Indexator
Rotator Systems

Servicemanual

ROTATOR

XR 500
XR 500 C
XR 600
XR 600 C

IMPORTANT!
Read through the service manual carefully and make sure that you understand the content before starting the service.

www.indexator.com

1104850
2017-10-25

GENERAL

This service manual has been produced inhouse Indexator and can show the special tools and equipment that are used in the production. Alternative equipment can also be used.

Vi are contstantly improving our products and reserve the right to make design changes without introducing them on products that have already been delivered.The same applies to maintenance and other service operations.

The service manual contains instructions for repairing and maintaining your product for long life and faultless operation. Before starting repair work on the rotator, read through the manual thoroughly in order to understand its content. Casual or incorrect actions may result in serious or even life-threatening injury.

Servicing work may only be done by personnel familiar with Indexator products.
For major renovation work, trained personnel should be contacted.

SAFETY

In addition to the recommendations in this service manual, every country(nation) has its own safety regulations. If the recommendations in the manual differs from the regulations in your country, you must observe your national regulations.

Use the necessary safety equipment for the task, for example safety shoes, gloves, safety glasses and ear protection. Use gloves as protection against oil, grease and other noxious substances.



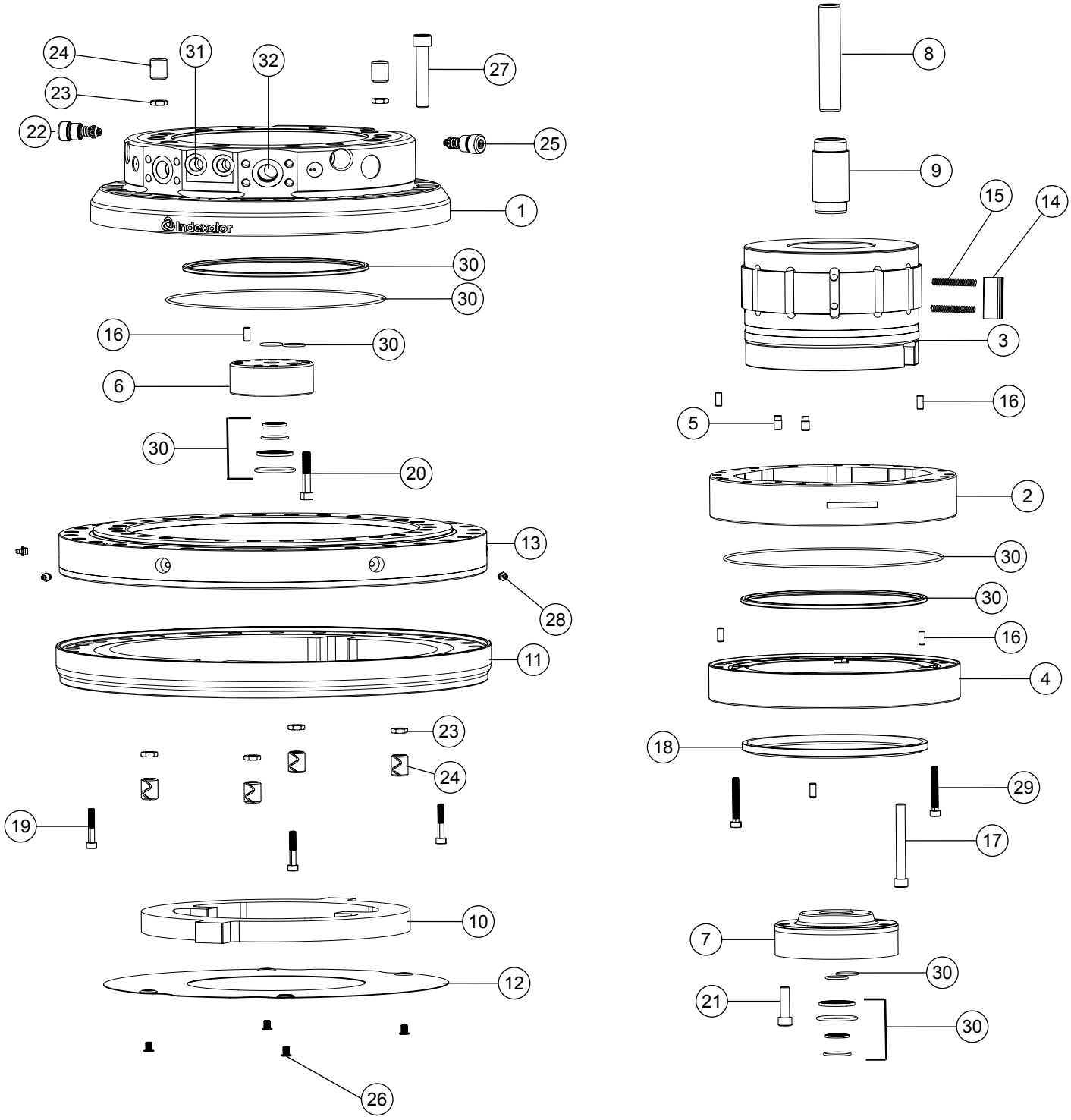
Description

XR is a compact rotator with grapple- and rotation function. C models has an extra function for central greasing. That function is describes as a notification ”only C model” in the servicemanual.

