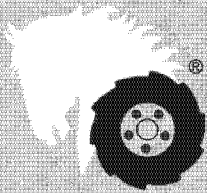


PARTS LIST AND INSTRUCTIONS

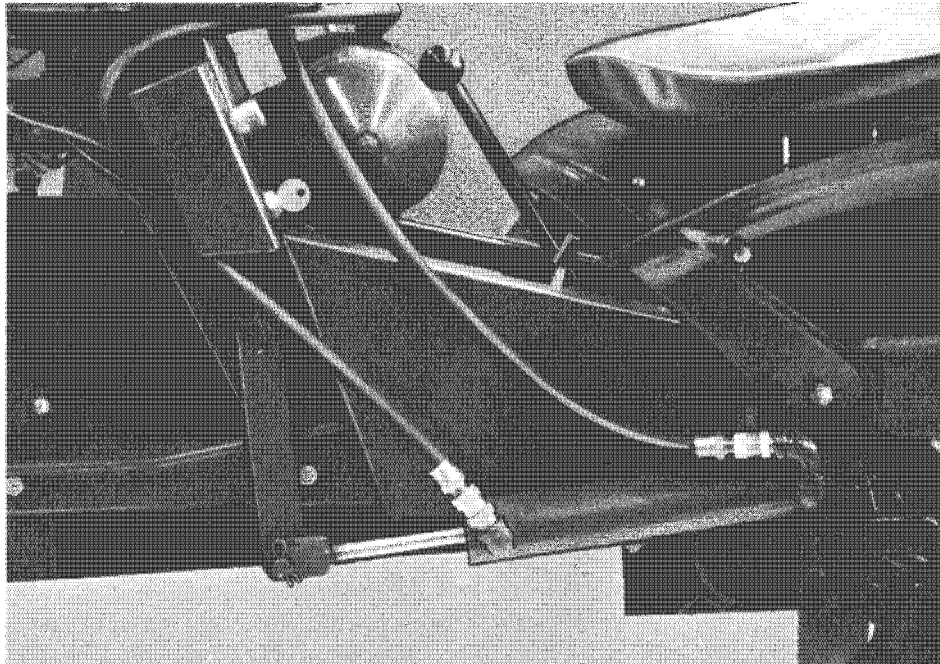


Wheel Horse

WHEELHORSE PRODUCTS, INC. • SOUTH BEND, IND.

HYDRAULIC UNIT

HY-2



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 then remove hood from tractor and disconnect switch and starter button from instrument panel. Disconnect wire on positive side of battery first, then the wire from starter button to generator at the generator.

2. Lean tractor over and remove lift lever by knocking out roll pin (4231). After lever is removed, install lift link (4818) using same roll pin which was previously knocked out. See Figure 1.



Figure 1

3. Remove left rear wheel from tractor, although this is not necessary, and mount cylinder support angle (4850) to axle, using "U" bolt (2378) and $\frac{3}{8}$ -16 lock nuts. This mounting bracket is the same as the one used on the dozer blade and when dozer is to be installed it will not be necessary to remove this bracket.

4. Mount cylinder to support angle using the cylinder pin (4872) and two hair pin cotters (1290) turning street elbows on cylinder toward the front.

5. Install switch and starter button into new instrument panel (4817) using same bolts which were removed from tractor.

6. Remove lift lever quadrant (4222) then bolt on new instrument panel in same two holes, again using same bolts which were in tractor. See Figure 2.

