







Ref #	Qty In Kit		PN	Description
	8500-40	7524		
1	1		8356	Pump Assembly
2	1		A4466-40	Control Valve Assembly
3	2		4483	Clevis
4	2		4494	10-32 Square Nut
5	2		4491	Clevis Pin - 3/16 x 1
6	2		4493	3/16" Push Nut Zp
7	1		8764	Filter Kit
8		1	4419	Single Lever Control
9		2	A4926	78" Control Cable, SLC
10	1		A318	1-1/2" x 10" Cylinder Assembly
11	2		A3660	1-1/2" x 12" Cylinder Assembly
12	2		6814	Clevis Pin - 1 x 3-5/16
13	4		6816	Anchor Pin - 1 x 4
14	1		8389	Oil Reservoir
15	6		90601	1/4" x 1-1/2" Cotter Pin
16		1	4934	18" HP Hose, 1/4p to 3/8p
17		1	8632	78" HP Hose 1/4p to 1/4p
18		1	8980	18" 3/8 LP Hose
19		2	5192	60" HP Hose, 1/4p to 1/4p
20		1	3074	22" Hp Hose, 1/4p to 1/4p
21		2	4424	36" Hp Hose, 1/4p to 1/4p
22		1	1681	24" 3/8 Lp Hose
23		1	1714	'V' Belt, 57"
24		1	20031	Drive Sheave
25		1	3696	Pump Sheave
26		1	8380	Pump Plate
27		1	8942	Brace - Valve Plate
28		1	8943	Brace - Valve Plate
29		1	5329	Valve Plate
30		1	8946	"T" Brace
31		1	8952	Mount - Pump/Reservoir
32		1	8940	Support Plate Brace (short)
33		1	8941	Support Plate Brace (long)
34		1	8954	Belt Shield
35		1	8939	Support Plate
36		1	20036	Fan Spacer 1/8"
37		1	8979	1/2" LP Hose, 6" long
38				
42	2	1	A1587	Disconnect Assembly
43	2	2	1588	Dust Plug
44		1	4486	Adapter - Bulkhead 1/4" NPT
45		3	4485	7/8" Snap Ring
46		1	319	1/4" x 90 Swivel Adapter
47	2		2315	9/16" - 18 w/o-Ring x 3/8" F PI SWW
50				
51	2		2780	1/4" NPT x 90 Deg. Elbow FRGD
52		3	2318	1/4" Brass Bar Ell. (F/F)

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	8500-40	7524		
54		3	3058	9/16" "O" Ring to 1/4" St. Adapter
55	2		1658	Quill - 3/8" NPTM to 3/8" ID Hose
56		1	8688	QD/Electric Grille Plate (Short)
57		1	8686	2 QD Grille Plate (Short)
58		2	8391	Quill 3/8" NPTM to 1/2" ID Hose
59			8324	Hose Tie - 3/16" x 14"
60		4	8127	1/4" x 45 degree Swivel
61			8914	Grille Bracket
62			90615	1/4" x 1/2" (nc) Gr. 5 Cap Screw
63		1	7311	3/8" 90 degree Elbow. (black iron)
64		4	90638	3/8" x 5/8" (nc) Gr. 5 Ny Zp Cap Screw
65		2	90106	3/8" x 1 1/4" (nc) Gr. 5 Cap Screw
66		2	90361	3/8" Lock Washer
67		6	90315	3/8" Flat Washer
68		2	90334	3/8" (nc) Nut
69		1	8981	3/8" x 3" NPT Nipple
71				
72		1	5704	Caution Label
73	2		3042	Grommet - Rubber, Split
74	1		4477	Grommet - Split Hose
75	3	2	3666	Hose Tie, Nylon - 3/16" x 8"
76		1	6595	3/4" Split Hose
77	1		90054	5/16" x 1 1/2" (nc) Gr. 5 Cap Screw
78	4	13	90042	5/16" x 1 (nc) Gr. 5 Cap Screw
79	6	11	90360	5/16" Lock Washer
80	7	10	90332	5/16" (nc) Nut
81	4	2	90313	5/16" Flat Washer
83			90461	1/4" x 1 3/4" (nc) Gr. 5 Cap Screw
84	1		90614	1/4" x 1 1/4" (nc) Gr. 5 Cap Screw
85	1		90359	1/4" Lock Washer
86	1		90330	1/4" (nc) Nut
87			90311	1/4" Flat Washer
88		1	8741	Bracket - Cable Boot
89		1	8284	Cable Boot
90		1	90700	8mm x 1.25 x 130 Gr. 10.9 Cap Screw
91		1	90701	10mm x 1.5 x 70 Gr. 8.8 Cap Screw
92		4	90702	12mm x 1.25 x 80 Gr. 12.9 Cap Screw
93		1	90423	8mm x 1.25 Nut Gr. 8.8
94		1	90425	10mm x 1.5 Nut Gr. 8.8