Components

The components referred to in the servicemanual.

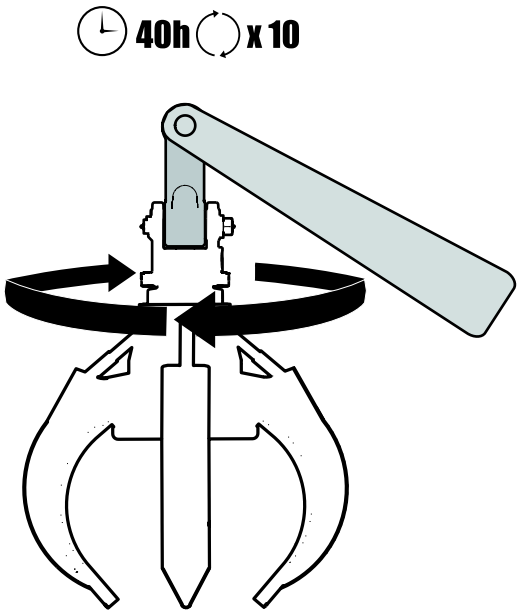
This is a XR 600.



Pos Fig	Detalj nr Part no	Ant Qty	Beskrivning	Description	Anm Notes	Åtdragn mom Torque
	8600 000		**Rotator XR 600**	**Rotator XR 600**	**Compl**	
1	8100 201R	1	Stator övre	Stator plate upper	Incl pos. 22, 25, 31, 32	
2	8100 222	1	Statorring	Stator frame		
3	8100 225	1	Rotor	Rotator shaft		
4	8100 207	1	Stator nedre	Stator plate lower		
5	8100 054	2	Käglor	Restrictors		
6	8100 078	1	Block svivel övre	Block upper		
7	8100 081	1	Block svivel nedre	Block lower		
8	8100 084	1	Rör svivel inre	Internal tube		
9	8100 053	1	Rör svivel yttre	Outer tube		
10	8100 099	1	Medbringare	Transmission		
11	8100 213R	1	Fästplatta	Lower link		
12	8100 093	1	Bottenplåt	Bottom plate		
13	8100 167R	1	Svängkranslager	Slewing bearing	Incl pos. 28	
14	8000 337	12	Vinge	Vane		
15	5006 030	24	Fjäder	Spring		
16	1019 900	6	Pinne	Solid pin	8x20	
17	1010 677	20	Skruv	Screw	M12x110	120 Nm
18	1074 715	1	Tätning avstrykare	Wiper seal		
19	1078 179	3	Skruv	Screw	M8x50	33 Nm
20	1074 541	9	Skruv	Screw	M10x60	60 Nm
21	1014 950	5	Skruv	Screw	M12x45	120 Nm
22	6002 565	2	Tryckbegr ventil	Relief valve	28 MPa	40 Nm
23	1074 574	6	Mutter	Nut	M12	
24	1066 851	6	Pinne	Tubular pin	22x30	
25	1078 914	2	Tryckbegr ventil	Relief valve	38 MPa	60 Nm
26	1070 556	4	Skruv	Screw	M8x12	
27	1008 069	30	Skruv	Screw	M16x90	333 Nm
28	1018 258	6	Smörjnippel	Grease nipple	M8x1	
29	1070 861	2	Skruv	Screw	M8x65	33 Nm
30	**6002 465**	**1**	**Tätningssats**	**Seal kit**	**XR500/XR600**	
31	5001 384	2	Propp	Plug	G1/2	
32	5001 385	2	Propp	Plug	G3/4	

To prolong the lifetime:

Every 40 hours rotate 10 rounds.



Recommended tools

PART NO	DESCRIPTION	QTY	
1077 106	Glide seal remover	1 pcs	

Contents

This servicemanual describes:

Changing seals

Put the rotator upside down and remove the manifold block.

1

Remove the manifold block by loosen 5 pcs of M12 screws.

