

**PARTS & SERVICE NEWS**

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DATE

22<sup>nd</sup> July 2003

(C)

Page 1 of 25

This PARTS & SERVICE NEWS supersedes the previous issue AH03509 which should be discarded.

**SUB JECT:** Slew gear GFB 174 E 9017 (Part No. 917 915 40)

**PURPOSE:** Modification to slew gear GFB 174 E 9020 (Part No. 924 32540) including exchanging the sun gear shaft

**APPLICATION:** PC8000 (12037 – 39); PC5500 (15012 – 15017); PC4000 (08151); PC3000 (06194)

**FAILURE CODE:** 2600Z9

**DESCRIPTION:**

**General**

In order to increase the lifetime of the parking brake discs the swing gear oil filling capacity should be reduced by approximately 20 liters. The new filling capacity is approx. 42 liters.

The present oil level gauge on the gear can no longer be used for checking the oil level.

There are two possibilities to modify the oil level checking system.

For increasing the lifetime of the slew gear the sun gear shaft should be changed during the slew gear modification.

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**1. Modification Kits**

**1.0 One new gear shaft is required for one slew gear**

**(Part No. 757 360 73 – differences to the old sun gear shaft: refer to illustration 6)**

**1.1 Kits for modification of the slew gear(s) according to Variant (A)**

**1.1.1 PC3000-1 Part No.: 794 016 73**

Pos.	Part-No.	Qty.	Description	Illustration
1	79227073	1	Cover/brake assy.	3
15	37441299	4	Socket	6
16	90635240	4	Cutting ring	6
17	37126599	4	Union nut	6
14	92582540	4	Oil level gauge tube	6
18	31318499	4	Plug	6
1	90756840	1	Oil level gauge	6
20	92582940	1	Oil level gauge bracket	6
1	972111	1	O-ring	2
2	50774898	1	O-ring	2

**1.1.2 PC4000-6 Part No.: 794 017 73**

Pos.	Part-No.	Qty.	Description	Illustration
1	79227073	2	Cover/brake assy.	3
15	37441299	12	Socket	6
16	90635240	12	Cutting ring	6
17	37126599	12	Union nut	6
14	92582540	12	Oil level gauge tube	6
18	31318499	12	Plug	6
19	90756840	2	Oil level gauge	6
20	92582940	2	Oil level gauge bracket	6
1	972111	2	O-ring	2
2	50774898	2	O-ring	2

(Cover plates must be adapted.)

## 1.1.3 PC5500 Part No.: 794 018 73

Pos.	Part-No.	Qty.	Description	Illustration
1	79227073	2	Cover/brake assy.	3
15	37441299	10	Socket	6
16	90635240	10	Cutting ring	6
17	37126599	10	Union nut	6
14	92582440	10	Oil level gauge tube	6
18	31318499	10	Plug	6
19	90756940	1	Oil level gauge	6
20	92582840	1	Oil level gauge bracket	6
1	972111	2	O-ring	2
2	50774898	2	O-ring	2

## 1.1.4 PC8000 Part No.: 794 019 73

Pos.	Part-No.	Qty.	Description	Illustration
1	79227073	3	Cover/brake assy	3
15	37441299	14	Socket	6
16	90635240	14	Cutting ring	6
17	37126599	14	Union nut	6
14	92582440	14	Oil level gauge tube	6
18	31318499	14	Plug	6
19	90756940	2	Oil level gauge	6
20	92582840	2	Oil level gauge bracket	6
1	972111	3	O-ring	2
2	50774898	3	O-ring	2
1	92583240	1	Cover plate	-
1	92583140	1	Cover plate	-

## 1.2 Kits for modification of the slew gear(s) according to Variant (B)

### 1.2.1 PC3000-1 Part No.: 794 020 73

Pos.	Part-No.	Qty.	Description	Illustration
15	37441299	4	Socket	6
16	90635240	4	Cutting ring	6
17	37126599	4	Union nut	6
14	92582540	4	Oil level gauge tube	6
18	31318499	4	Plug	6
19	90756840	1	Oil level gauge	6
20	92582940	1	Oil level gauge bracket	6
99	33132299	1	Plug	4
504	79224973	1	Disc (thickness: 8.5 <sup>-0.1</sup> mm)	4
1; 3; 4	972111	3	O-ring	2
2	50774898	1	O-ring	2

### 1.2.2 PC4000 Part No.: 794 021 73

Pos.	Part-No.	Qty.	Description	Illustration
15	37441299	12	Socket	6
16	90635240	12	Cutting ring	6
17	37126599	12	Union nut	6
14	92582540	2	Oil level gauge tube	6
18	31318499	2	Plug	6
19	90756840	2	Oil level gauge	6
20	92582940	2	Oil level gauge bracket	6
99	33132299	2	Plug	4
504	79224973	2	Disc (thickness: 8.5 <sup>-0.1</sup> mm)	4
1; 3; 4	972111	6	O-ring	2
2	50774898	2	O-ring	2

(Cover plates must be adapted.)

## 1.2.3 PC5500 Part No.: 794 022 73

Pos.	Part-No.	Qty.	Description	Illustration
15	37441299	10	Socket	6
16	90635240	10	Cutting ring	6
17	37126599	10	Union nut	6
14	92582440	10	Oil level gauge tube	6
18	31318499	10	Plug	6
19	90756940	1	Oil level gauge	6
20	92582840	1	Oil level gauge bracket	6
99	33132299	2	Plug	4
504	79224973	2	Disc (thickness: 8.5 <sup>-0.1</sup> mm)	4
1; 3; 4	972111	6	O-ring	2
2	50774898	2	O-ring	2

