

Product

Exploded View

Disassembly & Assembling



Frontfork

4054 / 4357 RO Top Adjuster

Introduction	2
Exploded view	3
Disassembly forkleg	4
Disassembly cartridge	19
Disassembly rod tap rebound/compression	24
Assembling rod tap rebound/compression	27
Disassembly tap compression	28
Assembling tap compression	32
Disassembly screw sleeve	33
Assembling screw sleeve	35
Assembling cartridge	37
Assembling forkleg	42



Introduction

general notice

Pay attention to the following notes, when you are working with WP Suspension products as described in this Workshop manual.

Always use clean and professional tools.
Regular you need next to the general equipment, the special tools of WP Suspension.
These tools with a unique "T"number (available by WP Suspension) protect you from damaging the parts.

Always use aluminium protector-plates, when clamping our products or parts in the vice.

Replace always damaged or worn parts.

Clean all parts before assembling.

Caution:

Many times it is necessary to assemble parts with T131, T132 and T163.

These parts must to dry for at least four hours!!

Workshop manual

4054 / 4357 ROTA

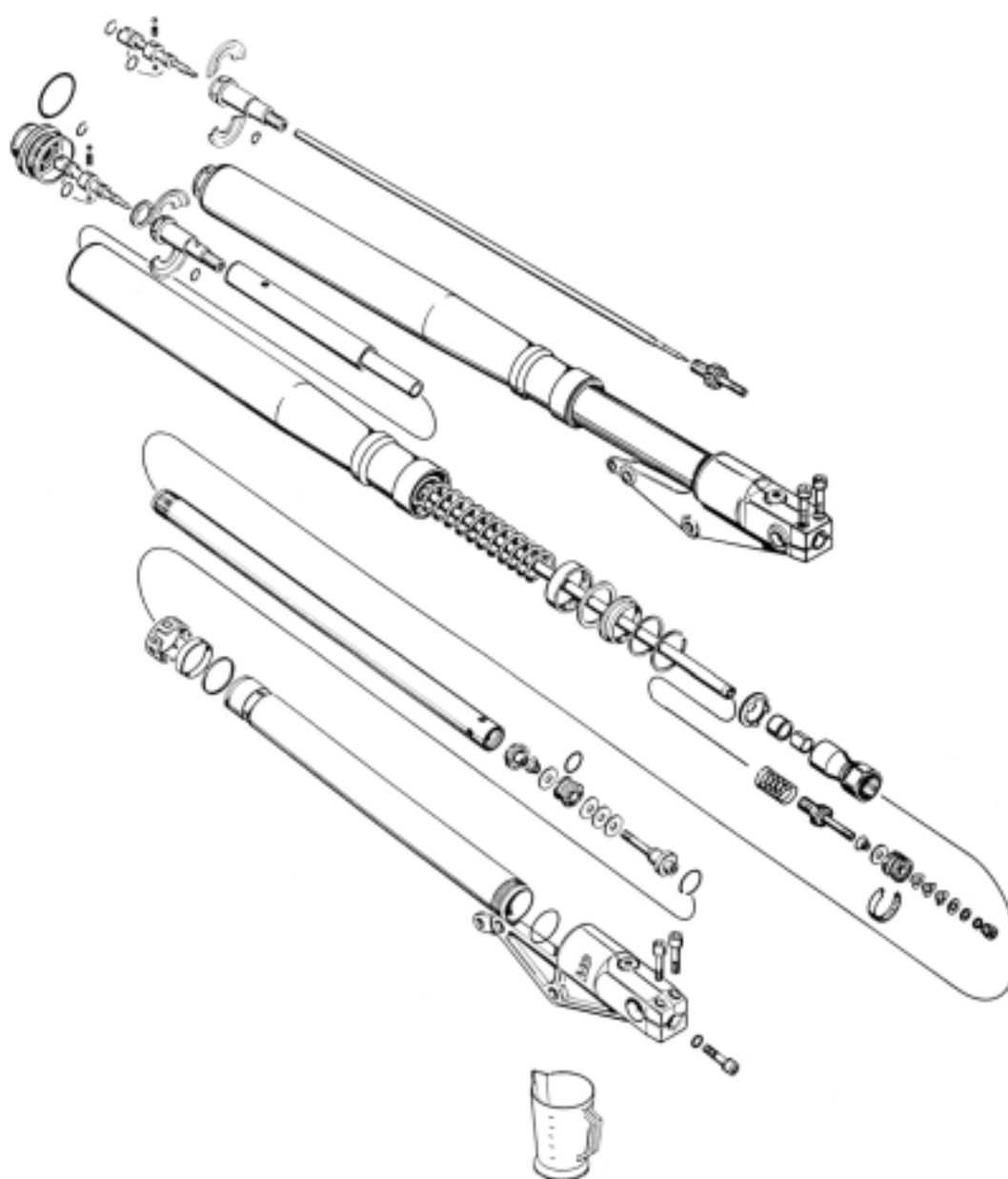
Product

Exploded View

Disassembly & Assembling



Exploded view



Frontfork 4054/4357 ROTA 02/2002



Disassembly forkleg



Note the position of compression/
rebound.



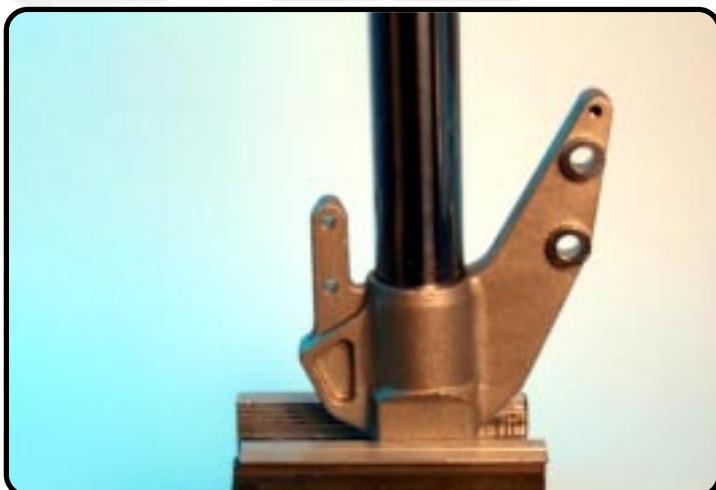
Clamp the outer-tube in T501S and
unscrew the screw-cap.



Remove the screw-cap.



Check the rubber sealing ring inside.



Clamp the axle-clamp in the vice.



Let the outer-tube down to the axle-clamp.



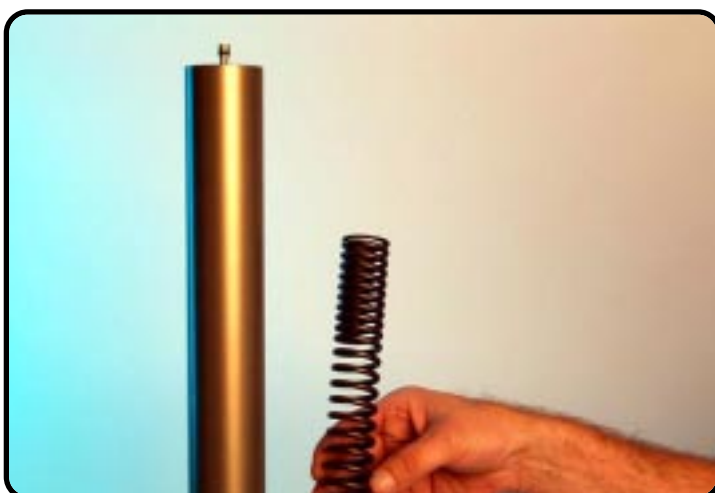
Pull the spring downwards and remove both spring retainers.



Disassemble the preload spacers and the steel washer.



- washer
- preload spacers
- spring retainers half



Remove the spring.



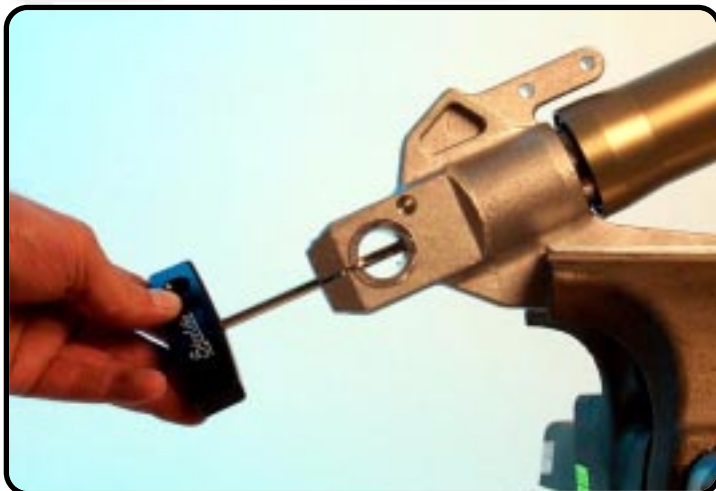
Note the oil level with T137S.
(Cartridge and outer-tube compressed)



