

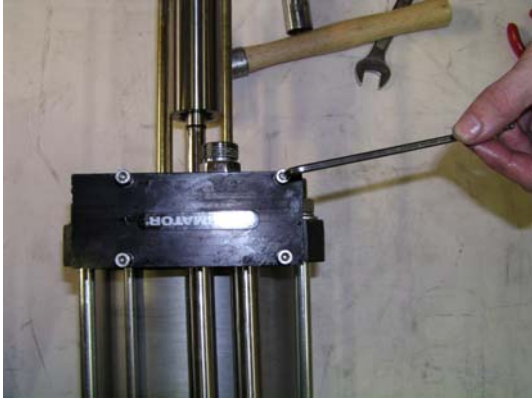
1.1 Repair of air drive parts and pilot valves

The HP parts have to be dismantled before the air drive parts can be disassembled.

1.1.1 Dismantling

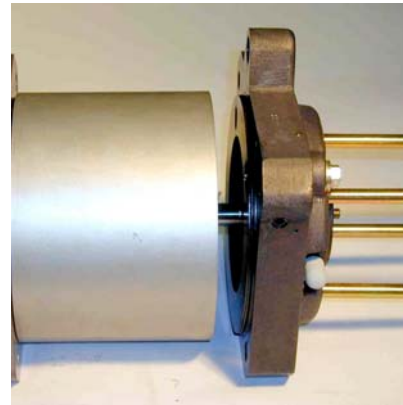
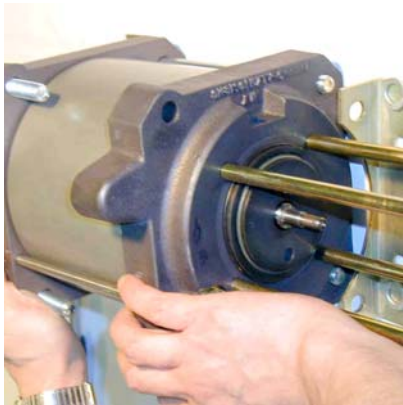
1.1.1.1 Dismantling of the air drive

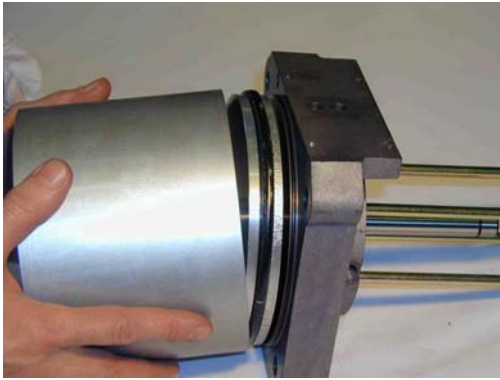
Remove the servo-valve and the air pipe, loosen the 4 socket head screws.



Remove the four hexagon nuts from the hexagon bolts.

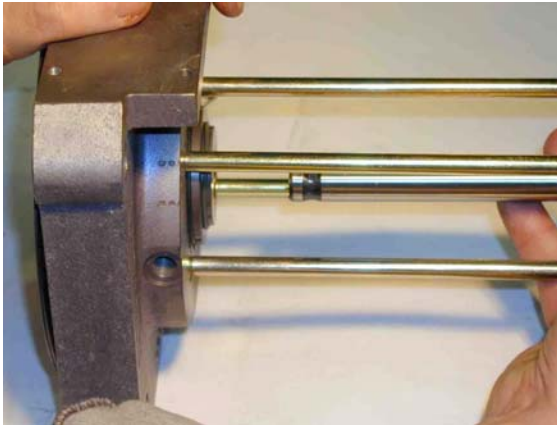
Draw the bottom cover from the air cylinder. Now also the pressure pipe can be dismantled.
Caution: The piston rod must not be withdrawn from the top cover because it may get jammed in the end groove.





Withdraw the air cylinder from the top cover and the air piston.

Pull the air piston slightly out of the top cover and remove the retaining pin and bolts.

