on these sequence valve cartridges are preset to operate properly on most trucks without any adjustment. However if any adjustment is necessary, follow these instructions.

1. Loosen the lock nuts (1) (*figure I-5*) on the sequence valve cartridges and turn the adjustment screws (2) clockwise until they bottom out.
2. Start the truck's engine and engage the hydraulic system.
3. Move the handle on the hand valve to the up position to cause the vertical cylinder to raise to the fully extended position.
4. After the vertical cylinder fully extends, hold the handle on the hand valve in the up position and turn the adjustment screw on the sequence valve cartridge "CT3" counterclockwise until the valve shifts and the actuator performs the dump cycle.

5. Move the handle on the hand valve to the down position to cause the actuator to reverse the dump cycle.
6. After the actuator completely reverses its dump cycle, hold the handle on the hand valve in the down position and turn the adjustment screw on the sequence valve cartridge “CT2” counterclockwise until the valve shifts and the vertical cylinder retracts.
7. Tighten the lock nuts (1) on the sequence valve cartridges to secure the correct pressure settings.

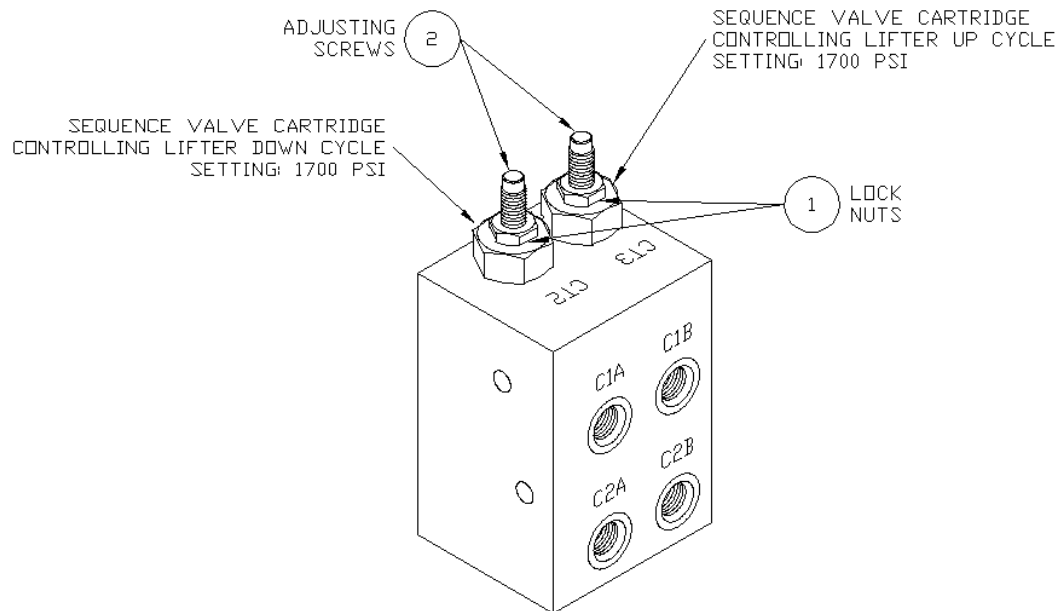


figure I-5

VII.Final operation and dumping:

1. Start the truck’s engine, and engage the hydraulic pump.
2. Operate the lifter up and down to bleed all air from the hydraulic system.
3. Carefully dump the box assembly into the truck hopper, making sure there are no clearance problems.

OPERATION INSTRUCTIONS (WI-0129-A)

Bayne **THINLINE**[®] Premium Lift Systems

The Bayne THINLINE[®] Premium Lift System is a high quality durable cart lifter built to meet your industry's requirements. To insure the safety of all operators of this equipment, read this manual carefully before operating the lifter. ***FAILURE TO COMPLY WITH INSTRUCTIONS COULD RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE!!***

There are five stages (figure O-1) in the cycle of the cart lifter. These stages are as follows:

- 1) ***START*** - The cart to be dumped is placed on the lifter.
- 2) ***VERTICAL EXTEND*** - The cart lifter cylinder lifts the cart to be dumped vertically off of the ground.
- 3) ***ACTUATOR DUMP*** - The rotary actuator rotates to dump the contents of the cart into the hopper. During this cycle the clamp bar automatically closes to "lock" the cart to the lifter
- 4) ***ACTUATOR REVERSE*** - The rotary actuator rotates in the opposite direction bringing the can back to the vertical position. The clamp bar is automatically unlocked.
- 5) ***VERTICAL RETRACT*** - The cart lifter cylinder lowers the cart back down to the ground.

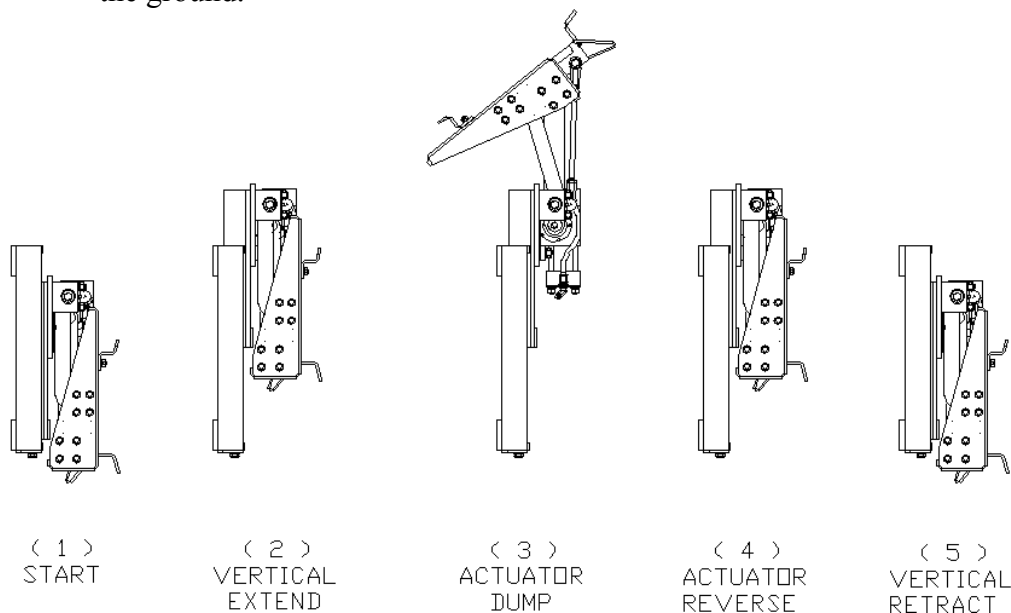


figure O-1

The vertical and rotational motions of the cart lifter are controlled with the use of a hand operated directional control valve (*hand valve*) and sequence valve. Moving the handle on the hand valve “UP” will cause the lifter to perform the vertical extend stage (figure O-1), then sequence to perform the actuator dump stage. Moving the handle “DOWN” will cause the lifter to perform the actuator reverse stage, then sequence to perform the vertical retract stage.

6091/6092-0700 DIVERTER VALVE
OPERATION AND INSTALLATION INFORMATION
(WI-0026)

Bayne *THINLINE*[®] Premium Lift Systems

The Bayne diverter valve establishes priority flow to the lifter circuit “P1” and “P2” ports and bypasses oil to the “OUT” port, which typically supplies flow to the remainder of the truck’s hydraulic circuit. This bypass occurs only after the lifter circuit is satisfied. The priority flow is controlled by the flow regulator cartridge (FR1) (and FR2 in dual applications) in combination with the differential pressure sensing valve (DPS). This allows the valve to maintain constant flow regardless of changes in load pressure or volume flow rate. Since both the lifter circuit and bypass flow can be utilized in the operation of the truck regardless of which pressure is greater, a single pump can be used to supply two circuits or operations.

The lifter circuit flow is regulated and maintained by the flow regulator cartridge (FR1) (and FR2 in dual applications). The differential pressure sensing valve (DPS), rated for 75 gpm of flow and 3000 psi of pressure, is operated by an internal spring and dampening orifice (OR) which establishes a pressure drop across the block sufficient to ensure the correct operation of the flow regulator (FR1). For a dual diverter valve, a second flow regulator cartridge (FR2) is installed in the “FR2” cavity and a shuttle valve (DSV) is installed in place of the SAE plug in the “DSV” cavity. Once the pressure drop is established, a precision metered flow is provided to the tipper circuit(s) with additional flow being bypassed to the “OUT” port.

The operation of the diverter valve does not require the use of a tank line to be run to the “T” port. However, the efficiency of the block will be significantly increased if a tank line is installed. The logic circuit of the block will manage the flow of oil returning from the tipper circuit to ensure optimum performance. This is primarily controlled with the sequence valve (PSV) which is factory set and should not be adjusted. All oil returning from the tipper circuit will normally be regenerated into the outgoing flow to ensure that the downstream functions are not slowed in any way. When the downstream backpressure rises to a predetermined pressure, the block will redirect the flow to the “T” port to increase the overall efficiency of the block and reduce the pressure drop through the block. If the “T” port is connected to a tank line, the oil will be dumped through the block at a lower pressure. This allows downstream functions to operate at the highest possible pressure when pressure is being required. If the “T” port is blocked, the oil will be redirected back into the outgoing flow through the check valve (CV).

A relief circuit for the tipper function is controlled by a relief valve (RV), which is preset to 2300 psi. This can be adjusted to limit pressure to the tipper(s). This relief valve is more efficient than the relief in the hand valve and will operate with less noise. It is recommended that it be adjusted to relieve before the hand valve relief. It may also be used to limit the weight the lifter can dump. This may be beneficial in avoiding damage to cans resulting from overloading. This should be the only adjustment that the block may require. Any other adjustments should only be made after close consultation with Bayne’s Engineering Department to ensure proper operation.

POSSIBLE PROBLEMS

1. The most common cause of valve failure is dirty oil. If debris becomes lodged in the cartridge valves they will malfunction. Recommended filtration level is between 15 and 25 microns. Many systems filter the oil on the return side. This does not guarantee clean oil going into the system. It is important to ensure that the tank vent filtration element is properly maintained as well. Very small contaminants may not cause the valve to stop functioning, but can cause “stiction” in the cartridges between the body and the moving spool. This can cause improper operation. A slow moving tipper is most likely the result of contamination in the flow regulator cartridge. A pulsating noise may be the result of contamination in the differential pressure sensing valve causing it to stick. If any valve malfunctions, remove and thoroughly clean the valve, being extremely careful not to score or abrade the “o” ring seals or moving parts of the valve. Be sure that the spool moves freely in the valve body.
2. The flow regulator cartridges (FR1 and FR2) are designed to operate at a designated pressure of 80 psi. This means that in order for the valve to function properly, a minimum of 80 psi is required from the supply line through the “IN” port of the valve. This can present a problem on trucks with a dry valve pump system. Normally in the dry (off) mode of the pump, a flow of approximately 2 gpm at 20 psi is required to circulate through the open center system of the truck. This is for pump lubrication in the off mode. When the diverter valve is placed in the main pressure line of the truck, a blockage occurs because of the differential pressure sensing valve needing 80 psi to initially open and allow the flow regulators function. The path of the lubrication oil is therefore stopped because the valve does not open. When the oil is blocked, the pump will rotate and cavitate in the lubricating oil, causing heat to build up over an extended period of time, possibly leading to premature pump failure. To prevent this problem from occurring, a “bleed line” circuit needs be installed on the truck to allow passage of the lubricating oil back to tank.
3. On front load residential truck applications, several considerations need to be noted. The Bayne hand valve is an open center valve that allows for the lifter circuit to maintain flow through the hand valve and back to the diverter valve when the lifter is not being operated. If flow is not maintained through the hand valve, the oil will constantly be relieving over the lifter circuit relief valve (RV) in the diverter valve, which can cause an increase in operating temperature. Certain front load box designs allow for the hand valve to be located on the arms of the truck which keeps the hand valve in the lifter circuit at all times to maintain flow. Most problems occur with applications where the hand valve is located on the box itself. In this situation, when the operator disconnects the hydraulic lines to the box, a blocked condition occurs in the lifter circuit. To prevent this problem, the pump must be turned off prior to disconnecting the box hydraulic lines. Once the lines have been disconnected from the box, it is necessary to connect the two lines for the hand valve to each other to functionally complete the lifter circuit. It is recommended that male and female quick disconnects be used opposite each other on the truck to provide an uninterrupted circuit. Once the lines have been connected and the circuit continued, the pump could then be turned on to continue operations.

MAINTENANCE INSTRUCTIONS (WI-0140-A)

Bayne ***THINLINE***[®] Premium Lift Systems

NOTE:

THE MOST COMMON CAUSE OF HYDRAULIC COMPONENT FAILURE IS CONTAMINATION OF THE HYDRAULIC FLUID (WATER, CHIPS, DIRT, ETC.) THE Bayne ***THINLINE***[®] LIFT SYSTEM COMES CLEAN FROM THE FACTORY. IF REMOVED, BE SURE THE HOSES, CYLINDER AND FITTINGS ARE CLEAN BEFORE RE-INSTALLING THEM ON THE UNIT.

Inspect your cart lifter on a weekly basis for loose bolts, fittings, oil leaks, etc. Tighten loose hardware as necessary and replace necessary seals to repair oil leaks.

In order to maintain warranty and for preventive maintenance, grease all points weekly with a good multi-purpose grease at points shown in the lubrication drawing (*APPENDIX A*).

BAYNE

PREMIUM LIFT SYSTEMS

ASSEMBLY INSTRUCTIONS

1100 SERIES ROLLER BEARING ACTUATOR

PART NUMBER 1120-1042 (WI-1121-D)

LICENSED UNDER ONE OR MORE OF THE FOLLOWING U.S. PATENTS:
4,773,812 1,327,765 5,308,211 5,333,984

READ INSTRUCTIONS COMPLETELY BEFORE STARTING ASSEMBLY.

Before starting the assembly of the Rotary Actuator, refer to the exploded parts drawing and parts list (fig. A-13 found at the end of these instructions) to familiarize yourself with the individual components. Prepare a clean surface, in an area free of blowing dust and contaminants in which to assemble the Rotary Actuator. Be sure that all parts are thoroughly clean and dry before starting assembly.

NOTE: All torque values given apply to clean dry threads only. Follow these directions closely when repairing the Rotary Actuator.

1. Install the piston seal load ring (13) (fig. A-1) in the small groove on the head of the actuator rack (2). Place the “square” piston seal (17) over the load ring (13) in the same small groove (a small “blunt” flathead screwdriver may be used, taking care not to scratch or damage the seal). Install the wear ring (18) in the large groove on the head of the rack. Using a ring compressor, firmly seat the rings on the rack before setting it aside, this will help to reverse the effects of any stretching of the rings that occurred during installation. Repeat this procedure for the other rack.

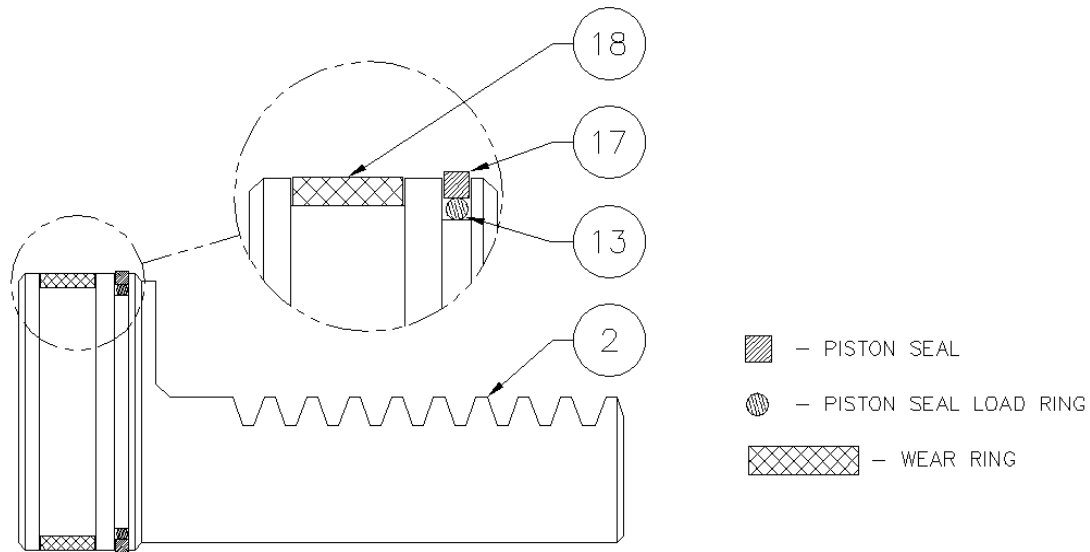


figure A-1

2. Install the tube seal (12) (fig. A-2) and “square” tube seal backup (16) on each end of the actuator tubes (3) (fig. A-13). Be sure that the “square” tube seal backup ring is toward the inside of the tubes at both ends as shown. Press all rings firmly into the grooves. Repeat this procedure for the other tube.

