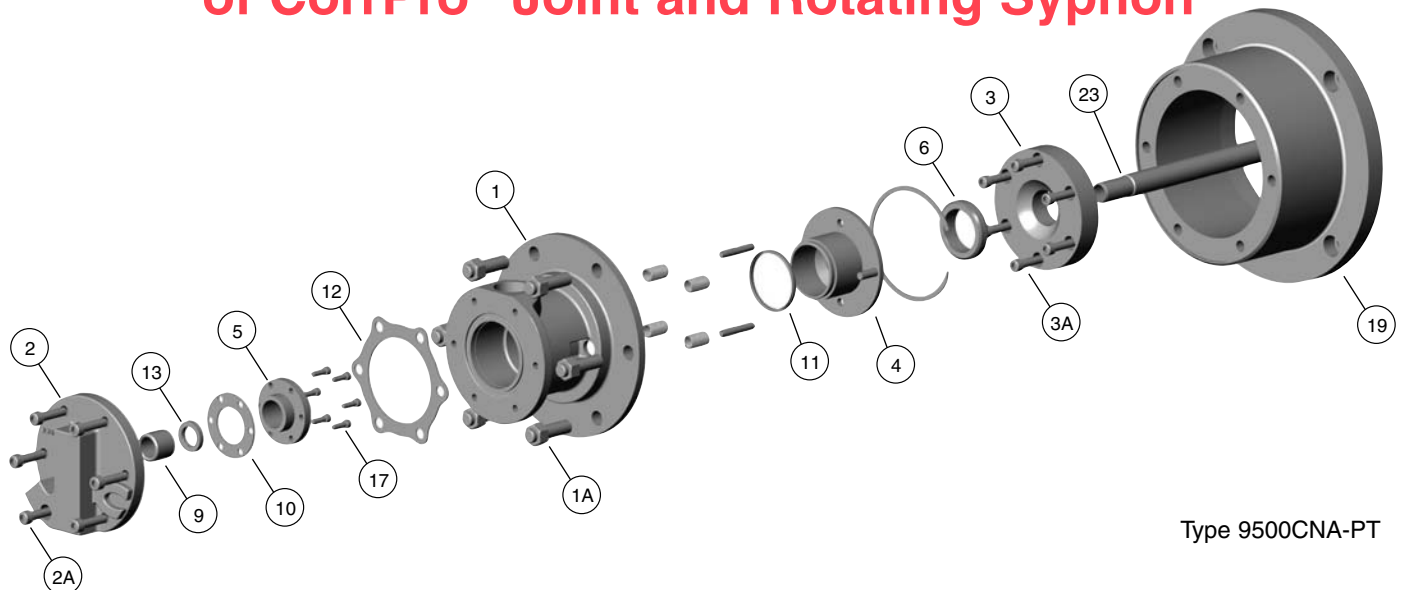


Disassembly and Repair of CorrPro™ Joint and Rotating Syphon



Type 9500CNA-PT

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.

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
9	1	Bushing
10	1	Gasket
11	1	Cup Seal
12	1	Head Gasket
13	1	Energized Seal
-	1	CSS800-3, Seal Ring Fluid
-	1	CSS800-1, O-Ring Lube

REMOVAL AND DISASSEMBLY:

STEP 1.

Release residual pressure in the system. Disconnect the inlet and outlet piping from the joint.

STEP 2.

Remove the head bolts (2A) and carefully disengage head (2) from internal horizontal pipe (23). Clean gasket surface of the head and inspect for any damage, scoring, or pitting. If using a two-piece head, remove screws (17) and pipe adapter (5) assembly. Remove and discard bushing (9), lip seal (13), and gasket (10).

If using a one-piece head, place head in a vice so that the bushing (9) and lip seal (13) are exposed. Break the carbon bushing by placing a punch through the holes located on the outside of the head (2) where the bushing is located. **CAUTION:** The carbon bushing will shatter. Use protective eye wear and other safety gear as required by your company while performing this rebuild.

Clean the entire head with a solvent.

STEP 3.

Remove the nuts (1A) that secure the body (1) to the ring bracket (19). While this is being done, the body will push away from the ring bracket. Holding on to the seal ring (6), remove body and capture the seal ring.

SERVICING THE JOINT:

STEP 4.

Inspect the sealing surface of the wear plate (3). If it is scored, steam cut, or otherwise damaged, it must be replaced. Do so by removing the bolts (3A) that fasten the wear plate to the journal. Remove the old gasket or o-ring and clean the surface. Install a new gasket or o-ring and reattach the wear plate. Tighten the bolts evenly using a star pattern and the proper torque. The wear plate, gasket, or o-ring are not part of the repair kit and are purchased separately.

STEP 5.

Please refer to Figure 1. Be aware that there is spring force present during this operation. Place the body (1) and piston (4) assembly into a press with the flat face of the piston facing up. Place a block of wood on the flat face of the piston to protect it. Push the piston into the body and remove the retaining ring (8). Release the press, spring force will push the piston out of the body most of the way. Once the spring force is relaxed, separate the piston from the body.

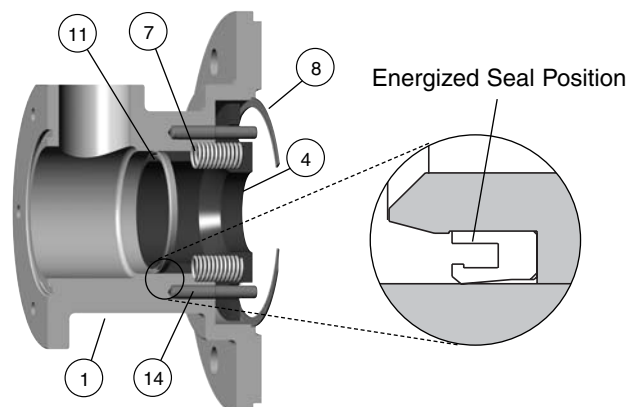


Figure 1.

