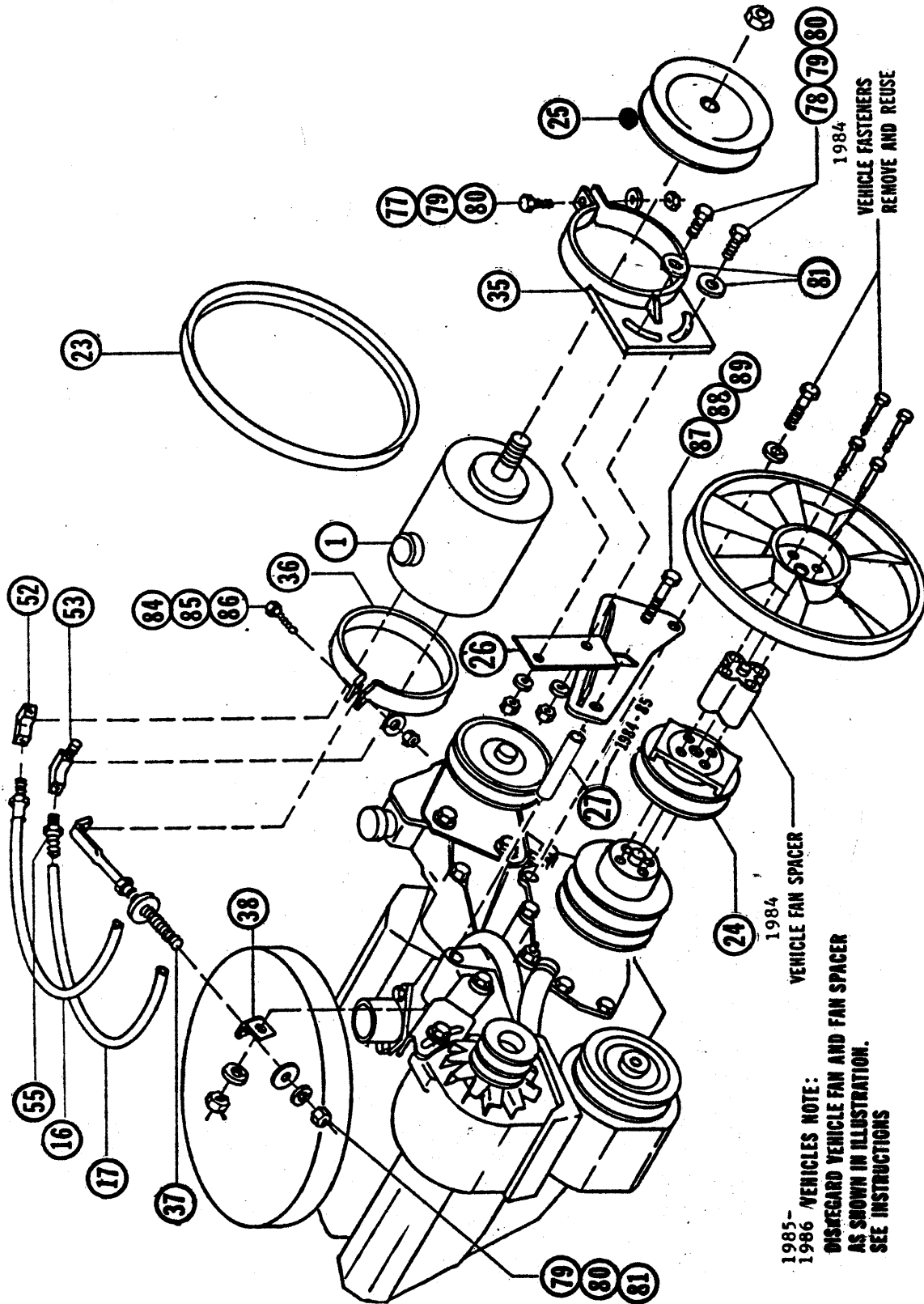


SERIES CHEV S-10, GMC S-15
 HS 4X4-V6; W/PS, W/PB,
 W/AIR PUMP; W/D AC

1984-86

PECULIAR HYDRAULICS
