







Parts List

Ref #	Qty	Part #	Description	Ref #	Qty	Part #	Description
	A4468	7526B			A4468	7526B	
	-40	**			-40	**	
1	1	A2311	Pump assembly	51	2	2780	1/4 Npt x 90° Street Elbow Frgd
2	1	A4466	Control Valve Assembly -40	54	3	20316*	9/16 O-Ring to 1/4 Npt 90° Elbow
3	2	4483	Clevis - VM	55	2	1658	Quill - 3/8 Nptm to 3/8 ID Hose
4	2	4494	10-32 Square Nut - VM	56	1	8688	QD/Electric Grille Plt (Short)
5	2	4491	Clevis Pin - 3/16" x 1"	57	1	8686	2 QD Grille Plt (short)
6	2	4493	3/16" Push Nut Zp	59	4	8324	Cable tie, Nylon - 3/16" x 14"
7	1	8764	Filter Kit	60	1	8476*	1/4" x 45° Npt Street Elbow
8	1	4419	Single Lever Control	65	1	8741*	Bracket - cable boot
9	2	A4488	40" Control Cable, SLC	66	1	8284*	Cable Boot
10	1	20116	1-1/2" x 10" Cylinder Assy - XL	72	1	5704	Caution Label - Cab
11	2	20117	1-1/2" x 12" Cylinder Assy - XL	73	2	3042	Grommet - Rubber, Split
12	2	6814	Clevis Pin - 1" x 3-5/16"	74	1	4477	Grommet - Split Hose
13	4	6816	Anchor Pin - 1" x 4"	75	3	3666*	Hose Tie, Nylon 3/16" x 8"
15	6	90601	1/4" x 1-1/2" Cotter Pin	76	3	5529*	Rubber Shock Mount
16	1	2516	Hose - 72" Hp 1/4P - 3/8P	77	1	90054	5/16" x 1-1/2" (NC) Gr 5 Cap Screw
17	1	2515	Hose - 72" Lp	78	4	3	90042* 5/16" x 1" (NC) Gr. 5 Cap Screw
18	1	375	Hose - 42" Hp 1/4P - 1/4P	79	6	12	90360* 5/16" Sp Lock Washer
19	2	6066	Hose - 66" Hp 1/4P - 1/4P	80	7	6	90332* 5/16" (NC) Nut
20	1	3074	Hose - 22" Hp 1/4P - 1/4P	81	4	6	90313* 5/16" Flat Washer
21	2	4424	Hose - 36" Hp 1/4P - 1/4P	84	1		90614 1/4" x 1-1/4" (NC) Gr. 5 Cap Screw
22	1	5588*	Fan Spacer - 3/16"	85	1		90359 1/4" Sp Lock Washer
23	1	419	Fan Belt, 53"	86	1		90330 1/4" (NC) Nut
24	1	8040	Drive Sheave	87	1		90103* 3/8" x 1" (NC) Gr. 5 Cap Screw
25	1	3696	Pump Sheave	88	2		90361* 3/8" Lock Washer
26	1	8041	Pump Bracket	90	1		90619* 3/8" x 2-1/2" (NC) Gr. 5 Cap Screw
27	1	8042	Brace	92	1		90570* 3/8" x 5" (NC) Gr. 5 Cap Screw
28	1	8043	Brace	93	3		90666* 5/16" x 3-1/2" (NC) Gr 5 Cap Screw
29	1	5329	Valve Plate	94	1		90534* 3/4" x 4-1/2" (NF) Gr 5 Cap Screw
30	1	4476	Valve Plate Brace	95	1		90391* M10 x 1.5 x 30 Gr. 8.8 Cap Screw
32	1	6060	Brace Tab	96	1		90420* M10 Flat Washer
33	1	20296	Drive Sheave spacer	97	1		90048* 5/16" x 1-1/4" (NC) Gr 5 Cap Screw
35	1	5530	Saddle Bracket	98	1		8011* Nylon Mounting Tie Wrap
36	1	2036	Rear Tank Strap	99	1		90659* #12 x 3/4" Sheet Metal Screw
37	1	2116	Universal Brace Rod				
38	1	2115*	Universal Brace Tab				
42	3	21096	Hose Disconnect Assembly				
43	2	2	1588* Dust Plug - Closure/Male				
44	1	4486*	Adapter - Bulkhead 1/4" Npt				
45	3	4485*	Snap Ring - 7/8" External Bowed				
46	1	2	319* 1/4" x 90 Swivel Adapter				
47	2	2315	9/16 w/O-Ring x 3/8 F Pi Swivel				
49	1	1659*	Adapter Union, 1/4 NPT both ends				

