

# Cylinder Seal Replacement - Original Series - Mini, 500, 1000, 1300, & 1600 lb Capacity

- Step 1. Park vehicle on a level surface and lower the liftgate to the ground (Figure 1).
- Step 2. Remove the mainframe box cover by taking out the two 5/16" hex head bolts.
- Step 3. Keep body parts out of mainframe during liftgate operation. Actuate the lowering function of the control lever or timed electric control and push the hydraulic cylinder in until it is completely collapsed.
- Step 4. To avoid risk of a 12 volt electrical short, disconnect the #4 power cable from the positive side of the battery or manually trip the circuit breaker (Figure 2).

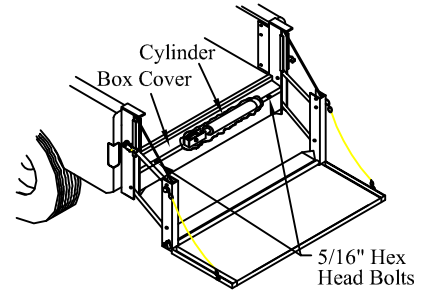


Figure 1: Liftgate on the ground.

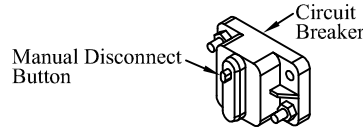


Figure 2: Manual disconnect location.

- Step 5. Remove the hi-pressure hose fitting from the cylinder flow control. Do not remove the hose from the pump fitting.
- Step 6. Loosen and remove the cable clamps, paying close attention to the location of the cable clamps. Pull the cables out from around the cylinder pin stop and the cylinder pulley (Figure 3). **OBSERVE THE WAY THE CABLES ARE THREADED.**

- Step 7. Remove the clamps that hold the cylinder in place and remove the cylinder (Figure 3).
- Step 8. Take out the screw that holds the guide bushing in the end of the cylinder tube and pull out the shaft and the piston.
- Step 9. Install the new guide bushing and piston (Figure 5). Be sure to put the backup washer ahead of the "O" ring as shown (Figure 4).

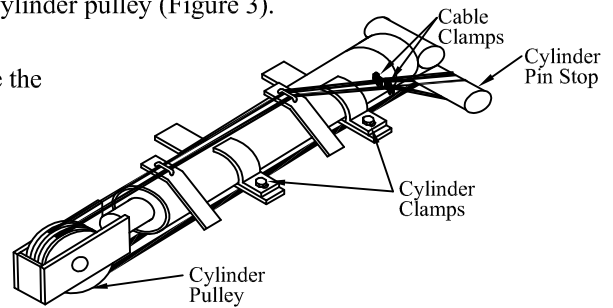


Figure 3: Cylinder, lift cable, and clamp positions.

- Step 10. Before re-installing the piston and shaft into the cylinder tube, check and remove any burr from the cylinder tube end and guide bushing bolt hole. Also inspect the double groove pulley and pin for wear and also the shaft and guide bushing. Replace if necessary.

- Step 11. Insert the piston into the cylinder tube. Secure the guide bushing to the cylinder tube with the provided bolt and washer (Figure 5).

- Step 12. If replacing the cylinder barrel, two 90° degree elbows are included in kit. Check which elbow fits flow control and install in cylinder. Install the flow control into the new elbow.

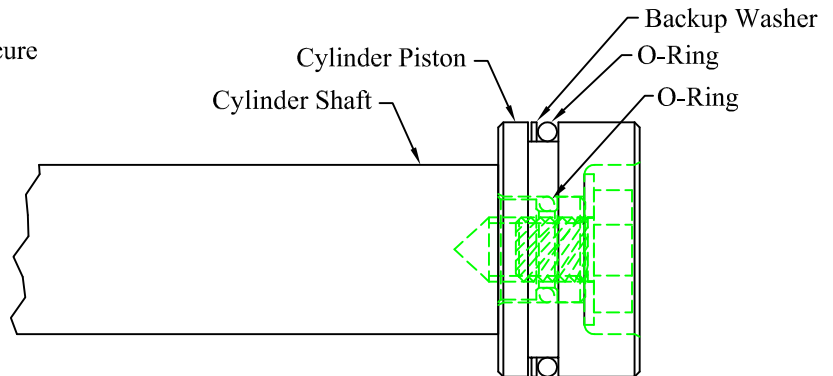


Figure 4: Cylinder piston and shaft.

