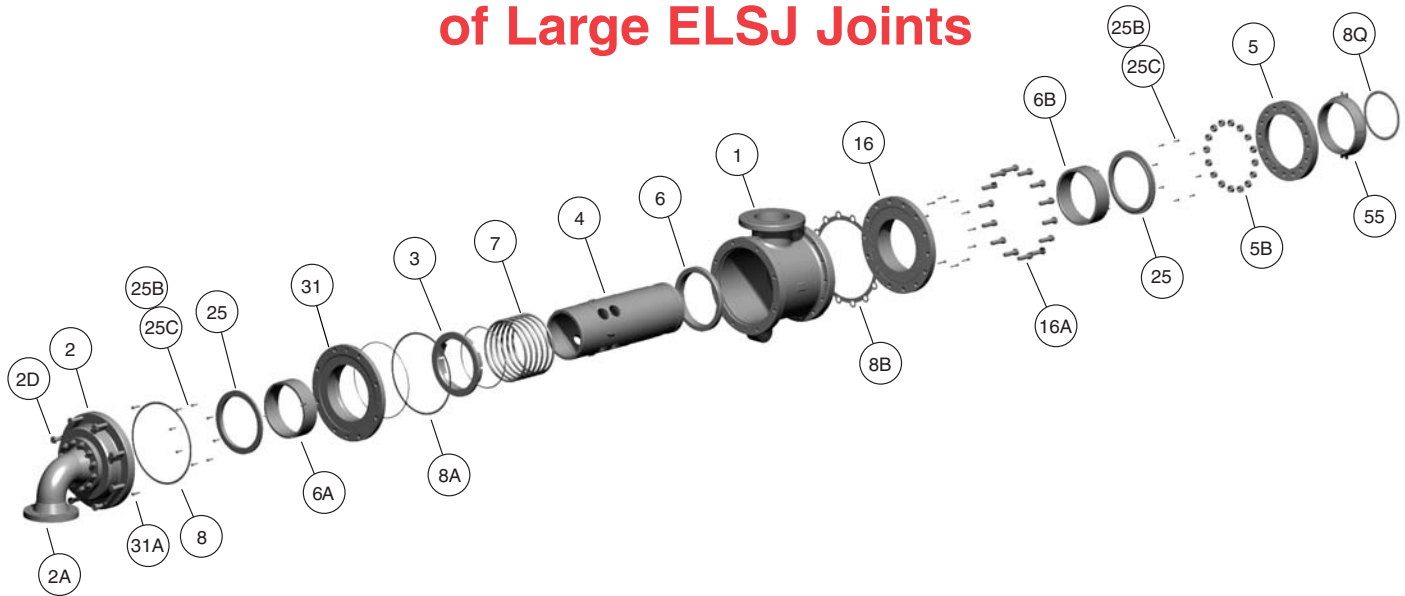


# Disassembly and Repair of Large ELSJ Joints



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 questions, please contact your representative or Kadant Johnson.

Tighten all fasteners in a star pattern. See joint assembly drawing for torque specifications.

**NOTE:** 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. Prior to handling lubricants, consult MSDS information.

## REPAIR KITS ARE AVAILABLE CONSISTING OF:

Item #	Qty	Description
6	1	Seal Ring
6A	1	Front Guide
6B	1	Rear Guide
8	1	Gasket
8A	1	Gasket
8B	1	Gasket

## 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 and remove anti-rotation rod.

### STEP 2.

Remove head (2) by removing the hex head cap screws (2D).

### STEP 3.

Properly support the rotary joint. Remove hex nuts (5B) allowing flange (5) to slide out, away from the journal flange, exposing the two split rings (55). Remove it from the machine. Separate the split rings (55) and remove flange (5). Set aside for reuse.

