

**DESCRIPTION**

Model 6799 is an air operated, self-priming, piston type transfer pump designed to transfer gasoline or diesel fuel at 30 gpm or oils up to SAE 90 at slower rates. Pump is equipped with a vented bung adapter.

**GENERAL SAFETY REQUIREMENTS**

The pump has aluminum, stainless steel and Nylon parts. Do not use this pump with materials which are incompatible with pump or hose. For example, do not use corrosive materials such as caustic alkalines. Mildly corrosive fluids may be pumped; however, be sure any static hose (purchased separately) will handle the materials to be pumped.

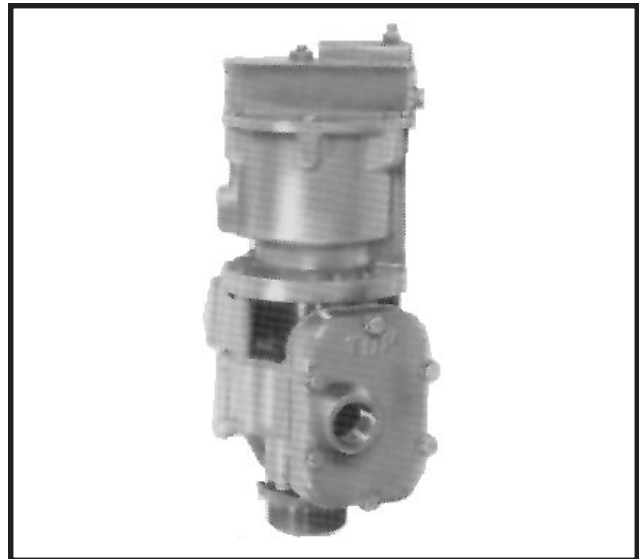
**WARNING:  
EXPLOSION HAZARD**

DO NOT use Halogenated Hydrocarbon Solvents, such as methylene chloride or 1,1,1-trichloroethane, in this pump. An explosion can result when aluminum parts within an enclosed device capable of containing pressure come in contact with Halogenated Hydrocarbon Solvents.

DO NOT TAKE ANY CHANCES! CONSULT YOUR MATERIAL SUPPLIER TO BE SURE.

The use of pressure relief devices or chemical "stabilizers" WILL NOT provide the necessary safety to eliminate the explosion hazard!

1. Read all instruction sheets, and any other explanatory material, carefully and thoroughly before attempting to assemble, disassemble, or operate the system.
2. DO NOT exceed the pressure rating of any component in the system.
3. Protect all material and air supply lines from damage or puncture. (Especially note places where lines or hoses may be damaged when flexing or twisting, or by hot machinery and moving parts.)



*Figure 1: Model 6799 Transfer Pump*

4. Check all lines for weak or worn condition prior to daily work operations.
5. Never point dispensing device at anyone. Accidental discharge may cause serious injury.
6. Disconnect air and material supply lines and relieve any remaining pressure before attempting to service any component in the system.
7. Shut off air pressure or disconnect air when pump is not in use.
8. For pumping Class 1 Hazardous (flammable) Liquids, use pump outdoors or in an OSHA approved location.
9. When pump is used with combustible or Class 1 materials, a hose with the following features must be obtained (hose not furnished with Model 6799):
  - A. "Static hose" must have provision for conducting static electrical charges. Any replacement hose must have a static conductor.

