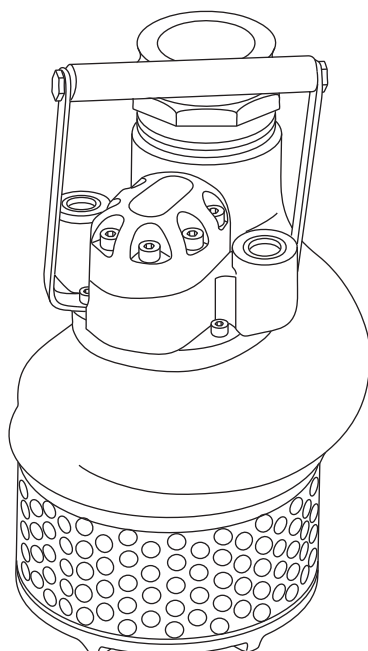


INSTRUCTION MANUAL



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H4665A

Submersible Pump

Serial Code FTY



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

Register this product at www.greenlee.com

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Description

The Greenlee Utility H4665A Submersible Pump is intended for pumping water only in any type of non-explosive environment. This pump operates with either open-center or closed-center hydraulic systems.

The quiet, self-priming pump mechanism operates efficiently and features a rugged, direct-drive, gear-type hydraulic motor. Oil-lubricated seals prevent damage when the pump is unintentionally run dry.

Safety

Safety is essential in the use and maintenance of Greenlee Utility tools and equipment. This instruction manual and any markings 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.

Purpose of this Manual

This manual is intended to familiarize all personnel with the safe operation and maintenance procedures for the following Greenlee Utility tool:

H4665A (42191) Submersible Pump
Serial Code FTY

Keep this manual available to all personnel.

Replacement manuals are available upon request at no charge at www.greenlee.com.

Other Publications

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

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 Henkel 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

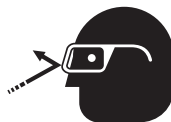
Hazards or unsafe practices which, if not avoided, **MAY** result in injury or property damage.



⚠ WARNING

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

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



⚠ WARNING

Wear eye protection when operating or servicing this tool.

Failure to wear eye protection could result in serious eye injury from flying debris or hydraulic oil.

⚠ WARNING



Skin injection hazard:

- Do not use hands to check for leaks.
- Do not hold hose or couplers while the hydraulic system is pressurized.
- Depressurize the hydraulic system before servicing.

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

⚠ WARNING

Pump water only.

- Do not use to pump drinking water.
- Do not use to extinguish fires.

Failure to observe these warnings could result in severe injury or death.

⚠ WARNING

Keep away from the pump outlet/discharge hose during operation. Liquid and debris will be thrown by the pump.

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

⚠ WARNING

Do not operate the pump if the impeller blades are exposed. Do not operate the pump without the inlet screen in place.

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

IMPORTANT SAFETY INFORMATION

⚠ WARNING

Do not exceed the following hydraulic power source maximums:

- Hydraulic flow: 30 l/min (8 gpm)
- Pressure relief: 138 bar (2000 psi)
- Back pressure: 13.8 bar (200 psi)

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

⚠ WARNING

Do not disconnect tool, hoses, or fittings while the power source is running or if the hydraulic fluid is hot. Hot hydraulic fluid can cause serious burns.

⚠ WARNING

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

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

⚠ WARNING

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

⚠ CAUTION

Hydraulic oil can cause skin irritation.

- Handle the tool and hoses with care to prevent skin contact with hydraulic oil.
- In case of accidental skin contact with hydraulic oil, wash the affected area immediately to remove the oil.

Failure to observe these precautions may result in injury.

⚠ CAUTION

- Inspect tool before use. Replace any worn or damaged parts. A damaged or improperly assembled tool can malfunction, injuring nearby personnel.
- Inspect the hydraulic hoses and couplings every operating day. Repair or replace if leakage, cracking, wear, or damage is evident. Damaged hoses or couplings can fail, resulting in injury or property damage.
- Use this tool for manufacturer's intended use only. Use other than that which is described in this manual could result in injury or property damage.
- Make sure all bystanders are clear of the work area when handling, starting, and operating the tool. Nearby personnel can be injured by flying debris or by flying parts in the event of a tool malfunction.