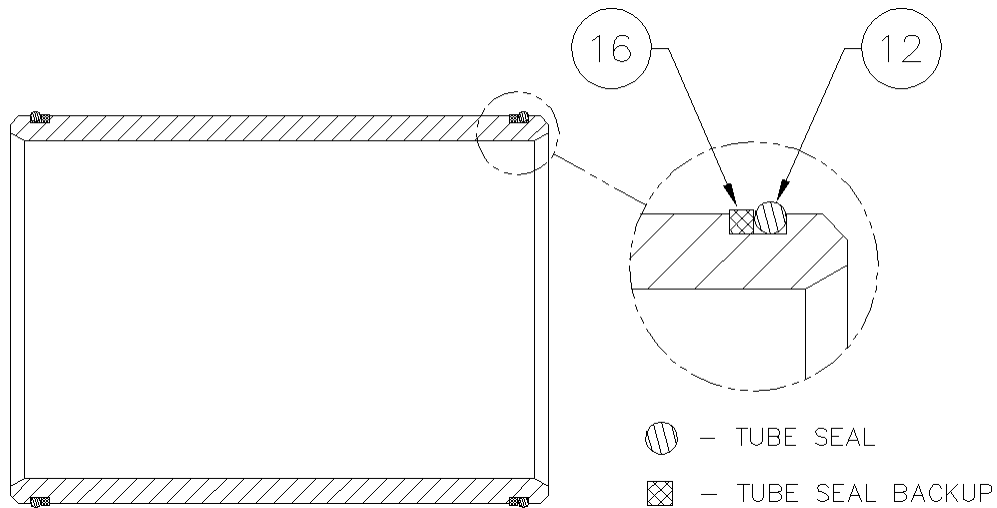


figure A-2

3. Thoroughly clean the pinion shaft (1) (fig. A-3) and inner races (10) with a mild solvent and dry completely. Spray the inner race contact area (shown in figure A-3) at each end of the pinion shaft and the inside diameter of the inner race thoroughly with *LOCTITE 7649 N PRIMER*. Apply *LOCTITE RETAINING COMPOUND 609* around the pinion shaft at contact area and the inside diameter of the inner races. Slide the inner races (10) on the pinion shaft (radius end first as shown in figure A-3) until the races seat against the gear teeth. After the races seat against the gear teeth, twist the races on the pinion 360° to spread the retaining compound evenly. Wipe off any excess retaining compound.

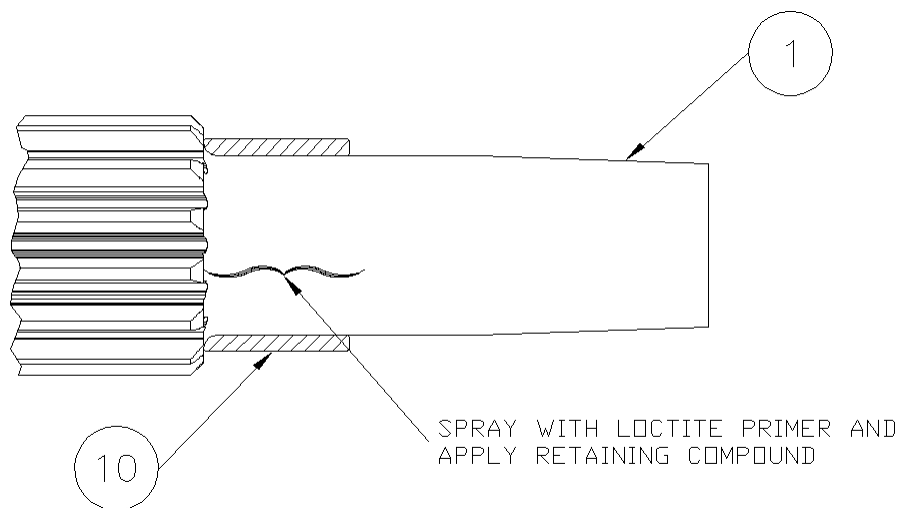


figure A-3

- Place the actuator body (7) (fig. A-4) on the edge of the table, mounting flanges closest to the assembler with the counter-bores facing up. Insert the pinion shaft (1) through the bore on either side of the actuator body with the key ways facing back toward the mounting flanges and up away from the table with the center line of the key ways pointing toward the center of the tapped hole shown in figure A-4. Center the pinion in the actuator body.

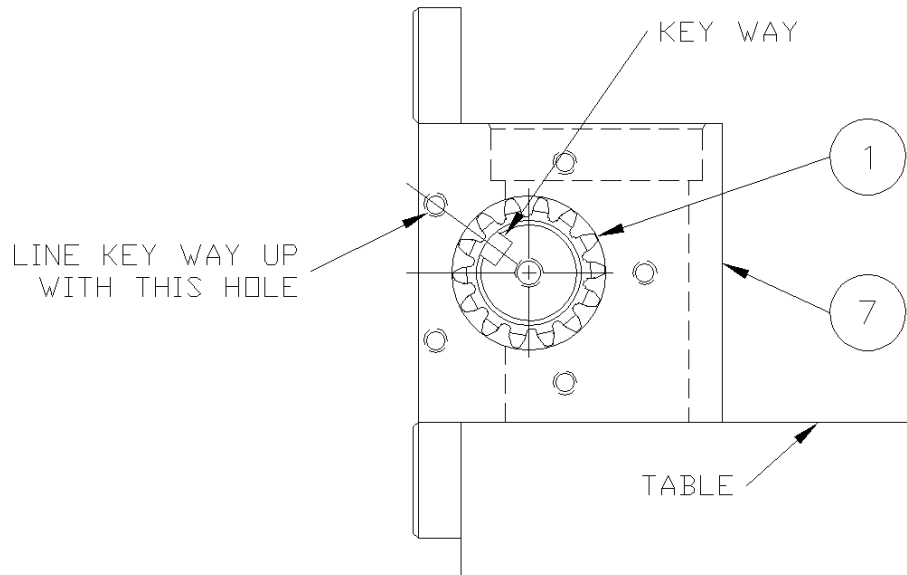


figure A-4

- Coat the head portion of the racks (2) (fig. A-13) with STP Oil Treatment. Install the racks, head portion up with the teeth facing the flanges of the actuator body, into the dual set of bores in the body. Simultaneously slide the racks into the bores so that the racks mesh with the pinion in the same position. Rotate the pinion shaft to engage the racks into the pinion.

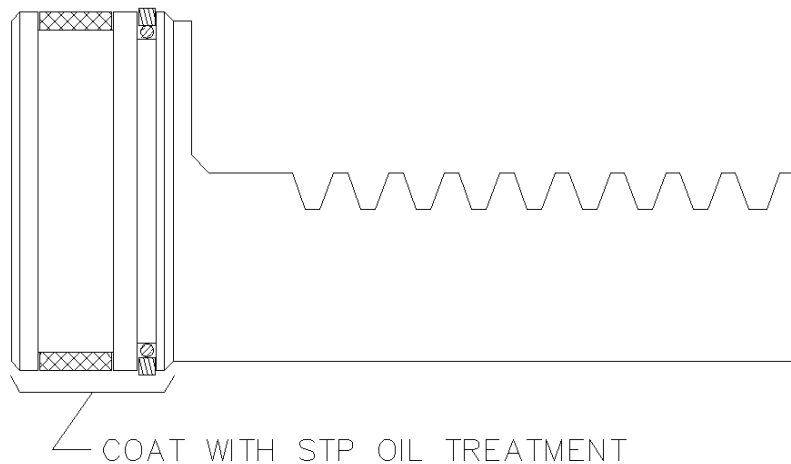


figure A-5

6. Check the position of the racks in the pinion by making sure both racks seat against the actuator body at the same time and also when the racks are seated against the body, the key ways on the pinion shaft should be facing down toward the table and very slightly back toward the mounting flanges on the actuator body as shown in figure A-6.

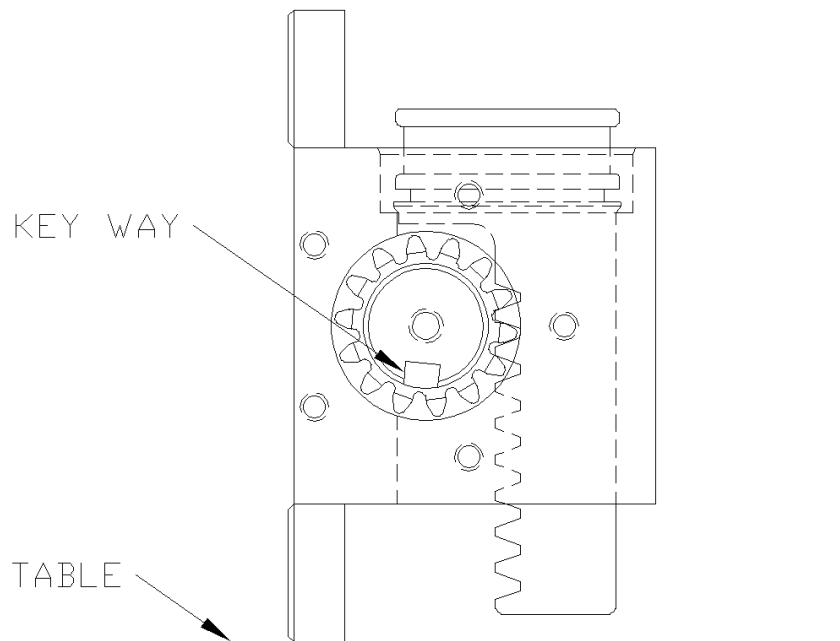


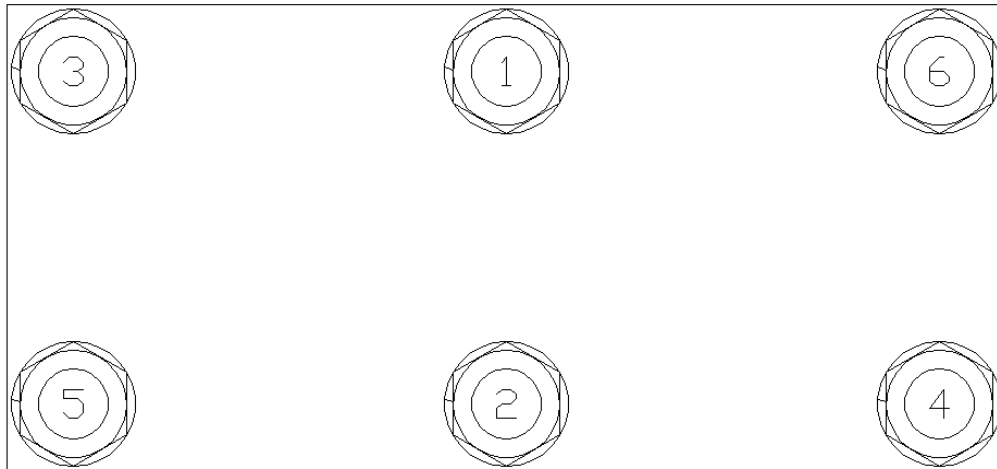
figure A-6

7. Coat one end of the actuator tubes (3) (fig. A-13) around the seal area with STP Oil Treatment as shown in figure A-7. Using a rubber mallet, drive the coated end of the tube onto the exposed rack until the tube end seats in the actuator body, making sure that the seals remain in place as the tube enters the counter-bore. Repeat this procedure for the other side.



figure A-7

8. Install the six tie rod studs (6) (fig. A-13) by screwing the short threaded end into the actuator body. Hand tighten only at this time (the torque needed will be applied later in the procedure).
9. Place the tube cap (4) (fig. A-13) on the table. Coat the sides of the two bores in the tube cap with STP Oil Treatment. Install the cap over the tubes and rod studs with the oil port positioned to the left as shown in figure A-13. Using a rubber mallet, tap the tube cap over the tubes until the tubes seat in the cap, making sure that the seals remain in place.
10. Place the check valve mounting bracket (30) (fig. A-13) over the end of the two rod studs closest to the oil port in the tube cap as shown in figure A-13.
11. Install the hex nuts (23) (fig. A-13) and lock washers (24) on the tie rod studs. Torque the nuts to 50 ft-lb. in the sequence shown in figure A-8.



TUBE CAP TORQUE SEQUENCE

figure A-8

12. Place the rack cap (5) (fig. A-13) bore side up on the table and coat the edge of each bore with STP Oil Treatment. Install the rack cap seals (14) (fig. A-9) in the rack cap.

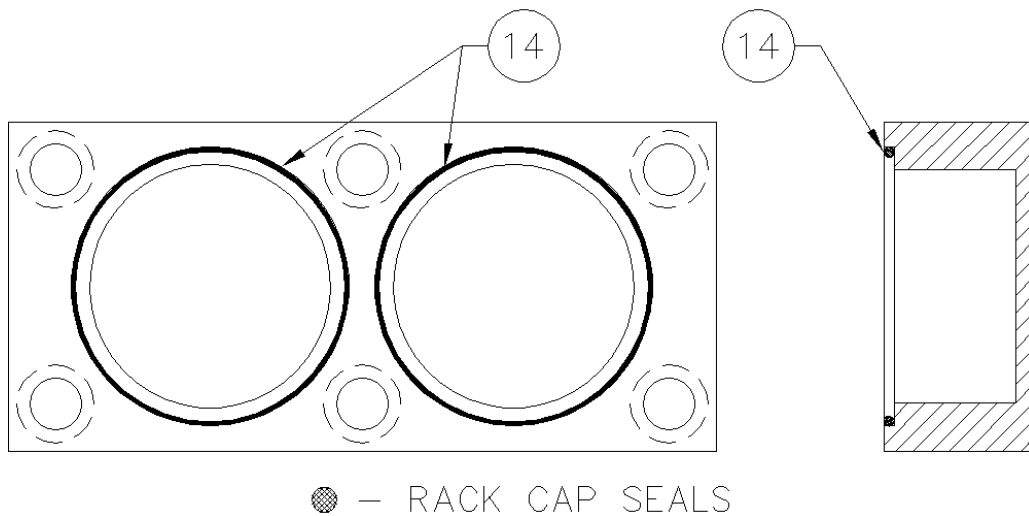
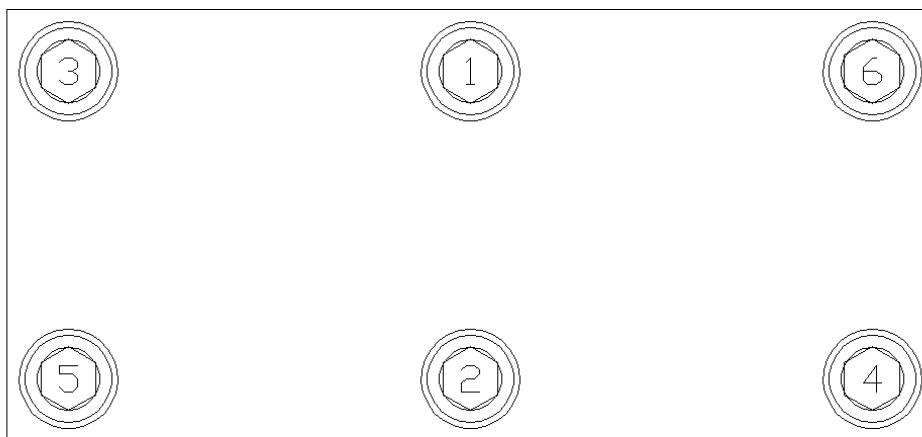


figure A-9

13. Reposition the actuator on the table mounting flanges down, and the lower tubes facing away from the assembler. Rotate the pinion shaft to allow 1” of the rack to protrude from the top of the actuator body. Install the rack cap with the oil port positioned to the left hand side of the actuator opposite the bottom oil port located in the tube cap as shown in figure A-13. Attach the rack cap to the actuator body using the socket head bolts (22) (fig. A-13) and lock washers (26). Torque the bolts to 90 ft-lb. in the sequence shown in figure A-10.



RACK CAP TORQUE SEQUENCE

figure A-10

14. Reposition the actuator so that the pinion shaft can be rotated with no obstacles. Rotate the pinion shaft to ensure that the racks move freely. Also make sure that the key ways point perfectly straight “up” toward the rack cap and “down” toward the tube cap at each end of the 180° stroke. If the assembly does not perform all of these functions correctly, it must be disassembled, cleaned, and reassembled.

