Disassembly and Repair of Type 2750, 2800, and 2950 ELSNARQ Joints

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>Carbon Seal</td>
</tr>
<tr>
<td>6A</td>
<td>1</td>
<td>Front. Carbon Guide</td>
</tr>
<tr>
<td>6B</td>
<td>1</td>
<td>Back. Carbon Guide</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>Gaskets</td>
</tr>
<tr>
<td>8R</td>
<td>1</td>
<td>Gasket</td>
</tr>
<tr>
<td>3A</td>
<td>1</td>
<td>O-Ring</td>
</tr>
<tr>
<td>31B</td>
<td>1</td>
<td>O-Ring</td>
</tr>
<tr>
<td>35</td>
<td>2</td>
<td>Packing or 1 Bushing</td>
</tr>
</tbody>
</table>

NOTE: Please follow your company's safety procedures when 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 Representative or Kadant Johnson.

REMOVAL:

STEP 1.
Close the inlet and outlet valves and allow the joint to cool down. Disconnect the piping from the joint, remove the anti-rotation rod and restraining yoke (if used).

STEP 2.
Remove hex nuts allowing quick release nipple flange (5) to slide out, away from the journal flange, exposing the two tapered split wedges (55). You can now pull the rotary joint away from the machine for rebuilding. Separate the wedges and remove quick release nipple flange.

STEP 3.
Place the nipple through a hole in a work bench or some other suitable work surface (See Fig. 2) so that it is in a horizontal position with the head (2) on top. Remove head by removing the hex head cap screws (2A). Loosen the packing gland lock-nut (30) and remove the packing gland (10). The joint may be equipped with a bushing instead of a packing gland. If so, this step is not necessary.

SERVICING THE JOINT:

STEP 4.
Please use caution while performing this step. There is spring force present under the assembly plate (31). Secure the assembly plate by using two 6" long all thread rods, nuts and a bar (see Fig. 3) with the appropriate bolt circle drilled into it (match the head's bolt circle and bolt size) or place the joint in a press and hold the assembly plate in position with a bar straddling across it. Loosen and remove two flat head screws (31A) freeing the assembly plate. Back off the nuts or release the press that is holding the assembly plate. The assembly plate gasket (8) may cause the assembly plate to stick, loosen the assembly plate as the spring tension is released.

STEP 5.
Remove the assembly plate. Note that the inboard guide (6A), o-ring (31B), and retaining ring (16B) are removed as an assembly. Remove nipple (4) assembly consisting of the spring shoulder (3), o-ring (3A) and the spring (7). Remove the seal ring (6).

STEP 6.
Separate the wear plate (16) from the body (1) by removing the hex head cap screws (16A). Inspect the sealing surface of the wear plate where the seal ring runs against it. If this surface is scratched or grooved, replace the wear plate. If the wear plate is in serviceable condition, replace the outboard guide (6B) by removing the retainer ring (16BB) freeing the outboard guide. Retain the woodruff key (36).

STEP 7.
Clean all gasket surfaces.

STEP 8.
Slide the spring shoulder off the nipple tube. Located inside of the spring shoulder is an o-ring. Remove it, clean its groove and check for steam cuts. Check for wear on keyways. Replace spring shoulder if damaged. Also clean the o-ring's sealing surface on nipple tube.
STEP 9.
Remove the packing (35) from the end of the nipple (4) and discard it. Inspect the nipple’s sealing and bearing surfaces for scratches, grooves or pits and check the woodruff keys for wear. If there is deterioration in any of these areas, replace the nipple. If equipped with a bushing instead of a packing gland, inspect the bushing. Replace the bushing if it is worn.

STEP 10.
Service the assembly plate by removing the retaining ring and removing the inboard guide. Remove the o-ring. Clean the entire assembly plate. Inspect all gasket and o-ring surfaces. If any surfaces are damaged, replace the assembly plate. Install a new o-ring in the o-ring groove. Lubricate the o-ring with a silicone based o-ring lube. Slide a new inboard guide into the assembly plate bore, making sure the woodruff key slot on the guide faces towards and engages into the woodruff key (36). Install the retaining ring.

STEP 11.
Install a new outboard carbon guide into the wear plate making sure the woodruff key slot faces toward the retainer ring groove. Position the woodruff key into its slot. Install the retainer ring into the groove to secure the back carbon guide. Make sure the retainer ring is positioned to hold (overlap) the woodruff key in the slot. Install the wear plate onto the body (1) using a new gasket (8R). Secure wear plate using hex head cap screws with the proper torque. Use a star pattern for a tightening sequence.

STEP 12.
Turn the rotary joint housing upright and install a new carbon seal ring in the body in its proper position. On 2750 (3.5”) rotary joints the flat surface of the seal ring is placed against the flat face of the wear plate. On 2800 (4”) and 2950 (5”) rotary joints the convex surface of the seal ring is placed against the concave surface of the wear plate.

STEP 13.
Reinstall nipple into the body and through the outboard guide, followed by the spring.

STEP 14.
Lubricate and install a new o-ring into the groove on the spring shoulder. Align the key on the nipple with the key way on the spring shoulder and slide the spring shoulder onto the nipple.

STEP 15.
Place a new gasket (8) onto the body. Install the assembly plate, as constructed from Step 10, over the nipple and down into the body. Align the key in the nipple with the key way on the spring shoulder and continue pushing the assembly plate into the body compressing the spring. When the assembly plate contacts the body/gasket secure into position using two cap screws.

REINSTALLATION

STEP 19.
Prior to installing the rotary joint on the machine place a new metal gasket (8Q) into the recess of the journal.

STEP 20.
Reinstall ‘Q’ nipple flange over nipple.

STEP 21.
Place the two tapered split wedges into the recess of nipple and secure into position by sliding the ‘Q’ nipple flange over the wedges.

STEP 22.
Slide the rotary joint over the horizontal pipe and place the ‘Q’ nipple flange over the studs of the journal flange. Secure by evenly tightening the jam nuts.

Note: This ‘Q’ flange will not fit tightly against the journal flange. There should be 1/8” to 3/16” space between the flanges. Make certain this gap is equal around the circumference of the flange.

STEP 23.
Insert two new packing rings into the packing gland. Omit this step if there is a bushing in place of the packing gland.

STEP 24.
Tighten gland to approximately 30 ft-lbs. Tighten locknut. Omit this step if there is a bushing in place of the packing gland. The horizontal pipe should extend 3/8” beyond the packing gland or the end of the bushing.

STEP 25.
Reinstall head with a new gasket. Tighten the head bolts to the proper torque using a star pattern sequence. Reconnect the piping, turn valves on and joint will be ready for service.

Please refer to Kadant Johnson Drawing Number A37640 for recommended torque specifications.

The Kadant Johnson Warranty

Kadant Johnson products are built to a high standard of quality. Performance is what you desire: that is what we provide. Kadant Johnson products are warranted against defects in materials and workmanship for a period of one year after date of shipment. It is expressly understood and agreed that the limit of Kadant Johnson’s liability shall, at Kadant Johnson’s sole option, be the repair or resupply of a like quantity of non-defective product.