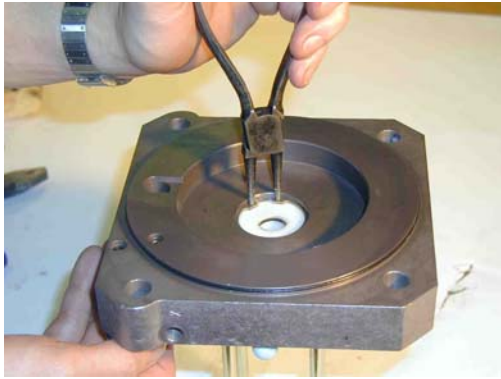
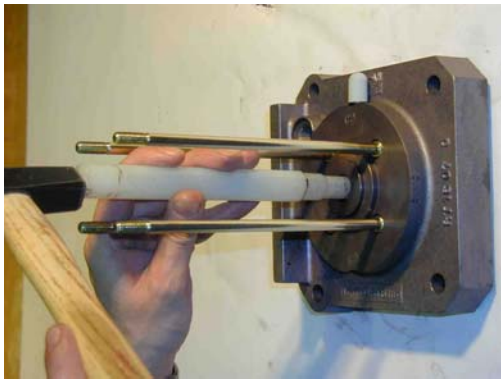


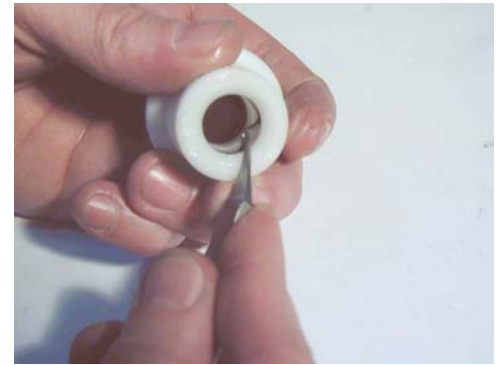



Pull the piston rod out of the top cover into the direction of the HP part.



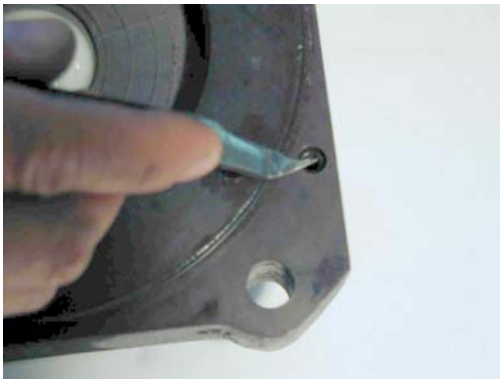
Remove the O ring from the air piston.

1.1.1.2 Dismantling of top cover and bottom cover

	<p>Remove the locking ring.</p>
<p>Knock the bearing bush out of the top and bottom covers by means of a plastic mandrel.</p>	
	
	<p>Remove the O rings from the bearing bush.</p>
<p>Remove the sliding rings and O rings from the bearing bush.</p>	
	



Dismantle the O ring that seals the air cylinder.

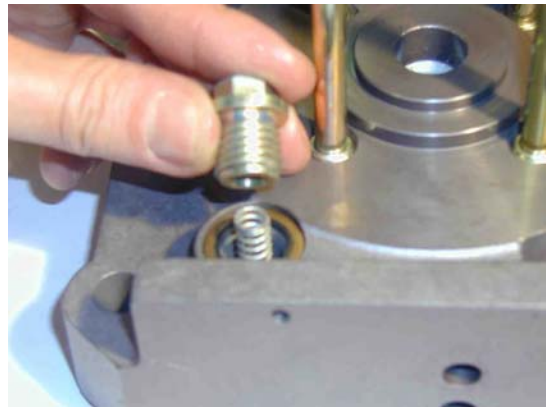
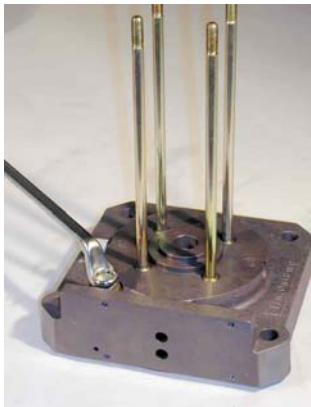


