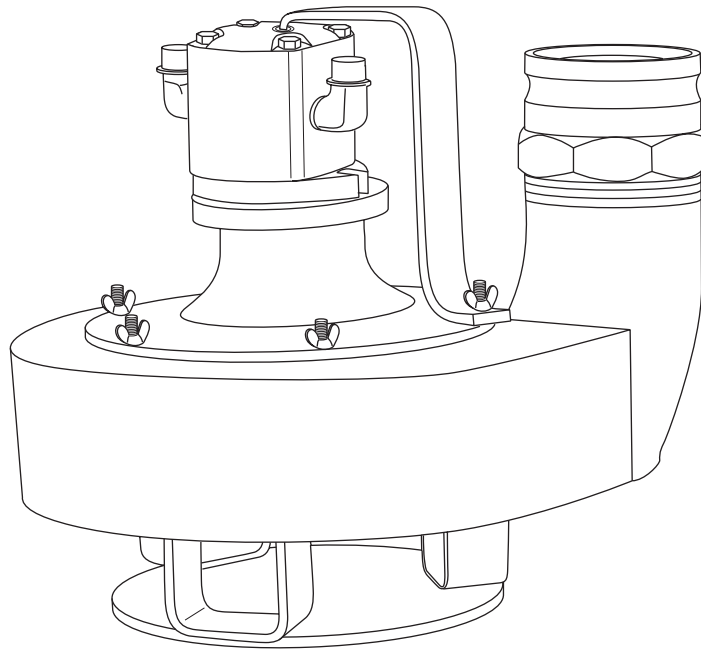


# SERVICE MANUAL

*Fairmont*<sup>®</sup>



CE

## **H4670/42192**

# **Submersible Trash Pump**

**Serial Code GLW**



**Read and understand** all of the instructions and safety information in this manual before operating or servicing this tool.

**Table of Contents**

Safety ..... 2  
 Purpose ..... 2  
 Other Publications ..... 2  
 Important Safety Information ..... 3-4  
 Disassembly ..... 5-6  
 Inspection ..... 6  
 Assembly ..... 7-8  
 Exploded Views and Parts List ..... 9-12

**Purpose**

This manual is intended to familiarize all personnel with the safe service procedures for the H4670/42192, serial code FYK Submersible Trash Pump. Keep this manual available to all personnel.

Replacement manuals are available upon request at no charge.

**Other Publications**

Operation Manual: Publication 99928159

Specifications and Parts Manual:  
H4660B/42190: Publication 99930439

SAE Standard J1273 (Hose and Hose Assemblies):  
Publication 99930323

**Safety**

Safety is essential in the use and maintenance of Fairmont tools and equipment. This instruction manual and any decals on the tool provide information for avoiding hazards and unsafe practices related to the use of this tool. Observe all of the safety information provided.

All specifications are nominal and may change as design improvements occur. Greenlee Textron Inc. shall not be liable for damages resulting from misapplication or misuse of its products.

Loctite is a registered trademark of Loctite Corp.

Mobilgrease is a registered trademark of Mobil Oil Corp.

**KEEP THIS MANUAL**

**IMPORTANT SAFETY INFORMATION**



**SAFETY  
ALERT  
SYMBOL**

This symbol is used to call your attention to hazards or unsafe practices which could result in an injury or property damage. The signal word, defined below, indicates the severity of the hazard. The message after the signal word provides information for preventing or avoiding the hazard.

**⚠ DANGER**

Immediate hazards which, if not avoided, WILL result in severe injury or death.

**⚠ WARNING**

Hazards which, if not avoided, COULD result in severe injury or death.

**⚠ CAUTION**

Hazards or unsafe practices which, if not avoided, MAY result in injury or property damage.

**⚠ WARNING**

Before operating this tool, see the safety information and operating instructions in the Operation Manual.

**⚠ WARNING**

Do not operate the pump if the impeller blades are exposed. After assembly, install the inlet screen before operating the pump.

Failure to observe this warning could result in severe injury or death.

**⚠ WARNING**

Do not inspect, adjust, or clean tool when it is connected to a power source. Accidental startup could result in serious injury.