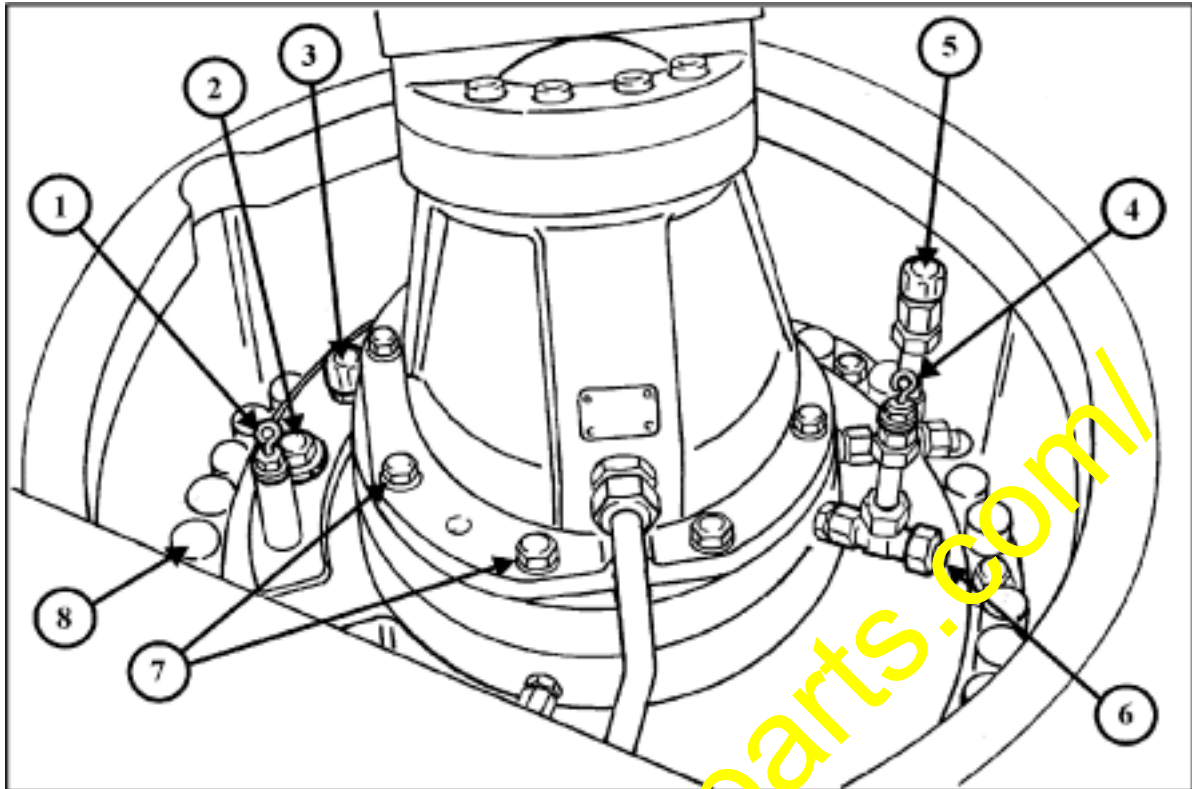
## 1.2.4 PC8000 Part No.: 794 023 73

Pos.	Part-No.	Qty.	Description	Illustration
15	37441299	14	Socket	6
16	90635240	14	Cutting ring	6
17	37126599	14	Union nut	6
14	92582440	14	Oil level gauge tube	6
18	31318499	4	Plug	6
19	90756940	2	Oil level gauge	6
20	92582840	2	Oil level gauge bracket	6
99	33132299	3	Plug	4
504	79224973	3	Disc (thickness: 8.5 <sup>-0.1</sup> mm)	4
1; 3; 4	972111	9	O-ring	2
2	50774898	3	O-ring	2
1	92583240	1	Cover plate	-
1	92583140	1	Cover plate	-

## 2. Variant (A) – Modification by replacing of the swing gear cover with the complete parking brake unit

1. Prepare the swing gear cover as described on page 23.
2. Drain the motor adapter housing (about 0.6l oil).
3. Remove the 8 bolts (7) M16 mm at the hydraulic motor (refer to illustration 1).
4. Remove the motor with connected hoses and place it beside or if this is not possible, disconnect the hydraulic lines and close the ports.
5. Remove the 34 gearbox fastening bolts (8) M24 and the 8 mounting screws (8) M16 from the gear box.
6. Install 2 eye bolts M16 and lift the gearbox cover with the brake unit.
7. Replace the sun gear shaft (5) (refer to illustration 2).
8. Install the new Cover-Brake-Unit by using a new O-ring.
9. Modify the Swing gear type on the type plate  
old: GFB 174 E9017 to  
new: GFB 174 E9020 with punch marks.
10. Reinstall the hydraulic motor with the brake valve block by using a new O-ring.
11. Fill the motor adapter housing with oil according to the Maintenance Manual.
12. Weld on the oil level gauge brackets (20) on the hydraulic oil reservoir carrier and if so planed a second one onto the machinery house wall.
13. Insert the attached oil level gauges (19) into the brackets.
14. Check the oil level in the swing gear as described on page 25.

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**Illustration 1 – before modification**

- 1 Oil level gauge swing machinery
- 2 Oil filler plug swing machinery
- 3 Breather filter swing machinery
- 4 Oil level gauge motor adapter housing
- 5 Breather filter motor adapter housing
- 6 Oil drain plug
- 7 Motor fastening bolts
- 8 - Gear box fastening bolts (quantity: 34)  
- Mounting screws (quantity: 8)

### 3. Variant (B) – Modification by machining the swing gear cover

1. Drain the motor adapter housing (about 0.6l oil).
2. Remove the 8 bolts (7) M16 at the hydraulic motor (refer to illustration 1).
3. Remove the motor with connected hoses and place it beside or if this is not possible, disconnect the hydraulic lines and close the ports.
4. Remove the 34 gearbox fastening bolts (8) M24 and the 8 mounting screws (8) M16 from the gear box (refer to illustration 1).
5. Install 2 eye bolts M16 and lift the gearbox cover with the brake unit.
6. Replace the sun gear shaft (5) (refer to illustration 2).
7. Remove the old O-ring and clean the groove.
8. Modify the swing gear cover as described on pages 11 - 22.
8. Install the modified Cover-Brake-Unit by using a new O-ring.
9. Modify the Swing gear type on the type plate  
old: GFB 174 E9017 Part No. 917 915 40 to  
new: GFB 174 E9020 Part No. 924 325 40 with punch marks.
10. Reinstall the hydraulic motor with the brake valve block by using a new O-ring.
11. Fill the motor adapter housing with oil according to the Maintenance Manual.
12. Weld on an oil level gauge bracket (20) on the hydraulic oil reservoir carrier and if so planned a second one onto the machinery house wall.
13. Insert the attached oil level gauges (19) into the brackets.
14. Check the oil level in the swing gear as described on page 24.

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Illustration 2 – Overview before modification