FOR FURTHER SERVICE, CONTACT YOUR LOCAL ALEMITE DISTRIBUTION CENTER



**ALEMITE CORPORATION**  
**PO BOX 12300 CHARLOTTE NC 28220-9925**

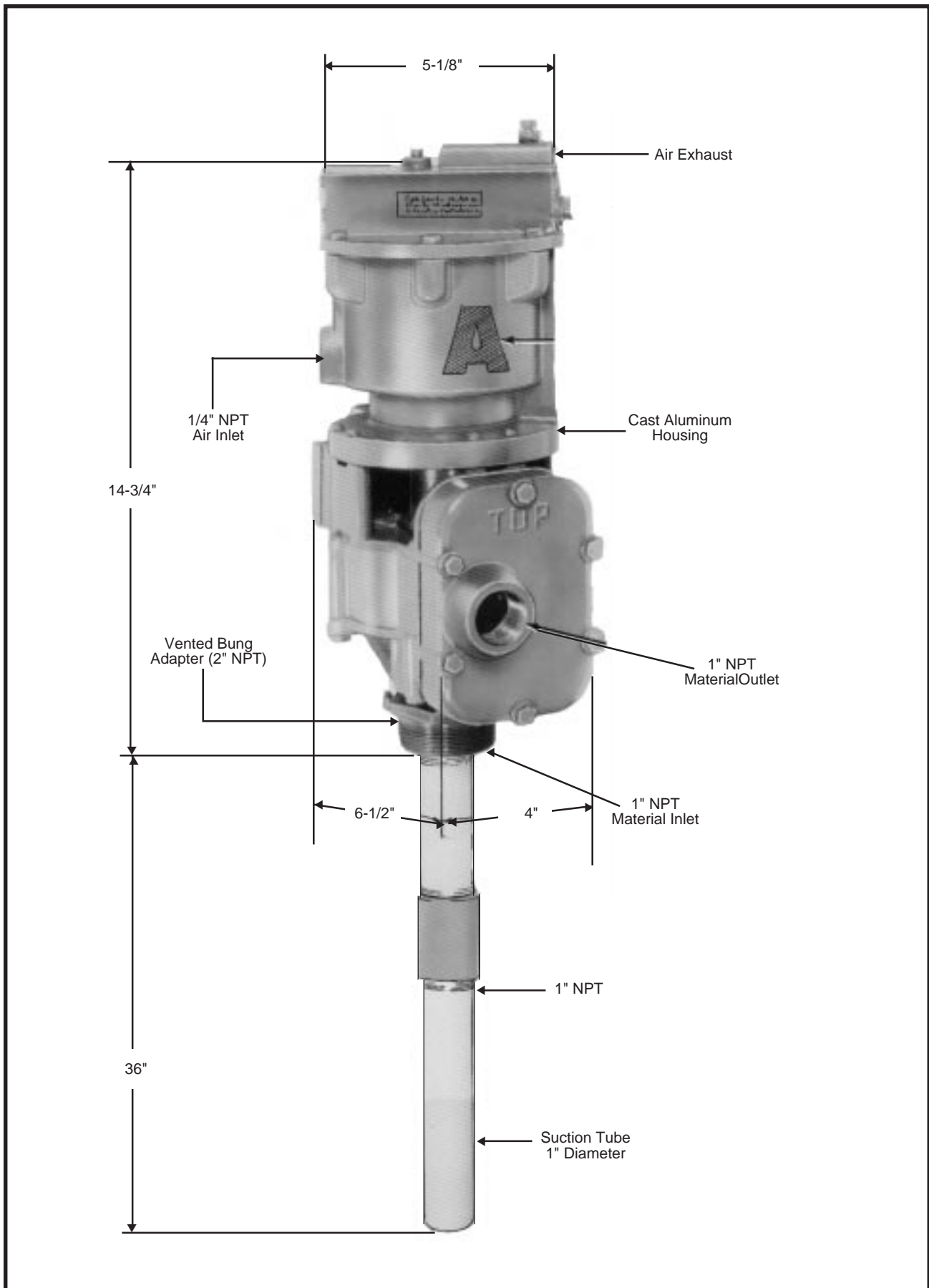


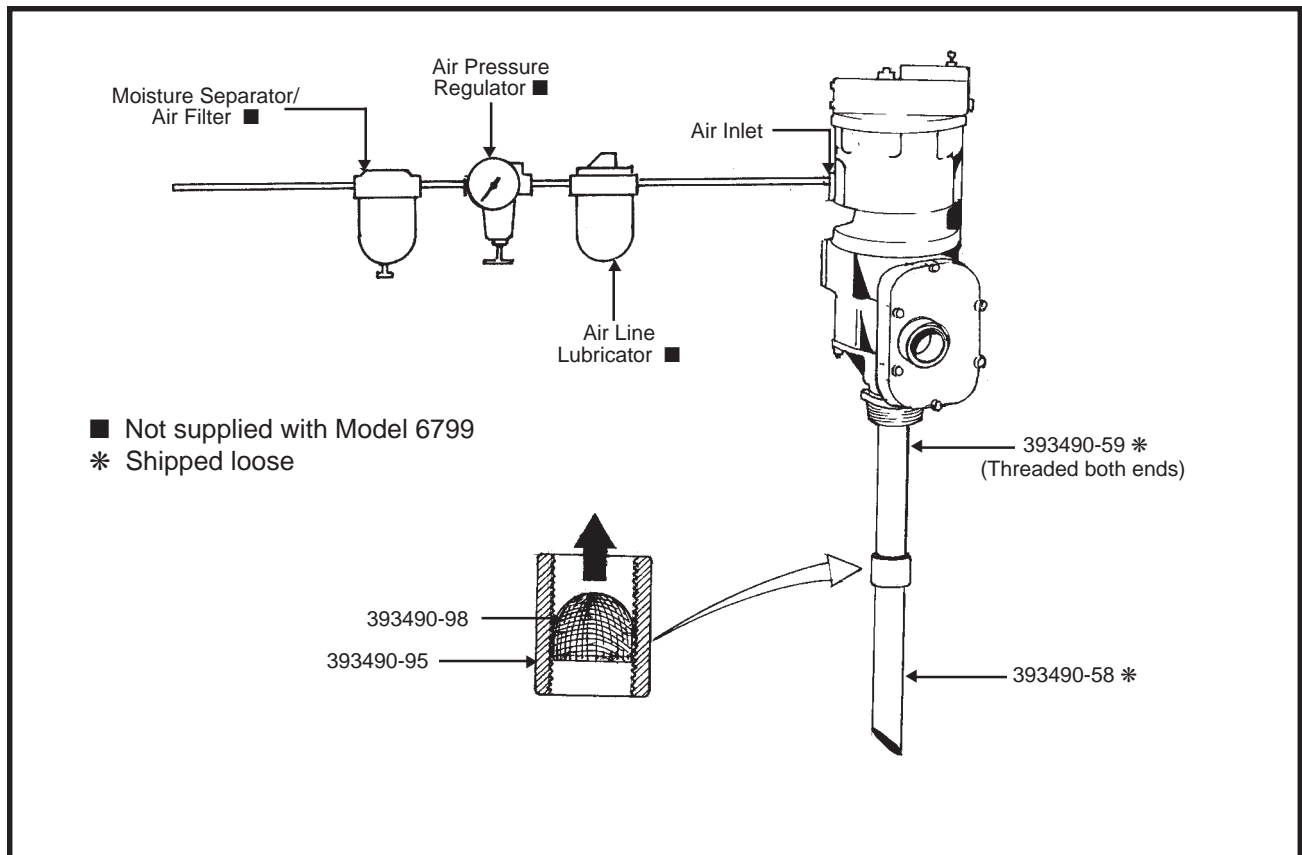
Figure 2 : Model 6799 Transfer Pump

- B. If deliver hose is equipped with static wire, there must be a good grounding connection to pump. Pump and entire system must be grounded properly, in accordance with local and national codes.