**⚠ WARNING**

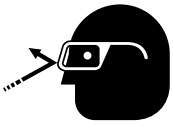


Skin injection hazard:

Oil under pressure easily punctures skin causing serious injury, gangrene or death. If you are injured by escaping oil, seek medical attention immediately.

- Do not use fingers or hands to check for leaks.
- Do not hold hose or couplers while operating the power source.
- Depressurize the hydraulic system before servicing.

**IMPORTANT SAFETY INFORMATION**

	<p><b>⚠ WARNING</b></p>
	<p>Wear eye protection when operating or servicing this tool.</p> <p>Failure to wear eye protection could result in serious eye injury from flying debris or hydraulic oil.</p>

<p><b>⚠ WARNING</b></p>
<p>Do not exceed the maximum hydraulic flow, pressure relief or back pressure listed in the Specifications and Parts manual.</p> <p>Failure to observe this warning could result in severe injury or death.</p>

<p><b>⚠ WARNING</b></p>
<p>Do not disconnect tool, hoses, or fittings while the power source is running or if the hydraulic fluid is hot. Hot hydraulic fluid could cause serious burns.</p>

<p><b>⚠ CAUTION</b></p>
<p>Hydraulic oil can cause skin irritation.</p> <ul style="list-style-type: none"> <li>• Handle the tool and hoses with care to prevent skin contact with hydraulic oil.</li> <li>• In case of accidental skin contact with hydraulic oil, wash the affected area immediately to remove the oil.</li> </ul> <p>Failure to observe these precautions may result in injury.</p>

<p><b>IMPORTANT</b></p>
<p>Do not reverse hydraulic flow. Operation with hydraulic flow reversed can cause tool malfunction. Connect the supply (pressure) hose and return (tank) hose to the proper tool ports.</p>

<p><b>IMPORTANT</b></p>
<p>Procedure for disconnecting hydraulic hoses, fittings or components:</p> <ol style="list-style-type: none"> <li>1. Move the flow lever on the hydraulic power source to the OFF position.</li> <li>2. Stop the power source.</li> <li>3. Follow the sequence under Disconnecting Hoses to prevent pressure buildup. In case some pressure has built up, loosen hoses, fittings or components slowly.</li> </ol>

*Note: Keep decals clean and legible. Replace decals when necessary—see the decals listed in the Parts and Specifications manual.*

## Disassembly

Complete disassembly of the tool is not recommended. If a complete overhaul is necessary, return the tool to your nearest Fairmont Authorized Service Center.

The disassembly procedure is divided into sections of the tool. Disassemble only the section(s) necessary to complete the repair.

Disassemble the tool on a flat, clean surface. Take care not to lose or damage any parts that may fall free during disassembly.

### Base Plate, Base Legs and Inlet Plate

*Note: Mating surfaces of inlet plate (4) and impeller (21) are critical. Disassemble and handle with care to prevent damage of these parts.*

1. Remove three hex head cap screws (8), lock washers (9), hex nut (10) and base plate (7).
2. Remove six hex head cap screws (6), three base legs (5) and inlet plate (4).

### Discharge Coupling, Handle and Volute Housing

1. Remove discharge coupling (34) from volute housing (1) if necessary.
2. Remove two wing nuts (25) and handle (31) from volute housing (1).
3. Remove four wing nuts (25). Remove volute housing (1) from case adapter assembly (11).
4. Remove shim(s) (24) from volute housing (1).
5. Remove six socket head cap screws (2) and lock washers (3) from volute housing (1), if necessary.

### Impeller

Lock impeller (21) in place by inserting a screwdriver between the blades of impeller. Remove hex cap nut (23), wrought washer (22) and impeller (21) from case adapter shaft (12). Remove Woodruff key (20) from case adapter shaft.

### Motor and Case Adapter

Remove two socket head cap screws (29). Remove motor (28) from case adapter (11).

