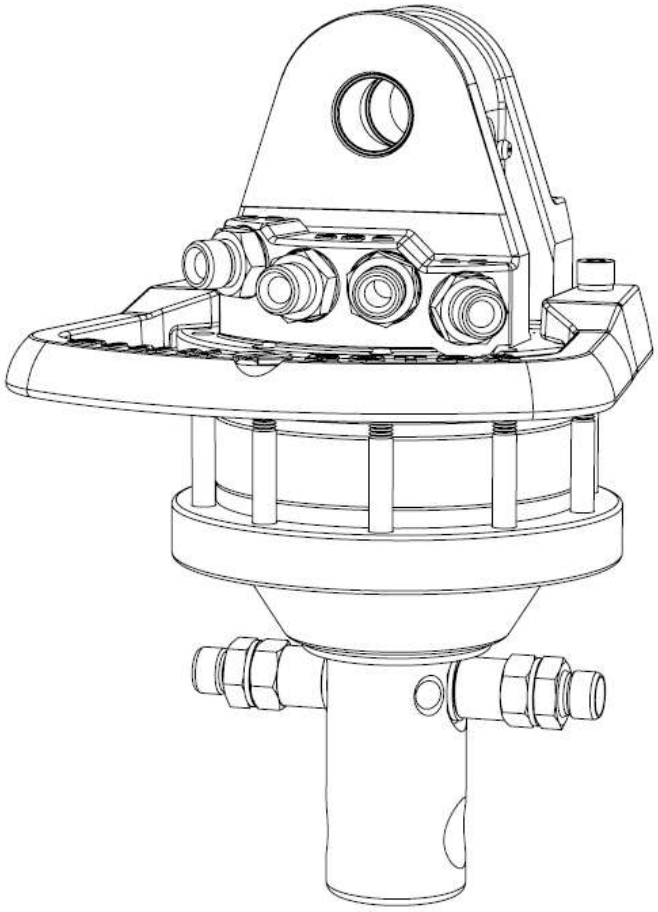


Shaft model rotator servicing guide

Revision

2020-03-04_Rev A	**-**	**Initial report was completed**

Introduction

This report describes the dismantling and assembling process of a shaft model rotator. Since all the shaft model rotators are sharing similar construction, this report is applicable for all the shaft model rotators.

A step by step elaboration of the process is included in this report, focusing on easy understanding of the process and avoiding causing catastrophic defects to the rotator.

a) Dismantling process

The process describes the systematic opening of a shaft model rotator, step by step way.



Shaft model rotator servicing guide

1) Unfastening the grapple channel connectors



- Place the connector upright on a bench wise.
- Unfasten the connector using an appropriate spanner.

2) Remove the seal and gasket



- Remove the external gasket from the rotator carefully.
- Remove the external seal from the rotator carefully.

3) Unfasten the stud bolts



- Select an appropriate torx bit for the stud bolt.
- Unscrew all the stud bolts diagonally.

