

DESCRIPTION

The 7793 Series Pumps are single-action, low-pressure units designed to deliver lubricants from original containers or bulk tanks.

The differences in the three pump models are as follows:

1. The Model 7793-A1 has a proper tube length for 55-gallon (400 lb.) drums and an unthreaded foot valve.
2. The Model 7793-B1 has a proper tube length for 16-gallon (120 lb.) drums and an unthreaded foot valve.
3. The Model 7793-C is a stub pump with a 1-1/2 inch NPTF (f) fluid inlet which allows the pump to be attached to different length extensions for varying tank depths. The pump can also be attached to suction lines from tanks to allow for remote operation.

NOTE: The air motor is packed with lubricant at the factory and should require no additional lubrication.

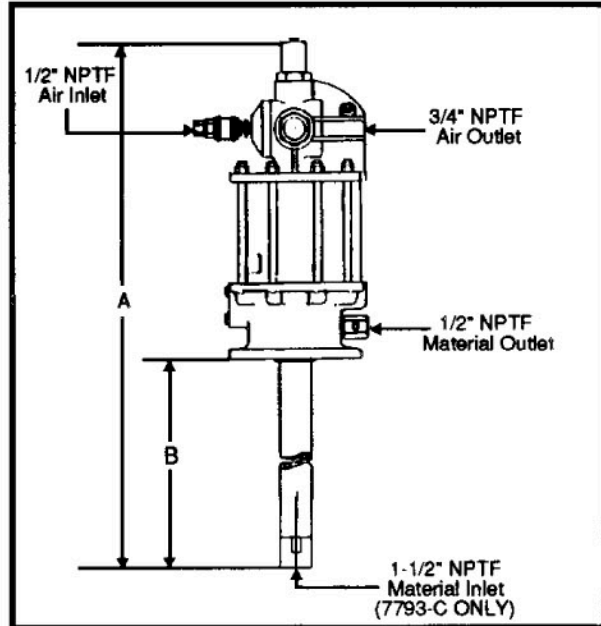


Figure 1: Series 7793 Pump

AIR-MOTOR SERVICE

For Service on air motor refer to SER 323640-A1

DIMENSIONS

"A"	(Model 7793-A1).....	51-23/32"
	(Model 7793-B1).....	44-7/32"
	(Model 7793-C).....	32-1/8"
"B"	(Model 7793-A1).....	33"
	(Model 7793-B1).....	25-1/2"
	(Model 7793-C).....	13-13/32"

SPECIFICATIONS

Ratio.....	12:1
Stroke	4"
Air Motor Piston Diameter	6"
Maximum Operating Air Pressure	100 psi
Maximum Operating Material Pressure	1300 psi
Displacement.....	9.8 cu. in./cycle
Weight (approx.)	50 lbs.
Air Inlet (Pump)	3/4" NPTF
Air Inlet (Coupler)	1/2" NPTF
Air Outlet	3/4" NPTF
Material Outlet	1/2" NPTF

FOR FURTHER SERVICE, CONTACT YOUR LOCAL ALEMITE DISTRIBUTION CENTER



Alemite, LLC
 167 Roweland Drive, Johnson City, Tennessee 37601
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ACCESSORIES

Bung Adapter.....	326750-B1
Cover Assembly (7793-A1)	323847-1
Cover Assembly (7793-B1)	323800-4
Muffler.....	324170
Wall-Mounting Bracket.....	328190
Low-Level Cut-Off Valve (7793-C).....	321206

GENERAL SAFETY REQUIREMENTS

Because these units are incorporated into high-pressure pumping systems, these safety precautions should be followed at all times.

1. DO NOT exceed the pressure rating of any component in the system.
2. Protect all material and air supply lines from damage or puncture. Keep all lines and hoses away from hot machinery, moving parts and cramped areas where damage may occur from flexing or twisting.
3. Check all hoses for wear or damage prior to daily operation. Make sure that all connections and fittings are secure.
4. Shut down the system and relieve all pressures before servicing any component in the system.
5. Never point the dispensing system at anyone as accidental discharge can result in serious injury.
6. Never install a low-pressure air hose in any part of the pump's distribution system.
7. Read all instruction sheets before attempting to install, service or operate the system.



DO NOT use Halogenated Hydrocarbon Solvents, such as methylene chloride or 1,1,1-trichloroethane, in this pump. An explosion can result when aluminum or zinc-plated 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!

INSTALLATION

NOTE: If a pump is installed in a system involving plumbing, the fluid-wetted path of that system MUST be properly cleaned of ALL foreign material (trash) before the installation of a control valve. Failure to properly clean that system will void the control device warranty and contaminate the system being serviced.

AIRLINE ACCESSORIES:

CAUTION:

An air filter/moisture separator (such as the 5608-2) should be used. Wet air can wash out the lubricant in the motor.

