

CHEV/GMC

V8 - 7.4L

w-w/o AC, w/o Dual batteries

w/o ABS

w/ABS

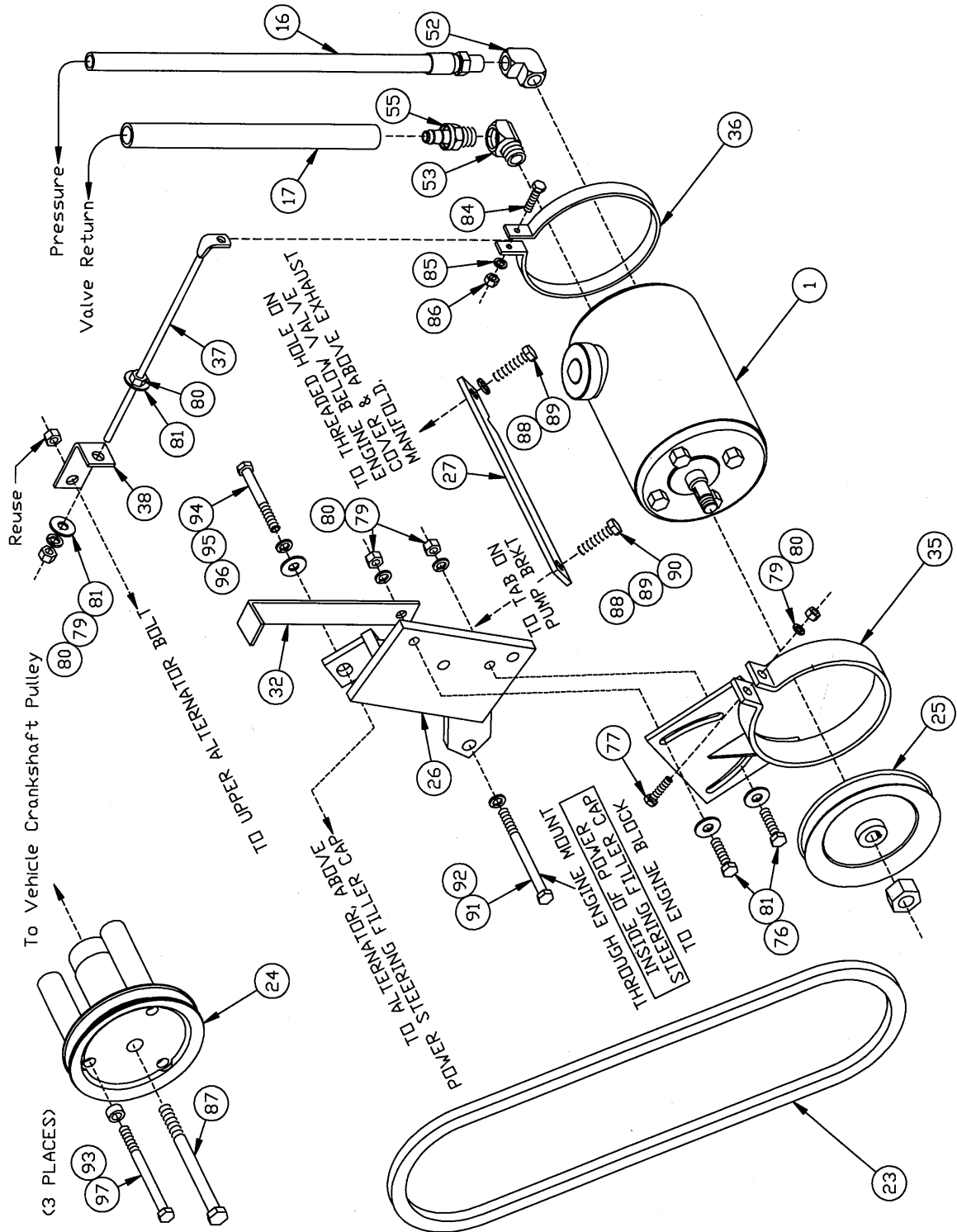
Peculiar Hydraulics

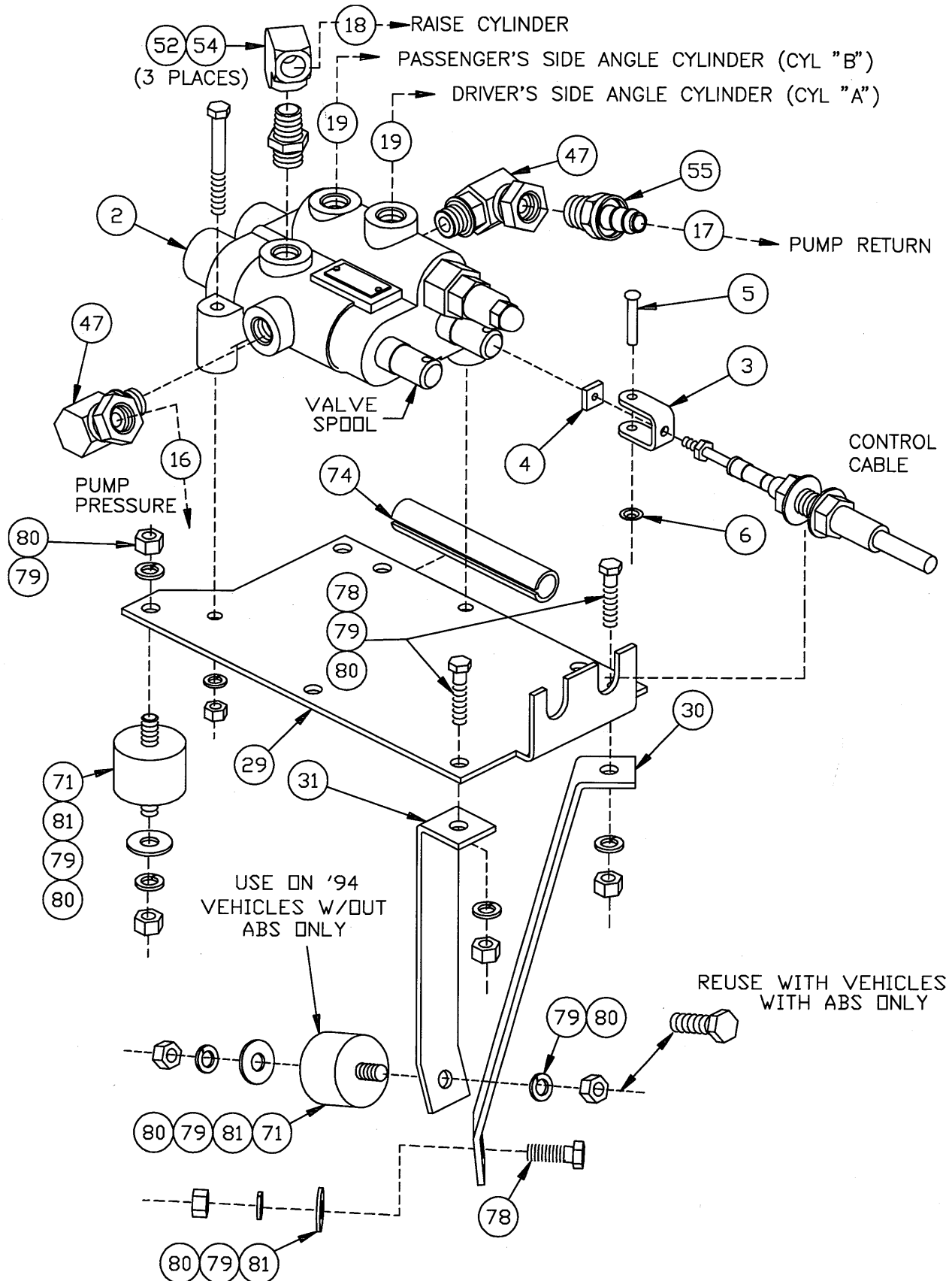
Belt drive

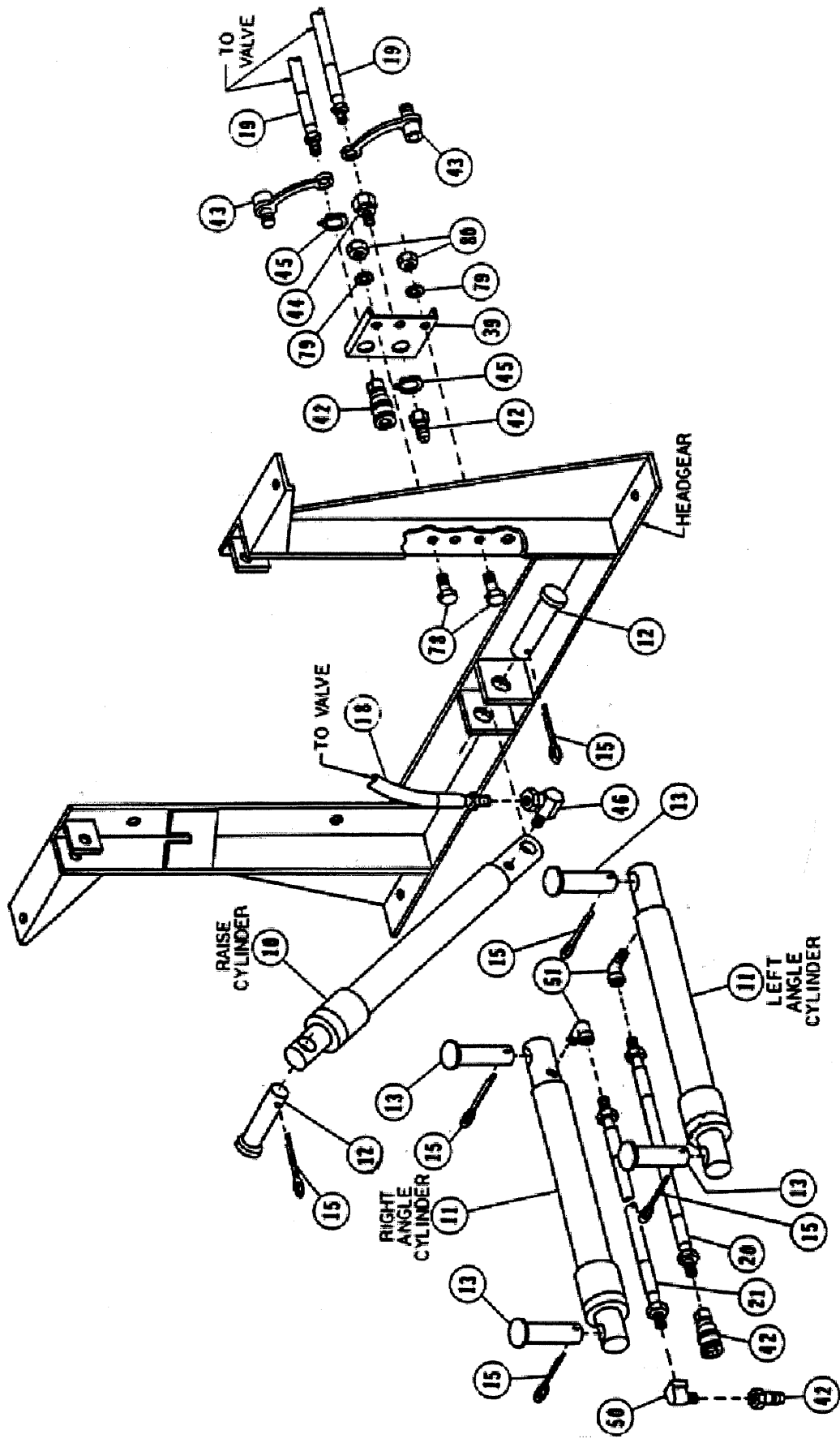
1994

1995

7547







Hydraulics Parts List

Ref #	Qty	In Kit #	Part #	Description	Ref #	Qty	In Kit #	Part #	Description
# A4468-40 7547 * Part of 20410 Bolt Bag					# A4468-40 7547 * Part of 20410 Bolt Bag				
1	1		A2311	Pump assembly	50	1		*765	1/4 Npt x 90 Deg Street Elbow
2	1		A4466	Control Valve Assembly	51	2		2780	1/4 Npt x 90 Deg Street Elbow
3	2		4483	Clevis - VM	52	4		*2318	1/4 Npt x 90 Deg Union Elbow
4	2		4494	10-32 Square Nut - VM	53	1		*3979	3/8 NPT x 90 Deg Street Elbow
5	2		4491	Clevis Pin - 3/16" x 1	54	3		*3058	9/16 O-ring to 1/4 Adapter
6	2		4493	3/16" Push Nut Zp	55	2		1658	Quill - 3/8 Nptm to 3/8 ID Hose
7	1		8764	Filter Kit	56				
8		1	4419	Single Lever Control	57				
9		2	A4926	78" Control Cable, SLC	58				
10	1		A318	1-1/2" x 10" Cylinder Assembly	59				
11	2		A3660	1-1/2" x 12" Cylinder Assembly	60				
12	2		6814	Clevis Pin - 1 x 3-5/16	61				