15. Re-center the actuator pinion in the actuator body by tapping on one end of the shaft with a rubber mallet. Install the roller bearing (9) (fig. A-13), over the pinion shaft and inner race, and into the actuator body. Repeat this procedure for the other bearing.
16. Thoroughly clean the bearing caps (8) (fig. A-11) with a mild solvent and lubricate all seal grooves with STP oil treatment. Place the bearing caps (8) on the table (mounting surface down) and install the wiper ring (19) in the outside groove using a rubber mallet or small press. ***(Avoid using tools that may damage seals or scratch bearing cap or bearing surfaces.)*** Turn the bearing cap (8) over. Collapse the pinion seal (20) and carefully work it into the groove. Use fingers to carefully press the seal completely into the groove as shown in figure A-11. ***Be careful not to score or scratch the sealing surface during the installation.*** Install the bearing cap seal (15) by pressing it firmly into the groove on the bearing cap mounting surface.
17. Coat the bearing cap seal area and pinion seal area shown in figure A-11 lightly with STP Oil Treatment.

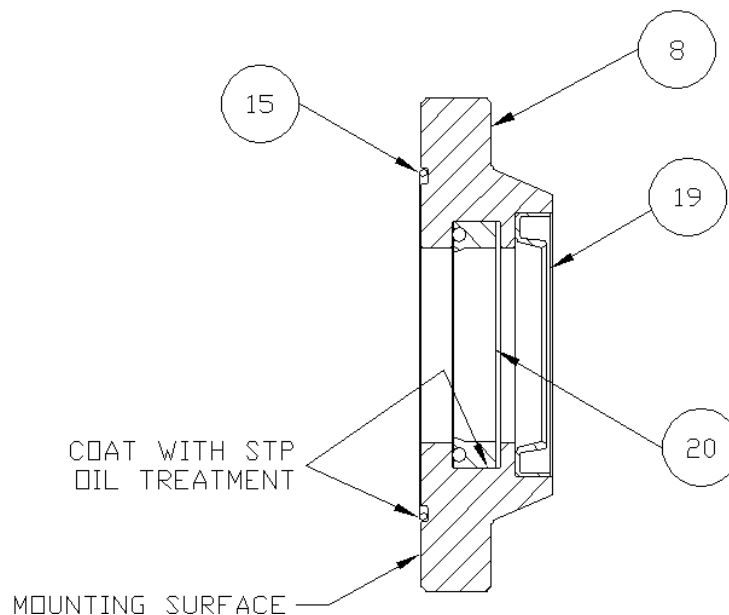


figure A-11

18. Wrap masking tape or electrical tape around the pinion to cover the edges at the keyway. Slide the bearing cap assembly over the pinion shaft with the bearing cap seal facing toward the actuator body and the flat surface of the flange shown in figure A-12 facing toward the actuator mounting flanges. Press against the bearing cap until the shoulder seats against the actuator body, making sure that the seals remain in place. Install the bearing cap bolts (21) (fig. A-13) and lock washers (25). Hand tighten only at this time. Repeat this procedure for other bearing cap.

19. After both bearing caps have been installed, torque all bearing cap bolts to 30 ft-lb. in the sequence shown in figure A-12.

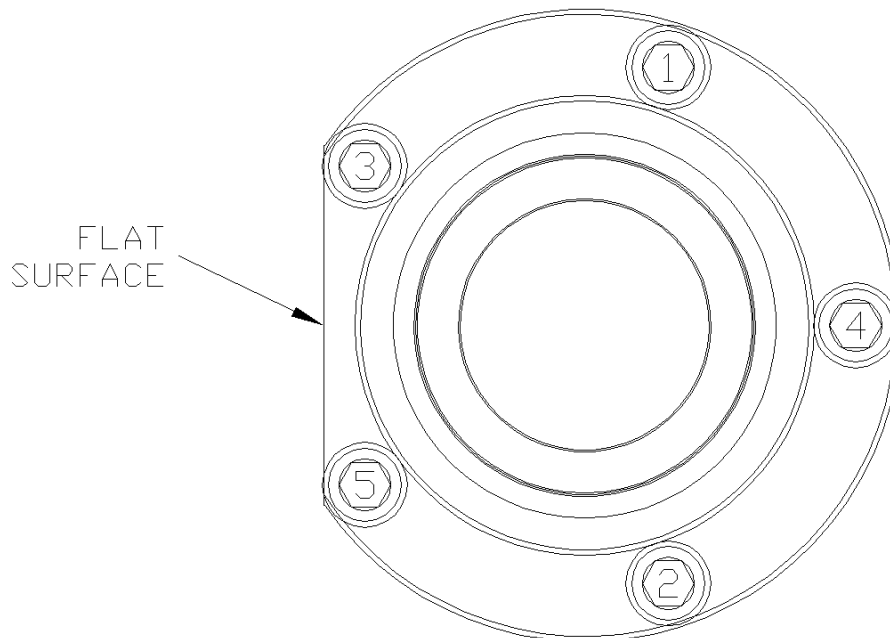


figure A-12

20. Bolt the check valve (32) (fig. A-13) to the check valve mounting bracket (30) with the 5/16" bolt (35), hex nut (36), flat washer (37), and lock washer (38) as shown in figure A-13.
21. Install the 90° adapter (27) (fig. A-13) into the oil port on the side of the rack cap (5). Hand tighten only at this time.
22. Install the straight adapter (31) (fig A-13) in the "C" port of the check valve (32).
23. Install the tubing assembly (29) (fig. A-13) between the 90° adapter in the rack cap and the straight adapter in the "C" port of the check valve.
24. Install the orifice plug (11) (fig. A-13) into the oil port on the side of the tube cap (4), and install the 90° adapter (27) into the oil port over the orifice plug as shown in figure A-13. Hand tighten only at this time.
25. Install the straight swivel adapter (34) in the "P" port of the check valve (32).
26. Attach the swivel tee adapter (33) (fig. A-13) to the 90° adapter (27) in the tube cap and the straight swivel adapter (34) in the "P" port of the check valve.
27. Install the 90° adapter (27) in the "V" port of the check valve (32).
28. Tighten all connections, and install the cap nuts (28) (fig. A-13) on the open adapters as shown in figure A-13 to prevent contamination of the unit until the hoses are connected.

ACTUATOR ASSEMBLY

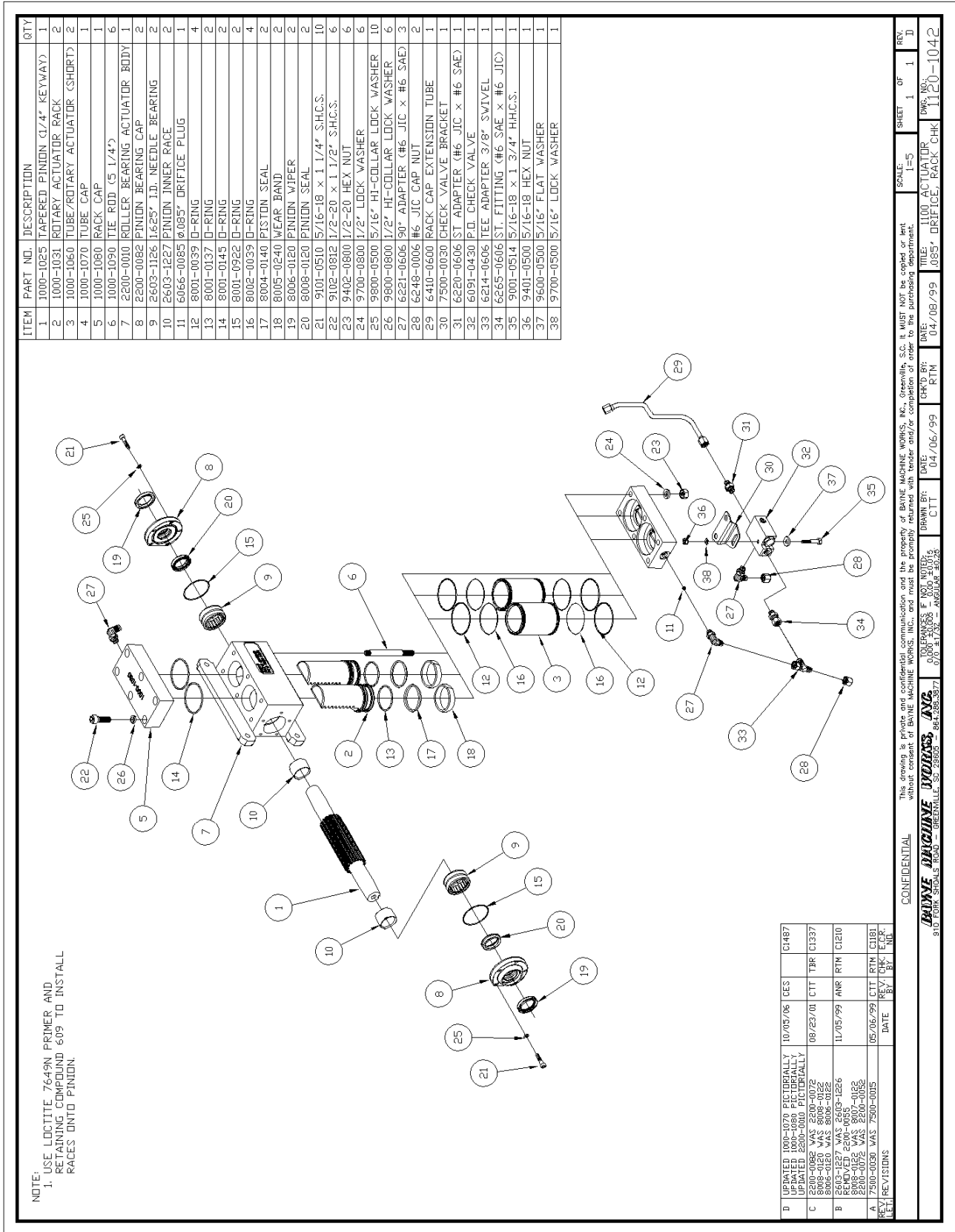


figure A-13

TROUBLE-SHOOTING CHART (WI-0050-A)

<i>SYMPTOM</i>	<i>POSSIBLE CAUSES</i>	<i>CORRECTIVE ACTION</i>
Lifter operation very erratic.	<ol style="list-style-type: none"> 1. Air trapped in system. 2. Low oil level. 	<ol style="list-style-type: none"> 1. Bleed all air from lifter hydraulic system. 2. Add oil to system.
Cart lifter will not pick up carts.	<ol style="list-style-type: none"> 1. Cart overweight. 2. Lifter system hydraulic pressure too low. 3. Truck system hydraulic pressure too low. 4. Faulty hand valve. 	<ol style="list-style-type: none"> 1. Reduce loaded weight of cart. 2. Check and adjust pressure relief on hand valve and lifter circuit relief in diverter valve. 3. Check and adjust pressure on truck system relief and full system relief in diverter valve. 4. Replace hand valve.
Lifter operates extremely slow.	<ol style="list-style-type: none"> 1. Engine idle too low. 2. Faulty hand valve. 3. Faulty truck hydraulic pump. 4. Trash in diverter valve. 5. Orifice in diverter valve is too small. 	<ol style="list-style-type: none"> 1. Adjust engine idle. 2. Replace hand valve. 3. Consult truck maintenance manual. 4. Remove orifice from diverter valve body and clean thoroughly. 5. Remove orifice from diverter valve body and increase diameter.
Lifter operates under recommended cycle time.	<ol style="list-style-type: none"> 1. Engine idle too high. 2. Orifice in diverter valve is too large. 	<ol style="list-style-type: none"> 1. Adjust engine idle. 2. Remove orifice from diverter valve body and replace with a smaller diameter.

TROUBLE-SHOOTING CHART (WI-0050-A)

<i>SYMPTOM</i>	<i>POSSIBLE CAUSES</i>	<i>CORRECTIVE ACTION</i>
Hydraulic components down stream of diverter valve not operating or operating extremely slow.	<ol style="list-style-type: none"> 1. Truck system hydraulic pressure too low. 2. Faulty full system relief valve cartridge in diverter valve. 3. Faulty truck system relief valve. 4. System flow is being restricted. 5. Trash in flow regulator cartridge. 	<ol style="list-style-type: none"> 1. Check and adjust pressure on truck system relief and full system relief in diverter valve. 2. Replace full system relief valve cartridge in diverter valve. 3. Consult truck maintenance manual. 4. Ensure there is proper flow throughout the hydraulic system. Remove any restrictions. 5. Remove flow regulator cartridge from diverter valve body and clean thoroughly.
Diverter valve leaking oil around cartridges.	<ol style="list-style-type: none"> 1. Worn or damaged seals on cartridge valves. 	<ol style="list-style-type: none"> 1. Install diverter valve seal kit.
Hand valve lever sticks in up or down position.	<ol style="list-style-type: none"> 1. Worn or broken spring center device. 2. Trash in or around hand valve shift spool. 3. Pressure (IN) and tank (OUT) ports are hooked up backwards. 	<ol style="list-style-type: none"> 1. Install spring center kit. 2. Disassemble and clean spool and housing. 3. Make sure all hoses are plumbed according to the hydraulic schematic.
Hand valve leaking oil around shift spool.	<ol style="list-style-type: none"> 1. Worn or damaged seals. 2. Worn spool. 	<ol style="list-style-type: none"> 1. Install hand valve seal kit. 2. Replace hand valve.

TROUBLE-SHOOTING CHART (WI-0050-A)

<i>SYMPTOM</i>	<i>POSSIBLE CAUSES</i>	<i>CORRECTIVE ACTION</i>
Lifter picks up carts but will not dump.	1. Sequence valve pressure setting too high.	1. Adjust pressure setting.
Lifter tries to dump cart before reaching “full up” position.	1. Sequence valve pressure setting too low.	1. Adjust sequence valve pressure.
Lifter moves down before actuator reverse cycle is complete.	1. Sequence valve pressure setting too low	1. Adjust sequence valve pressure.
After dumping, the actuator reverse cycle is completed but lifter will not move down or moves very slowly.	1. Sequence valve pressure setting too high.	1. Adjust sequence valve pressure.
Actuator leaks around pinion shaft.	1. Worn pinion shaft seals.	1. Install pinion seal kit.
Actuator leaks around piston tubes or rack cap.	1. Worn seals in actuator.	1. Install actuator seal kit.
Cylinder leaking around rod.	1. Worn cylinder rod seal.	1. Install cylinder seal kit.
Slider latch connectors frequently breaking or bending.	<ol style="list-style-type: none"> 1. Lift bars on cart bent or spread apart. 2. Broken spring on slider latch hook. 3. Lower hinged hook not operating freely. 	<ol style="list-style-type: none"> 1. Replace cart or install new bars. 2. Replace spring on slider latch hook. 3. Clean and grease hook area.

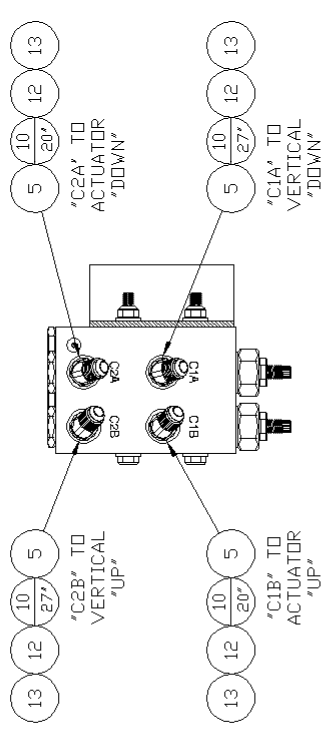
TROUBLE-SHOOTING CHART (WI-0050-A)

<i>SYMPTOM</i>	<i>POSSIBLE CAUSES</i>	<i>CORRECTIVE ACTION</i>
Lifter looses bar lift carts when dumping.	<ol style="list-style-type: none"> 1. Lift bars on cart bent or spread apart. 2. Broken spring on slider latch hook. 3. Lower hinged hook not operating freely. 	<ol style="list-style-type: none"> 1. Replace cart or install new bars. 2. Replace spring on slider latch hook. 3. Clean and grease hook area.

