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.

Self-Priming 2" and 3" Trash Pumps

Inspection

Look over the unit to see that no parts are missing or broken in shipment. An engine instruction book and pump instruction and parts list are supplied with each pump. Read instruction book carefully.

Placing Pump

Place the pump on a level, firm foundation, putting it as near as possible to the level of the liquid which is to be pumped, but never higher than 25 feet.

Connecting Hose

Connect the hoses or pipes to the suction and discharge fittings. If hose is used, be sure to use strongly reinforced hose on the suction side. Tighten hose couplings firmly, using the rubber gaskets furnished with the couplings. Hose or pipes should be supported independently and not carried by the pump.

Before Starting

1. A suction strainer should be attached to the suction hose or pipe. It is provided with holes or slots small enough to prevent big stones, etc. from damaging the impeller. Keep the strainer clean. If possible, suspend it to keep it from working into the sediment.
2. Fill the engine crankcase with oil as specified in the engine manual.
3. Fill the fuel tank with unleaded gasoline.
4. Fill the pump with liquid through the priming port on top of the pump case. Remember the pump is self priming only when the pump is filled. It will prime and reprime itself without refilling. Refilling is necessary only if pump has been drained or if the Fluid has been lost.

Starting

Start the engine, following instructions in the engine manual.

⚠WARNING ***Do not use pump in explosive atmosphere.***

⚠WARNING ***Do not pump volatile or flammable liquids.***

Priming Time

With a suction lift from 5 to 10 ft., the pump should discharge liquid in less than a minute. A suction lift of 25 ft. (at sea level), should require not more than 2 minutes for initial prime. To further reduce priming time the engine speed may be increased, after the engine is properly broken in. If pumping does not start within this time, shut off engine and check carefully to find the difficulty. (See TROUBLESHOOTING.)

Control

On high suction lifts, a higher engine speed is necessary than on low lifts. Therefore, on shallow lifts or when there is but little liquid to pump, save fuel and the engine by reducing the engine speed. (See engine manual.)

Check Valve

If discharge line runs vertically more than 30 ft., it is advisable to install a check valve in the discharge line near the pump to stop destructive liquid hammer when the pump is shut down. If this is done, it may be necessary to vent the top of the pump so that air can be expelled during automatic repriming. This air bleed

Self-Priming 2" and 3" Trash Pumps

may be accomplished by providing a 1/4" line from the top of the pump back to the liquid source. Manufacturer will not assume any responsibility for damage to the pump if no check valve is used in the discharge line. When properly fueled and lubricated your pump will run without attention.

Draining

During the freezing weather, be sure to drain pump when it is not in use. Unscrew the drain plug and run engine about a half minute without pumping.

Storage

When pump is out of service for long periods, drain it and store in dry, well-ventilated room. Pull engine hard against compression so that valves will be sealed. (Never run pump dry for more than half a minute or the shaft seal may be damaged.)

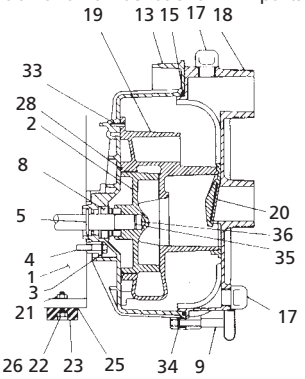
Maintenance

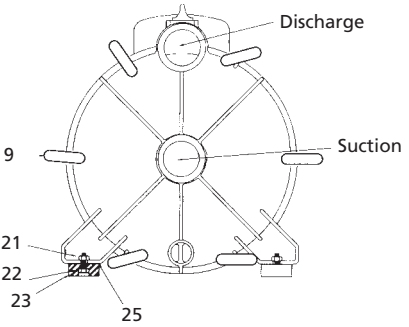
To disassemble pump follow these steps:

1. Remove handles (Ref. No.9).
2. Remove body (Ref. No.18).
3. Remove the volute (Ref. No.19).
4. Follow these instructions for removing the impeller (2): Remove the impeller by rotating the impeller counterclockwise.
   It may be necessary to strike the end of one of the impeller vanes with a wood block and hammer to start the counterclockwise rotation.
5. If the mechanical shaft seal (Ref. No.8) needs replacing:
   a. With a screwdriver, pry the white seal ring and its rubber boot out of the back of the impeller.
   b. Remove the pump bracket (rear housing) (Ref. No.13) by removing the four bolts (Ref. No.4).
   c. To remove the seal assembly (Ref. No.8) from the rear housing, drive it out from behind.
6. To replace the seal component in the rear housing, coat the bore in the housing where the seal installs with gasket material (Permatex or equivalent), then press the seal component into the bracket (Ref. No.13) by using an arbor press or drill press. Use a short piece of pipe that fits on the small flange of the seal case so that you are not pressing on the delicate, finely finished seal ring. Do not damage the seal face.
7. To replace the seal component in the impeller hub, lubricate the outside of the rubber boot with vegetable oil, grease or soap and press the white ring and rubber boot into the hub using your two thumbs. Be certain that the seal ring is all the way down and even with the back of the impeller so that the ring does not wobble when the impeller rotates on the shaft. Do not damage the surface of the seal ring.
8. Re-assemble the pump in the reverse manner from the dis-assembly. Use thread sealant on four bolts (Ref. No.4) that bolt bracket to engine.