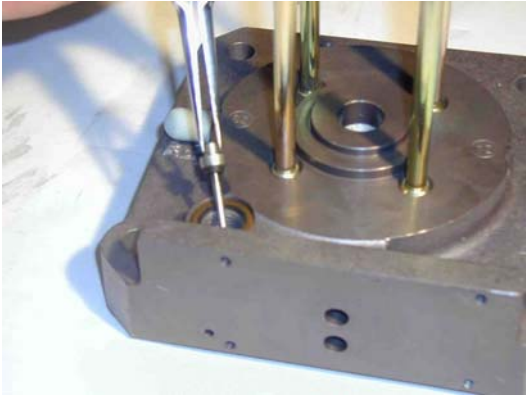
Dismantle the O rings for the control pipe from the top and bottom covers.



Remove the O rings from the pressure pipe.

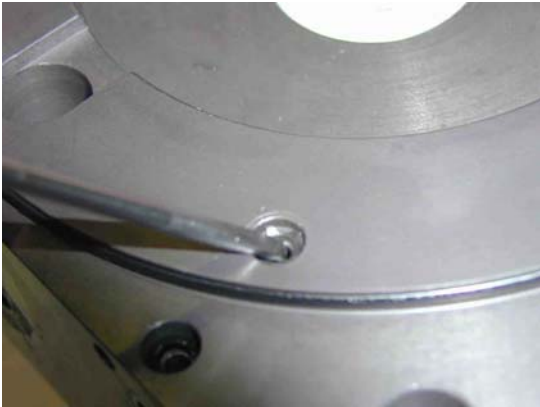
Loosen completely and unscrew the pilot valve screw.





Withdraw the USIT ring, compression spring and pilot valve tappet.

Turn the top cover round in order to lever out the serrated ring, washer and O ring by means of a small screwdriver. The components are destroyed in the process.

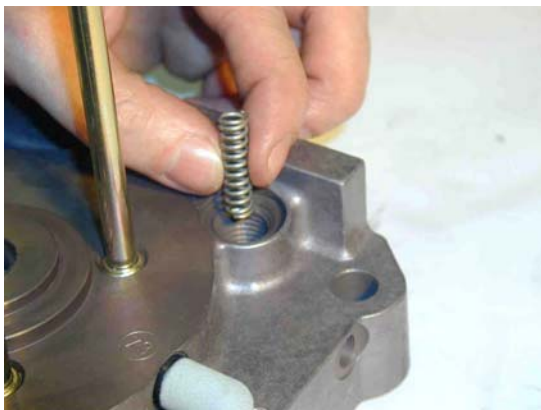
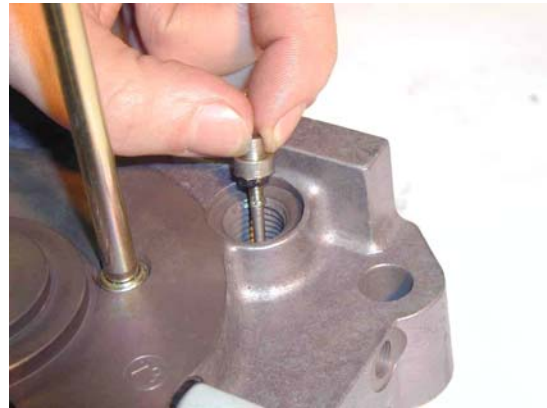


1.1.2 Assembly

1.1.2.1 Assembly of the top and bottom covers

 <p>Wedging mandrel</p> <p>Centring mandrel</p>	<p>The following tools are necessary to re-assemble the pilot valves: A centring mandrel, Works No. 3610.0284, and a wedging mandrel Works No. 3610.0285</p>
	<p>Slip the serrated ring, washer and O ring in this order onto the centring mandrel. When attaching the serrated ring, make sure that the serration points away from the O ring.</p>
	<p>To begin with, insert the centring mandrel into the tappet boring. Then drive the entire package with some hammer strokes into the boring.</p> <p>Caution: Make sure that the O ring is fully attached to the bottom.</p>

Grease and re-insert the pilot valve tappet. During assembly a tangible resistance must be felt from the previously mounted O ring.