2

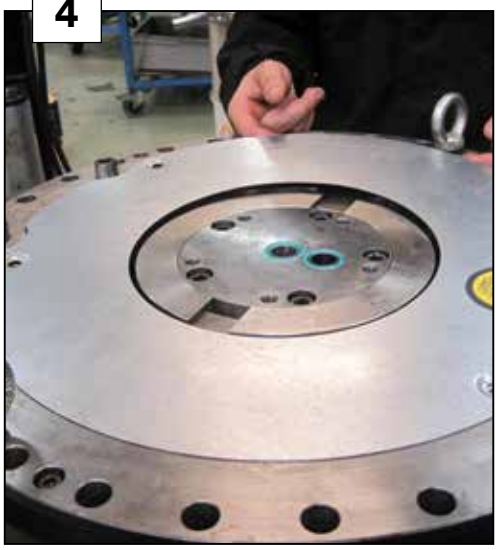
WARNING! If the rotator is normally positioned the transmision can fall down if the bottom plate is loosened!

Remove the bottom plate by loosen 4 pcs of M8x12 screws.

3

Lift up the bottom plate.

4



Lift up the transmission.
Newer versions of transmission has two M10 holes.
Use 2 pcs of M10 screws to create a good grip and prevent any risk of injury.

NOTE! Risk of injury!

5

Remove 5 pcs of M12x45 screws in block lower.

6

LIft up block lower.

7

Remove the outer tube.

Remove the internal tube.

8

Remove 20 pcs of M12x110 screws to loosen the motor part.

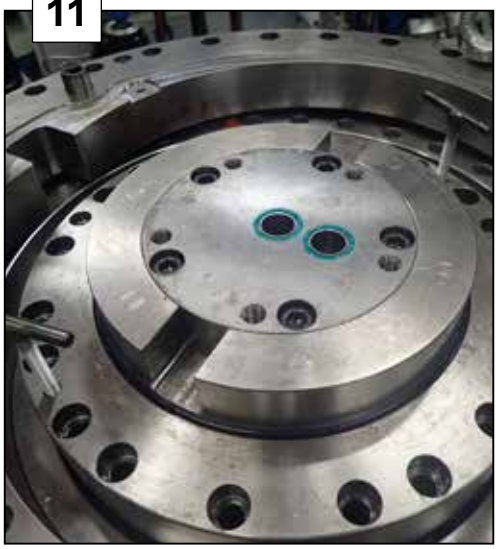
9

Remove 2 pcs of M8x65 screws - holding the motor parts together.

10

Remove stator plate lower.
Assemble 2 pcs of M8 screws, with the total thread length 85 mm. That will lift the stator lower plate from the stator frame.

11



Remove the stator plate lower.

12

If needed remove the wiper seal (only if it has a damage).
The wiper seal is ordered separately, is not part of the seal kit.
The wiper seal is only for XR500 and XR600
(not for c-models).

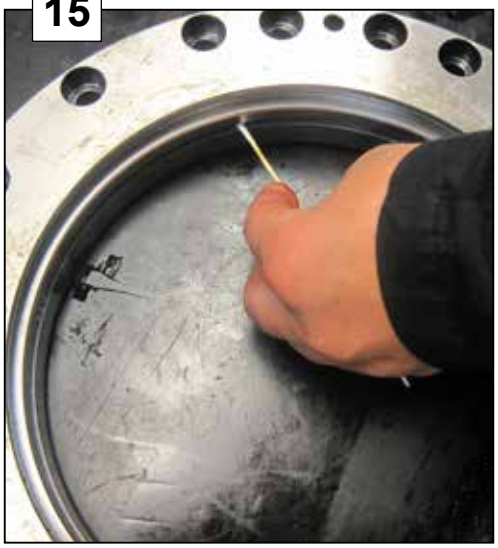
13

Remove the seal in stator plate lower.

14

Clean the seal seat thoroughly, using cotton buds and oil for example.

15

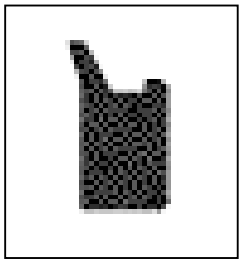


Assemble a new seal.

16

Assemble a new wiper seal (not for c-models).

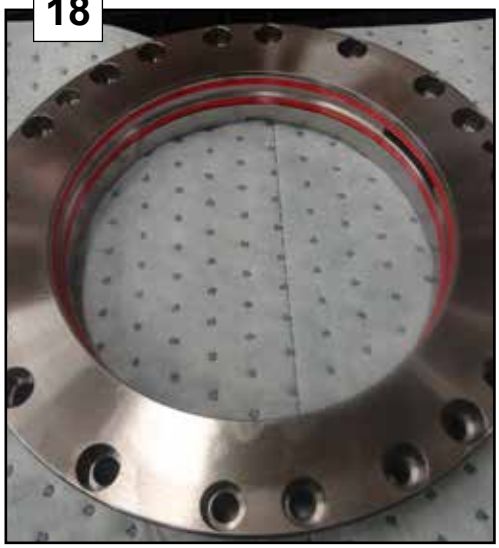
17



Only for C model.