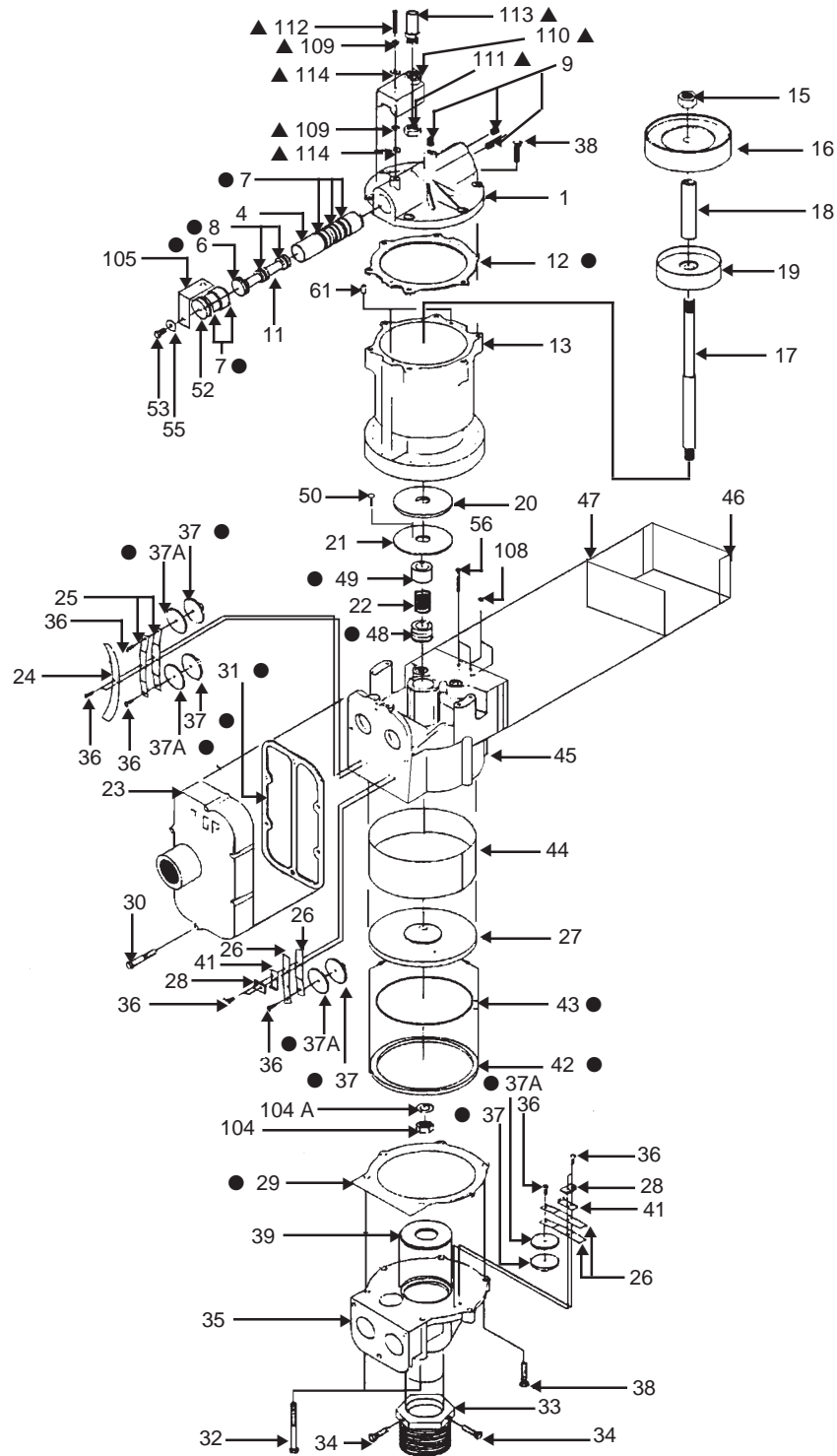
**WARNING:** Without proper grounding, static sparking can cause a fire or explosion.

### INSTALLATION

1. Prepare to flush pump prior to use. Flushing may be done with a solvent compatible with pump, all system components and first material to be pumped.
2. If flushing is done after installation, be sure first material pumped will go into an approved waste material container.
3. Refer to figure 3 for placement of air line lubricator (not furnished). It is strongly recommended that an air lubricator be placed in air line near pump as shown in figure 3. Fill lubricator, as instructed, with non-detergent oil. Where air motor icing condition can occur, consult an Alemite Representative for air line lubricator compatible with an appropriate antifreeze.
4. Icing in the air motor could cause irregular pump operation. Therefore, consult your Alemite Service Representative prior to using pump outdoors in cold weather.
5. Maximum operating air pressure for pump is 125 psi. Do NOT exceed the maximum pressure for any component of the system. If obtaining a static hose or other material line, determine maximum pressure hose will handle, and use this as a maximum if it is lower than 40 psi.
6. For maximum safety, control of air pressure would be handled by an air pressure regulator (not furnished). A small globe valve (not furnished) installed in air line would limit the volume of air. However, the air compressor must have an accurate device to restrict pressure to 125 psi maximum if an air regulator is NOT used.
7. If an air pressure regulator (not furnished) is used, a moisture separator/air filter (not furnished) might be a wise investment to prolong both the life of air pressure regulator and pump.
8. The usual placement of a moisture separator/air filter would be upstream of the air pressure regulator, as in figure 3.



**Figure 3:** Possible Installation in deep drum with Air line Lubricator



- Repair Kit Part
- ▲ Muffler Conversion Kit Part

NOTE: Item number is same as dash number in parts list (34 is 393490-34).

**Figure 4: Component parts of Model 6799 Pump**

9. If installation is in a deep drum, intake pipe 393490-59, with threads on both ends, would be screwed into material inlet of pump (Figure 3).

**NOTE:** Use care not to cross threads.

10. The application of pipe thread compound is optional on inlet pipe(s).

11. Steel coupler 393490-95 would be screwed onto upper inlet pipe. Check the internal screen to be sure it is not clogged or loose (Figure 3).

12. For deep drum installation, inlet pipe with diagonally-cut-off end would be the lower inlet pipe. For shallow drum installation, screw inlet pipe 393490-58 directly into the inlet of pump.

13. Connect an appropriate dispensing line (not furnished) to material outlet. Refer to "GENERAL SAFETY REQUIREMENTS" for features required if pump is used with class 1 hazardous (flammable Liquids).

14. A 1" discharge hose is recommended; a smaller hose can be used but will reduce flow capacity. Be sure discharge hose will handle material pressure desired.

15. Most standard 2 H.P. compressors can be used as a power source for continuous operation.

16. Air Requirements:

Continuous operation.....5 CFM Displacement  
Compressor with 2.8 CFM free air.

Intermittent operation ..... 2.9 CFM Displacement  
Compressor with 1.7 CFM free air.

17. Minimum air pressure is 50 psi.

18. As one of the final steps, loosen 2 screws 393490-34 (located on bung adapter) to move bung adapter. (See Figures 2 or 4).

19. Screw bung adapter 393490-33 in bung hole of material drum. Tighten two bung adapter screws to secure pump.

20. Be sure all connections are secure and no leaks are present. For maximum safety, allow air pressure gradually into pump. Take all precautions necessary to avoid solvent striking personnel. Solvent leakage

can also cause considerable damage.

**OPERATION AND GENERAL INFORMATION**

**CAUTION:** The dispensing device (not furnished) can be used to stop the pump automatically but the pump is not designed to with stand a continuous load of periods when not in use. Disconnect or shut off the air pressure when not using the pump. A quick disconnect or valve is recommended.

1. If the object is to transfer motor oils, then the viscosity of product and the temperature become factors in determining the rate of delivery.
2. For the transferring of motor oil with an air pressure of 125 psi and a temperature of 75 degrees Fahrenheit, the flow rate is approximately 20 gpm with a discharge hose not longer than 12 feet and no less than one inch in diameter.
3. If the discharge volume is too large for a specific application, the flow rate can be controlled two ways:
  - a. By reducing the air pressure using an air regulator.
  - b. By reducing the volume of air through use of a needle valve to throttle the air.

