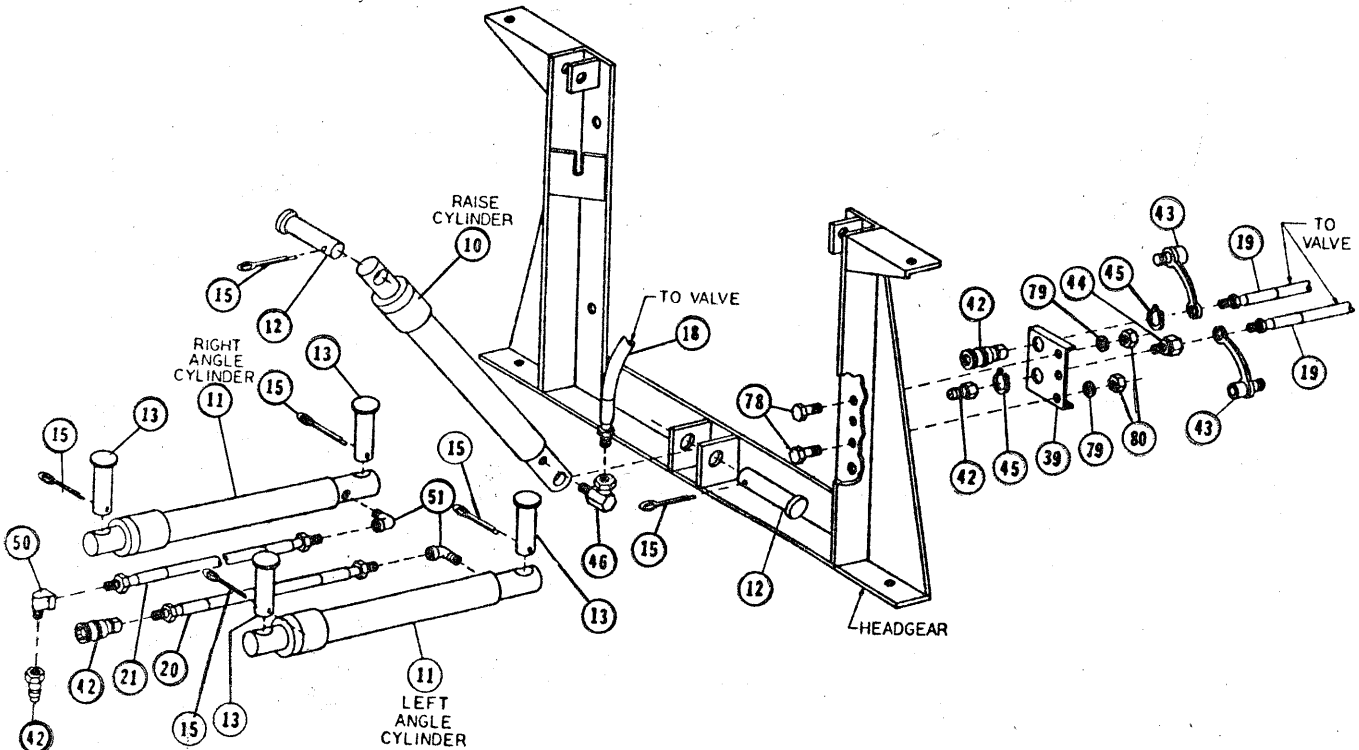
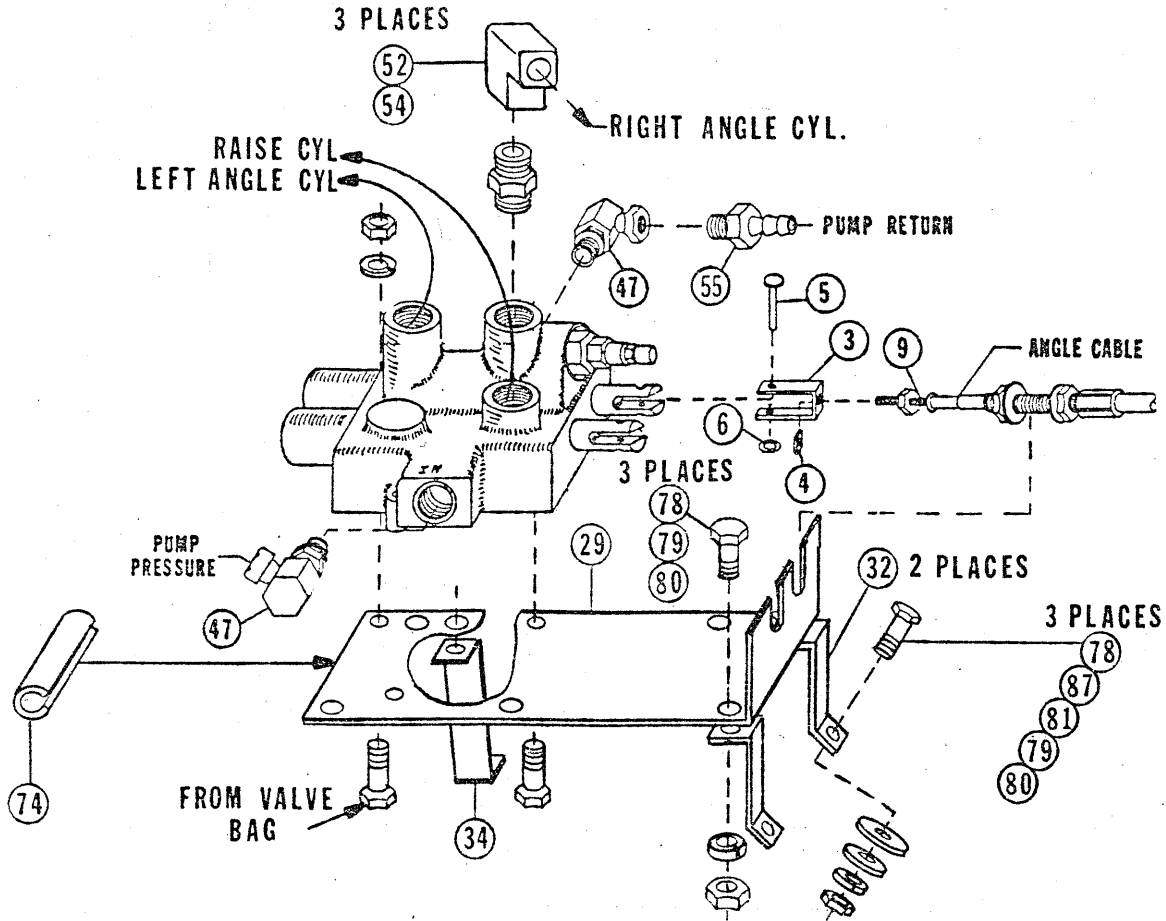