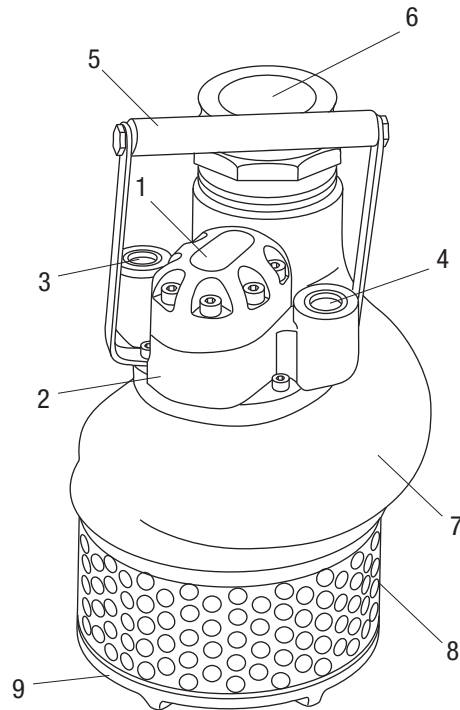
IMPORTANT

Procedure for connecting or disconnecting hydraulic hoses, fittings, or components:

1. Move the flow lever on the hydraulic power source to the OFF position.
2. Stop the hydraulic power source.
3. Follow the sequence under "Hose Connections" to prevent pressure buildup. In case some pressure has built up, loosen hoses, fittings, or components slowly.

Note: Keep all decals clean and legible, and replace when necessary.

Identification



H4665A Submersible Pump

- | | |
|---|-------------------|
| 1. Serial Number Tag | 6. Discharge Port |
| 2. Hydraulic Motor | 7. Housing |
| 3. Hydraulic Tank Port "T" (return) | 8. Inlet Screen |
| 4. Hydraulic Pressure Port "P" (supply) | 9. Base Plate |
| 5. Handle | |

Specifications

H4665A

Type of Hydraulic System: Open-center or closed-center

Hydraulic Ports:

Pressure (supply): 9/16–18 female SAE

Tank (return): 3/4–16 female SAE

Output: Refer to the “Performance Chart” below

Mass/Weight: 4.54 kg (10 lb)

Width (diameter): 178 mm (7")

Height (with handle): 318 mm (12.5")

Inlet Screen (strainer):

Height: 66.7 mm (2.625")

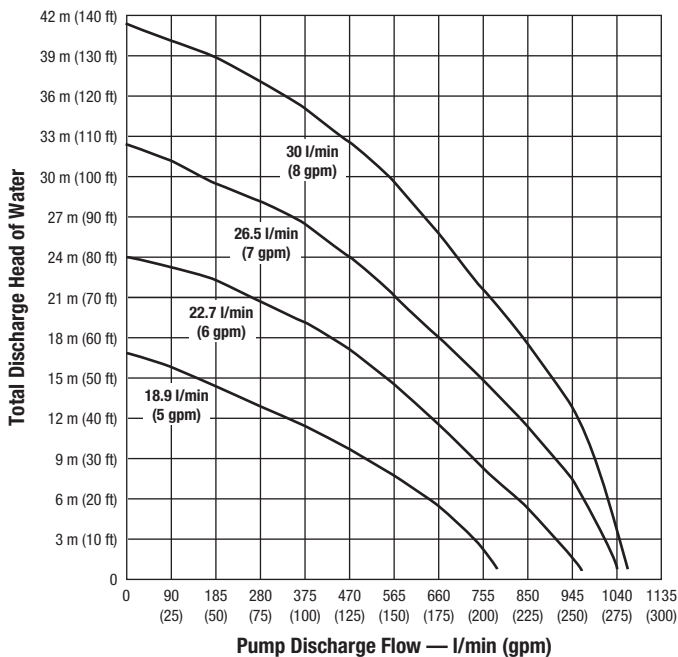
Diameter: 143 mm (5.625")

Openings: 9.53 mm (0.375")

Pump Inlet Port: 49.2 mm (1.9375")

Pump Discharge Port: 2" female NPT

Performance Chart



Hydraulic Power Source

⚠ WARNING

Do not exceed the following hydraulic power source maximums:

- Hydraulic flow: 30 l/min (8 gpm)
- Pressure relief: 138 bar (2000 psi)
- Back pressure: 13.8 bar (200 psi)

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

Hydraulic Power Source (cont'd)

Type of Hydraulic System: Open-center or closed-center

Flow:

Minimum: 19 l/min (5 gpm)

Recommended: 19 to 30 l/min (5 to 8 gpm)

Maximum: 30 l/min (8 gpm)

Filtration: 10 micron (nominal)

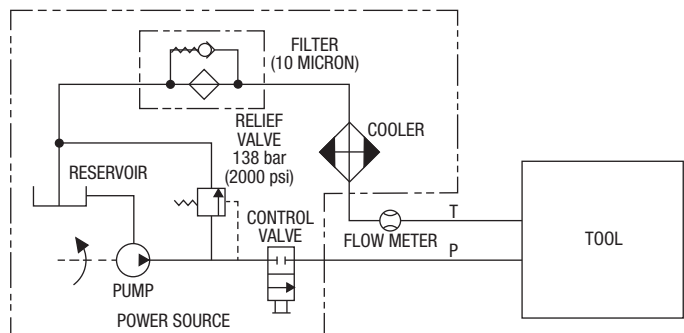
Pressure Relief Setting: 138 bar (2000 psi)

Back Pressure (maximum*): 13.8 bar (200 psi)

* 13.8 bar (200 psi) is the maximum agreed standard back pressure for the HTMA (Hydraulic Tool Manufacturers Association). Greenlee Utility tools will operate satisfactorily at this standard.

