







Parts List

Ref #	Qty	Part #	Description	Ref #	Qty	Part #	Description
		-40				-40	
1	1	A2311	Pump tank assembly	45	3	*4485	Snap Ring - 7/8" Extrnl Bowed
2	1	A4466-40	Control Valve Assembly	46	1	319	1/4" x 90° Swivel Adapter
3	2	4483	Clevis - VM	47	2	2315	9/16" w/O-Ring x 3/8" F Pi Swivel
4	2	4494	10-32 Square Nut - VM	51	2	2780	1/4" Npt x 90° Street Elbow Frgd
5	2	4491	Clevis Pin - 3/16" x 1	52	1	*2318	1/4" Npt x 90° Union Elbow
6	2	4493	3/16" Push Nut Zp	53	1	*3979	3/8" x 90° Street Elbow
7	1	8764	Filter Kit	54	3	*20316	9/16 O-ring to 1/4 NPT 90° Elbow
8	1	4419	SLC Head - Belt Drive	56	1	*8599	QD/Electric Plate - long
9	2	A4488	40" SLC Cable	57	1	*8600	2 QD Plate - long
10	1	20116	1-1/2" x 10" Cylinder Assy - XL	59	8	*8324	Hose Tie - 3/16" x 14"
11	2	20117	1-1/2" x 12" Cylinder Assy - XL	60	2	319	1/4 x 90° Swivel Adapter Union
12	2	6814	Clevis Pin - 1 x 3-5/16	61	8	*90687	1/4" x 1/2 (NC) Button Head Socket Swivel
13	4	6816	Anchor Pin - 1 x 4	62	1	*8476	1/4"x 45° Street Elbow
15	6	90601	1/4" x 1-1/2" Cotter Pin	65	1	*8741	Bracket - Cable Boot
16	1	2707	Hose -26" Hp 1/4P - 3/8P	66	1	*8284	Cable Boot
17	1	4471	Hose - 26" Lp	72	1	5704	Caution Label - Cab
18	1	376	Hose - 32" Hp, 1/4P to 1/4P	73	2	3042	Grommet - Rubber, Split
19	2	6066	Hose - 66" Hp, 1/4P to 1/4P	74	1	4477	Grommet - Split Hose
20	1	3074	Hose - 22" Hp 1/4P - 1/4P	75	3	*3666	Hose Tie, nylon 3/16" x 8"
21	2	4424	Hose - 36" Hp 1/4P - 1/4P	77	1	90054	5/16"x1-1/2" (NC) Gr.5 Cap Scrw
23	1	358	51" V-Belt (not shown)	78	4	90042	5/16" x 1" (NC) Gr.5 Cap Screw
24	1	20056	Drive Sheave**	79	6	*90360	5/16" Sp Lk Washer
25	1	3696	Pump Sheave	80	7	*90332	5/16" (NC) Nut
26	1	5029	Pump Bracket	81	4	*90313	5/16" Flat Washer
28	1	*20057	Drive Sheave Bushing .750**	84	1	90614	1/4" x 1-1/4" (NC) Gr.5 Cap Scrw
29	1	5780	Valve Plate	85	1	90359	1/4" Sp Lk Washer
30	1	5781	Valve Plate Brace	86	1	90330	1/4" (NC) Nut
35	1	4921	Saddle Bracket	88	3	*90302	7/16" Flat Washer
36	1	2036	Rear Tank Strap	89	1	*90202	7/16"x 5-1/4" (NF) Gr.5 Cap Scrw
37	1	2116	Universal Brace Rod	90	3	*90154	3/8" x 4" (NF) Gr.5 Cap Screw
42	3	21096	Hose Disconnect Assembly	91	1	*90361	3/8" Lock Washer
43	2	*1588	Dust Plug - Closure/Male	92	1	*90103	3/8" x 1" (NC) Cap Screw
44	1	*4486	Adapter - Bulkhead 1/4" Npt				

\*\* Order PN 20058 'Drive Sheave w/Bushing' for Service A4468-40 uses 5425 Bolt Bag \* Part of 20012 Bolt Bag

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

NF FASTENER TORQUE (FT-LB)			
DIAMETER- THREADS PER INCH	GRADE		
	G2	G5	G8
1/4 - 28	6	10	14
5/16 - 24	12	19	27
3/8 - 24	23	35	50
7/16 - 20	38	55	80
1/2 - 20	55	85	120
9/16 - 18	80	120	170
5/8 - 18	110	170	240
3/4 - 16	200	300	420
7/8 - 14	180	470	670
1 - 12	270	700	980

