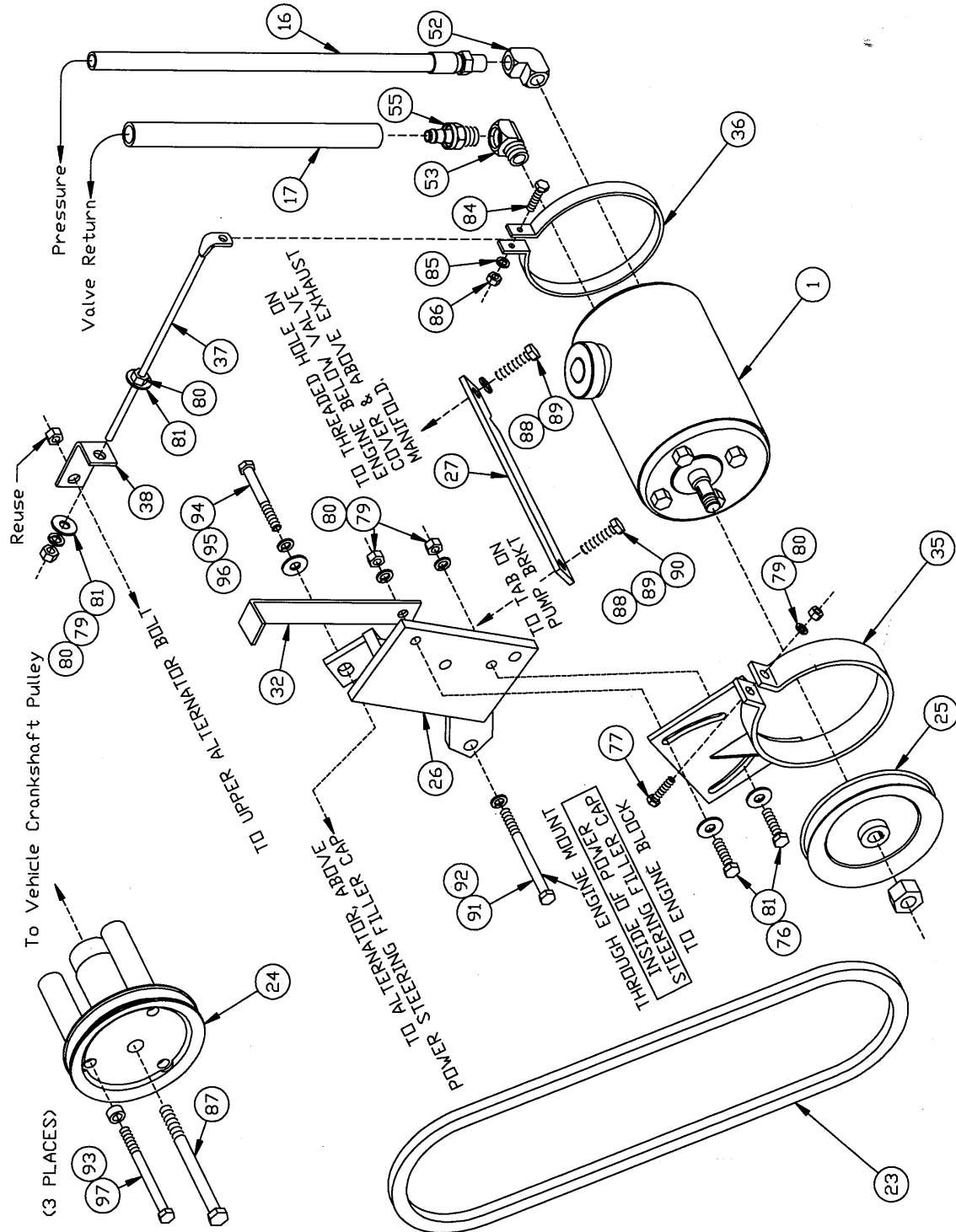
