

PARTS LIST AND INSTRUCTIONS



HYDRAULIC UNIT HY-3



DESCRIPTION

The Hydraulic-Unit system is designed to give you hydraulic power for your attachments with fingertip control, eliminating the need for the manual lift lever. This unit is a completely self-contained hydraulic gear pump, directional control valve, and oil reservoir; with a companion hydraulic cylinder and hoses connecting the power unit to the cylinder. The unit has a built-in safety valve to eliminate overloading of the hydraulic system and tractor attachments. **Read instructions carefully.**

ASSEMBLY INSTRUCTIONS

1. Remove all parts from carton. Disconnect wire on positive battery terminal.
2. Remove tractor quadrant (part number 2274). (See Figure 1)
3. Remove tractor lift lever, (part number 2266), by removing the three (3) bolts and hair pin cotter. (See Figure 2)



Figure 1



Figure 2

4 Install hydraulic lift lever, (part number 2265), using the same bolts and hair pin cotter (See Figure 3)

5. Re-install starter button and ignition switch on the left side of the hood stand assembly in the holes provided as shown. (See Figure 3)



Figure 3

6 Mount cylinder support angle, (part number 4850), to front of axle, using rear mounting bar, (part number 2277), two (2) $\frac{3}{8}$ -16 x 3 Carriage bolts (part number 2279) and two (2) $\frac{3}{8}$ -16 nylock nuts, (part number 915113-6). This mounting bracket is similar to the mounting bracket used on the dozer blade. When the dozer blade is installed it replaces the left mounting bracket and therefore it will not be necessary to remove it. (See Figure 4)

7. Mount cylinder to support angle using the cylinder pin (part number 4872) and two (2) snap rings, (part number S-50-75). Turn rear street elbow on cylinder toward the front. (See Figure 4)



Figure 4



Figure 5

8. Bolt the pump mounting bracket (part number 4816) to the hood stand using the same holes where the switch and starter button were removed. Use two (2) $\frac{1}{4}$ -20 nylock nuts (part number 1406), two (2) $\frac{1}{4}$ -20 x $\frac{5}{8}$ Hex Head Cap Screws (part number 1428), the $\frac{3}{8}$ -16 x $\frac{3}{4}$ Hex Head Cap Screw (part number 1423), the $\frac{3}{8}$ flat washer (part number 1434), and the $\frac{3}{8}$ -16 nylock nut (part number 1408). (See Figure 5)

9. Bolt pump support (part number 4827), to pump using $\frac{5}{16}$ -18 x $\frac{5}{8}$ Hex Head Cap Screw (part number 908016-4) and the $\frac{5}{16}$ lock washers (part number 920082-4). Bolt pump to pump mounting bracket using the $\frac{3}{8}$ -16 x $\frac{3}{4}$ Hex Head Cap Screws (part number 908032-4) $\frac{3}{8}$ lockwashers (part number 920083-4) and the $\frac{3}{8}$ washers (part number 920009-4). (Do not tighten at this time) (See Figure 6)



Figure 6

10. Install the $2\frac{1}{4}$ pulley (part number 4811) to engine using square key (part number 1433) and set screw (part number 909848-4). Install the 5" pulley (part number 4812) to pump using $\frac{5}{16}$ set screw (part number 909862-4) Place the drive belt over the two pulleys and adjust belt by installing the $\frac{3}{8}$ -16 x $2\frac{3}{4}$ Hex Head Cap Screw (part number 1093) and tightening until belt has the proper tension. Tighten the two (2) $\frac{3}{8}$ -16 x $\frac{3}{4}$ Hex Head Cap Screws to secure pump. Install belt guard (part number 4814) using the $2\frac{1}{8}$ pipe spacer (part number 4828) in front, the $2\frac{1}{4}$ pipe spacer (part number 4829) towards the rear and the two (2) $\frac{5}{16}$ -18 x $2\frac{3}{4}$ Hex Head Cap Screws (part number 908026-4). (See Figure 7 and 9)

11. Fasten hoses to pump making sure that the longer hose is installed in the forward position on the pump and then fastened to the street elbow at the rear of the cylinder. The short hose is installed in the rear of the pump and is fastened to the front of the cylinder. Secure hoses to end of pump with tube clamps (part number 1472) and $\frac{3}{8}$ -16 Hex Pal Nut (part number 1471). (See Figure 4 and 8)



Figure 7

12. Remove the allen screw from the side of the pump and fill with hydraulic fluid. After filling replace and tighten screw. **CAUTION: USE ONLY WHEEL HORSE OIL (NUMBER 4822)** (See Figure 9)



Figure 8



Figure 9

OPERATING INSTRUCTIONS

A. After unit is completely installed and filled with fluid, start tractor and adjust to fast idle.

B. To raise tractor attachments, pull handle toward you, upon release of handle it will return to the center or neutral position. A slightly sluggish action of the control lever returning to neutral may exist during the break-in period. A few hours of running time will eliminate this.