An air-pressure regulator (such as the 7608 regulator with a gauge) should be used to provide safe, regulated air pressure.

Although the air motor is lubricated at the factory, the pump life can be extended by using an airline oiler (such as the 5908-2).

NOTE: Remove all shipping seals from air motor 323640-4 and pump tube assembly.

1. Thread male adapter 328037 into air inlet of air motor (Figure 2).
2. Thread air coupler 328031 onto facility air hose.
3. If unit is equipped with eyebolt, remove pipe plug from top of air motor and replace with eyebolt (if necessary for lifting purposes) (Figure 2).
4. To attach the optional bung adapter 326750-B1, perform the following steps:

Models 7793-A1 & 7793-B1:

- a. Slide the bung adapter over foot valve body and pump tube.
- b. Position the bung adapter on the tube and tighten the bolt.

Model 7793-C:

- a. Remove foot-valve body 323778.
- b. Slide the bung adapter over pump tube 333356-3.

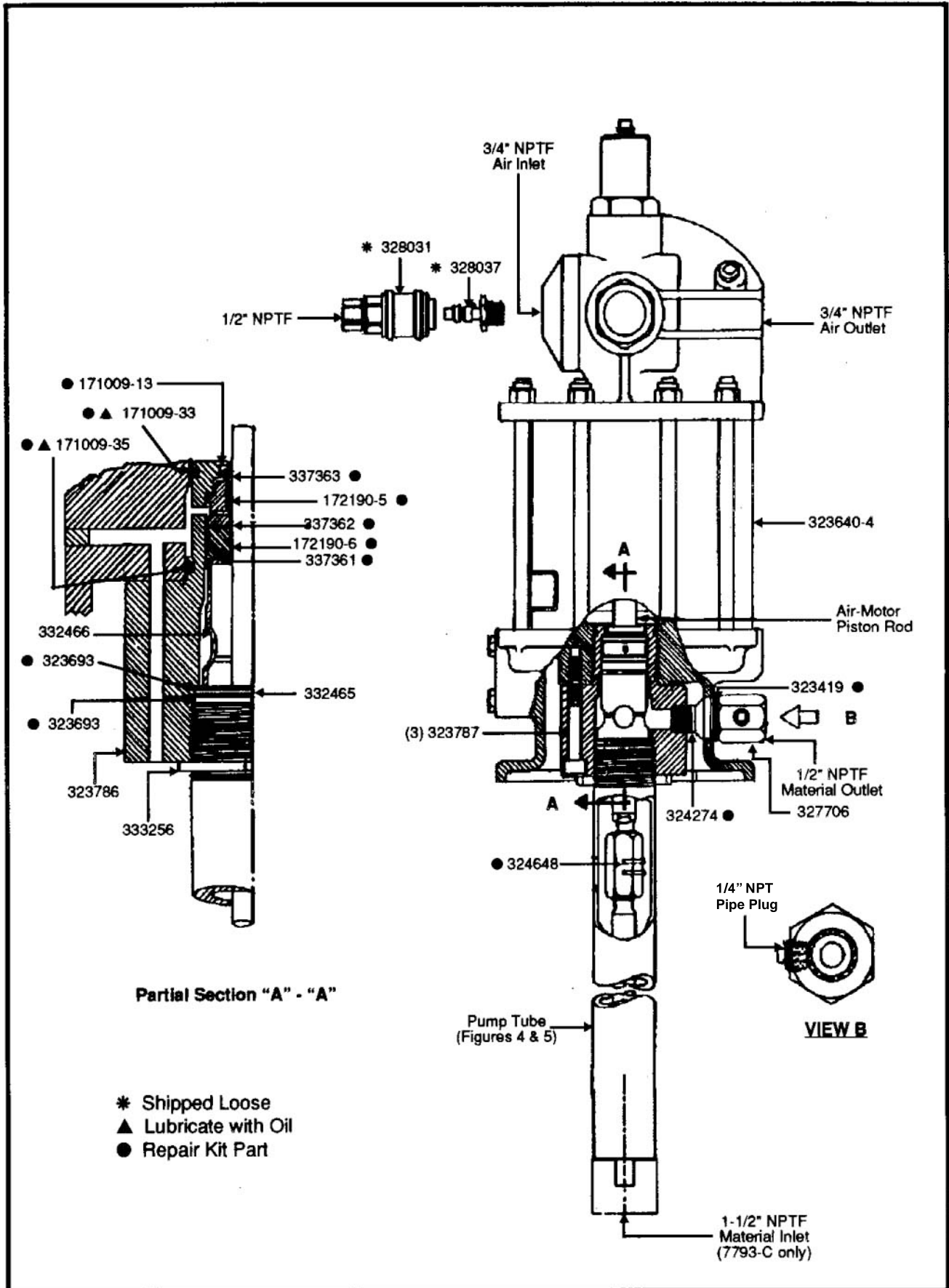


Figure 2: Series 7793 Low Pressure Pump

- c. Reattach the foot-valve body.
- d. Position the bung adapter on the tube and tighten the bolt.

