Repair Instructions for the 9800 PT2X Rotary Joint

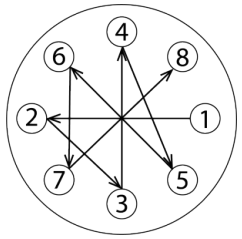
fluidhandling.kadant.com/en/knowledge-center/installation-and-repair-instructions/piston-type-pt-ptx-pt2x-rotary-joints/repair-instructions-for-the-9800-pt2x-rotary-joint

Effective: September 1, 2021

Introduction

Read all of the instructions before proceeding.

Refer to Kadant Johnson assembly drawing for part identification and to drawing A37640 for torque specifications. For easy identification, parts used in individual steps are often accompanied with their position in the assembly drawing [e.g. gasket (8B)]. Tighten all fasteners in a star pattern. Certified drawings are available upon request. Dimensions are for reference only and subject to change.



Safety

⚠ This safety symbol alerts you to risk of death or injury if the instructions are not followed. In all steps, death or injury may result if the machine is not de-energized, depressurized, cooled, and stopped. Death or injury may occur if the product is operated with a fluid type or at a pressure, temperature, or speed that do not meet its specifications. Death or injury may occur if heavy parts and pinch hazards are not handled properly. Follow your company's safety procedures.

Tools

Tools Per Crew

(2) 9/16" Combination Wrenches
(2) 3/4" Combination Wrenches
15/16" Combination Wrench
15/16" Shallow Socket
1/4" Hex Head Socket
5/16" Hex Head Socket
3/8" Hex Head Socket
1/2" Hex Head Socket
(2) 6 1/2" Drive Extension
0 to 150 lbs Torque Wrench
1/2 to 3/8" Square Drive Reducer
3 lbs Hammer
Gasket Scraper

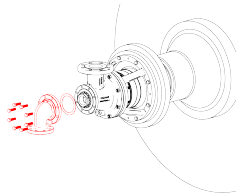
To Pass Between Crews

3 3/4" Socket and Necessary Adaptors for Torque Wrench
400 lbs Torque Wrench

Step 1 - Removal

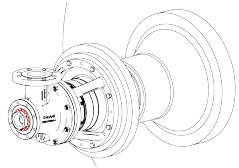
Disconnect piping. Remove the head and set aside.

⚠ Equipment must be cool and free of pressure.



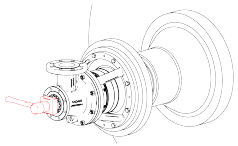
Step 2

Bend tabs back from support tube nut.



Step 3

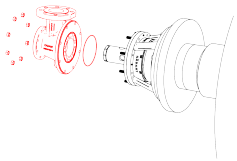
Unthread the support tube nut aproximently 1/4" (6.4 mm). Place a block of wood over the hollow bolt and strike it with a hammer. This will break the tapered seal inside of the rotary joint. Remove the support tube nut and set aside for reuse.



Important: Note the location of the indexing slot on the end of the support tube.

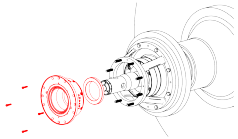
Step 4

Remove the body and set aside with the O-ring side up. Remove and discard the O-ring (26).



Step 5

Remove the end cap assembly and seal ring. Place the end cap assembly with the seal ring side up. Move the support tube into the journal if working on the dryer bearing.

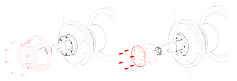


Note: Seal ring is fragile and should be handled with care.

⚠ Spring force present during end cap assembly removal.

Step 6

Remove the ring bracket and wear plate.

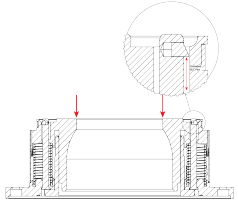


Tip: If dryer bearing work is needed, remove the journal flange (if necessary) and bearing cover to access the bearing. Reinstall after bearing work is complete.

Note: Kadant Johnson provides two types of repair kits. If using the preassembled end cap assembly kit, proceed to
step 12.

Step 7 - End Cap Assembly Repair

Place the assembly in a press with the seal ring side up. Compress the nipple until the quick release pins are unloaded.



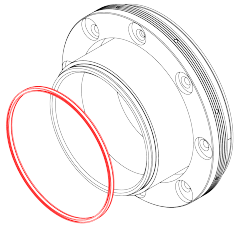
⚠ Spring force is present during this step.