**WARNING:** Refer to GENERAL SAFETY REQUIREMENTS. When pumping Class 1 hazardous (flammable) Liquids, pump must be grounded properly, in accordance with local and national codes. Without a static hose and proper grounding, static sparking can cause a fire or explosion.

**MAINTENANCE**

A. Pump must be cleaned periodically and whenever there is a change in material to be handled.

**CAUTION:** Air pressure must be disconnected and material pressure relieved before cleaning is started.

1. After using pump with mildly corrosive fluids, remove pump from drum.
2. Place lower section of suction tube in a container of material which will act as a solvent for the corrosive material. Flush with solvent until corrosive material is cleaned out.
3. To prevent further corrosion or damage to internal components, place pump in a drum of mineral based oil.
4. Flush mineral-based oil through pump, especially if the pump is not to be used for an extended period of time.

B. A few drops of oil may occasionally be put into the air intake. This would be especially important if the pump were not receiving sufficient oil from air line lubricator or if the pump were not to be used for an extended period of time.

C. Exterior of pump and hose should be kept reasonably clean. Be sure oils or solvents left on pump or hose are compatible with pump and hose.

D. Refer to "GENERAL SAFETY REQUIREMENTS".

E. Periodically check for material leakage from seals 393490-48 (Figure 4) by inspecting weep hole (Figure 6) between upper housing 393490-45 and air motor housing 393490-13.

**SERVICE**

(Refer to Figure 4 unless noted otherwise)

**NOTE:** The following procedures consider the pump equipped with an air deflector. A muffler conversion

kit (393490-115) is available to replace this item.

**CAUTION:** Disconnect air source and reduce all material pressure to zero psi before attempting any service or disassembly.

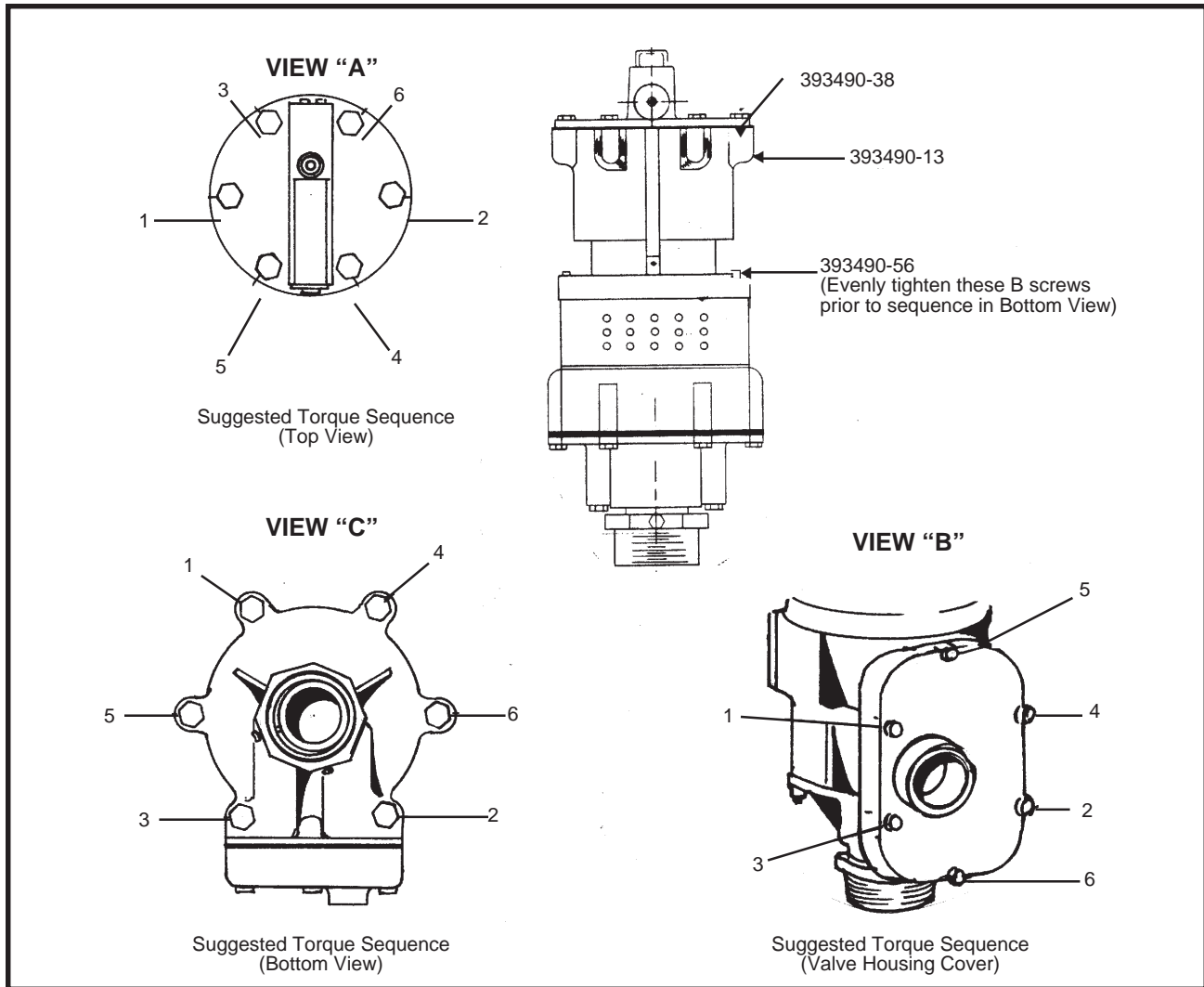
**NOTE:** The first three steps are necessary only if replacing "O" rings, etc., in connection with spool valve housing 393490-1.

Appropriate gaskets should be ordered before disassembly of any items after steps one through three.

