Base-Lok Pneumatic Cylinder
Piston Rod Seal & Bushing Assembly

This kit contains Miller's new design rod seal assembly which includes either a bolted design bushing or a retainer held bushing, both of Base-Lok design. Please follow the assembly instructions carefully.

Step 1  If bushing is retainer held, remove tie rod nuts and retainer. Remove all rod seal parts from cylinder and discard. Remove any dirt, chips, etc. from bushing cavity in head. Inspect piston rod and polish out any nicks or scratches in piston rod.

Step 2  For convenience, extend piston rod partially and install the caged rod seal assembly per assembly drawing and in sequence as follows:
A. Rod seal
B. Bushing

Step 3  A. After bushing has been put on piston rod the flange of piston rod seal should be inserted into the counterbore of the bushing before inserting bushing into the counterbore of the head. This is to assure that the piston rod seal is properly mounted in the bushing.
B. The rod seal and bushing is then inserted into the bushing cavity of the cylinder head.
C. If the bolted bushing is used, socket head cap screws are used to hold the bushing in the cylinder head. Use the torque figures indicated below when installing the socket head cap screws.

<table>
<thead>
<tr>
<th>Piston Rod Diameter</th>
<th>Cap Screw Size</th>
<th>Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/8&quot;</td>
<td>10-32 x 3/8</td>
<td>76 in/lbs</td>
</tr>
<tr>
<td>1&quot; thru 3 1/2&quot;</td>
<td>1/4-28 x 5/8</td>
<td>180 in/lbs</td>
</tr>
<tr>
<td>4&quot; thru 10&quot;</td>
<td>5/16-24 x 1</td>
<td>360 in/lbs</td>
</tr>
</tbody>
</table>

D. If retainer held bushing is used, reinstall retainer and tie rod nuts. (Retorque tie rod nuts to values shown in catalog.)
E. Install rod wiper in bushing.
Base-Lok Hydraulic Cylinder Caged Piston Rod Seal & Bushing Assembly

This kit contains Miller's new design caged rod seal assembly which includes either a bolted design bushing or a retainer held bushing, both of Base-Lok design. Please note: The compete caged rod seal assembly is interchangeable with all previous design cylinders. However, the individual parts of the caged rod seal assembly may not be interchanged with previous design rod seal parts. Please follow the assembly instructions carefully.

**Step 1** If bushing is retainer held, remove tie rod nuts and retainer. Remove all rod seal parts from cylinder and discard. Remove any dirt, chips, etc. from bushing cavity in head. Inspect piston rod and polish out any nicks or scratches in piston rod.

**Step 2** For convenience, extend piston rod partially and install the caged rod seal assembly per assembly drawing and in sequence as follows:
A. Rod seal cage
B. Rod wave spring
C. Rod pressure ring
D. Rod seal
E. Bushing

**Step 3**
A. After bushing has been put on piston rod the flange of piston rod seal should be inserted into the counterbore of the bushing before inserting bushing into the counterbore of the head. This is to assure that the piston rod seal is properly mounted in the bushing.
B. The entire caged rod seal assembly and bushing is then inserted into the bushing cavity of the cylinder head.
C. If the bolted bushing is used, socket head cap screws are used to hold the bushing in the cylinder head, use the torque figures indicated below when installing the socket head cap screws.

<table>
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<tr>
<th>Piston Rod Diameter</th>
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</thead>
<tbody>
<tr>
<td>5/8&quot;</td>
<td>10-32 x 3/8</td>
<td>76 in/lbs</td>
</tr>
<tr>
<td>1&quot; thru 3½&quot;</td>
<td>1/4-28 x 5/8</td>
<td>180 in/lbs</td>
</tr>
<tr>
<td>4&quot; thru 10&quot;</td>
<td>5/16-24 x 1</td>
<td>360 in/lbs</td>
</tr>
</tbody>
</table>

D. If retainer held bushing is used, reinstall retainer and tie rod nuts. (retorque tie rod nuts to values shown in catalog).
E. Install rod wiper in bushing.