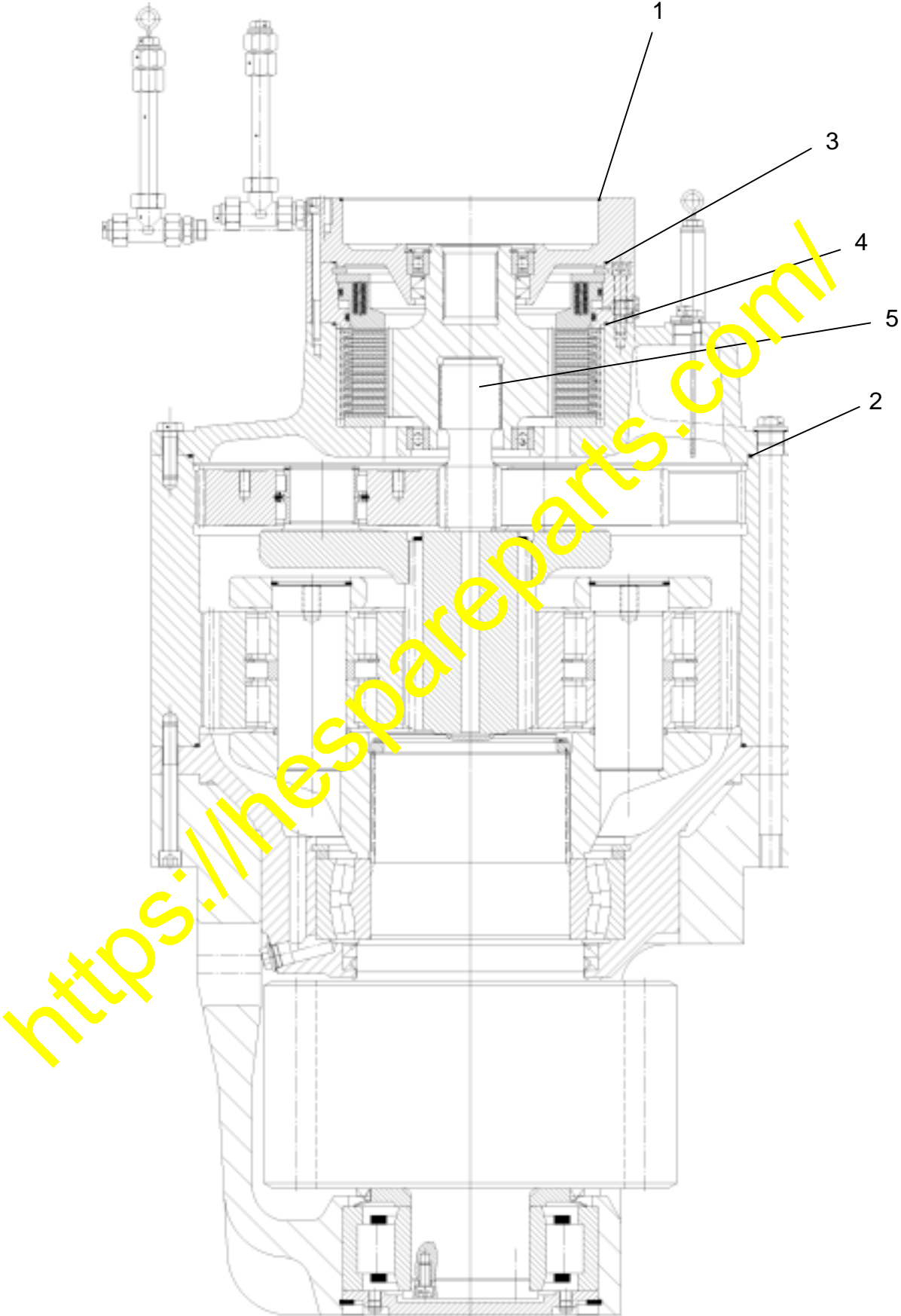
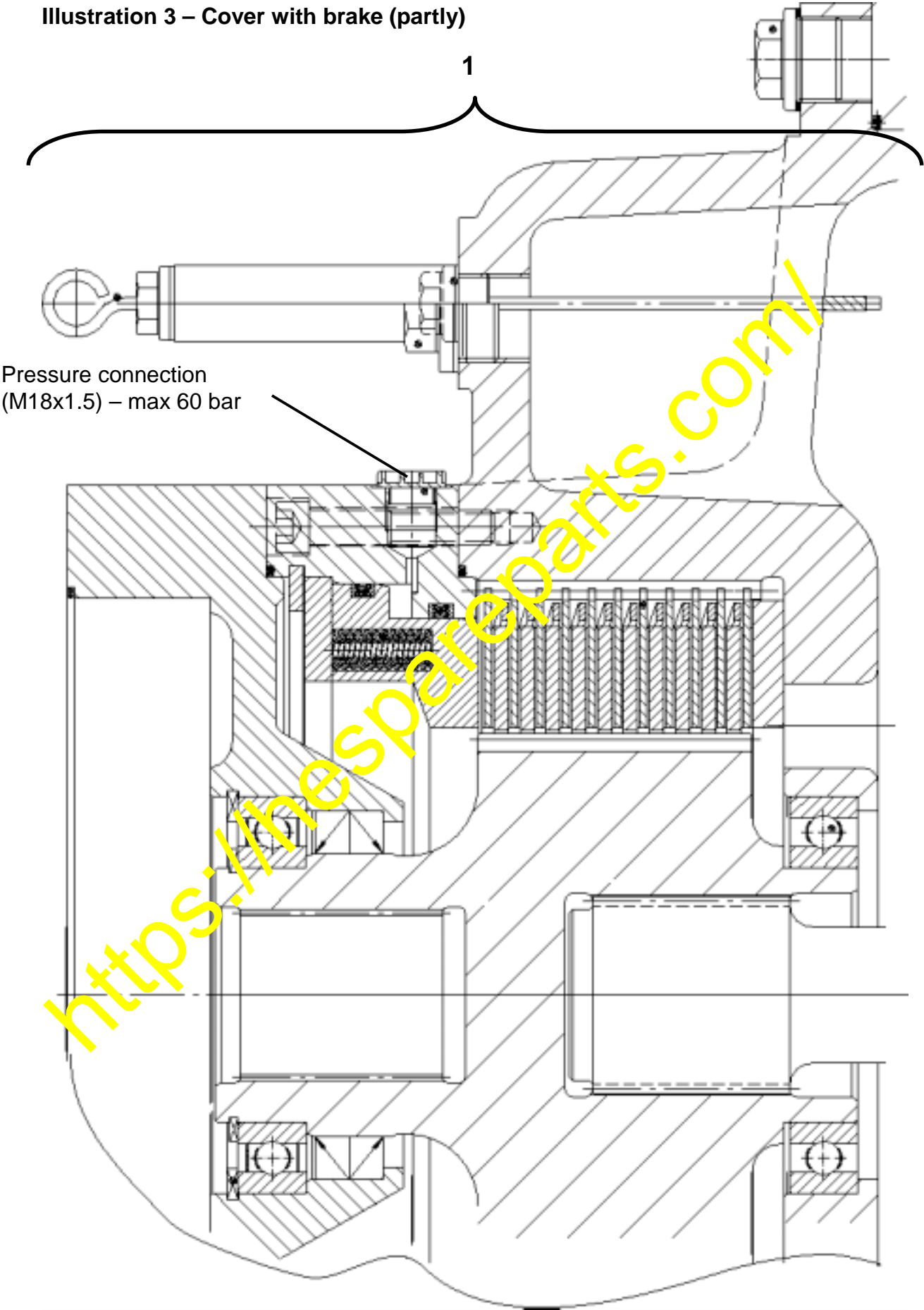


Illustration 3 – Cover with brake (partly)



### 3.1 Modification of the swing gear cover

#### a) Dismounting

1. Remove the old oil level gauge assy. (390) and close the opening with a plug (99).
2. Remove the both snap rings (508; 549).
3. Loosen the 8 socket head cap screws (519).
4. Remove the bearing ring (503) by using of 2 eyebolts (M 16).
5. Before reinstallation apply the piston (116) with pressure (max. 60 bar) (see also illustration 4), otherwise the 2 screws (316) are prestressed (springloaded).
6. Remove the 2 socket head cap screws (316).  
Remove the piston (116).
6. Dismount the 10 Inner discs (505); the 11 outer discs (506) and the 10 sinus rings (551).
7. Remove the drive shaft (130).
8. Remove the disc (504).

