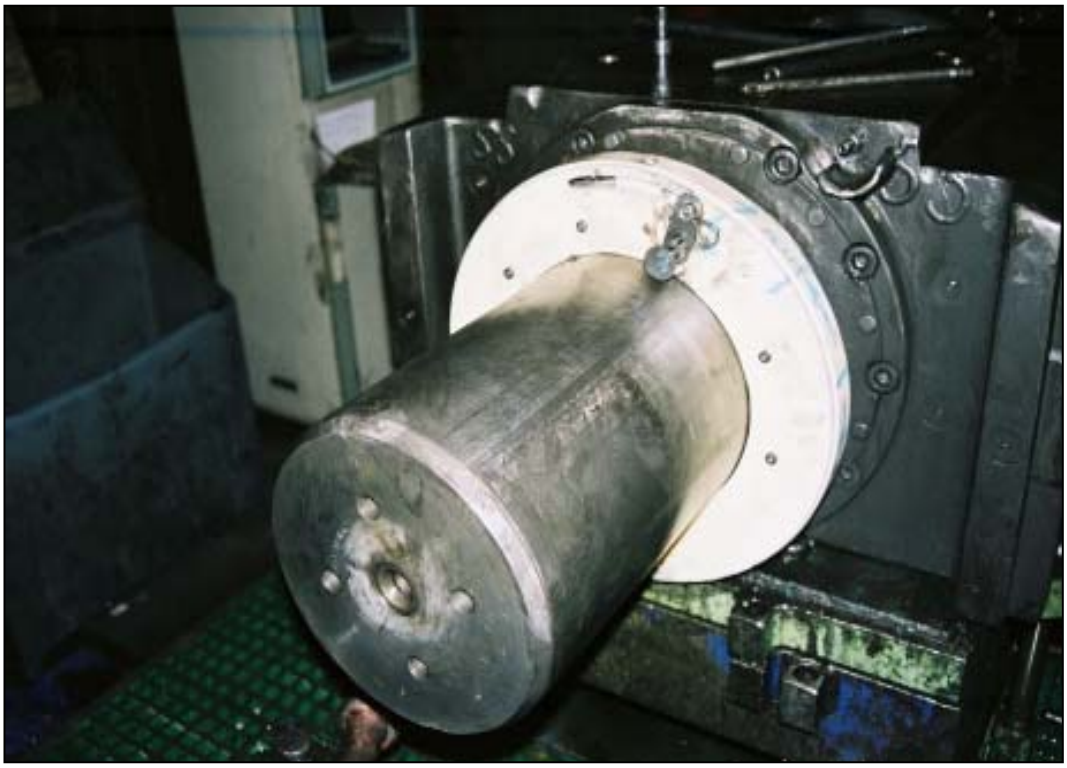
QUICK LOCKING SYSTEM

(Locking in position of a Rollerbearing chock)



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Design patent N° 20 2005 000 375.1

Quick locking system

As a tool for operating and locking the system you require 2 lever bars diameter each 14 mm by 300 mm length.

To move the adjusting ring (No.1) you need a lever bar 14 mm Ø x 300mm long.

For turning or holding up of the pressure ring (No.2) you use the lever 14 mm Ø x 300mm long.

Fitting of the work roll chocks on the roll neck and securing the system

1. Push the work roll housing on to the roll neck with the quick locking system attached to the pressure ring.

2. Turn the exterior adjusting ring to the right by 35° (see operating step 4- picture 7) the locking brackets latch into the roll using the key-way existing for receiving the hinged rings actually dismounted.

3. The pressure nut (No.2) serving to adjust the bearing-clearance must be turned to the left until reaching the pressure point. The locking clamp come to rest in the walls of the keyway provided in the roll neck.

3.1 Turn the pressure nut (Nr.2) for 1/8 revolution to the right until the safety bolt (Nr.3). Latches into the bearing pressure ring.

3.2 The bracket welded-on to the safety bolt must be guided over the head of the hexagon socket screw (see operating step 6-picture 14) and over the guiding pin (Nr.4).

3.3 The spring type clamp (Nr.7) must be introduced into the hole in the screw head thus the system is safe against uncontrolled openings.

4. Now the system is ready for operation.

How to open the system and dismantle the work roll chocks from the roll neck

5. Pull out the elastic clamp (Nr.7) of the screw-head and pull out the safety pin (Nr.3) until it reaches its final stop.

6. The pressure nut (Nr.2) is turned right by approx. an 1/8 revolution – by this action the locking brackets get free of pressure.

7. The exterior adjusting ring (Nr.1) is turned left by approx. 35°, until it reaches its final stop; the locking brackets are taken out of the keyway of the roll.

8. Now the system is unlocked, the bearing housing may be drawn off the roll neck.

Emergency Situation

• Unlock the system as described under Par.5) Sheet Nr.2

• The pressure nut (Nr.2) to be turned by 1/8 revolution to the right- the locking brackets loose their pressure.

• Turn the adjusting ring (Nr.1) to the left by approx. 35°.