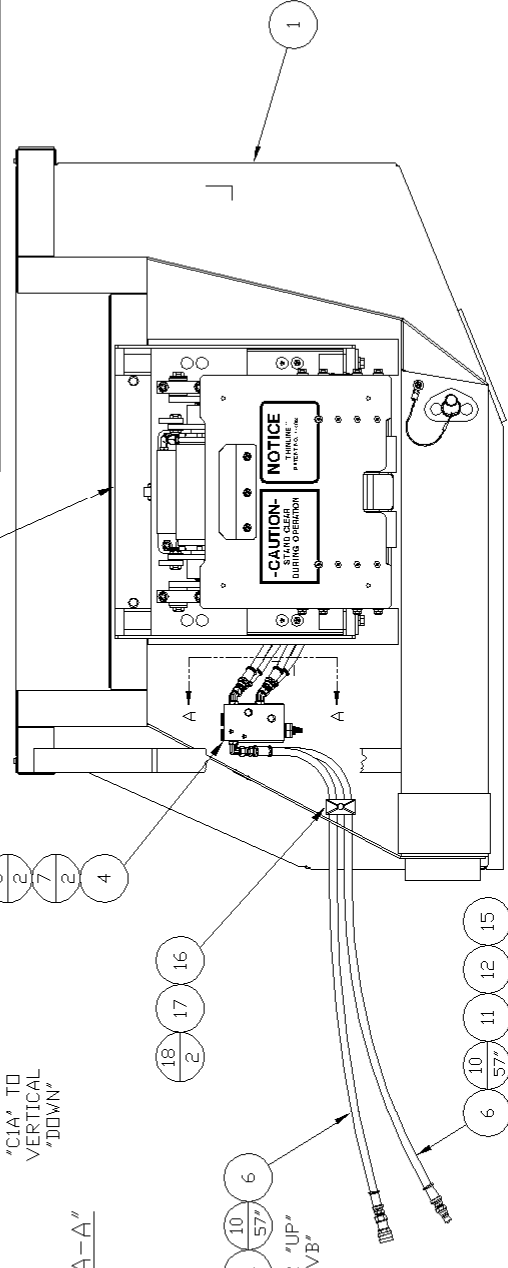
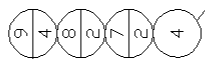
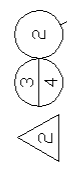
APPENDIX A
Assembly drawings and part numbers

ITEM	PART NO.	DESCRIPTION	QTY
1	8300-5002	CARRY CAN - VBTL CURBSIDE	1
2	1964-0011	VBTL 1114 + 9" F.L.B. LIFTER	1
3	9002-0808	1/2-20 x 1" HH.C.S.	4
4	6071-1208	SEQUENCE VALVE	1
5	6210-0606	45° FITTING (#6MSAE x #6MJIC)	4
6	6299-2063	90° FITTING (Ø.063" DRIFICE)	2
7	8901-0500	5/16-18 SELF-LOCKING NUT	2
8	9001-0536	5/16-18 x 4-1/2" HH.C.S.	2
9	9600-0500	5/16" FLAT WASHER	4
10	6510-0606	3/8" WEATHERHEAD HYD. HOSE	208"
11	6514-0604	HOSE END - 3/8" x 1/4 NPT	2
12	6515-0606	HOSE END - 3/8" x STR. JIC	6
13	6516-0606	HOSE END - 3/8" x 90° JIC	4
14	6525-0104	COUPLER - QUICK DISCONNECT	1
15	6525-0504	NIPPLE - QUICK DISCONNECT	1
16	6530-0010	HOSE CLAMP COVER PLATE	1
17	6530-0012	TWIN CLAMP HEX BOLT	1
18	6530-0015	5/8" PLASTIC CLAMP	2

NOTE:
 1. XX FIGURE ABOVE LINE INDICATES ITEM NO.
 XX FIGURE BELOW LINE INDICATES QTY. REQD.
 2. USE LOCTITE #271 (RED) P/N 7500-0057.



SECTION "A-A"



REV. LET.	8300-5002	DATE	02/09/07	CTT	BY	CHK.	BY	C1510
LIFTER "DOWN" TO "UP"								
LIFTER "UP" TO "DOWN"								

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SCALE: 1=9

SHEET 1 OF 1

REV. A

DATE: 11/18/05

CHKD BY: MRR

DATE: 12/06/05

TITLE: VBTL 1114 + 9" CARRY CAN ASSEMBLY

DWG. NO.: 1910-0002

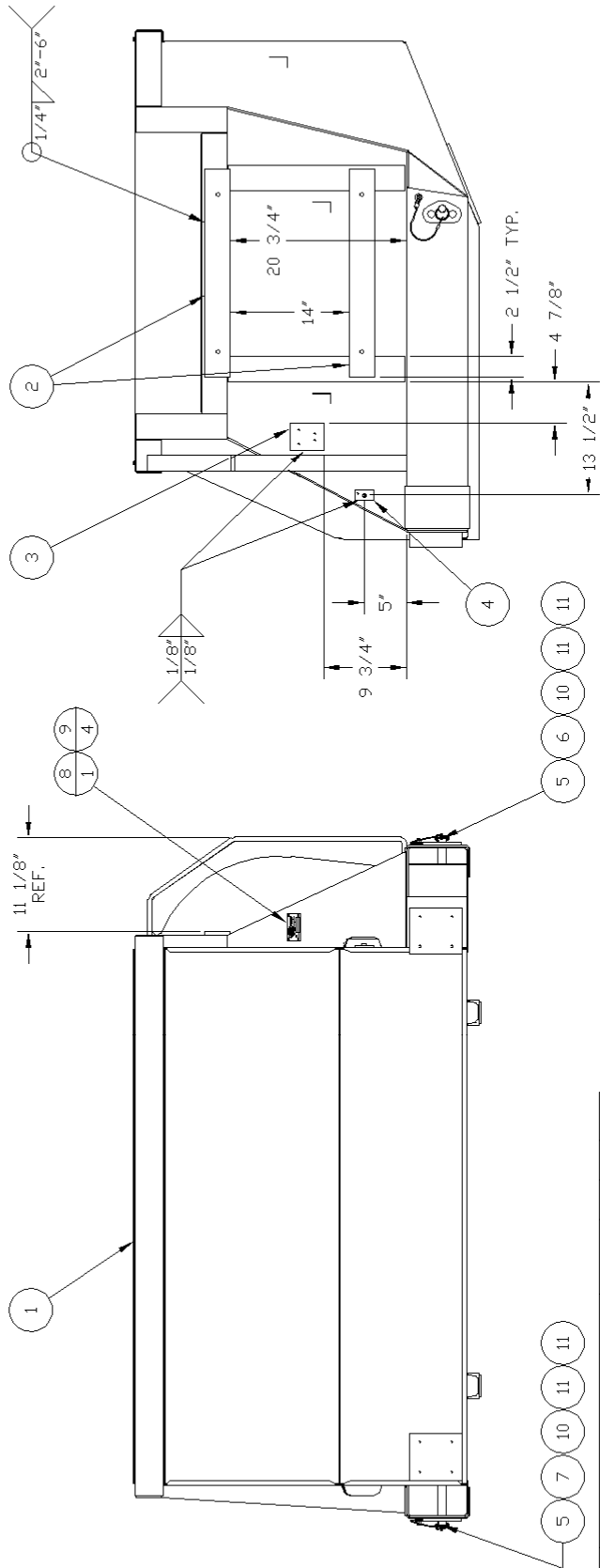
910 FORK SHOALS ROAD - GREENVILLE, SC 29605 - 864-288-3877

BAYNE MACHINE WORKS, INC.

TOLERANCES IF NOT NOTED:
 0.000 ±0.005 - 0.00 ±0.015
 Ø/Ø ±1/32 - ANGULAR ±0.25

NOTE:
1. POWDER COAT COLOR SPECIFIED BY CUSTOMER.

ITEM	PART NO.	DESCRIPTION	QTY
1	8300-5010	CARRY CAN WELDMENT	1
2	7900-1924	MOUNTING BAR	2
3	7601-0020	SEQUENCE VALVE BRACKET	1
4	6530-0011	HOSE CLAMP WELD PLATE	1
		END OF WELDED PARTS	0
5	7500-0051	LOCKING PIN CABLE	0
6	7500-0054	QUICK RELEASE PIN 5-3/4"	2
7	7500-0129	QUICK RELEASE PIN 6-1/2"	1
8	7500-0070	MODEL/SERIAL NAME PLATE	1
9	7500-0071	DRIVE SCREW	4
10	8901-0500	5/16-18 SELF-LOCKING NUT	2
11	9600-0500	5/16" FLAT WASHER	4



REV.	DATE	BY	CHKD.	DATE	BY	APP.
B	02/09/07	CTT	CS10			
A	08/31/06	CTT	WTS	01/483		

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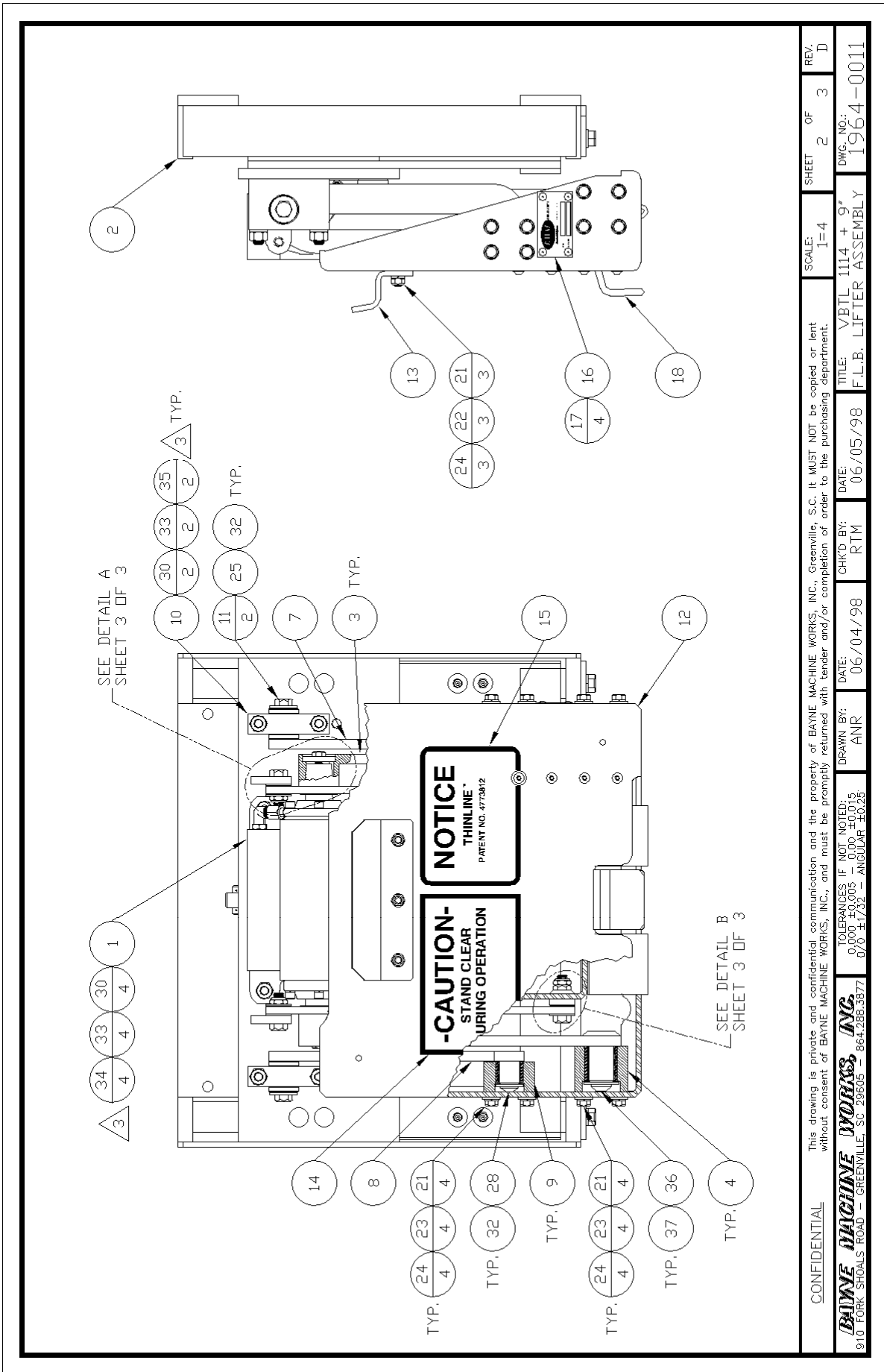
SCALE: 1=1/2" REV. 1 OF 1 B

DATE: 11/16/05 MRR CHKD BY: CTT DRAWN BY: CTT

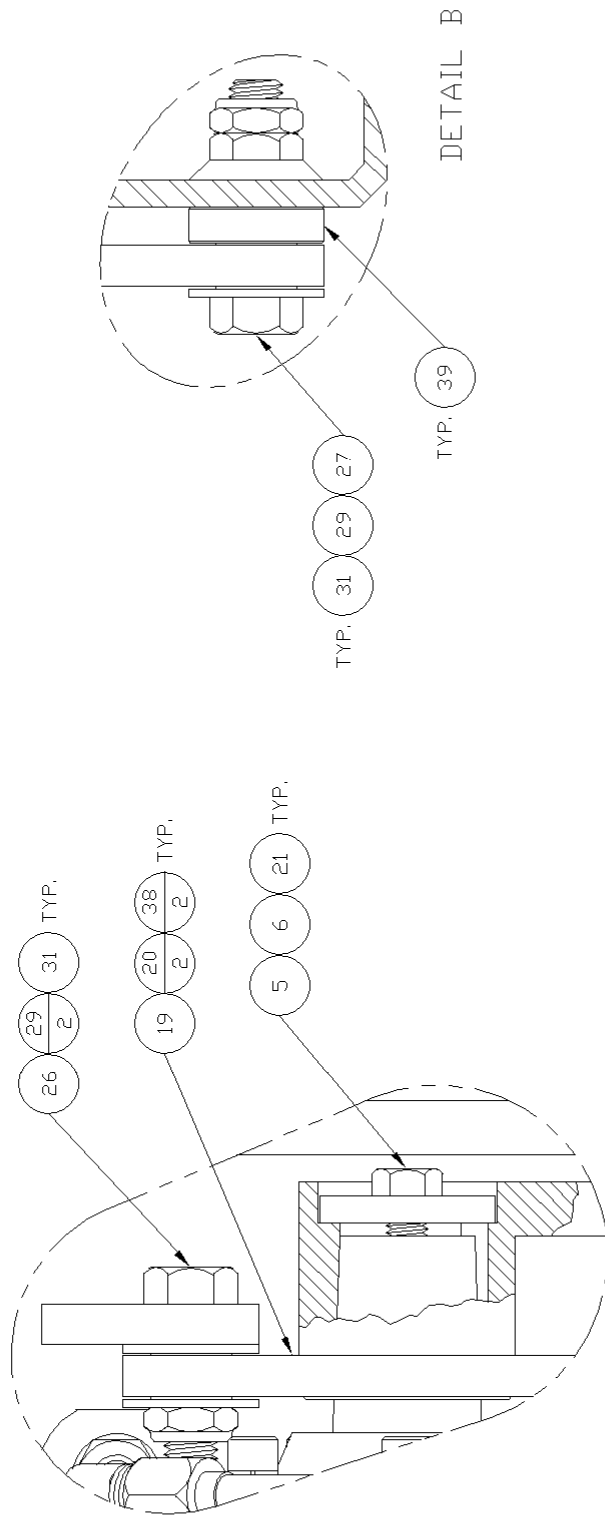
TOLERANCES IF NOT NOTED:
0.000 ±0.005 - 0.00 ±0.015
Ø/Ø ±1/32 - ANGULAR ±0.25

BAYNE MACHINE WORKS, INC.
910 FORK SHOALS ROAD - GREENVILLE, SC 29635 - 864-288-3877

TITLE: CARRY CAN CURBSIDE DWG. NO.: 8300-5002



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BAYNE MACHINE WORKS, INC. 910 FORK SHOALS ROAD - GREENVILLE, SC 29605 - 864-288-3877	DATE: 06/04/98	CHKD BY: ANR	DATE: 06/05/98	TITLE: V/BTL 1114 + 9" F.L.B. LIFTER ASSEMBLY	DWG. NO.: 1964-0011	
	DATE: 06/04/98	CHKD BY: RTM	DATE: 06/05/98			
	DATE: 06/04/98	CHKD BY: ANR	DATE: 06/05/98			