 BELT DRIVE, SLC
 UNDERHOOD VALVE

HPS4546
 REV. C

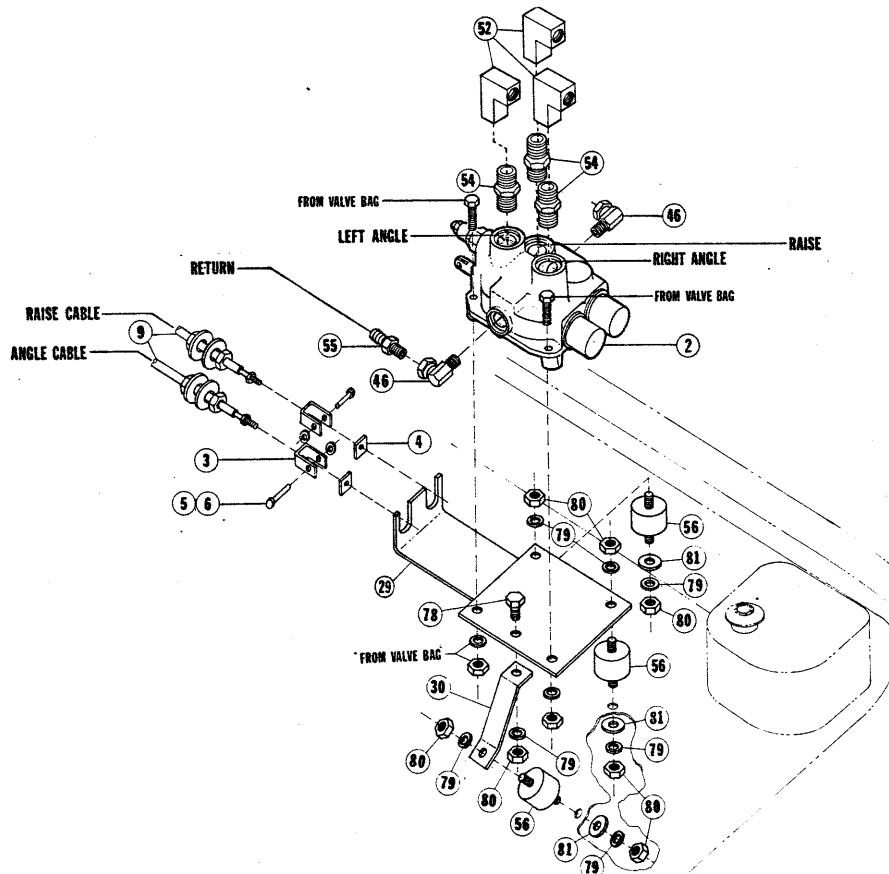
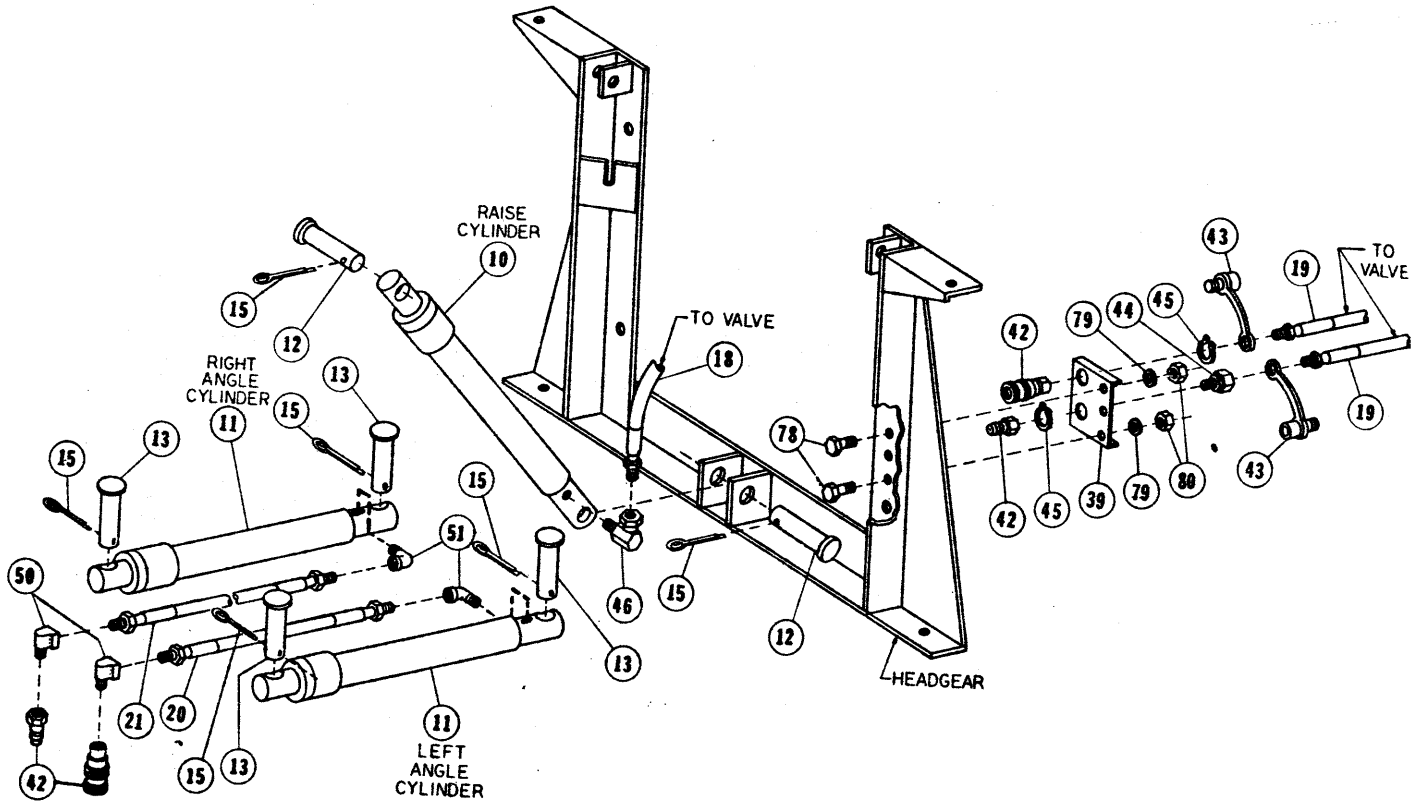