4) Remove the lower cover



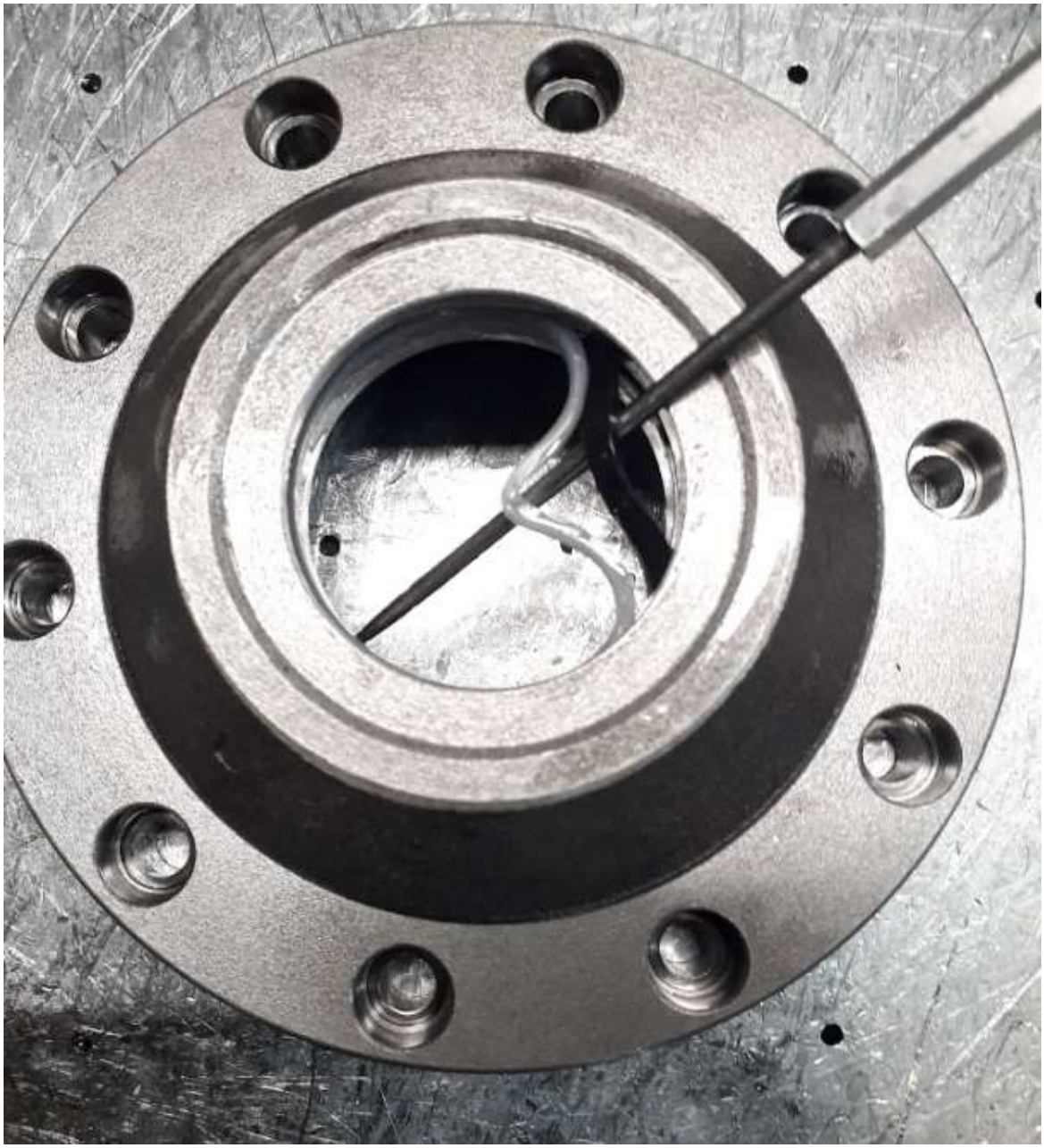
- Pull the lower cover axially upwards
- Clean the oil from the lower cover and place it securely.

5) Remove O-ring and lock pin from lower cover



- Take the O-ring and lock pin out from the lower cover.
- While removing the o-ring use the help of an O-ring puller.
- Care should be taken not to destroy the o-ring.

6) **Remove the seal from Lower cover**



- Pull seal out from the lower cover seal slot.
- Use a seal puller to pull out the seal.
- Care should be taken not to cause any damage to lower cover construction.

7) Remove the bearing assembly



- Remove the bearing assembly.
- Clean the raceway washer from oil and place it securely.

8) Pull out the shaft and stator assembly



- Screw in rods into the lower grapple channel openings.
- Pull the shaft and stator assembly out from the upper cover with the help of rods.
- Keep the removed assembly on a flat surface.

9) Separate the stator from shaft assembly





- Cover the assembly with a wide enough cloth, to prevent vanes flying out.
- Push the stator downwards.
- Clean the stator from oil and place it securely.