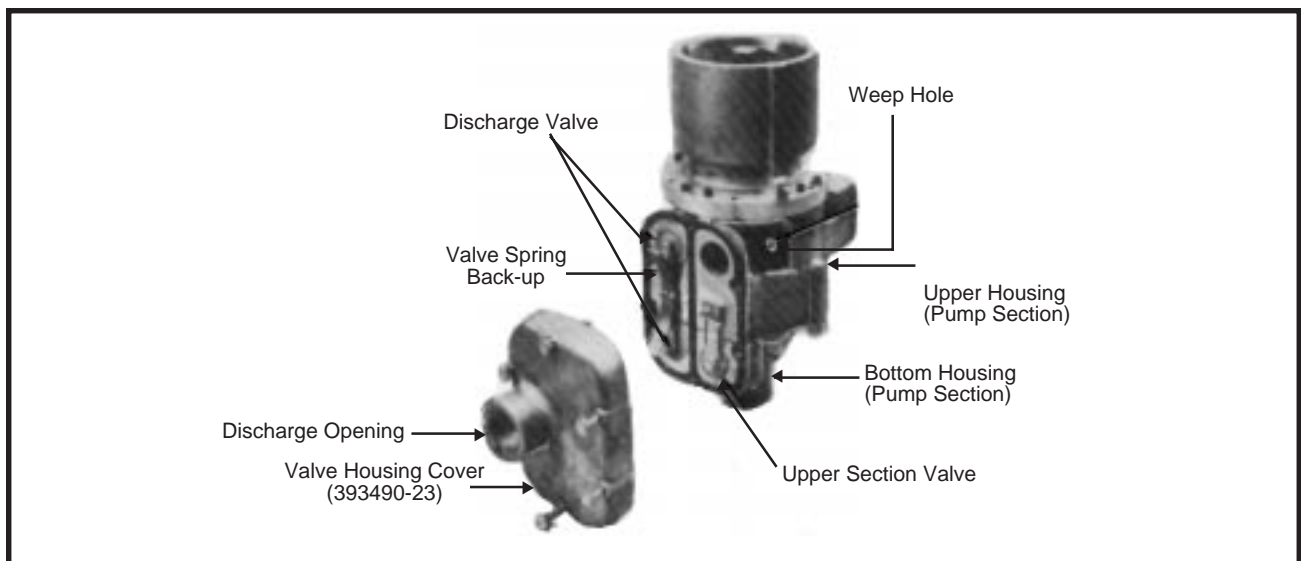
**Disassembly of Upper Most Section of Air Motor (optional) (For repair of spool valve housing, spool, and "O" rings adjacent).**

1. Loosen nut 393490-109. Remove screw 393490-112. Plug 393490-52 can be pulled out by pulling on screw 393490-53 with a pair of pliers.

2. If necessary, remove two "O" rings 393490-7 from plug and three "O" rings 393490-7 from spool sleeve 393490-4.



**Figure 5: Torque Sequences of Pump**



**Figure 6:**

3. Remove the lower pipe plug 393490-9 from spool valve housing 393490-1. Insert an allen wrench through pipe plug hole and push spool from spool valve housing (Figures 4 and 11).

4. If necessary, remove one "O" ring 393490-6 and two "O" rings 393490-8 from spool after releasing spool.

**Disassembly for repair of air motor, replacement of seals, and pump pistons.**

5. Remove six screws 393490-38 (Figure 5) which secure spool valve housing 393490-1 and gasket 393490-12 to air motor housing 393490-13. Remove housing and gasket.

**NOTE:** Screws must be tightened evenly and then torqued in sequence at reassembly to achieve a proper seal with gasket (Figure 5, View A).

6. Remove six screws 393490-30 which secure valve housing 393490-23 and gasket 393490-31 to upper pump housing 393490-45 and lower housing 393490-35. Remove valve housing and gasket.

**NOTE:** Screws must be tightened evenly and then torqued in sequence at reassembly to achieve a proper seal with gasket (Figure 5, View B).

7. Remove four screws 393490-38 and two screws 393490-32 which secure lower housing 393490-35 and gasket 393490-29 to upper pump housing.

**NOTE:** Screws must be tightened evenly and then torqued in sequence at reassembly to achieve a proper seal with gasket (Figure 5, View C).

8. Remove eight screws 393490-56 which secure air motor housing 393490-13 to upper pump housing (Figure 5).

9. Securely grasp nut 393490-104 which holds piston 393490-27, and remove nut 393490-15 which secures air motor piston 393490-16 to piston rod 393490-17.

10. Remove air motor housing 393490-13 from upper housing 393490-45. Tapping on piston rod 393490-17 with a piece of aluminum or a soft mallet may help.

11. Remove piston 393490-16, spacer 393490-18, and piston 393490-19 from air motor housing.

12. If foam washer 393490-20 is removed, it must be reattached to washer plate 393490-21, since it is used as an air filter.

13. Disassembly may be stopped at this point unless piston rings, chevron packings, etc., must be replaced. If chevron packings 393490-48 have been leaking, replacement is required.

14. Using a plastic or wooden tool, remove piston rod 393490-17 and piston 393490-27 from upper housing 393490-45.

15. Secure small diameter end of piston rod 393490-17 in a vise with soft jaws. Remove nut 393490-104 from piston rod; remove piston 393490-27.

**CAUTION:** Do not scratch piston rod 393490-17, or damage threads.

16. If necessary, remove piston ring 393490-42 and "O" ring 393490-43 from piston.

17. Remove four screws 393490-50 and washer plate 393490-21 which secures packing 393490-49 and spring 393490-22.

18. Remove Chevron Packing 393490-48 from housing.

**CAUTION:** Worn or damaged parts are a threat to personnel and property. Damaged or worn parts should be replaced.

Reassembly Notes

- a. Most reassembly will be in reverse order of disassembly. Exceptions are noted below.
- b. Alemite Viscous "H" Lubricant will be applied inside all cylinders and around all pistons.
- c. "O" rings are to be lubricated with oil.

**NOTE:** The non-detergent SAE 30 oil used on air intake would be satisfactory.

- d. New gaskets would be virtually required for each point where a gasket was removed. Use a gasket sealer sparingly on reassembly.
- e. Refer to figure 4 to indicate which direction piston lips should face.
- f. Reinstall piston rod 393490-17 (Figure 4) downward through chevron packings to avoid damage.
- g. For suggested torque sequence, refer to steps 5 through 7 as well as figure 5.
- h. If piston has been removed, take note of the following:

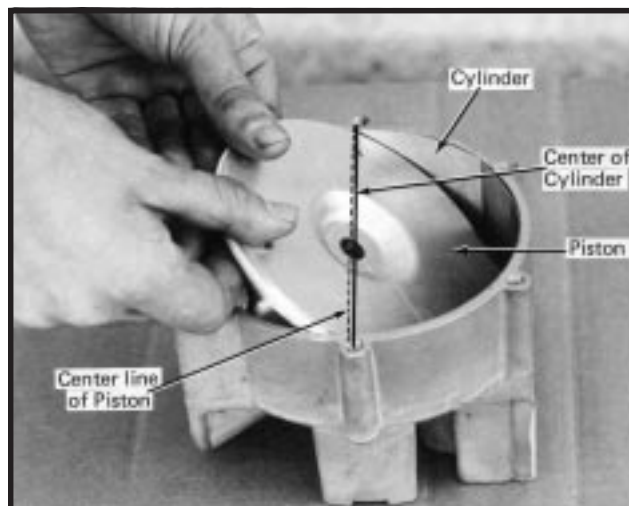
**PISTON INSTALLATION**

During the last few years, we have had inquiries regarding the installation of the piston in the AIR PUMP when people repair these pumps themselves, mainly because some attempted to use ring compressors.