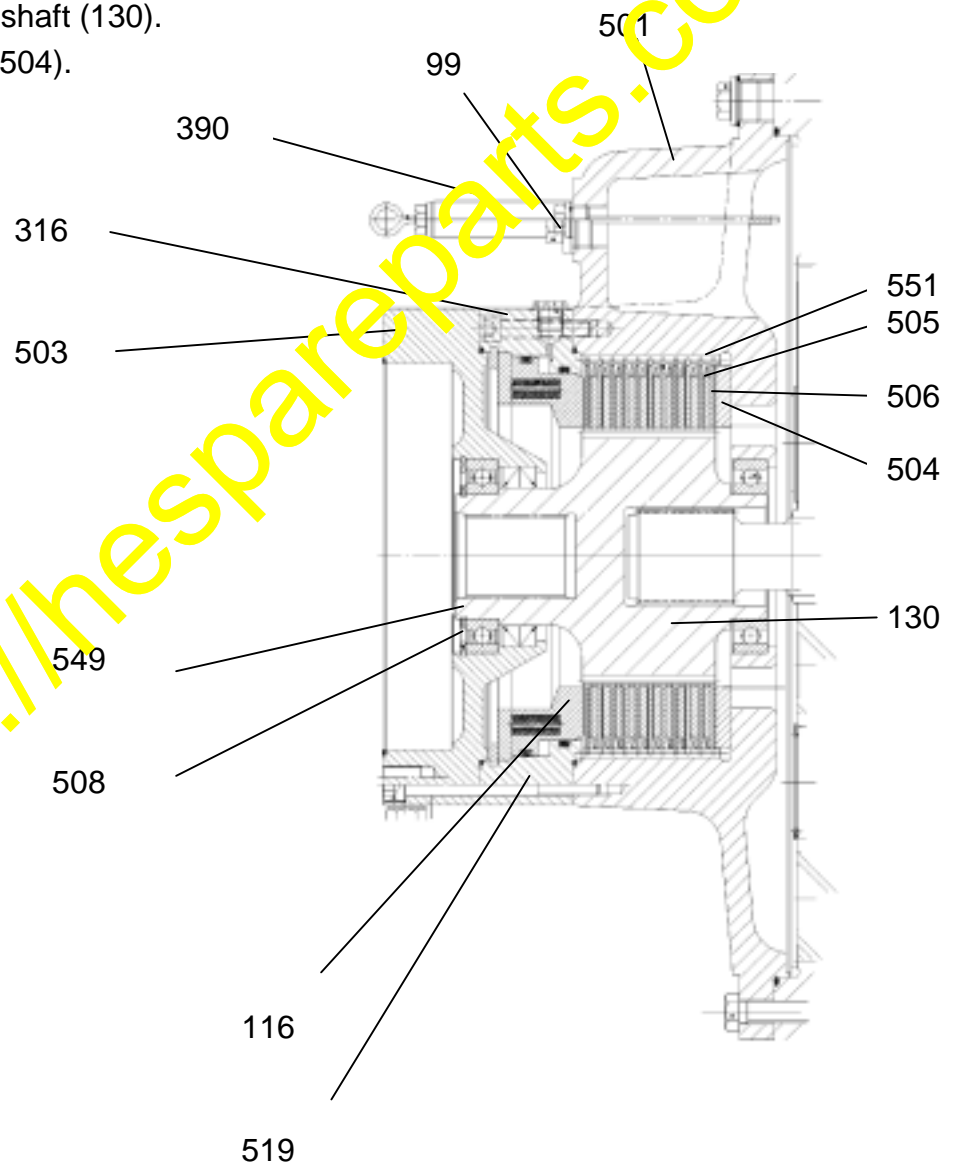
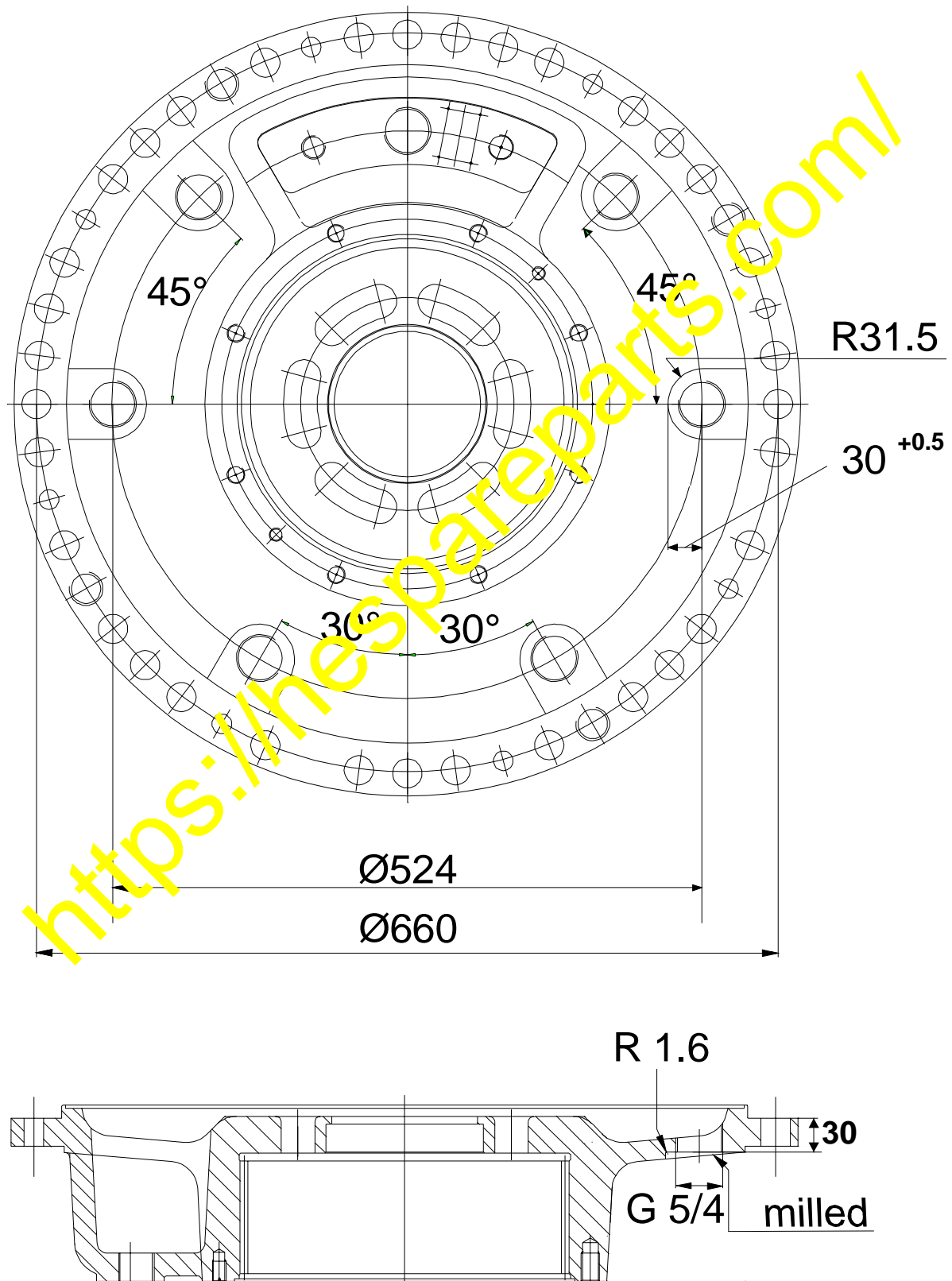