Remove 2 pcs of seals in stator plate lower, clean the seal seats and assemble new seals.

18



Grease the seals on the inside surface.

19

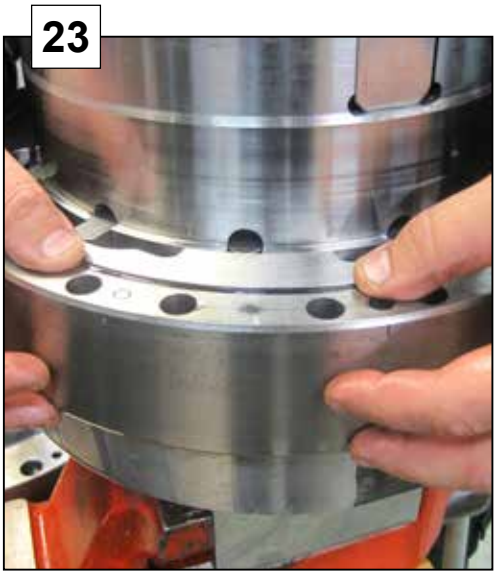
Remove the o-ring from the stator frame.

20

Clean the seal seat.

Lubricate the seal seat with oil.

Assemble a new o-ring.



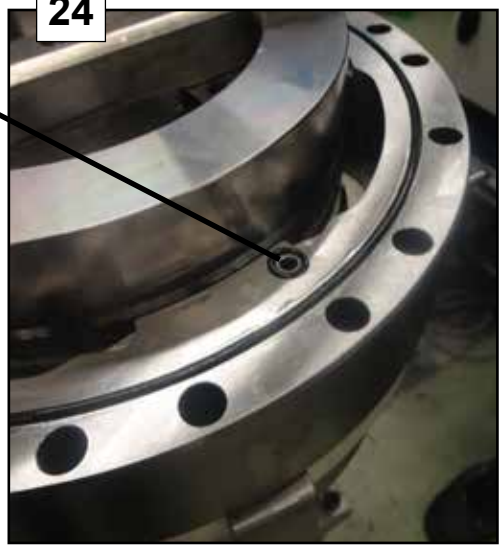
Only for C-model.

Remove the o-ring for the C-channel.

Clean the seal seat.

Assemble a new o-ring.

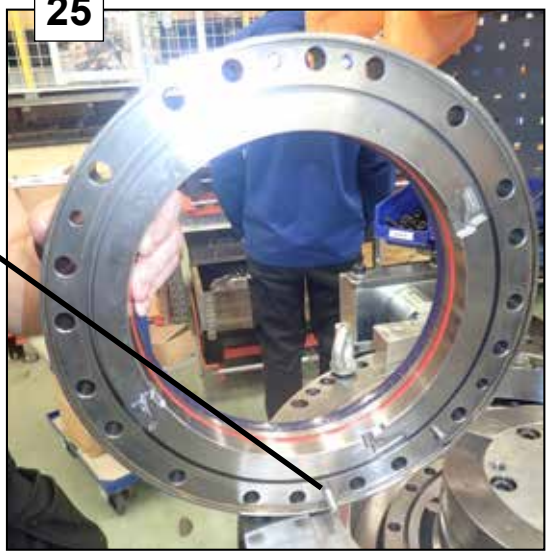
24



Assemble stator plate lower on the motor part.

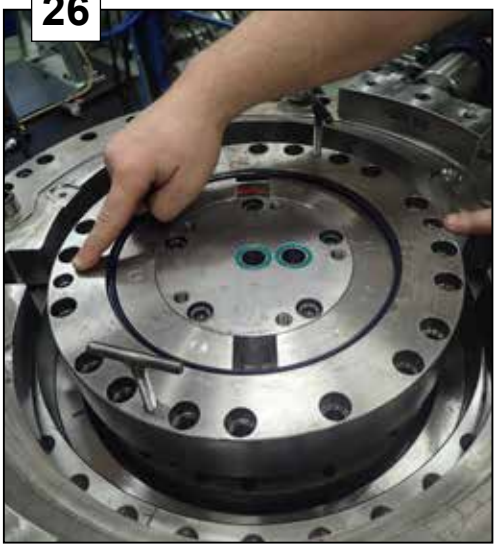
Assemble 2 pcs of M8 screws with total thread length of 85 mm. Make sure that they do not go through the part on the back side.