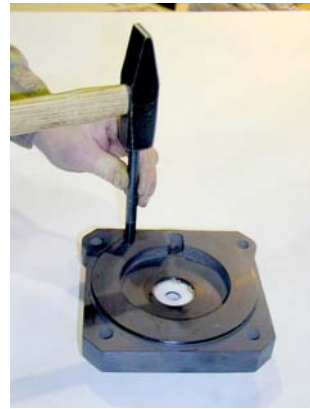


Slip the compression spring onto the pilot valve tappet.

Insert the USIT ring into the boring. Then tighten the pilot valve screw with a torque of 25Nm.



Now turn the top cover round. Then use the wedging mandrel to safeguard the serrated ring against slipping out. Upset the boring with a few hammer strokes.

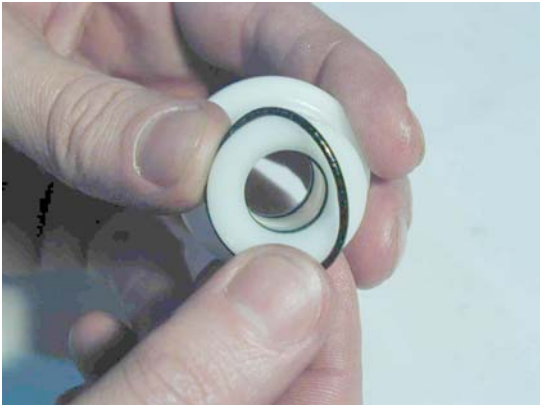


Insert the O ring into the bearing bush.



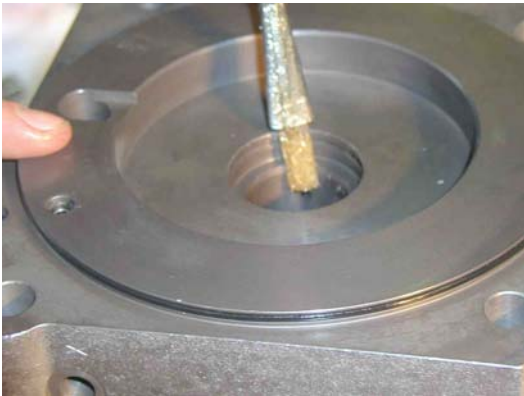
Form the sliding ring into a kidney shape and insert it. Subsequently, bring the sliding ring inside the groove back into its original form. Caution: Do not bend the sliding ring too sharply.



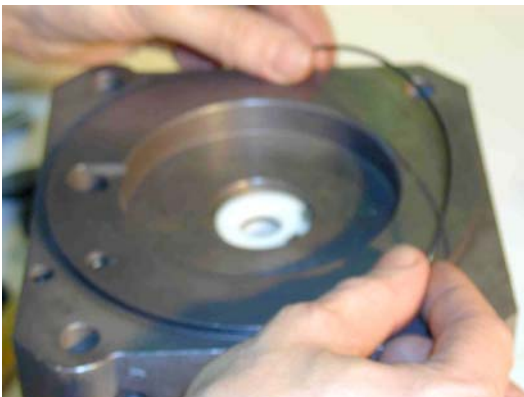


Then mount the two O rings into the grooves at the external diameter of the bushing.

Grease the boring in the cover and insert the bushing with pressure.
Caution: Make sure not to inadvertently remove the O rings

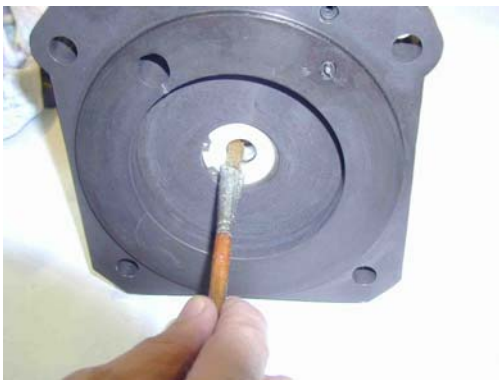


Insert the locking ring into the foreseen groove. Check also for its correct seat.