• Turn the pressure nut to the right until the non-unlocked bracket around the keyway of the roll becomes visible.

• The locking bracket is pushed-up with a lever bar.

• In case that several locking brackets did not unlock, the procedure must be repeated correspondingly.

• Further-on to be proceeded as described in Par.8, Sheet Nr.2.

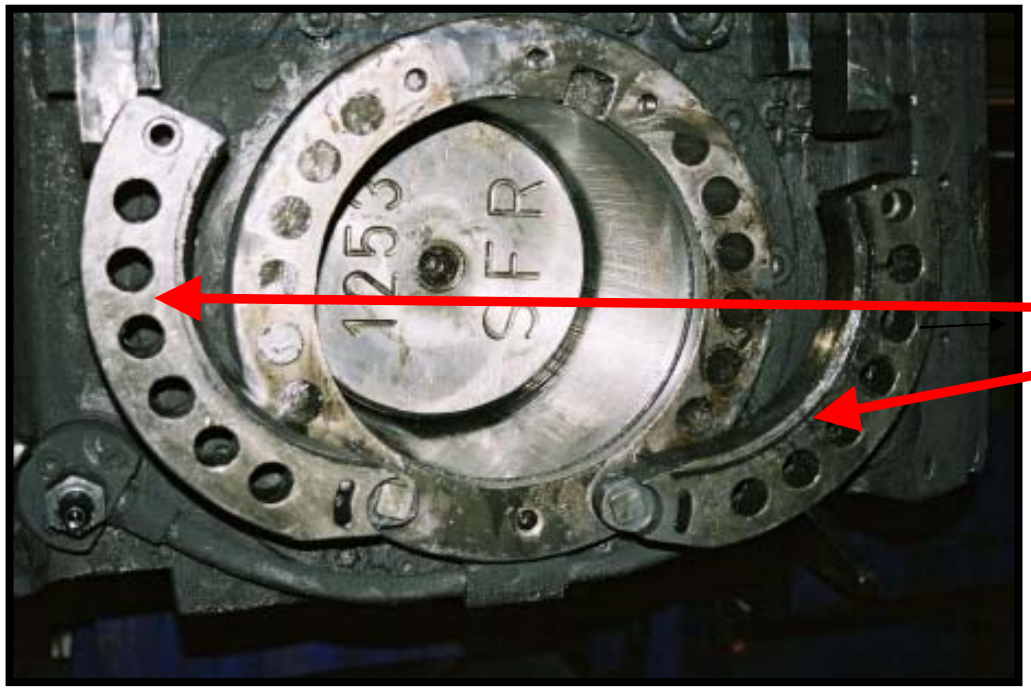


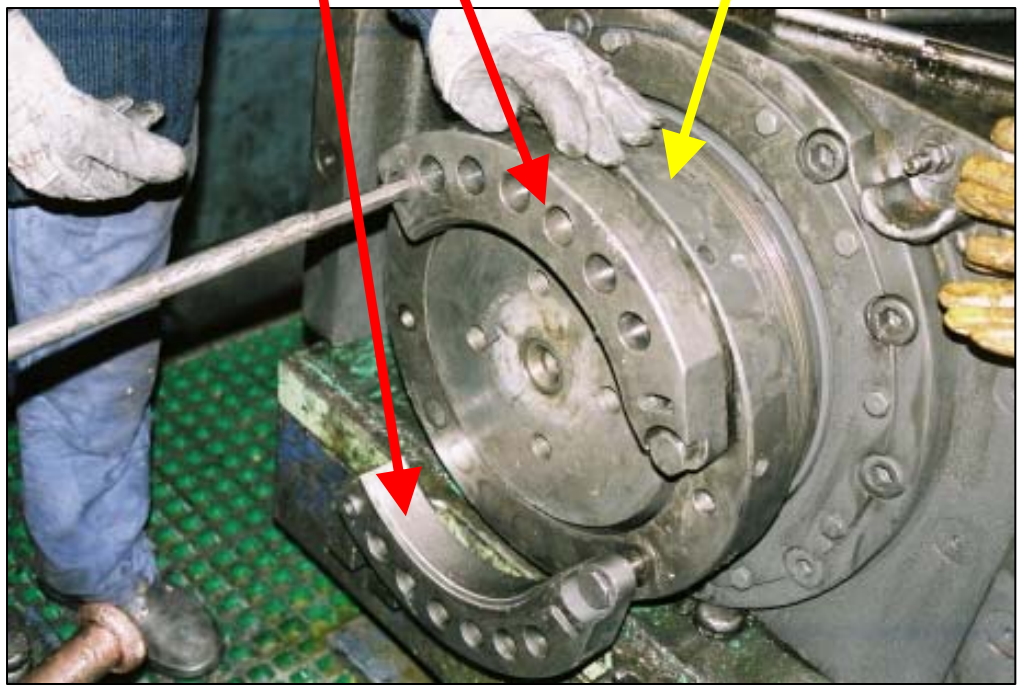
Bild 1 The hinged rings fitted on the pressure nut are dismanteld

Dismantle the hinged rings

The pressure ring remains in its place without any change

Bild 2

Once you have dismantled the hinged rings the complete quick locking system can be fitted to the pressure nut.