10) Remove the vane assembly from shaft



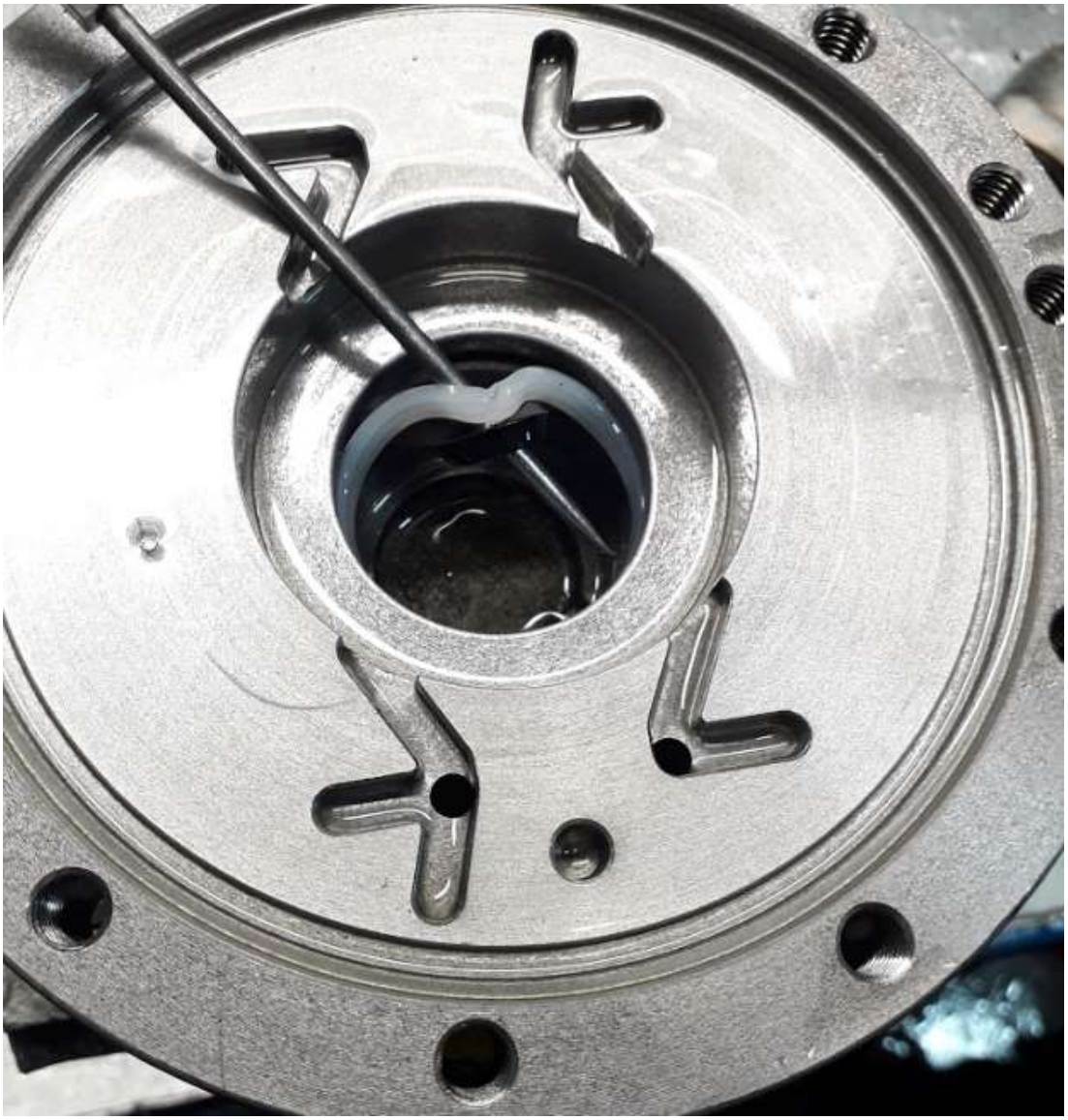
- Remove the vanes assembly from the shaft
- Clean the shaft and vanes from oil and place it safely.

11) Remove O-ring and lock pin from upper cover



- Take the O-ring and lock pin out from the upper cover.
- While removing the o-ring use the help of an O-ring puller.
- Care should be taken not to destroy the o-ring.

12) Remove the seal from Upper cover



- Pull seal out from the upper cover seal slot.
- Use a seal puller to pull out the seal.
- Care should be taken not to cause any damage to lower cover construction.