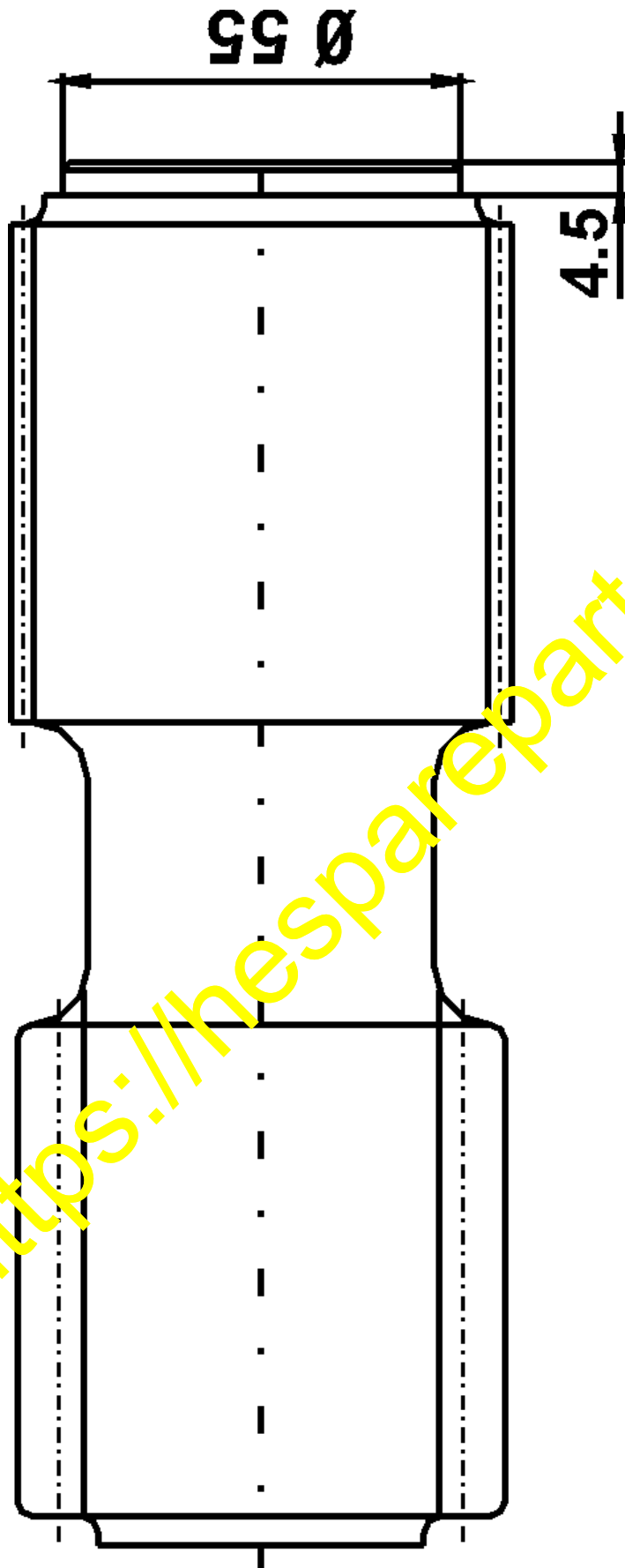
Illustration 4

**b) Machining of the swing gear cover (501 – disc housing)**

1. Mill at the swing gear cover six areas as shown.
2. Drill 6 holes in the milled areas and tap 1 ¼ inch.

**Illustration 5**





Visible differences to  
the old sun gear shaft

Illustration 6

**c) Reassembly**

3. Install the new disc (504) as shown.



4. Reinstall the drive shaft (130) with the ball bearing (51353298).