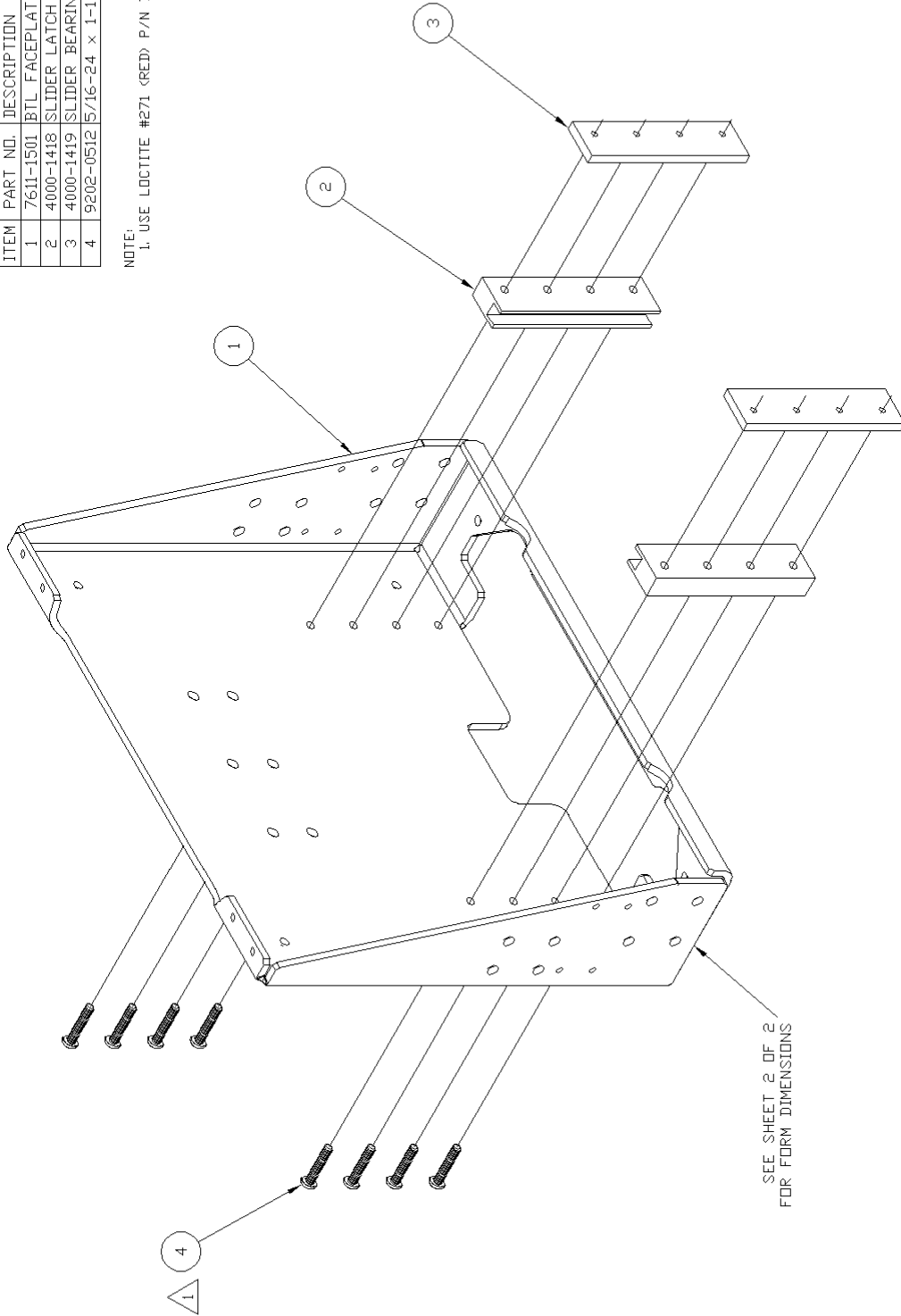
DETAIL A

DETAIL B

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	1=1	3	3	D
BAYNE MACHINE WORKS, INC. 910 FORK SHOALS ROAD - GREENVILLE, SC 29605 - 864-288-3877	TITLE: V/BTL 1114 + 9" F.L.B. LIFTER ASSEMBLY	DATE: 06/04/98	DATE: 06/05/98	DWG. NO.: 1964-0011
TOLERANCES IF NOT NOTED: 0.000 ±0.005 - 0.00 ±0.015 0/0 ±1/32 - ANGULAR ±0.25	CHK'D BY: RTM	DATE: 06/04/98	DATE: 06/05/98	DWG. NO.: 1964-0011

ITEM	PART NO.	DESCRIPTION	QTY
1	7611-1501	BTL FACEPLATE BLANK	1
2	4000-1418	SLIDER LATCH BEARING BLOCK	2
3	4000-1419	SLIDER BEARING BLOCK PLATE	2
4	9202-0512	5/16-24 x 1-1/2" B.H.C.S.	8

NOTE:
1. USE LOCTITE #271 (RED) P/N 7500-0057.

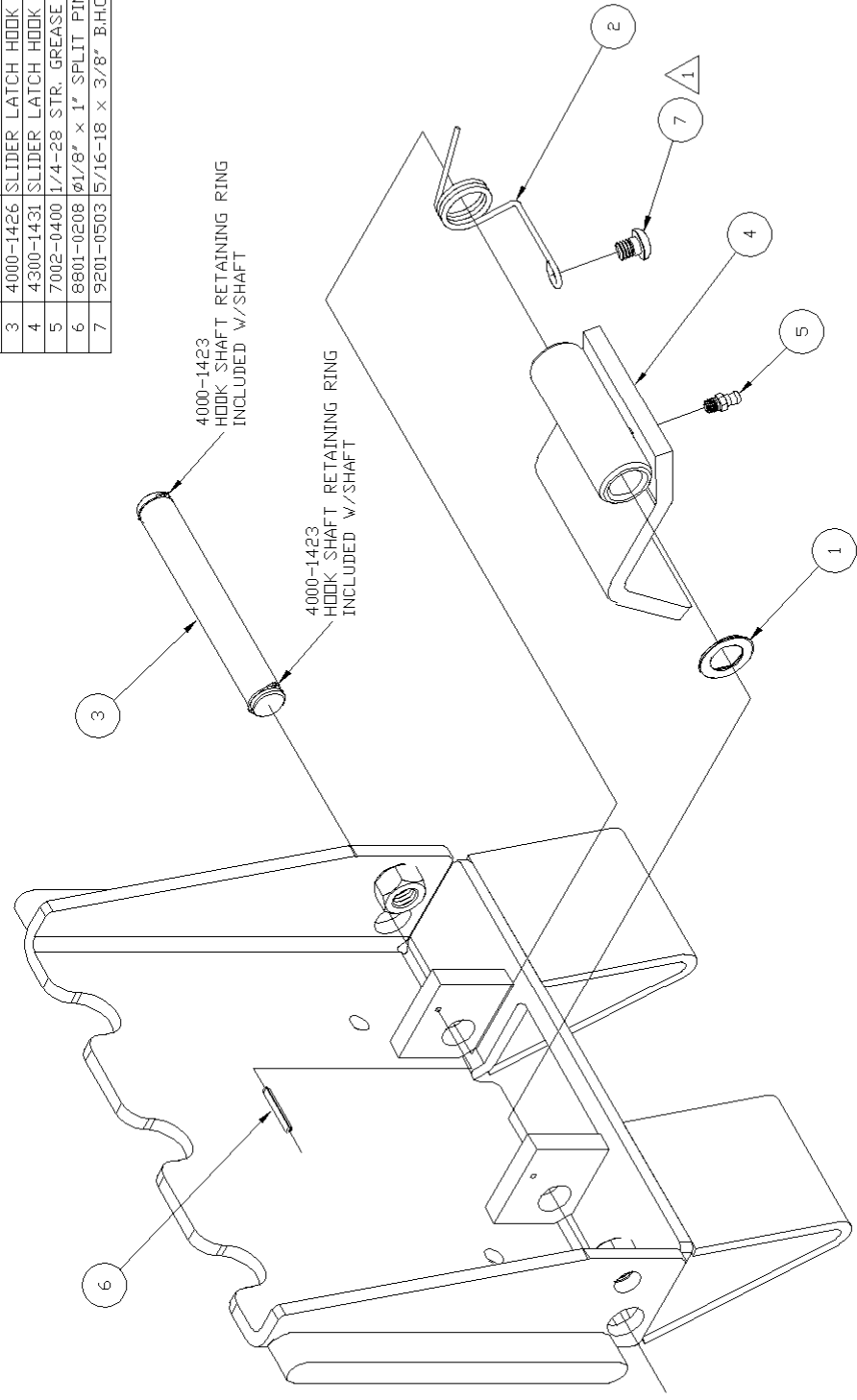


SEE SHEET 2 OF 2
FOR FORM DIMENSIONS

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				1=3	1	2	-
BAYNE MACHINE WORKS, INC. 910 FORK SHOALS ROAD - GREENVILLE, SC 29635 - 864-288-3877		TOLERANCES IF NOT NOTED: 0.000 ±0.005 - 0.00 ±0.015 Ø/Ø ±1/32 - ANGULAR ±0.25	DATE:	CHKD BY:	DWG. NO.:		
			12/05/05	C.T.T.	FACEPLATE ASSEMBLY 4000-1520		

ITEM	PART NO.	DESCRIPTION	QTY
1	3400-0006	THRUST WASHER	1
2	3400-0010	SLIDER LATCH HOOK SPRING	1
3	4000-1426	SLIDER LATCH HOOK SHAFT	1
4	4300-1431	SLIDER LATCH HOOK WELDMENT	1
5	7002-0400	1/4-28 STR. GREASE FITTING	1
6	6801-0208	Ø1/8" x 1" SPLIT PIN	1
7	9201-0503	5/16-18 x 3/8" B.H.C.S.	1

NOTE:
1. USE LOCTITE #242 (BLUE) P/N 7500-0055.



A	ADDED SHEET 2	01/23/06	CTT	C1459
REV.	REVISIONS	DATE	REV. BY	CHK. BY
LET.				

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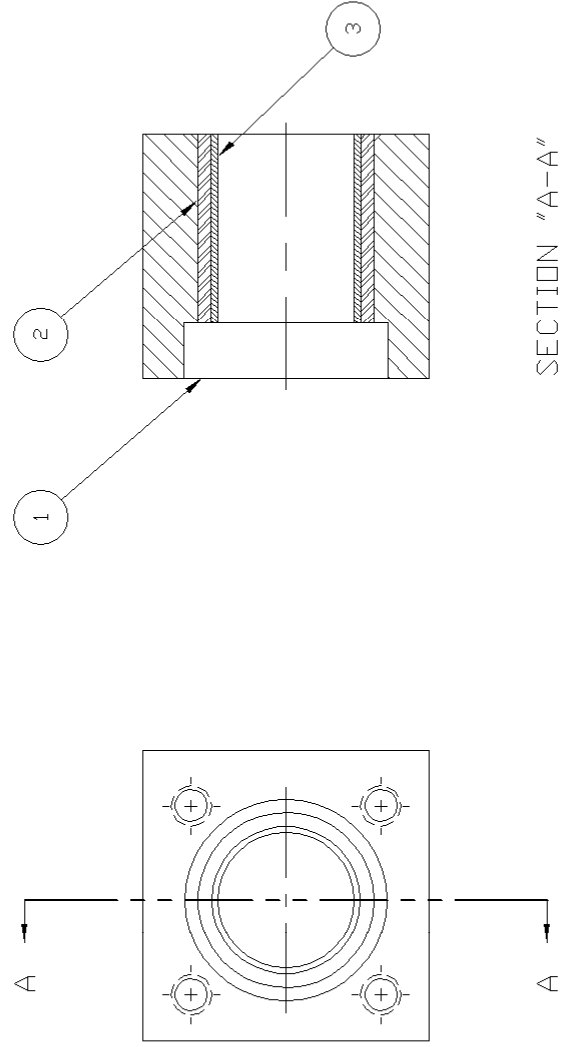
BAYNE MACHINE WORKS, INC.
910 FORK SHOALS ROAD - GREENVILLE, SC 29635 - 864-288-3877

SCALE:	NONE	SHEET	1	OF	2	REV.	A
TITLE:	BTL SLIDER LATCH		DWG. NO.:		4000-1440		
CHKD BY:	CTT	DATE:	12/05/05	CHKD BY:	-	DATE:	-

TOLERANCES IF NOT NOTED:
0.000 ±0.005 - 0.00 ±0.015
Ø/Ø ±1/32 - ANGULAR ±0.25

NOTE:
 1. MACHINE CASTING PER SHEET 2 AND PAINT BEFORE ASSEMBLY.
 2. LAY BEARING MOUNT ON FLAT SURFACE AND PRESS BEARING IN.
 PRESS SHOULD STOP ON FLAT SURFACE OF BEARING MOUNT
 TO PREVENT DAMAGING THE BEARING.

ITEM	PART NO.	DESCRIPTION	QTY
1	C20001220	TORQUE BEARING MOUNT CASTING	1
2	2603-1207	TORQUE ARM BUSHING	1
3	2603-1208	TORQUE ARM SLEEVE	1



SECTION "A-A"

REV.	REVISIONS	DATE	CHKD BY	BY	ND
D	2603-1207 & 2603-1208 WERE 2603-1205	05/24/05	CTT		CI439
C	UPDATED PICTORIALY	01/27/05	TJT	CTT	CI415
B	C20001220 WAS 2000-1210 ADDED MACHINING PRINT	04/16/04	CTT	TJT	CI393
A	UPDATED 2000-1210 PICTORIALY	10/16/02	CTT	WTS	CI357
LET.					

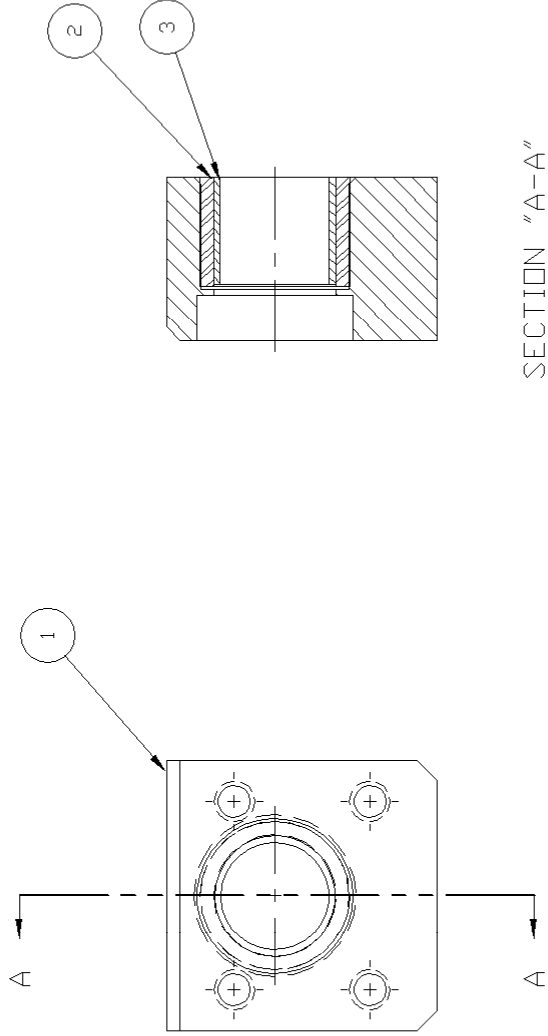
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BAYNE MACHINE WORKS, INC.
 910 FORK SHOALS ROAD - GREENVILLE, SC 29635 - 864-288-3877

SCALE: 1=1 SHEET 1 OF 2 REV. D
 TITLE: TORQUE BEARING ASSEMBLY DWG. NO.: 2000-1230
 DATE: 06/13/00 DATE: 03/22/00 DATE: 06/13/00
 CHKD BY: RTM RTM RTM
 DRAWN BY: ANR ANR ANR
 TOLERANCES IF NOT NOTED:
 0.000 ±0.005 - 0.00 ±0.015
 0/0 ±1/32 - ANGULAR ±0.25

ITEM	PART NO.	DESCRIPTION	QTY
1	C20001330	LOWER IDLER BEARING CASTING	1
2	2603-1307	IDLER BEARING BUSHING	1
3	2603-1308	IDLER BEARING SLEEVE	1

NOTE:
 1. MACHINE CASTING PER SHEET 2 AND PAINT BEFORE ASSEMBLY.
 2. LAY BEARING MOUNT ON FLAT SURFACE AND PRESS BEARING IN. PRESS SHOULD STOP ON FLAT SURFACE OF BEARING MOUNT TO PREVENT DAMAGING THE BEARING.