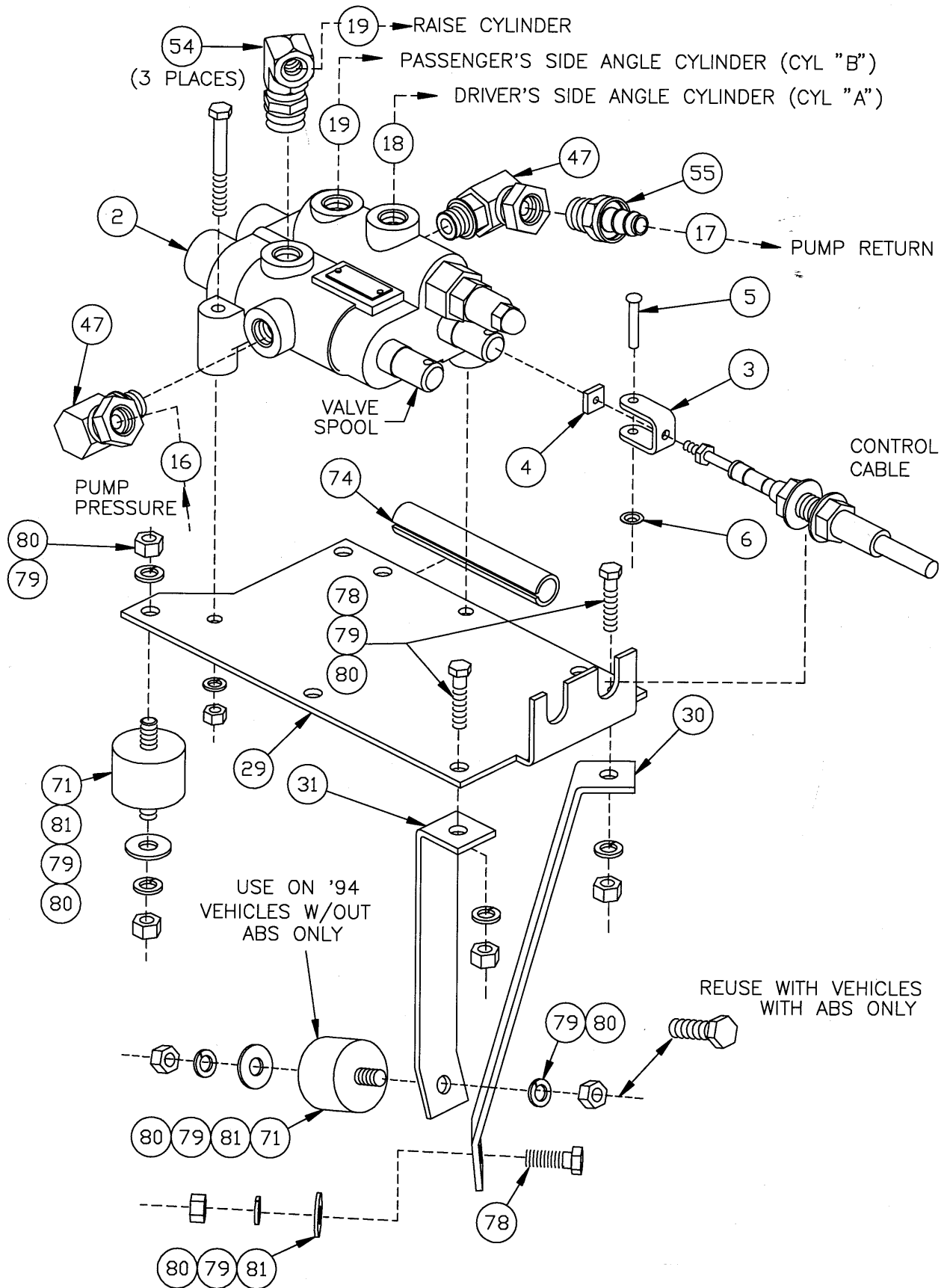