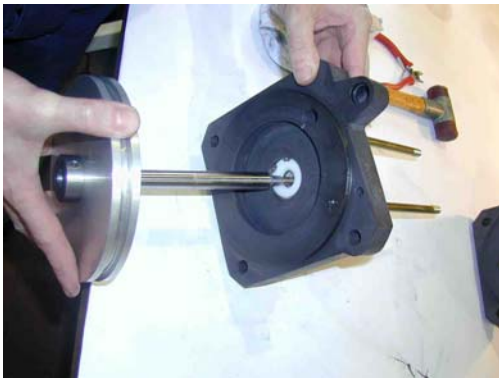


Mount the O ring that seals the air cylinder.

1.1.2.2 Air drive assembly

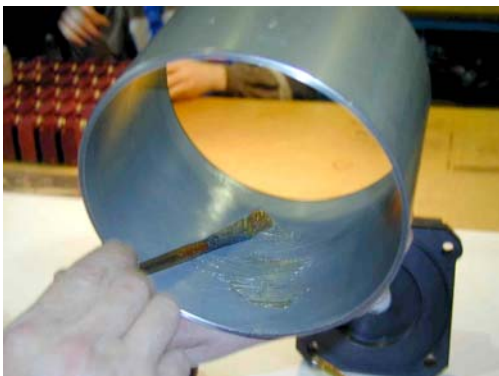


Grease the bearing bush of the bottom cover.



Insert the air piston with piston rod into the bottom cover.

Grease and attach the O ring for the air piston.

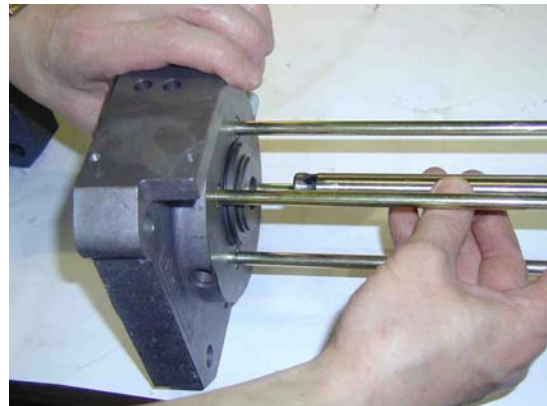


Grease the air cylinder.

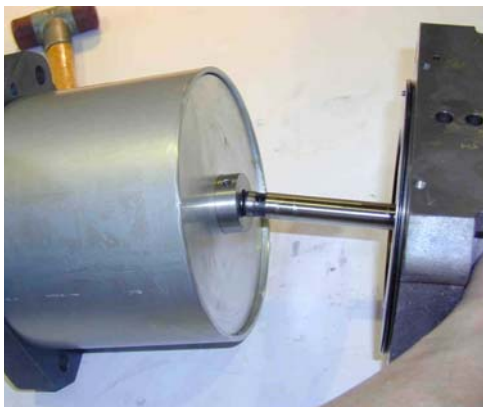
Attach the air cylinder onto the air piston, carefully insert the O ring into the cylinder while doing so. Push the air cylinder and the bottom cover together until the air cylinder fits closely to the bottom cover.

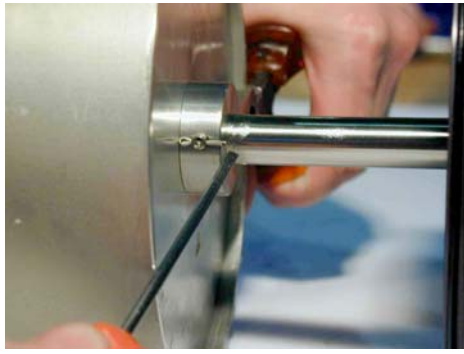


Carefully move the piston rod from outside through the greased bearing bush of the top cover. Caution: Make sure not to damage the sliding rings in the bearing bush in the process.