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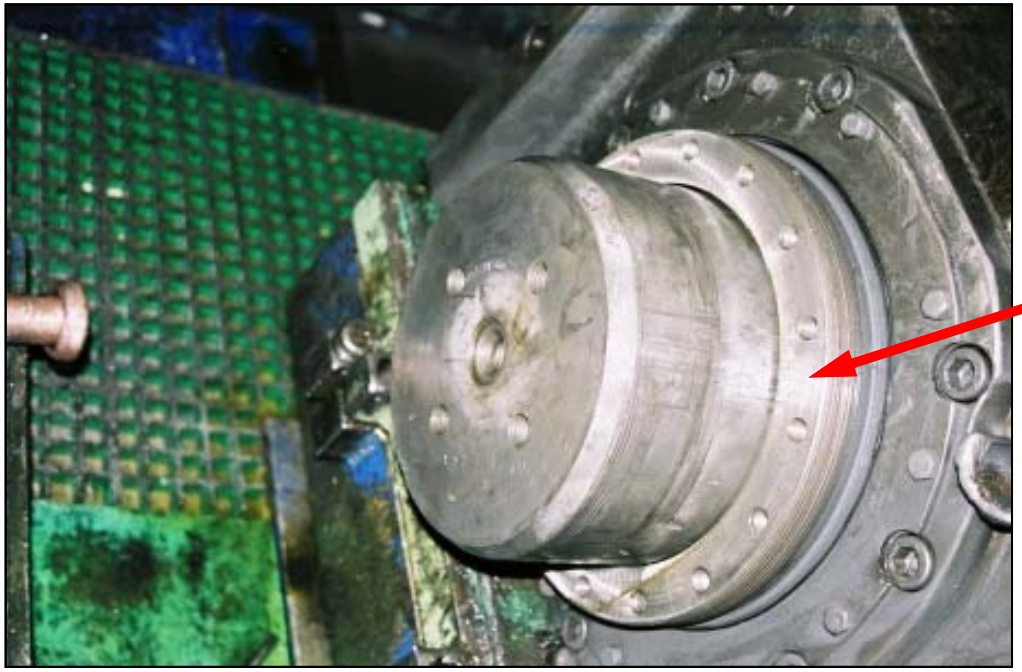


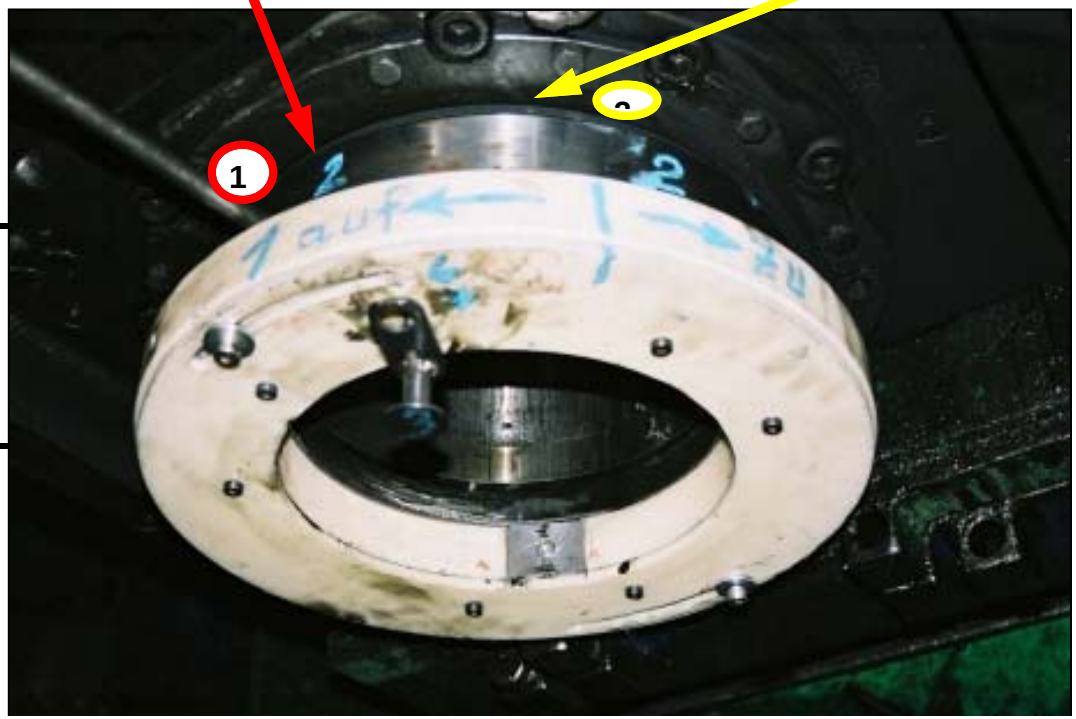
Bild 3

Once you have dismantled the hinged rings you will clean the pressure nut.