1. Maximum hydraulic fluid temperature must not exceed 60 °C (140 °F). A sufficient oil cooling capacity is needed to limit the hydraulic fluid temperature.
2. Hydraulic flow must not exceed 30 l/min (8 gpm). Install a flow meter in the return line to measure the rate of hydraulic flow before using the tool.
3. Pressure relief valve setting must not exceed 138 bar (2000 psi) at your tool's maximum flow. Locate the pressure relief valve in the supply circuit to limit excessive hydraulic pressure to the tool.

Hydraulic Schematic



Recommended Hydraulic Fluids

Use any nondetergent, petroleum-based hydraulic fluid which meets the following specifications or HTMA specifications.

S.U.S. @:

38 °C (100 °F): 140 to 225

99 °C (210 °F): 40 minimum

Flash Point: 170 °C (340 °F) minimum

Pour Point: -34 °C (-30 °F) minimum

Hoses and Fittings

Installation and Maintenance

Refer to publication 99930323, SAE J1273 (Hose and Hose Assemblies).

Replacement

Refer to a Greenlee Utility catalog or publication 99910322, Low Pressure Quick Couplers, Adapters, and Hoses.

⚠ WARNING

Do not disconnect tool, hoses, or fittings while the power source is running or if the hydraulic fluid is hot. Hot hydraulic fluid can cause serious burns.

Hose Connections

Tool Port Identification

Three methods are used to identify the pressure (supply) and tank (return) ports of Greenlee Utility tools. Match the markings on your tool to this table.

Pressure Port (supply)	Tank Port (return)
P	T
or	
In	Out
or	
9/16–18 O-ring Boss (smaller port)	3/4–16 O-ring Boss (larger port)

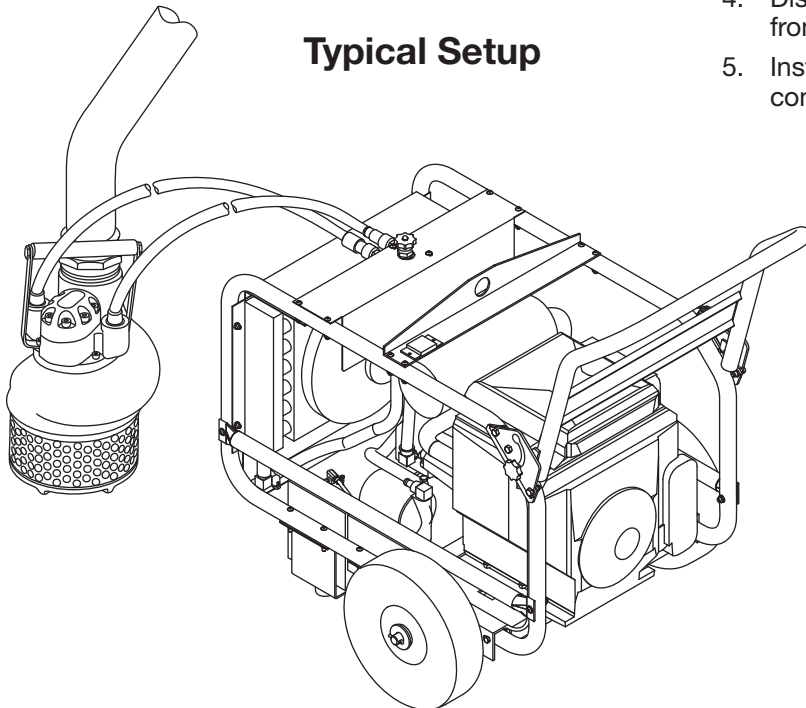
Connecting Hoses

1. Move the flow lever on the hydraulic power source to the OFF position.
2. Stop the hydraulic power source.
3. Connect the tank hose to the tank (return) port on the hydraulic power source, and then to the tank port on the tool.
4. Connect the pressure hose to the pressure port on the tool, and then to the pressure (supply) port on the hydraulic power source.

Disconnecting Hoses

1. Move the flow lever on the hydraulic power source to the OFF position.
2. Stop the hydraulic power source.
3. Disconnect the pressure hose from the hydraulic power source, and then from the tool.
4. Disconnect the tank hose from the tool, and then from the hydraulic power source.
5. Install dust caps over the ports to prevent contamination.

Typical Setup



Operation

⚠ WARNING

Keep away from the pump outlet/discharge hose during operation. Liquid and debris will be thrown by the pump.

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

⚠ WARNING

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



⚠ WARNING

Wear eye protection when operating or servicing this tool.

Failure to wear eye protection could result in serious eye injury from flying debris or hydraulic oil.



⚠ WARNING

Skin injection hazard:

- Do not use hands to check for leaks.
- Do not hold hose or couplers while the hydraulic system is pressurized.
- Depressurize the hydraulic system before servicing.