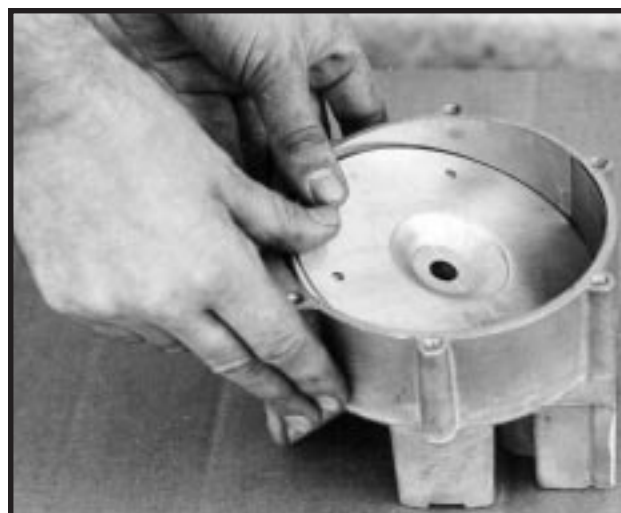
As you can see in Figure 7, the piston rod is removed from the piston and the center line of the piston is positioned in the center of the cylinder. THIS IS VERY IMPORTANT!

The piston is then pushed in the cylinder at an angle until the center line of the piston is inside the cylinder. Once past the center line of the piston, proceed to push down as in Figure 8 and continue to push as in Figure 9 until the piston is horizontal. Then install piston rod from the top side.

**NOTE:** If the piston is not horizontal after installation remove piston and repeat procedure.



**Figure 7:**



**Figure 8:**



**Figure 9:**

**SERVICE HINTS**

**PROBLEM: PUMP DOES NOT CYCLE**  
**SUGGESTED CORRECTION:**

1. Be sure to have a minimum of 50 PSI air supply. With a new pump it is sometimes better to ring-in at 125 PSI for a while.
2. If pump is new, or if it has been operating without a lubricator, put a small amount of lightweight oil into air inlet to lubricate pump. (Figures 2 or 3). This should be done at least twice weekly unless a lubricator is being used.
3. Disconnect air supply first, then remove the hex socket head screw at the end of the air valve housing (Fig. 10) and the screw 393490-112 in the plug 393490-52 (Fig. 4). With thin rods, push spool valve 393490-11 (Figures 4, 10 or 11) back and forth in order to free stuck or sluggish spool. Replace both screws at both ends of spool valve housing and check operation.
4. If pump does not cycle and you hear air escaping from air exhaust (Fig. 2), disconnect the air supply then proceed to remove the spool valve (Fig.11).

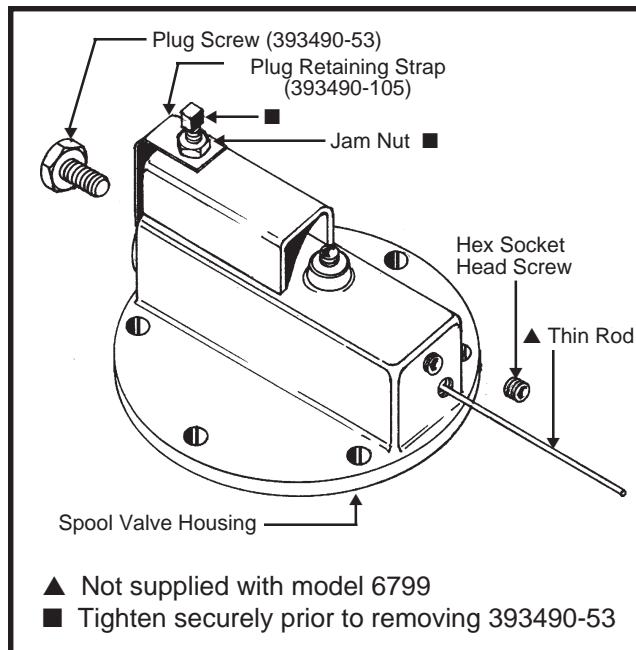
Loosen nut and set screw and remove exhaust air deflector from top of pump (Fig. 10).

- (a). Remove plug 393490-52 (Figures 4 or 10). Use bolt provided and pull on bolt to remove plug (Fig. 11).
- (b). Spool (Fig. 11) can be removed by pushing a long thin rod through screw hole (Fig 10).

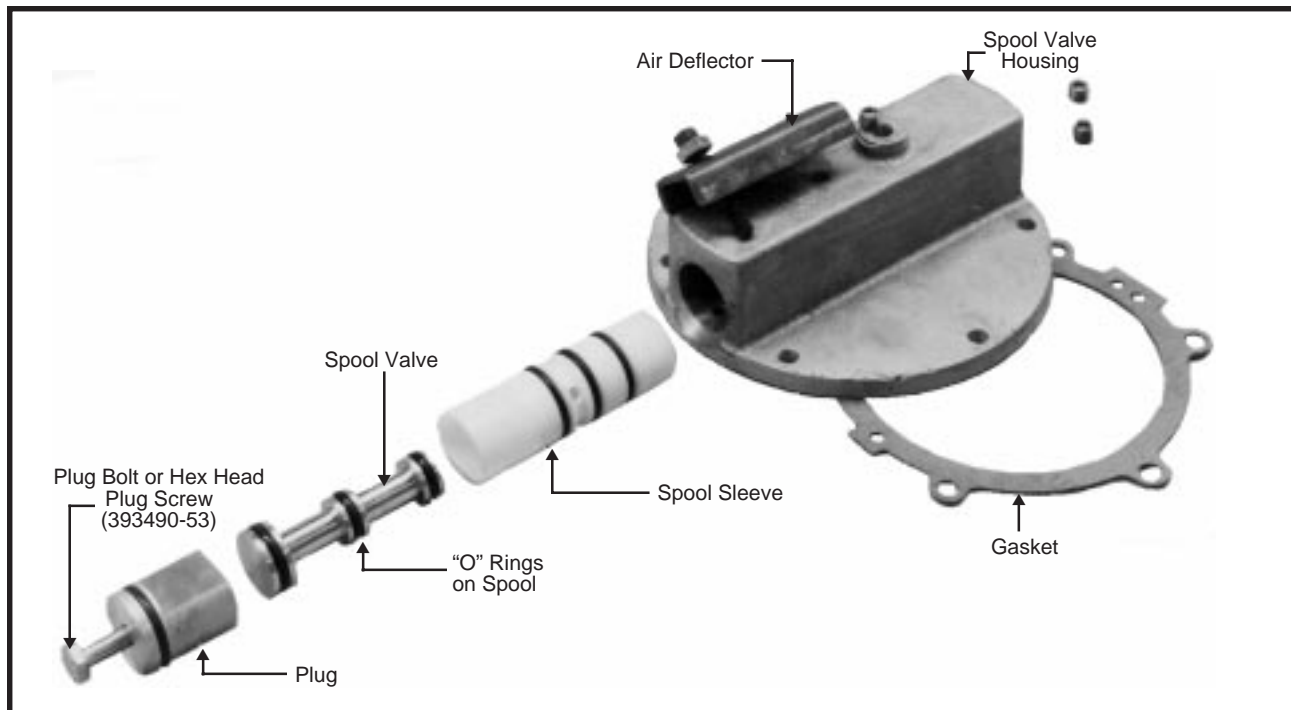
- (c). Check "O" Rings on spool. (Figures 4 or 11) and replace if necessary. Clean spool valve housing, lubricate spool 393490-11 (Figures 4 or 11) with oil and reassemble.

