

OPERATING AND MAINTENANCE INSTRUCTIONS

NOPAK[®] CLASS 6 CYLINDERS

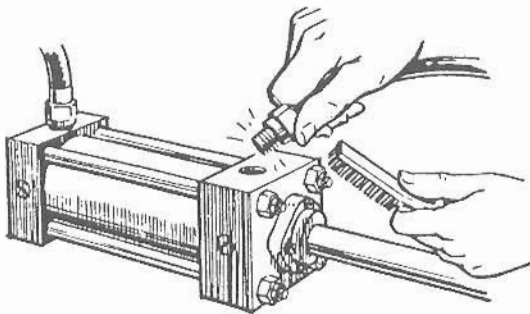
For best results in maintaining trouble-free operation on Nopak Class 6 cylinders for air and hydraulic service, proper provisions are recommended to assure a clean supply of fluid whether air, oil or water is the medium.

In case of pneumatic applications, abrasive particles must be filtered from the air stream and then atomized oil introduced for lubrication.

The foregoing provisions can be accomplished by inserting an air filter in the line ahead of the cylinder and, of course, preferably also ahead of the directional control valve so that the valve also may benefit by having clean filtered air passing through it. In most lubricators the oil is introduced into the air stream only when air velocity is present, in other words when the air stream is in motion. No. 5 mineral base oil or lighter should be used.

A word of caution is important in an initial installation and piping of components.

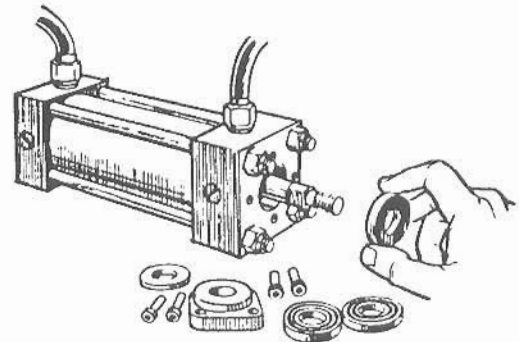
Pipe fittings and tubing connections should be thoroughly deburred and cleaned out before operating valves and cylinders are connected to the supply and connecting lines. It is particularly important to take these



precautions because impurities downstream from the filter or in any portion of the line will be carried into the valve and cylinder, possibly causing scoring and serious damage on the initial operation of the components.

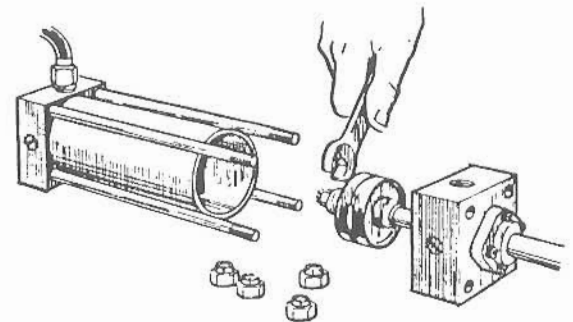
Depending upon the application, your cylinder may eventually require some maintenance and possible replacement of parts. Whenever a cylinder is disassembled it is good practice to carefully check and replace static and moving seals (excepting metallic piston rings which do not often require replacement), the downtime and labor being the major portion of the cost of repair.

Carefully note any worn or possibly scored parts to be replaced. The rod packings are readily replaced by removing the packing gland. The entire set can then thus readily be replaced. Care should be taken in inserting the packing, tightening down the gland bolts in uniform order.



The replacement of block-vees on the one-piece assembly can be readily accomplished; however, it is important that the back-up washers are always inserted along with the replacement packing.

In some cases it may not be necessary to remove the piston assembly from the entire cylinder, merely sliding the piston assembly out of the tube at one end. This may require removal of only one of the cylinder heads.