25



Make sure that the holes in stator plate lower aligns with the two holes for M8x65 screws in the stator frame.

26



Knock - with care - the stator plate lower the whole way down with a plastic mallet.

27

Stator plate lower is in the end position when the wiper seal is visible.

28

Assemble 2 pcs of M8x65 screws holding the motor parts together.
Torque 33 Nm.

29

Disassamble the plugs/fittings from the grapple- and rotation inlets. That will make it easier to lift the motor off.

30

Lift the motor off from stator upper.
If needed knock carefully with a plastic mallet on the lower link to release the vacuum.

31

Remove the o-ring in stator upper.

32

Clean the seal seat.

33

Assemble a new o-ring.

34

Remove the seal in stator upper.

35

Clean the seal seat.

Assemble a new seal.

Only for C model.

Remove the o-ring for the c-channel in stator upper.

Clean the seal seat.

Assemble a new o-ring.

Clean stator upper from oil to make the assembly of the motor possible.

39

Remove the block upper by loosen 9 pcs of M10x60 screws.

40

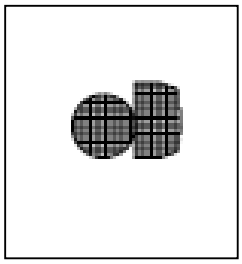
Remove the seals in the block upper.
1 pcs of glide seal Ø42 and inside of that 1 pcs of o-ring Ø47.

41

1 pcs of glyde seal Ø28 and inside of that 1 pcs of o-ring Ø31.

42

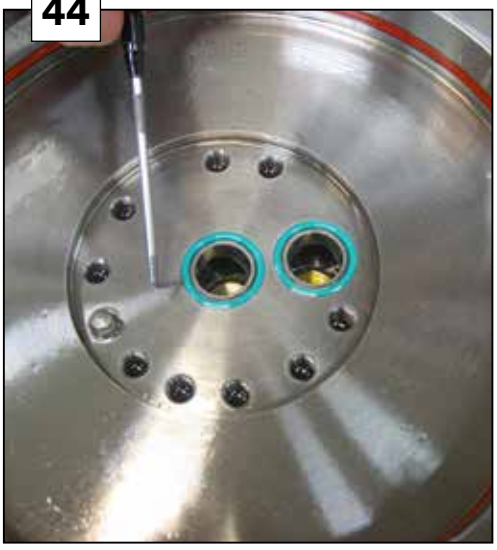
Clean the seal seats and assemble new seals.
1 pcs of o-ring Ø31 and - outside of that - 1 pcs of glyde seal Ø28.
1 pcs of o-ring Ø47 and - outside of that - 1 pcs of glyde seal Ø42.



43

Remove 2 pcs of o-rings at the grapple channels in stator upper.
Clean the seal seats and assemble new o-rings.

44



Assemble the block upper in the stator upper.

Note the positions of the dowel pins.

The block is pressed down by hand.

45

Assemble 9 pcs of M10x60 in block upper.
Crosswise tightening to a torque of 60 Nm.

46

Assemble the motor.
Clean the motor from oil to make the assembly possible.

47

Note the positions of the rotation channels in the stator frame.

48

Note the positions of the rotation channels in the stator upper.
They shall align when assembling the motor part.
Otherwise rotation is not possible.

49

To make the reassembly of the motor easier, make a mark on the outside of the stator frame where the dowel pins are positioned.

50

Knock the motor down carefully.

51

Assemble the motor.
Tighten the first 4 pcs of M12x110 crosswise.
The other 16 pcs of M12x110 can be tightened one by one.
Torque 120 Nm.

52

Grease the outer tube.

53

Press down the outer tube by hand till a ”click” sound can be heard.

54

Grease the internal tube.

55

Assemble the internal tube inside of the outer tube.
Press down the internal tube by hand till a ”click” sound can be heard.

56

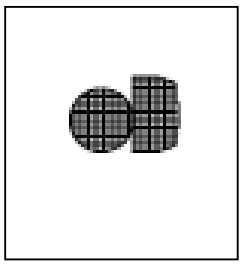
Grease the edges of the outer tube and the internal tube.

57

Only for C model.
Remove the o-ring for the c-channel on the rotator shaft.
Clean the seal seat and assemble a new o-ring.

58

Remove the seals in block lower.
Clean the seal seats and assemble new seals.
1 pcs of o-ring Ø47 and outside of that 1 pcs of glyde seal Ø42.
1 pcs of o-ring Ø31 and outside of that 1 pcs of glyde seal Ø28.