### Case Adapter

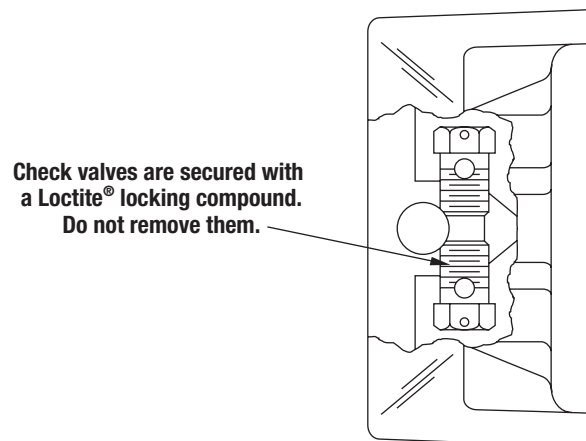
*Note: On later models only, remove O-ring (26) from case adapter (11).*

1. Remove retaining ring (14). Using a plastic head mallet, tap on threaded end of drive shaft (12) to drive shaft and bearings (13) out of case adapter. Pull bearings (13) off drive shaft (12), if necessary.
2. Remove V-ring (17), insert (16) and seal (15) from case adapter (11).
3. Remove six socket head cap screws (19) to remove plate (18) from case adapter (11), if necessary.

### Motor

1. Remove 90° elbows (32) and adapters (30) from motor (28) pressure port P and tank port T. Remove O-rings (31) from adapters.
2. Remove key from drive shaft.
3. Scribe a location mark across front plate and housing assembly. This will assure proper reassembly.
4. Clamp motor into a vise, with the shaft end up.
5. Remove eight cap screws (1).
6. Remove motor from vise. Tap shaft against a wood block to separate front plate (16) from housing (2).
7. Remove drive gear assembly (6) and idler gear assembly (7) from housing assembly.
8. Remove O-ring (3), retaining ring (20), washer (19), backup washer (18), and shaft seal (17) from front plate (16).

**Note: Do not remove the check valves in the side ported housing assemblies, located in both ports as shown. These valves are secured with a Loctite® locking compound.**



## Inspection

Clean all parts with solvent and dry them thoroughly. Inspect each component as follows:

1. **Bearings:** Insert shaft into bearing. Spin shaft. If shaft does not spin smoothly, replace the bearings and the shaft.
2. **Motor:** Use emery cloth to remove all nicks and burrs from all parts.
3. **Gear Shafts:** Inspect at bushing points and seal areas for rough surfaces and excessive wear.  
If shaft measures less than 17.42 mm (.686") in the bushing area, replace the gear assembly.
4. **Gears:** Inspect gear face for scoring and excessive wear. If edges of gear teeth are sharp, break edge with emery cloth. Replace gear assembly if gear width is less than 23.47 mm (.924").
5. **Housing:** Measure the inside diameter of bushings in housing and front plate. Replace the housing of front plate if I.D. of bushings exceed 17.6 mm (.693"). (Bushings are not available as separate items.)  
Check for scoring on the inside face of housing assembly and face of front plate. Replace if wear exceeds .038 mm (.0015").  
Check gear pockets inside housing for excessive scoring or wear. Replace if I.D. of gear pockets exceeds 43.5 mm (1.719").  
Inspect check valves within the side port housing to make sure that the check valves are secure. If they are not, replace housing.
6. Inspect all other disassembled components for cracks, grooves, chips or nicks.

## Assembly

Refer to the Exploded View(s) and Parts List for correct orientation and placement of parts.

Replace any O-rings, V-rings, seals, and gaskets on parts that have been disassembled. Apply hydraulic fluid or O-ring lubricant to all O-rings and all metal surfaces which they must slide over. When installing an O-ring which must slide over sharp surfaces, use a rolling motion and be careful not to damage the O-ring.

Wherever the assembly results in metal-to-metal contact, coat the surfaces with hydraulic fluid or O-ring lubricant.

### Placing Motor Back Into Operation

Before placing a rebuilt motor back into operation, it is important to follow the break-in procedure to prevent damaging the motor. If at all possible, run the motor at operating RPM for 10 minutes with the motor disconnected from the machine. Idle engine and inspect for external leaks and check to be sure that all connections are tight.

If the motor cannot be run without being connected to the machine, make all the necessary connections and run motor at operating RPM for 10 minutes at minimal load. Increase the load on the motor and run for 3 minutes at operating RPM. Place a full load on motor and run for 3 minutes at operating RPM. Idle engine and inspect for external leaks and check to be sure that all connections are tight.