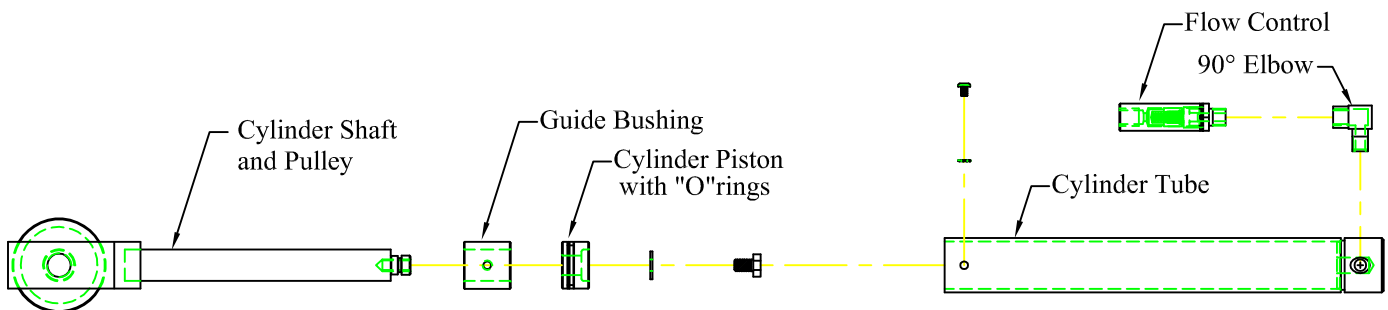
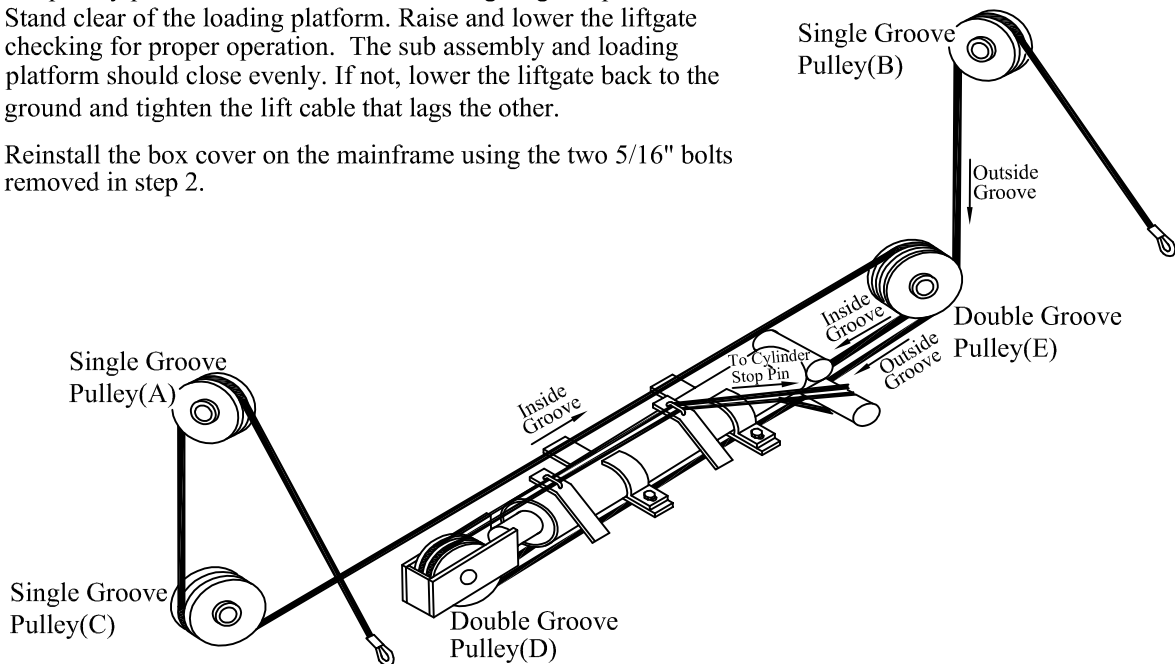


Figure 5: Major cylinder parts.

- Step 13. Install the repaired cylinder in the liftgate and reinstall the clamps that hold the cylinder.
- Step 14. Reinstall the hose fitting to the cylinder flow control.
- Step 15. Restring the lift cables through the pulley on the cylinder and around the cylinder pin stop. NOTE: Pay close attention that the cables are not crossed during this step. See the lift cable routing diagram (Figure 6).
- Step 16. Verify that the vehicle is unloaded and on a level surface.  
If the cables are tightened when the vehicle is loaded, the platform may not touch the ground when unloaded.
- Step 17. Verify that the cylinder is completely collapsed.  
CAUTION: If the cylinder is not completely collapsed now, the cylinder may over extend, causing cylinder damage.
- Step 18. Install the cable clamps. Pull the cables tightly through the cable clamps. Position both cable clamps evenly and tighten nuts on clamps. Again check cables for proper routing and clamp location.  
CAUTION: Having one cable tighter than the other will cause one side of the subassembly and loading platform to close before the other, leading to premature failure of the cables. The cable clamps must not touch each other.
- Step 19. Reconnect the liftgate's main power cable to the positive side of the battery or manually engage circuit breaker.
- Step 20. Keep body parts out of the mainframe during liftgate operation.  
Stand clear of the loading platform. Raise and lower the liftgate checking for proper operation. The sub assembly and loading platform should close evenly. If not, lower the liftgate back to the ground and tighten the lift cable that lags the other.
- Step 21. Reinstall the box cover on the mainframe using the two 5/16" bolts removed in step 2.



**IMPORTANT: USE ONLY CABLES FURNISHED BY TOMMY GATE COMPANY.**

Figure 6: Lift cable routing diagram.