SURPLUS CENTER
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LINCOLN, NE 68528

Applies to the following series of cylinders:
943 968 9-1649 9-1959 9-4410

Does not apply to item numbers 943-36 and 943-48

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

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

Piston Locking Nut Torque Values

Piston Nut Thread Size	Torque Value
3/8"-24	20 ft-lb
1/2"-20	40 ft-lb
3/4"-16	130 ft-lb
1"-14	190 ft-lb
1-1/4"-12	350 ft-lb

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. Use snap ring pliers to compress and remove the snap ring. With snap ring compressed, tap gland in slightly to loosen and center snap ring.
5. Remove the rod, gland and piston assembly from the barrel, pulling in a straight line, so as not to scar the internal parts.
6. 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.
7. Remove piston nut from the end of the rod and pull the gland and piston off of the rod.
8. Remove all seals from the gland and piston using a non-sharp seal tool such as item number 9-8099 available from Surplus Center.
9. Clean all oil and debris off of the gland, piston, rod, gland retainer and barrel using solvent, rags, and compressed air.
10. Inspect all parts for any wear or damage, if damage is found replace with new part.
11. Reinstall all seals on the gland and piston using the non-sharp seal tool.
12. Place a small amount of oil on the inside seals of the gland and reinstall it on the rod by slipping gland over the piston end of the rod being very careful not to damage the inside seals.
13. Place a small amount of oil on the inside seals of the piston and reinstall it on the shaft by slowly twisting the piston on over the threads of the shaft being very careful not to damage the inside seals.
14. Reinstall the piston nut; torque nut to the proper torque value shown in chart above.
15. Grease the outside seals of the gland and piston.
16. Reinstall the rod, gland and piston assembly into the barrel of the cylinder and push in until snap ring is re-seated in the groove.
17. Cycle the cylinder using compressed air to check for proper operation.