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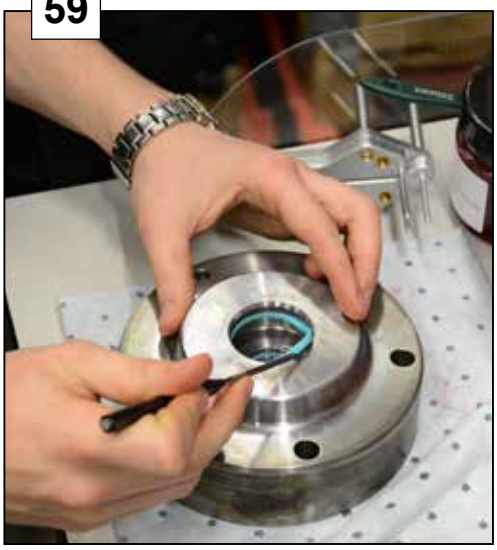


Make a mark on the outside of the rotator shaft and the block lower where the dowel pins are positioned.
The block lower is in the end position when the upper surface has the same level as the surface of the rotator shaft.

60

Assemble 5 pcs of M12x45 screws.
Crosswise tightening to a torque of 120 Nm.

61

Remove 2 pcs of o-rings on the block lower.
Clean the seal seats.
Assemble new o-rings.

62

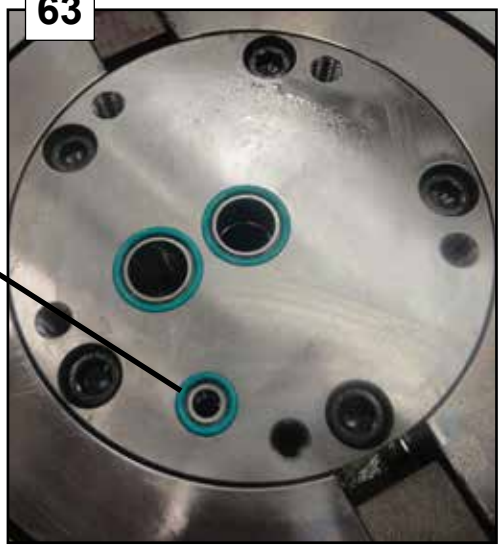
Only for C model.

Remove 1 pcs of o-ring for the c-channel.

Clean the seal seat.

Assemble a new o-ring.

63



If needed grease the recesses for the transmission in the lower link.

64

Grease the recesses for the transmission on the rotator shaft.

65

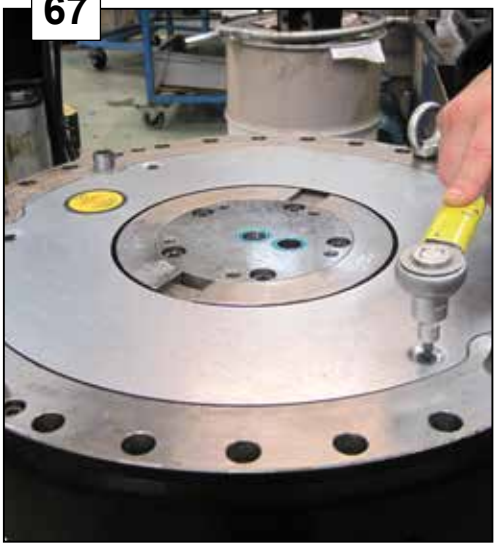
Assemble the transmission.
Use 2 pcs of M10 screws to create a good grip and prevent any risk of injury.
Or place the transmission beside the recesses on the lower link. Turn the bearing so the transmission get the correct position.

NOTE! Risk of injury!

66

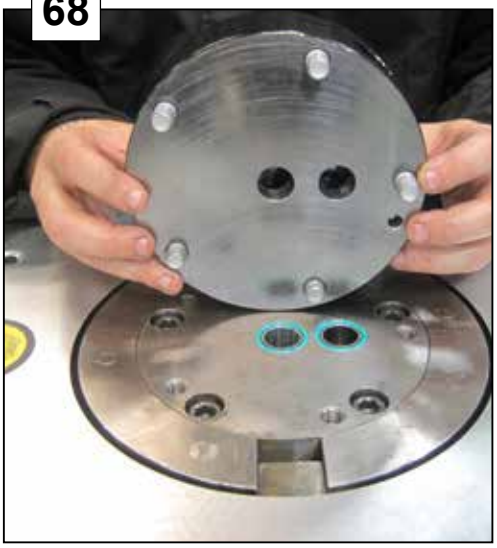
Assemble the bottom plate with 4 pcs of M8x12 screws to a torque of 16 Nm.