8500-40 uses 5425 Bolt Bag

7524 uses 8982 Bolt bag

8914 Grille Bracket and Fasteners are located in the Peculiar Attachment Kit Bolt Bag.

1. Cylinder & Cylinder Hose Assembly

- A. Attach female half of disconnect (42) to the 22" Hp hose (20). Using bench vise to hold lift cylinder (10), remove closure from port & 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 & lower gear. Secure with the clevis pins (12) & cotter pins (15).
- B. Attach a male quick disconnect half (42) to one end of a 36" Hp hose (21). On the other 36" Hp hose (21), attach a male disconnect half (42) and a dust plug (43) to one end.
- C. Using bench vise to hold angle cylinders (11), remove closures from ports. Fasten the brass forged street ells (51) into ports. Ells should point forward toward live end of cylinder & 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 & 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 the brass 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. Remove 2" rubber plug from engine side of fire wall beside brake master cylinder. Vehicles with standard transmission will have to have two 5/8" holes drilled as per Dash bracket instructions.
- 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 hole created when rubber plug was removed from fire wall (or the two holes drilled in fire wall). Attach control head to dash bracket as per dash bracket instructions. Cut out previously remove rubber plug to accommodate control cables & reinstall. **For standard transmission:** 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: The valve fittings are installed as described to insure proper installation. First indication of incorrect installation is failure of plow to lift, although the plow will angle.

Install three 9/16" O-rings to 1/4" pipe adapters (54) in lift & angle ports. Install one 1/4" brass bar ell (52) to each adapter. When tight, ells should point between cables & "in" port of valve.

- B. Mount valve to valve plate (29) using two 1/4 x 1-3/4 cap screws, lock washers, & nuts located in the valve bag. Attach three valve plate braces (27,28,30) to the valve plate (see illustration) with three 5/16" x 1" cap screws (78), lock washers (79), & nuts (80). Do not fully tighten braces at this time. One 1/4" fastener will have to be loosened on the leg of the valve to allow the hole in the crossing bar of the center leg to align with the hole in the valve leg. Reinstall the fastener.
- C. Install the support plate braces (32, 33) to the support plate using two 5/16" x 1" cap screws (78), lock washers (79), and nuts (80), do not tighten. Fasten the valve plate (29) and braces (27,28,30) to the support plate (35) using four 5/16" x 1" cap screws (78), lock washers (79), and nuts (80). Tighten these fasteners at this time. Remove engine air filter box from the fender of the passenger's side of the vehicle. Take valve and fender bracketry and place over fender and mark the holes from the support plate (35) and the two braces (32,33) onto the fender. Drill four 11/32" holes through the fender and fender liner. Install valve and fender plate bracketry onto fender. Install four 5/16" x 1" cap screws (78) through the fender plate (35) holes and brace (32,33) holes, and through the drilled holes. Fasten using 5/16" flat washers (81), lock washers (79), and nuts (80). Tighten all fasteners and reinstall the air filter.

- D. Connect control cables to valve plate. Begin by reinstalling jam nuts & washers on cables. Place control cables in respective slots of valve plate bulkhead (29) with one nut & 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 & spools & secure with push nuts (6). Adjust cables so that control lever is center- between raise and angle positions in the control head. 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 center position, tighten the cable clevis nuts. Use a long tie to tie the cables loosely down on the engine air intake on the driver's side.

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.

4. Drive Sheave Installation

NOTE: Apply a loosening resistant substance (such as "Loctite") on all cap screws before installing drive sheave.

- A. Loosen serpentine belt. Remove and discard fasteners from engine sheave. Place the drive sheave (24) inside of the vehicle sheave with the center over the pilot end of the crank shaft. Fasten with four 12mm x 1.25 x 80 Gr. 12.9 (92) cap screws and tighten. Remove fan and install fan spacer (36). Replace fan and tighten. Reinstall the serpentine belt.