1985-
 1986 VEHICLES NOTE:
 DISREGARD VEHICLE FAN AND FAN SPACER
 AS SHOWN IN ILLUSTRATION.
 SEE INSTRUCTIONS

1984
 VEHICLE FAN SPACER

1984
 VEHICLE FASTENERS
 REMOVE AND REUSE

6309






SERIES
HS

HYDRAULICS PARTS LIST

HPS4546 REV. C
A5092-25

REF#	QTY IN KIT A5092-25	HPS4546	PART#	DESCRIPTION * PART OF 6942 BOLT BAG
1	1		A2311	PUMP TANK ASSEMBLY
2	1		A4466	CONTROL VALVE ASSEMBLY
3	2		4483	CLEVIS
4	2		4494	10-32 SQUARE NUT
5	2		4491	CLEVIS PIN
6	2		4493	PUSH NUT
7				
8		1	4419	SINGLE LEVER CONTROL HEAD
9		2	4922	32" CONTROL CABLE, SLC
10	1		A5096	6" LIFT CYLINDER ASSEMBLY
11	2		A318	10" ANGLE CYLINDER ASSEMBLY
12	2		6814	CLEVIS PIN
13	4		6816	ANCHOR PIN
14				
15	6		90601	1/4 X 1-1/2 COTTER PIN
16		1	2623	48" H.P. HOSE, 1/4P TO 3/8P
17		1	2549	48" L.P. HOSE
18		1	5193	54" H.P. HOSE, 1/4P TO 1.4P
19		2	5215	48" H.P. HOSE, 1/4P TO 1/4P
20		1	3074	22" H.P. HOSE, 1/4P TO 1/4P
21		1	376	32" H.P. HOSE, 1/4P TO 1/4P
22				
23		1	724	FAN BELT 4L 380
24		1	5545	DRIVE SHEAVE
25		1	3696	PUMP SHEAVE
26		1	5547	PUMP BRACKET
27		1	5734	* SPACER
28				
29		1	5594	VALVE PLATE
30		1	5584	VALVE PLATE BRACE
31				
32				
33				
34				
35		1	4921	SADDLE BRACKET
36	1		2036	REAR TANK STRAP
37	1		2116	UNIVERSAL BRACE ROD
38		1	2115	* BRACE TAB
39		1	4467	DISCONNECT MOUNTING PLATE
40				
41				
42	2		A1587	DISCONNECT ASSEMBLY
43	2		1588	DUST PLUG
44		1	4486	* BULKHEAD ADAPTER
45		2	4485	* 7/8" SNAP RING
46	1		319	1/4" X 90 SWIVEL ADAPTER
47	2		2315	9/16 O.R. TO 3/8P X 90 SWL. ADPT.
48				
49				

