

Instruction

Cylinder repair guide

Revisions and changes

Rev:	Prepared by	Summary of changes
00	KKF	New document

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1 SCOPE

This instruction can be used for these toolkits / spare part repair kits:

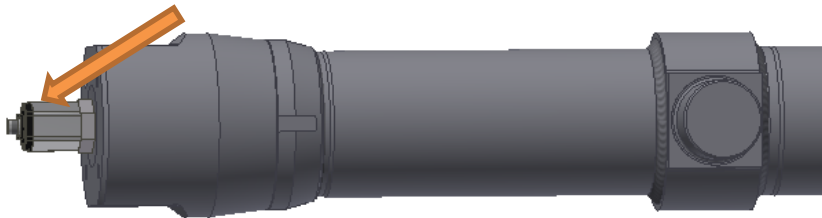
9515125	Toolkit 100/65 [VT20012344] 5056800; 5057235	
5201655L	Repair kit Light Sparepart Sales 100/ 65	For 5056800 (29079544)
5201655H	Repair kit Heavy Sparepart Sales 100/ 65	For 5056800 (29079545)
5202658L	Repair kit Light Sparepart Sales 100/ 65	For 5057235 (29061275)
5202658H	Repair kit Heavy Sparepart Sales 100/ 65	For 5057235 (29061275)
5202730H	Repair kit Heavy Sparepart Sales 100/ 65	For 5057266 (29079917)

2 DISASSEMBLY

Before disassembly, the system must be in safe mode, pressureless and the cylinder drained for oil. Prepare for oil collection when dismounting valve block, pipes, and cylinder enclosure.

2.1 POSITIONS SENSOR

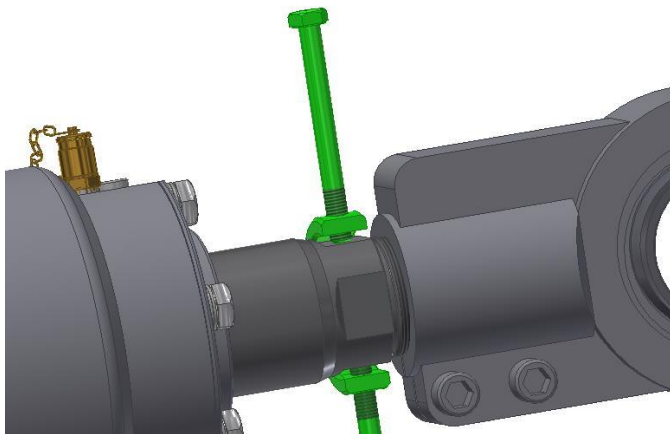
Unscrew and pull the position sensor out of the cylinder.



