

Please read and save this Repair Parts Manual. Read this manual and the General Operating Instructions carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. The Safety Instructions are contained in the General Operating Instructions. Failure to comply with the safety instructions accompanying this product could result in personal injury and/or property damage! Retain instructions for future reference.

4-Inch Trash Pedestal Pump

Refer to form 1808-635-00 for General Operating and Safety Instructions.

Description

This self-priming (to 20 ft. lift) centrifugal pump includes a clog resistant, open impeller capable of handling solids as large as 2" diameter (up to 25% by volume). A built-in check valve assists in priming and a mechanical seal prevents leakage. All seals are Buna N. Handles liquids from 40° to 180° F (4° to 82° C). For use with nonflammable liquids compatible with pump component materials.

Specifications

Suction inlet 4" NPT
 Discharge outlet 4" NPT
 Weight 133 lbs.
 Basic construction cast aluminum with cast iron wear parts

Maintenance



Make certain that unit is

disconnected from power source before attempting to service or remove any component!

CLEANING

These units are designed so that for most cleanout or clogging problems it should not be necessary to remove hoses or piping. The suction area and impeller chambers can be reached by removing (2) threaded handles (Ref. No. 33) and removing suction cleanout cover plate (Ref. No. 31) and gasket (Ref. No. 30).

NOTE: When replacing cleanout cover plate, carefully wipe clean all surfaces on which gasket has contact. Also, make sure gasket is in position.

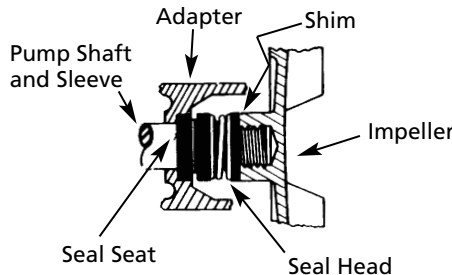


Figure 1 - Mechanical Seal MECHANICAL SEAL REPLACEMENT

Refer to figures 1 and 2.

NOTE: Always replace seal seat (Ref. No. 14), seal head (Ref. No. 15), and shaft sleeve (Ref. No. 16) to ensure proper mating of mechanical seal components!

1. Unthread fasteners (Ref. No. 28) and remove casing (Ref. No. 39) and casing seal (Ref. No. 13) from adapter (Ref. No. 12).
2. Unthread screws (Ref. No. 19) and remove volute (Ref. No. 20) from adapter.
3. Unscrew impeller (Ref. No. 18) from pump shaft (Ref. No. 5). Remove impeller shims (Ref. No. 17), shaft sleeve and seal head from pump shaft. Use a rubber mallet or soft block of wood to loosen impeller.

Turn it counterclockwise.

4. Unthread fasteners (Ref. Nos. 7 & 8) and remove adapter from pedestal mounting face.
 5. Push seal seat from adapter recess with a screwdriver.
 6. Clean adapter recess before inserting a new seal seat.
 7. Carefully wipe polished surface of new seal seat with a clean cloth.
 8. Wet the rubber portion of seal seat with a light coating of soapy water.
 9. Press new seal seat squarely into cavity in adapter. If seal seat does not press squarely into cavity, it can be adjusted in place by pushing on it with a piece of pipe. Always use a piece of cardboard between pipe and seal seat to avoid scratching seal seat. (This is a lapped surface and must be handled very carefully.)
 10. After seal seat is in place, ensure that it is clean and has not been marred.
 11. Using a clean cloth, wipe shaft and make certain that it is perfectly clean.
 12. Secure adapter on pedestal mounting face.
- NOTE:** Tighten fasteners **EVENLY** to avoid cracking rabbet on pedestal mounting face.
13. Apply a light coating of soapy water to the inside rubber portion of seal head and slide onto shaft sleeve. Slip

Performance Chart

Power Req.	GPM of Water at Total Head in Feet											Max** Head
	10'	20'	30'	40'	50'	60'	70'	80'	90'	100'	110'	
15HP @3600RPM	630	600	560	520	475	425	370	310	240	170	85	120 ft.