The front face of the pressure ring must be cleaned

The quick locking system is fitted on the pressure ring 2.

Bild 4



Actually we are carrying-out a modification to get to a solution which allows that the M 16 screws which are fixing the quick locking system can be introduced without being necessary to take off the front coverage.

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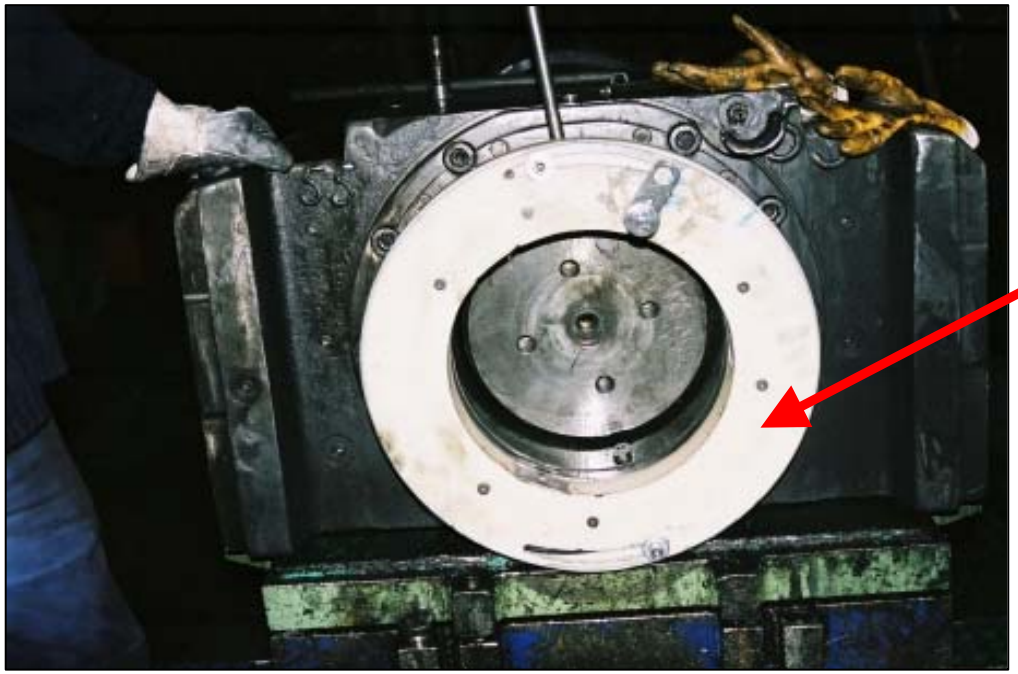
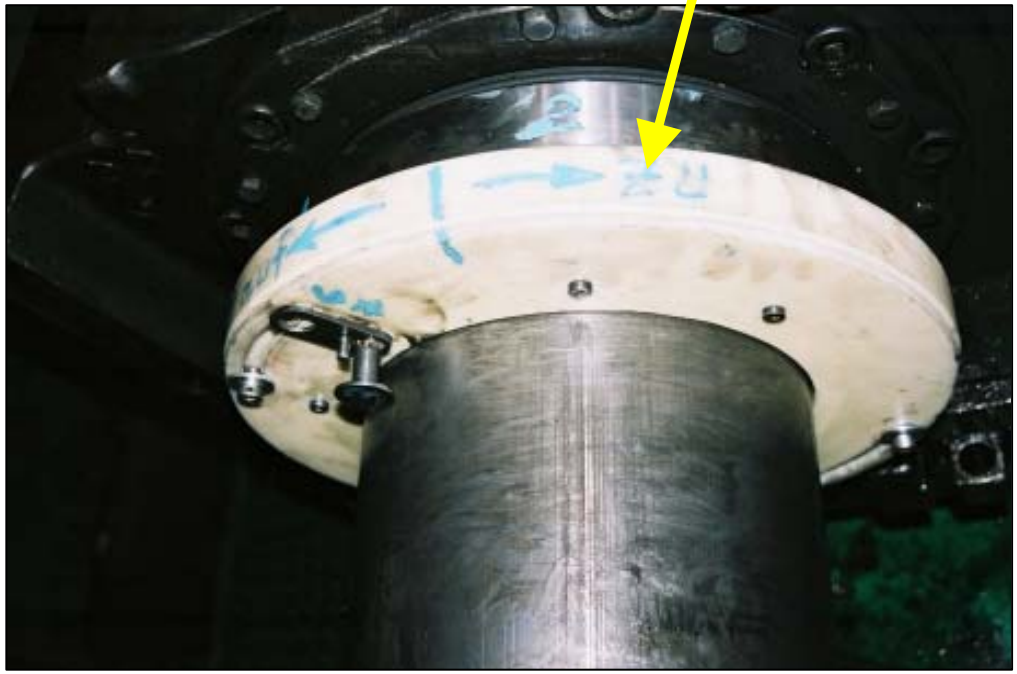


Bild 5 One you have fitted the quick locking system on the pressure ring the system is ready for opration.

