

# SERVICE INSTRUCTIONS

FORM #61

APPLIES TO ALL AURORA THREADED CONSTRUCTION (NON TIE ROD) CYLINDERS

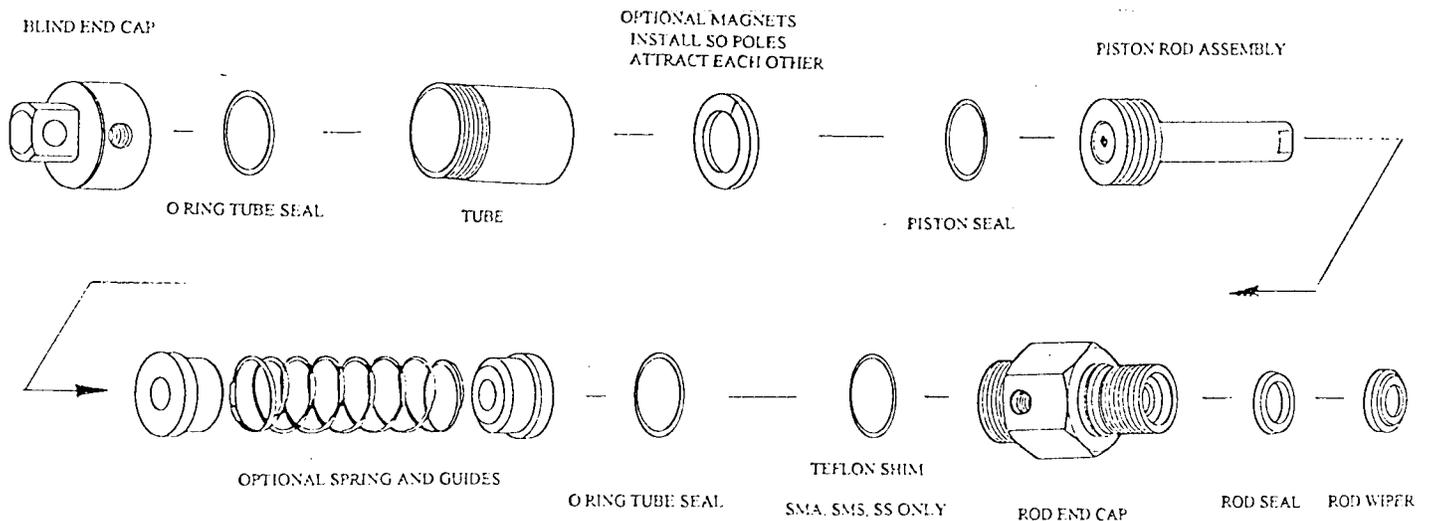
## WARNING:

WEAR SAFETY GLASSES AND READ ENTIRE INSTRUCTIONS BEFORE DISASSEMBLING THE CYLINDER. DISCONNECT ALL PRESSURE LINES FROM THE CYLINDER PORTS AND DISCONNECT ALL ELECTRICAL POWER. DISCONNECT ALL OPERATING VALVES, HALL EFFECT, OR REED SWITCH MAGNETIC SENSORS. EVEN AFTER PRESSURE AND ELECTRICAL CONNECTIONS HAVE BEEN REMOVED SINGLE ACTING CYLINDERS WITH INTERNAL SPRINGS MAY CAUSE SERIOUS INJURY IF DISASSEMBLED IMPROPERLY. READ ENTIRE INSTRUCTIONS BEFORE DISASSEMBLING THE CYLINDER.

## DISASSEMBLY PROCEDURE: REFER TO DIAGRAM BELOW.

1. The first step is to remove the cylinder end caps from the tube. If the cylinder is single acting with a spring at one end then you **must** remove the end cap from the spring end first. After breaking the end cap loose with a wrench carefully unscrew it from the tube using both hands to slowly relieve the spring pressure. Should the wrong end cap breaks loose first, retighten slightly tighter than the original position and try again. If the cylinder is double acting with no spring remove the rod end cap first. Always hold one end securely in a vise and use a suitable wrench on the end to be removed. Remove any nicks or burrs from the rod before sliding the rod end cap over it.
2. If the rod end cap was removed in step one it is often unnecessary to remove the blind end cap from the tube because the only seal it contains is a static o ring which is not subject to wear. If a rod end cap must still be removed after step one it is best to grip the tube in a collet or chuck and loosen the cap with a wrench. It is also possible to remove the cap by gripping it securely in a vise and unscrewing the tube with a pipe wrench. Wrapping something like emery cloth or shim stock around the tube can help prevent surface damage from the pipe wrench. Positioning the piston under the wrench will help prevent collapsing or denting the tube.
3. Remove the piston and rod assembly from the tube. The piston is permanently attached to the rod and should never be removed.
4. Remove all old seals being very careful not to scratch the seal grooves. On Series SS stainless cylinders the rod wiper and rod seal are held in place by 2 stainless steel spiral retaining rings. Remove and discard the retaining rings – they should **never** be reused. When removing seals and other hardware be sure to carefully note their location and orientation. O Rings are symmetrical but most other seals are not – they must face the proper direction.

TYPICAL ASSEMBLY SHOWN – SHAPE OF ACTUAL PARTS MAY VARY



## REASSEMBLY:

1. Clean all parts thoroughly. Inspect all components and replace any items that show excessive wear or damage of any kind.
2. Some seal kits are universal kits and may contain more seals than are required for your particular cylinder. Carefully match the new seals with the old and discard any extras.
3. Using Aurora Lube packet or lubricant suitable for your application, re-lubricate all metal wear surfaces and new seals prior to installation. Rub grease into the tube and rod surfaces thoroughly. Also lubricate the tube and end cap threads.
4. Slide the piston rod assembly into the tube. If your piston has cup type seals lubricate the enclosed shim paper and wrap it around the piston seals forming a funnel to pass the piston seals over the tube threads without damage. Wiggle the rod to work it through the shim paper funnel. Once piston is past the threads remove and discard the shim paper.
5. On double acting cylinders either end cap may be re-installed first. On single acting cylinders install the end cap on the end opposite the spring first, and then screw in the end cap on the end containing the spring. Hold the cylinder firmly in a vise and use both hands to overcome the spring pressure.
6. Before putting the cylinder back into service thoroughly test it to be sure it functions properly and that there is no leakage past any of the seals.

FOR TECHNICAL ASSISTANCE CALL AURORA AIR PRODUCTS INC., AURORA, IL @ 630-851-4515