CHEV/GMC
V8 7.4L
w-w/o AC,
w/o Dual batteries

w/o ABS 1994
w/ABS 1995





Hydraulics Parts List

Ref #	Qty	In Kit	Part #	Description	Ref #	Qty	In Kit	Part #	Description
# A4468-40 7548 * Part of 20409 Bolt Bag					# A4468-40 7548 * Part of 20409 Bolt Bag				
1	1		A2311	Pump tank assembly	50				
2	1		A4466-40	Control Valve Assembly	51	2		2780	1/4 Npt x 90 Deg Street Elbow Frgd
3	2		4483	Clevis - VM	52	1		*2318	1/4 Npt x 90 Deg Union Elbow
4	2		4494	10-32 Square Nut - VM	53	1		*3979	3/8" Brass Bar Street Ell
5	2		4491	Clevis Pin - 3/16" x 1	54	3		*20316	9/16 O-ring to 1/4 Npt 90° Elbow
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	1		*8688	QD/Electric Plate -Short
8		1	4419	Single Lever Control	57	1		*8686	2 QD Plate- Short
9		2	A4926	78" SLC Cable	58	4		*8687	Standoff Leg
10	1		20116	1-1/2" x 10" Cylinder Assy - XL	59	4		*8324	Hose Tie 3/16" x 14"
11	2		20117	1-1/2" x 12" Cylinder Assy - XL	60	2		*8127	1/4 x 45 Deg Swivel
12	2		6814	Clevis Pin - 1 x 3-5/16	61	8		*90687	1/4" x 1/2 (NC) But Hd Sock Screw
13	4		6816	Anchor Pin - 1 x 4	62	8		*90350	1/4 (NC) Lock Nut
14					65	1		*8741	Bracket - Cable Boot
15	6		90601	1/4" x 1-1/2" Cotter Pin	66	1		*8284	Cable Boot
16		1	21214	26" Hose--Hp 1/4P-3/8P Flat Crimp	67	1		*8992	3" Fitting Protector
17		1	5653	28" LP Hose	71	2		*5529	Shock Mount
18		1	6066	66" Hp Hose, 1/4P to 1/4P	72	1		5704	Caution Label - Cab
19		2	8632	78" Hp Hose, 1/4P to 1/4P	73	2		3042	Grommet - Rubber, Split
20		1	3074	Hose - 22" Hp 1/4P - 1/4P	74	1	2	*4477	Grommet - Split Hose
21		2	4424	Hose - 36" Hp 1/4P - 1/4P	75	3	5	*3666	Hose Tie, nylon 3/16 x 8
22					76	2		*90048	5/16 x 1-1/4 (NC) Gr. 5 Cap Screw
23		1	1022	Fan Belt, 55"	77	1		90054	5/16 x 1-1/2 (NC) Gr. 5 Cap Screw
24		1	8968	Drive Sheave	78	4		90042	5/16 x 1 (NC) Gr. 5 Cap Screw
25		1	3696	Pump Sheave	79	6	5	*90360	5/16 Sp Lk Washer
26		1	8972	Pump Bracket	80	7	5	*90332	5/16 (NC) Nut
27		1	8971	Pump Bracket Brace	81	4	3	*90313	5/16 Flat Washer
28		1			84	1		90614	1/4 x 1-1/4 (NC) Gr. 5 Cap Screw
29		1	5329	Valve Plate	85	1		90359	1/4 Sp Lk Washer
30		1	20366	Valve Plate Brace, long	86	1		90330	1/4 (NC) Nut
31		1	20367	Valve Plate Brace, short	87	1		*90705	1/2 x 5-1/2 (NF) Gr. 8 Cap Screw
32		1	20368	Cable Support Brace	88	2		*90103	3/8 x 1 (NC) Gr.5 Cap Screw
33					89	2		*90361	3/8" Lock Washer
34					90	1		*90334	3/8 (NC) Nut
35		1	5467	Saddle Bracket	91	1		*90199	7/16 x 5" (NC) Gr. 5 Cap Screw
36	1		2036	Rear Tank Strap	92	1		*90362	7/16 Lock Washer
37	1		2116	Universal Brace Rod	93	3		*4268	5/8" Spacer Washer
38		1	*2115	Universal Brace Tab	94	1		*90632	M10 x 1.5 x 80 Gr 10.9 Cap Screw
39					95	1		*90429	M10 Lock Washer
40					96	1		*90420	M10 Flat Washer
41					97	3		*90704	3/8 x 5-1/2 (NF) Gr. 8 Cap screw
42	3		21096	Disconnect Assembly					
43	2	2	*1588	Dust Plug					
44	1		*4486	Adaptor - Bulkhead 1/4" Npt					
45		3	*4485	Snap Ring - 7/8" External Bowed					
46	1	1	319	1/4" x 90 Swivel Adapter					
47	2		2315	9/16-18 w/O-Ring x 3/8 F Pi Swivel					
48									
49									

A4468-40 uses 5425 Bolt bag

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
9/16 - 12	150	250	370
7/8 - 9	150	378	591
1 - 8	220	583	893