1. Install new O-ring (3) in groove of front plate (16).
2. Dip gear assemblies into oil and slip into front plate bushings.
3. Apply a thin coat of petroleum jelly to both milled gear pockets of housing (2).
4. Use the location mark to align the housing and front plate. Slide housing (2) over gears and shafts until dowel pins are engaged. Secure with cap screws (1). Tighten evenly in a crisscross pattern to 29.8 to 33.9 Nm (22 to 25 ft-lb).
5. Liberally oil shaft seal (17) and install it over drive shaft, taking care not to damage the seal. Place backup washer (18) and washer (19) over drive shaft and onto shaft seal. Place a sleeve over shaft and press in shaft seal and washers until retaining ring groove appears.
6. Place retaining ring (20) into housing. Use sleeve again to press retaining ring in until it seats in groove.
7. Install key (8).
8. Install O-rings (31) on adapters (30).
9. Apply a thread sealant compatible with hydraulic system oil to the male pipe threads of the adapters (30) and 90° elbows (32). Install adapters and elbows in motor (28) pressure port and tank port. Tighten fittings securely.

## Assembly (cont'd)

### Case Adapter

1. Apply Loctite® 271™ Threadlocker, or equivalent, to threads of six socket head cap screws (19), if removed. Follow the manufacturer's instructions for curing. Install plate (18) to case adapter (11) using the six socket head cap screws. Tighten securely.
2. Fill groove of seal (15) and liberally coat V-ring (17) with Mobilgrease® HP, or equivalent. Install seal (15), insert (16) and V-ring (17) into case adapter (11).
3. Pack bearings (13) with Mobilgrease HP, or equivalent. If bearings (13) were removed from drive shaft (12), press the two bearings onto the drive shaft. Press drive shaft and bearing assembly into case adapter (11). Be careful not to cut or damage seal (15) and V-ring (17). Secure using retaining ring (14).

*Note: On later models only, install O-ring (26) in case adapter.*

### Motor and Case Adapter

Earlier Models only: Clean mating surfaces of motor (28) and case adapter (11) with Loctite 755-59 safety solvent, or equivalent. Coat one surface (27) with silicone sealer and allow ten minutes to dry before assembly. Install motor (28) in case adapter (11). Secure using two socket head cap screws (29). Tighten securely.

Later models only: Install motor (28) in case adapter (11). Be careful not to cut or damage O-ring (26). Secure using two socket head cap screws (29). Tighten securely.

### Impeller

Install Woodruff key (20) in case adapter shaft (12). Install impeller (21), wrought washer (22) and cap nut (23) on case adapter shaft (12). Lock impeller in place by inserting a screwdriver between the blades of impeller. Tighten cap nut (23) securely.

