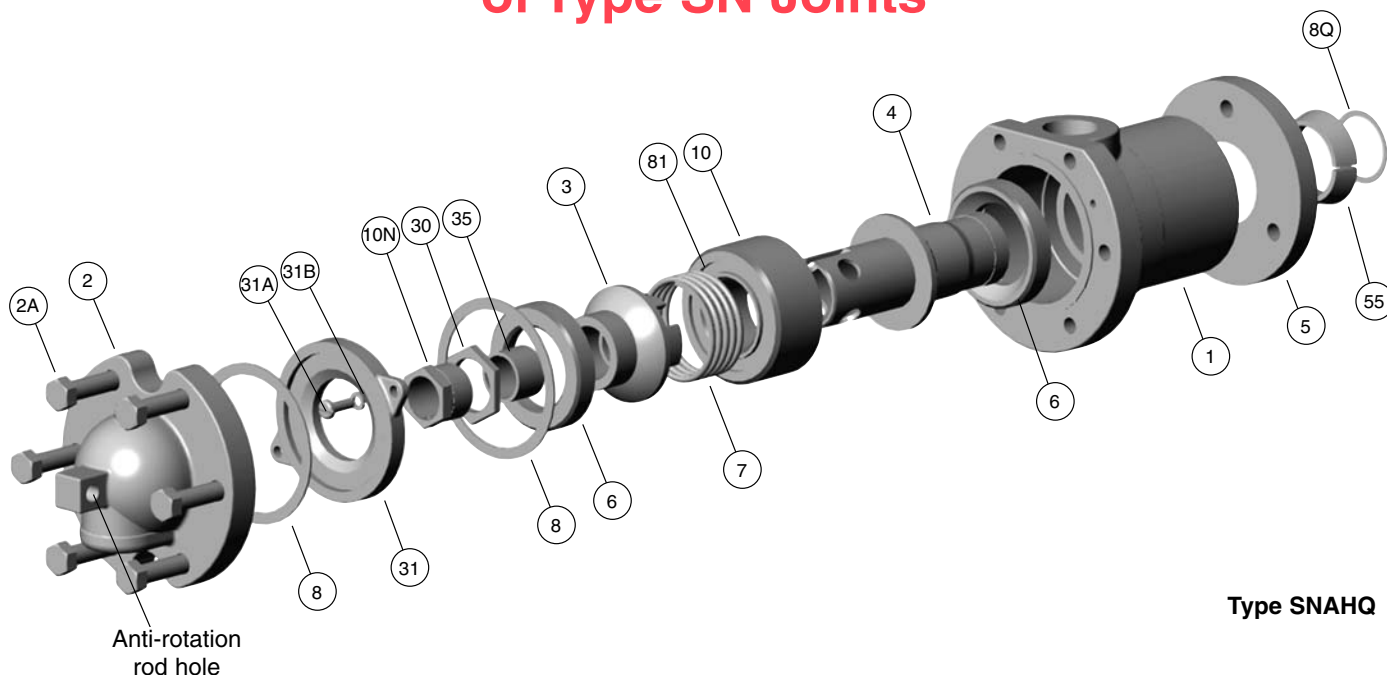


# Disassembly and Repair of Type SN Joints



**Type SNAHQ**

Please follow your company's safety procedures whenever working on Kadant Johnson rotary joints. 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, contact your Representative or Kadant Johnson.

**REPAIR KITS ARE AVAILABLE CONSISTING OF:**

<u>Item #</u>	<u>Qty</u>	<u>Description</u>
6	2	Carbon Seal Ring
8	2	Gasket
8Q	1	Copper Gasket
10	+	Carbon Guide
35	+	Packing

+ Refer to Kadant Johnson assembly drawing

**ADDITIONAL PARTS THAT MAY BE REQUIRED:**

<u>Item #</u>	<u>Qty</u>	<u>Description</u>
3	1	Thrust Collar
4	1	Nipple
7	1	Spring
10N	1	Packing Gland
31	1	Assembly Plate
81	1	Spring Washer

**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 the anti-rotation rod.

**STEP 3.**

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

**STEP 4.**

Loosen the locknut (30) and packing gland (10N).

**STEP 5.**

Uncouple the nipple from the journal flange. For threaded nipples, unscrew nipple from journal. For joints with quick release nipples, remove hex nuts from the studs at the nipple flange (5). Slide nipple flange away from journal to expose two split taper wedges (55). Remove wedges and set aside for reuse.