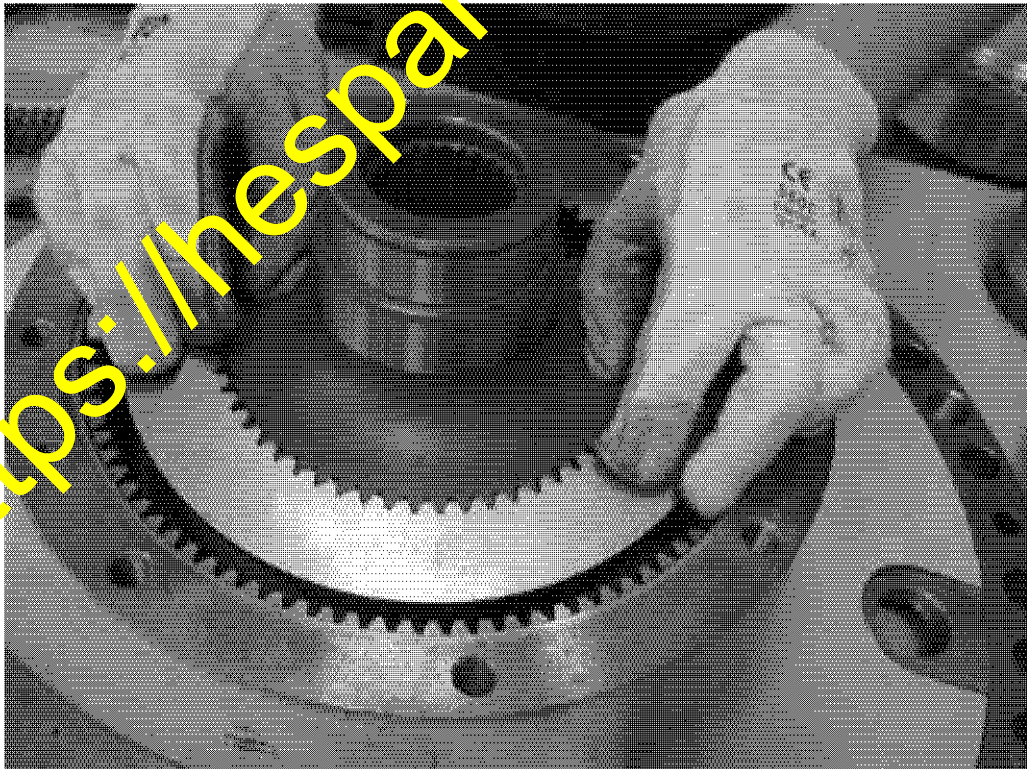




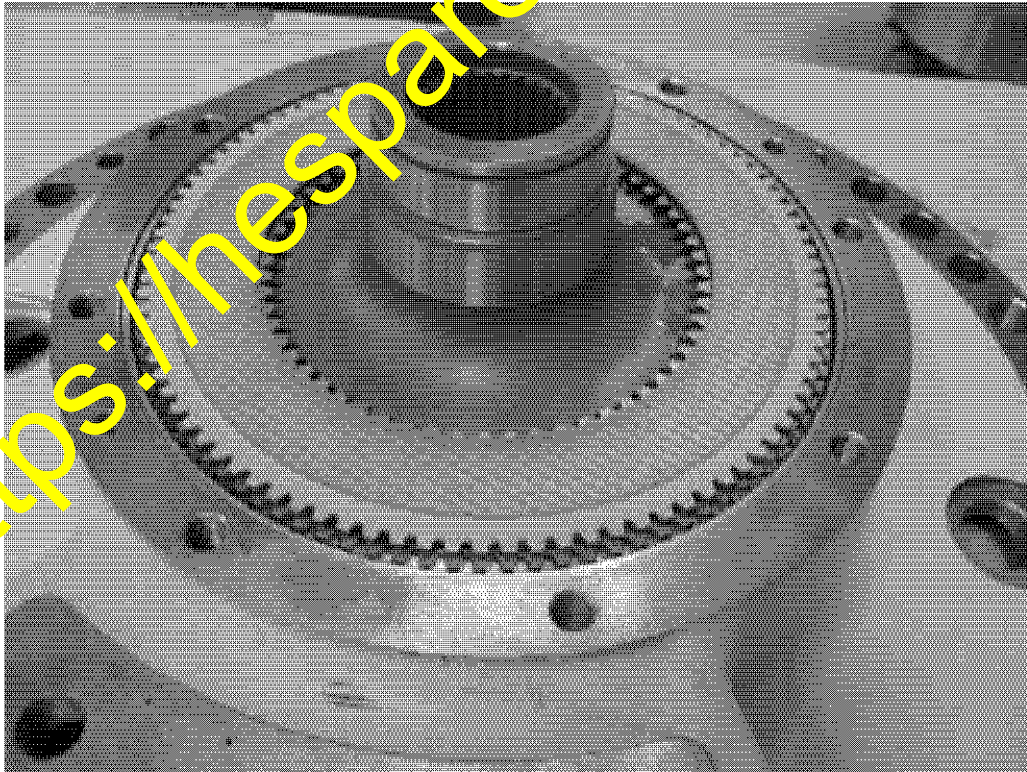
- 5. Install the new discs. At first an outer disc (grease it with oil), then an inner disc and then a sinus ring ... and so on.









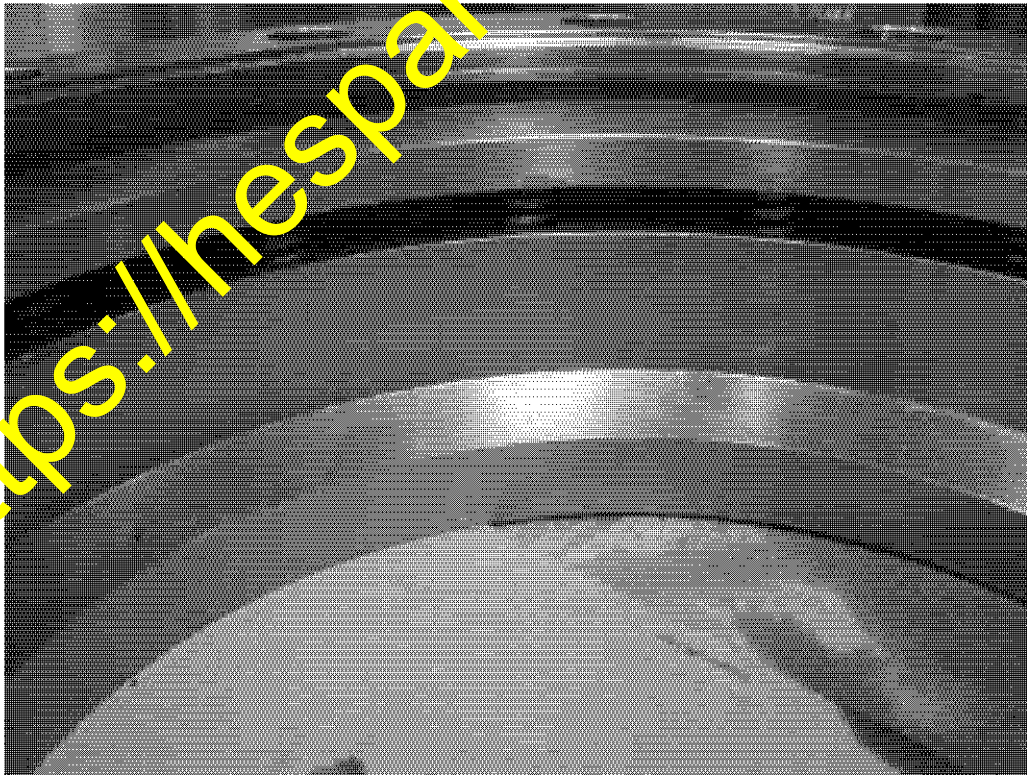




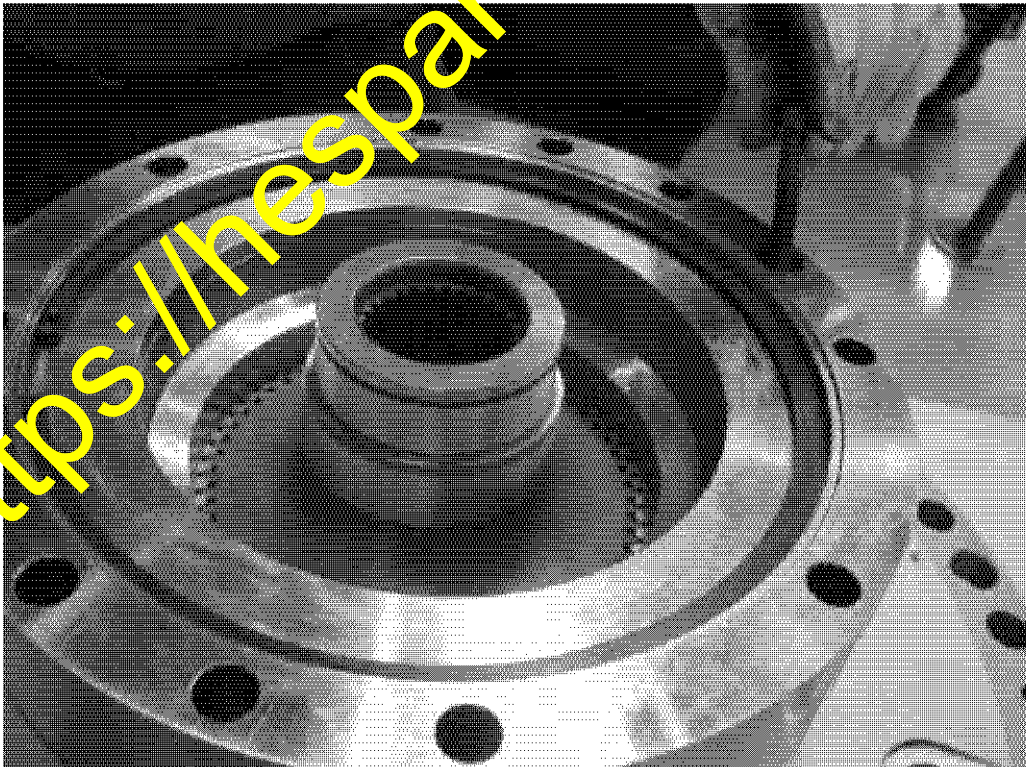
Before installation supply the piston (116) with pressure (max. 60 bar).  
Do not forget to exchange the O-ring.