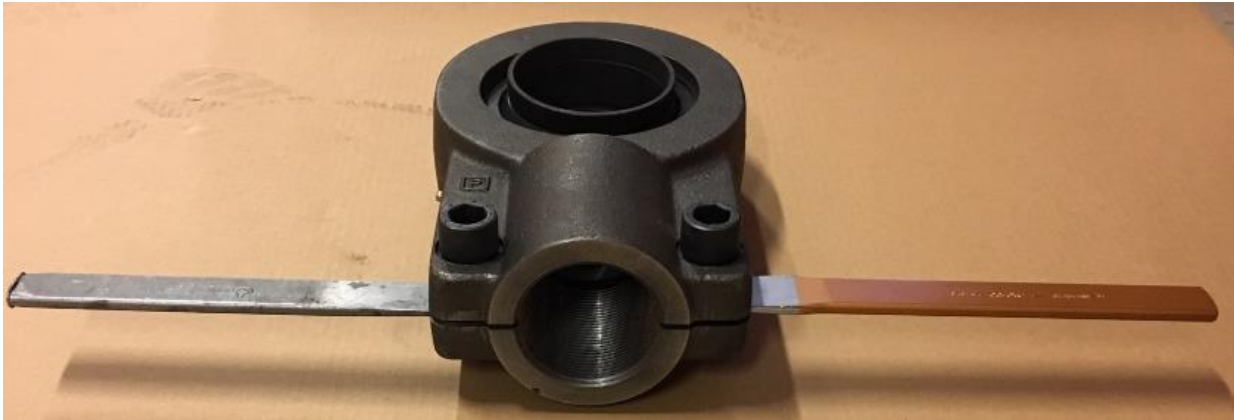
2.2 BEARING HEAD

2.2.1 Bearing head without pretension flange

Loosen all the bolts in the clamping bearing head and use the special spanner to unscrew rod from bearing head:



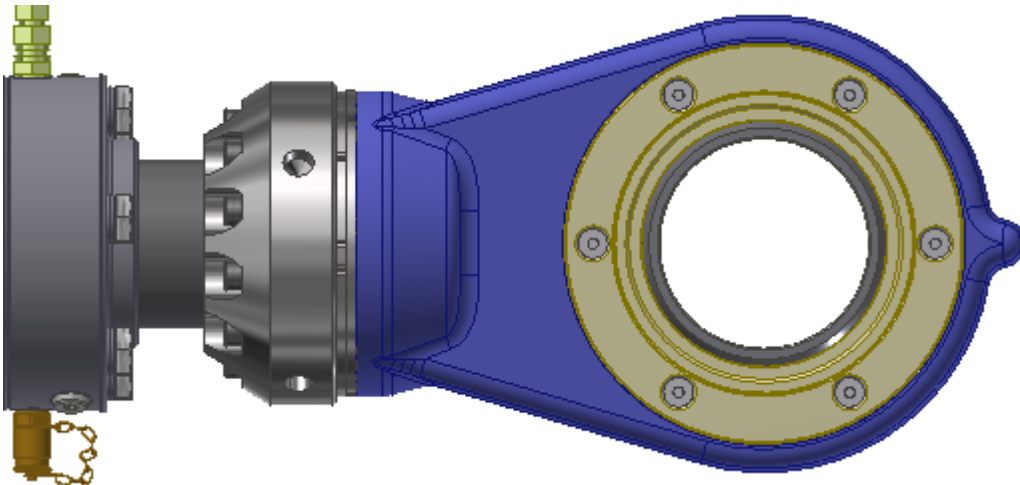
Widen out the clamping by mounting plate chisels in the slots on each side.



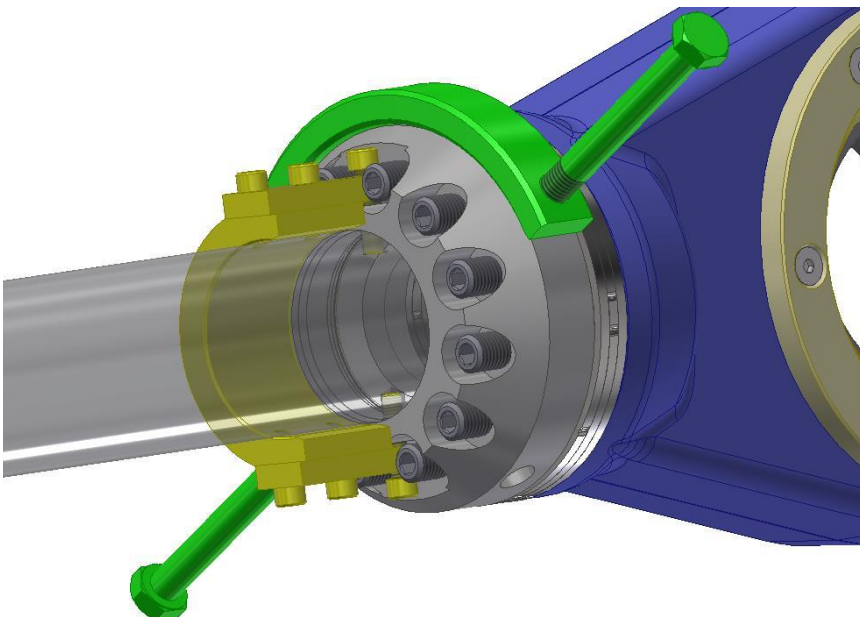
Unscrew rod from bearing head with the chisels still sitting in the slots.

