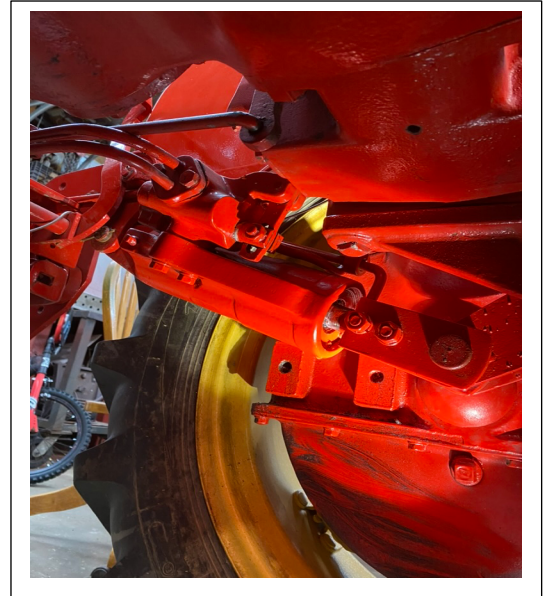


Rebuild Massey Harris Pony / Pacer Hydraulic lift cylinder

~Bob Phillips

I have a Pacer that had a leaking hydraulic lift cylinder, so I decided to rebuild the cylinder. I also have a Pony, and the cylinders are the same as far as I know.

The first thing to do, is drain the oil from the hydraulic pump. Then unbolt the hydraulic line from the control valve. Be sure to have a pan under the pump and control valve to catch the oil. I unbolted the cylinder from the rear first, then pulled the pin in the front. I was then able to free the unit.



The first step to disassemble the unit is to remove the control valve from the cylinder. Be sure to hold on to the O-rings that are on the control valve. There are two on the hydraulic line side and two under the control valve. With the control valve removed, you can take off the large snap ring in front of the cylinder



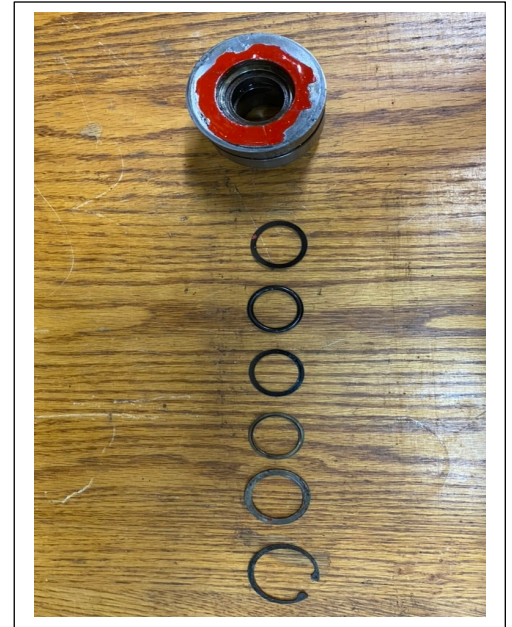
Next, I placed the cylinder in a vise with a rod in the end to anchor the cylinder in place, and a smaller rod in the shaft end. I gave the rod a good pull and the shaft came out of the cylinder.



With the shaft on the bench, I gave it a good look over. The shaft had some marks and dings on it. Not great, but not too bad.



Next, I disassembled the shaft. I removed the small snap ring, washer, and wiper ring and pulled the gland off the shaft. Someone had been in there before me and the O-rings were not leather as described in the manual. Some of the O-rings did not fit well. Instead of trying to hunt down parts, I took the whole thing (except the cylinder) to my local hydraulic shop.



I got the shaft back from my local hydraulic shop. The shaft, piston and cylinder head were all assembled with new O-rings that fit properly and the nicks in the shaft had been removed. The whole thing looked brand new. I am not sure what the cost was because I brought a number of items to the shop to be repaired.



Time to reinstall the shaft into the cylinder. I cleaned out the body, then gave it a good wipe down, and gave the cylinder a good oiling. And then tapped the shaft into the body. I seated the shaft with a piece of wood and installed the large snap ring.



The wiper ring will go on next with the grooved end down. Then the washer and last the small snap ring.



Reinstall the control valve with the two O-rings that go on the bottom. You may want to use new O-rings.



The cylinder should now be ready to be reinstalled.

Below is a from the I&T shop manual showing the Pony Power Lift (hydraulic unit) repair.