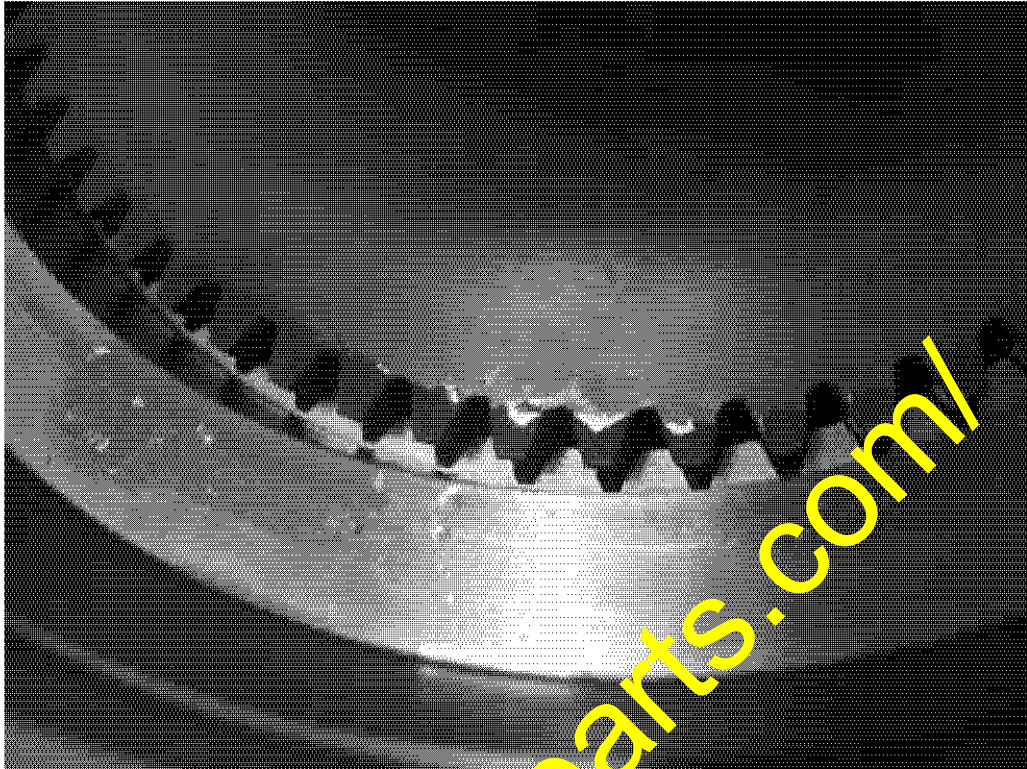




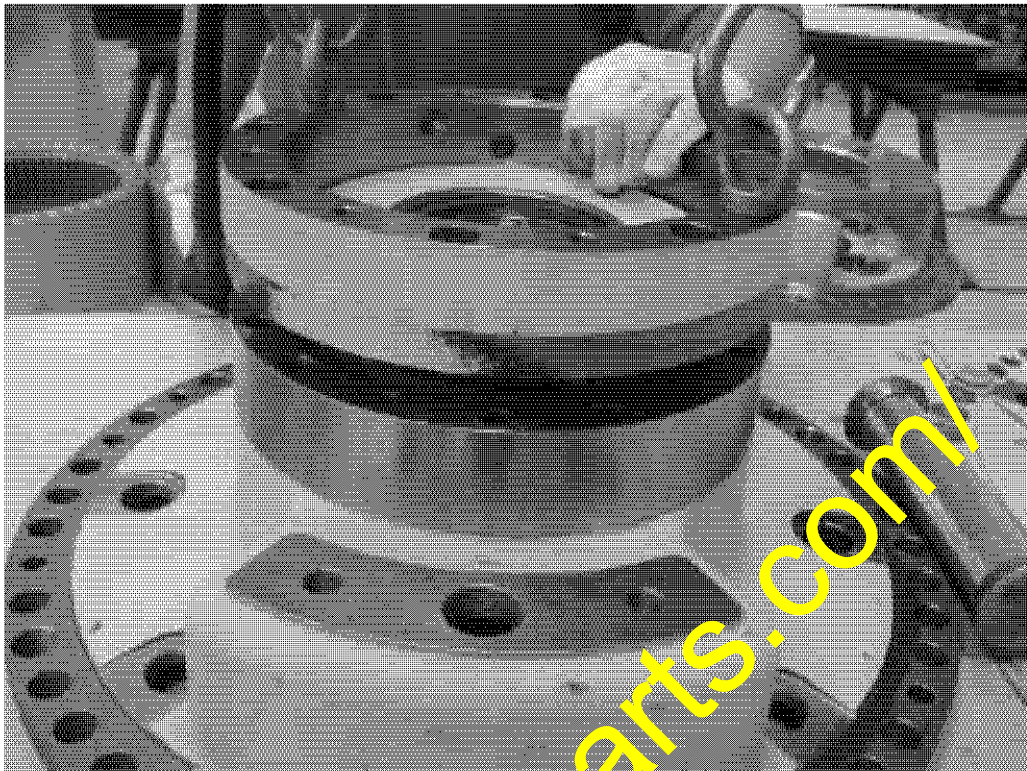




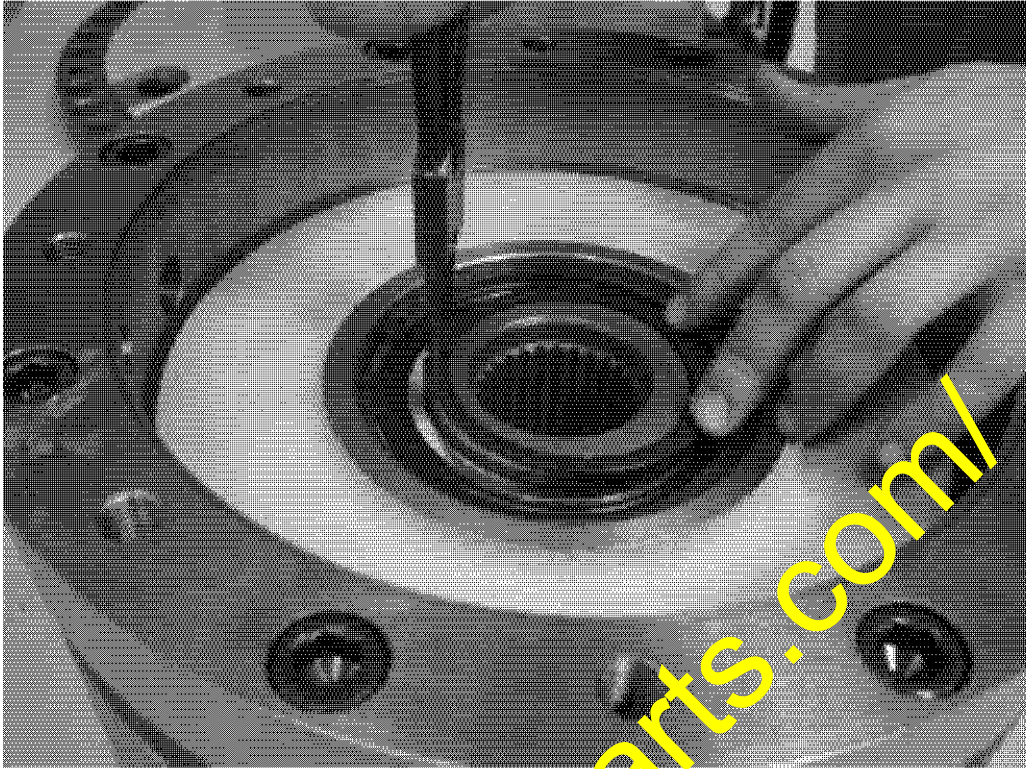












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#### 4. Completion of the swing gear cover

1. Remove plugs\* (A3) from the swing gear cover.  
\* numbers depends on type of the excavator
2. Install the oil level gauge tubes (14; 15; 16; 17) as shown in the illustration 6.
3. Close the tubes with plugs M24 (18).

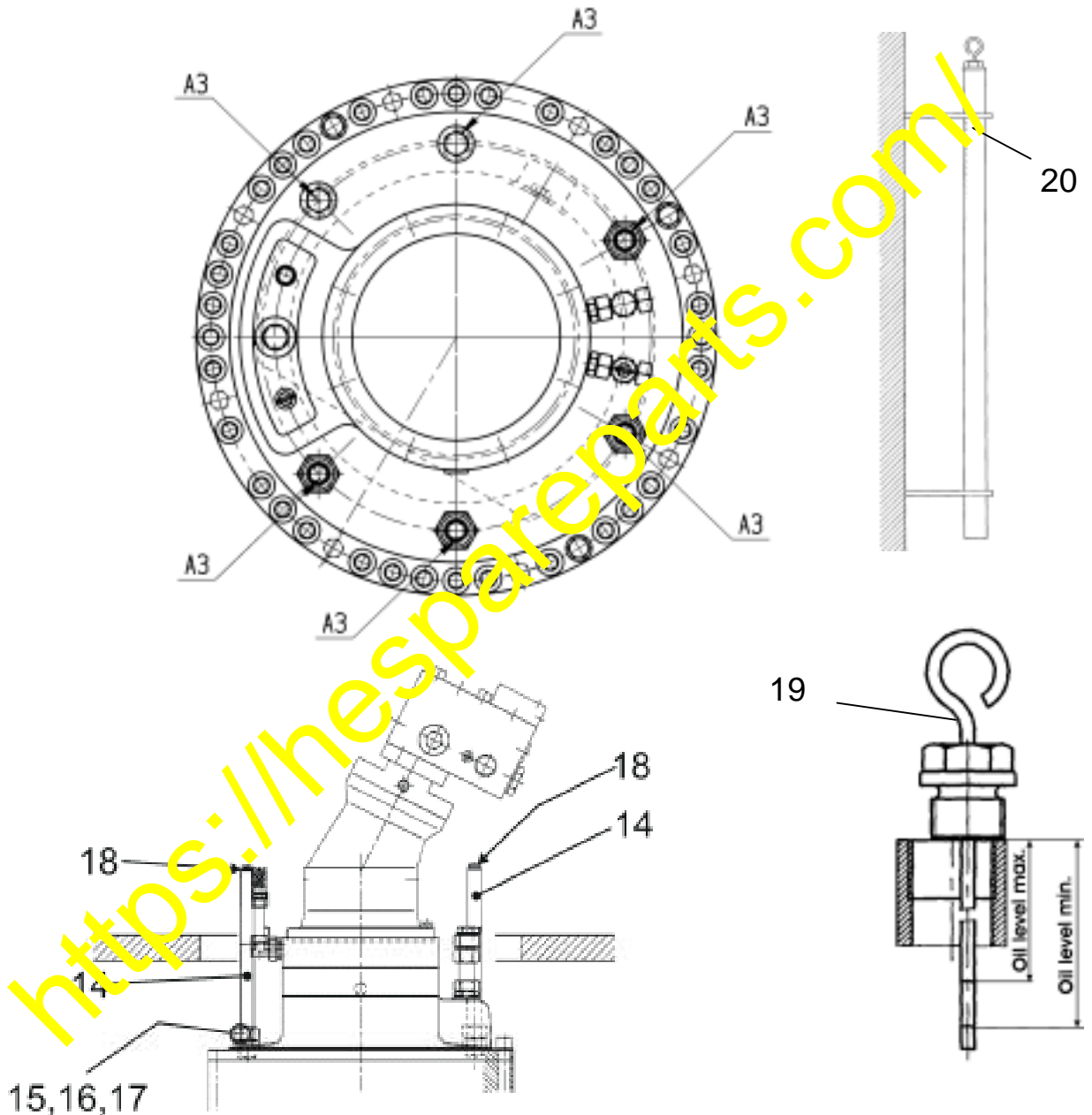


Illustration 6

- A3 – Plug
- 14 – Oil level gauge tube
- 15 – Socket
- 16 – Cutting ring
- 17 – Union nut
- 18 – Plug
- 19 – Oil level gauge
- 20 – Oil level gauge bracket



### 5. Oil level checking procedure (engine at standstill)

The design of the swing gear requires four or five locations for oil level checking.

The correct oil level is below the upper planetary stage. To reach this level **between** the planetary gears it is necessary to find out at which of the four, five or six tubes the oil level gauge can be inserted to the stop.

Proceed as follow:

1. Take out oil level gauge (19) from bracket (20).
2. Remove plug (18) from one tube (14) and insert gauge (19).  
If the gauge can not be moved in to the stop use the next tube (14).  
Repeat this procedure until the gauge can be inserted to the stop.
3. The oil level should be between the MIN and MAX marking on the gauge.  
Add oil if necessary.
4. Remove oil level gauge from the tube and insert into bracket (20).
5. Close the tubes with the plugs (18).



- **Do not leave the gauge (19) in the tube (14).  
If the gauge is left in the tube the swing gear and the gauge will be damaged when the swing gear operates.**