The quick locking system mounted on the pressure ring.

The bearing housing sitting on roll neck with our system fitted.

Bild 6



The work roll chock can be mounted with our system fitted.

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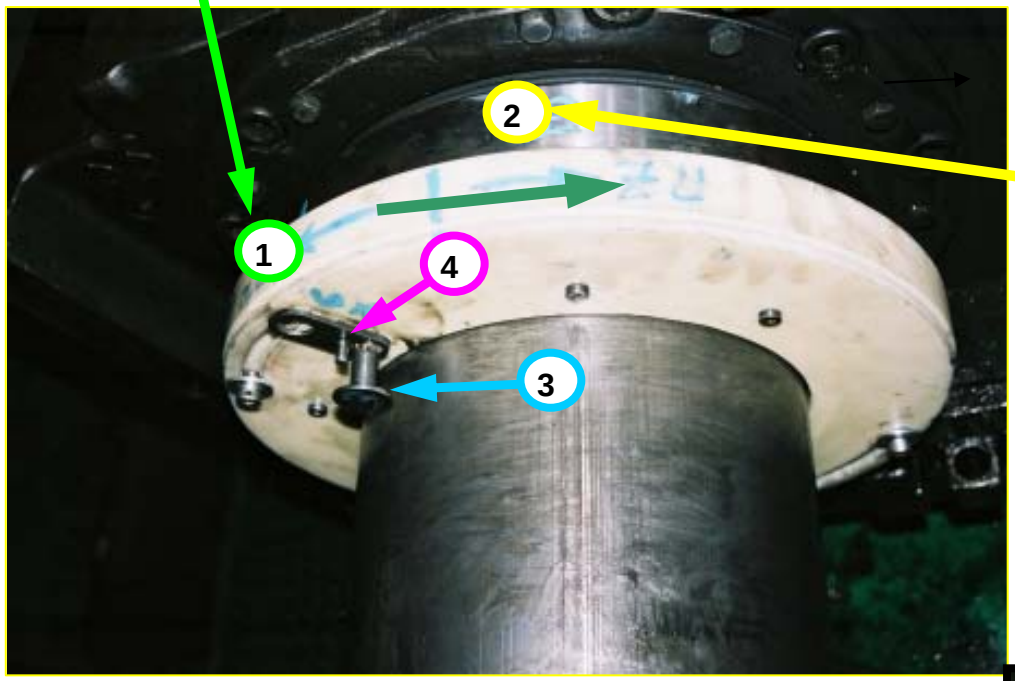
In order to block the system on the roll,the safety pin (3) is pulled out of ist hole until reaching its limit stop and it is then blocked by putting it to rest on the smaller pin (4) .The adjusting ring is moved in direction of arrow by 35°.

Steps to be taken to activate the locking of the system.



The pressure ring (2) is secured against false turns with the lever bar (5).For this aim the adjusting rings must be moved by approx. 35° in arrow direction.(the adjusting rings serve for securing the system on the roll).

Bore holes of Ø 14mm. serve for introducing into them the lever bar (5)into the adjusting ring 1 and the pressure ring 2.

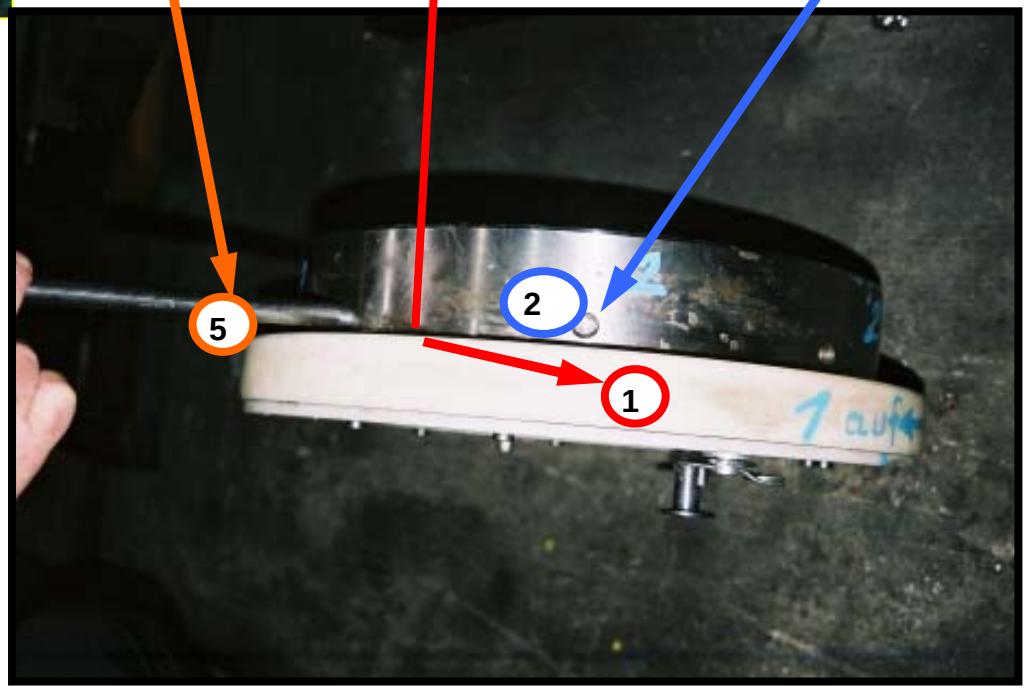


Bild 7 Once the chock equipped with our system is placed on the roll neck,it may be locked.

