

Keep With Operator's Manual

PUMP KIT FOR 9' BACKHOE

Hydraulic kit can be installed using tools ordinarily available. Shut off engine and set brakes during installation. Terms "left" and "right" describe position when sitting on backhoe seat.

NOTE: *Apply sealant only to all tapered threads unless coupled with swivel adapters. When using teflon tape, wrap tape clockwise (as viewed from end) and wrap only twice. Keep sealant away from first two threads of tapered end to prevent contamination of hydraulic fluid. Do not use sealant on o-ring or flare adapter threads.*

INSTALLING PUMP KIT

NOTE: *Drawbar may need to be removed if it interferes with reservoir. If drawbar can be left in place, retaining bracket (4) should be installed on left side of pump as shown and positioned on left side of tractor drawbar.*

1. Fasten hydraulic pump retaining bracket (4) to pump (6) using 3/8-16 x 1-1/4 cap screws (22) and 3/8 lock washers (24). Fasten one end of chain (8) to pump retaining bracket using only "U" bolt of wire rope clip (5), and 5/16 lock nuts (25).

NOTE: *Wrap chain tightly around hitch bracket on tractor to prevent pump from slipping off PTO shaft.*

2. Sandwich reservoir (1) between 3-pt mounting brackets or subframe and backhoe using hardware supplied with 3-pt mounting brackets or subframe.

3. Install 1 x 2-1/2 nipple (19), 1 x 3/4 elbow (18) and 3/4 x 2 nipple (20) to right tank port. Point 1 x 3/4 elbow fitting (18) up.
4. Install filter body (without filter element) to 3/4 nipple (20). Be sure oil flow (arrow on filter body) is correct. Position body so element points right. Install filter element (7).
5. Install 3/4 NPT x 3/4 JIC fitting (16) to filter body.
6. Install 1 x 1 elbow fitting (17) and hose barb (13) to left tank port. Point hose barb up and 45° to left.
7. Install 1-5/16 live swivel elbow (14) to right "IN" port on pump. Install 3/4 x 1-1/16 elbow fitting (15) to left "OUT" port on pump.
8. Connect suction hose (3) to reservoir using hose clamp (10) and to live swivel fitting (14) on pump.
9. Connect pressure hose (12) to "OUT" port on pump and "IN" port on valve. Connect tank hose (11) to "OUT" port on valve and to filter on hydraulic reservoir.
10. Fill reservoir to within two inches from top with 10W or 20W hydraulic oil with SAE J183-M2C33F classification. Dextron 2 ATF fluid and 10W engine oil with API "SD" classification are also acceptable.

NOTE: *After cycling all cylinders, recheck oil level. Empty reservoir requires 6.7 gallons to fill to 2 inches from top.*

MOUNTING BACKHOE TO TRACTOR

Refer to instructions provided to install 3-pt link or sub-frame.



WARNING: Escaping hydraulic fluid under pressure can penetrate skin causing serious injury.

1. Back tractor close enough to backhoe to connect pump to tractor.
2. Slide pump on PTO shaft and secure chain using 3/8 x 2 cap screw, 3/8 flat washer (23) and 3/8 lock nut (21) through links.
3. Using backhoe hydraulics, lower stabilizers until backhoe can be connected to 3-point hitch. Bottom of backhoe boom pivot should be 15 to 18 inches off ground when attaching to tractor lower 3-point arms.

- *DO NOT use your hands to check for leaks. Use a piece of cardboard or paper to search for leaks.*
- *Stop engine and relieve pressure before connecting or disconnecting lines.*
- *Tighten all connections before starting engine or pressurizing lines.*

PARTS LIST - PLUMBING KIT (Figure 1)