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

1. Connect the discharge hose to the discharge port.
2. Start the hydraulic power source.

Note: Allow the power source to run for a few minutes to warm the hydraulic fluid.

⚠ CAUTION

Do not use the hydraulic hoses to lower or lift the pump. This will weaken or damage the hoses or fittings, and could cause a hydraulic fluid leak.

Failure to observe this precaution may result in property damage.

3. Attach a rope or other device to the handle of the pump. Lower the pump into the material to be pumped.
4. Actuate the control valve of the power source to start the flow of hydraulic fluid.
5. When finished pumping, actuate the control valve to stop the flow of hydraulic fluid.

Maintenance

Use this maintenance schedule to maximize the tool's service life.

Note: Keep all decals clean and legible, and replace when necessary.

Daily

1. Wipe all tool surfaces clean.
2. Inspect the hydraulic hoses and fittings for signs of leaks, cracks, wear, or damage. Replace if necessary.
3. Install dust caps over the hydraulic ports when the tool is disconnected.

Monthly

Perform a thorough inspection of the hydraulic hoses and fittings as described in publication 99930323, SAE J1273 (Hose and Hose Assemblies).

Troubleshooting

Before troubleshooting, determine whether the problem is in the tool, the hoses, or the power source. Substitute a tool, hoses, or power source known to be in good working order to identify the item that is not operating.

If the problem is in the tool, refer to the troubleshooting table below. If the problem is in the power source, refer to the troubleshooting section of the power source instruction manual.

Problem	Probable Cause	Probable Remedy
Tool does not operate.	Improper power source.	Verify that the power source meets the specifications. Refer to the "Specifications" section of this manual.
	Hydraulic fluid level low.	Check the fluid level. Check system for leaks.
	Incorrect hydraulic fluid viscosity.	Use hydraulic fluid with the correct viscosity. Refer to the "Specifications" section of this manual.
Tool operates slowly or erratically.	Hydraulic fluid cold.	Allow fluid to warm to the operating temperature. Actuate the tool intermittently to reduce the warming time.
	Power source not adjusted correctly.	Refer to the power source operator's manual. Set the flow and pressure to correspond with the tool.
	Hydraulic fluid level low.	Check the fluid level. Check system for leaks.
	Air in the hydraulic system.	Refer to the power source manufacturer's instructions for removing air from the system.
	Incorrect hydraulic fluid viscosity.	Use hydraulic fluid with the correct viscosity. Refer to the "Specifications" section of this manual.
Tool operates backwards.	Hose connections at tool reversed.	Depressure the hydraulic system. Switch the hose connections.
Tool operates, but discharge is low.	Inlet screen plugged with debris.	Remove debris from inlet screen.
	Discharge hose plugged.	Remove and clean hose.

SERVICE

Disassembly

Complete disassembly of the tool is not recommended. If a complete overhaul is necessary, return the tool to your nearest Greenlee Utility 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 and Inlet Screen (Strainer)

Note: Mating surfaces of impeller (29) and inlet (32) are critical. Use every caution to prevent damage to these parts.

1. Remove six hex head cap screws (35), lock washers (36) and flat washers (37) to remove base (34), inlet screen (strainer) (38), and six bushings (33).
2. Remove inlet (32) and shim(s) (31) from volute (24).

Impeller

Lock impeller (29) in place by placing a screwdriver between the blades. Remove left-handed acorn nut (30) by turning it clockwise. Remove impeller (29), key (28) and shims (26, 27) from drive shaft (3).

Handle, Motor, and Volute

1. Remove two socket head cap screws (25) to remove handle assembly from volute (24). If necessary, remove two hex head cap screws (41) to disassemble handle components (39, 40).
2. Remove the other three socket head cap screws (25) to remove motor assembly from volute (24).

Retainer

Serial number 97720 and after:

1. Remove six socket head cap screws (22) to remove retainer (18) from motor assembly.
2. Remove quad ring/O-ring (16) and two O-rings (19, 20) from retainer (18).
3. If necessary, remove retaining ring (17) from retainer (18) to remove bearing (15).

Retainer and Seal Carrier

Serial number before 97720:

1. Remove six socket head cap screws (22) to remove retainer (B) from motor assembly.
2. Remove retaining ring (G) to remove seal carrier (F) from retainer (B).
3. Remove two quad rings (D) and two O-rings (C, E) from seal carrier (F).
4. Remove two O-rings (A) and one O-ring (19) from retainer (B).

Motor

1. Scribe a line across motor cap (12) and motor body (1) to align parts correctly during assembly.
2. Remove eight socket head cap screws (14) and pull motor cap (12) off motor body (1). Remove gasket (11). If necessary, remove two dowel pins (6) from motor body (1).
3. Pull idler shaft (8) with gear out of motor body. Remove gear (7) from idler shaft (8). If necessary, remove drive pin (9) from idler shaft.
4. Remove gear (7) and Woodruff key (10) from drive shaft (3).
5. Pull drive shaft (3) by removing retaining ring (5).
6. Remove O-ring (23) from motor body (1).