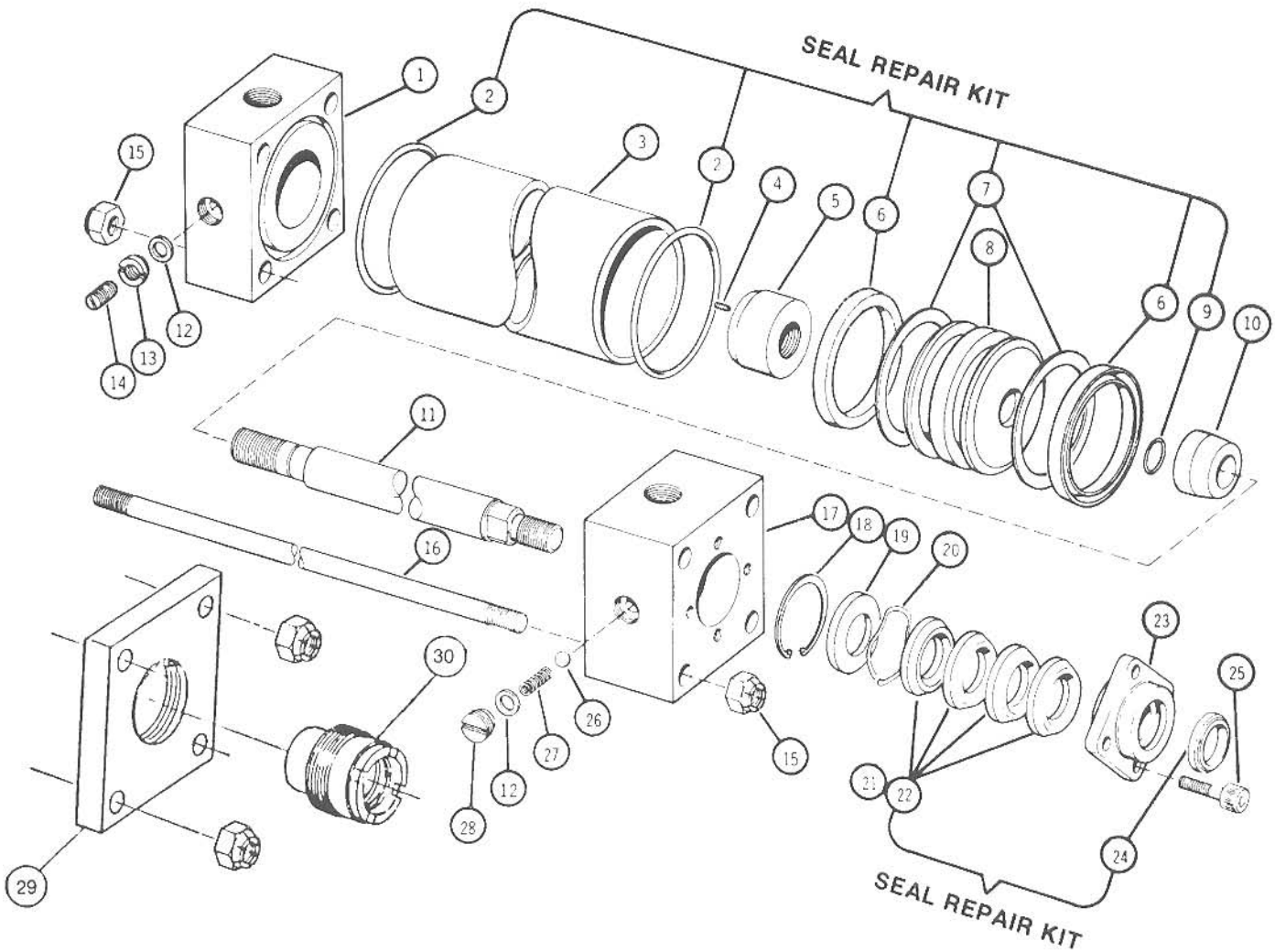
In any case, after the cylinder heads are loosened and removed for replacement of cups on one or both ends, or should any maintenance be required whatsoever in which the heads are removed, care should be taken in reassembling the cylinder. Be sure that the end sealing members on the tube are in place and finally the tie rods are properly torqued in accordance with the torque values found in Catalog 106, Table A, page 35. Diametrically opposite tie rod nuts or cap screws should always be given initial tightening in pairs working around the succeeding pairs of tie rod nuts until all have been tightened a reasonable amount. Then follow with additional tightening to torque value required, in the same sequence as above, until all tie rods are equally torqued.

By proceeding in this manner any undue strain and misalignment of the parts will be avoided. If a reasonable amount of care is taken in the disassembly and reassembly of the cylinder when maintenance becomes necessary, a more satisfactory repair job will result.

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PARTS LIST — **NOPAK** CLASS 6 CYLINDERS



- | | | |
|-------------------|-----------------------------------|---|
| 1. Blind end head | 10. Cushion sleeve – rod end | 19. Packing spacer |
| 2. Tube seal* | 11. Piston rod | 20. Wave spring |
| 3. Tube | 12. Seal | 21. Bottom adapter ring* |
| 4. Lock screw | 13. Cushion adjusting screw gland | 22. Rod packing* |
| 5. Lock sleeve | 14. Cushion adjusting screw | 23. packing gland |
| 6. U-cup* | 15. Tie rod nut | 24. Rod wiper* ■ |
| 7. Back-up ring* | 16. Tie rod | 25. Packing gland cap screw |
| 8. Piston | 17. Rod end head | 26. Check ball |
| 9. Piston O-ring* | 18. Snap ring | 27. Ball check spring |
| | | 28. Ball check plug |
| | | IF APPLICABLE |
| | | 29. Head Plate, Model AL, T, TR |
| | | 30. Screw Gland, Model AL, T, TR, D, DD |
- * Items are included in seal repair kits
See page 5 for ordering information.
■ Item 21 is metallic for high temp. applications.
Note: Head Plate and Screw Gland Option
Available in all Models except G (ME 5)

When ordering replacement parts be sure to specify:

- | | | |
|---------------|--------------------------------------|--------------------------------|
| • Nopak model | • Stroke | • Operating medium – air – oil |
| • Bore | • Serial number shown on Nopak label | • Part by name and item number |
| | | • Quantity required |

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