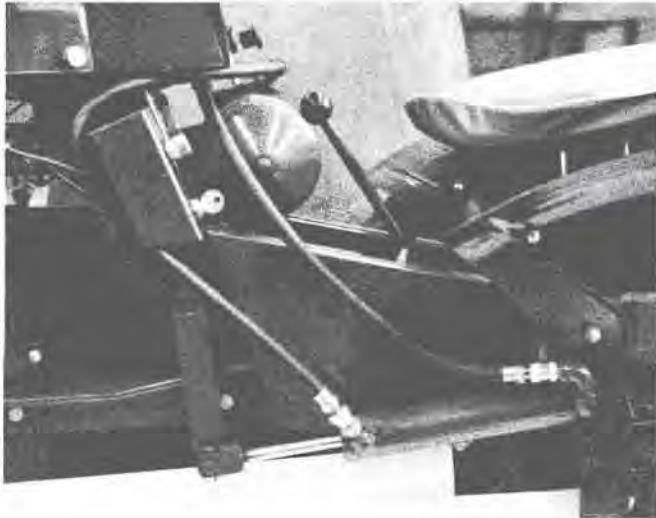


Figure 2

7. Bolt the pump mounting bracket to the hood stand using same holes where switch and starter button were removed. Using two $\frac{1}{4}$ -20 x $\frac{5}{8}$ Hex Head Cap Screws and two $\frac{1}{4}$ -20 Lock Nuts. Also the $\frac{3}{8}$ -16 x $\frac{3}{4}$ Hex Head Cap Screw and $\frac{3}{8}$ Flat Washers. See Figure 3.

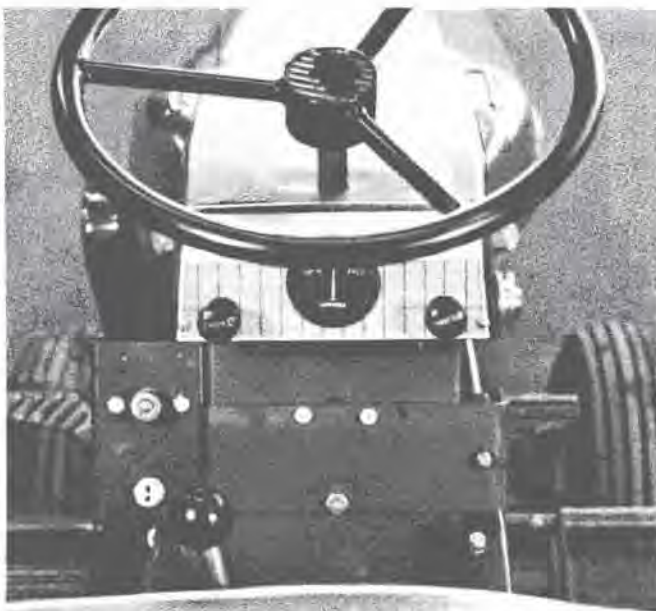


Figure 3

8. Bolt pump support (4827) to pump using $\frac{5}{16}$ -18 x $\frac{5}{8}$ Hex Head Cap Screw and $\frac{5}{16}$ Lock Washers. Install hoses to pump, placing the long hose to the front and the short one to the rear. Install operating handle. See Figure 4.



Figure 4

9. Bolt pump to pump mounting bracket using the $\frac{3}{8}$ -16 x $\frac{3}{4}$ Hex Head Cap Screw, $\frac{3}{8}$ Lock Washers and $\frac{3}{8}$ Flat Washers. Do not tighten at this time. See Figure 5.

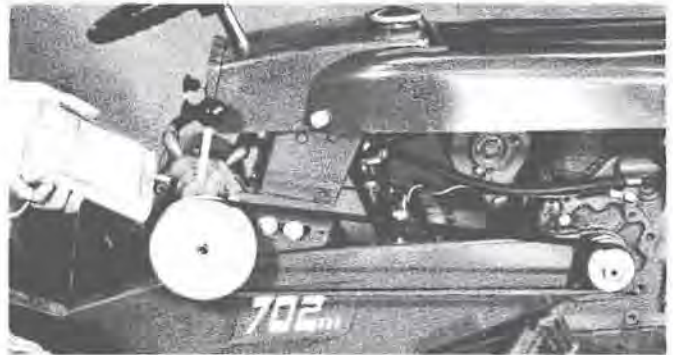


Figure 5

10. Fasten hoses to lift cylinder first installing the couplings into the street elbows on cylinder. Hook long hose to the front coupling and short one to the rear. See Figure 2. Make sure all hose connections are tight.