**POWER LIFT
(HYDRAULIC UNIT)**

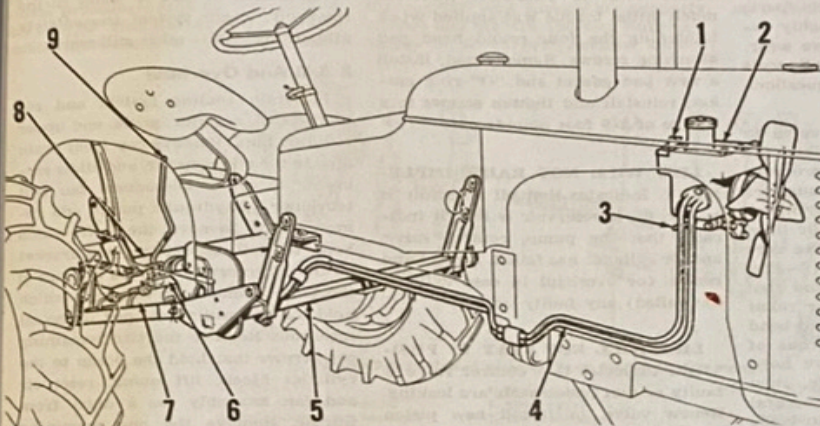


Fig. MH31—Phantom view showing installation of hydraulic power lift system on Massey-Harris Pony tractor.

- 1. Coil bracket
- 2. Oil reservoir
- 3. Reservoir drain pipe
- 4. Hydraulic lines
- 5. Front lift shaft
- 6. Control valve
- 7. Hydraulic cylinder
- 8. Rear lift shaft
- 9. Control lever

Adjustment

70. Stops (5 & 6—Fig. MH32) may be adjusted to obtain the desired raised and lowered positions of the particular implement being used, by loosening the square head set screws (7) and moving the stops on rod (1). Adjust stop (6) to obtain the desired lowered position, and stop (5) to obtain the desired raised position.

R & R And Overhaul Cylinder And Control Valve

71. It is recommended that hydraulic cylinder and control valve be removed from tractor as a unit so as to eliminate dirt and oil leakage which are inevitable if units are disassembled and reassembled on tractor. Remove cap from drain pipe in the oil reservoir and allow reservoir to drain. Remove hydraulic lines pad (3—Fig. MH32) from the control valve. Remove the two cylinder attaching cotter keys and pins and lower cylinder and control valve (as a unit) away from tractor. Separate control valve from cylinder by removing the two control valve attaching cap screws.

Overhaul of the cylinder normally consists of renewing packings and gaskets; however, metal parts should be renewed when they show wear. First step in disassembly is to remove the snap ring (8—Fig. MH33) and withdraw cylinder head and piston assembly from cylinder. The need and pro-

cedure for further disassembly is evident after an examination of the unit. When reassembling the unit, lubricate

all internal parts with SAE No. 10 oil and install new "O" rings, seals and gaskets.

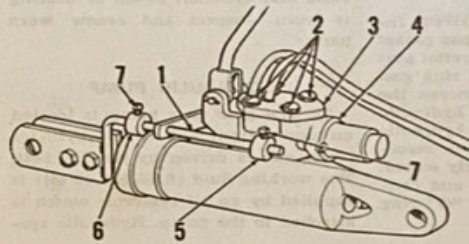


Fig. MH32—Pony hydraulic cylinder and control valve assembly.

- 1. Follow-up rod
- 2. Pad attaching screws
- 3. Hydraulic lines pad
- 4. Control valve
- 5. Adjusting stop
- 6. Adjusting stop
- 7. Set screw

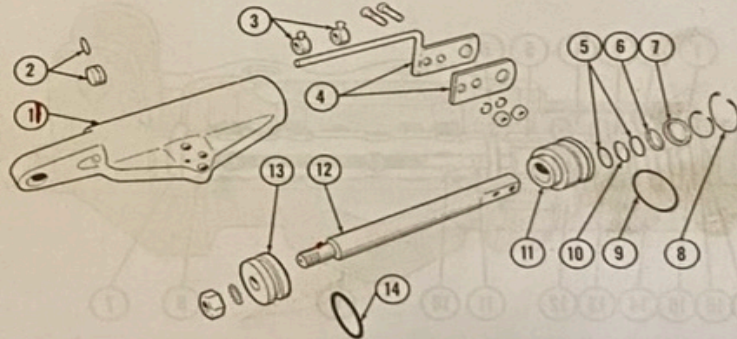


Fig. MH33—Exploded view of Pony hydraulic lift work cylinder.

- | | | |
|----------------------|--------------------|-------------------|
| 1. Cylinder | 6. Wiper ring | 10. Ring |
| 2. Plug & ring | 7. Retainer washer | 11. Cylinder head |
| 3. Adjusting stops | 8. Snap ring | 12. Shaft |
| 4. Stop rod & plates | 9. "O" ring | 13. Piston |
| 5. Leather washer | | 14. "O" ring |