All Models:

NOTE: For best operation, the bung adapter should be positioned so that the end of the tube or extension will come to about one inch from the bottom of the tank when the pump is mounted.

5. If unit is to be used with an optional cover assembly, perform the following steps:

NOTE: It may be desirable to lift pump (By eyebolt) with a hoist for ease in installing cover assembly onto pump.

- a. Slide cover over pump tube and align four (4) holes of cover with holes on underside of air motor assembly.
- b. Secure cover using four (4) stop nuts and four (4) screws (Supplied).
- c. Install three (3) thumb screws into openings on side of cover.

6. Install and secure pump into drum, tank or suction pipe.

7. Connect material hose (not supplied) to 1/2" material outlet of the pump-tube assembly.

8. Connect air coupler 328031 of facility air hose to male adapter 328037 in air motor assembly.

SETUP AND OPERATION

NOTE: (Model 7793-C only) If the pump to be used is remotely mounted, the pump's supply line must be filled before the pump is installed.

- 1. Open the material control valve.
- 2. Slowly increase the air pressure until the pump starts cycling.
- 3. Allow the pump to cycle until all of the air has been purged from the system.
- 4. Close the material control valve. The pump should stall.
- 5. Increase the air pressure as necessary (maximum of 100 PSI).

If the pump does not prime, follow these steps:

- 6. Reduce the air pressure to zero.
- 7. Loosen the material hose connection at the pump material outlet to allow air to escape.

NOTE: Wrap a rag around the loosened connection to catch any fluid that may escape.

- 8. Slowly increase the air pressure until the pump starts cycling.
- 9. When the pump begins to slow down, indicating that it is primed, reduce the air pressure to zero. Then tighten the connection.
- 10. Repeat steps 1-5.

MAINTENANCE

Do the following periodically:

- 1. Check for damage to material or air supply lines.
- 2. Check all connections and fittings for tightness.
- 3. Check level of material in drum.

NOTE: Do not allow pump to run "dry" at any time.

SERVICE DIAGNOSIS

If pump fails to function properly, check the following:

- 1. Inadequate air pressure.
- 2. Insufficient amount of material in drum.
- 3. Foreign material lodged in check valve.
- 4. Worn packings in pump tube.
- 5. Worn or damaged parts in pump tube.
- 6. Worn or damaged parts in air motor.

SERVICE

CAUTION: Before beginning service, shut off air supply, reduce material pressure to zero, disconnect air and material supply lines, and remove entire pump from container or system.

IMPORTANT: Prior to reassembly, lubricate all "O" rings, seals and packings with oil. Protect all seals and sealing surfaces from damage and scratches in any way possible.

DISASSEMBLY:**A. SEPARATING PUMP TUBE FROM AIR MOTOR:**
(Figure 2)

1. Loosen jam nut 333256 securing pump tube to air motor assembly 323640-4.
2. Unthread pump tube assembly from air motor assembly and pull to expose coupling 323439 (See Figure 4).
3. Remove upper spring clip 324648 from coupling (See Figure 4).
4. Unthread coupling from air motor piston rod by rotating entire pump tube assembly.

B. SERVICING AIR MOTOR ASSEMBLY:
(Figure 3)

To service the 323640-4 Air Motor Assembly, refer to Instruction Sheet SER 323640-A1.

C. SERVICING BODY & UPPER PACKING GROUP:
(Figure 3)

1. Unscrew and remove adapter 327706 from body of air motor assembly 323640-4 (Figure 2).
 2. Remove washer 323419 and bushing 324274 from adapter.
 3. Unscrew three screws 323787 and pull body 323786 from air motor assembly.
 4. Remove "O" rings 171009-33 and 171009-35 from body.
 5. From bottom of body, remove gasket 323693, washer 332465, second gasket 323693 and spacer 332466.
 6. Remove washer 337361, seal 172190-6, lantern ring 337362, seal 172190-5, spacer 337363, and "O" ring 171009-13 through bottom of body.
- NOTE:** At reassembly, lips of seals 172190-5 and 172190-6 must face downward as shown in Figure 3A.
7. Clean and inspect all parts for wear and damage.
 8. Reassemble by reversing the above steps.

