Disassembly and Repair of Type 2800 and 2950 ELSJ Rotary Joints with Threaded Horizontal Pipe

Follow your company’s safety procedures whenever working on Kadant Johnson products. Read all of the instructions before proceeding with installation or repair.

Please refer to the Kadant Johnson assembly drawing for part identification. Assembly drawings are available on request from Kadant Johnson.

Lubricate all fasteners with anti-seize compound. Tighten all fasteners in a star pattern. Torque specifications are listed on the product assembly drawing and are available from Kadant Johnson.

REPAIR KITS ARE AVAILABLE CONSISTING OF:

<table>
<thead>
<tr>
<th>Item #</th>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>1</td>
<td>Seal Ring</td>
</tr>
<tr>
<td>6A</td>
<td>1</td>
<td>Inboard Guide</td>
</tr>
<tr>
<td>6B</td>
<td>1</td>
<td>Outboard Guide</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>Gasket</td>
</tr>
<tr>
<td>8Q</td>
<td>1</td>
<td>Metal Gasket</td>
</tr>
<tr>
<td>8R</td>
<td>1</td>
<td>Gasket</td>
</tr>
</tbody>
</table>

REMOVAL:

STEP 1.
Close the inlet and outlet valves and allow the rotary joint to cool down. Disconnect the piping from the rotary joint, remove the anti-rotation device.

STEP 2.
Remove hex nuts allowing the quick release nipple flange (5) to slide away from the journal flange, exposing the two tapered split wedges (55). Remove the rotary joint and horizontal pipe (99) from the roll for rebuilding. Separate the wedges and remove the quick release nipple flange. Save the split wedges and quick release nipple flange for reuse. Remove and discard metal gasket (8Q).

STEP 3.
Loosen and remove horizontal pipe (99). See Figure 1.

SERVICING THE ROTARY JOINT:

STEP 4.
Please use caution while performing this step. There is spring force present under wear plate (16). Remove two hex head cap screws (16A) from the wear plate. Secure the wear plate by using two M20 x 2.5 x 6” all thread rods and nuts (See Figure 2) or place rotary joint in a press and hold the wear plate in position. Remove remaining hex head cap screws. Back off nuts or release the press that is holding the wear plate. The wear plate gasket (8R) may cause wear plate to stick. Loosen the wear plate as spring tension is released. Inspect the seal ring contact area on the spherical face of the wear plate. If this surface is scratched or grooved, replace the wear plate. Remove retaining ring (16B), freeing outboard guide (6B).

STEP 5.
Remove seal ring (6) from nipple (4). Remove nipple from body (1). Slide spring (7) and spring shoulder (3) off the nipple. Remove guide (6A) from body noting the position of the step machined into the guide.

STEP 6.
Remove the hex head nuts (2B), the head (2). Remove two socket head cap screws (31A), assembly plate (31) and gasket (8A).

STEP 7.
Clean all parts and gasket surfaces. Make sure gasket surfaces are not steam cut. Replace damaged parts as required.

STEP 8.
Check the spring shoulder (3) for wear on keyways and the flat sealing surface. Replace spring shoulder if damaged.

STEP 9.
Inspect the nipple’s (4) seal ring contact area and guide surfaces for scratches, grooves, or pits. Inspect the keys on the nipple for wear. If there is deterioration in these areas, replace the nipple.
STEP 10.
Inspect the body (1) guide surfaces. Replace the body if damaged. Slide a new inboard guide (6A) into the body with the stepped end facing up.

STEP 11.
Slide spring (7) and spring shoulder (3) onto nipple (4), lining up keyways. Slide nipple into body (1) and into the guide (6A). Install new seal ring (6) on the nipple in its proper position with the seal ring’s flat face against the nipple shoulder.

STEP 12.
Insert new outboard guide (6B) into wear plate (16) and secure with retaining ring (16B). Place new gasket (8R) onto body (1). Place wear plate (16) over nipple (4) and onto body. Compress spring/wear plate assembly using method from Step 4. Secure wear plate into position with bolts (16A).

STEP 13.
Place a new gasket (8A) on to the assembly plate (31). Secure assembly plate to body (1) using two socket head cap screws (31A). Place a new gasket (8) on to the head (2). Position head over the studs on body (1) and against the assembly plate (31). Secure into position using hex nuts (2B).

REINSTALLATION:

STEP 14.
Pass horizontal pipe (99) through the nipple (4), thread it into the assembly plate (31) and tighten. See Figure 1.

STEP 15.
Place a new metal gasket (8Q) into the recess of the journal flange or roll end.

STEP 16.
Position the rotary joint with the quick release flange/nipple assembly (4, 5, and 55) pointed towards the journal flange or roll end. Slide the rotary joint and the horizontal pipe (99) into position on the roll while inserting the nipple into the recess of the journal or roll end. Slide the quick release nipple flange (5) over the journal flange studs and secure flange with hex nuts. Tighten hex nuts evenly.

NOTE: The quick release nipple flange (5) will not seat tightly against the face of the journal flange. When tight there will be approximately a 1/8” to 3/16” (3 to 5 mm) space between the flanges. Make sure this gap is equal around the circumference of the flanges.

STEP 17.
Reinstall the anti-rotation device. Reconnect the piping, turn valves on, and rotary joint will be ready for service.

Dimensions and specifications are for reference only and subject to change. Certified drawings are available on request. Please refer to Kadant Johnson Drawing Number A37640 for torque specifications.