67



Make sure the grapple channels in the manifold block aligns with the channels in block lower.

68



Assemble the manifold block with 6 pcs of M12 screws to a torque of 120 Nm.

69

Test of the rotator function.
Attach the rotation ports (R, R) in stator upper to a hydraulic powerpack.
Run for 20 seconds in each direction.

Maximum oil flow: 40 l/min

70

Pressure test of the grapple function.
NOTE! The grapple outlets (G, G0) on the manifold block have to be sealed by steel plugs before testing!

Attach the grapple port G (grapple close) in stator upper to a hydraulic powerpack. Let port GO (grapple open) be open. No leakage and the seals are okey.
Pressurize to 20 MPa for 20 seconds.

71

NOTE! The grapple outlets (G, G0) on the manifold block have to be sealed by steel plugs before testing!

Attach the grapple port GO (grapple open) in stator upper to a hydraulic powerpack. Let port G (grapple close) be open. No leakage and the seals are okey. Pressurize to 20 MPa for 20 seconds.

72

Changing bearing

Put the rotator upside down and remove the manifold block.

73

Remove the manifold block by loosen 5 pcs of M12 screws.

74

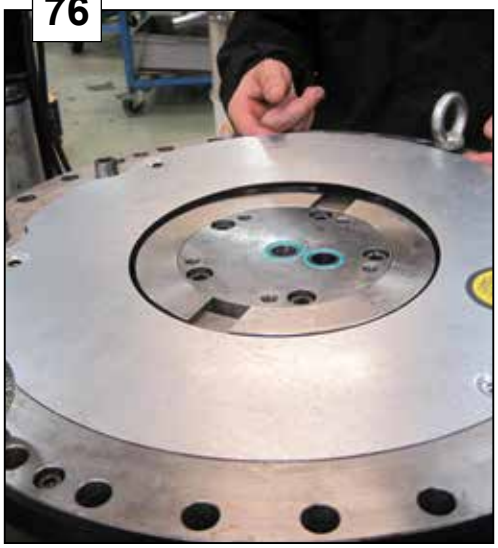
WARNING! If the rotator is normally positioned the transmision can fall down if the bottom plate is loosened!

Remove the bottom plate by loosen 4 pcs of M8x12 screws.

75

Lift up the bottom plate.

76



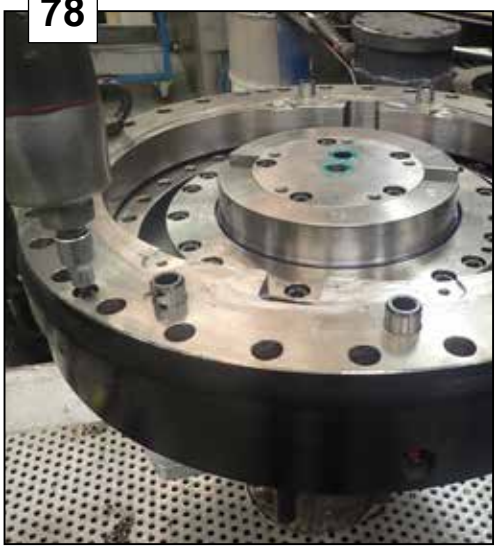
Lift up the transmission.
Newer versions of transmission has two M10 holes.
Use 2 pcs of M10 screws to create a good grip and prevent any risk of injury.

NOTE! Risk of injury!

77

Remove 3 pcs of M8x50 screws in the lower link.

78



Lift up the lower link.

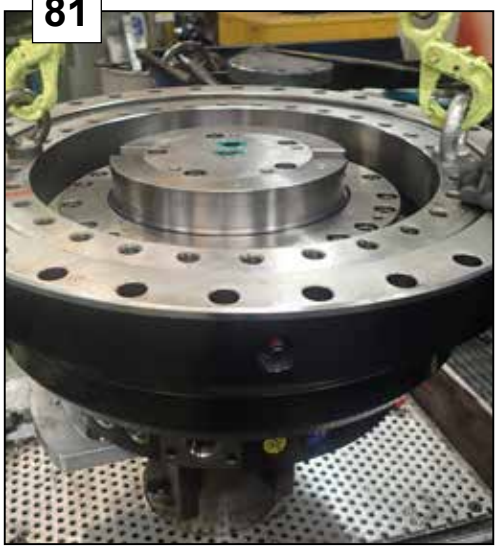
79

Remove the 20 pcs of M12x110 screws from the slewing bearing.