13	4		6816	Anchor Pin - 1 x 4	62				
14					63				
15	6		90601	1/4" x 1-1/2" Cotter Pin	64				
16		1	21214	26" HP Hose--1/4P-3/8P Flat Crimp	65				
17	1		5653	28" LP Hose	66				
18	1		6066	66" HP Hose, 1/4P to 1/4P	67				
19	2		5192	60" HP Hose, 1/4P to 1/4P	68				
20	1		376	32" HP Hose, 1/4P to 1/4P	69				
21	1		4424	36" HP Hose, 1/4P to 1/4P	70				
22					71	2		*5529	Shock Mount
23	1		1022	Fan Belt, 55"	72	1		5704	Caution Label - Cab
24	1		8968	Drive Sheave	73	2		3042	Grommet - Rubber, Split
25	1		3696	Pump Sheave	74	1	2	*4477	Grommet - Split Hose
26	1		8972	Pump Bracket	75	3	5	*3666	Hose Tie, nylon 3/16 x 8
27	1		8971	Pump Bracket Brace	76		2	*90048	5/16 x 1-1/4 (NC) Gr. 5 Cap screw
28					77	1		90054	5/16 x 1-1/2 (NC) Gr. 5 Cap Screw
29	1		5329	Valve Plate	78	4	1	*90042	5/16 x 1 (NC) Gr. 5 Cap Screw
30	1		20366	Valve Plate Brace, Long	79	6	7	*90360	5/16 Sp Lk Washer
31	1		20367	Valve Plate Brace, Short	80	7	7	*90332	5/16 (NC) Nut
32	1		20368	Cable Support Brace	81	4	3	*90313	5/16 Flat Washer
33					82				
34					83		1	*8992	Fitting Protector