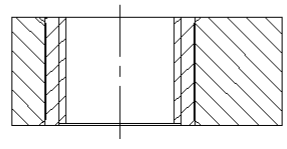
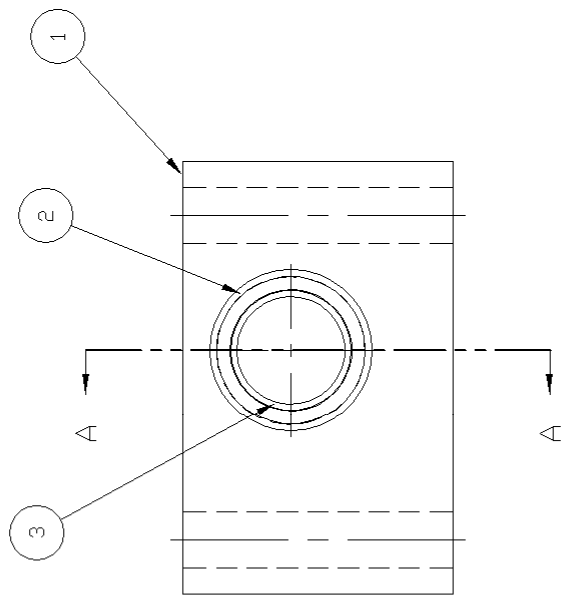
SECTION "A-A"

REV.	REVISIONS	DATE	REV. BY	CHK. BY	E.C.R. BY	LET.
C	1.030" WAS 1.010"	08/30/05	CTT			CI448
B	REMOVED 2603-1306	12/08/04	TJT	CTT		CI410
A	ADDED 2603-1307 & 2603-1308	04/19/04	CTT	TJT		CI393
	C20001330 WAS 2000-1313					
	ADDED MACHINING PRINT					

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BAYNE MACHINE WORKS, INC.		910 FORK SHOALS ROAD - GREENVILLE, SC 29605 - 864-288-3877		CHKD BY:	RTM	DATE:	06/20/00	TITLE:	LOWER IDLER BEARING ASSEMBLY	DWG. NO.:	2000-1338
				DRAWN BY:	ANR	DATE:	03/22/00				

ITEM	PART NO.	DESCRIPTION	QTY
1	73-061025	1" x 2 1/2" C.R.S FLAT BAR	.029
2	2603-1307	IDLER BEARING BUSHING	1
3	2603-1308	IDLER BEARING SLEEVE	1

NOTE:
 1. MACHINE PER SHEET 2 AND PAINT BEFORE ASSEMBLY.
 2. LAY BEARING MOUNT ON FLAT SURFACE AND PRESS BEARING IN.
 PRESS SHOULD STOP ON FLAT SURFACE OF BEARING MOUNT
 TO PREVENT DAMAGING THE BEARING.



SECTION "A-A"

REV.	REVISIONS	DATE	REV. BY	CHK. BY	E.C.R. BY	IND.
D	REMOVED 2603-1306 ADDED 2603-1307 & 2603-1308	12/08/04	TJT			C1410
C	73-061025 WAS 2000-1342 ADDED MACHINING PRINT	08/12/04	CTT	TJT		C1401
B	2603-1306 WAS 2603-1305 REMOVED 8302-0404	05/16/01	ANR	TBR		C1302
A	2000-1342 WAS 2000-1305 ADDED 8302-0404	08/25/00	ANR	TBR		C1283

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BAYNE MACHINE WORKS, INC.
 910 FORK SHOALS ROAD - GREENVILLE, SC 29635 - 864-288-3877

TOLERANCES IF NOT NOTED:
 0.000 ±0.005 - 0.00 ±0.015
 0/0 ±1/32 - ANGULAR ±0.25

DRAWN BY: ANR
 DATE: 04/05/00

CHKD BY: RTM
 DATE: 06/27/00

TITLE: 1/4" OFFSET
 UPPER IDLER BRG. ASSY

SCALE: 1=1
 SHEET 1 OF 2
 REV. D
 DWG. NO.: 2000-1302

ITEM NO	PART NO.	DESCRIPTION	QTY
1	8150-1051	9" VERTICAL FRAME	1
2	8150-1062	9" VERTICAL CARRIAGE	1
3	3112-3072	9" CYLINDER W/DUAL CHECK VALVE	1
4	8150-1081	SHAFT - 9" VERTICAL (20")	2
5	8110-0031	CYLINDER RETAINER PIN	1
6	8:10-0032	RETAINER PIVOT PIN	1
7	7004-0300	3/16" STR. DRIVE GREASE FITTING	2
8	7012-0001	PRESSURE RELIEF FITTING	2
9	7500-0159	INTERNAL RETAINER RING	4
10	8003-0123	SEAL - 1 1/2" I.D. x 2" O.D. x 1/4"	4
11	8006-0123	WIPER - 1 1/2" I.D.	4
12	8810-0307	ø3/32" x 3/4" COTTER PIN	2
13	8801-0208	SPLIT PIN - ø1/8" x 1"	2
14	9001-0808	1/2-13 x 1" H.H.C.S.	2
15	9700-0800	1/2" LOCK WASHER	2

G	UPDATED PICTORIALY	06/10/03	TJT	CL317
F	3112-3072 WAS 3012-3072 REMOVED *REAM ITEM #12* NOTE REMOVED PAINT YELLOW NOTE REMOVED *I.D. OF ITEM #12* NOTE	11/03/97	CTT	RTM C0967
E	ADDED ITEM 12 SHT 2 WAS SHT 1	6/10/97	EFJ	RTM C0888
D	7500-0159 WAS 7500-0093 REVISED DETAIL A UPDATED TITLE BLOCK	09/10/96	TAM	RTM C0715
C	UPDATED TITLE BLOCK REMOVED 2600-0001 ADDED SHEET 2 OF 2 PICTORIAL CORRECTION MOVED DESCRIPTION TO SHT 2 SEE SHEET 2 OF 2	11/15/94	TDH	DTB C0175
B	REMOVED 9600-0800	8/24/93	DTB	RK -
A	PICTORIAL CHANGE	8/24/93	DTB	RK -
REV. LET.	REVISIONS	DATE	REV. BY	CHK. BY

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CONFIDENTIAL

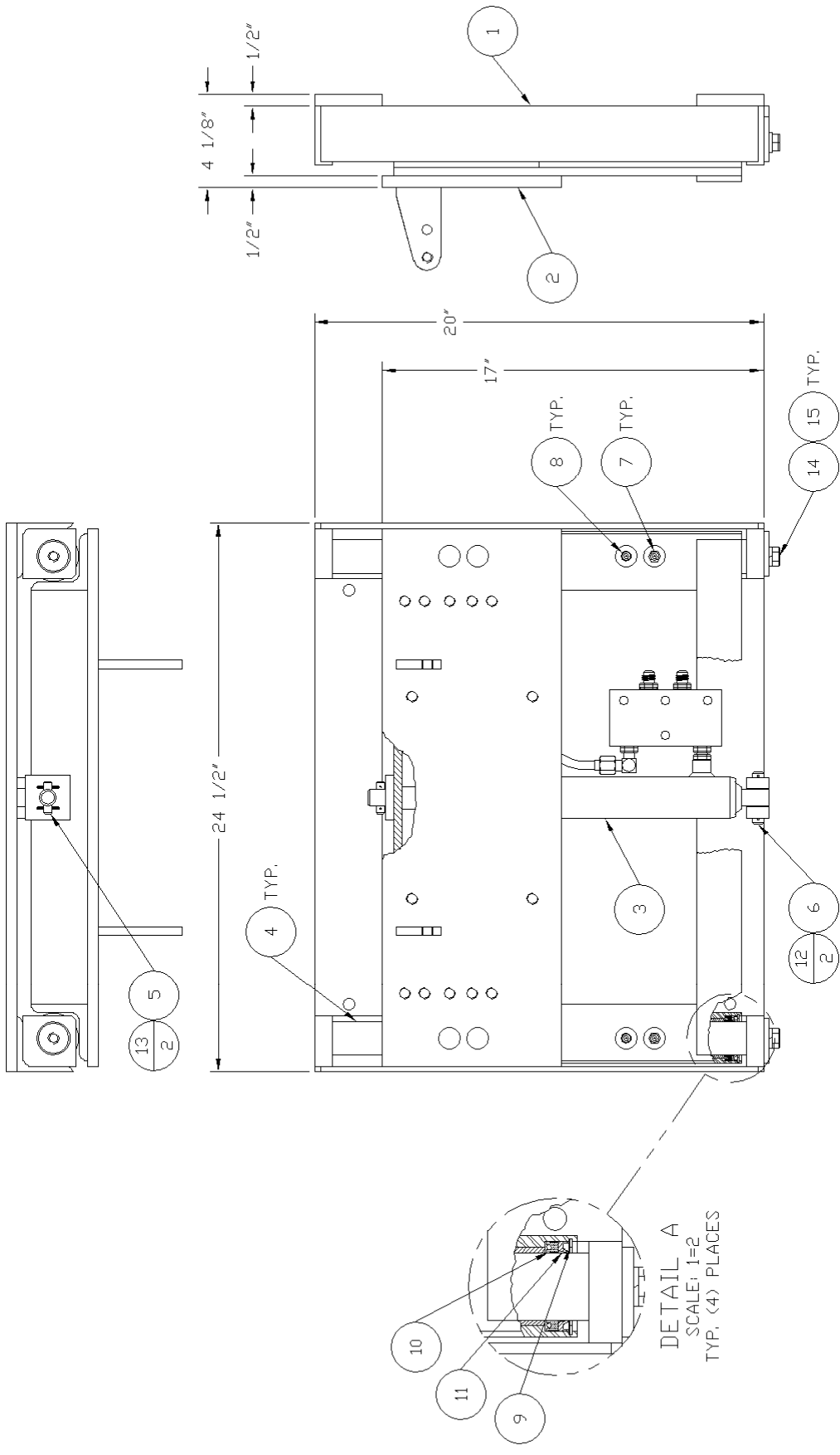
SCALE: 1=4 SHEET 1 OF 2 REV. G

CHK'D BY: DTB DATE: 11/22/94 TITLE: 9" (SLIDE) VERTICAL ASSEMBLY DWG. NO.: 8150-1015

DRAWN BY: DTB DATE: 07/23/93

TOLERANCES IF NOT NOTED:
0.000 ±0.005 - 0.00 ±0.015
Ø/Ø ±1/32 - ANGULAR ±0.25

BAYNE MACHINE WORKS, INC.
910 FORK SHOALS ROAD - GREENVILLE, SC 29605 - 864-288-3877

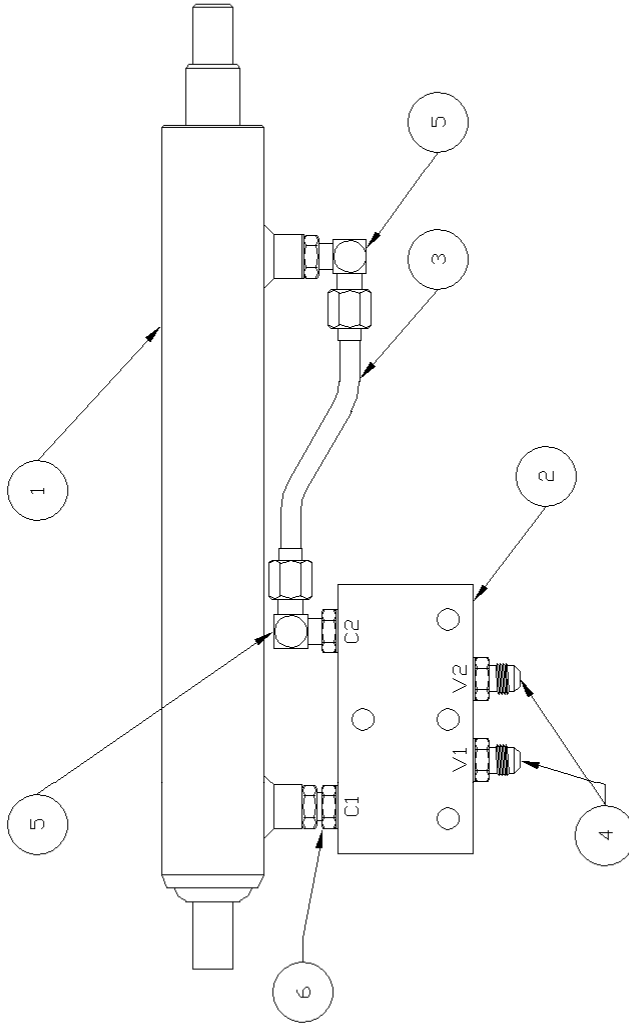


DETAIL A
SCALE: 1=2
TYP. (4) PLACES

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BAYNE MACHINE WORKS, INC. 910 FORK SHOALS ROAD - GREENVILLE, SC 29635 - 864-288-3877	TOLERANCES IF NOT NOTED: 0.000 ±0.005 - 0.00 +0.015 Ø/Ø ±1/32 - ANGULAR ±0.25	DATE: 07/23/93	CHKD BY: DTB	DATE: 11/22/94	TITLE: 9" (SLIDE) VERTICAL ASSEMBLY	DWG. NO.: 8150-1015

ITEM NO	PART NO.	DESCRIPTION	QTY
1	3012-3072	9" CYLINDER - 1 1/2" BORE	1
2	6069-0425	DUAL P.D. CHECK VALVE	1
3	6410-0644	TUBING ASSY (9" CYLINDER)	1
4	6220-0606	3/8" STRAIGHT SAE ADAPTER	2
5	6221-0606	3/8" 90° SAE ADAPTER	2
6	6262-0606	3/8" STRAIGHT DUAL SAE ADAPTER	1

NOTE:
1. PAINT YELLOW



REV.	REVISIONS	DATE	REV. BY	CHK. BY	E.C.R. BY	LET.
A	REMOVED 6069-1505 ADDED 6069-0425 & 6410-0644 ADDED 6220-0606 & 6221-0606 ADDED 6262-0606	11/25/98	CTT	C1132		

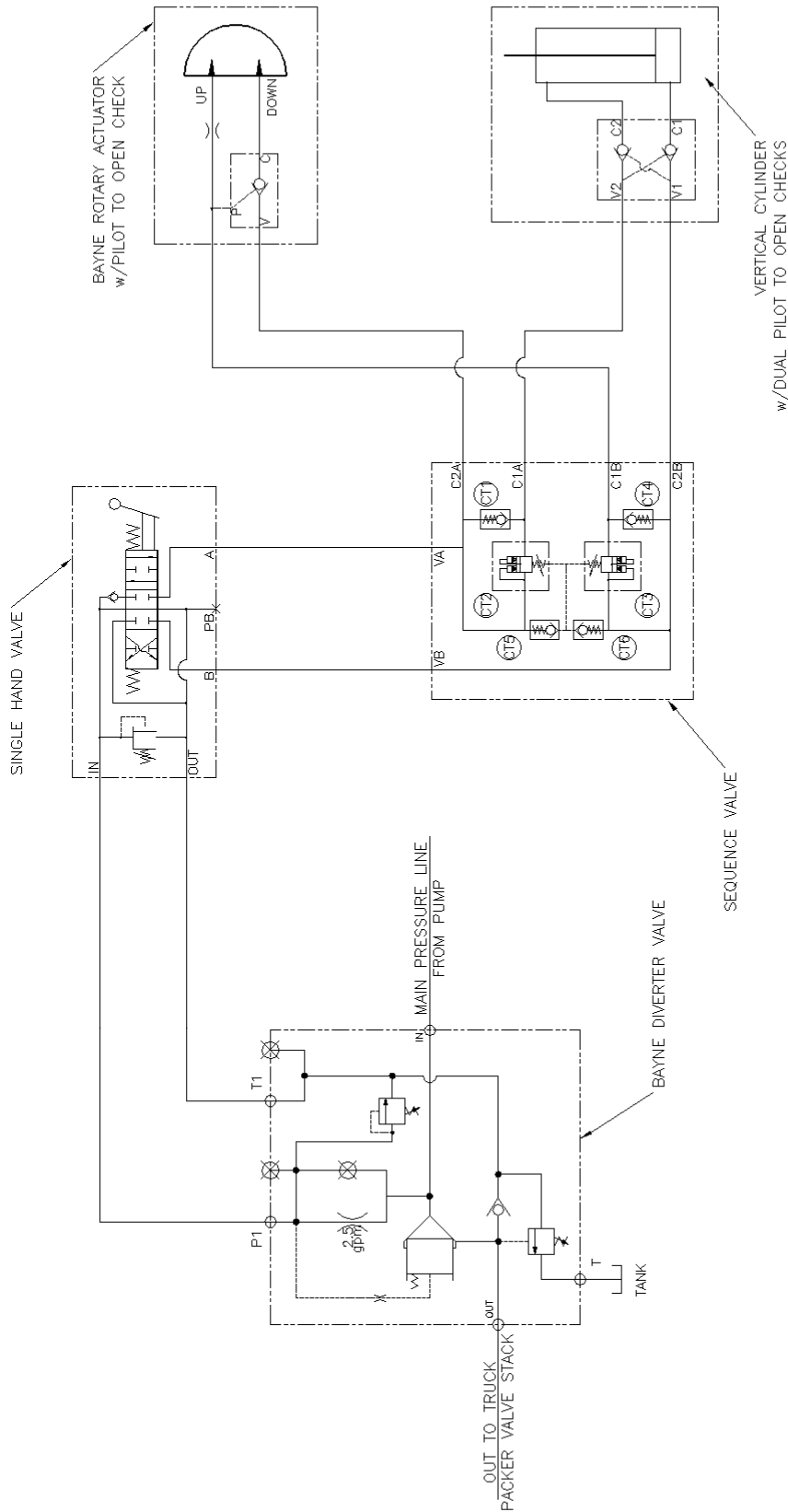
CONFIDENTIAL This drawing is private and confidential communication and the property of BAYNE MACHINE WORKS, INC., Greenville, S.C. It MUST NOT be copied or lent without consent of BAYNE MACHINE WORKS, INC., and must be promptly returned with tender and/or completion of order to the purchasing department.