2.2.2 Bearing head with pretension flange

Loosen all bolts in the pretension flange and rotate it to align holes in rod and flange. Then fix rod to flange with the "Flange lock" tool (yellow on illustration below).

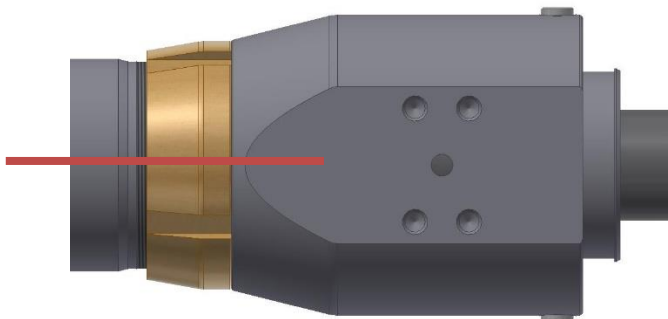


Use the special spanner to unscrew rod from bearing head.

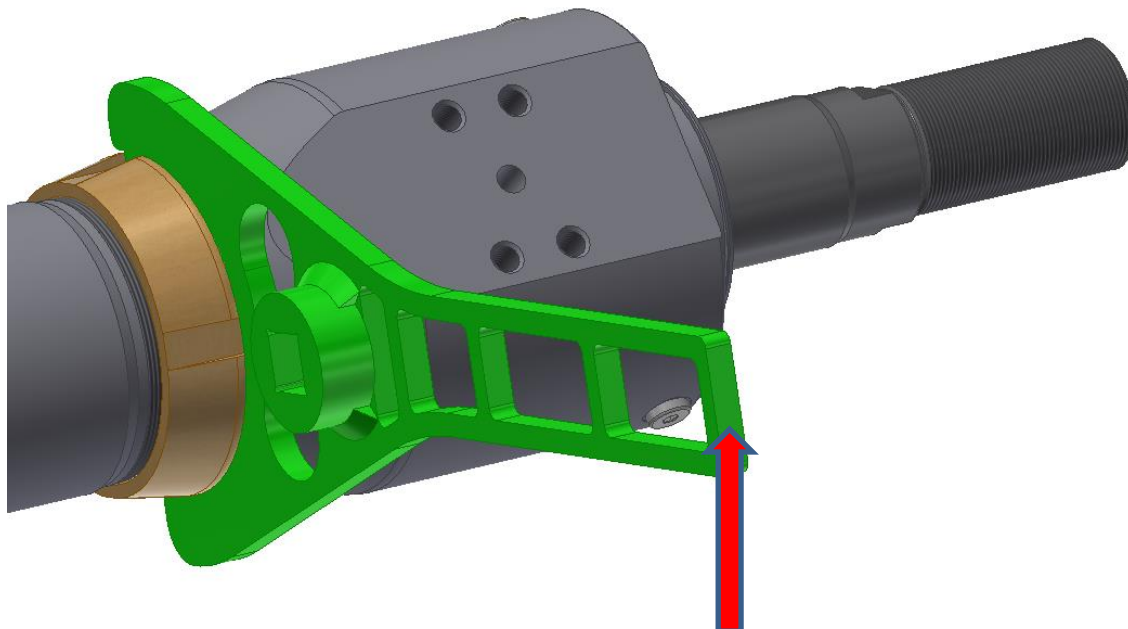


2.3 PRETENSIONED GLAND

MARK THE ANGULAR POSITION OF GLAND TO TUBE

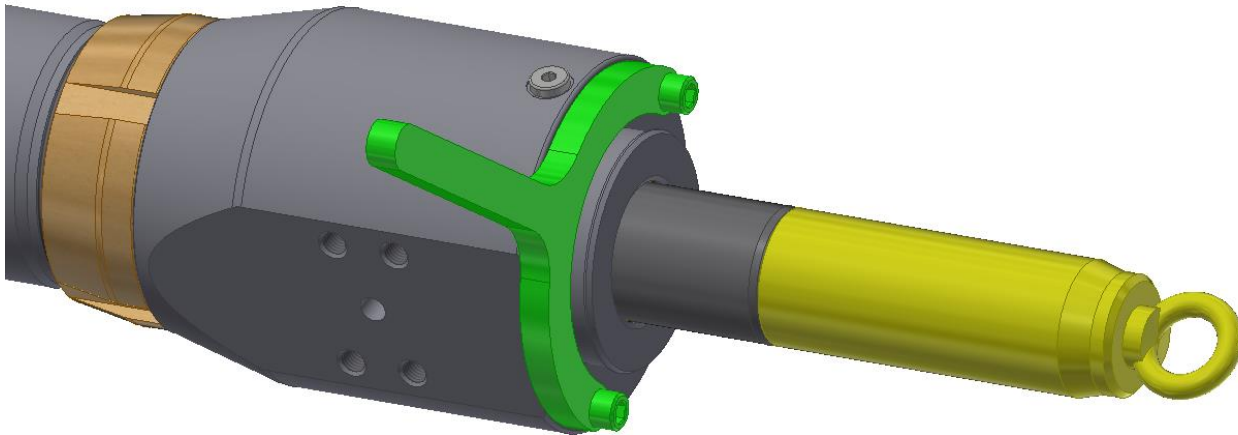


Loosening of the counter nut with the special spanner. (use ratchet or a sledgehammer).



2.3.1 Cylinder without pretensioned bearing head

When counternut is loose, screw the assembly bush(yellow) onto the rod end. Use the special spanner to unscrew the gland, as shown below.