Note: Serial number before 97720: Remove O-ring (H) below bearing in motor body (I) using an O-ring tool.

Needle and Bearing Removal

Note: If the needle bearings (2, 13) in motor cap (12) or motor body (1) are damaged or worn, Fairmont recommends to replace the components as an assembly with the bearings already pressed in.

1. Do not remove the needle bearings (2, 13) unless they are damaged or worn. Bearings will be ruined when they are removed.
2. Use a blind-hole bearing puller to remove the bearings from the motor cap or motor body.

Inspection

Clean all parts with solvent and dry them thoroughly. Inspect each component as described in this section. Replace any component that shows wear or damage.

1. Bearings (4, 15) and Drive Shaft (3): Insert shaft into bearings. Spin shaft. If shaft does not spin smoothly, replace bearings and drive shaft.
2. Motor Cap (12) and Motor Body (1): Inspect mating surfaces, gear cavities, oil passageways, etc. for grooves or nicks. If any component shows wear or damage, replace the component as an assembly with the bearings already pressed in.
3. Inspect all other disassembled components for cracks, grooves, or nicks.

Assembly

Refer to the Illustration 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.

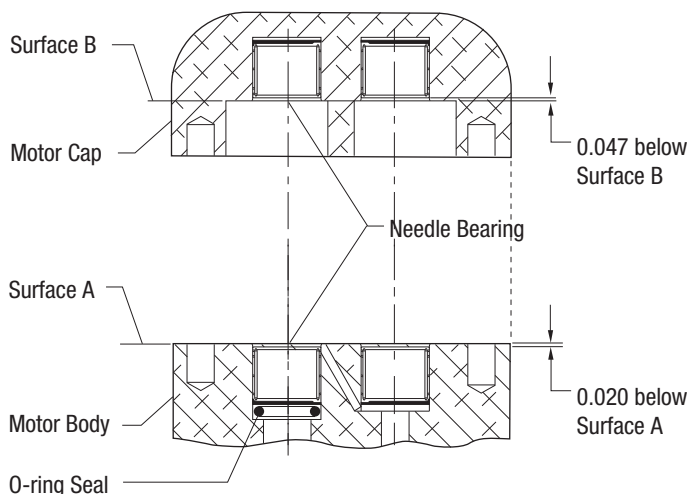
Needle Bearing Installation (refer to illustration)

Motor Body

1. Install a new needle bearing (2) with the identification mark facing up (readable from surface A) into the motor body (1).
2. Press the bearing into the motor body until the bearing cage is 0.50 mm (.020") below Surface A.
3. Repeat procedure for the other needle bearing if it was removed.

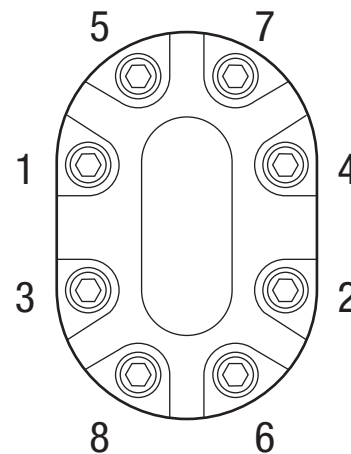
Motor Cap

1. Install new needle bearing (13) with the identification mark facing up (readable from Surface B) into the motor cap (12).
2. Press the bearing into the motor cap until the bearing cage is 1 mm (.047") below Surface B.
3. Repeat procedure for the other needle bearing if it was removed.



Motor

1. *Serial number before 97720:*
Install O-ring (H) below bearing in motor body (1) using an O-ring tool. Be careful not to damage O-ring during installation.
2. Install bearing (4) on drive shaft (3), if removed. Secure using retaining ring (5). Install drive shaft with bearing in motor body (1).
3. Install Woodruff key (10) and one gear (7) on drive shaft (3), guiding the keyway in gear over Woodruff key.
4. Install drive pin (9) in idler shaft (8), if removed. Slide one gear (7) on idler shaft, guiding the keyway in gear over drive pin (9). Install idler shaft with gear in motor body (1) meshing the two gears (7) together.
5. Install two dowel pins (6) in motor body (1), if removed. Install a new gasket (11).
6. Install motor cap (12) on motor body (1), aligning the scribe marks that were made during disassembly.
7. Secure motor cap (12) using eight washers (43) and socket head cap screws (14). Torque cap screws to 9 Nm (80 in-lb). Refer to illustration for torque sequence.



Retainer

Serial number 97720 and after:

1. If removed, install bearing (15) in retainer (18). Secure using retaining ring (17).
2. Install quad ring/O-ring (16) and O-rings (19, 20) in retainer (18).
3. Install retainer (18) in motor body (1). Secure using six socket head cap screws (22).
4. Turn drive shaft (3). Drive shaft must turn without binding.