**CAUTION:** Be sure screw 393490-112 (Fig. 4) that holds the plug in place is tight against the spool 343490-11 (Fig. 4) and then tighten jam nut. Recheck operation.

5. If pump still does not cycle, then perhaps some trash or other obstruction has been sucked in and is between fluid piston and bottom housing thereby



**Figure 10: Stuck Spool Valve**



**Figure 11: Spool Valve and Associated Parts**

preventing piston from completing its full stroke. (Figures 4 or 13). Unless full stroke is completed, the air piston cannot pass the control valve passage which prevents the control air to shift the spool valve and the pump cannot cycle.

**PROBLEM: PUMP RUNS AT A SLOW RATE  
SUGGESTED CORRECTION:**

1. Check for volume and pressure of air being delivered to pump. Minimum requirement continuous operation is 50 PSI, 5 SCFM displacement with 2.5 CFM free air.
2. Check wire screen in suction pipe for trash or debris. Clean if needed.
3. Air motor is icing up due to water in air line. If this happens install an air line lubricator compatible with antifreeze. Consult your Alemite Representative.
4. The recommended diameter for a discharge hose is 3/4" or larger. Smaller diameter hose will cause pump to run slowly.
5. A 50 foot long hose will pump much slower than a 12 foot long hose. Try to use the shortest possible hose for greater output.

**PROBLEM: PUMP OSCILLATES BUT NO DISCHARGE  
SUGGESTED CORRECTION:**

1. Check liquid level.
2. Check suction pipes ("intake pipes") 393490-58 and 393490-59 for air leaks. Pipe must be tight.
3. Make certain that pipe is free of obstructions, and is reaching low liquid level.
4. If suction pipe is restricted by bottom of tank, shorten pipe.

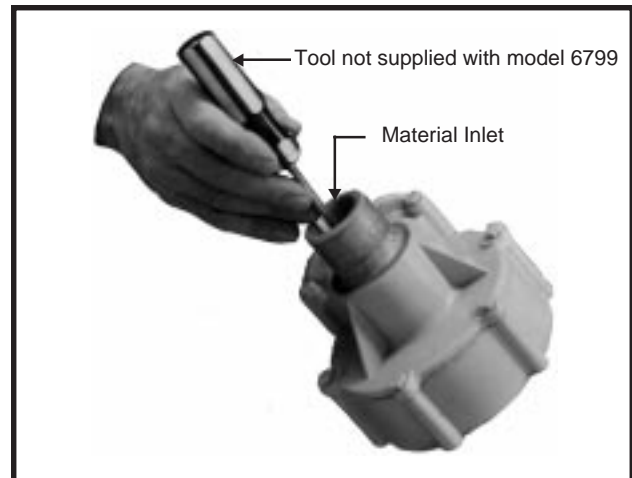
5. If tank is not vented to the atmosphere, open filler cap or install vented one. Consult your Alemite Representative.

6. Remove intake pipe, look into material inlet hole to see if lower suction valve is not seating due to dirt or debris. (Fig. 12) Clear and clean if obstructed.

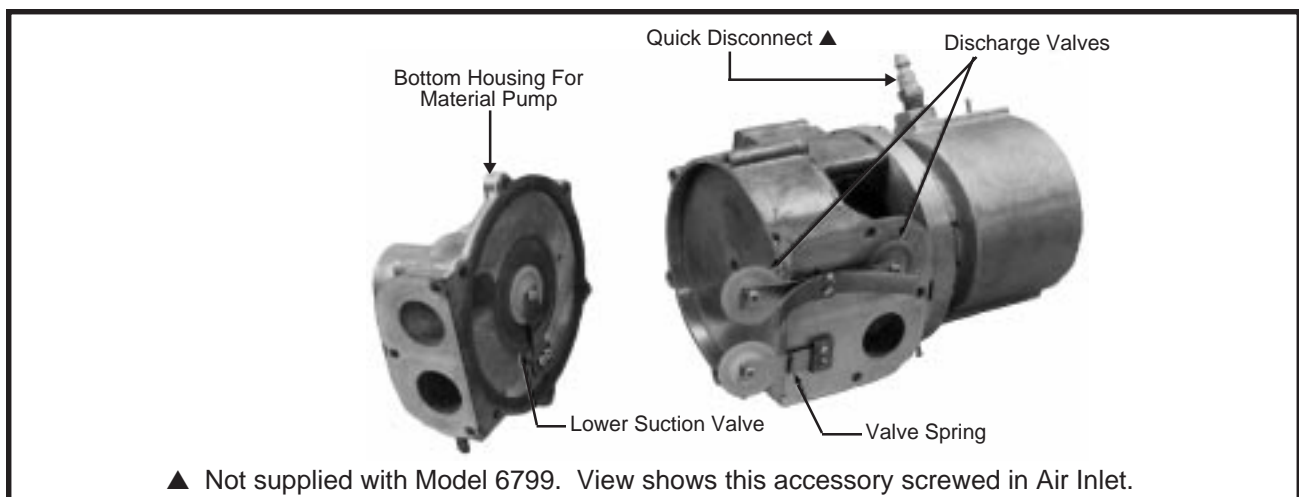
7. Unit will not pump properly if either suction valve is struck in open position. See Figure 6 for checking upper suction valve.