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




HYDRAULICS PARTS LIST

7510  
A4468

REF#	QTY IN KIT		PART#	DESCRIPTION
	A4468-40	7510		* PART OF 8090 BOLT BAG
1	1		A2311	PUMP ASSEMBLY - STANDARD
2	1		A4466-40	CONTROL VALVE ASSEMBLY
3	2		4483	CLEVIS - VM
4	2		4494	10-32 SQUARE NUT - VM
5	2		4491	1" CLEVIS PIN
6	2		4493	3/16" PUSH NUT ZP
7	1		8764	FILTER KIT (AT END OF INSTRUCT.)
8		1	4419	SLC HEAD -BELT DRIVE
9		2	A4490	90" SLC CABLE
10	1		A318	1-1/2"X10" CYLINDER ASSEMBLY
11	2		A3660	1-1/2"X12" CYLINDER ASSEMBLY
12	2		6814	CLEVIS PIN - 1 X 3-5/16
13	4		6816	ANCHOR PIN - 1 X 4
14				
15	6		90601	1/4 X 1-1/2 COTTER PIN
16		1	2516	HOSE - 72" HP 1/4P-3/8P
17		1	2515	HOSE - 72" LP
18		1	5192	HOSE - 60" HP 1/4P-1/4P
19		2	5193	HOSE - 54" HP 1/4P-1/4P
20		1	376	HOSE - 32" HP 1/4P-1/4P
21		1	4424	HOSE - 36" HP 1/4P-1/4P
22				
23		1	997	39" V-BELT (NOT SHOWN)
24				
25		1	3696	PUMP SHEAVE
26		1	6805	PUMP BRACKET
27		1	6802	TWISTED PUMP BRACE
28		1	* 6801	SLOTTED - TAB
29		1	5329	VALVE PLATE
30		1	* 6803	SPACER
31				
32		2	7965	BRACE
33		1	6059	CANISTER BRACKET
34		1	7966	BRACE
35		1	5495	SADDLE BRACKET - UNIVERSAL
36	1		2036	TANK STRAP
37	1		2116	UNIVERSAL BRACE ROD
38		1	* 2115	UNIVERSAL BRACE TAB
39		1	4467	DISCONNECT MOUNTING PLATE
40				
41				
42	2		A1587	HOSE DISCONNECT ASSEMBLY
43	2		1588	DUST PLUG - CLOSURE/MALE
44		1	* 4486	ADAPTOR - BULKHEAD 1/4" NPT
45		2	* 4485	SNAP RING - 7/8" EXTERNAL BOWED
46	1		319	1/4 NPT X 90 DEG SWV ADT UNION
47	2		2315	9/16-18 W/O-RING X 3/8 F PI SWV
48				
49				
50		1	* 765	1/4 NPT X 90 DEG STREET ELBOW