REF#	QTY IN KIT A5092-25 HPS4546		PART#	DESCRIPTION * PART OF 6942 BOLT BAG
50		2	765	* 1/4" BRASS BAR STREET ELL
51	2		2780	1/4" BRASS BAR STREET ELL (FORGED)
52		4	2318	* 1/4 BRASS BAR ELL (F/F)
53		1	3979	* 3/8 BRASS BAR STREET ELL (M/F)
54		3	3058	* ADAPTER (9/16 O-RING TO 1/4P)
55	2		1658	QUILL
56		3	5529	* RUBBER SHOCK MOUNT
57				
58				
59				
60				
61				
62				
63				
64				
65				
66				
67				
68				
69				
70				
71				
72		1	5704	SAFETY DECAL
73	2		3042	GROMMET
74	1		4477	SPLIT HOSE GROMMET
75	3	1	3666	* TIE WRAPS
76				
77	1		90054	5/16 X 1-1/2 (NC) GR. 5 CAPSCREW
78	3	1	90042	* 5/16 X 1 (NC) GR.5 CAPSCREW
79	6	6	90360	* 5/16 LOCKWASHER
80	7	6	90332	* 5/16 (NC) NUT
81	4	3	90313	* 5/16 FLATWASHER
82				
83				
84	1		90614	1/4 X 1-1/4 (NC) GR.5 CAPSCREW
85	1		90359	1/4 LOCKWASHER
86	1		90330	1/4 (NC) NUT
87		1	90398	* M10 X 1.25 X 100 GR. 8.8 CAPSCREW
88		1	90424	* M10 X 1.25 NUT
89		1	90429	* M10 LOCKWASHER

FASTENER TORQUE (FT-LB)			
DIAMETER- THREADS PER INCH	GRADE DESIGNATION		
	 GRADE 2	 GRADE 5	 GRADE 8
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

1. CYLINDER AND CLYINDER 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 AND LOWER HEADGEAR EARS. ATTACH CYLINDER TO EARS USING CLEVIS PINS (12) AND COTTER PINS (15).

B. USING BENCH VISE TO HOLD 22" H.P. HOSE (20), INSTALL BRASS BAR STREET ELL (50) AND FEMALE HALF OF HOSE DISCONNECT ASSEMBLY (42) ON SAME END OF HOSE. THEN, HOLDING 32" H.P. HOSE (21), INSTALL BRASS BAR STREET ELL (50) AND 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 AND SCREW BRASS FORGED STREET ELLS (51) INTO PORTS SO THAT ELLS ARE PARALLEL WITH CYLINDER AND POINT TOWARD LIVE END. INSTALL 22" H.P. HOSE WITH FEMALE DISCONNECT HALF TO DRIVER'S SIDE ANGLE CYLINDER STREET ELL. INSTALL OTHER H.P. HOSE WITH MALE DISCONNECT HALF TO PASSENGER SIDE ANGLE CYLINDER STREET ELLS. INSTALL ANGLE CYLINDERS TO "A" FRAME ON THEIR RESPECTIVE SIDES SO THAT ELLS ARE BETWEEN CYLINDERS AND "A" FRAME. SECURE CYLINDERS WITH ANCHOR PINS (13) AT PORT END AND RAM END. SECURE ANCHOR PINS WITH COTTER PINS (15).

2. CONTROL HEAD AND CONTROL CABLES.

NOTE: DASH BRACKET, HARDWARE, DRILLING GUIDE AND MOUNTING INSTRUCTIONS WILL BE FOUND IN PECULIAR ATTACHING BOX.

A. DRILL THREE 5/8" HOLES IN FIREWALL FOR CONTROL CABLES AND WIRING HARNESS USING DRILLING GUIDE AS A REFERENCE ONLY. THERE ISN'T MUCH ROOM TO DRILL ON THIS VEHICLE SO BE SURE THAT BOTH SIDES OF FIREWALL ARE CLEAR OF OBSTRUCTIONS, WIRES, ETC.