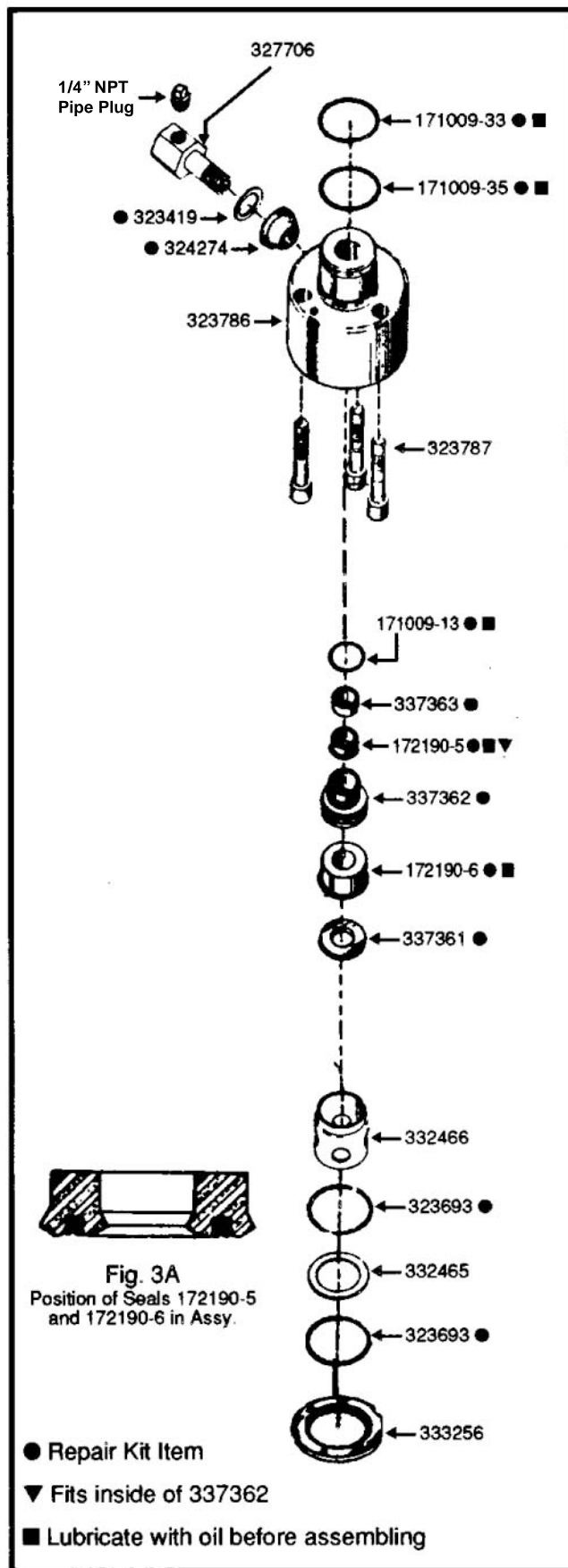


Fig. 3A
Position of Seals 172190-5
and 172190-6 in Assy.