(**) Shut-off; to convert to psi, divide by 2.31.

For Repair Parts, contact dealer where pump was purchased.

Please provide following information:

- Model number
- Serial number (if any)
- Part description and number as shown in parts list

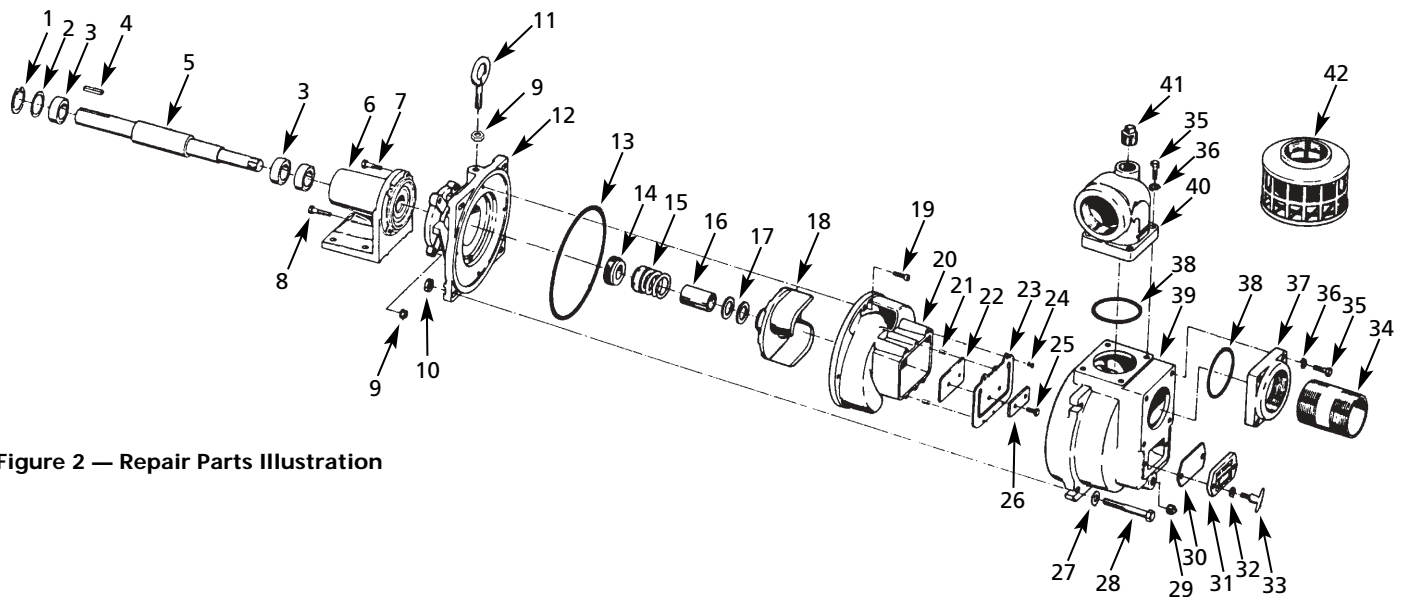


Figure 2 — Repair Parts Illustration

Repair Parts List

Ref. No.	Description	Part Number	Qty.
1	Retaining ring	1695-057-00	1
2	Bearing shim set (0.005", 0.010", 0.020"; one each)	1695-020-90	1
3	Ball bearing	1695-056-00	3
4	Key	1695-039-00	1
5	Shaft	1695-060-00	1
6	Pedestal	1695-054-01	1
7	Fastener	*	2
8	Fastener	*	2
9	Nut	*	5
10	Nut	*	4
11	Eyebolt	2169-000-00	1
12	Adapter	2184-001-02	1
13	No. -276 o-ring -Buna N	2185-000-00	1
14 & 15	Shaft seal assembly -Viton & silicon carbide	1640-167-90	1
16	Shaft sleeve	1555-000-00	1
17	Impeller shim set (0.010", 0.020", 0.030"; one each)	1656-000-90	1
18	Impeller	1990-003-08	1
19	Fastener	*	2
20	Volute	1990-002-01	1
21	Retainer pin	2121-000-00	4
22	Rear flapper weight	1990-006-01	1
23	Flapper valve	1990-005-00	1
24	Fastener	*	2
25	Fastener	*	2
26	Front flapper weight	2128-000-01	1
27	Washer	*	4
28	Fastener	*	4
29	Pipe plug	*	1
30	Cleanout gasket	2115-003-00	1
31	Cleanout plate	2115-002-01	1