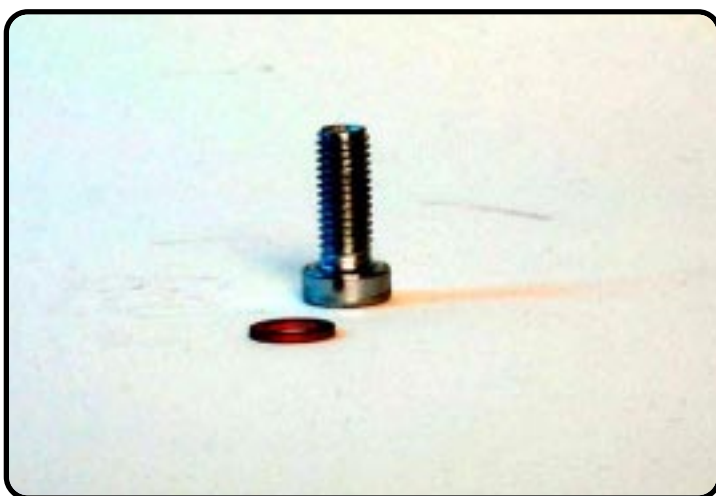
Drain the oil out the forkleg.
Move the piston-rod several times up and down and drain the rest of the oil out of the forkleg.



Clamp the axle-clamp in the vice so that the forkleg is at 45 degrees angle.



Unscrew (Allenkey size 5) the bolt out the axle-clamp.



Bolt and copper washer.



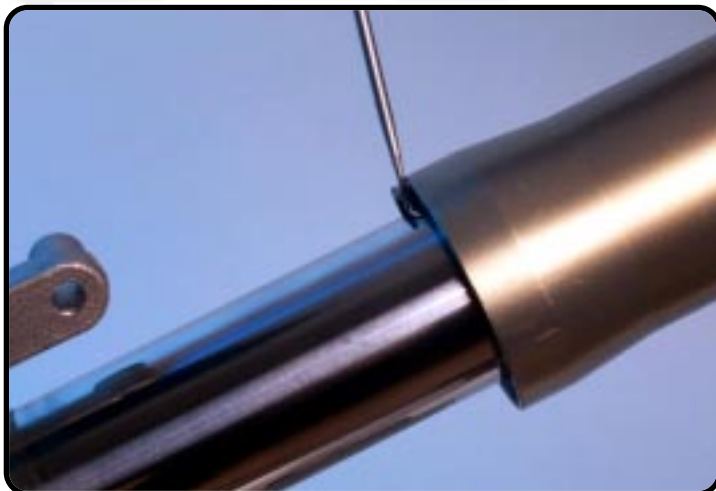
Pull the cartridge out of the forkleg.



Remove the cartridge.



The cartridge.



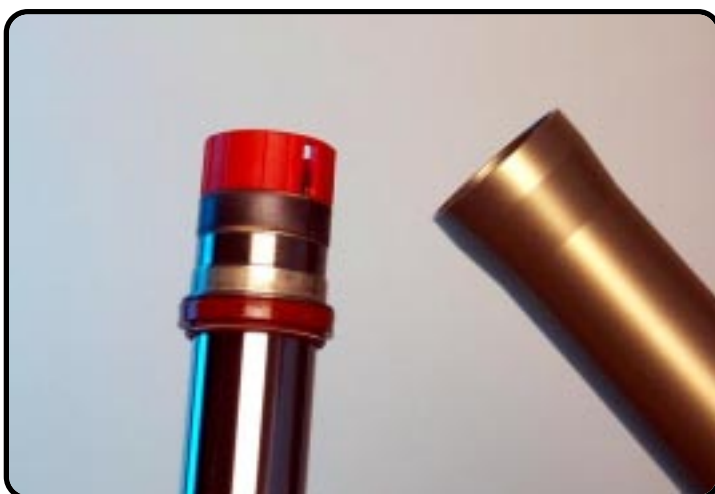
Disassemble the circlip.