## SERVICING THE JOINT:

### STEP 4. Use caution while performing this step.

Be prepared to contain a spring force of 200 lbs when removing the assembly plate (31). The spring force is reduced when the socket head cap screws (31A) are loosened. The assembly plate gasket (8A) may cause the assembly plate (31) to stick to the body (1). Loosen the socket head cap screws evenly and break the assembly plate (31) free from the body (1). Continue to loosen the socket head cap screws while holding down on the assembly plate (31). After the socket head cap screws are removed lift the assembly plate off of the spring and set aside. Total spring (7) travel is approximately 1.5" (38 mm) during this operation.

### STEP 5.

Remove nipple (4) assembly consisting of the spring shoulder (3), spring (7), and 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 spherical 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 rear guide (6B) by removing the bolts and lockwashers (25B and 25C), and bearing retaining ring (25) freeing the carbon guide.

### STEP 7.

Clean all gasket surfaces and inspect for steam cuts or other damage.

**STEP 8.**

Slide the spring shoulder (3) off the nipple tube (4). Inspect the keys on the nipple (4) and the keyway on the spring shoulder (3). If either is worn, replace the part.

**STEP 9.**

Inspect the nipple's seal ring and bearing surfaces for scratches, grooves or pits. If there is deterioration in these areas, replace the nipple.

**STEP 10.**

Install a new rear carbon guide (6B) into the wear plate (16). Place the retainer ring (25) onto the wear plate (16) and secure with bolts and lockwashers (25B and 25C). Install the wear plate onto the body (1) using a new gasket (8B). Secure wear plate with hex head cap screws (16A) using a star pattern for the tightening sequence and the proper torque. Please refer to Kadant Johnson Drawing Number A37640 for recommended torque specifications.

**STEP 11.**

Turn the rotary joint body upright and install a new seal ring (6), spherical face down, flat side facing up. Caution: Seal rings are brittle and can chip or crack easily if dropped.

**STEP 12.**

Install nipple (4) into the body through the rear guide (6B). Check the spring (7) for cracks. If no cracks are found, install the spring.

**STEP 13.**

Align the key on the nipple (4) with the key way on the spring shoulder (3) and slide the spring shoulder onto the nipple.

**STEP 14.**

Replace the front guide (6A) in the assembly plate (31) by removing bolts and washers (25B & 25C) and removing the bearing retaining ring (25). Slide the used front guide (6A) out. Clean the bore of the assembly plate using solvent and scouring pad. Replace the bearing retainer ring (25), secure with bolts and lock washers (25B & 25C). Insert a new front guide (6A). The front guide (6A) is loose and should be held in position against the assembly plate (31) when reinstalling the plate.

**STEP 15.**

Set gasket (8) on the end of the body (1).

**STEP 16.**

Align the two holes in the assembly plate (31) with the holes in the body (1). Push down on the assembly plate, and secure with the socket head screws (31A), while making sure the key on the nipple (4) and keyway on the spring shoulder (3) are engaged.

**REINSTALLATION:****STEP 17.**

Prior to installing the rotary joint on the machine, inspect the counterbore of the journal flange for steam cutting. Replace journal flange if damaged. Place a new metal gasket (8Q) into the counterbore of the journal flange.

**STEP 18.**

Reinstall 'Q' nipple flange (5) over nipple (4).

**STEP 19.**

Place the split rings (55) into the recess of nipple (4) and secure by sliding the 'Q' nipple flange over the wedge.

**STEP 20.**

Slide the rotary joint over the horizontal pipe and engage the 'Q' nipple flange (5) over the studs of the journal flange. Secure by evenly tightening the nuts (5B).

**Note:** The quick release nipple flange (5) will not seat tightly against the face of the journal flange. When tight there will be a space between the flanges. Make sure this gap is equal around the circumference of the flanges.

**STEP 21.**

Place a new gasket (8) on to the assembly plate (31). Install head and elbow assembly (2 and 2A) over gasket and secure into position using bolts (2D).

Tighten bolts evenly using a star pattern and proper torque. Please refer to Kadant Johnson Drawing Number A37640 for recommended torque specifications.

**STEP 22.**

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

*Dimensions are for reference only and subject to change. Certified drawings are available on request.*

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**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.

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