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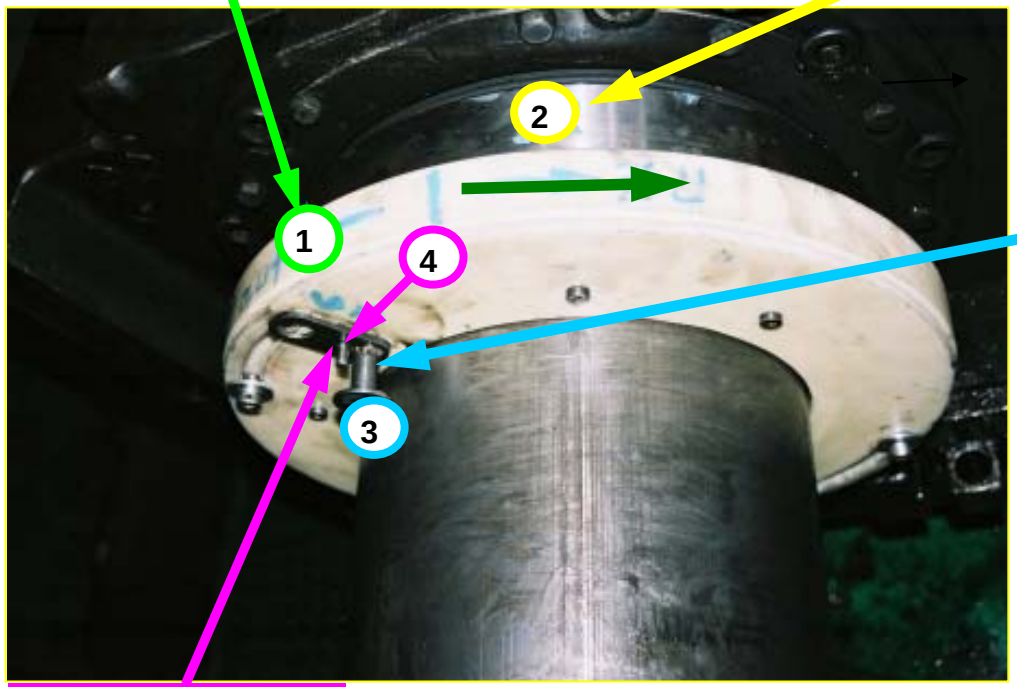
Bild 8

Adjusting rig for locking.

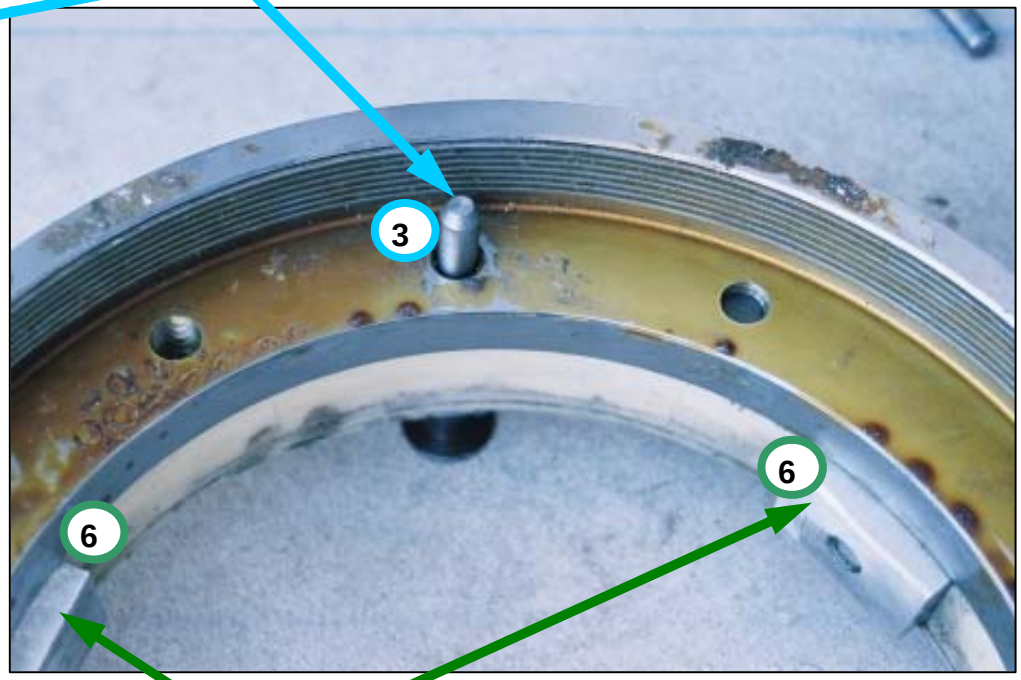
Pressure ring.