Assembly (cont'd)

Retainer and Seal Carrier

Serial number before 97720:

1. Install two O-rings (A) and one O-ring (19) in retainer (B).
2. Install seal carrier (F) in retainer (B). Secure using retaining ring (G).
3. Install two quad rings (D) and O-rings (C, E) in seal carrier (F).
4. If removed, install one spring pin (21) in motor body (1). Install retainer (B) in motor body (1) aligning hole in retainer with spring pin in motor body. Secure using six socket head cap screws (22).
5. Turn drive shaft (3). Drive shaft must turn without binding.

Handle, Motor, and Volute

Install motor assembly in volute (24). Install handle assembly (39, 40, 41) on appropriate holes in flange of motor body (1). Secure handle assembly and motor assembly to volute using five socket head cap screws (25). Tighten cap screws securely.

Impeller

Note: Mating surfaces of impeller (29) and inlet (32) are critical. Use every caution to prevent damage to these parts.

Install shims (26, 27) on drive shaft (3). Install key (28) in drive shaft (3). Install impeller (29) on drive shaft (3), guiding keyway in impeller over key in drive shaft (3). Apply Loctite® 242, or equivalent, to threads of acorn nut (30). Follow the manufacturer's instructions for curing. Secure impeller and shims to shaft with left-handed acorn nut (30) by tightening counterclockwise.

Impeller Clearance

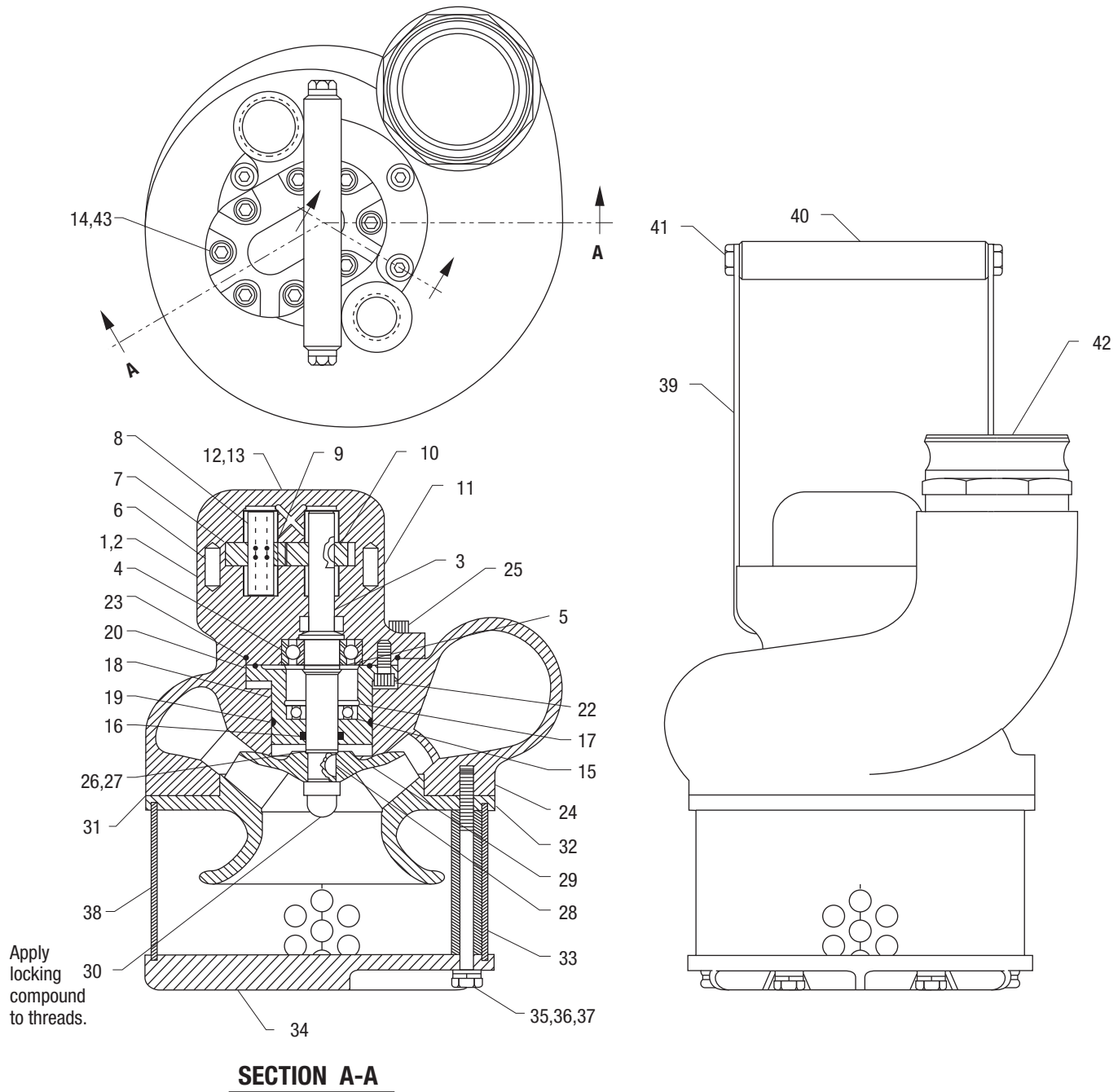
1. To check impeller (29) clearance, install shims (31) and inlet (32) on volute (24) using six hex head cap screws (not provided).
2. Using a feeler gauge, check clearance between impeller (29) and inlet (32). Clearance must be 0.28 to 0.38 mm (0.011 to 0.0015"). If clearance is not correct, remove inlet (32) and impeller (29). Add or remove shims (26, 27) as necessary and/or shim (31) to achieve the correct clearance.