REF#	QTY IN KIT		PART#	DESCRIPTION
	A4468-40	7510		
51	2		2780	1/4 NPT X 90 DEG STREET ELBOW FRGD
52		4	* 2318	1/4 NPT X 90 DEG UNION ELBOW
53		1	* 3979	3/8 NPT X 90 DEG STREET ELBOW
54		3	* 3058	9/16-18 O-RING TO 1/4 NPT ADPT
55	2		1658	QUILL - 3/8 NPTM TO 3/8 ID HOSE
56				
57				
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71				
72		1	5704	SAFETY DECAL - CAB
73	2		3042	GROMMET - RUBBER, SPLIT
74	1	1	* 4477	GROMMET - SPLIT HOSE
75	3	3	* 3666	HOSE TIE, NYLON - 3/16 X 8
76		2	* 90659	# 12 X 3/4 PANHEAD SM SCREW
77	1		90054	5/16 X 1-1/2 (NC) GR.5 CAPSCREW
78	4	6	* 90042	5/16 X 1 (NC) GR.5 CAPSCREW
79	6	6	* 90360	5/16 SP LK WASHER
80	7	6	* 90332	5/16 (NC) NUT
81	4	4	* 90313	5/16 PLAIN WASHER
82		3	* 4433	1/2 SPECIAL WASHER
83		2	* 8011	NYLON MOUNTING TIE WRAP
84	1		90614	1/4 X 1-1/4 (NC) GR.5 CAPSCREW
85	1	5	* 90359	1/4 SP LK WASHER
86	1	5	* 90330	1/4 (NC) NUT
87		3	* 90311	1/4 PLAIN WASHER
88		5	* 90461	1/4 X 3/4 (NC) GR.5 CAPSCREW
89		1	* 90525	7/16 X 6-1/2 (NC) GR.5 CAPSCREW
90		1	* 90362	7/16 SP LK WASHER
91		2	* 90124	3/8 X 2 (NC) GR.5 CAPSCREW
92		4	* 90361	3/8 SP LK WASHER
93		1	* 90106	3/8 X 1-1/4 (NC) GR.5 CAPSCREW
94				
95		1	* 90103	3/8 X 1 (NC) GR.5 CAPSCREW

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	533	893

## 1. CYLINDER AND CYLINDER HOSE ASSEMBLY

- A. USING BENCH VISE TO HOLD LIFT CYLINDER (10), REMOVE CLOSURE FROM PORT. SCREW 90 DEGREE SWIVEL ADAPTOR (46) INTO PORT. PLACE LIFT CYLINDER WITH INSTALLED ADAPTOR 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 32" H.P. HOSE (20), INSTALL FEMALE HALF OF HOSE DISCONNECT ASSEMBLY (42) DIRECTLY TO HOSE. THEN, HOLDING 36" 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 32" H.P. HOSE WITH FEMALE DISCONNECT HALF TO DRIVER SIDE ANGLE CYLINDER STREET ELL. INSTALL OTHER H.P. HOSE WITH MALE DISCONNECT HALF TO PASSENGER SIDE ANGLE CYLINDER STREET ELL. 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. BE SURE BOTH SIDES OF FIREWALL ARE CLEAR OF OBSTRUCTIONS BEFORE DRILLING.
- 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 FIREWALL UP TO THE TOP OF THE DRIVER'S SIDE FENDERWELL. 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 ADAPTOR UNIONS (47) INTO "IN" AND "OUT" PORTS. SCREW QUILL (55) INTO INSTALLED ADAPTOR IN "OUT" PORT.