SCALE:	1=2	SHEET	1	OF	1	REV.	A
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TOLERANCES IF NOT NOTED:
0.000 ±0.005 - 0.00 ±0.015
Ø/Ø ±1/32 - ANGULAR ±0.25

DATE: 10/31/97
CHKD BY: RTM
DRAWN BY: CTT
DATE: 12/12/97
TITLE: 9" CYLINDER W/ DUAL P.D. CHECK VALVE
DWG. NO.: 3112-3072

BAYNE MACHINE WORKS, INC.
910 FORK SHOALS ROAD - GREENVILLE, SC 29635 - 864-288-3877



THIS IS A TYPICAL HYDRAULIC SCHEMATIC FOR A SINGLE LIFTER WITH A VERTICAL INSTALLED ON A FRONT LOAD REFUSE TRUCK CONTROLLED WITH THE USE OF A SEQUENCE VALVE.

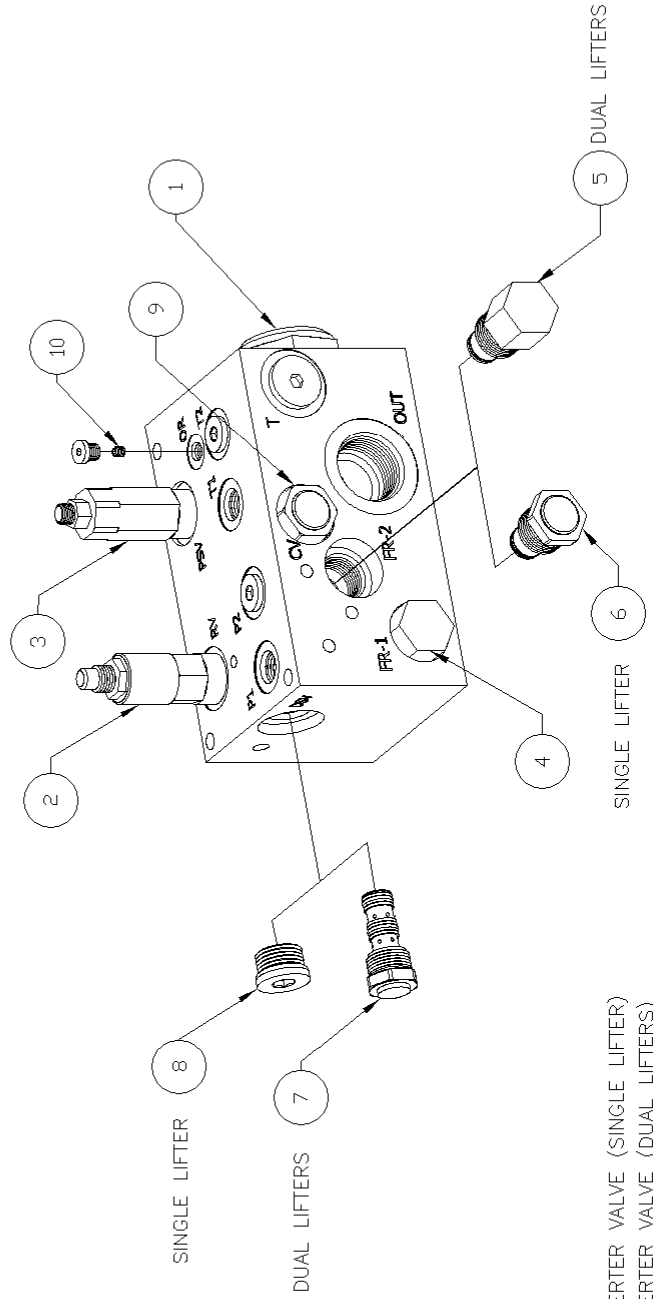
CONFIDENTIAL		This drawing is private and confidential communication and the property of BAYNE MACHINE WORKS, INC., Greenville, S.C. It MUST NOT be copied or lent without consent of BAYNE MACHINE WORKS, INC., and must be promptly returned with tender and/or completion of order to the purchasing department.		SCALE:	SHEET	OF	REV.
BAYNE MACHINE WORKS, INC.		DATE:	CHKD BY:	NTS	1	1	-
910 FORK SHOALS ROAD - GREENVILLE, SC 29605 - 864-288-3877		DATE:	CHKD BY:	TJT		10/15/04	
TOLERANCES IF NOT NOTED: 0.000 ±0.0005 - 0.00 ±0.015 Ø/Ø ±1/32 - ANGULAR ±0.25		TITLE:		HYDRAULIC SCHEMATIC			
		DWG. NO.:		6900-0711			

SERVICE PARTS

ITEM	PORT	PART NO.	DESCRIPTION	SEAL KIT	APPLICATIONS
1	DPS	6091-0716	DIFF. PRESSURE SENSING VALVE	8000-0782	ALL
2	RV	6091-0712	RELIEF VALVE	8000-0784	ALL
3	PSV	6091-0713	PRESSURE SEQUENCE VALVE	8000-0781	ALL
4	FR-1	6091-0710	FLOW REGULATOR		ALL
5	FR-2	6091-0710	FLOW REGULATOR	8000-0784	FOR DUAL LIFTERS
6		6091-0715	CAVITY PLUG	8000-0783	FOR SINGLE LIFTER
7	DSV	6091-0720	SHUTTLE VALVE		FOR DUAL LIFTERS
8		6246-0008	INL. 8 SAE SOCKET HEAD PLUG		FOR SINGLE LIFTER
9	CV	6091-0714	CHECK VALVE	8000-0784	ALL
10	DR	6066-0028	Ø0.038" DRIFICE	-	ALL

NOTE:

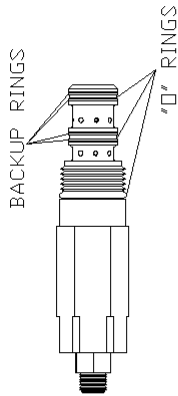
1. MAXIMUM WORKING PRESSURE 3000 PSI
2. MAXIMUM WORKING FLOW 50 GPM
3. TEMPERATURE RANGE = 160° MAXIMUM
4. PORT SIZES
IN & OUT = #16 SAE
T = #10 SAE
T1, T2, P1 & P2 = #6 SAE
5. T2 & P2 ARE PLUGGED USING #6 SAE PLUGS IN SINGLE LIFTER APPLICATIONS



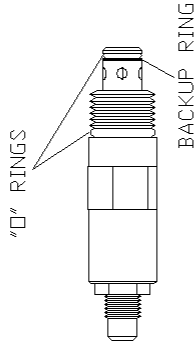
6091-0700 COMPLETE DIVERTER VALVE (SINGLE LIFTER)
 6092-0700 COMPLETE DIVERTER VALVE (DUAL LIFTERS)

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BAYNE MACHINE WORKS, INC.		DATE:	09/24/04	CHKD BY:	CJT	1	1	A
910 FORK SHOALS ROAD - GREENVILLE, SC 29605 - 864-288-3877		DATE:	10/11/04	TITLE:	SINGLE/DUAL DIVERTER VALVE PARTS	DWG. NO.: M3500005		

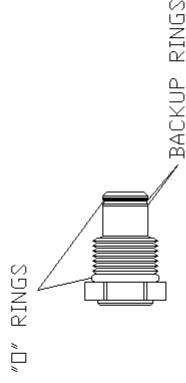
ITEM NO	PART NO.	DESCRIPTION	QTY
1	8000-0781	PRES. SEQUENCE VALVE SEAL KIT	1
2	8000-0782	PRESSURE SENSING VALVE SEAL KIT	1
3	8000-0783	SHUTTLE VALVE SEAL KIT	1
4		RELIEF VALVE SEAL KIT	1
5		FLOW REGULATOR SEAL KIT	1
6	8000-0784	FLOW REG. CAVITY PLUG SEAL KIT	1
7		CHECK VALVE SEAL KIT	1



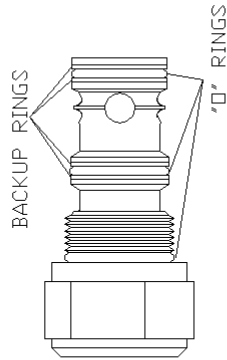
PRESSURE SEQUENCE VALVE SEAL KIT



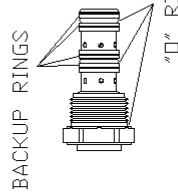
RELIEF VALVE SEAL KIT



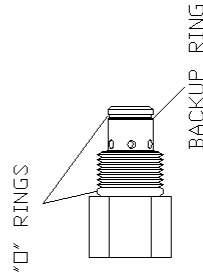
FLOW REGULATOR CAVITY PLUG SEAL KIT



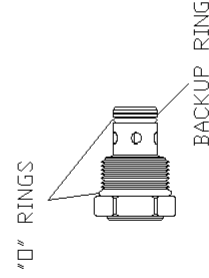
DIFFERENTIAL PRESSURE SENSING VALVE SEAL KIT



SHUTTLE VALVE SEAL KIT



FLOW REGULATOR SEAL KIT



CHECK VALVE SEAL KIT

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BAYNE MACHINE WORKS, INC.
 910 FORK SHOALS ROAD - GREENVILLE, SC 29605 - 864-288-3877

TOLERANCES IF NOT NOTED:
 0.000 \pm 0.005 - 0.00 \pm 0.015
 0/0 \pm 1/32 - ANGULAR \pm 0.25

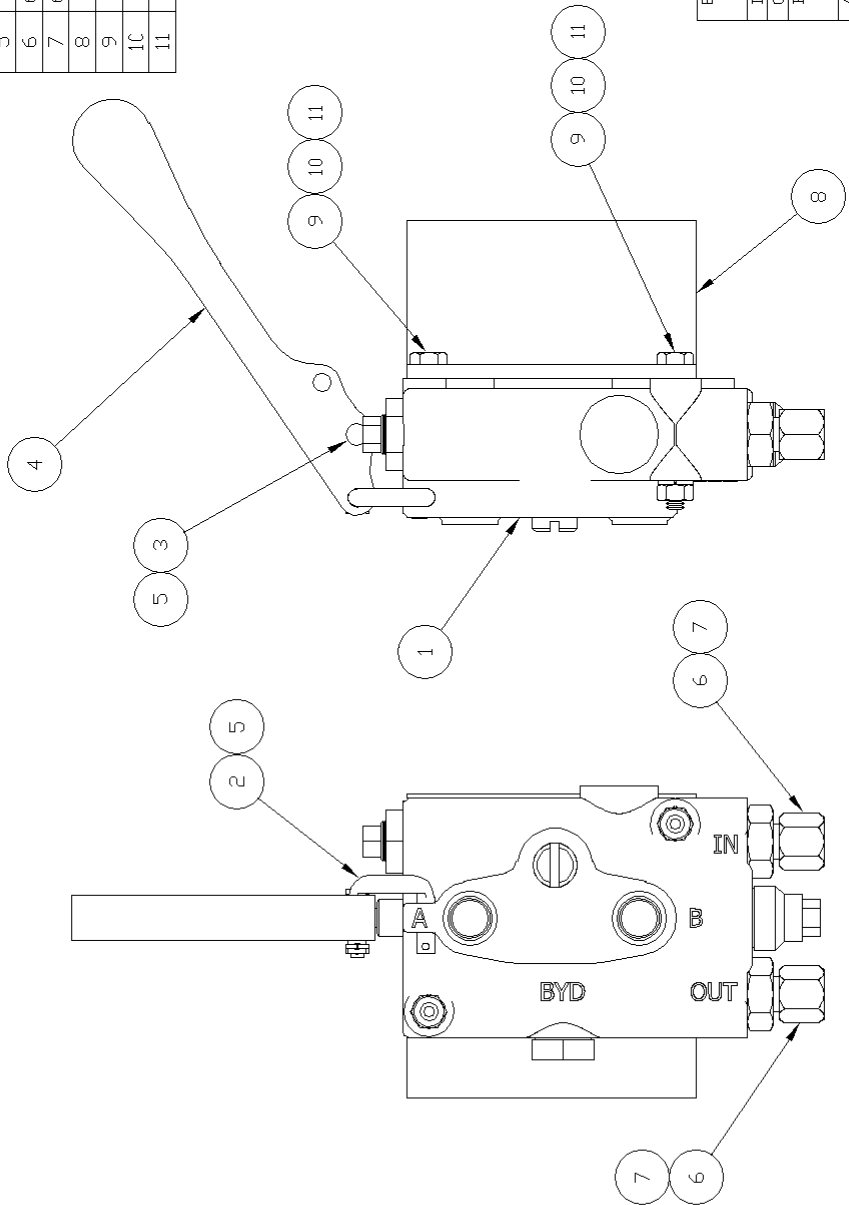
DRAWN BY: TJT DATE: 09/29/04
 CHK'D BY: DATE:

TITLE: DIVERTER VALVE SEAL KIT
 DWG. NO.: 8000-0780

SCALE: 2=3 SHEET 1 OF 1 REV. -

ITEM	PART NO.	DESCRIPTION	QTY
1	6083-1025	HAND VALVE - 1750 PSI RELIEF	1
2	6083-1510	UNIVERSAL C-HOOK	1
3	6083-1511	CLEVIS PIN (ø3/16" x 7/8")	1
4	6083-1520	METRO/EATON H.V. HANDLE	1
5	8810-0303	COTTER PIN (1/16" x 1/2")	2
6	6220-0806	ST ADAPTER (#6 JIC x #6 SAE)	2
7	6248-0006	#6 JIC CAP NUT	2
8	7601-0003	HAND VALVE MOUNTING BRACKET	1
9	9001-0416	1/4-20 x 2" H.H.C.S.	2
10	9401-0400	1/4-20 HEX NUT	2
11	9700-0400	1/4" LOCK WASHER	2

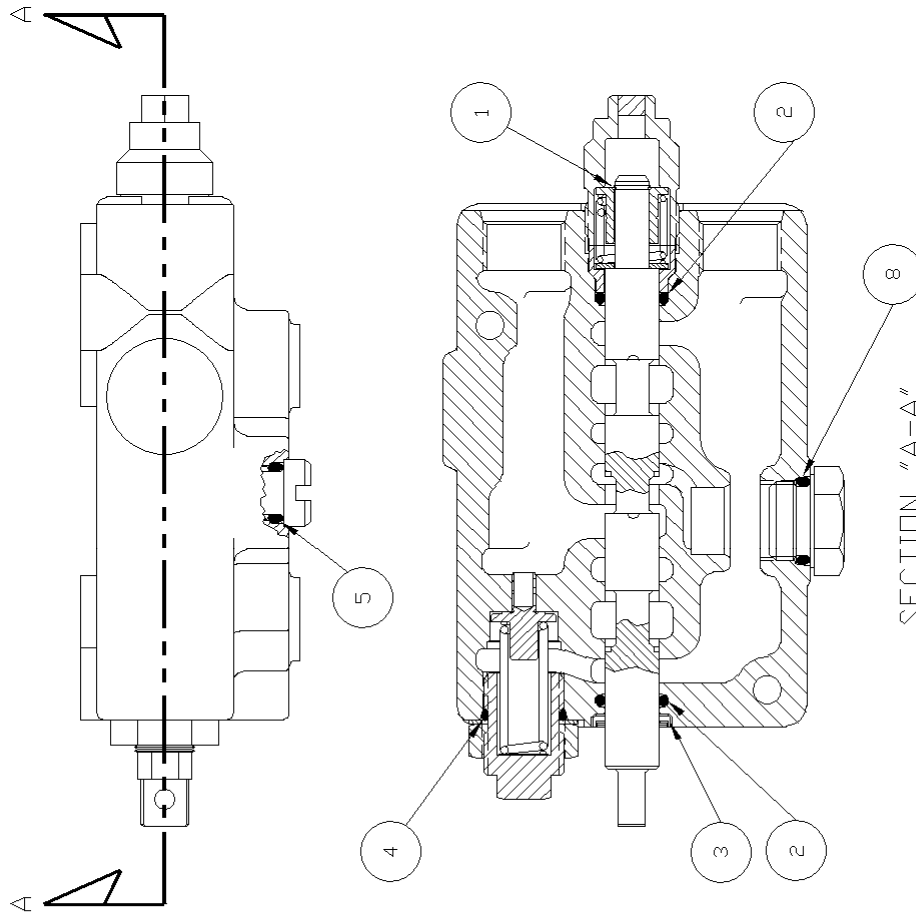
NOTE:
 1. SEAL REPAIR KIT P/N : 8000-0085
 2. HANDLE REPLACEMENT KIT P/N : 6083-1501