STEP 6.

Clean the body (1) using solvent and a Scotch Brite® pad. Inspect the bore of the body. Inspect the inlet and outlet connections of the body. If there is wear, scoring, or steam cutting in any of these areas, the body will have to be replaced. The body is not part of the repair kit. It is purchased separately.

STEP 7.

Remove the energized seal (11) from the piston (4). Clean the piston using a Scotch Brite® pad and solvent. Inspect the energized seal groove for wear, scoring, or steam cuts. Inspect the flat faced sealing area of the piston for wear, scoring, or steam cuts. If either surface is damaged, the piston must be replaced. The piston is not part of the repair kit. It is purchased separately.

STEP 8.

Install a new energized seal (11) onto the piston (4). Install the energized seal with the cup or U shaped portion facing the end of the piston, opposite the seal ring's sealing surface. See Figure 1.

STEP 9.

Inspect groove pins (14). Replace if worn. The groove pins are not part of the repair kit. They are purchased separately.

STEP 10.

Inspect the springs (7). The free length should be no less than 1.75" (45 mm). Replace if too short or broken.

STEP 11.

Place the body (1) back into the press with the body flange facing up. Install springs (7) into the spring guide holes. Lubricate the energized seal (11) and bore of the body with silicone lubricant. Place the piston/energized seal (4 and 11) into the body and guide into position with the press aligning the groove pins (14) with the appropriate holes in the piston flange. Make sure the lip of the energized seal does not fold during this operation. Install the retaining ring (8) and release the press. The energized lip seal can be viewed from the back side of the body to make sure it is not folded. If the energized lip seal is damaged during installation, replace it with a new one. Do not reuse the damaged part.

REASSEMBLY AND REINSTALLATION:**STEP 12.**

Before installing the joint body (1), an initial measurement needs to be taken from the seal ring indicator as show in Figure 2. This can be done using a snap gauge and calipers. Record this measurement for later use.

STEP 13.

If horizontal pipe (23) was removed, insert it into journal according to the machine manufacturer's instructions.

STEP 14.

Place three drops of seal ring installation fluid (supplied), equally spaced, on the spherical face of the seal ring (6). The installation fluid will allow the seal ring to stick to the wear plate (3) long enough to install the body (1). Place the seal ring onto the wear plate, making sure that it is centered. Take care that the seal ring does not fall from the wear plate.

STEP 15.

Place the body assembly (1) over the horizontal pipe (23) and onto the bracket (19), making sure that the piston inside of the body lines up with the flat face of the seal ring. Line up the holes in the body with the studs on the bracket. Make sure that the inlet connection is in the desired orientation. Fasten the body to the bracket using nuts (1A). Tighten fasteners evenly using a star pattern to 110 to 130 ft-lbs (149 to 176 Nm).

STEP 16.

With the joint body (1) installed, remeasure the seal ring wear indicator as in Step 12. Subtract the measurement taken in Step 12 from this number. This number should be between 0.22" (6 mm) and 0.35" (9 mm). This is the amount of seal ring wear that is available at room temperature. Record this number for future reference when measuring seal ring wear.

STEP 17.**TWO-PIECE HEAD**

Install a new bushing (9) and lip seal (13) into the pipe adapter (5), making sure the lip of the seal is facing away from the head. Place a new gasket (10) over the pipe adapter and attach a new pipe adapter assembly (consisting of items 5, 9, and 10) to the head (2) using six screws (17). Tighten screws evenly using a star pattern and the proper torque.

STEP 18.**ONE-PIECE HEAD**

Heat head (2) using either a torch or an oven. If using an oven, heat the head (2) at 400°F (205°C) for approximately one hour. If using a torch, heat the head in and around the area where the carbon bushing (9) will be inserted.

STEP 18A.

After heating the head, place it into a press and insert the bushing (9) using bushing installation tool JC2598-IT for 3/4" pipe or JC2598-IT-1 for a 1" pipe. Press the bushing into the head until it bottoms out in the head.

STEP 18B.

Let head cool. Place the lip seal (13) on the head (2) with the Teflon seal facing away from the head. Press the seal into the head with even pressure using the lip seal installation tool JC2599-IT for a 3/4" pipe or JC2599-IT-1 for a 1" pipe. Press the lip seal into the head until it bottoms out on the bushing (9).

STEP 19.

In order to make installing the head (2) over the horizontal pipe (23) and onto the body (1) easier, the lip on the lip seal (13) needs to be stretched. Using a smooth handled tool, insert it into the lip of the seal and spread by running the tool around the lip several times. Lubricate the seal with o-ring lubricant.

STEP 20.

Orient the outlet connection in desired position and place a new gasket (12) over the head (2) and carefully slide head over the horizontal pipe (23). Insert pipe into bushing (9) and attach head (2) to body (1) using fasteners (2A). Tighten the fasteners evenly in a star pattern using the proper torque.

The joint is now ready to accept flexible hose piping.

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.

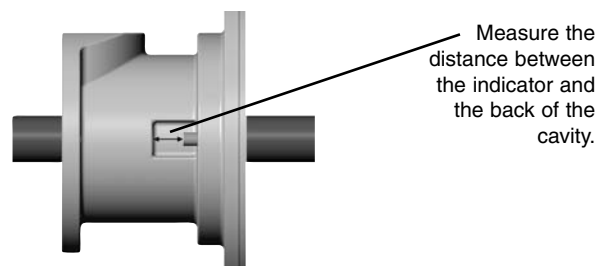


Figure 2. Seal Ring Indicator Measurement

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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