B. INSTALL DASH BRACKET AS PER DASH BRACKET INSTRUCTIONS.

C. LOOSEN 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 DRILLED HOLES IN THE FIREWALL AND UP TO THE AREA BETWEEN THE BRAKE LINES AND WINSHIELD WASHER BOTTLE. ATTACH CONTROL HEAD TO DASH BRACKET AS PER DASH BRACKET INSTRUCTIONS. INSTALL RUBBER GROMMETS (73) AROUND CABLES WHERE THEY PASS THROUGH FIREWALL.

3. VALVE AND VALVE PLATE

A. USING BENCH VISE TO HOLD CONTROL VALVE ASSEMBLY (2) REMOVE CLOSURES FROM VALVE PORTS. SCREW 90 DEGREE SWIVEL ADAPTER UNIONS (47) INTO "IN" AND "OUT" PORTS. SCREW QUILL (55) INTO INSTALLED ADAPTER IN "OUT PORT. NOTE: VALVE FITTINGS ARE INSTALLED AS DESCRIBED TO INSURE PROPER INSTALLATION. FIRST INDICATION OF

INCORRECT INSTALLATION IS FAILURE OF FLOW TO LIFT ALTHOUGH FLOW WILL ANGLE.

B. INSTALL THREE 9/16 O-RINGS TO 1/4 P. ADAPTERS (54) IN THE LIFT AND ANGLE PORTS OF VALVE. INSTALL ONE 1/4" ELL (52) TO EACH OF THESE THREE ADAPTERS. THE 1/4" ELLS SHOULD POINT AWAY FROM THE CABLE END OF VALVE.

C. CONNECT CONTROL CABLES TO VALVE PLATE (29) 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 ONE WASHER ON EACH SIDE OF BULKHEAD. CENTER CABLES ON BULKHEAD FOR MAXIMUM ADJUSTMENT IN BOTH DIRECTIONS.

D. ATTACH THE VALVE PLATE BRACE (30) TO THE CENTER HOLE ON THE PASSENGER SIDE OF THE VALVE PLATE WITH ONE 5/16 X 1 CAPSCREW (78), LOCKWASHER (79) AND NUT (80). POSITION VALVE PLATE SO THAT PLATE AND VALVE (WHEN INSTALLED) WILL CLEAR ANY OBSTRUCTIONS. MARK THREE MOUNTING HOLE LOCATIONS (TWO HOLES ON DRIVERS SIDE OF VALVE PLATE, ONE AT END OF VALVE PLATE BRACE) AND DRILL TO 11/32". INSTALL THREE RUBBER SHOCK MOUNTS (56) BETWEEN VALVE PLATE AND FENDERWELL. SECURE EACH SHOCK MOUNT TO THE FENDERWELL WITH ONE 5/16" FLATWASHER (81), LOCKWASHER (79) AND NUT (80). SECURE THE VALVE PLATE AND VALVE PLATE BRACE TO THE RUBBER SHOCK MOUNT WITH THREE 5/16 LOCKWASHERS (79), AND NUTS (80).

E. MOUNT VALVE TO VALVE PLATE USING TWO 1/4 X 1-1/4 CAPSCREWS, LOCKWASHERS AND NUTS FROM VALVE BAG. 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 PUSHNUT (6) ON CLEVIS PIN. ADJUST CABLES SO THAT CONTROL 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

A. 1984 VEHICLES: REMOVE UPPER HALF OF FAN SHROUD. LOOSEN ALTERNATOR AND POWER STEERING BELTS. REMOVE FAN AND FAN SPACER. INSTALL FISHER DRIVE SHEAVE (24) ON OVER WATER PUMP PILOT AND HUB OF 3 GROOVE SHEAVE. PLACE 4L 380 FAN BELT (23) ON OVER DRIVE SHEAVE. (CANNOT BE INSTALLED AFTER FAN IS IN PLACE). REINSTALL

VEHICLE FAN SPACER, FAN AND FAN SHROUD USING ORIGINAL FASTENERS TORQUED TO 18 FT. LBS.