Figure 3: Body and Upper Packing Group

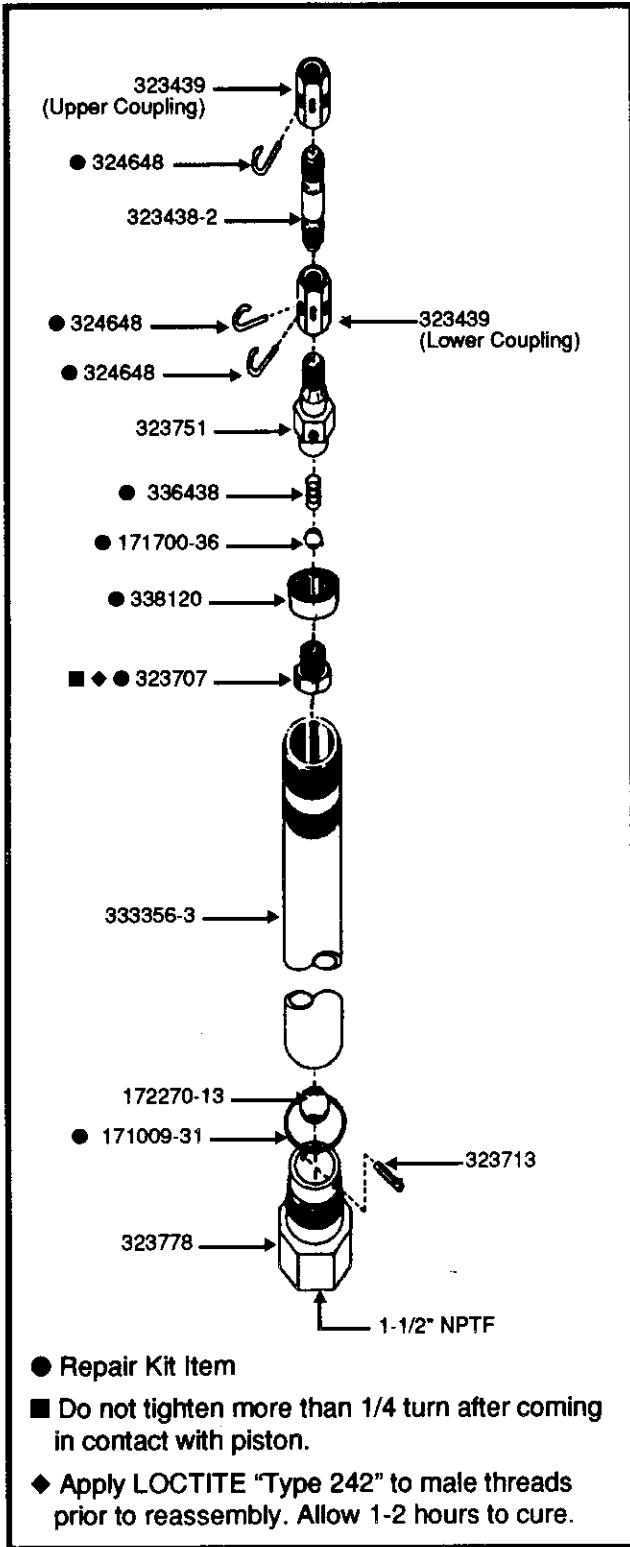


Figure 4: Pump-Tube Assembly for Model 7793-C

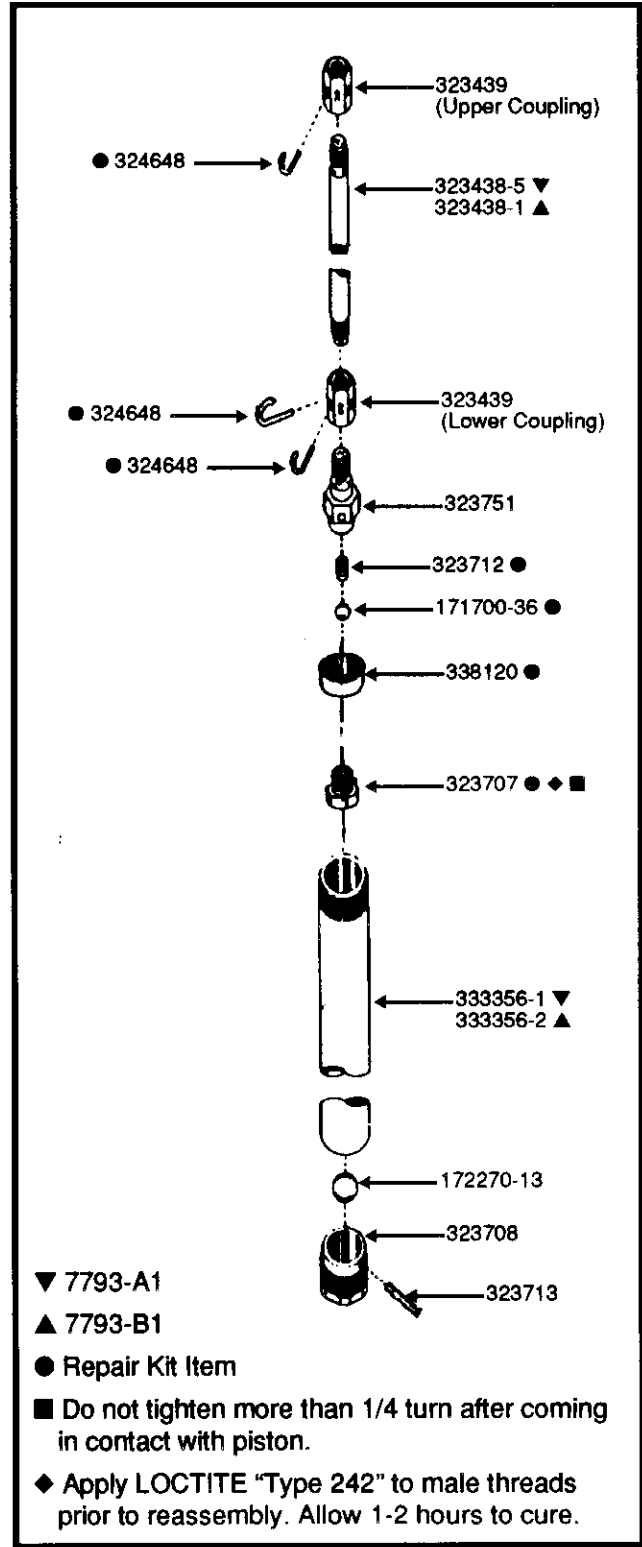


Figure 5: Pump-Tube Assembly for Models 7793-A1 & 7793-B1

D. SERVICING PUMP TUBE ASSEMBLY:
(Figures 4 & 5)

1. If you have not already done so, disconnect pump tube from air motor as previously described in "SEPARATING PUMP TUBE FROM AIR MOTOR" section of SERVICE.
2. Grab upper coupling 323439 and pull upward until contents of pump tube is removed from tube 333356-1, 333356-2 (Figure 5) or 333356-3 (Figure 4).
3. Remove lower spring clip 324648 from upper coupling 323439. Unthread and remove upper coupling from rod 323438-2 (Figure 4), 323438-1 or 323438-5 (Figure 5).
4. Remove two spring clips 324648 from lower coupling 323439. Unthread and remove rod from lower coupling, then remove lower coupling from adapter 323751.
5. Unthread and remove valve seat 323707 from adapter 323751. Remove piston 338120, ball 171700-36, and spring 336438 (Figure 4) or 323712 (Figure 5).

NOTE: At reassembly, apply LOCTITE "Type 242" to male threads of valve seat 323707 prior to installation. Do not tighten more than 1/4 turn after coming in contact with piston 338120. Allow 1-2 hours to cure.

6. Gripping foot valve body 323778 (Figure 4) or 323708 (Figure 5), unthread cylinder from foot valve body.

Model 7793-C only:

7. Remove "O" ring 171009-31 from foot valve body (Figure 4).
8. Tap out pin 323713 from foot valve body and remove ball 172270-13.
9. Clean and inspect all parts for wear or damage.

IMPORTANT: Worn or damaged parts present a threat to personnel and property. NEVER reuse worn or damaged parts.

REASSEMBLY:

Reassemble each section by reversing steps for disassembly.