11. Install $2\frac{1}{4}$ " pulley to engine crank shaft and 5" pulley to pump. There are a few 552 engines in service with short crank shafts and on these it will be necessary to remove the 3 groove pulley from tractor and drill and tap and bolt the $2\frac{1}{4}$ " pulley to its outside faces. See Figure 6. This will not be necessary where crank shaft is long enough.



Figure 6

12. Place the drive belt over the two pulleys and take up the slack by tightening the $\frac{3}{8}$ -16 x $2\frac{3}{4}$ Hex Head Cap Screw in the rear of the pump mounting bracket (previously installed). Now tighten the two $\frac{3}{8}$ -16 x $\frac{3}{4}$ Hex Head Cap Screws to lock unit fast.

13. Remove the allen screw from the side of pump and fill pump with the (3) cans of hydraulic fluid as shown in Figure 5. After filling replace and tighten screw.

14. Insert belt guard in place using the short spacer in front and the long one in the rear and the two 5/16-18 x 2½ Hex Head Cap Screws and Lock Washers. See Figure 7.

15. On all tractors prior to Serial No. 62-2856, it will be necessary to bend the gear shift lever so that handle will clear the Hydraulic Unit and the seat. However; the proper gear shift lever may be ordered from Wheel Horse if so desired. Part No. 4440. See Figure 8.



Figure 7

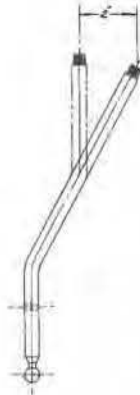


Figure 8

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 at this time 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. If unit is torn apart for service make sure all parts are completely clean before putting unit together again. After service it is advisable to install new fluid.

G. When raising or lowering attachments, after unit is either up or down, make sure handle is in neutral. Never hold open as this will cause considerable harm to unit over a long period of time.

The hydraulic unit carries a separate warranty by the Hein Werner Corporation and all warranty claims should be handled through their service station. A list is available through your distributor.

HY-2 HYDRAULIC UNIT PART'S LIST

Ref. No.	Part No.	Description	No. Req'd.	Ref. No.	Part No.	Description	No. Req'd.
	4805	Hydraulic Power Unit, Assembly Complete	1	33	1001	Knob	1
1	4806	Hose ¼" x 27" long	1	34	1018	¾ SAE Washer	3
2	4807	Hose ¼" x 23" long	1	35	1042	Socket Head Set Screw 5/16-18 x 5/16	1
3	4808	¼" NPT Pipe Couplings	2	36	1066	Socket Head Set Screw ¼-20 x ¼	1
	4809	Cylinder Assembly Complete	1	37	1093	Hex Head Cap Screw ¾-16 x 2¾	1
4	4811	"V" Pulley 2¼" OD dia.	1	38	1238	Hex Head Cap Screw 5/16-18 x 5/8	2
5	4812	"V" Pulley 5" OD dia.	1	39	1350	Roll Pin ½ x 1¼ long	1
	4813	Caution-Decal	1	40	1386	Hair Pin Cotter Key	1
6	4814	Belt Guard	1	41	1406	Lock Nut ¼-20	2
7	4816	Pump Mounting Bracket	1	42	1408	Lock Nut ¾-16	3
8	4817	Instrument Mounting Bracket	1	43	1417	Lock Washer 5/16	2
9	4818	Lift Link W/A	1	44	1418	Lock Washer ¾	2
10	4827	Pump Support Bracket	1	45	1423	Hex Head Cap Screw ¾-16 x ¾	3
11	4828	Pipe Spacer ¼ x 2½ lg	1	46	1428	Hex Head Cap Screw ¼-20 x 5/8	2
12	4829	Pipe Spacer ¼ x 2¼ lg	1	47	1446	Hex Head Cap Screw 5/16-18 x 2½	2
13	4830	PU-100 Pump Body	1	48	1447	B-44 Seal	1
14	4831	125-1 Pump Ball	1	49	1448	Allen Head Pipe Plug ¼ NPT	2
15	4832	5111 Pump Spring	1	50	1449	Snap Ring (Spirolox) US175	1
16	4833	388 Plug	1	51	1450	"O" Ring ARP-568-218	3
17	4834	Street Elbows ¼ NPTF 90°	5	52	1451	Fillister Head Machine Screw 10-32 x ¾	6
18	4835	PU-107 Handle	1	53	1452	Roll Pin 5/32 x 5/8	1
19	4836	PU-101 Spool	1	54	1453	Washer	1
20	4837	PU-110 Spring	1	55	1454	Hex Head Lock Nut ¾-16	1
21	4838	PU-102 Cover	1	56	1455	"O" Ring ARP-568	1
22	4839	PU-104 Gear	1	57	1456	"O" Ring ARP-568-112	1
23	4840	PU-106 Shaft	1	58	1457	Back Up Washer	2
24	4841	15A59 Drive Shaft Assembly	1	59	1584	"V" Belt 3L-510	1
25	4842	PU-108 Gasket	1	60	1433	Square Key ¼ x ¼ x 1	1
26	4843	PU-103 Reservoir	1	61	1353	Shakeproof Washer 10-32	6
27	4844	PU-109 Stud ¾" dia.	1	62	4850	Cylinder Support	1
28	4845	C-17006 Head	1	63	4852	Cylinder Pin	1
29	4846	C-18011 Cylinder Tube	1	64	1290	Hair Pin Cotter	2
30	4847	C-26001 Cylinder Clevis	1	65	2378	"U" Bolt	1
31	4848	C-22007 Guide	1				
32	4849	12A76 Rod & Piston Assembly (Cylinder)	1				