1. Cylinder and Cylinder Hose Assembly

- A. Attach female half of disconnect (42) and a 1/4" NPT 45 degree swivel (60) 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. Control Head and Control Cables

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

- A. Drill two 5/8" holes in the firewall for the control cables using drilling guide as a reference only. **Be sure both sides of the firewall are clear of obstructions before drilling.** Drill 1/2" hole in the underside of the dash as shown in the 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 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 in the firewall 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 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° elbow (54) in lift and angle ports. 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), lock washers (79), and nuts (80). Attach a rubber shock mount (71) to the valve plate as per illustration using a 5/16" lock washer (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). **Tighten all fasteners.**
- 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.

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

NOTE: Apply a *removable* loosening prevention compound (such as "Loctite") to all drive sheave fasteners prior to installation.

- A. Remove fan shroud and loosen serpentine belt. Remove and discard the four bolts holding crank pulley onto crankshaft.
- B. Position drive sheave (24) in crank pulley and fasten to crankshaft with three 3/8 x 5-1/2 (NF) grade 8 cap screws (97) and 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 and torque these fasteners to 75 foot pounds. Torque center fastener to 115 foot pounds. Reinstall serpentine belt and fan shroud.

5. Pump and Pump Bracket

- A. Remove and 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 and install a 7/16 x 5 cap screw (91) with lock washer (92) through pump bracket and engine mount and a M10 x 1.5 x 80 cap screw (94), lock washer (95), and flat washer (96) through slotted hole in pump bracket and 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 and fasten with a 3/8 x 1 cap screw (88), 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), and 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 and 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 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 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), and 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 the 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 to 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) and 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) 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 the other end of brace rod to brace tab with a 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. Fasten vehicle power steering hose clear of pump belt with tie wraps (75). Tighten serpentine belt.

6. Hydraulic Hose Installation

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

- A. 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.
- B. 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. 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).
- C. Attach the 66" Hp hose (18) to the CYL 'A' port of the valve. Pass it under the valve plate and out through the core support and through the grille low and about 14" off center on the driver side. Vehicles with heavy duty cooling and air conditioning will need the 3" fitting protector (67) on hoses rubbing edge of coils between radiator and grille. Place fitting protector around all three hoses and secure with tie wrap (75). Attach a female half of a QD (42) to the QD/electric grille plate (56) with a snap ring (45). Put a dust plug (43) on the end of a 45 degree swivel fitting (60) and attach it to the QD. Attach the Hp hose (18) to 45 degree swivel. Route the head lamp connector (with dust cover) from previously installed light kit vehicle harness, through radiator core support. Slide connector into the slot provided in the QD/Electric grille plate. The grille plate should be oriented with head lamp connector to the inside of vehicle. Attach grille plate to grille with two long tie wraps (59).
- D. Attach one 78" Hp hose (19) to the CYL 'B' port of the valve. Attach the other 78" Hp hose (19) to the raise port of the valve. Route both of these hoses under the valve plate and out through the radiator core support and out through grille low and about 14" from center on passenger side. Attach female half of a QD (42) to one hole of the 2 QD grille plate (57) with a snap ring (45). Attach a 1/4 x 90 degree swivel (46) with a dust plug (43) to back of QD. Attach the bulkhead adapter (44) with a snap ring (45) to the other hole in the 2 QD grille plate.

Note: Some GMC models with a fine mesh grille may have to use two standoff legs (58) fastened with four 1/4-20 x 1/2 button head socket screws (61) and lock nuts (62) on each grille plate. Trucks using standoff legs will use grille plate/fitting configuration as described above except that the two 90 degree and one 45 degree swivel fittings will not be used.

Attach male half of a QD (42) to the front of bulkhead adapter. Attach 1/4 x 90 degree swivel (46) with dust plug (43) to the back of the bulkhead adapter. Attach the 78" Hp hose from the raise port of the valve to the male disconnect. Attach the 78" Hp hose from the CYL 'B' port to the female disconnect. Place the 'angle' female disconnect on grille plate towards the outside of vehicle and attach grille plate to grille with two long tie wraps (59).

- E. Install cable boot bracket (65) on driver's side headgear brace, between brace and fasteners. Insert cable boot (66) on over bracket.
- F. Install the in-line oil filter (7) as per 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 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.