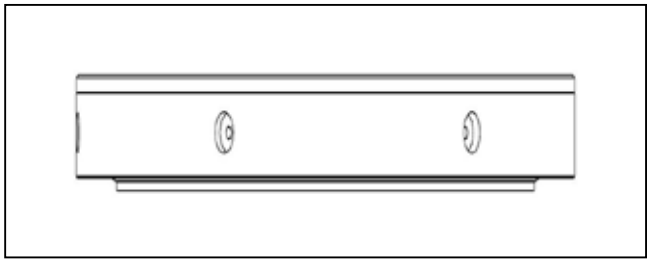
80

Lift the slewing bearing.

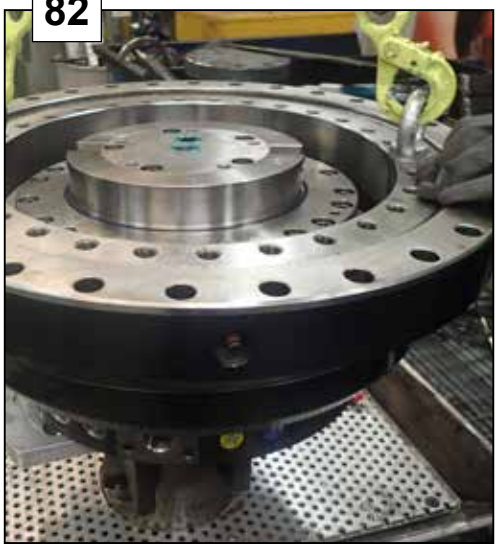
81



Assemble a new slewing bearing.
NOTE!
The guiding edge of the bearing shall be positioned towards the stator upper.



82



Assemble the 20 pcs of M12x110 screws in the slewing bearing.
Torque 120 Nm.

83

Assemble the lower link.

84

Assemble 3 pcs of M8x50 in the lower link.
Torque 33 Nm.

85

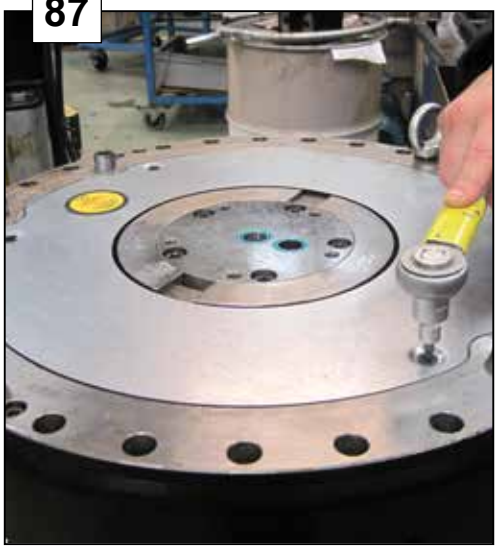
Assemble the transmission.
Use 2 pcs of M10 screws to create a good grip and prevent any risk of injury.
Or place the transmission beside the recesses on the lower link. Turn the bearing so the transmission get the correct position.

NOTE! Risk of injury!

86

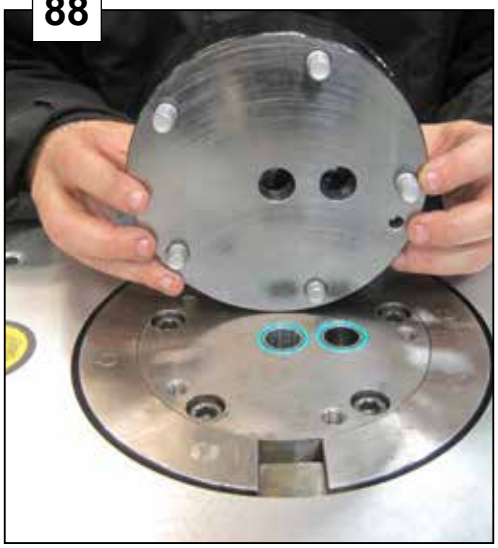
Assemble the bottom plate with 4 pcs of M8x12 screws to a torque of 16 Nm.

87



Make sure the grapple channels in the manifold block aligns with the channels in block lower.

88

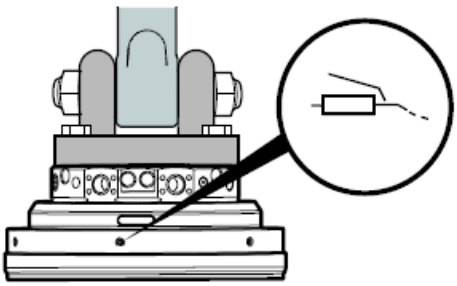


Assemble the manifold block with 6 pcs of M12 screws to a torque of 120 Nm.

89

Fill the bearing with grease using all 6 pcs of grease nipples on the slewing bearing.

90



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