C. Make sure that all fittings are tight and no oil is escaping.

D. All attachments that normally work off of the tractor lift lever will operate in the same way with the hydraulic unit.

E. **IMPORTANT:** Never run unit without fluid or warranty will be voided.

F. **CAUTION:** Use only Wheel Horse oil (Number 4822)

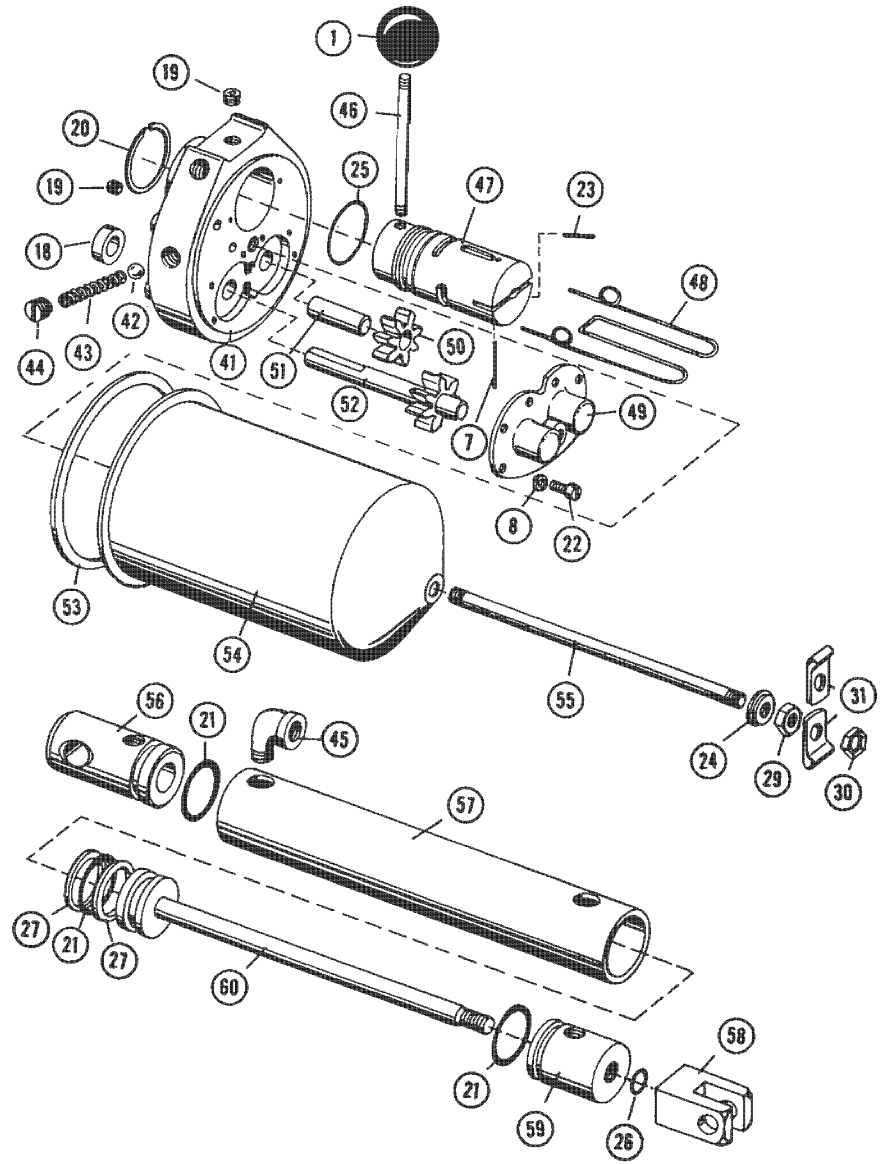
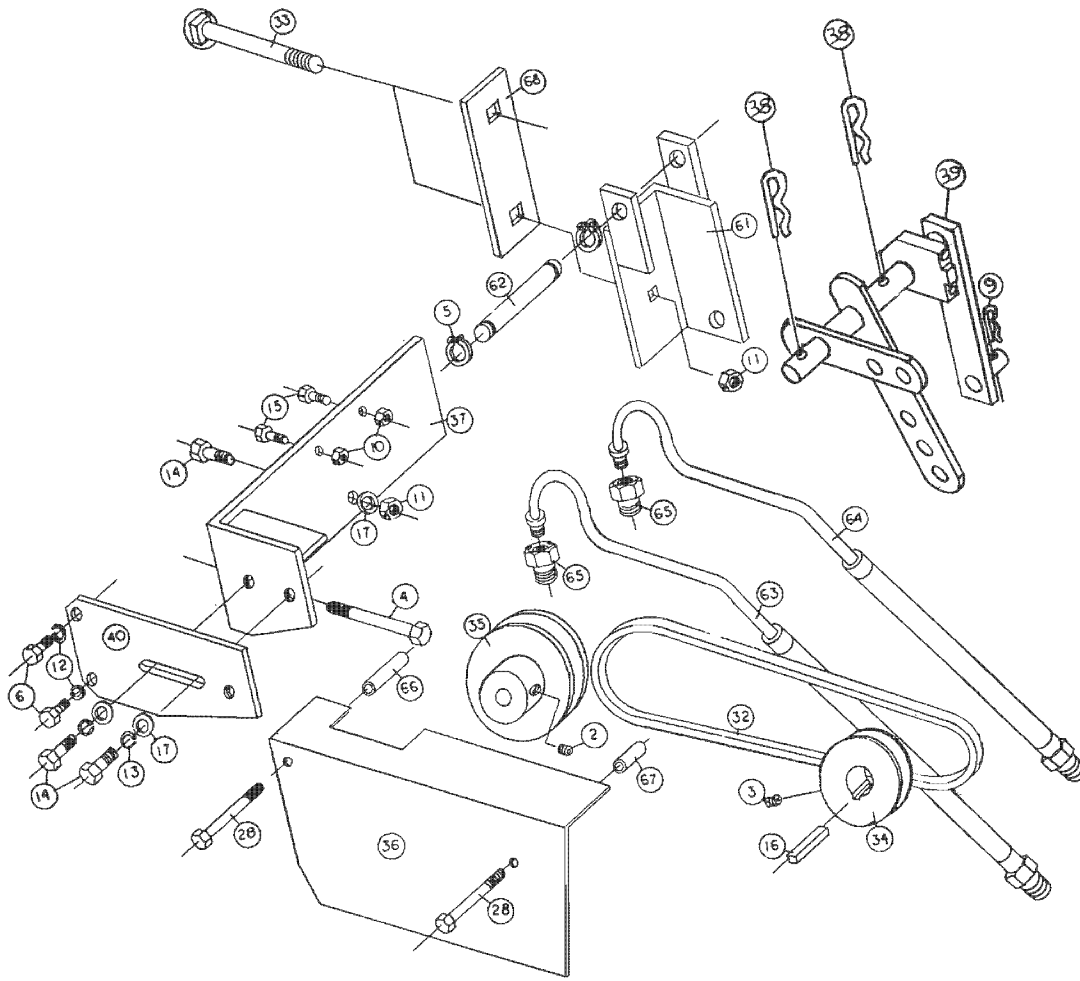
G. If unit is dismantled for service make sure all parts are clean before putting unit together again. After service it is advisable to install new fluid.