ITEM	SMC No.	NH No.	DESCRIPTION	QTY.
1	45248	SML45248	TANK, Assembly	1
2	12608	SML12608	BREATHER	1
3	45249-1	452491	HOSE, 1" x 50, Suction	1
4	45282	SML45282	BRACKET, Pump Retaining	1
5	6122-2	SML61222	WIRE ROPE CLIP	1
6	45250	SML45250	PUMP	1
7	6095	SML6095	FILTER ELEMENT (25 Micron)	-
8	6306-2	SML63062	CHAIN	1
9	6094	SML6094	FILTER, Assembly (Includes Element)	1
10	35596-1	SML355961	HOSE CLAMP	1
11	40350-13	SML4035013	HOSE, 1/2 x 60	1
12	40350-11	SML4035011	HOSE, 1/2 x 44	1
13	35597-2	SML355972	HOSE BARB	1
14	45179-1	SML45179-1	FITTING, Elbow, 1-5/16-12 JIC x 1-5/16-12 O-ring (Live Swivel), 90°	1
15	32845-11	00084340	FITTING, Elbow, 3/4-16 x 1-1/16-12, 90°	1
16	6036-5	00022877	FITTING, 3/4-16 x 3/4 NPT	1
17	G108687	00690528	FITTING, Elbow, 1" NPT Male x 1" Female NPT, 90°	1
18	G179535	SMLG179535	FITTING, Elbow, 1" Female x 3/4" Female, 90°	1
19	G190751	SMLG190751	FITTING, 1 x 2-1/2	1
20	G219657	SMLG219657	FITTING, 3/4 x 2	1
21	G9413534	00088902	NUT, Lock, 3/8-16	1
22	G180124	00880011	SCREW, Cap, 3/8-16 x 1-1/4	2
23	G120394	00080702	WASHER, Flat, 3/8	2
24	G120382	00080680	WASHER, Lock, 3/8	2
25	G9413447	09635082	NUT, Lock, 5/16	2
26	G180130	00088436	SCREW, Cap, 3/8-16 x 2	1