Bild 9



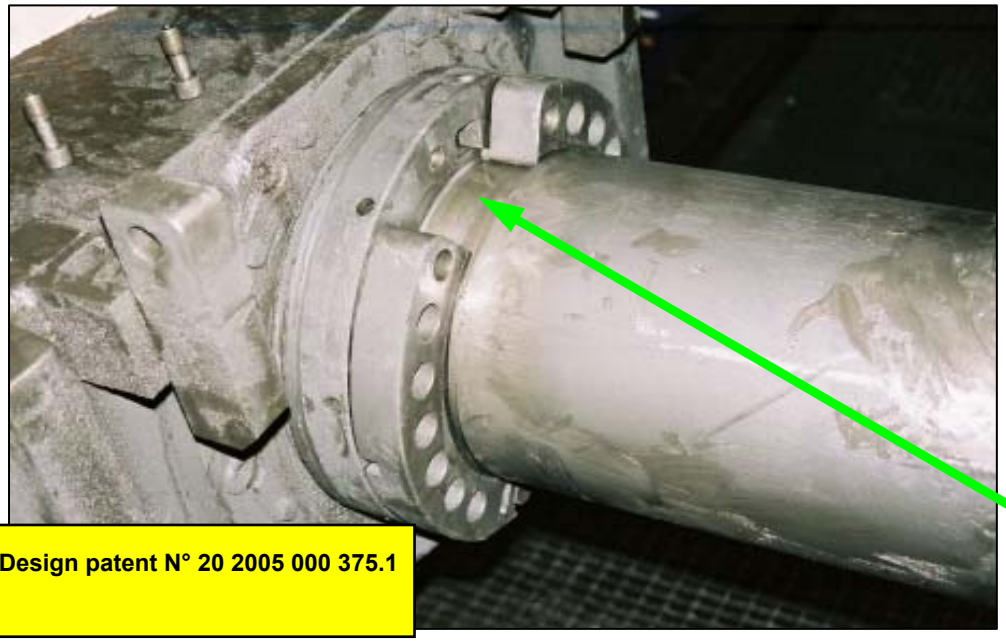
Safety pin to secure the system against false turns, the pin latches into the existing threaded ring.

Bild 10



Safety pint 4

Bild 11



3 units locking joints (6) spread by 120° distance on the circumference latch into the keyways existing on the roll neck.

If the ring (1) is turned by 35° in direction of arrow the 3 locking joints fall into the keyway existing on the roll neck.

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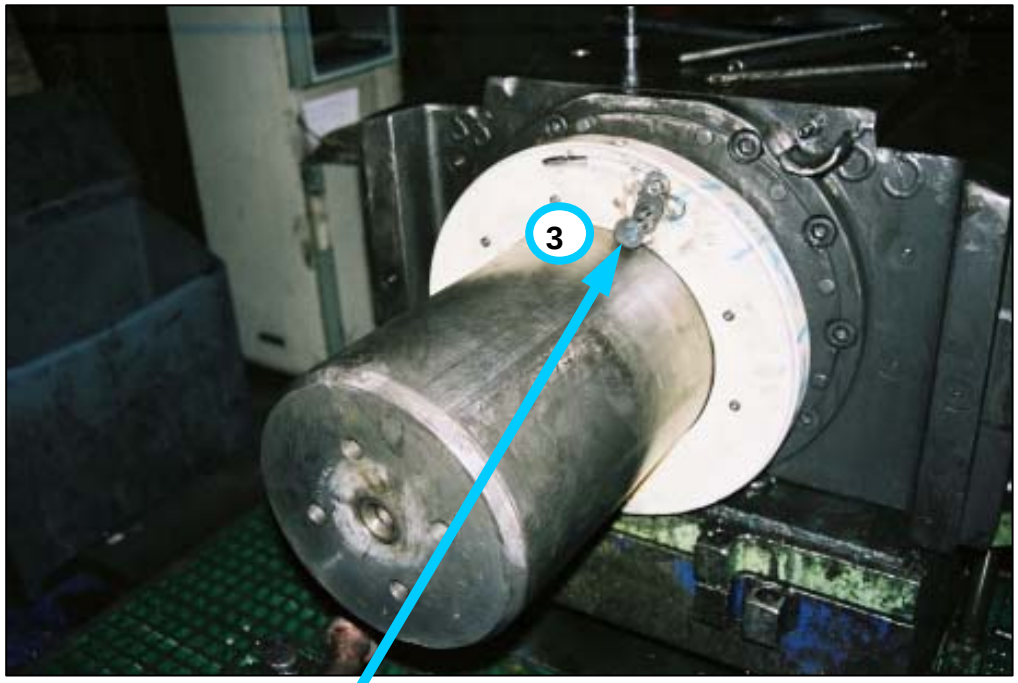


Bild 12

The bore hole in the safety clamp on the bolt (3) must be guided over the head of socket screw followed by inserting the spring type clamp (7) into the hole.