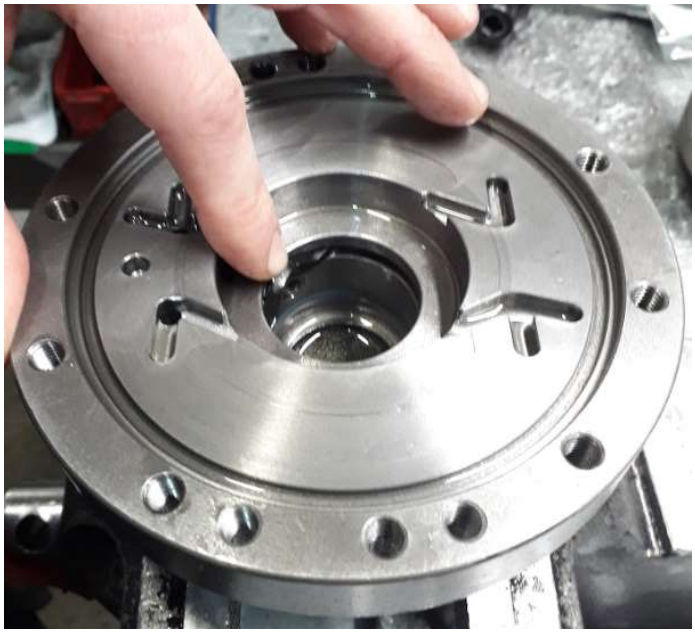
b) Assembling process

The process describes the systematic step by step method of installing all the parts to make a complete rotator.