For Repair Parts, contact dealer where pump was purchased.

Please provide the following information:
-Model number
-Serial number (if any)
-Part description and number as shown in parts list





Repair Parts List

Ref No	Description	Part Number for Models: 2S5 5/8" Shaft	3S5 5/8" Shaft	2S5 3/4" Shaft	3S5 3/4" Shaft	Qty
1	Engine threaded shaft	5HP	5HP	5HP	5HP	1
2	Impeller	2-127-A	2-313-A	2-127	2-313	1
3	Sealing washer (set of four)	16-233-1	16-233-1	16-233-1	16-233-1	1
4	Bolt 5-16-24x1.38 SST	19-216	19-216	19-216	19-216	4
5	Slinger	12-117-B	12-117-B	12-117-B	12-117-B	1
8	Shaft Seal, Sic-Viton®	3-258-A	3-258-A	3-258-A	3-258-A	1
9	Handle	32-134	32-196	32-134	32-196	6
13 Std	Bracket-roto finish	5-128-1B	5-128-1B	5-128-1B	5-128-1B	1
13 CI Alt	Bracket - Cast iron blk	5-372-1B	5-372-1B	5-372-1B	5-372-1B	1
15 Std	Body O-ring EPDM	12-133	12-133	12-133	12-133	1
15 Alt	Body O-ring Viton®	12-133A	12-133A	12-133A	12-133A	1
17 Std	O-ring EPDM	2102-022-00	2102-022-00	2102-022-00	2102-022-00	2
17 Alt	O-ring Viton®	12-117-A	12-117-A	12-117-A	12-117-A	2
17	Plug	3827-176-00	3827-176-00	3827-176-00	3827-176-00	2
18 Std	Body - roto finish	6-129-A	6-131-1A	6-129-1A	6-131-1A	1
18 CI Alt	Body Cast iron blk	6-370-1A	6-371-1A	6-370-1A	6-371-1A	1
19	Volute	1-139	1-312	1-139	1-132	1
20 Std	Check valve EPDM	7-136-1	7-137-1	7-136-1	7-137-1	1
20 Alt	Check valve Viton®	7-136-1A	7-137-1A	7-136-1A	7-137-1A	1
21	Locknuts	*	*	*	*	4
22	Bolts, 5/16x3/4	*	*	*	*	2
23	Feet, Rubber	1508-000-00	1508-000-00	1508-000-00	1508-000-00	4
25	Washer, flat 5/16x1½	*	*	*	*	4
26	Bolts, 5/16x1½	*	*	*	*	2
28 Std	O-ring EPDM	12-160	12-160	12-160	12-160	1
28 Alt	O-ring Viton®	12-160-A	12-160-A	12-160-A	12-160-A	1
32	Roll pin long	21-316	21-316	21-316	21-316	1
33	Roll pin SST	21-298	21-298	21-298	21-298	5
35	Shim, impeller (set of four)	22-255-1A	22-255-1A	22-255-1	22-255-1	1
36	Spacer, impeller	23-301-A	23-301-A	23-301	23-301	1
†	Trash strainer	C362-90	C520-90	C362-90	C520-90	1
†	Seal & O-ring kit EPDM Std	50-006	50-007	50-006	50-007	1
†	Seal & O-ring kit Viton® Alt	50-006-A	50-007-A	50-006-A	50-007-A	1

(*) Standard hardware item, purchase locally
(†) Not shown Roll Cage Frame Kit: 3120-105-KO
Seal and O-Ring Repair Kit Contains: Body-O-Ring, Sealing Washer Set, Volute-O-Ring, Plugs, Shaft Seal, Spacer, Shim Set, Check Valve, Instruction Sheet, and Seal Installatin Tool.

Self-Priming 2" and 3" Trash Pumps

If difficulties are experienced, in the majority of cases they can be traced to well-known causes. We suggest you check these points first to save needless expense.

Troubleshooting Chart

Symptom	Corrective Action
Pump fails to prime	1. Make sure that pump casing is full of cool liquid. 2. If difficulty continues, remove suction hose, start engine and hold a flat piece of rubber sheet, or other suitable material against the suction inlet. If the pump develops a strong pull against the material, the trouble is not in the pump. If there is no pull, the shaft seal may need replacing. 3. Examine suction hose or pipe connections. Air leaks in the suction line and connection to pump are the most frequent causes of priming trouble. Use new gaskets in hose coupling. New couplings sometimes require 2 gaskets. Lining of hose may also become loose and clog the hose. 4. Keep pump as close as possible to the level of the liquid being pumped. It will give best performance on suction lifts less than 15 feet, and is not guaranteed to handle any lift over 25 feet at sea level. 5. Be sure strainer is not clogged. 6. There are no parts or valves to become clogged or out of adjustment. The only requirement is that the pump case is full of liquid. 7. Keep your pump unit clean and properly serviced. Care in this respect will repay in many years of trouble-free operation.