Step 8

While the nipple is compressed, insert the quick release pin removal tools into the holes until they bottom out. The removal tool will compress the quick release locking mechanism. Release the press until the nipple clears the pins. Separate the nipple from the end cap.

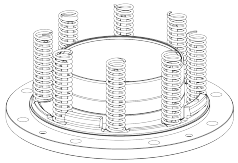
Step 9

Remove the O-rings or cup seal and discard. Inspect the groove(s) and sealing surfaces. Replace if damaged. Install and lubricate new O-rings or cup seal.



Step 10

Inspect and clean the end cap, pins, and springs. Replace if damaged.



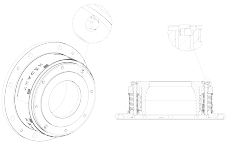
Important: Quick release pins should be installed into the holes with dimples next to them.

Important: If the end cap is damaged, it may be removed form the end flange. Remove the two screws to separate the two. Install a new end cap by reversing the procedure.

Note: Shroud has been removed from image for visual purposes.

Step 11

Reinstall the nipple by lining up the larger holes in the nipple with the dimples on the end flange. Use a press to compress the nipple while confirming the springs are seated properly. Continue until the locking mechanism has cleared the bottom of the counter bore. Release the press.

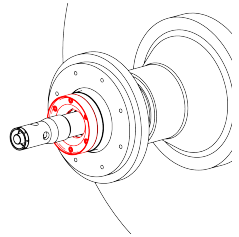


Step 12

Clean and inspect the head, body, and wear plate. Replace if damaged.

Step 13 - Installation

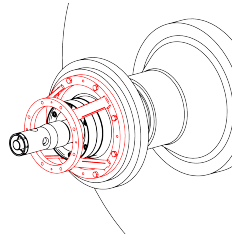
Using a new gasket, reinstall the wear plate (8A) with cap screws (16A).



Tip: Pull the support tube out of the journal if it was pushed in during the previous steps.

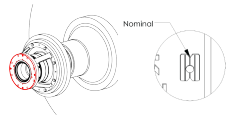
Step 14

Install the ring bracket with cap screws (20C).



Step 15

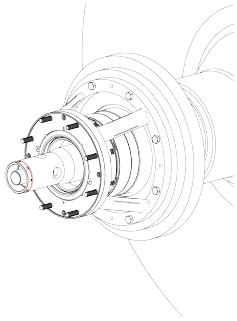
Clean the seal ring surface of the wear plate, new seal ring (6), and nipple. Attach the seal ring and end cap assembly with four cap screws (3C).



Important: After fastening the end cap assembly, the groove with the dimple should be within the viewing window. If not, the setup dimension is incorrect, please contact Kadant Johnson.

Step 16

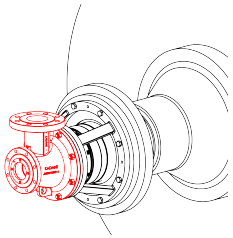
Remove the O-ring from the end of the support tube. Lubricate and install a new O-ring with silicone lubricant. Apply anti-sieze to the tapered portion of the tube.



Step 17

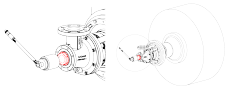
Install a new O-ring (26) into the body. Position the body over the suport tube. Align the pin with the support tube indexing slots. Position both over the studs on the ring bracket and secure with hex nuts (20B).

Important: The indexing slot should be installed in the same position as noted in step 3.



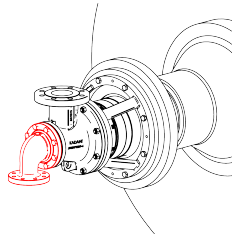
Step 18

Install a new O-ring in the support tube nut and apply anti-seize to the threads. Insert two bent lock washer tabs into the body and install support tube nut, torque to 400 ft-lbs (542 Nm). Bend two lock washer tabs over the bolt flats.



Step 19

Place gasket (8) on head and install head on body with cap screws (2A). Connect piping.



R-9800PT2X-1

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 the 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.

Kadant Johnson rotary joints and accessories are could be subject to European Pressure Equipment Directive 2014/68/EU (PED). Modifications or changes to the rotary joints and/or accessories are only permitted upon approval of Kadant Johnson. Only genuine Kadant parts and original accessories will ensure the safety of these assemblies. The use of other than original parts voids the warranty and will lead to forfeiture of the declaration of conformity and will invalidate any liability for damages cause thereby.