**NOTE:** VALVE FITTINGS ARE INSTALLED AS DESCRIBED TO INSURE PROPER INSTALLATION. 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 ADAPTORS (54) IN LIFT AND ANGLE PORTS. INSTALL ONE 1/4" BRASS BAR ELL (52) TO EACH ADAPTOR. WHEN TIGHT, ELLS SHOULD POINT AT TWO O'CLOCK, AWAY FROM CABLE END OF VALVE.

**B.** MOUNT VALVE TO VALVE PLATE (29) USING TWO 1/4" X 1-1/4" CAPSCREWS, LOCKWASHER, AND NUTS FROM VALVE BAG. INSTALL CAPSCREWS FROM BOTTOM OF VALVE PLATE, WITH LOCKWASHER AND NUT ON TOP OF VALVE. ATTACH THE TWO LONG VALVE LEG BRACES (32) TO THE TWO HOLES IN THE CABLE ATTACHING END OF VALVE PLATE. ATTACH WITH TWO 5/16" X 1" CAPSCREWS GR.5 (NC) (78), LOCKWASHER (79) AND NUTS (80). ATTACH REAR LEG BRACE (34) TO HOLE IN REAR OF VALVE PLATE ON "OUT" PORT SIDE WITH ONE 5/16 X 1" CAPSCREW GR.5 (NC) (78), LOCKWASHER (79), AND NUT (80). ATTACH SPLIT HOSE (74) TO END OF VALVE PLATE. PLACE VALVE PLATE AND LEGS OVER SMOG CONTROL VACUUM ON PASSENGER'S SIDE OF VEHICLE. POSITION SO NOTHING IS CHAFING AND DRILL THREE 11/32" HOLES IN FINDER. ATTACH WITH THREE 5/16 X 1 CAPSCREWS GR.5 (NC) (78), LARGE FLATWASHERS (87), 5/16 FLATWASHERS (81) LOCKWASHERS (78) NUTS (80) (NC).

**C.** INSTALL CONTROL CABLES TO VALVE PLATE 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 IN SLOTS SO THAT THEY ARE EXACTLY IN LINE WITH VALVE SPOOL CENTERS. ATTACH CABLES CLEVIS (3) TO CABLES USING SQUARE NUTS (4). SLIP CABLE CLEVIS CLEVISES OVER SPOOLS. INSTALL 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 CENTERS 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 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. USE THREE NYLON TIES TO RUN CABLES ALONG AIR INTAKE HOSES.**

#### **4. PUMP TANK AND PUMP BRACKET**

**A.** LOOSEN POWER STEERING PUMP V-BELTS(S). REMOVE TWO 3/8" BOLTS HOLDING THE POWER STEERING PUMP BRACKET TO THE WATER PUMP. REMOVE THE POWER STEERING PUMP PIVOT BOLT AND ONE OR BOTH (IF SO EQUIPPED) POWER STEERING V-BELT(S). IF THE VEHICLE HAS TWO POWER STEERING PUMP BELTS, THE INNER BELT WILL NOT BE RE-USED. INSTALL LONG END OF TWISTED PUMP BRACE (27) WITH 1/2" BRACE SPACER (30), ONE 3/8 X 1-1/4 (NC) GR 5 CAPSCREW (93) AND LOCK WASHER (92) TO THREADED HOLE ON FRONT OF HEAD, JUST BELOW POWER STEERING PIVOT BOLT.

**B.** INSTALL PUMP BRACKET (26) ONTO THE FRONT OF POWER STEERING PUMP BRACKET USING TWO 3/8 X 2 (NC) GR 5 CAPSCREWS (91) AND LOCKWASHERS (92) INTO POWER STEERING BRACKET MOUNTING HOLES. INSTALL A 7/16 X 6-1/2 (NC) GR 5 CAPSCREW (89) AND LOCKWASHER (90) IN PLACE OF THE POWER STEERING PUMP PIVOT BOLT.