REV.	REV. DATE	CHK. BY	E.C.R. BY	DATE	REV. DATE	CHK. BY	E.C.R. BY	DATE
E	05/24/07	CTT			05/24/07	CTT		
D	07/13/05	TJT			07/13/05	TJT		
C	03/30/99	TBR			03/30/99	TBR		
B	05/15/98	CTT			05/15/98	CTT		
A	08/27/97	EFJ			08/27/97	EFJ		

LET. REVISIONS	SCALE: 2=3	SHEET 1 OF 1	REV. E
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CHKD BY: BKB	DATE: 06/11/96	TITLE: VALVE W/BRACKET	
DRAWN BY: TBR	DATE: 06/07/96		
TOLERANCES IF NOT NOTED: 0.000 ±0.005 - 0.00 ±0.015 Ø/Ø ±1/32 - ANGULAR ±0.25			
BAYNE MACHINE WORKS, INC. 910 FORK SHOALS ROAD - GREENVILLE, SC 29605 - 864-288-3877			

ITEM NO.	DESCRIPTION	QTY
1	RETAINING RING	1
2	3/32" x 1/2" I.D. O-RING	2
3	WIPER SEAL	1
4	3/32" x 41/64" I.D. O-RING	1
5	3/32" x 3/8" I.D. O-RING	1
6	1/16" x 1/2" I.D. O-RING	1
7	1/16" x 1/2" BACK-UP WASHER	1
8	3/32" x 5/8" I.D. O-RING	1
9	5/64" x 15/32" I.D. O-RING	1

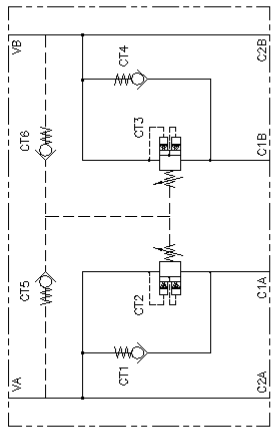


NOTES:

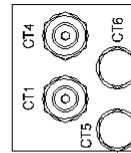
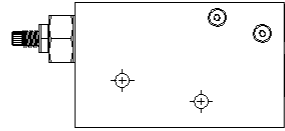
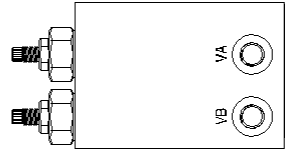
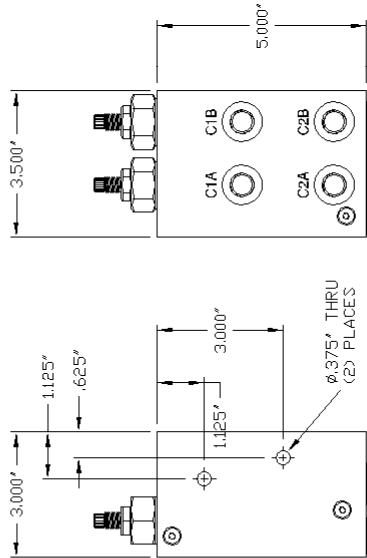
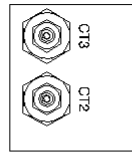
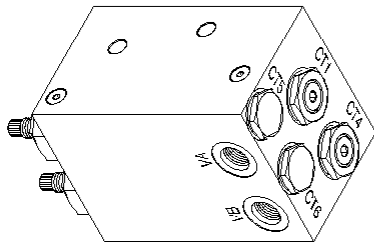
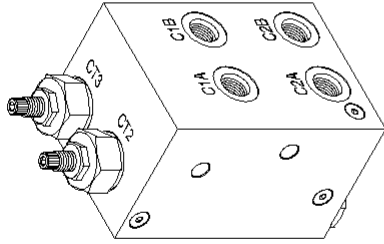
1. ASSEMBLY INSTRUCTIONS ARE INCLUDED WITH EACH KIT.
2. ITEMS 6,7 AND 9 ARE NOT USED WITH THIS HAND VALVE.

SECTION "A-A"

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BAYNE MACHINE WORKS, INC. 910 FORK SHOALS ROAD - GREENVILLE, SC 29605 - 864-288-3877		DATE:	07/20/05	1=1	1	1	-
TOLERANCES IF NOT NOTED: 0.000 ±0.005 - 0.00 ±0.015 0/0 ±1/32 - ANGULAR ±0.25		CHKD BY:	TJT	TITLE:		HAND VALVE SEAL REPAIR KIT	
		DATE:	07/20/05	DWG. NO.:		8000-0085	



CIRCUIT SCHEMATIC



NOTE:
 MAXIMUM WORKING PRESSURE 2900 PSI.
 MAXIMUM WORKING FLOW 8 GPM
 TEMPERATURE RANGE= 10°/150° C
 ALL PORTS ARE #6 SAE
 SEQUENCE VALVE ADJUSTMENT RANGE:
 10-200 BAR (145-2900 PSI)
 STANDARD SETTING 100 BAR (1450 PSI)
 SEAL KIT FOR ALL CARTRIDGES 8000-0050

SERVICE PARTS

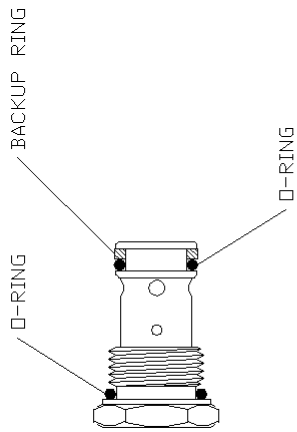
CT. NO.	PART NO.	DESCRIPTION	SEAL KIT	TORQUE
CT1	6071-1211	20 GPM CHECK VALVE	8000-0051	44 lbs ft.
CT2	6071-1212	PILOT OPERATED SEQUENCE VALVE	8000-0052	44 lbs ft.
CT3	6071-1212	PILOT OPERATED SEQUENCE VALVE	8000-0052	44 lbs ft.
CT4	6071-1211	20 GPM CHECK VALVE	8000-0051	44 lbs ft.
CT5	6071-1213	10 GPM CHECK VALVE	8000-0053	33 lbs ft.
CT6	6071-1213	10 GPM CHECK VALVE	8000-0053	33 lbs ft.

CT. NO.	PART NO.	DESCRIPTION	SEAL KIT	TORQUE
CT1	6071-1211	20 GPM CHECK VALVE	8000-0051	44 lbs ft.
CT2	6071-1212	PILOT OPERATED SEQUENCE VALVE	8000-0052	44 lbs ft.
CT3	6071-1212	PILOT OPERATED SEQUENCE VALVE	8000-0052	44 lbs ft.
CT4	6071-1211	20 GPM CHECK VALVE	8000-0051	44 lbs ft.
CT5	6071-1213	10 GPM CHECK VALVE	8000-0053	33 lbs ft.
CT6	6071-1213	10 GPM CHECK VALVE	8000-0053	33 lbs ft.

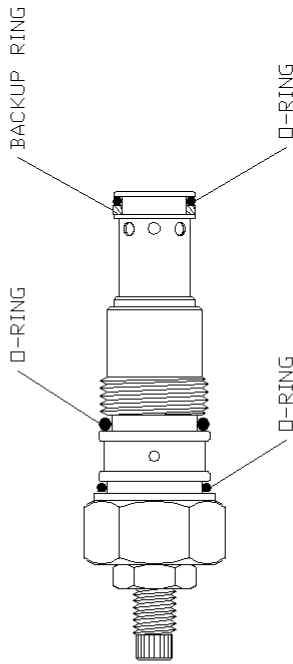
CONFIDENTIAL
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 TOLERANCES IF NOT NOTED:
 0.004 ±0.005 ANGULAR ±0.15
 0.0 ±0.005 ±0.005 ±0.015
 0.0 ±0.005 ±0.005 ±0.015
 0.0 ±0.005 ±0.005 ±0.015
 0.0 ±0.005 ±0.005 ±0.015

DATE: 11/03/98
 DRAWN BY: CTT
 CHECK BY: DATE: 11/03/98
 SCALE: 1=2
 SHEET 1 OF 1
 TITLE: VALVE W/ DRAIN CHECK
 DWG. NO.: 6071-1208

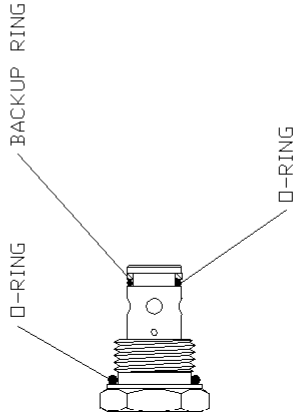
ITEM NO	PART NO.	DESCRIPTION	QTY
1	8000-0051	20 GPM CHECK VALVE CARTRIDGE SEAL KIT	2
2	8000-0052	SEQUENCE VALVE CARTRIDGE SEAL KIT	2
3	8000-0053	10 GPM CHECK VALVE CARTRIDGE SEAL KIT	2



20 GPM CHECK VALVE CARTRIDGE SEAL KIT



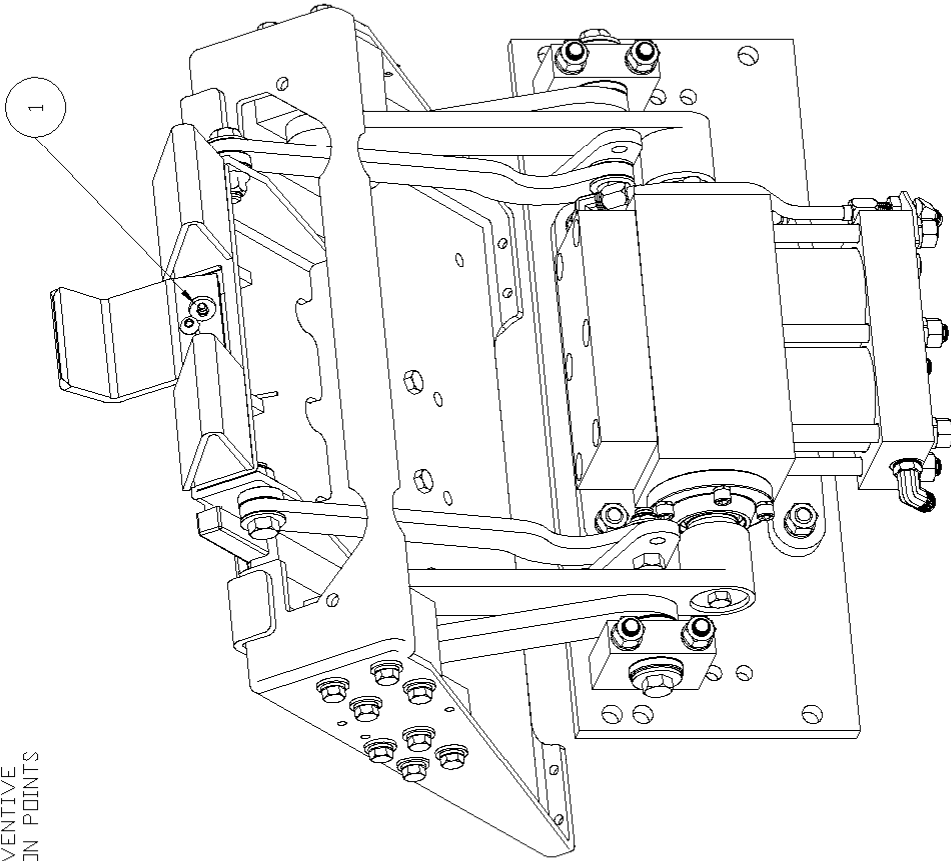
SEQUENCE VALVE CARTRIDGE SEAL KIT



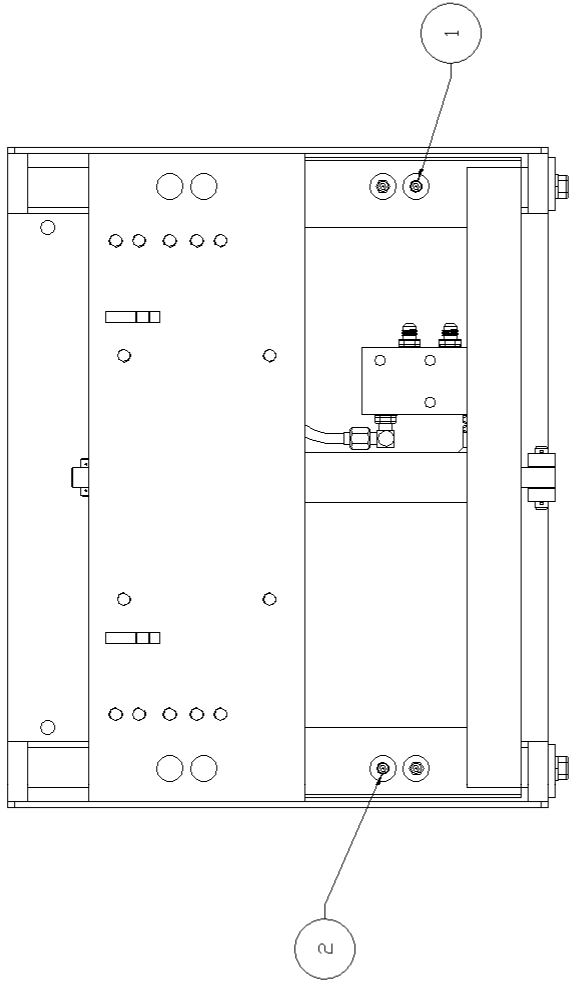
10 GPM CHECK VALVE CARTRIDGE SEAL KIT

CONFIDENTIAL		This drawing is private and confidential communication and the property of BAYNE MACHINE WORKS, INC., Greenville, S.C. It MUST NOT be copied or lent without consent of BAYNE MACHINE WORKS, INC., and must be promptly returned with tender and/or completion of order to the purchasing department.		SCALE:	SHEET	OF	REV.
				1=1	1	1	-
BAYNE MACHINE WORKS, INC.		DRAWN BY: C.T.T.		TITLE: DUAL SEQUENCE VALVE SEAL KIT		DWG. NO.: 8000-0050	
910 FORK SHOALS ROAD - GREENVILLE, SC 29605 - 864-288-3877		DATE: 11/03/98		CHKD BY:			

TO MAINTAIN WARRANTY AND FOR PREVENTIVE
 MAINTENANCE, GREASE ALL LUBRICATION POINTS
 AT LEAST ONCE A WEEK



CONFIDENTIAL		This drawing is private and confidential communication and the property of BAYNE MACHINE WORKS, INC., Greenville, S.C. It MUST NOT be copied or lent without consent of BAYNE MACHINE WORKS, INC., and must be promptly returned with tender and/or completion of order to the purchasing department.		SCALE:	SHEET	OF	REV.
BAYNE MACHINE WORKS, INC. 910 FORK SHOALS ROAD - GREENVILLE, SC 29635 - 864-288-3877		DATE:	CHKD BY:	NTS	1	1	-
TOLERANCES IF NOT NOTED: 0.000 ±0.005 - 0.00 ±0.015 Ø/Ø ±1/32 - ANGULAR ±0.25		DATE:	CHKD BY:	TITLE:		DWG. NO.:	
		11/30/05	C.T.T.	BTL LUBRICATION POINTS		LUB4-000E	



TO MAINTAIN WARRANTY AND FOR PREVENTIVE MAINTENANCE, GREASE ALL LUBRICATION POINTS AT LEAST ONCE A WEEK.

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BAYNE MACHINE WORKS, INC. 910 FORK SHOALS ROAD - GREENVILLE, SC 29605 - 864-288-3877		TOLERANCES IF NOT NOTED: 0,000 ±0,005 - 0,00 +0,015 Ø/Ø ±1/32 - ANGULAR ±0,25	DATE: 08/20/93	CHKD BY: RLK	DATE: 08/25/93	TITLE: VERTICAL LUBRICATION POINTS
						DWG. NO.: LUBE9