Model 3993-99

Repair Parts List (Cont.)

Ref. No.	Description	Part Number	Qty.
32	Washer	*	2
33	Cleanout handle	1601-000-00	2
34	Pipe nipple	1696-035-00	2
35	Fastener	*	8
36	Washer	*	8
37	Suction plate	1990-004-01	1
38	No. -251 o-ring - Buna N	1990-008-00	2
39	Casing	2116-001-01	1
40	Discharge manifold	1990-009-01	1
41	Pipe plug	*	1
42	Suction strainer	1681-001-00	1

(*) Standard hardware item, available locally.

shaft sleeve with seal head onto pump shaft.

14. Replace any impeller shim removed in disassembly.
15. Screw impeller back in place tightening until it is seated against shims and shaft sleeve.
16. Remount volute with fasteners.
17. Refer to section entitled "Shim Adjustment" at this time if shaft sleeve or any other parts listed therein have been replaced.
18. Inspect position of flapper valve assembly (Ref. No. 23) to insure proper movement and seating.
19. Replace casing seal on volute rabbet.

NOTE: Always inspect casing seal. Replace when cracked or worn. Wet casing seal with soapy water for ease of assembly.

20. Remount casing.
21. Remount any other parts and reconnect spark plug wire. Pump should now run with renewed original performance.

IMPELLER AND VOLUTE REPLACEMENT

Impeller (Ref. No. 18) and volute (Ref. No. 20) are subject to wear only by abrasive sand or sediment laden liquids. If badly worn, all these parts can be

replaced easily and pump thus restored to full efficiency.

NOTE: When clearance between impeller and volute exceeds 1/16" at face of impeller or 1/8" on outside diameter of impeller, it may be necessary to take corrective action. The increased clearance can cause lengthened priming and decreased capacity to your unit. If performance is satisfactory for your application, it is recommended that no corrective maintenance be performed regardless of what clearances on your unit may have developed. This is because increased clearances in themselves are not generally harmful to your pump. Normally, new pump clearances can be restored by simply shimming behind impeller. (Add shim washers Ref. No. 17). If impeller is badly worn it is recommended that impeller be replaced. This is usually all that is required since only on usually abrasive surfaces does the cast iron wearplate show deterioration. Occasionally a stone or hard object might get caught in impeller and cause damage to volute/cut-water. In these cases, follow instructions below for replacement and refer to Figure 1.

1. Disassemble pump for access as described in Mechanical Seal

Replacement, steps 1 and 2.

2. Replace parts as necessary.

NOTE: When replacing volute, attach flapper valve assembly (Ref. No. 23) to new volute with fastener (Ref. No. 24).

NOTE: Before installing new parts, clean all mating surfaces thoroughly.

BEARING HOUSING SERVICE

1. Remove front pump assembly as described under "Mechanical Seal Replacement"
2. Remove shaft bearing (Ref. No. 3) and shaft (Ref. No. 5) as an assembly by first removing retaining ring (Ref. No. 1). Push shaft bearing assembly out of pedestal (Ref. No. 6) by rapping on threaded end of shaft with a rawhide mallet, or block of wood and a hammer.
3. Ball bearings can now be removed from shaft.
4. If shaft bearings have been removed from shaft, replace by sliding bearing on shaft to shoulder. Replace shaft bearing assembly by sliding assembly into housing threaded end first. Push shaft bearing assembly completely in by gently tapping on keyway end of shaft with a rawhide mallet. Replace retaining ring.