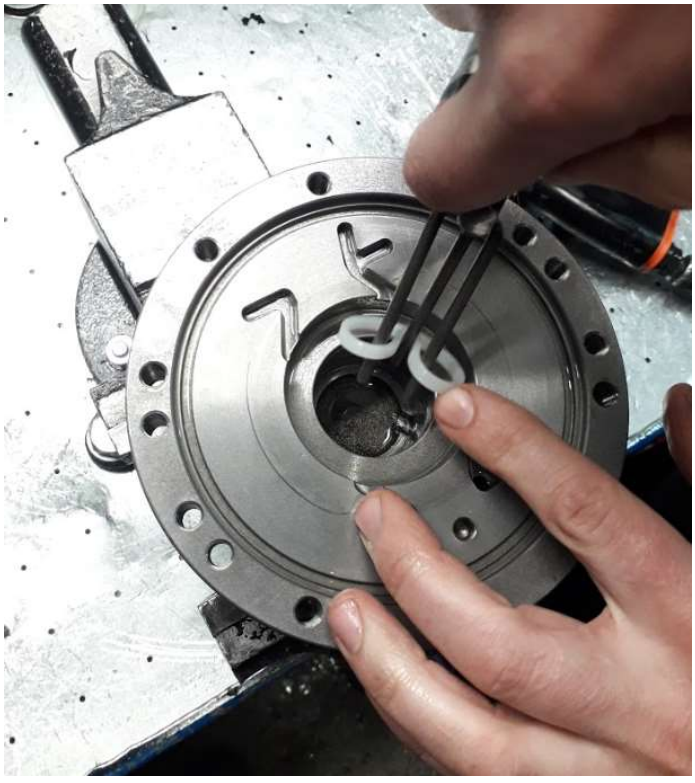
E

Shaft model rotator servicing guide

1) **Install new seal assembly into the upper cover**



- Install the NBR seal into the slot care full

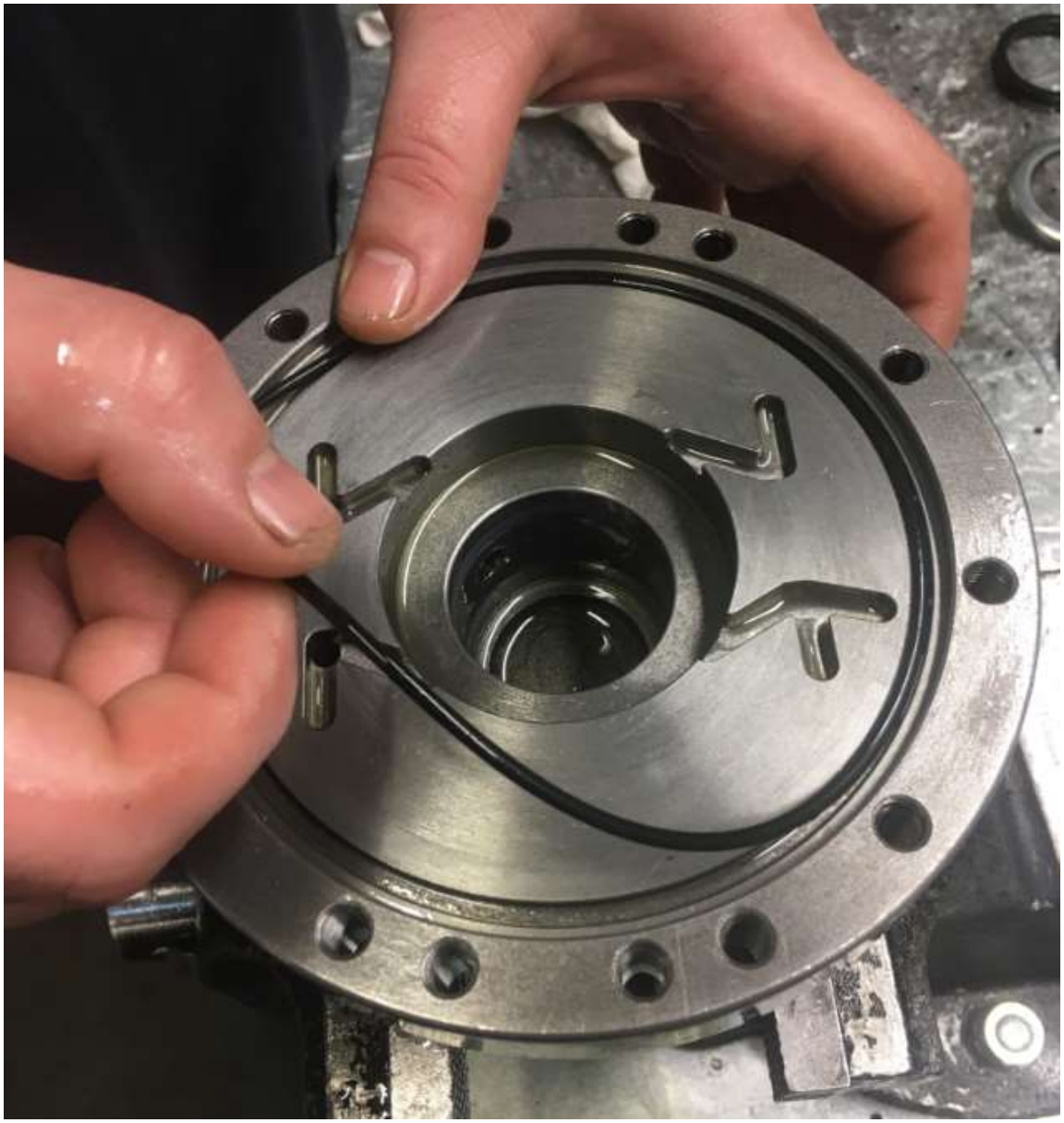


- With the help of a bending plier carefully instal PTFE profile into the same slot.