### Discharge Coupling, Volute Housing, Impeller Clearance and Handle

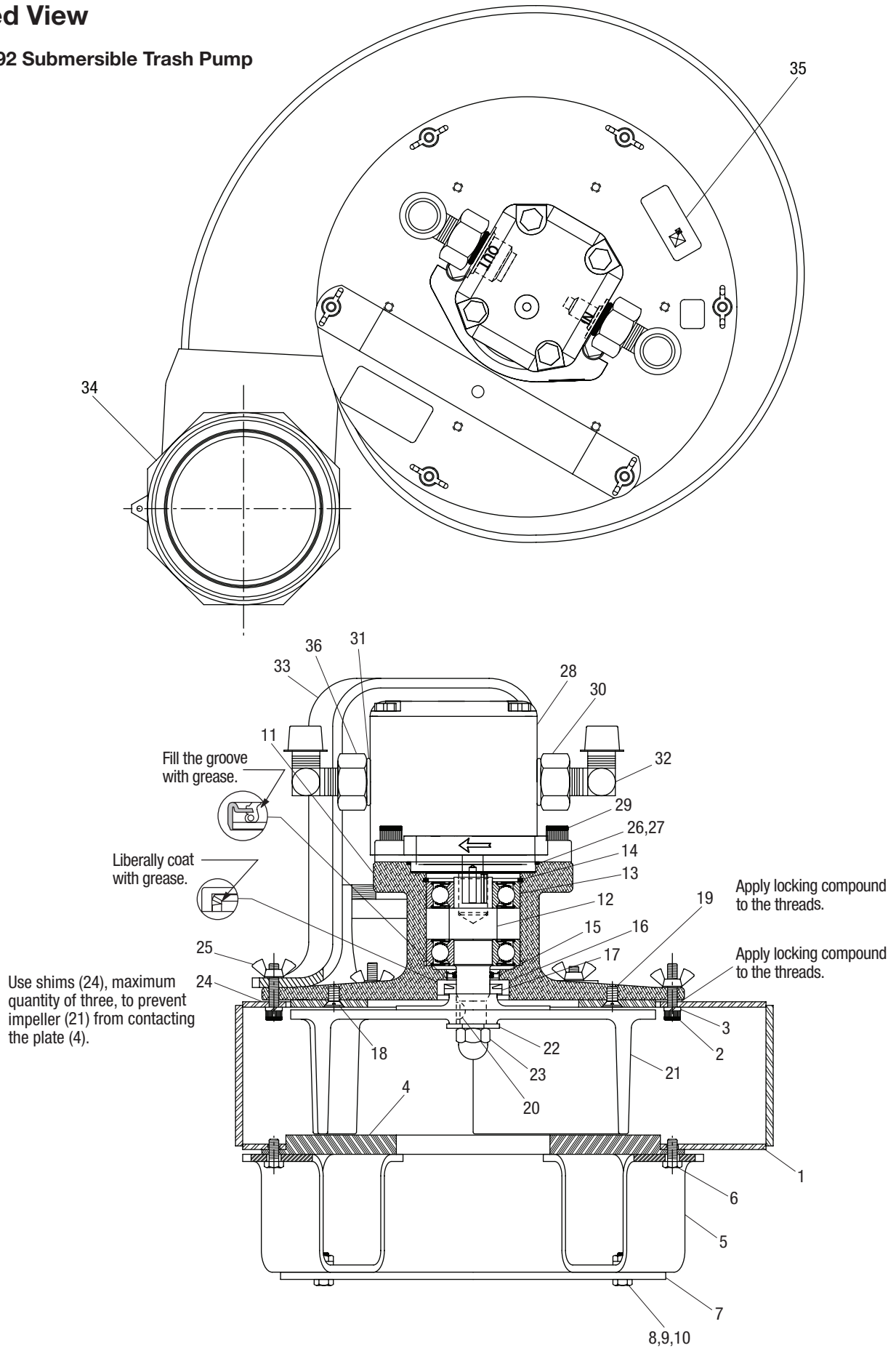
1. Apply Loctite 271 Threadlocker, or equivalent, to the six socket head cap screws (2), if removed. Follow manufacturer's instructions for curing. Install with the lock washers (3) in volute housing (1). Tighten securely.
2. Install one shim (24) on volute housing (1). Install motor, case adapter and impeller assembly in volute housing. Install inlet plate (4) on volute housing (1). Check clearance between bottom of impeller (21) and top of inlet plate (4). Install as many shims (24) as required (maximum of three), to prevent impeller from making contact with inlet plate. **Impeller must not make contact with inlet plate.** Remove inlet plate (4).
3. Secure volute housing (1) and handle (33) to case adapter (11) using six wing nuts (25). Tighten securely.
4. Install discharge coupling (34) to volute housing (1), if removed. Tighten securely.

### Base Plate, Base Legs and Inlet Plate

1. Use six hex head cap screws (6) to fasten inlet plate (4) and three base legs (5) to volute housing (1). Tighten securely.
2. Use three hex head cap screws (8), lock washers (9) and hex nuts (10) to fasten base plate (7) to base legs (5). Tighten securely.

