Disassembly and Repair Instructions of Type WR Joints (2-1/2" – 3")

REPAIR KITS ARE AVAILABLE CONSISTING OF:

<table>
<thead>
<tr>
<th>Item #</th>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6A</td>
<td>1</td>
<td>Counterseat</td>
</tr>
<tr>
<td>6B</td>
<td>1</td>
<td>Seal Ring</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>Spring</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>Follower</td>
</tr>
<tr>
<td>13</td>
<td>2</td>
<td>Pins</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>Retaining Ring</td>
</tr>
<tr>
<td>25</td>
<td>2</td>
<td>O-Rings</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>O-Ring Lube</td>
</tr>
</tbody>
</table>

**NOTE:** Please follow your company's safety procedures whenever working on Kadant Johnson rotary joints and read all of the instructions completely before proceeding.

Please refer to the assembly drawings supplied with your Kadant Johnson rotary joint for part identification. If you have any questions, please contact your Kadant Johnson Representative or Kadant Johnson.

Do not use anti-seize or petroleum-based products on o-rings. Only lubricate the o-rings with the silicone lubricant supplied with the Kadant Johnson repair kit.

Close the inlet and outlet valve. Allow the joint to cool sufficiently. Release residual pressure in the system and disconnect the inlet and outlet piping from the joint.

**CARBON SEAL REPLACEMENT – ON OR OFF MACHINE:**

**STEP 1.**
Loosen and remove socket head cap screws (2A) and set aside. Remove head (2).

**STEP 2.**
Remove from the head (2) and discard the counterseat (6A) and o-ring (25). Inspect the bushing in the elbow (2B) if equipped. Replace if worn.

**STEP 3.**
Remove the external snap ring (15) from the nipple (4). While pushing down on the seal ring (6B), remove the pins (13). Release the seal ring. Remove and discard the seal ring (6B), o-ring (25), follower (8), and spring (7). Inspect the bearings (3), if they need replacing, follow “Bearing Replacement” instructions on the next page.

**STEP 4.**
Carefully clean inside the nipple (4) and inside diameter of head (2) where counterseat (6A) and seal ring (6B) sits. Do not scratch the o-ring surface.

**STEP 5.**
Apply a small amount of o-ring lube to both sides of o-ring (25) and fit over end of counterseat (6A). Align flats with pins and gently push into counterbore of head (2), being careful to keep lube away from the flat seal surface of the counterseat (6A). Set head aside.

**STEP 6.**
Place the spring (7) in the bore of the nipple (4).

**STEP 7.**
Place the beveled side (I.D.) of the follower (8) on top of the spring (7).

**STEP 8.**
Apply a small amount of o-ring lube to the o-ring (25) and place it in the o-ring groove on the end of the seal ring.

**STEP 9.**
Insert o-ring end of seal (6B) into the nipple (4) and carefully press down into bore, ensure free movement. While pushing down on the seal ring, align holes in nipple with recess slots in seal ring. Place two pins through the holes provided in the nipple engaging them with the slots in the seal ring. Install external snap ring (15) by placing it around the nipple and through the slots in the pins that retain the seal ring. See Figure 1.
Release the seal ring. Use care not to scratch the lapped seal ring face. O-ring lube should be cleaned from the counterseat (6A) and the seal ring (6B) with acetone and a clean cloth.

**STEP 10.**
Reinstall head (2) and tighten the socket head cap screws to 40 ft-lbs.

The Kadant Johnson joint is now ready to be placed back in service.

**BEARING REPLACEMENT:**
Follow steps 1 through 3 under “Carbon Seal Replacement.”

**STEP 1B.**
After completing Steps 1 through 3, remove retaining ring (9) from nipple (4). Using a press, remove bearings (3) and bearing spacer (11) from nipple. Clean and dry nipple.

**STEP 2B.**
Using a press fixture that will apply pressure only to the inner-race of the bearing, press a new bearing onto the nipple (4) until it is seated against the shoulder of the nipple.

**STEP 3B.**
Slide the bearing spacer (11) onto the nipple (4). Using the same press fixture, press the second bearing onto the nipple, until it contacts the bearing spacer.

**NOTE:** If the bearings are heated in an oven to 275°F (135°C), they will slide over the nipple (4), and a press will not be required for assembly.

**STEP 4B.**
Install the retaining ring (9) onto the nipple (4) with flat side toward the bearings.

**STEP 5B.**
Follow steps 4 through 12 under “Carbon Seal Replacement” to complete repairs.