Figure 9

Order all parts in Figure 9 from Hein Werner service stations.

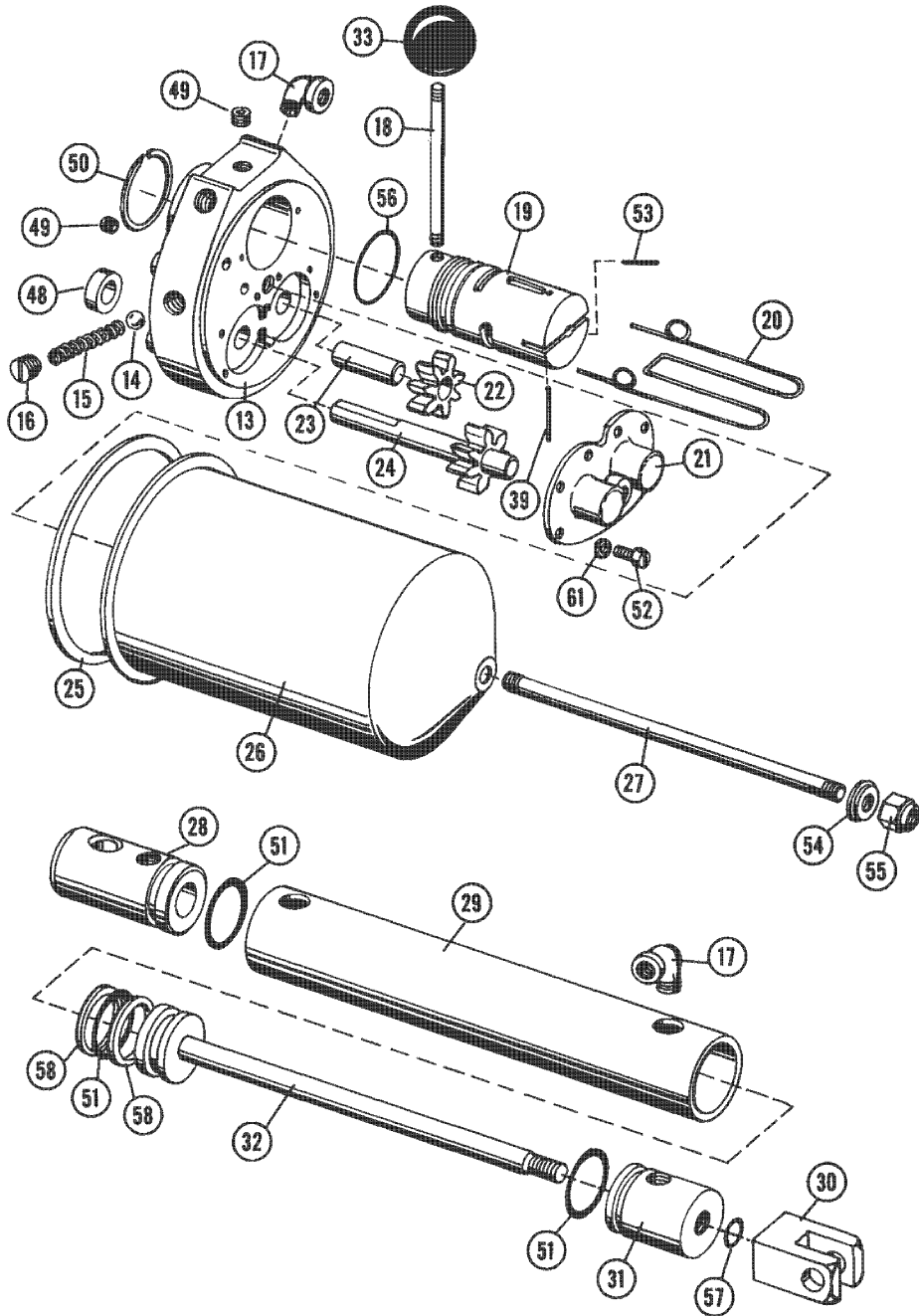
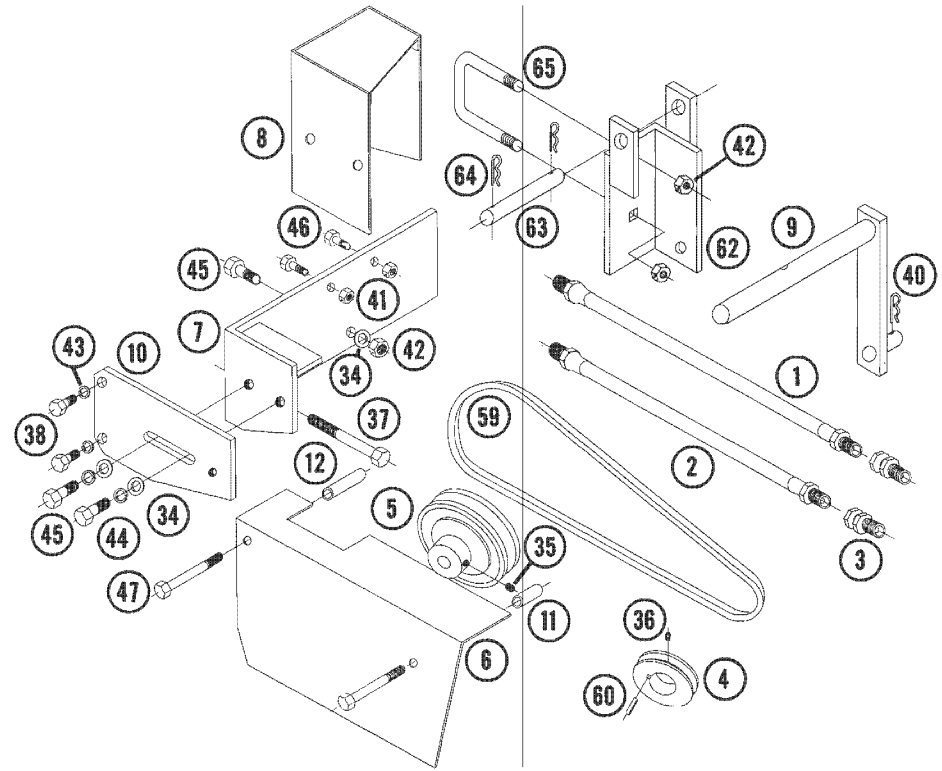


Figure 10

Order all parts in Figure 10 from Wheel Horse.



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