5. Pump & Pump/Reservoir Mount

- A. Remove bolts from the bracket on the top of the alternator. Place legs of pump/reservoir mount (31) over the alternator bracket and install one 8mm x 1.25 x 130 Gr. 10.9 cap screw (90) and one 10mm x 1.5 x 70 Gr. 9.8 cap screw (91) through each bracket leg of the pump plate. "Double nut" the back of the fasteners with one 8mm x 1.25 nut (93) and one 10mm x 1.5 nut (94). Tighten fasteners.
- B. Place the pump (1) in a vise with the relief quill (58) toward the driver's side. Install a 1/4" x 45 degree swivel (60) in the high pressure port of the pump. Tighten until the swivel is pointing to the driver's side and down, as illustrated. On the suction port install a 3/8" x 3" pipe nipple (64) and a 90 degree elbow (68) pointing to the opposite direction of the relief quill. Install a 1/2" quill (58) into the elbow. Use four 3/8" x 5/8" nylon patched cap screws (64) and flat washers (67) to attach pump to pump plate (26) in the direction shown on the illustration. Install the pump sheave (25) onto the pump shaft using the lock nut and key supplied with the pump.
- C. Attach the pump plate, with the pump, to the previously installed pump/reservoir mount (31) with two 3/8" x 1 1/4" cap screws (65), flat washers (67) and tie down with lock washers (66) and nuts (68). Install a 57" "V" - Belt (23) (not shown) over drive and pump sheaves (24,25). Adjust and tighten fasteners. Place the pump belt shield (34) over the sheave and pump shaft, adjust and fasten to the pump/reservoir mount (31) with two 5/16" x 1" cap screws (78), flat washers (81), lock washers (79), and nuts (80).

6. Oil Reservoir And Hydraulic Hose Installation

Caution: Pump tank fill must be vertical to engine.

- A. Install a 1/2" Quill (58) into the oil reservoir (14). Position oil reservoir on the pump/reservoir mount (31) as illustrated. Fasten with two 5/16" x 1" cap screws (78), lock washers (79) and nuts (80).
- B. Take the 6", 1/2" Lp Hose (37) and check for the length (cut shorter if necessary) and reinstall from the back of the pump (1) to the reservoir (14). Take an 18" Lp Hose (18), check for length (cut shorter if necessary) and install on the relief quill (58) on the pump (1) and attach to the bottom quill on the reservoir (14). Take a 24" Lp hose (22) check for length. (cut shorter if necessary) and install this to the top quill on the reservoir to the "out" port quill on the valve. Take an 18" Hp Hose (16) and install it to the "in" port of the valve and to the swivel (60) on the back of the pump. Angle and tie all hoses so they are not against the hood or engine parts. Cut the split rubber Hose (73) into 2" sections and place them over the hoses that may rub or hit other components. Tie them with hose ties (75).

- C. Attach 78" HP hose (17) to Cyl. "A" on the angle port of valve (2). Attach a 60" HP hose (19) to Cyl. "B" port of valve & another 60" HP hose (19) to the lift port. Route hoses together through the side of the radiator & bumper.

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

- D. **Regular duty vehicles with bumper "Sight Shield" provided with Laramie SLT package:** Attach a female quick disconnect half (42) to the QD/Electric grille plate (56) with a snap ring (45). Install a dust plug (43) & 1/4 x 90 degree swivel adapter (46) to disconnect. Place a grille bracket (61) (**NOTE:** Grille bracket & fasteners are located in Peculiar Attachment Kit Bolt Bag.) on back of grille plate (57) as shown on illustration, & attach with two 1/4 x 1/2 cap screws (62) & lock nuts (63). Place grille plate & bracket into large hole in driver's side of bumper. Using holes in grille plate as guides, drill two 1/4" holes on both sides of grille plate in line with grille plate holes. (Total of 4 holes). Fasten bottom of grille plate to drilled holes with two tie wraps (75) & top bracket (on top plastic bumper liner with two long tie wraps (59). Attach 78" hose to disconnect & slide head light connector (with dust plug) into the slot provided in grille plate.

Install a female quick disconnect half (42) to one hole in 2 QD plate (57) with a snap ring (45) & a bulkhead adapter (44) to other hole with another snap ring (45). Install male quick disconnect half (42) to bulkhead adapter & two 1/4 x 45 degree swivel adapters (60) with dust covers (43) to disconnects on back side of grille plate. Attach grille bracket (61) to grille plate (57) as shown on illustration with two 1/4 x 1/2 cap screws (62) & lock nuts (63). Attach to large hole in passenger's side of bumper in the same manner as driver's side grille plate placing female disconnect to outside of vehicle. Connect lift hose (21) to the swivel (60) with male disconnect half (62) & angle hose to female disconnect half (42).

Regular & heavy duty vehicles without bumper "Sight Shield"

Same as vehicles regular duty vehicles with "sight shield" except: position grille brackets outwards in large bumper openings against bumper brackets & using holes in grille brackets as guides, drill four 9/32" holes up through upper lip of bumper in opening. Attach grille brackets (61) to bumper with four 1/4 x 3/4 cap screws (83) with flat washers (87) down through bumper & bracket & fasten with four lock washers (85), & nuts (86).

Heavy duty vehicles with bumper "Sight Shield"

Either remove "Sight Shield" or cut as needed to install grille brackets the same as vehicles without "Sight Shield" or don't use grille plates (56,57) & brackets (61) and simply install disconnects & dust plugs to ends of lift & angle hoses and store inside bumper when not in use.

- E. 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.
- F. 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 (14) 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 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.