C. HOLDING PUMP TANK (1) IN BENCH VISE, SCREW A 3/8" BRASS BAR ELL (53) INTO RETURN PORT ON PUMP TANK AND A 1/4" BRASS BAR STREET ELL (52) ONTO PRESSURE PORT. BOTH FITTINGS SHOULD FACE UPWARD. SCREW QUILL (55) INTO 3/8" BRASS BAR ELL. INSTALL PUMP SHEAVE (25) ONTO PUMP SHAFT USING LOCKNUT AND KEY SUPPLIED WITH PUMP. REMOVE PUMP FROM VISE AND INSTALL SADDLE BRACKET (35) ON OVER FRONT OF PUMP. SADDLE BRACKET SHOULD HAVE FACE PLATE WITH GUSSET FACING AFT WHICH FITS INTO "V" SHAPE IN PUMP BRACKET. FASTEN 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), FLATWASHER (81), LOCKWASHERS (79) AND NUTS (80).

D. INSTALL 39" V-BELT (23) ON OVER REAR GROOVE IN POWER STEERING PUMP PULLEY AND PUMP SHEAVE. **(NOTE: LEAVE BELT LOOSE)** REPLACE PREVIOUSLY REMOVED V-BELT ON OVER FRONT PULLEY ON CRANKSHAFT, WATER PUMP, AND POWER STEERING PUMP. TIGHTEN THIS BELT FIRST. ALIGN PUMP SHEAVE TO REAR GROOVE OF POWER STEERING PUMP PULLEY AND TIGHTEN 1-1/2" SADDLE BRACKET FASTENER. TIGHTEN POWER STEERING PUMP BELT. ADJUST FISHER PUMP BELT FOR PROPER TENSION BY PIVOTING SADDLE BRACKET ON TOP BOLT. MAKE SURE THAT BATTERY CABLE IS FAR ENOUGH AWAY FROM "V" BELT IF NOT TIED.

E. INSTALL REAR TANK STRAP (36) ON OVER REAR OF PUMP TANK. ATTACH BRACE TAB (38) TO INTAKE MANIFOLD (UP NEAR FUEL PUMP) WITH ONE 3/8 X 1 (NC) GR 5 CAPSCREW (95) AND LOCKWASHER (92). INSTALL ONE 5/16 NUT (80) AND FLAT WASHER (81) ONTO UNIVERSAL BRACE ROD (37). INSTALL THREADED END OF BRACE ROD THROUGH BRACE TAB ON INTAKE MANIFOLD AND FASTEN LOOSELY WITH A 5/16 FLATWASHER (81), LOCKWASHER (79) AND NUT (80). ATTACH THE SLOTTED END OF THE SLOTTED TAB (28) TO THE TWISTED PUMP BRACE WITH A 5/16 X 1 (NC) GR 5 CAPSCREW (78), FLATWASHER (81), LOCKWASHER (79), AND NUT (80). (DO NOT TIGHTEN). ALIGN EARS OF REAR TANK STRAP SO THAT THE SLOTTED TAB RESTS ON THE TOP EAR AND THE BRACE ROD FITS BETWEEN THE TOP AND BOTTOM EAR. BEND THE UNIVERSAL BRACE ROD TO FIT AS NEEDED. FASTEN THE TANK STRAP, SLOTTED TAB, AND BRACE ROD WITH A 1/4 X 1-1/4 (NC) CAPSCREW (84), LOCKWASHER (85), AND NUT (86). USE BRACE ROD TO ADJUST ALIGNMENT OF DRIVE AND PUMP SHEAVES. CHECK BELT FOR PROPER TENSION. TIGHTEN 5/16 CAPSCREW FASTENING SLOTTED TAB TO TWISTED PUMP BRACE. RECHECK ALL FASTENERS AND BELTS.

## 5. HYDRAULIC HOSE INSTALLATION

A. ATTACH ONE END OF 72" H.P. HOSE (16) TO THE 1/4" BRASS ELL ON PUMP TANK AND PUSH ONE END OF 72" LP HOSE (17) ONTO THE QUILL ON PUMP TANK. REMOVE TWO REAR RUBBER HOOD SEAL TO FIREWALL SCREWS THAT ARE APPROXIMATELY FIFTEEN INCHES APART AND CENTERED ON VEHICLE. REPLACE WITH TWO NYLON MOUNTING TIE WRAPS (40) AND #12 SHEET METAL SCREWS (90). ROUTE H.P. AND L.P. HOSES FROM VALVE TO PUMP. SECURE WITH PREVIOUSLY INSTALLED TIE WRAPS.