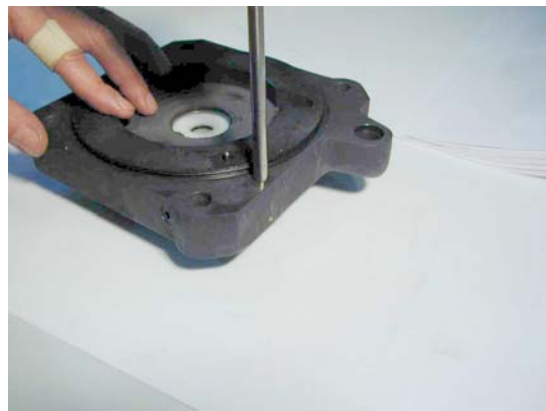
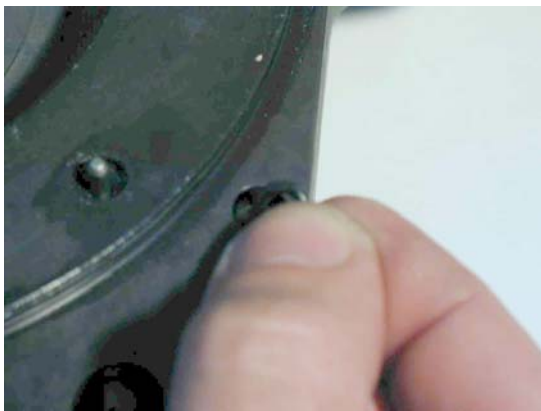
Insert the piston rod into the piston rod holder of the air pistons and fasten with the pin.





Safeguard the sub-assembly with the retaining pin.

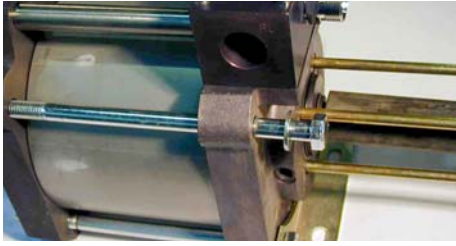
Place the O rings for the capillary control tube into the top and bottom covers and use the capillary control tube to push the O ring into the boring till to the stopper.



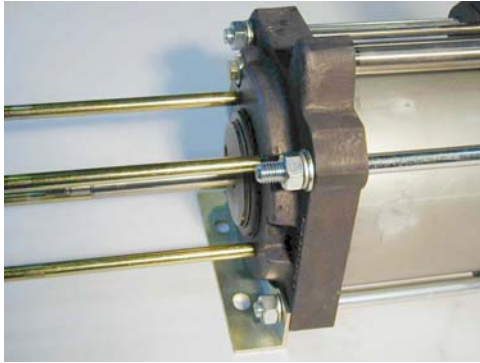
Slightly push the top and bottom cover together and insert the capillary control tube.



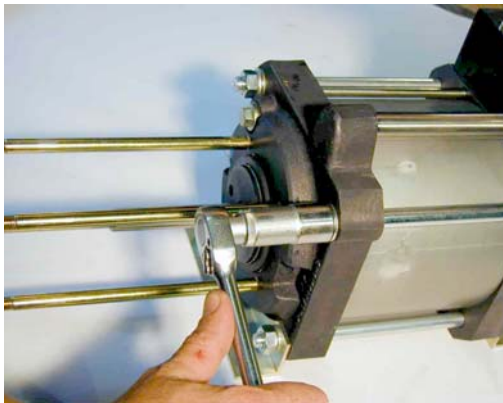
Carefully push the air drive part together until the air cylinder fits closely to the top cover.



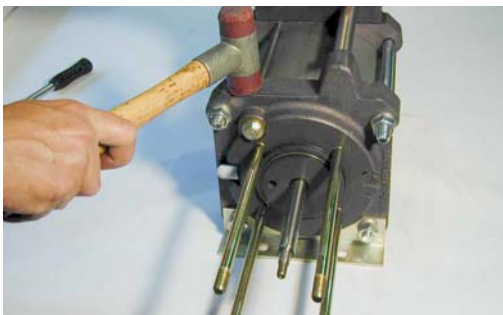
Attach washers and fastening brackets to the hexagon bolts and mount these assemblies. Caution: The hexagon bolt (longer design) is placed at the air supply side, marked with PL.



Also on the opposite side, the fastening brackets, screw retainers and washers are pre-assembled together with the hexagon nuts.



Tighten the bolts only slightly.



The DLE is placed on a workbench for alignment and a soft hammer is used to align the top and bottom cover in parallel.



Then tighten the hexagon nuts crosswise with the specified torque of 55 Nm.

Grease and slip on the O rings for the air pipe.



Re-attach the servo-valve with cooling tube and the air pipe, check the correct seat of the O rings.