1985-1986 VEHICLES: REMOVE UPPER HALF OF FAN SHROUD. LOOSEN ALTERNATOR AND POWER STEERING BELTS. REMOVE CLUTCH FAN AND VEHICLE PULLEYS FROM WATER PUMP SHAFT FLANGE. BACK STUDS IN FLANGE OUT UNTIL ENDS OF STUDS ARE EVEN WITH BACK SIDE OF FLANGE. REINSTALL VEHICLE PULLEYS, FISHER DRIVE SHEAVE AND FAN BACK ON OVER STUDS AND PILOT. FASTEN WITH ORIGINAL NUTS AND WASHERS TORQUED TO 18 FT. LBS. INSTALL FAN BELT ON OVER FAN AND ONTO DRIVE SHEAVE. REINSTALL UPPER HALF OF FAN SHROUD.

5. PUMP TANK AND PUMP BRACKET

A. STANDING IN FRONT OF VEHICLE LOOKING AT ENGINE, REMOVE ONE BOLT FROM THE WATER PUMP TIMING CHAIN COVER AT ABOUT THE 2 OR 3 O'CLOCK POSITION. (JUST TO THE PASSENGER SIDE OF THE ALTERNATOR BRACKET). INSTALL PUMP BRACKET (26) TO FRONT OF WATER PUMP-TIMING CHAIN COVER WITH REMOVED BOLT. ALIGN HOLE IN TOP END OF PUMP BRACKET WITH VACANT HOLE IN ALTERNATOR MOUNTING BRACKET. (NOTE: 1984-85 VEHICLES REQUIRE USING SPACER (27) IN THE VACANT BRACKET HOLE TO ASSURE PROPER INSTALLATION. FASTEN USING ONE M10 X 1.25 X 100 CAPSCREW (87), LOCKWASHER (89) AND NUT (88). PLACE UNVIERSAL BRACE TAB (38) ON OVER END OF M10 CAPSCREW AND SECURE WITH ONE M10 LOCKWASHER (89) AND M10 NUT (88). BRACE TAB SHOULD POINT UP AT ABOUT A 45 DEGREE ANGLE TOWARDS THE DRIVERS SIDE. TIGHTEN BOTH BOLTS. TIGHTEN ALTERNATOR AND POWER STEERING BELTS.

B. HOLDING PUMP TANK (1) IN BENCH VISE, SCREW 1/4" BRASS BAR ELL (52) ONTO PRESSURE PORT AND SCREW 3/8" BRASS BAR STREET ELL (53) INTO RETURN PORT. SCREW QUILL (55) INTO ELL JUST INSTALLED IN RETURN PORT. WHEN LOOKING AT THESE FITTINGS ON THE BACK OF THE PUMP THEY SHOULD POINT TO THE 1 O'CLOCK POSITION. INSTALL PUMP SHEAVE (25) ONTO PUMP SHAFT USING LOCKNUT 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 CAPSCREW (77), LOCKWASHER (79) AND NUT (80). ATTACH SADDLE BRACKET AND PUMP TO PUMP BRACKET USING TWO 5/16 X 1 CAPSCREWS (78), FLATWASHERS (81), LOCKWASHERS (79) AND NUTS (80).

C. SLIP 38" V-BELT 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 BOLT. INSTALL REAR TANK STRAP (36) ON OVER REAR OF PUMP AND ALIGN WITH PREVIOUSLY INSTALLED BRACE TAB. MEASURE OR GAUGE NEEDED LENGTH OF UNIVERSAL BRACE ROD (37) AND CUT TO THAT LENGTH. INSTALL ONE 5/16 NUT (80) AND FLATWASHER (81) ONTO BRACE ROD. INSTALL BENT END OF BRACE ROD BETWEEN EARS OF TANK STRAP WHILE INSERTING OTHER END THROUGH LIFT HOOK ON ENGINE. FASTEN BRACE ROD TO EARS OF TANK STRAP WITH A 1/4 X 1-1/4 CAPSCREW (84), LOCKWASHER (85) AND NUT (86). FASTEN OTHER END OF BRACE ROD TO LIFT HOOK WITH A 5/16 FLATWASHER (81), LOCKWASHER (79) AND NUT (80). USE BRACE ROD TO ADJUST ALIGNMENT OF DRIVE AND PUMP SHEAVES. CHECK BELT FOR PROPER TENSION. TIGHTEN POWER STEERING AND ALTERNATOR BELTS.