**CAUTION: KEEP HOSES AWAY FROM HOT OR MOVING ENGINE COMPONENTS. FAILURE TO DO SO MAY CAUSE HOSE TO BURST RESULTING IN A POSSIBLE ENGINE FIRE.**

L.P. HOSE MAY BE CUT OFF TO ADJUST FOR TRAVEL WITH H.P. HOSE. PUSH L.P. HOSE ONTO QUILL AND SCREW H.P. HOSE INTO 90 DEGREE SWIVEL ADAPTOR. INSTALL 54" H.P. HOSE (19) TO BRASS ELL IN LIFT CYLINDER PORT OF VALVE (SPOOL #1). INSTALL TWO 60" HOSES (18) TO BRASS ELLS IN ANGLE PORTS OF VALVE (SPOOL #2). ON VEHICLES WITHOUT AIR CONDITIONING, HOSES MAY BE ROUTED OUT BETWEEN RADIATOR AND RADIATOR WEB, THEN THROUGH THE GRILL NEAR THE CENTER OF VEHICLE. IF VEHICLE IS EQUIPPED WITH AIR CONDITIONING, A 1-7/8" HOLE MUST BE DRILLED THROUGH RADIATOR WEB ON PASSENGER'S SIDE INBOARD OF BATTERY. INSTALL SPLIT HOSE GROMMET (74) AROUND HOLE. ROUTE 60" AND 54" HOSES OUT THROUGH THIS HOLE AND THROUGH GRILL NEAR CENTER OF VEHICLE. ATTACH 54" HOSE (19) TO PREVIOUSLY INSTALLED 90 DEGREE SWIVEL ADAPTOR ON LIFT CYLINDER.

**INSTALL INLINE OIL FILTER AS PER FILTER KIT (7) INSTRUCTIONS AT THE END OF THIS DOCUMENT.**

## **6. DISCONNECT ASSEMBLY**

**A.** WITH DISCONNECT MOUNTING PLATE (39) HELD IN BENCH VISE, INSTALL DISCONNECT HALVES AS SHOWN IN ILLUSTRATION. BULKHEAD ADAPTOR (44) AND MALE DISCONNECT HALF (42) GO IN BOTTOM HOLE. FEMALE DISCONNECT HALF (42) GOES IN 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" CAPSCREWS (78), LOCKWASHERS (79) AND NUTS (80). INSTALL DUST PLUGS (43) OVER ENDS OF HOSES ROUTED TO FRONT OF VEHICLE IN THE PREVIOUS STEP. CONNECT 60" RIGHT ANGLE HOSE (SPOOL #2, CYL. B) TO BACK OF FEMALE DISCONNECT INSTALLED IN TOP HOLE OF DISCONNECT BRACKET. CONNECT 60" LEFT ANGLE HOSE (SPOOL #2, CYL. A) TO BOTTOM (MALE) DISCONNECT. TIGHTEN BY HOLDING HOSES AND ROTATING THE DISCONNECT HALVES IN THE BRACKET.

## **8. OPERATIONS**

**A.** CHECK ALL FITTINGS AND FASTENERS FOR TIGHTNESS. SECURE HOSES WITH NYLON TIE WRAPS (75). PLACE SAFETY DECAL (72) ON DASH BESIDE CONTROL HEAD.

**B.** FILL RESERVOIR WITH TYPE "A" AUTOMATIC TRANSMISSION FLUID. START ENGINE, LIFT AND ANGLE BLADE.

**NOTE:** IF BLADE ANGLES OPPOSITE FROM CONTROL LEVER POSITION, REVERSE THE TWO H.P. HOSE CONNECTIONS ON THE BACK OF THE DISCONNECT BRACKET.

RAISE FRONT END OF VEHICLE UNTIL PLOW IS CLEAR OF GROUND WITH THE LIFT CYLINDER FULLY RETRACTED. CHECK RESERVOIR OIL LEVEL. ANGLE BLADE (WITH LIFT CYLINDER RETRACTED) TO REMOVE AIR FROM SYSTEM. RECHECK RESERVOIR OIL LEVEL.