35		1	5467	Saddle Bracket	84	1		90614	1/4 x 1-1/4 (NC) Gr. 5 Cap Screw
36	1		2036	Rear Tank Strap	85	1		90359	1/4 Sp Lk Washer
37	1		2116	Universal Brace Rod	86	1		90330	1/4 (NC) Nut
38		1	*2115	Universal Brace Tab	87		1	*90705	1/2 x 5-1/2 (NF) Gr. 8 Cap Screw
39		1	4467	Disconnect Mounting Plate	88	2		*90103	3/8" x 1 (NC) Cap Screw
40					89	2		*90361	3/8 SP LK Washer
41					90	1		*90334	3/8" (NC) Nut
42	2		A1587	Hose Disconnect Assembly	91	1		*90199	7/16 x 5" (NC) Gr. 5 Cap Screw
43	2		1588	Dust Plug - Closure/Male	92	1		*90362	7/16 Lock Washer
44		1	* 4486	Adapter - Bulkhead 1/4" Npt	93	3		*4268	Spacer Washer
45		2	* 4485	Snap Ring - 7/8" External	94	1		*90632	M10 x 1.5 x 80 Gr. 10.9 Cap Screw
46	1		319	1/4" x 90 Swivel Adapter	95	1		*90429	M10 Lock Washer
47	2		2315	9/16-18 w/O-Ring x 3/8 F Pi	96	1		*90420	M10 Flat Washer
48					97	3		*90704	3/8 x 5 1/2" (NF) Gr. 8 Cap Screw

FASTENER TORQUE (FT-LB)			
DIAMETER- THREADS PER INCH	GRADE		
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
9/16 - 12	150	250	370
7/8 - 9	150	378	591
1 - 8	220	583	893

A4468-40 uses 5425 Bolt Bag

1. Cylinder & Cylinder Hose Assembly

- A. Using bench vise to hold lift cylinder (10), remove closure from port. Screw 90 degree swivel adapter (46) into port. Place lift cylinder with installed adapter between ears on underside of lift arm & lower headgear ears. Attach cylinder to ears using clevis pins (12) & cotter pins (15).
- B. Using bench vise to hold 32" HP hose (20), install female half of hose disconnect assembly (42) directly to hose. Then, holding 36" HP hose (21), install brass bar street ell (50) & male half of hose disconnect assembly (42) on the same hose end.
- C. Using bench vise to hold angle cylinders (11), remove closures from ports. Screw brass forged street ells (51) into ports. Ells should be parallel with cylinder & point forward toward live end. Install 32" HP hose with female disconnect half to driver's side angle cylinder street ell. Install other HP hose with male disconnect half to passenger's side angle street ells. Install cylinders to their respective sides so that ells are between the cylinders & A-frame. Secure cylinders with anchor pins (13) & cotter pins (15) at each end.