- Press the bended area of PTFE profile towards the walls of upper cover

2) Install O-ring and lock pin to the upper cover



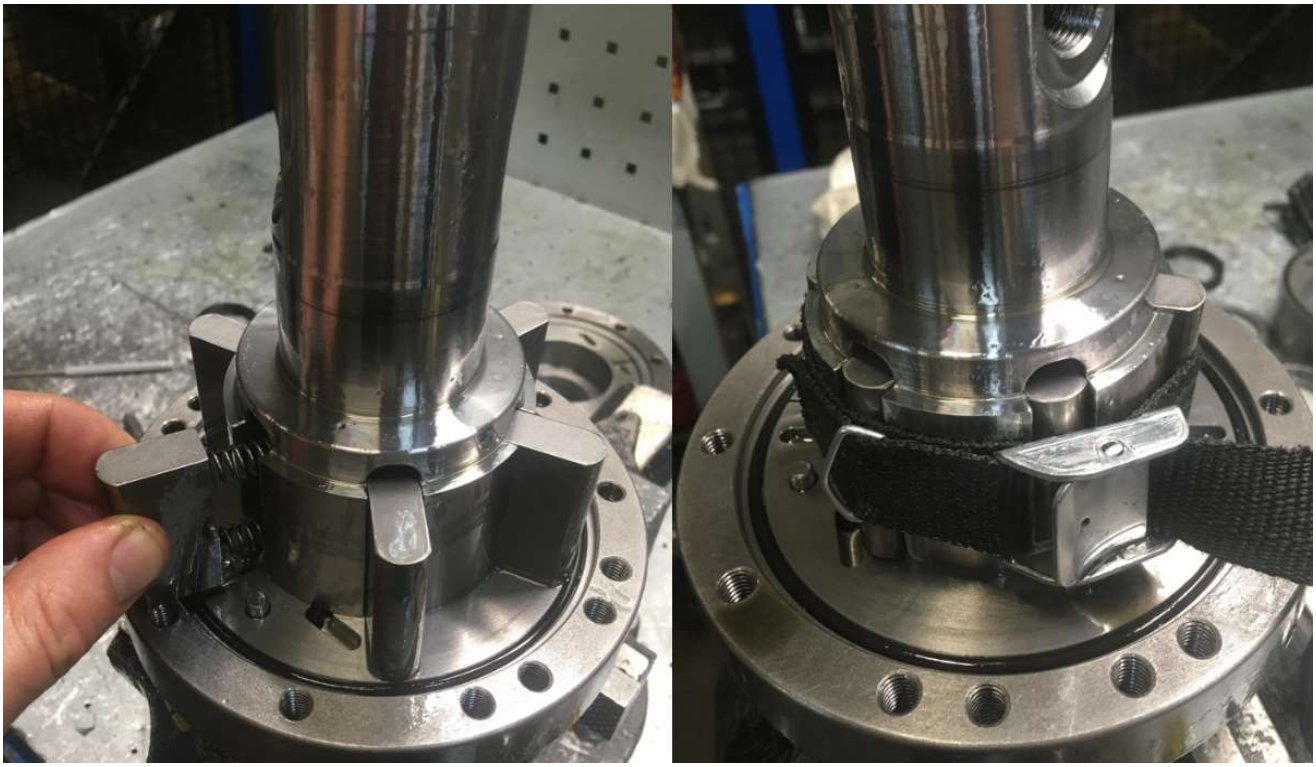
- Install the O-ring and lock pin to their respective slots on upper cover.
- Make sure they are placed accurately.