NC FASTENER TORQUE (FT-LB)			
DIAMETER- THREADS PER INCH	GRADE		
	G2	G5	G8
1/4 - 20	6	9	13
5/16 - 18	11	18	28
3/8 - 16	19	31	46
7/16 - 14	30	50	75
1/2 - 13	45	75	115
9/16 - 12	66	110	165
5/8 - 11	93	150	225
3/4 - 10	150	250	370
7/8 - 9	150	378	591
1 - 8	220	583	893

** A4468-40 uses bolt bag 5425 * Part of 8719 Bolt Bag

1. Cylinder and Cylinder Hose Assembly

- A. Attach female half of disconnect (42) and a 1/4" Npt 45 degree street elbow (60) to 22" Hp Hose (20). Using bench vise to hold lift cylinder (10), remove closure from port and screw the other end of the hose directly into this port. Place lift cylinder with hose pointing to passenger side into ears on lift arm and upper gear. Secure with clevis pins (12) and cotter pins (15).
- B. Attach male half of quick disconnect (42) to one end of one 36" Hp hose (21). On the second 36" Hp hose, place a dust cover (43) on one end of the hose (21) and another male half of a disconnect (42) on the other.
- C. Using a bench vise to hold angle cylinders (11), remove closures from ports. Screw brass forged street ells (51) into ports. Ells should point toward live end of cylinder and slightly upward as they will be installed on the A-Frame. The driver side cylinder uses the 36" Hp hose with the dust cover and male disconnect half. The passenger side uses the 36" Hp hose with the male disconnect end and **no dust cover**. Install cylinders to their respective sides so that ells are between the cylinders and the A-frame. Secure cylinder with anchor pins (13) at both ends, with cotter pins (15) in each anchor.

2. Control Head and Control Cables

Note: Dash bracket, hardware, drilling guide and mounting instructions will be found in peculiar attachments box.

- A. Drill three 5/8" holes in the firewall for the control cables and wiring harness and one 1/2" hole in dash for light switch using drilling guide as a reference only. **Be sure both sides of the firewall are clear of obstructions before drilling.**
- B. Install the dash bracket as per dash bracket instructions.
- C. Loosen the jam nuts on control head end of cables (9) and install into slots in control head (8). (Raise cable centers in beginning of lower slot.) Snap cable ends onto ball studs and tighten jam nuts to secure cables to control head. Remove the nuts and washers from the valve end of the cables. Route the cables out through the firewall up to top of the driver side fender well. Attach control head to dash bracket as per dash bracket instructions. Install rubber grommets (73) around cables where they pass through the fire wall.

3. Valve and Valve Plate

- A. Using a bench vise to hold control valve assembly (2), remove closures from valve ports. Screw the 90 degree swivel adapter unions (47) into the "in" and "out" ports. Screw quill (55) into installed adapter in the "out" port. Install three 9/16" O-ring to 1/4" NPT 90° elbows (54) in lift and angle ports. When tight, elbows should point away from cable end of valve.
- B. Install two rubber shock mounts (76) to bottom of valve plate (29) on driver's side at foremost and rearmost holes. Install a third shock mount on passenger's side at middle hole. Fasten all three with 5/16 lock washers (79) and nuts (80). Install valve plate brace (30) to bottom third shock mount and fasten with a 5/16 lock washer (79) and nut (80). Mount valve to valve plate using two 1/4 x 1-1/4 cap screws, lock washers and nuts found in valve bag. Connect control cables to valve plate and valve before fastening valve to vehicle. Reinstall jam nuts and washers on cables. Place control cables in respective slots of valve plate bulkhead with one nut and washer on each side of bulkhead. Center cables in slots so that they are exactly in line with valve spool centers. Attach cable clevis (3) to cables using square nuts (4). Slip cable clevises over spools. Install clevis pins (5) through clevis and spools then secure with push nuts (6) on clevis pins. Temporarily adjust cables so that control lever is somewhere near centered in control head.
- C. Locate and remove plastic plug from hole in driver's side inner fender below windshield washer reservoir and ream to 11/32". Place hole in valve plate brace over this hole and locate valve plate on top of fenderwell. Check to see that cables run in as smooth a path as possible and that hydraulic hoses will clear windshield washer reservoir. Using shock mounts as guides, mark and drill two 11/32 holes. Place shock mounts through fenderwell and fasten with two 5/16 flat washers (81), lock washers (79) and nuts (80).