2. Control Head & Control Cables

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

- A. Drill three 5/8" holes in fire wall for control cables & wiring harness using drilling guide as a reference only. **Be sure both sides of fire wall are clear of obstructions before drilling.** Drill 1/2" hole in underside of dash as shown in dash illustration.
- 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 & 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 the fire wall up to the top of the driver's 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 & 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.

Note: Valve fittings are installed as described to insure proper operation. First indication of incorrect installation is failure of plow to lift although plow will angle.

Install three 9/16" O-ring to 1/4" pipe adapters (54) in lift and angle ports. Install one 1/4" brass bar ell (52) to each adapter. When tight, elbows should point at approximately 2:00 o'clock with the spools at 12:00 o'clock.

- B. Mount valve to valve plate (29) using two 1/4" x 1 3/4" cap screws, lock washers, and nuts from the valve bag. Install valve plate braces (30) and (31) to holes on valve plate as per illustration using 5/16" x 1" cap screws (78), lockwashers (79), and nuts (80). Attach a rubber shock mount (71) to the valve plate as per illustration using a 5/16" lockwasher (79) and a nut (80). Leave braces loose on the valve plate to allow movement. Remove and save the forward bottom bolt from the anti-lock brake system. Place the valve plate on the driver's side fender in front of the anti-lock brake system with the control cable bulkheads pointed toward the passenger side. Route control cables over brake master cylinder, over the engine and connect them to the valve plate by first reinstalling jam nuts and washers on cables. Then place control cables in respective slots of valve plate bulkhead with 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 pin (5) through clevis and spool and secure with push nut (6) on clevis pin. Temporarily adjust cables so that control lever is somewhere near centered in control head.

- C. With the cable bulkheads of the valve plate pointed toward the passenger side of the vehicle, attach the shorter valve plate brace to the ABS bracket using the previously removed bolt. Cut a 6" split hose grommet (74) in half and install one of the halves onto the edge of the valve plate to protect the vacuum canister. Mark and drill 11/32" holes in the fender for the long valve plate brace and the rubber shock mount. Fasten the long valve plate brace with a 5/16" x 1" cap screw (78), flat washer (81), lock washer (79), and nut (80). Fasten the rubber shock mount with a 5/16" flat washer (81), lock washer (79), and nut (80). The valve should be positioned at an angle such that the cables route smoothly without any sharp bends. **NOTE:** For vehicles not equipped with ABS, fasten a rubber shock mount (71) onto the bottom hole of the short valve plate brace using a 5/16" lock washer (79) and nut (80). Mark and drill an 11/32" hole in the fender and fasten shock mount using a 5/16" flat washer (81), lock washer (79), and nut (80).

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.

- 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 cable clevis does not allow enough adjustment, reposition cable at valve plate bulkhead. After checking to see that the valve spools are in the centered position, tighten cable clevis nuts. 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 shroud & loosen serpentine belt. Remove & discard the four bolts holding crank pulley onto crankshaft.
- B. Position drive sheave (24) in crank pulley & fasten to crankshaft with three 3/8 x 5-1/2 (NF) grade 8 cap screws (97) & three spacer washers (93). Install a 1/2 x 5-1/2 (NF) grade 8 cap screw (87) into center of drive sheave. Alternately tighten the three 3/8" cap screws to assure proper installation & torque these fasteners to 75 foot pounds. Torque center fastener to 115 foot pounds. Reinstall serpentine belt & fan shroud.

5. Pump & Pump Bracket

Caution: Pump tank fill must be vertical to engine.