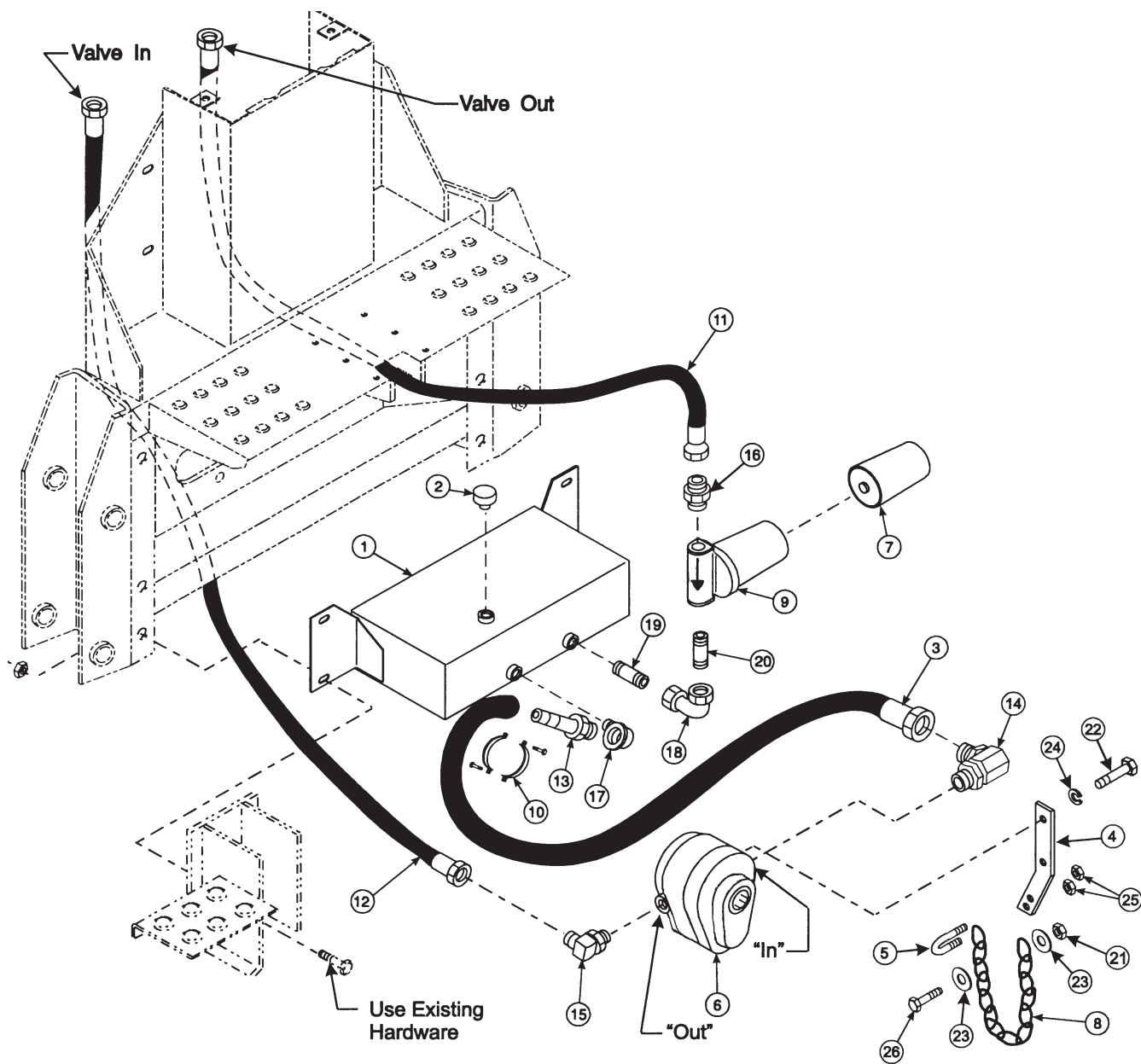


Figure 1
Hydraulic Kit Assembly

PUMP SERVICE

Lack of pressure or noisy operation indicates that gears or bearings should be replaced.

REPLACING SHAFT SEALS

Shaft seals (2) can be replaced without disassembling pump.

1. Being careful not to damage counterbore of covers, pry out old seals. Clean counterbore thoroughly. Remove all rough spots and metal particles.

Lubricate seals (2) with hydraulic oil and gently tap seals into counterbore using a block of wood or rubber hammer.

NOTE: *Lip of seal must face away from body for proper seal. Seal must be seated firmly and squarely in counterbore. Seal must be flush with cover surface.*

PUMP DISASSEMBLY

1. Mark castings so pump parts can be reassembled in exactly the same position.
2. Remove 3/8 x 3 cap screws (6) and separate front cover (5) from pump body.

NOTE: *Never pry apart pump using a sharp tool. Nicks or cracks in castings could result. When parts are stuck together, tap several places using a rubber or plastic mallet to separate parts.*

3. Remove wear plate (9) and gears (10 & 11) from pump body. Separate back cover (1) from body (12). Remove seals (8) and seal protectors (7 & 15) from wear plates (9 & 14).

NOTE: *Do not disassemble gears from shafts. Gears and shafts are not sold separately.*

NOTE: *Do not remove bearings from covers unless they need to be replaced. Bearings may be damaged when they are removed from covers.*

4. If roller bearings need to be replaced, lower bearings may be removed by using a flat punch through shaft hole in cover. Upper bearings must be removed by using a puller or by prying them out.
5. Clean all parts using a suitable solvent. Use air pressure to blow off dirt or excess solvent. Inspect parts for chips, cracks or wear and replace as necessary.

PUMP REASSEMBLY

1. Press bearings (3 & 4) into covers (1 & 5).

NOTE: *Apply pressure on outer race of bearing. Pressing on inner race or bearing area will damage bearing.*

2. Install rear cover assembly (1) to body. Use dowel pins (13) to aid alignment.

NOTE: *Be sure alignment marks are in same position.*

NOTE: *Assemble seal (8) between wear plate and protector. Trim seal .25" to .37" long. Tuck excess seal back into wear plate until it is flush with edge (Figure 2A).*

3. Install seal (8) and rear seal protector (15) to rear wear plate (14). Install rear wear plate (14) to rear cover (1) so seal is facing away from gears. Install gear assemblies (10 & 11) into rear cover. Lubricate gear shafts to ease assembly.
4. Install seal (8) and front seal protector (7) to front wear plate (9). Install front wear plate (9) to front cover (5) so seal is facing away from gears.
5. Install front cover (5) to body. Install 3/8 x 3 cap screws (6) and alternately torque to 30-35 ft lbs.
6. Fill pump with clean hydraulic oil. Rotate drive shaft to distribute oil. Drivehaft should rotate freely without any binding.

PARTS LIST - PRINCE PUMP (Figure 2)

ITEM	SMC No.	NH No.	DESCRIPTION	QTY.
1	45470	SML45470	REAR COVER	1
*2	28981	SML28981	SHAFT SEAL	2
3	45471	SML45471	BEARING, Idler Shaft	2
4	28990	SML28990	BEARING, Drive Shaft	2
5	45469	SML45469	FRONT COVER	1
6	G180138	00280161	SCREW, Cap, 3/8-16 x 3	12
7	*		SEAL PROTECTOR, Front	1
8	*		SEAL	2
9	45472	SML45472	WEAR PLATE, Front	1
10	45475	SML45475	DRIVE GEAR ASSEMBLY	1
11	28984	SML28984	IDLER GEAR ASSEMBLY	1
12	45394	SML45394	BODY	1
13	45474	SML45474	DOWEL PIN	2
14	45473	SML45473	WEAR PLATE, Back	1
15	*		SEAL PROTECTOR, Back	1
16	G180305	00088959	SCREW, Cap, 3/8-16 x 3-1/2	2
17	45476	SML45476	SEAL KIT (Includes * items 2, 7, 8 & 15)	1

NOTE: Shaft Seals - item #2 may be ordered separately (28981). They also are included in seal kit (45476)

Figure 2A

Cut seal .25 - .37 long
and tuck back into
wear plate.