H. When raising or lowering attachments, after unit is either up or down, make sure handle is in neutral. Never hold open as this will harm the pump.

When ordering parts always list Part No. and name of part

Ref. No.	Part No.	Description	No. Req'd.
1	1001	Knob	1
2	909862-4	Set Screw $\frac{3}{16}$ -18 x $\frac{3}{16}$	1
3	909848-4	Set Screw $\frac{1}{4}$ -20 x $\frac{1}{4}$	1
4	908041-4	Hex Hd Cap Screw $\frac{3}{8}$ -16 x $2\frac{3}{4}$	1
5	S-50-75	Snap Ring $\frac{3}{4}$ ID	2
6	908016-4	Hex Hd Cap Screw $\frac{3}{16}$ -18 x $\frac{5}{8}$	2
7	933158	Roll Pin $\frac{1}{8}$ x $1\frac{1}{4}$	1
8	920079	Lock Washer #10	6
9	S-52-4	Hairpin Cotter	1
10	915111-6	Nut $\frac{1}{4}$ -20 Nylock	2
11	915113-6	Nut $\frac{3}{8}$ -16 Nylock	3
12	920082-4	Lock Washer $\frac{3}{8}$ Dia	4
13	920083-4	Lock Washer $\frac{3}{8}$ Dia	2
14	908032-4	Hex Hd Cap Screw $\frac{3}{8}$ -16 x $\frac{3}{4}$	3
15	908002-4	Hex Hd Cap Screw $\frac{1}{4}$ -20 x $\frac{3}{8}$	2
16	1433	Sq Key $\frac{1}{4}$ x $\frac{1}{4}$ x 1	1
17	920009-4	Washer Plain $\frac{3}{8}$ Dia.	3
18	1447	Seal	1
19	943459-4	Allen Hd Pipe Plug $\frac{1}{8}$	2
20	1449	Snap Ring	2
21	1450	"O" Ring	3
22	1451	Machine Screw #10-32 x $\frac{3}{8}$ - Fillister Hd	6
23	933169	Roll Pin $\frac{3}{32}$ x $\frac{3}{8}$	1
24	1453	Washer	1
25	1455	"O" Ring	1
26	1456	"O" Ring	1
27	1457	Back Up Washer	2
28	908026-4	Hex Hd Cap Screw $\frac{3}{16}$ -18 x $2\frac{3}{4}$	2
29	915236-4	Hex Jam Nut $\frac{3}{8}$ -16	1
30	1471	Hex Pal Nut $\frac{3}{8}$ -16	1
31	1472	Tube Clamp $\frac{1}{4}$ ID	2
32	1584	"V" Belt 5L-510	1
33	900071-4	Carriage Bolt $\frac{3}{8}$ -16 x 3	2
34	4811	Pulley $2\frac{1}{4}$ Dia	1
35	4812	Pulley 5 Dia	1
36	4814	Belt Guard	1

Ref. No.	Part No.	Description	No. Req'd.
37	4816	Pump Mounting Bracket	1
38	S-52-6	Hair Pin Cotter	2
39	2265	Ass'y Lift Lever Hyd	1
40	4827	Pump Support	1
41	4830	Body	1
42	4831	Ball	1
43	4832	Spring	1
44	4833	Plug	1
45	4834	Street Elbow $\frac{1}{4}$ x 90°	1
46	4835	Handle	1
47	4836	Spool Valve	1
48	4837	Spring	1
49	4838	Cover	1
50	4839	Gear	1
51	4840	Shaft	1
52	4841	Drive Shaft Ass'y	1
53	4842	Gasket	1
54	4843	Reservoir	1
55	4844	Stud	1
56	4845	Head	1
57	4846	Tube	1
58	4847	Clevis	1
59	4848	Guide	1
60	4849	Piston Rod Ass'y.	1
61	4850	Cylinder Support	1
62	4852	Pin	1
63	4853	Hose	1
64	4854	Hose	1
65	4855	Tube Coupling	2
66	4828	Pipe Spacer $\frac{1}{4}$ Std. Blk. Pipe $2\frac{1}{8}$	1
67	4829	Pipe Spacer $\frac{1}{4}$ Std. Blk. Pipe $2\frac{1}{4}$	1
68	2277	Mounting Bar - Rear	1
	4822	Oil in Cons	
	2869	Decal	
	4805	Hydraulic Unit Ass'y	
	4809	Cylinder Ass'y.	



TROUBLE SHOOTING CHART

Trouble	Probable Cause	Remedy
Slow action with tractor engine at operating speed	Belt slipping	Tighten Belt
	Improper type of oil	Replace Oil
	Low Oil Supply	Fill oil to proper level
	Air lock	Loosen allen screw on top and operate to release air
	Slow engine RPM	Speed engine
Attachment not holding in raised position	Oil leak in system	Check all connections
	Improper type of oil	Use Wheel Horse (4822)
	Oil leak at seals	Replace
Excessive noise or chattering	Insufficient oil	Fill with proper oil
	Unit run at too high a RPM	Reduce shaft speed to recommended speed as originally equipped
	Improper oil	Drain and refill system with correct oil (4822)
Excessive Heating	Restriction in the system such as kinked or pinched lines	Replace defective hoses. Straighten kinked hoses and check fittings for obstruction
	Insufficient oil	Fill with 4822 to proper level
Unit does not operate	Low Oil	Check and fill
	"O" Rings worn in pump and cylinder	Replace with new "O" Rings
	Pulley loose on pump	Tighten