Inlet screen (Strainer) and Base

1. Install six hex head cap screws (35), lock washers (36), and flat washers (37) in base (34). Position base so threaded ends of cap screws (35) point upwards.
2. Install six bushings (33) over the six cap screws (35). Install inlet screen (strainer) (38) in groove of base (34). Slide inlet (32) over the six cap screws (35), and install the inlet screen in groove of inlet (32).
3. Install laminated shims (31) over the six cap screws (35) and on inlet (32).
4. Secure inlet and strainer assembly to volute (24) using the six hex head cap screws (35). Tighten cap screws securely.

Illustration

Serial number 97720 and after



Parts List

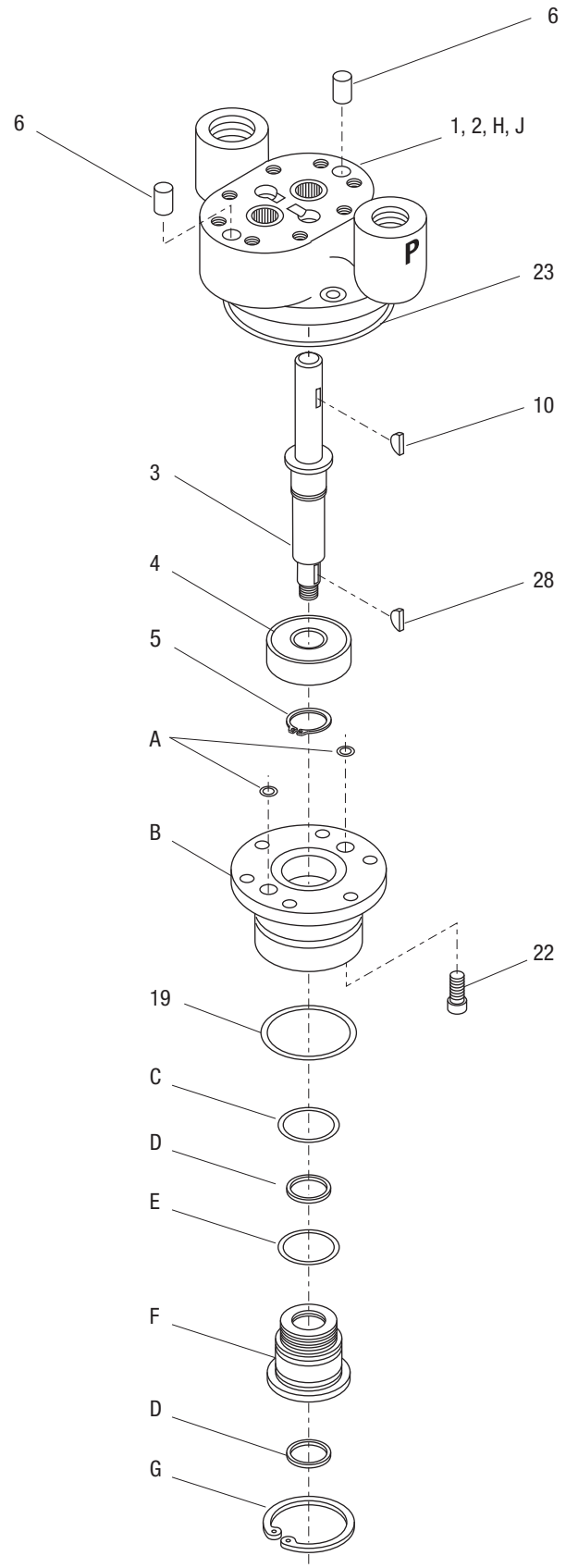
Serial number 97720 and after

Key	UPC No. 78-3310-	Part No.	Description	Qty
1	43351	50433512	Motor body (includes item 2)	1
2	41591	50415911	Needle bearing, .439 x .625 x .500	2
3	40928	50409280	Drive shaft.....	1
4	42849	50428491	Bearing.....	1
5	42835	50428350	Retaining ring, .594 shaft diameter.....	1
6	41596	50415960	Dowel pin, .250 x .500	2
7	41594	50415940	Gear, 11 tooth	2
8	40114	50401144	Idler shaft	1
9	41593	50415930	Pin, drive, .123 x .209, square head	1
10	40115	50401154	Woodruff key, #213 special.....	1
11*			Gasket.....	1
12	40405	50404053	Motor cap (includes items 13, 14, and 43)	1
13	41591	50415911	Needle bearing, .439 x .625 x .500	2
14			Screw, stainless steel cap, 1/4-20 x 1.00, socket head	8
15	42082	50420822	Bearing, .500 x 1.125 x .250	1
16*			Quad ring, .562 x .687 x .062-70 (serial code FTY 10375 and before).....	1
16	55260	90552601	O-ring (serial code FTY 10376 and after).....	1
17	41490	50414901	Retaining ring, internal, 1.125.....	1
18	43537	50435370	Retainer.....	1
19*			O-ring, 1.500 x 1.625 x .062-70	1
20*			O-ring, 1.750 x 1.875 x .062-70 (serial code FLM).....	1
20A*			O-ring, 1.500 x 1.625 x .062-70 (serial code FTY)	1