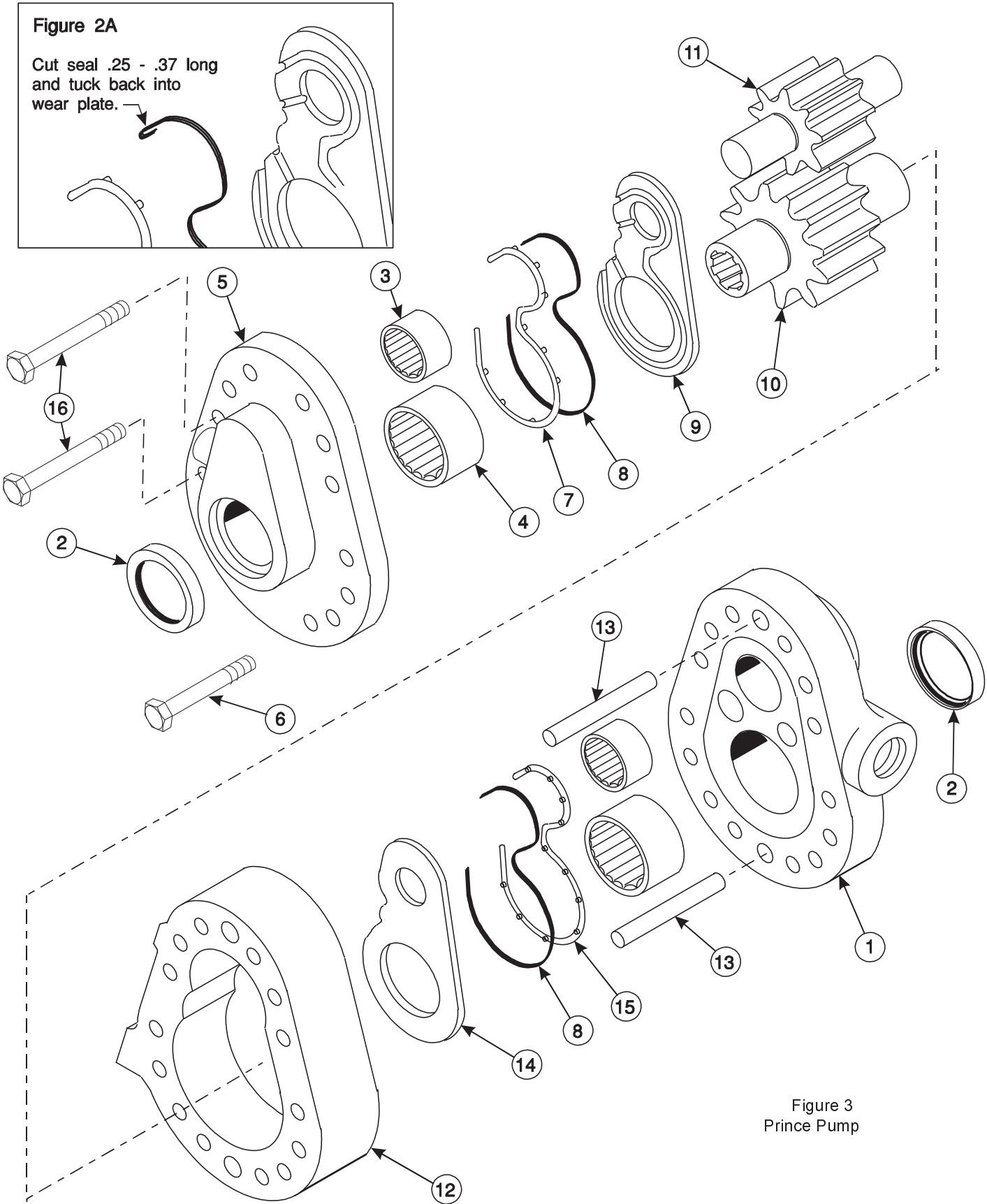


Figure 3
Prince Pump

INSTALLATION INSTRUCTIONS