Pull the rod with piston out of the tube.

If LIGHT repair kit:

Cut the piston seal with at Stanley knife. (be carefully not to damage the piston)

2.3.2 Cylinder with pretensioned bearing head

Pull complete gland with the rod out of the tube.

3 ASSEMBLY

Inspect tube inside for damages. Replace cylinder if scratched or worn out.

Oil/grease all seals/mating surfaces and threads before assembling.

Be careful with the cleanliness during assembly.

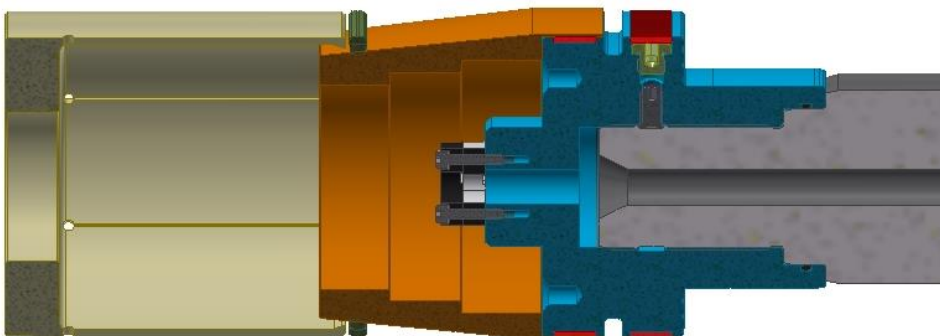
3.1 PISTON

Slide the piston with rod into the tube.

On heavy repair kits the piston seal is pre-mounted.

If LIGHT repair kit:

Mount new guide rings and piston seal. Use the piston assembly bush as shown below.



Mount calibration bushing over piston seal, and keep it there for more than 15 min.