Insert a 5/16 x 1 (NC) cap screw (78) down through the valve plate brace and reamed hole, and fasten with a 5/16 flat washer (81), lock washer (79) and nut (80). **On vehicle with cruise control, the cruise control vacuum unit must be relocated to valve plate.**

- D. With valve plate fastened to inner fender, readjust control cables so that control head lever is centered between angle and raise/lower positions. If cable clevis does not allow enough adjustment, reposition cable at valve plate bulkhead. After checking to see that valve spools are in the centered position, tighten cable clevis nuts.

Caution: Valve spools must be free and self centering when cables and control head are attached. Failure to center spools will restrict fluid flow through valve. This may cause hydraulic fluid to overheat resulting in pump damage and or hydraulic hose failure. Hose failures can cause engine fires.

When adjusted, the control lever must be in the neutral position to allow enough spool travel each way for proper valve actuation.

4. Drive Sheave Installation

- A. Remove fan from water pump and install 3/16" fan spacer (22). Reinstall fan.
- B. **For 1992-1994 models:** Remove and discard 3/4" cap screw and washer from center of crankshaft pulley. Remove and discard every other 5/16" cap screw from inside of crankshaft pulley (total of three 5/16" cap screws).

For 1995-1996 models: Remove and discard all fasteners (one 3/4" cap screw, one washer, six 5/16" cap screws) from inside of crankshaft pulley.

Note: Apply a removable loosening prevention compound (such as "Lock-tite") to all drive sheave fasteners prior to installation.

- C. **For 1992-1994 models: DO NOT USE DRIVE SHEAVE SPACER (33) with 1992-1994 ENGINES.** Install drive sheave (24) with one 3/4 x 4-1/2 (NF) Gr. 5 cap screw (94) through center hole onto center of crankshaft pulley. Install three 5/16 x 3-1/2 (NC) Gr. 5 cap screws (93) with 5/16 lock washers (79) through remaining hole in drive sheave and crankshaft pulley. Snug-up the 3/4 x 4-1/2 cap screw first, then the three 5/16 x 3-1/2 cap screws and torque them to 18 ft-lbs. Last, torque the 3/4 x 4-1/2 cap screw to 100 ft-lbs.

For 1995-1996 models: Place the drive sheave spacer (33) into crankshaft pulley and install three 5/16 x 1 (NC) Gr. 5 cap screws (78) with 5/16 lock washers (79) and 5/16 flat washers (81) in every other hole. Tighten these fasteners to 18 ft-lbs of torque. Install drive sheave (24) with one 3/4 x 4-1/2 (NF) Gr. 5 cap screw (94) through center hole onto center of crankshaft pulley. Install three 5/16 x 3-1/2 (NC) Gr. 5 cap screws (93) with 5/16 lock washers (79) through remaining holes in drive sheave and crankshaft pulley. Snug-up the 3/4 x 4-1/2 cap screw first, then the three 5/16 x 3-1/2 cap screws and torque them to 18 ft-lbs. Last, torque the 3/4 x 4-1/2 cap screw to 100 ft-lbs.

5. Pump Tank and Pump Bracket

Caution: Pump tank fill must be vertical to engine.

- A. Remove the 3/8" cap screw from under coil and discard. Install lower pump bracket brace (28) with one 3/8 x 1 (NC) Gr. 5 cap screw (87). **Do not fully tighten fasteners at this time.** Remove the two 3/8 cap screws below alternator and discard. Install pump bracket (26) between idler pulley and coil. Install 3/8 x 2-1/2 (NC) Gr. 5 cap screw (90) and lock washer (88) in lower hole of pump bracket. Install 3/8 x 5 (NC) Gr. 5 cap screw (92) and lock washer (88) into top hole. Attach lower pump bracket brace to lowest hole in pump bracket with one 5/16 x 1 (NC) Gr. 5 cap screw (78), lock washer (79) and nut (80). Remove and discard cap screw from center of idler pulley and replace with a M10 x 1.5 x 30 Gr 8.8 cap screw (95) and M10 flat washer (96).

Remove cap screw from top of coil, place upper pump bracket brace (27) over hole and reinstall fastener. Tighten all fasteners except the one for upper pump bracket brace at this time.