Remove the circlip and spacer ring.



Heat the outer-tube near the oilseal.



Pull with both hands the outer-tube from the inner-tube.

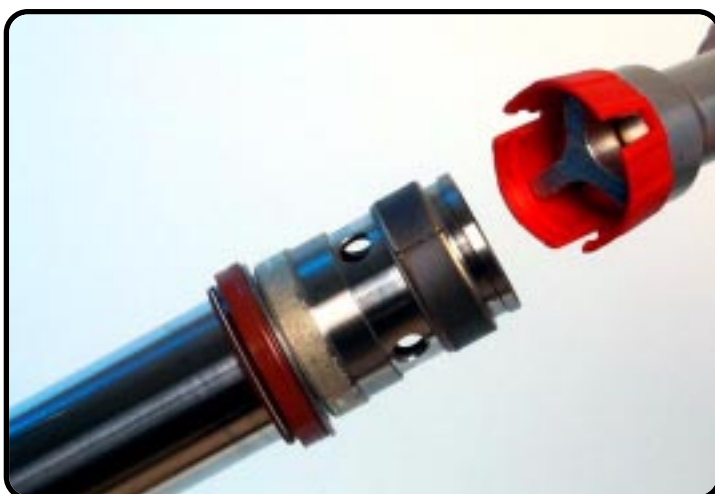


Replace the axle-clamp into the vice.



Disassemble the plastic retainer for DU-bush with T614.

4357 ROTA without plastic retainer.



Remove the retainer.



Remove the DU-bush from the inner-tube.



Remove the washer.



Remove the DU-bush outer-tube.



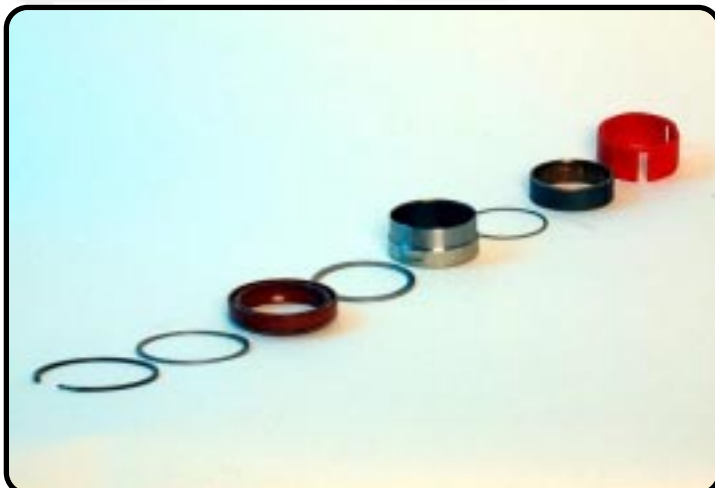
Remove the support ring.



Remove the oilseal.



Remove the spacer ring and circlip.



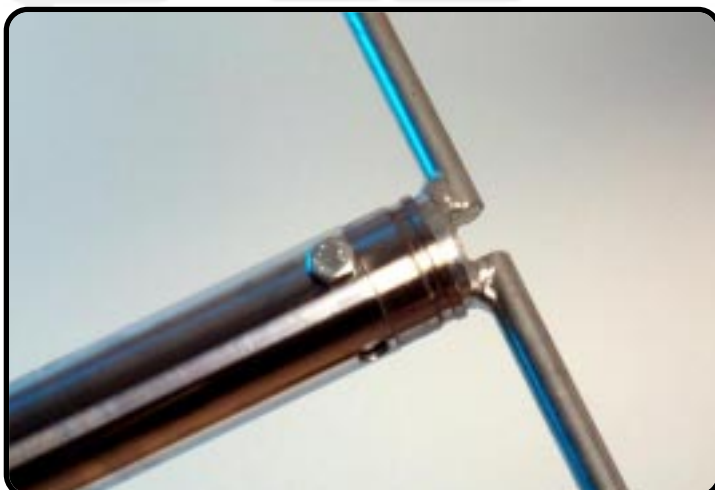
- circlip
- spacer ring
- oilseal
- support ring
- DU-bush outer-tube
- washer
- DU-bush inner-tube
- plastic retainer for DU-bush



Heat axle-clamp.



