



Read this entire set of instructions BEFORE you start replacing the seal kit. You will need to use common hand tools and compressed air so proper protective attire, especially eye protection, must be used during the job.

It is very important to keep all parts clean when working with hydraulic cylinders, even one small piece of dirt or grit can damage the cylinder.

### Required Tools

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| - Eye protection                           | - Vise with steel jaws and rubber jaws | - Fresh, clean hydraulic oil                       |
| - Gloves                                   | - Wrench set                           | - Fresh, clean grease compatible with oil above    |
| - Non-sharp seal tool (preferably plastic) | - Punch and Hammer                     | - Clean shop rags                                  |
| - Spanner wrench                           | - Torque wrench                        | - Compressed air supply                            |
|  |  | - Adapters to connect air supply to cylinder ports |

## Seal Replacement Procedure

1. Drain all oil from cylinder.
2. Clean all dirt and grit from outside of cylinder.
3. Secure cylinder in the vise without deforming the barrel.
4. Remove square retaining ring by turning gland using spanner wrench inserted in the holes in the face of the gland.
5. Clean paint off of the rod on the side with the least amount of paint, so that when the rod, gland and piston assembly is removed from the cylinder the gland is not damaged by the excess paint.
6. Remove the rod, gland and piston assembly from the barrel, pulling in a straight line, so as not to scar the internal parts. This should be done in the direction of the longer rod end. On the opposite end, the gland will remain inside the cylinder. Remove this gland next.
7. Insert rod, gland and piston assembly into a soft jawed vise so that the gland and piston can be removed. Be sure the rod and vise are both clean before using. Slide the gland away from the stationary piston until the rod connection roll pin is visible. With a punch, push out the roll pin so that the two rods can be separated. Once the roll pin is removed, the shafts can be threaded apart.
8. Once the rod assemblies are separated the piston and gland can be removed. Whenever possible remove and reinstall the glands from the connection ends of the shafts, not the threaded ends.
9. Remove all seals from the glands and piston using a non-sharp seal tool such as item number 9-8099 available from Surplus Center.
10. Clean all oil and debris off of the glands, piston, rods, and barrel using solvent, rags, and compressed air.
11. Inspect all parts for any wear or damage. If damage is found, replace with new part.
12. Reinstall all seals on the glands and piston using the non-sharp seal tool.
13. Place a small amount of oil on the inside seals of the glands and reinstall the glands on the rod, by slipping the gland over the connection ends of the rods. Now place a small amount of oil on the inside seals of the piston and reinstall piston on the rod by slowly twisting the piston on over the threads of the rod being very careful not to damage the inside seals. Then thread the two rods together using the wrench flats on the ends of the rods. Once the rods are tightened, the roll pin can be reinstalled. During this assembly process always be very careful not to damage the inside seals or the shaft assembly.
14. Grease the outside seals of the glands and piston.
15. Reinstall the rod, gland and piston assembly into the barrel of the cylinder and push in until grooves of the glands line up with the slots in the barrel.
16. Reinstall both of the square retaining rings using the spanner wrench.
17. Cycle the cylinder using compressed air to check for proper operation.