**1. Cylinder and Cylinder Hose Assembly**

- A. Attach female half of disconnect (42) and a 45 degree street elbow (62) to the 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 the lift cylinder with hose pointing towards passenger side into ears on lift arm and upper gear. Secure with the clevis pins (12) and cotter pins (15).
- B. Attach a male quick disconnect half (42) to one end of a 36" Hp hose (21). Place a dust cover (43) and male quick disconnect half (42) on the end of another 36" HP hose (21).
- C. Using bench vise to hold angle cylinders (11), remove closures from ports. Screw brass forged street ells (51) into ports. Ells should point forward toward live end of cylinder and slightly upward as they will be installed on the A-frame. The driver's side cylinder uses the 36" Hp hose with the dust cover and male disconnect half. The passenger's side cylinder uses the 36" hose with the male disconnect half and **no dust cover**. Install cylinders to their respective sides so that ells are between the cylinders and A-frame. Secure cylinders with anchor pins (13) and cotter pins (15) at each end.

**2. Drive Sheave Installation**

**Caution: Before inserting bushing, check center of crankshaft for rust or any foreign material and remove.**

- A. Loosen alternator and power steering belts. Remove and discard the three cap screws holding the vehicle crank pulley to the vibration damper. Remove and discard cap screw and flat washer holding vibration damper to crankshaft, if vehicle is so equipped. Check vehicle crank pulley and remove any burrs around the holes that the cap screws were removed from.

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

- B. Install drive sheave bushing (28) into center of crank shaft, reinstall vehicle sheave. Place the drive sheave (24) center hub through the vehicle sheave and bushing. Place a 7/16 x 5-1/4 (NF) Gr. 5 cap screw (89) and flat washer (88) in center of sheave, plus three 3/8 x 4 (NF) Gr. 5 cap screws (90) with spacer washer (93) through sheave spacers. NOTE: Tighten 7/16 x 5-1/4 cap screw (torque to 50 ft. lbs) before tightening the three 3/8 x 4 cap screws to torque of 31 ft. lbs.

**Note: Some 1979 vehicles with seven blade fans may not clear the Fisher drive sheave bolts. Obtain fan spacer (pn 5026) and four 5/16 x 2-1/2 (NF) Gr. 5 cap screws from dealer or factory to correct problem. Torque these cap screws to 18 foot pounds.**

**3. Pump Tank and Pump Bracket**

**Caution: Pump tank fill must be vertical to engine.**

- A. **Pre 1977 Vehicles:** Install pump bracket (26) to front of driver's side cylinder head, above power steering unit, with two 3/8 x 1 gr. 5 cap screws (92) and lock washers (91) into tapped holes in cylinder head.
- B. **1977-84 Models with power steering:** Same as above, except it will be necessary to remove cap screw and an existing tube spacer from behind the vehicle power steering bracket, upper hole. Install pump bracket (26) and a 3/8" lock washer (91) behind the power steering bracket. Fasten with the previously remove cap screw and a 3/8 x 1 gr. 5 cap screw (92) with lock washer (91).
- C. Holding pump tank (1) in bench vise, place a 1/4" brass bar Ell (52) onto the 1/4" pipe nipple of the pump tank and a brass bar street Ell (53) with quill (55) in the other threaded hole in pump tank. Install the pump sheave (25) onto the pump shaft using the lock nut and key supplied with the pump. Remove pump from vise and install saddle bracket (35) on over front of pump. Secure with a 5/16 x 2" cap screw (82), lock washer (79), and nut (80). Attach the saddle bracket and pump to the pump bracket with two 5/16" x 1" cap screws (78), flat washers (81), lock washers (79), and nuts (80).
- D. Install 51" V-belt (23) on over installed drive and pump sheaves. Align sheaves and tighten 2" saddle bracket fastener. Adjust for proper tension by pivoting saddle bracket on top bolt. Install rear tank strap (36) on over rear of pump. Install one 5/16 nut (80), 5/16 flat washer (81), and a 7/16 flat washer (88) onto universal brace rod (37).

Install bent end of brace rod through lift hook on engine. Fasten brace rod to ears of tank strap with one 1/4 x 1-1/4 cap screw (84), lock washer (85), and nut (86). Fasten the other end of brace rod to lift hook with a 7/16" flat washer (88), 5/16" flat washer (81), 5/16" lock washer (79), and nut (80). Use the brace rod to adjust the alignment of the drive and pump sheaves. Check belt for proper tension.