8. Remove valve housing and check for dirt under valves or broken springs. Clean and, or, replace broken valve springs. The discharge valves are located one above the other, while the upper suction is the single one. Re-install valve housing with discharge opening over the discharge valves (Figure 6).

**IMPORTANT: THE CLEANLINESS HABIT PAYS DIVIDENDS** The use of an unbroken suction screen 393490-98 inside coupling 393490-95 will prevent many causes of pump failure due to trash.



**Figure 12:** Checking Material Inlet



**Figure 13:** Outlet Body

## Repair Kit

### 393490-106

Part No.	Description	Qty
393490-6 .....	"O" Ring, 3/32" I.D. x 7/8" O.D. ....	1
393490-7 .....	"O" Ring, 3/32" I.D. x 1" O.D. ....	5
393490-8 .....	"O" Ring, 3/32" I.D. x 5/8" O.D. ....	2
393490-12 .....	Gasket .....	1
393490-29 .....	Gasket .....	1
393490-31 .....	Gasket .....	1
393490-37 .....	Valve .....	4
393490-37A .....	S S Backup (Valve) .....	4
393490-42 .....	Piston Ring .....	1
393490-43 .....	"O" Ring for Piston 393490-27 .....	1
393490-48 .....	Chevron Packing .....	1
393490-49 .....	Teflon Packing .....	1

## Muffler Conversion Kit

### 393490-115

Part No.	Description	Qty
393490-109 .....	Nut, Half .....	2
393490-110 .....	Manifold, Air .....	1
393490-111 .....	Nut, Jam .....	1
393490-112 .....	Setscrew .....	1
393490-113 .....	Muffler .....	1
393490-114 .....	Washer, Flat .....	2

## PARTS LIST - Model 6799 Transfer Pump (Figure 4)

Part No.	Description	Qty
393490-1	Spool-Valve Housing	1
✚ 393490-2 *	Square-Head Screw, 1/4-20 x 1-1/2 " Long	1
✚ 393490-3 *	Hex Nut, 1/4-20 N.C.	1
393490-4	Spool Sleeve	1
393490-5 *	Air Deflector	1
● 393490-6	"O" Ring, 3/32" I.D. x 7/8" O.D.	1
● 393490-7	"O" Ring, 3/32" I.D. x 1" O.D.	5
● 393490-8	"O" Ring, 3/32" I.D. x 5/8" O.D.	2
393490-9	Pipe Plug, 1/6" I.D. x 1/4" O.D.	3
393490-11	Spool	1
● 393490-12	Gasket	1
393490-13	Air-Motor Housing	1
✚ 393490-15	Hex Nut, 1/2-20 UNF	1
393490-16	Piston	1
393490-17	Piston Rod	1
393490-18	Spacer	1
393490-19	Piston	1
393490-20	Foam Washer	1
393490-21	Washer Plate	1
393490-22	Spring	1
393490-23	Valve Housing Cover	1
393490-24	Double-Valve Support	1
393490-25	Double-Valve Spring	2
393490-26	Single-Valve Spring	4
393490-27	Piston	1
393490-28	Valve-Spring Base	2
● 393490-29	Gasket	1
✚ 393490-30	Screw, 1/4-20 x 1-5/8" Long	6
● 393490-31	Gasket	1
✚ 393490-32	Screw, 1/4-20 x 2" Long	2
393490-33	Bung Adapter without Screws	1
✚ 393490-34	Hex-Head Cap Screw, 1/4-20 x 1/2" Long	2
393490-35	Lower Housing	1
✚ 393490-36	Self-Tapping Screw, 6-32 x 1/4" Long	7
● 393490-37	Valve	4
● ✚ 393490-37A	S S Backup (Valve)	4
✚ 393490-38	Screw, 1/4-20 x 7/8" Long	10
393490-39	Aluminum Washer	1
393490-41	Single-Valve Spring Backup	2
● 393490-42	Piston Ring	1
● 393490-43	"O" Ring for Piston 393490-27	1
393490-44	Piston Liner, Stainless Steel	1

\* These items are replaced with the use of Muffler Conversion Kit 393490-115

● Part of Repair Kit 393642-106

✚ Not Available as a separate purchased part

## PARTS LIST - Model 6799 Transfer Pump (Continued)

Part No.	Description	Qty
393490-45	Upper Housing	1
393490-46	Breather Cover	1
393490-47	Breather Filter	1
● 393490-48	Chevron Packing	1
● 393490-49	Teflon Packing	1
+ 393490-50	Allen-Head Cap Screw, 8-32 x 1/2" Long	4
393490-52	Plug	1
393490-53	Hex Screw, 5/16-18 x 1/2" Long	1
+ 393490-55	Flat Washer, 5/16"	1
+ 393490-56	Self-Tapping Screw, 8-32 x 1" Long	8
393490-58	Intake Pipe, Diagonally cut on one end	1
393490-59	Intake Pipe, Threaded on both ends	1
393490-61	Spiral Pin, 3/16 x 1/2" Long, Stainless Steel	2
393490-95	Pipe Coupling, 1" without Suction Screen	1
393490-98	Suction Screen	1
+ 393490-104	Nut, 7/16" with Internal Washer	1
+ 393490-104A	Lockwasher (BP-12)	1
393490-105	Plug Retaining Strap	1
393490-108	Nut	2
▲ 393490-109	Nut, Half	2
▲ 393490-110	Manifold, Air	1
▲ 393490-111	Nut, Jam	1
▲ 393490-112	Setscrew	1
▲ 393490-113	Muffler	1
▲ 393490-114	Washer	2

- Part of Repair Kit 393642-106
- ▲ Part of Muffler Conversion Kit 393490-115
- + Not Available as a separate purchased part

**NOTE:** The parts listed in this instruction sheet are for reference identification in the instructions and illustrations. Some of them are not available as separate parts and these are noted in the parts list. Standard items such as nuts, bolts, etc. should be purchased at a hardware store. Refer to the current parts price list and bulletins before ordering parts, and always give the part number, quantity, description and model where used when ordering parts. Parts availability and prices are subject to change without notice.

### CHANGES SINCE LAST PRINTING

Added:	393490-108, -109, -110, -111, -112, -113, and -114
Added:	Muffler Conversion Kit 393490-115
Obsoleted:	393490-2, -3, -5, -10, -14, -40, -51, -54, and -57
Changed Quantity:	393490-9, -28, -30, -34, -36, and -38,
Changed Description:	393490-34