- B. Holding pump tank (1) in bench vise, screw straight swivel adapter (49) onto pressure port of pump and screw quill (55) into return port of pump. Install pump sheave (25) onto pump shaft using lock nut and key supplied with pump. Remove pump from vise and install saddle bracket (35) on over front of pump. Secure with a 5/16 x 1-1/2 Gr. 5 cap screw (77), lock washer (79) and nut (80). Attach saddle bracket and pump to pump bracket using a 5/16 x 1-1/4 cap screw (97) (attach through upper pump bracket brace as shown in illustration), flat washer (81), lock washer (79) and nut (80) on top hole and a 5/16 x 1 cap screw (78), flat washer (81), lock washer (79) and nut (80) to the third hole in pump bracket.
- C. Install 53" V-belt (23) on over installed drive and pump sheaves. Align sheaves and tighten 1-1/2" saddle bracket fastener. Adjust for proper tension by pivoting saddle bracket on top fastener. Adjust for proper tension by pivoting saddle bracket on top fastener. Tighten remaining fastener on top pump bracket brace. Install rear tank strap (36) on over rear of pump tank. Remove nut from rear of alternator. Install universal brace tab (38) and reattach nut. Align universal brace tab with universal brace rod (37). Measure or gauge needed length of brace rod and cut to length. Install one 5/16 nut (80) and flat washer (81) onto universal brace rod and insert brace rod through universal brace tab. Connect brace rod to tank strap with one 1/4 x 1-1/4 cap screw (84), lock washer (85) and nut (86). Fasten other end of brace rod to brace tab with a 5/16 flat washer (81), lock washer (79) and nut (80). Use brace rod to adjust alignment of drive and pump sheaves. Check belt for proper tension.

6. Hydraulic Hose Installation

- A. Attach one end of the 72" H.P hose (16) to the 1/4" swivel adapter on the pump tank and push the 72" Lp hose (17) onto the quill on pump tank. Route these hoses to the control valve via fire wall.

Caution: Keep hoses away from hot or moving engine components. Failure to do so may cause hose to burst resulting in possible fire.

Push L.P hose onto quill (out port) of valve and screw H.P hose into 90 degree swivel adapter (in port) of valve. Remove top nut on driver's side of wiper motor, install brace (32) then reinstall nut. Drill a 5/32 hole in fire wall 18" from brace on passenger's side. Install a mounting tie wrap (98) with a #12 sheet metal screw (99) to this hole. Tie hoses with tie and use a tie wrap (75) on tab to hold hoses.

- B. Remove grille and drill a 1-7/8" hole (centered) in pushout plug of bulkhead to the left and below the driver's side headlight. Install 6" rubber split hose (74) in drilled hole. Attach the 42" Hp hose (18) to Cyl. "A" port on valve. Attach one 66" Hp hose (19) to Cyl. "B" port on valve and another 66" Hp hose (19) to the lift port. Route hoses under battery base and out through drilled hole in bulkhead. Install in-line oil filter as per filter kit (7) instructions located in the common hydraulics kit.

7. Disconnect Assembly

- A. Using the two hole quick disconnect plate (57) install bulkhead adapter (44) through one hole in plate and fasten with a snap ring (45). Attach one 1/4 x 90 swivel adapter (46) on the back of the adapter. Install a male disconnect (42) on the front. In the other hole install female disconnect (42) and fasten with snap ring (45), attach 1/4 x 90 swivel (46) to rear of female disconnect. Place dust plugs (43) on both 66" Hp hoses (19) and attach the lift hose to the female disconnect, and angle hose to the male disconnect.
- B. Using QD/electric grille plate (56) install female disconnect (42) through hole and fasten with snap ring (45). Next install a 1/4 x 90 swivel adapter (46) to back of disconnect. Pass electric plug out through the top driver's side of the grille and side into slotted side of plate. Place plate into grille and install dust plug (43) over hose fittings and install the 42" Hp hose (18) to a 1/4 x 90 swivel adapter (46). Place tight against the grille and secure with two long tie-wraps (59). On opposite side place dust plugs (43) on both hoses then attach lift hose to 1/4 x 45 swivel and angle hose to 1/4 x 90 swivel. Place tight against the grille and secure with two long tie wraps (59). Reinstall the grille.

- C. Install cable boot bracket (65) on driver's side headgear brace between brace and fasteners. Insert cable boot (66) on over bracket.

8. Operations

- A. Check all fittings and fasteners for tightness. Secure hoses with nylon tie wraps (75). Place caution label (72) on the dash beside the control head.
- B. Fill reservoir with FISHER® High Performance Hydraulic Fluid (recomended for superior cold-weather performance) or type "A" automatic transmission fluid. Start the engine, lift and angle the blade. **If the blade angles opposite from the control lever position, reverse the two Hp hose connections on valve.** Raise the front end of the vehicle until the plow is clear of the ground with the lift cylinder fully retracted. Check the reservoir oil level. Angle the blade (with the lift cylinder retracted) to remove air from the system. Recheck the reservoir oil level.

Note: The installer must inform the end user of the proper procedure for removing any residual hydraulic pressure that may be trapped in the raise or angle hoses. The plow will be much easier to install or remove if the proper procedures are followed.

Before coupling or uncoupling the hydraulic disconnects you must first turn off the ignition. Move the control to all four plowing positions and return the control to lower. You may then remove or install the plow.