#### **4. Control Head and Control Cables**

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

- A. Drill three 5/8" holes in fire wall for control cables and wiring harness using drilling guide as a reference only. Be sure both sides of fire wall 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 nuts and washers from the valve end of the cables. Route the cables from dash through hole created when rubber plug was removed from fire wall. Attach control head to dash bracket as per dash bracket instructions. Cut out previously remove rubber plug to accommodate control cables and reinstall. Install rubber grommets (73) around cables where they pass through the fire wall.

#### **5. 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 between cables and "in" port of valve.
- B. Mount valve to valve plate (29) using two 1/4 x 1-3/4 cap screws, lock washers, and nuts located in the valve bag. Connect control cables to valve plate before fastening valve plate to vehicle. Begin by reinstalling 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 clevises (3) to cables using square nuts (4). Slip cable clevises over spools. Install clevis pins (5) through clevis and spools and secure with push nuts (6).

Temporarily adjust cables so that control lever is near being centered in the control head.

- C. Locate valve plate with valve and cables attached, on top of driver's side inner fender well so that valve is near level and cables run in as smooth a path as possible. Using the holes in each end of valve plate as guides, drill two 11/32" holes through the fender well. Fasten the valve plate to the fender well with two 5/16 x 1 cap screws (78), flat washers (81), lock washers (79) and nuts (80). Attach 90 degree bent end of valve plate brace (30) to valve plate as shown in illustration with a 5/16 x 1 cap screw (78), lock washer (79) and nut (80). Using hole in other end of brace as a guide, drill another 11/32" hole through the fender well and fasten with a 5/16 x 1 cap screw (78), flat washer (81), lock washer (79) and nut (80).
- D. With valve plate fastened to inner fender, re-adjust control cables so that control head lever is centered between both angle and raise/lower positions. If the cable clevis does not allow enough adjustment, reposition the cable at the valve plate bulkhead. After checking to see that the valve spools are in the centered position, tighten cable clevis nuts.

**CAUTION: The valve spools must be free and self centering when the cables and the control head are attached. Failure to center the spools will restrict the fluid flow through the 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.**

## 6. Hydraulic Hose Installation

- A. Attach 26" Hp hose (16) to the 1/4" brass bar ell on pump tank and push one end of the 26" LP hose (17) onto quill on pump tank. Route these hoses to the control valve.

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

Fasten HP hose into 90 degree swivel on "in" port side of valve. Check length of LP hose to quill on valve (cut if necessary) and attach to quill.

- B. Attach 32" HP hose (18) to Cyl. "A" port of valve. Attach a 66" HP hose (19) to Cyl. "B" port of valve and another 66" HP hose (19) to the lift port. Drill a 1-7/8" hole through middle of radiator web on driver's side, approximately 9-1/2" below top of radiator. (newer vehicles may not require drilling). Install a split hose grommet (74) around hole. Route hoses out through grille (66" hoses to passenger's side and 32" to driver's side) placing hoses approximately 15" from center of grille.
- C. Attach a female quick disconnect half (42) to the QD/Electric grille plate (56) with a snap ring (45). Install a dust plug (43) and the 32" HP hose to disconnect. Slide head light connector (with dust plug) into the slot provided in grille plate. Place grille plate up against grille and tie with four long tie wraps (59). Install a female quick disconnect half (42) to one hole in 2 QD plate (57) with a snap ring (45) and a bulkhead adapter (44) to other hole with another snap ring (45). Install male quick disconnect half (42) to bulkhead adapter and two 1/4 x 90 degree swivel adapters (60) with dust covers (43) to disconnects on back side of grille plate. Place into grille and attach 66" angle hose to female disconnect and 66" raise hose to male disconnect as shown on illustration. Place grille plate up against grille and tie with four long tie wraps (59).
- D. Install the cable boot bracket (65) on the driver's side headgear brace, between the brace and fasteners. Insert the cable boot (66) on over the bracket.
- E. Install in line oil filter as per filter kit (7) instructions located in the common hydraulics kit.

## 7. Operations

- A. Check all fittings and fasteners for tightness. Secure hoses with nylon tie wraps (75). Place the caution label (72) on the dash beside the control head.
- B. Fill reservoir with FISHER® High Performance Hydraulic Fluid (recommended for superior cold-weather performance) or type "A" automatic transmission fluid. Start the Engine, lift and angle the blade. **NOTE: If the blade angles opposite from the control lever position, reverse the two Hp angle hoses.**

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.