22			Screw, cap, #10-32 x .500, socket head.....	6
23*			O-ring, 2.500 x 2.625 x .062-70	1
24			Volute	1
25			Screw, cap, #10-24 x .875, socket head.....	5
26	42649	50426490	Shim, .003 (use as required)	1
27	42650	50426501	Shim, .005 (use as required)	1
28	42837	50428370	Woodruff key, #212	1
29	42640	50426401	Impeller	1
30	42648	50426480	Acorn nut, 5/16, left hand thread.....	1
31	42770	50427700	Shim, laminated, .020 (ten layers x .005 each)	8
32	42641	50426411	Inlet	1
33	43079	50430793	Bushing, 1/4 x 2.437	6
34	42643	50426431	Sub base.....	1
35	42800	50428002	Screw, cap, 1/4-20 x 3.500, hex head.....	6
36			Lock washer, 1/4 stainless steel	6
37			Flat washer, 1/4 stainless steel	6
38	42644	50426441	Inlet screen (strainer).....	1
39	41043	50410434	Bracket.....	2
40	42651	50426511	Handle.....	1
41			Screw, cap, 1/4-20 x .500 hex head.....	2
	41547	50415471	Decal, Greenlee Utility	1
42	42104	F024472	Coupling, 2 M NPT	1
43			Washer, 6 mm hard	8
Repair Parts				
*	41122	50411224	Packing kit (includes items marked with an asterisk)	

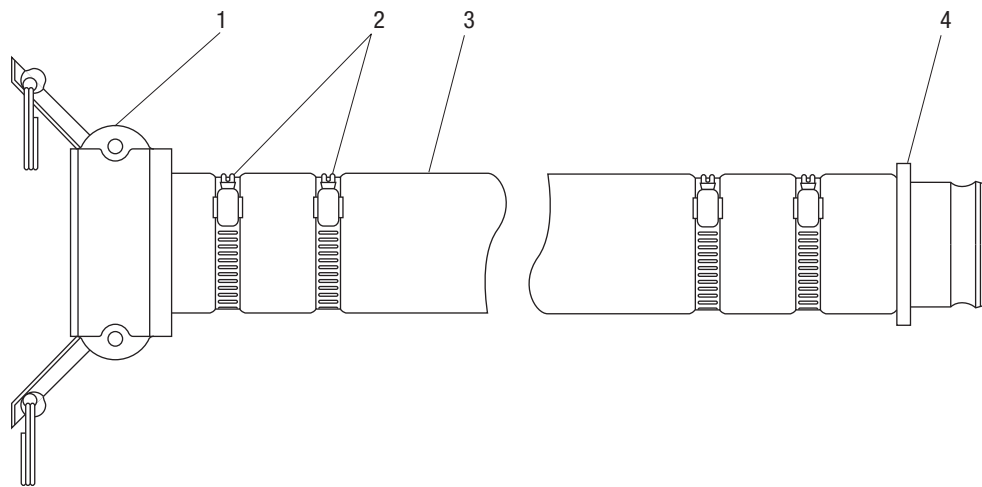
Motor Illustration and Parts List

Serial number before 97720

Key	UPC No. 78-3310-	Part No.	Description	Qty
A*			O-ring, .125 x .250 x .062-70	2
B	42645	L060305	Seal retainer housing	1
C*			O-ring, .875 x 1.00 x .062-70	1
D*			Quad ring, .562 x .687 x .062-70	2
E*			O-ring, .75 x .875 x .062-70	1
F	42646	L060306	Seal carrier	1
G	42836	50428360	Snap ring, 1.375, internal	1
H*			O-ring, .500 x .687 x .094-80	1
J	41872	50418720	Ball, .156 diameter (not illustrated)	2
Repair Kits				
*	41122	50411224	Packing kit (includes items marked with an asterisk)	



Accessories



Key	UPC No. 78-3310-	Part No.	Description	Qty
	41220	50412204	Hose assembly, heavy-duty discharge	
1			Coupling, cam lock	1
2			Clamp, hose.....	4
3			Hose, discharge, 2" x 25'.....	1
4			Coupling, male cam lock	1



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