Pressure nut 2.

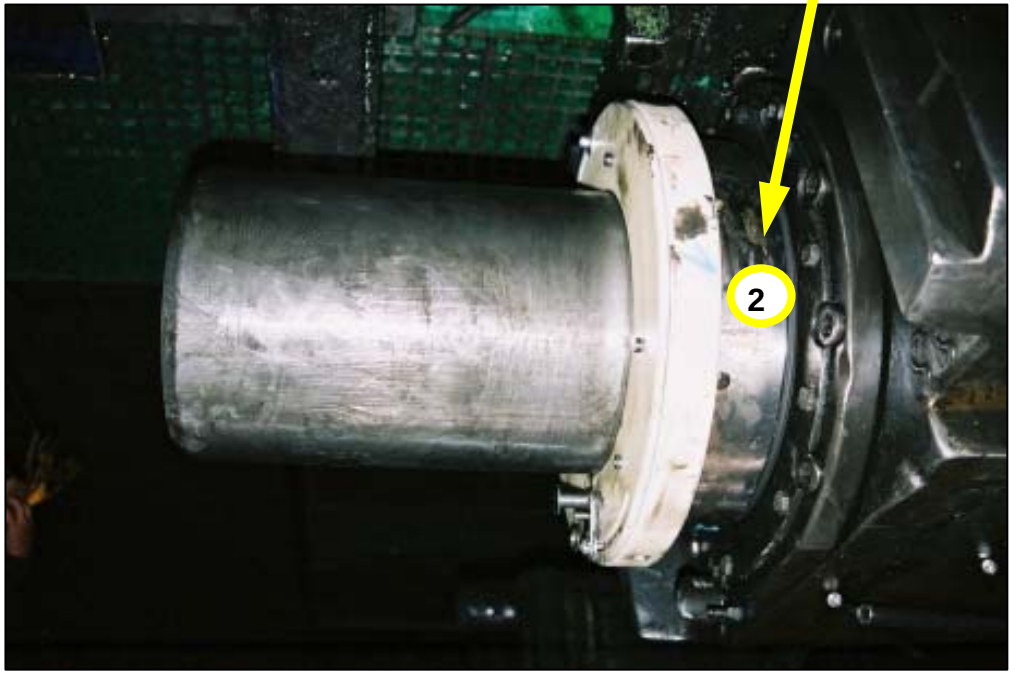


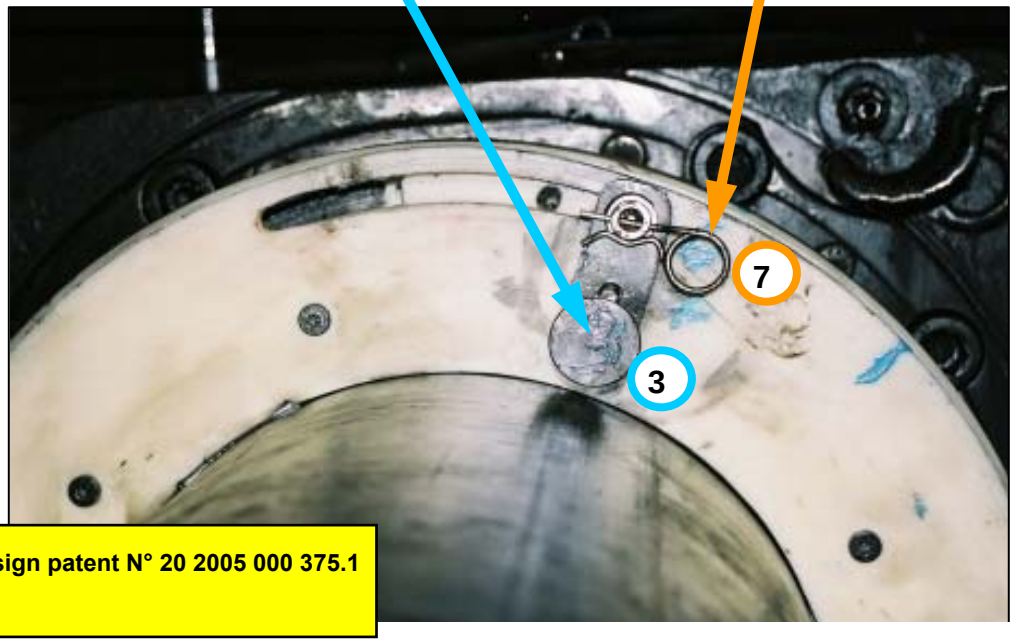
Bild 13

Once the system along with the roll housing (chock) has been pulled-on and locked on the roll neck the bearing clearance has to be adjusted.

Safety bolt (3) serves for System Security

Spring type clamp (7)

Bild 14



Adjusting of the Bearing Clearance

Turn the pressure nut (2) to the left until the Pressure point followed by pushing-on completely the Bearing housing. Subsquently turning the pressure nut by 1/8 revolution to the right until the Safety bolt (3) snaps into the threaded ring and insert the spring type clamp (7).