- A. Remove & discard alternator bolt above power steering filler cap on driver's side. Remove bolt on engine mount inside of power steering filler cap. Position pump bracket (26) to vacated bolt holes & install a 7/16 x 5 cap screw (91) with lock washer (92) through pump bracket & engine mount and a M10 x 1.5 x 80 capscrew (94), flat washer (96), & lock washer (95) through slotted hole in pump bracket & rear of alternator. Do not fully tighten these fasteners at this time. Place pump bracket brace (27) over hole on engine below valve cover and above exhaust manifold & fasten with a 3/8 x 1 cap screw (88) and lock washer (89) into the threaded hole on the engine. Fasten other end of brace to tab on pump bracket with a 3/8 x 1 cap screw (88), lock washer (89), & nut (90). Tighten all fasteners.
- B. Holding pump tank (1) in bench vise, screw a 1/4" brass bar ell (52) (pointed slightly inboard) onto pressure port end of 3/8" brass bar street ell (53) with quill (55) into return port. Install the pump sheave (25) onto the pump shaft using the lock nut & key supplied with the pump. Remove pump from vise & install saddle bracket (35) on over front of pump. Secure with a 5/16" x 1-1/2" cap screw (77), lock washer (79), and nut (80). Attach the saddle bracket and pump and the cable support brace (32) to the pump bracket using two 5/16" x 1-1/4" cap screws (76), flat washers (81), lock washers (79), & nuts (80). Install a 6" split hose grommet (74) over the control cables where they contact the brake master cylinder and secure it with plastic wire ties (75). Install the other half of the cut split hose grommet over the control cables where they contact the cable support brace and secure it to brace with a plastic wire tie (75).
- C. Install 55" V-belt (23) on over installed drive and pump sheaves. (If belt will not go over pump sheave, rotate pump in saddle bracket again.) Align sheaves and tighten 1-1/2" saddle bracket fastener. Adjust for proper tension by pivoting saddle bracket on top bolt. (Make sure pump is clearing hydraulic lines going into anti-lock brake system.)

Caution: Position power steering hoses so there is at least 1-1/2" clearance from the pump "V" belt.

Remove nut on back of upper alternator bolt. Install universal brace tab (38) & reinstall nut. Install rear tank strap (36) on over rear of pump tank. Align universal brace rod (37) to universal brace tab. Cut shorter if required. Install one 5/16 nut (80) & flat washer (81) onto universal brace rod & 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), & nut (86). Fasten the other end of brace rod to brace tab with a 5/16" flat washer (81), 5/16" lock washer (79), & nut (80). Use the brace rod to adjust the alignment of the drive & pump sheaves. Check belt for proper tension. Fasten vehicle power steering hose clear of pump belt with tie wraps (75). Tighten serpentine belt.

6. Hydraulic Hose Installation

- A. Attach the 26" Hp hose (16) to 1/4" brass bar elbow on pump tank and push 28" LP hose (17) onto quill on pump tank. Route these hoses to the control valve. Cut 28" hose to proper length.

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

Screw HP hose into 90 degree swivel on valve. Turn swivel so hose goes just over the top and not hitting the window washer reservoir. Route LP hose along HP hose and push onto quill on valve. Tie hoses together with tie wrap (75).

- B. Remove driver's side parking light and drill an 1-7/8" hole in the radiator core support approximately 6" below driver's side head light (grille may have to be removed to facilitate drilling operation and hose routing). Install a split hose grommet (74) around the hole. Attach the 66" Hp hose (18) to the raise port of the valve. Attach the two 60" Hp hoses (19) to the angle ports (CYL 'A' and CYL 'B') in the valve. Run valve hoses under valve plate, out through rubber grommet behind parking light, and out through grille near center of grille. Vehicles with heavy duty cooling and air conditioning will need the 3" fitting protector (83) on hoses rubbing edge of coils between radiator and grille. Place fitting protector around all three hoses and secure with tie wrap (75). Attach the 66" Hp hose the 1/4" x 90 degree swivel (46) on the lift cylinder (10).
- C. Install the in-line oil filter (7) as per instructions located in the common hydraulics kit.

7. Disconnect Assembly

- A. With disconnect mounting plate (39) held in bench vise, install disconnect halves as shown in illustration. Bulk-head adapter (44) and male disconnect half (42) go in bottom hole. Female disconnect half (42) goes in the top hole. Secure both with 7/8" snap rings (45). Attach mounting plate to back of driver's side headgear post with two 5/16 x 1 cap screws (78), lock washers (79) and nuts (80). Install dust plugs (43) over ends of hoses routed to front of vehicle in the previous step. Attach the 60" Hp hose from the CYL 'A' port on the valve to back of male disconnect installed in the bottom hole of disconnect mounting plate. Attach the 60" Hp hose from the CYL 'B' port to top (female) disconnect. Tighten by holding hoses and rotating the disconnect halves in the mounting plate.

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 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.