3) Install the shaft to the upper cover



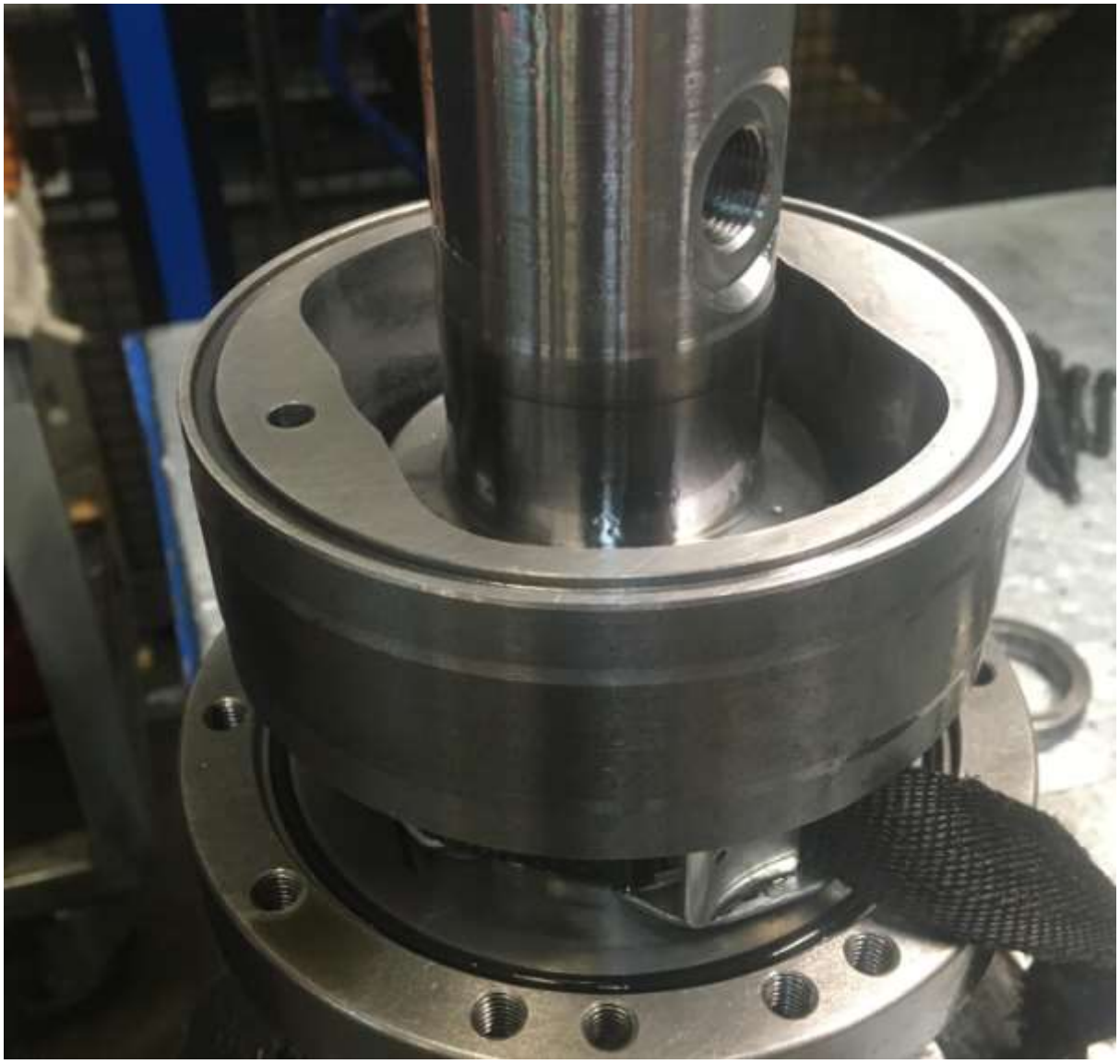
- Place the shaft into the upper cover.
- Hammer the shaft with a rubber hammer until it attains perfect seating in the upper cover.

4) Install vanes to the shaft



- Place the vane and spring assembly into the appropriate locations in the shaft.
- Compress the vanes closer to the shaft with the help of a belt.

5) Install stator over shaft assembly



- Slide down the stator on the shaft until it reaches half length of the assembled vane.
- Remove the belt from the assembly
- Slide the stator all the way down until it touches the upper cover.
- Make sure the lock pins get precisely aligned to the respective holes.

6) Install the O-ring and lock pins



- Install the O-ring and lock pins to the appropriate slots on the stator.

7) **Assemble the bearing assembly on to shaft**



- Install the bearing assembly on to the shaft
- push it all the way down until reaches the allotted position

8) Install the new seal assembly into the lower cover



- Install the NBR seal into the slot care full



- With the help of a bending plier carefully instal PTFE profile into the same slot.



- Press the bended area of PTFE profile towards the walls of upper cover

9) Install the lower cover on to the stator



- Install the lower cover on to the stator
- Make sure the lock pins get aligned into the allocated slots in lower cover.

10) Screw up the stud bolts



- Tighten up all the stud bolts to the prescribed torque value.
- Tightening the stud bolts should be carried out in a diagonal pattern.

Rotator series	Tightening torque (Nm)	Bolts
CR 100	40	M8
CR 300	40	M8
CR 400	81	M10
CR 500	81	M10
CR 600	125	M12

11) Add seal and gasket on to the shaft



- Install the Seal on to the shaft and push it to the allocated location.
- Install the gasket on to the shaft and push it to the allocated location.

12) Screw in the grapple channel connectors



- Use an appropriate spanner for screwing the grapple channel connectors.
- Care should be taken not to destroy the thread.