**STEP 6.**

Slide the joint away from the roll and discard the copper gasket (8Q) from inside the journal flange. Keep all weight off the horizontal pipe to avoid bending it.

**STEP 7.**

Remove 'Q' nipple flange (5) and the two split tapered wedges (55). Set the split wedge aside for reinstallation.

**DISASSEMBLY:**

**STEP 8.**

Position the rotary joint assembly upright with nipple (4) extending down into a piece of pipe or through a hole in a table. In that position the body (1) will be resting on the pipe or table.

**STEP 9.**

In the next step you will be removing the two assembly plate screws (31A). Be prepared, as the internal spring force is con-

tained by the assembly plate (31). There are several ways you can slowly release this force: 1) use a small press and apply pressure on the packing gland and allow it to raise slowly after the assembly plate screws have been removed, or 2) make two plates with holes in the center of each large enough for 1/2" (12 mm) all-thread rod to pass through. One plate will set on the packing gland and the other will cover the end of the nipple (4). Cut a piece of all-thread rod 4" – 5" (102 – 127 mm) longer than the joint. Double nut the rod to the lower plate so it is firmly attached or you can weld the rod to that plate. Extend the rod up through the upper plate at the gland. Thread a nut onto the rod down far enough to slightly compress the internal spring and take up the load on the assembly plate. Now, you can remove the assembly plate screws (31A).

#### **STEP 10.**

Turn the nut on the all-thread rod counterclockwise until all of spring tension is released and remove the all-thread rod assembly.

#### **STEP 11.**

Lift off assembly plate (31) and carbon seal ring (6).

#### **STEP 12.**

Remove thrust collar (3), spring (7), spring washer (81), carbon guide (10), nipple (4) and the inboard carbon seal ring (6).

#### **STEP 13.**

Inspect the wear surfaces of the body (1), nipple (4) and thrust collar (3) for scratches, pitting, or wear. Replace any parts that are damaged. Check the keyway on the nipple and the key on the thrust collar for wear. Replace if worn.

#### **STEP 14.**

Proceed with cleaning all gasket surfaces and inside of body (1).

#### **REASSEMBLY:**

#### **STEP 15.**

Place a new carbon seal ring (6), concave side facing outward down into the body (1).

#### **STEP 16.**

Set the nipple (4) down into the body (1).

#### **STEP 17.**

Slide a new guide or guides (10) over the nipple (4) and down into the body (1) followed by the spring washer (81), spring (7). Generally, if the spring is not broken, it can be reused.

#### **STEP 18.**

Set a new gasket (8) on the body (1).

#### **STEP 19.**

Remove the packing (35) from thrust collar (3) and position the thrust collar on the spring, aligning the keys with the keyways in the nipple.

#### **STEP 20.**

Place a new carbon seal ring (6) on the thrust collar (3).

#### **STEP 21.**

Set assembly plate (31) on top of the carbon seal ring (6).

#### **STEP 22.**

Using the all-thread rod device, recompress the spring and secure assembly plate (31) to the body with two screws (31A) and lockwashers (31B).

#### **STEP 23.**

Remove the all-thread device and the joint is ready for reinstallation.

#### **REINSTALLATION:**

#### **STEP 24.**

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

#### **STEP 25.**

Place the quick release nipple flange (5) over the syphon pipe/nipple (4) with the tapered hole facing away from the rotary joint. Place the split wedges (55) into the recess in the nipple and slide the flange over them. Position the joint/syphon into the journal flange recess and secure into position with the quick release flange and nuts. There will be a 1/16" to 1/8" (1.5 to 3 mm) space between the Q flange and the journal flange. This space should be equal around the circumference of the flange to keep the joint centered on the roll and prevent run-out.

#### **STEP 26.**

Place new packing (35) into thrust collar (3) followed by packing gland (10N). The quantity required is listed on the assembly drawing.

#### **STEP 27.**

Clean the gasket surface on head (2), install a new gasket (8), and secure in place with the hex head cap screws.

#### **STEP 28.**

Install anti-rotation rod in the lug of the joint body. The lug hole is machined to accept a properly sized Schedule 80 pipe. The anti-rotation device should be free to slide in the lug hole. Please avoid the use of all thread rod. No more than two joints to the anti-rotation rod. Independent joints need to have their own device.

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

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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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