**Exploded View**

**H4670/42192 Submersible Trash Pump**





**Parts List**

**H4670/42192 Submersible Trash Pump**

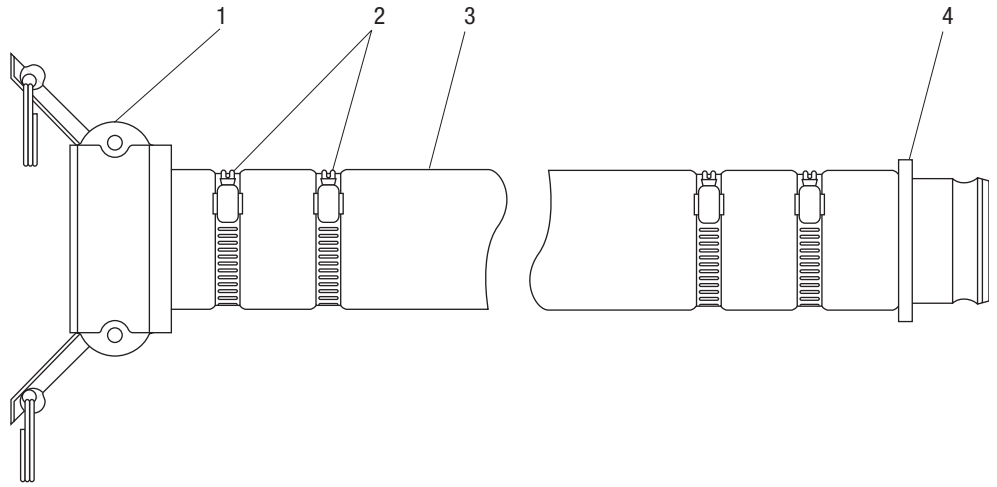
Key	UPC No. 78-3310-	Part No.	Description	Qty
1		139725	Volute housing.....	1
2	43954	F021296	Screw, cap, 1/4-20 x 1.250" socket head.....	6
3	41383	F012241	Washer, lock, 1/4" .....	6
4	41166	139720	Inlet plate.....	1
5	43320	139722	Base leg.....	3
6		F023714	Screw, cap, 1/4-20 x .625" hex head.....	6
7	43931	140594	Base plate.....	1
8	41828	F021304	Screw, cap, 1/4-20 x .750" hex head.....	3
9	41302	F009535	Washer, lock, .254 x .489 x .062" .....	3
10	44002	F021811	Nut, hex, 1/4"-20.....	3
11	49141	50491415	Case adapter.....	1
12		52026627	Shaft .....	1
13	43176	F023637	Bearing, .984 x 2.440 x .669" .....	2
14	43939	F013601	Retaining ring, 2.437" .....	1
15*			Seal.....	1
16	43347	139718	Insert.....	1
17*			V-ring .....	1
18	41165	139719	Plate .....	1
19	43350	F023713	Screw, machine, 1/4-20 x .500" flat head .....	6
20	43972	F023710	Woodruff key, .187 x .625" .....	1
21	41132	139185	Impeller.....	1
22	43348	F023716	Washer, flat, .562 x 1.375 x .109".....	1
23	43349	F023712	Nut, hex, 1/2"-20 Acorn.....	1
24	41161	139688	Shim, .063" (use maximum of three, as required) .....	1
25	43766	F023711	Wing nut, 1/2" stainless steel.....	6
26*			O-ring, 3.250 x 3.375 x .062"-70 .....	1
27*			Silicone sealer (earlier models only) .....	1
28		52026626	Motor .....	1
29		F023715	Screw, cap, 3/8-16 x 1.000" socket head.....	2
30		F023877	Adapter, 1/2 F NPT x 1-1/16" M STR.....	1
31*			O-ring, .924 x 1.156 x .116"-90 .....	2
32	43186	F011339	90° Elbow, 1/2 M NPT x 1/2" M NPT .....	2
33	43138	139721	Handle .....	1
34	43452	F024448	Coupling, 4" F NPT.....	1
35	41547	F015482K1	Decal, Fairmont.....	1
36		F014243	Adapter, 1/2 FNPT x 7/8-14 M STR .....	1

**Repair Kits**

*	43113	156475	Packing kit (includes items marked with an asterisk *)
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**Accessories**

**Discharge Hose Assembly**



Key	UPC No. 78-3310-	Part No.	Description	Qty
	41189	154955	Hose assembly, heavy-duty discharge	
1	42091	F024449	Coupling, cam lock.....	1
2		F012357	Clamp, hose, 4.5" .....	4
3		F024450	Hose, discharge, 4" x 25' .....	1
4	55211	90552113	Coupling, male .....	1
	55215	90552156	Hose assembly, contractor discharge	
1	42091	F024449	Coupling, female .....	1
2		F012357	Clamp, hose .....	4
4	55211	90552113	Coupling, male .....	1



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