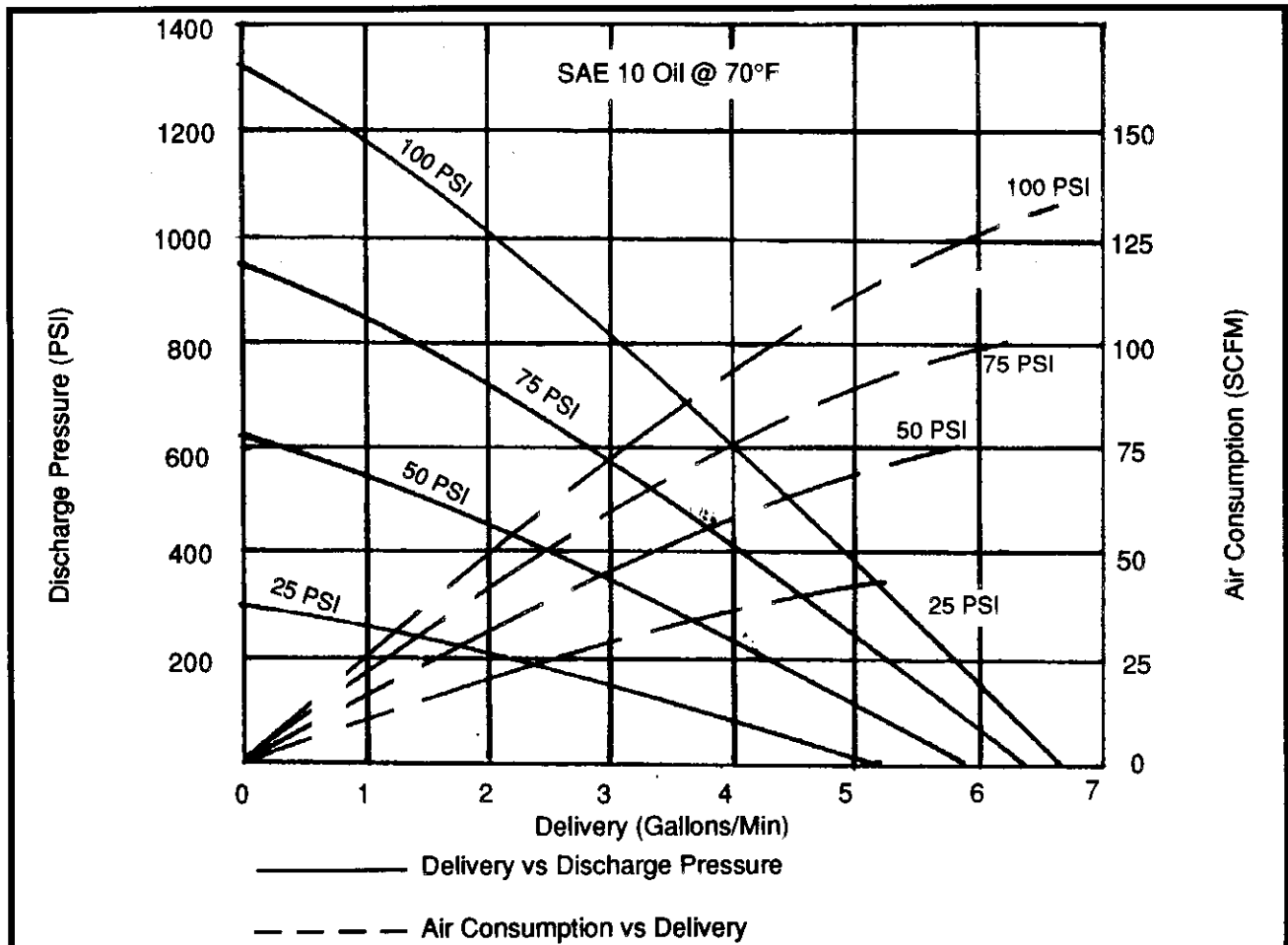


Figure 6: Performance Curves for 12:1 Ratio Pumps

MAJOR KITS**398986-2 For Model 7793 Pump-Tube Assemblies**

Part No.	Figure	Description	Qty.
171009-13	3	"O" Ring, 1-3/16" I.D. x 1-5/16" O.D.	1
171009-31	4	"O" Ring, 1-11/16" I.D. x 1-7/8" O.D.	1
171009-33	3	"O" Ring, 1-13/16" I.D. x 2" O.D.	1
171009-35	3	"O" Ring, 1-15/16" I.D. x 2-1/8" O.D.	1
171700-36	4,5	Steel Ball, 9/16" Diameter	1
■ 172190-5	3	Seal, 13/16" I.D. and 1-1/16" O.D.	1
■ 172190-6	3	Seal, 13/16" I.D. x 1-9/16" O.D.	1
323419	3	Washer, 7/8" I.D. x 1-5/16" O.D. (Zinc-Plated Steel)	1
323693	3	Aluminum Gasket, 1-23/32" I.D. x 1-29/32" O.D.	2
323707	4,5	Valve Seat, 1-1/8" Long (Steel)	1
323712	5	Heavy Spring, 15/32" Dia. x 27/32" Long (7793-A1 & B1)	1
324274	3	Bushing, 1-3/8" O.D. (Molded Rubber)	1
324648	4,5	Spring Clip	4
336438	4	Light Spring, 15/32" Diameter x 3/4" Long (7793-C)	1
337361	3	Washer, 1-35/64" O.D. (Zinc-Plated Steel)	1
337362	3	Lantern Ring, 1-9/16" O.D. x 11/16" Thick (Brass)	1
337363	3	Spacer, 1-1/16" Diameter x 5/16" Thick (Steel)	1
338120	4,5	Piston, 1-3/4" O.D. (Nylon 11)	1

* This kit is used for repairing the pump-tube assemblies in 7793-A1, 7793-B1 and 7793-C. The parts that are used for a specific pump tube are noted in the kits list.

■ These two parts can be purchased separately only in packs of five for minor repairs. Order replacement-seal kit 393530-5 or 393530-6 (Five each of 172190-5 or 172190-6 respectively).

MAJOR KITS (Continued)

* 393040-1 For Body and Seal Group (Figure 3)

Part No.	Description	Qty.
171009-13	"O" Ring, 1-3/16" I.D. x 1-5/16" O.D.	1
171009-33	"O" Ring, 1-13/16" I.D. x 2" O.D.	1
171009-35	"O" Ring, 1-15/16" I.D. x 2-1/8" O.D.	1
■ 172190-5	Seal, 13/16" I.D. and 1-1/16" O.D.	1
■ 172190-6	Seal, 13/16" I.D. x 1-9/16" O.D.	1
323419	Washer, 7/8" I.D. x 1-5/16" O.D. (Zinc-Plated Steel)	1
323693	Aluminum Gasket, 1-23/32" I.D. x 1-29/32" O.D.	2
337361	Washer, 1-35/64" O.D. (Zinc-Plated Steel)	1
337362	Lantern Ring, 1-9/16" O.D. x 11/16" Thick (Brass)	1
337363	Spacer, 1-1/16" Diameter x 5/16" Thick (Steel)	1

■ See note in Kit 398986-2.

* All of these items are included in kit 398986-2.