3.2 GLAND PRETENSION

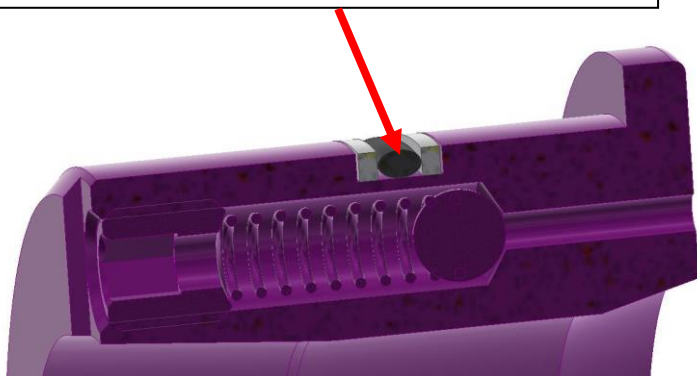
3.2.1 Cylinder without pretensioned bearing head

Change O-ring and support ring on the damping bush. (Note orientation)
(use assembly bush from toolkit)

Mount O-ring and white support ring on this groove.

**** Lubricate with OIL / GREASE ****

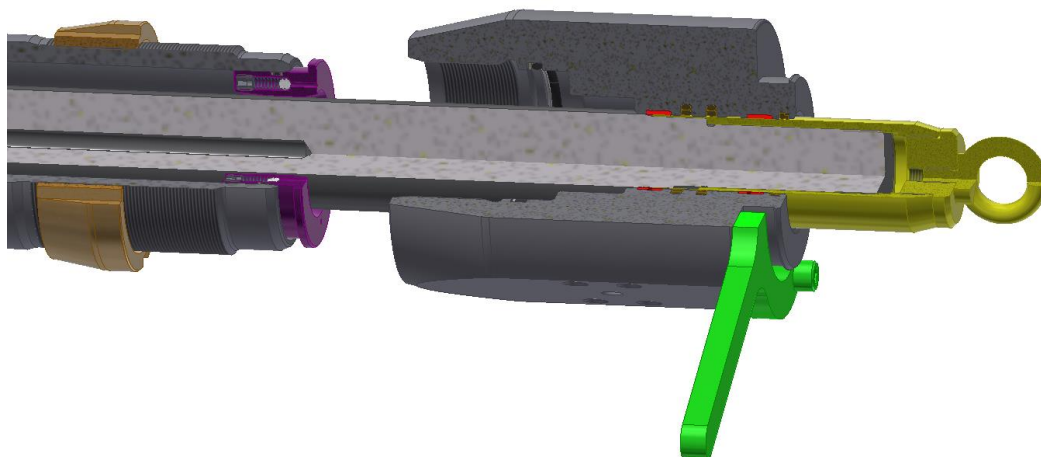
Rembert O-ring between the support rings.



Mount the damping bush in the tube.

Mount the new gland (with premounted seals).

Slide the gland with premounted seals over the rod end assembly bush, screw it on the tube all the way in.



3.2.2 Cylinder with pretensioned bearing head

Mount rod assembly with piston into the tube, screw it on the tube all the way in.

This section applies to 3.2.1 and 3.2.2

Then loosen until the orientation of the oil port is right. (marked before disassembly).

Use the special spanner to screw and tighten the counternut with approx. 1500 Nm.

The following formula has been used to calculate when you put an extension on a torque wrench:

$$M1 = M2 \times L1 / L2$$

Where:

