Disassembly and Repair of Type LN™ Joints

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 further questions, please contact your representative or Kadant Johnson.

Tighten the fasteners using a star pattern and the proper torque.

REPAIR KITS ARE AVAILABLE CONSISTING OF:

<table>
<thead>
<tr>
<th>Item #</th>
<th>Qty.</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>2</td>
<td>Seal Ring</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>Gasket</td>
</tr>
<tr>
<td>8Q</td>
<td>1</td>
<td>Copper Gasket</td>
</tr>
<tr>
<td>8R</td>
<td>1</td>
<td>Gasket - Full Face</td>
</tr>
<tr>
<td>35</td>
<td>*</td>
<td>Packing</td>
</tr>
</tbody>
</table>

*Quantity and size varies with joint size.

REMOVAL:

STEP 1.
Release residual pressure in the system. Close the inlet and outlet valve. Allow the joint to cool sufficiently and then disconnect the inlet and outlet piping from the joint.

STEP 2.
Remove head bolts (2A), freeing head (2) from the body (1). Tie or secure it to any adjacent support so that the flexible metal hose is not strained or bent.

STEP 3.
Loosen locknut (30) and packing gland (10N). On rotary joints 5˝ or larger, loosen bolts (10A) that secure the packing gland (10N).

STEP 4.
Remove the hex nuts from the studs at quick release nipple flange (5).

STEP 5.
Remove the hex nuts from the end of each support rod.

STEP 6.
If so equipped, remove the support stands that hold the rotary joint in place.

STEP 7.
The rotary joint should now be free to slide away from the machine. Discard copper gasket (8Q) from the journal flange.

STEP 8.
Remove ‘Q’ nipple flange (5) and its two split tapered wedges (55). Keep the split wedges for reuse.

The joint is now ready for disassembly.

DISASSEMBLY:

STEP 9.
Position the rotary joint upright (see Fig. 2) with nipple (4) extending down into a piece of pipe or through a hole in the workbench. In that position joint body housing (1) will be resting on wear plate (16).

In the next step you will be removing the two assembly plate screws (31A). The internal joint spring force is contained by the assembly plate (31). Use caution when the spring tension is released.
STEP 10. Using a press, apply pressure on packing gland (10N) while removing the two round head screws (31A). Remove the two screws and the gasket.

STEP 11. Lift off assembly plate (31) exposing the internal parts. Caution: There is an internal spring force present.

STEP 12. Remove the carbon seal (6A), thrust collar (3), spring (7), nipple (4), and the carbon seal (6B). Remove the packing from thrust collar (3).

STEP 13. Inspect the metal wear surfaces for scoring or excess wear. They are: wear plate (16), nipple (4), thrust collar (3), and assembly plate (31). Replace any of these items if damaged.

STEP 14. Clean all the gasket surfaces.

REASSEMBLY:

STEP 15. Place a new seal ring (6B), (concave side facing outward) into the body.

STEP 16. Set nipple (4) into the body housing followed by spring (7) and thrust collar (3).

STEP 17. Place gasket (8) on body opening.

STEP 18. Place carbon seal (6A) on top of thrust collar (3) followed by assembly plate (31).

STEP 19. Using a press, compress the spring (7). Be sure the keyways in the thrust collar (3) are aligned with the keys on the nipple (4). Use the body inlet opening as a viewing port to check key and keyway alignment. Secure assembly plate (31) to body (1) with the two round head screws and lockwashers (31A).

INSTALLATION:

STEP 20. Slide ‘Q’ nipple flange (5) over nipple (4) with its taper facing outward away from the body.

STEP 21. Place two tapered wedges in the recess of the nipple (4), then slide ‘Q’ nipple flange (5) over them to hold in place.

STEP 22. Place a new copper gasket (8Q) into the recess of the journal flange.

STEP 23. Lift the joint up and slide it over the horizontal pipe until its nipple (4) seats against copper gasket (8Q) and ‘Q’ nipple flange (5) is aligned over the studs of the journal flange.

STEP 24. Thread the hex nuts onto the journal flange studs tightening evenly. The ‘Q’ nipple flange (5) will not seat flush against the journal flange. There will be 1/16” to 1/8” (2 to 3 mm) space. Measure the gap. This space should be even around the circumference of the ‘Q’ flange.

STEP 25. Place new packing (35) into thrust collar (3) then install packing gland (10N) and tighten to approximately 30 lbs/ft. Secure packing gland by tightening lock nut (30) against the thrust collar. On rotary joints 5” or larger, secure packing gland using bolts (10A) and lock washers (10B). Tighten bolts to 30 lbs/ft. The number of pieces varies with joint size. Consult a parts assembly drawing.

ALIGN JOINT: This style of rotary joint is supported by external support rods. It is very important that the joint is centered on the nipple and the thrust collar. Adjust the support rods as required until the clearance is even around the nipple (4) and wear plate (16), and around the thrust collar (3) and assembly plate (31).

STEP 26. Once the rotary joint is in position and properly aligned, reset the wear indicators, i.e., set the hex nuts on each support rod to the prescribed distance out away from the rotary joints outboard lugs (see Fig. 3). As the seal rings wear, this space will decrease.

STEP 27. Clean the gasket surface on head (2), install a new gasket (8), and secure in place with the hex head cap screw. Kadant Johnson joints use Grade 5 fasteners or higher.

Reattach the piping and the Kadant Johnson joint is ready to be placed back in service.

Dimensions 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.