PARTS LIST - Series 7793 Pumps (Figure 2)

Part No.	Description	Qty.
	Square-Head Pipe Plug, 1/4" NPT (Zinc-Plated Steel)	1
+ ● 171009-13	"O" Ring, 1-3/16" I.D. x 1-5/16" O.D.	1
● 171009-33	"O" Ring, 1-13/16" I.D. x 2" O.D.	1
● 171009-35	"O" Ring, 1-15/16" I.D. x 2-1/8" O.D.	1
● ■ 172190-5	Seal, 13/16" I.D. x 1-1/16" O.D.	1
● ■ 172190-6	Seal, 13/16" I.D. x 1-9/16" O.D.	1
● 323419	Washer, 7/8" I.D. x 1-5/16" O.D. (Zinc-Plated Steel)	1
+ ▲ 323640-4	Air Motor	1
● 323693	Aluminum Gasket, 1-23/32" I.D. x 1-29/32" O.D.	2
+ * 323711-1	Pump Tube Assembly (7793-C)	1
	323786 Body (Zinc-Plated Steel)	1
	323787 Hex-Head Cap Screw, 1/2-13 (Special)	3
	323842 Eyebolt, 3/8" NPTF (7793-A1 & 7793-B1)	1
● 324274	Bushing, 1-3/8" O.D. (Molded Rubber)	1
● 324648	Spring Clip	1
	327706 Adapter, 2-7/8" Long (Zinc-Plated Steel)	1
	328031 Female Air Coupler, 1/2" NPTF	1
	328037 Male Adapter, 3/4" NPTF	1
	332465 Washer, 1-9/16" I.D. x 1-15/16" O.D. (Steel)	1
	332466 Spacer, 1-15/16" Long (Steel)	1
+ * 333256	Jam Nut, 2-16 UN	1
+ * 333357-A1	Pump Tube Assembly (7793-A1)	1
+ 333357-B1	Pump Tube Assembly (7793-B1)	1
+ ● 337361	Washer, 1-35/64" O.D. (Zinc-Plated Steel)	1
+ ● 337362	Lantern Ring, 1-9/16" O.D. x 11/16" Thick (Brass)	1
● 337363	Spacer, 1-1/16" Diameter x 5/16" Thick (Steel)	1

● Repair Kit Part

* See separate parts list

▲ See parts list in SER 323640-A1

+ Not Available as a separate purchased part

■ These parts can be purchased separately only in packs of five for minor repairs. Order replacement-seal kits 393530-5 or 393530-6 (Five each of 172190-5 or 172190-6 respectively).

PARTS LIST - Pump Tube Assembly 323711-1 (7793-C) (Figure 4)

Part No.	Description	Qty.
● 171009-31	"O" Ring, 1-11/16" I.D. x 1-7/8" O.D.	1
+ ● 171700-36	Steel Ball, 9/16" Diameter	1
172270-13	Ball, 1-1/16" Diameter (Chrome-Alloy Steel)	1
323438-2	Rod, 3-13/32" Long (Zinc-Plated Steel)	1
323439	Coupling, 1-15/16" Long (Nickel-Plated Steel)	2
● 323707	Valve Seat, 1-1/8" Long (Steel)	1
323713	Steel Pin, 1/4" Diameter x 1-3/4" Long	1
323751	Adapter, 3-1/4" Long (Zinc-Plated Steel)	1
323778	Foot-Valve Body, 3-5/16" Long (Zinc-Plated Steel)	1
● 324648	Spring Clip	3
333356-3	Tube, 12-13/32" Long (Zinc-Plated Steel)	1
+ ● 336438	Light Spring, 15/32" Diameter x 3/4" Long	1
● 338120	Piston, 1-3/4" O.D. (Nylon 11)	1

- Repair Kit Part
- + Not Available as a separate purchased part

PARTS LIST - Pump Tube Assemblies 333357-A1 & 333357-B1 (7793-A1 & 7793-B1) (Figure 5)

Part No.	Description	Qty.
+ ● 171700-36	Ball, 9/16" Diameter (Steel)	1
172270-13	Ball, 1-1/16" Diameter (Chrome-Alloy Steel)	1
▲ 323438-1	Rod, 17-3/32" Long (Zinc-Plated Steel)	1
▼ 323438-5	Rod, 24-19/32" Long (Zinc-Plated Steel)	1
323439	Coupling, 1-15/16" Long (Nickel-Plated Steel)	2
● 323707	Valve Seat, 1-1/8" Long (Steel)	1
323708	Foot-Valve Body, 1-3/4" Long (Zinc-Plated Steel)	1
● 323712	Heavy Spring, 15/32" Diameter x 27/32" long	1
323713	Steel Pin, 1/4" Diameter x 1-3/4" Long	1
323751	Adapter, 3-1/4" Long (Zinc-Plated Steel)	1
● 324648	Spring Clip	3
▼ 333356-1	Tube, 33-19/32" Long (Zinc-Plated Steel)	1
▲ 333356-2	Tube, 26-3/32" Long (Zinc-Plated Steel)	1
● 338120	Piston, 1-3/4" O.D. (Nylon 11)	1

- Repair Kit Part
- ▼ 333357-A1 (400 #)
- ▲ 333357-B1 (120 #)
- + 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 purchased 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

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