M1 is the torque setting of the wrench

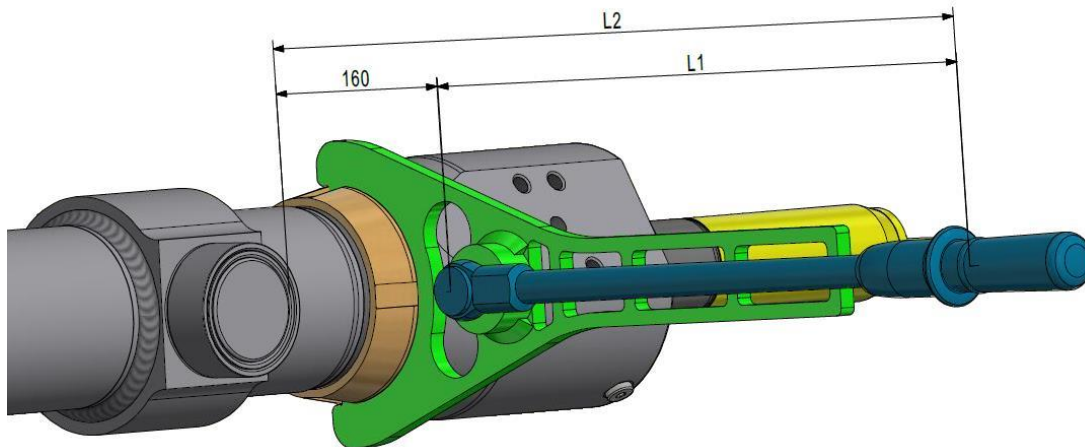
M2 is the actual torque applied to the nut

L1 is the normal length of the wrench

L2 is the extended length of the wrench

Use this formula to the counternut.

$$M1 = 1500 \times L1 / (L1 + 160)$$



[All as shown in section 2.3, just in reverse order.]

3.3 BEARING HEAD

3.3.1 Bearing head without pretension flange

Screw the bearing head on the rod end with the chisels still sitting in the slots.

Use tools show in section 2.2.1

Adjust it into position and remove the chisels.

Tighten all the clamping bolts.

3.3.2 Bearing head with pretension flange

Mont flange, screw and bearing head on the rod end.

Use tools show in section 2.2.2 and apply pretension.

3.4 POSITIONS SENSOR

Reinstall position sensor in cylinder. Tighten with 80 Nm

3.5 END ASSEMBLY / INSPECTION

Mount valveblock, pipes and all other disconnected parts.

Drive the cylinder full stroke a number of times without load, to bleed air out of the system.

Test the cylinder under full pressure and check for tightness.

4 TOOL KIT NO. 9515125 – VESTAS VT20012344

Reservedelsliste - Spare Part List - Ersatzteilliste

Pos.	Stk. Pcs. Stück	Vare nr. Item. no. Warennr.	Beskrivelse	Description	Beschreibung
10	1	5271872	Montagenøgle 150mm	Mounting key 150mm	Montageschlüssel 150mm
20	1	9597821	Montagebøsning f. Ø65mm Stang	Assembly bush f. Ø65 mm Rod	Montagebuchse f. Ø65 mm Stab
30	1	9597819	Montagebøsning f. Ø100 mm M-sko	Assembly bush f. Ø100 mm piston	Montagebuchse f. Ø100 mm Stempel
40	1	9597820	Nylon Montagebøsning f. Ø100 mm M-sko	Nylon Assembly bush f. Ø100 mm Piston	Nylon Montagebuchse f. Ø100 mm Kolben
50	1	31753	O-ring 5,7x 94,2	O-ring 5,7x 94,2	O-ring 5,7x 94,2
60	1	9597822	Kalibreringsbøsning Ø100	Calibration bushing Ø100	Kalibrering Buchse Ø100
70	1	9515167	Montagenøgle kontramøtrik 021-100	Mounting key Locking nut 021-100	Montageschlüssel Gegenmutter 021-100
80	1	9515149	Montagenøgle for flange (29082565)	Mounting key for flange (29082565)	Montageschlüssel Flansch (29082565)
90	1	9515166	Montagenøgle for AF=68	Mounting key for AF=68	Montageschlüssel für SW=68
100	1	9515165	Flangelås for (29082565) Ø80x50-PA6	Flange lock for (29082565) Ø80x50-PA6	Flanschsperr für (29082565) Ø80x50-PA6