1. Use T601S... (4054 ROTA)
Use T503S... (4357 ROTA)



2.



And unscrew the inner-tube..

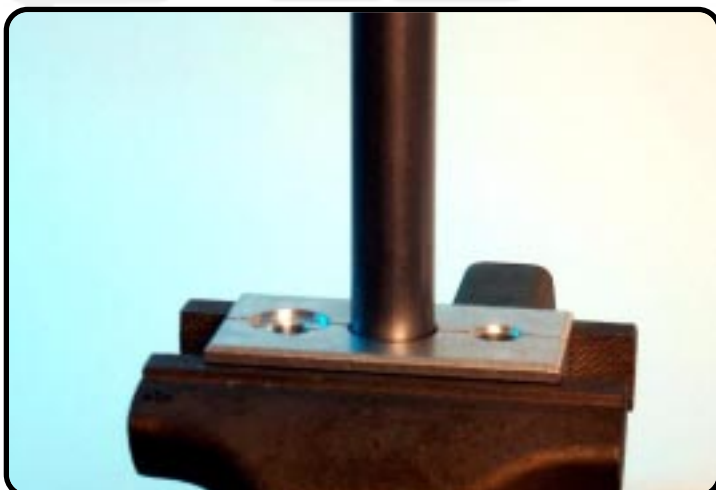


Remove the inner-tube.



Lift the O-ring out the groove of the axle-clamp.

Disassembly cartridge



Clamp the tube of the cartridge in T616S.



Unscrew the screw sleeve. (size 27)



Pull the piston-rod out the tube.



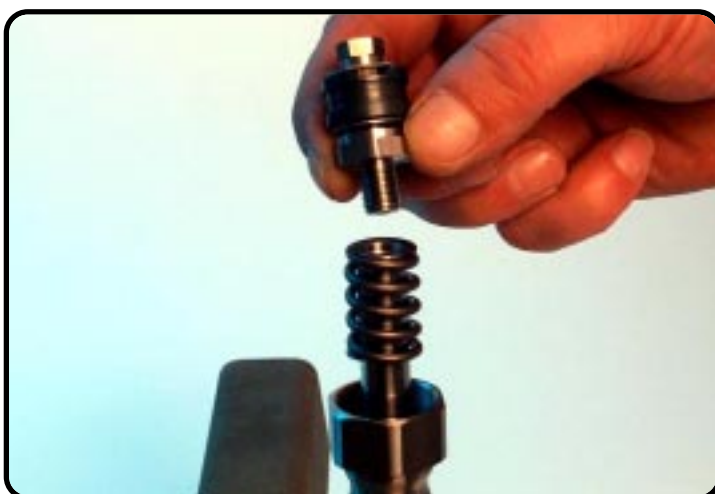
By removing pay attention on the piston ring.



Clamp the piston-rod in T616S.
Keep sufficient distance with the vice.



Unscrew the rod tap. (size 17)



Remove the rod tap "complete".



Remove the reboundspring.



Remove the screw sleeve with spring retainer.



Clamp the piston-rod in on the other side and unscrew the stop "cap". (size 22)



"Stop complete" (compression side)



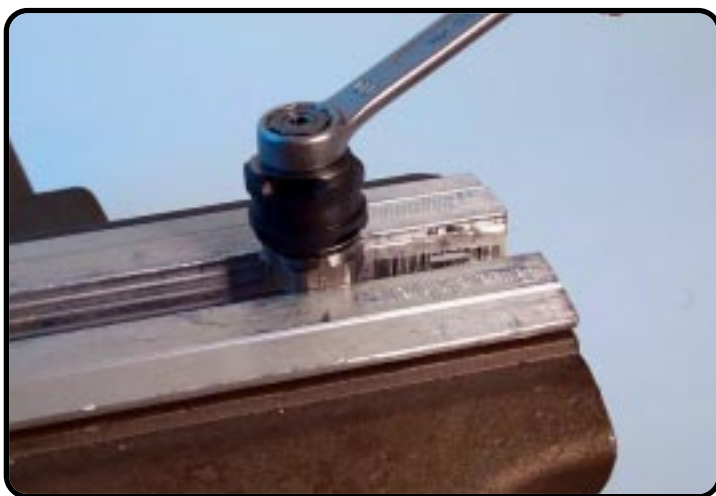
“Stop complete” (Rebound side)

Disassembly rod tap

Clamp rod tap in the vice.

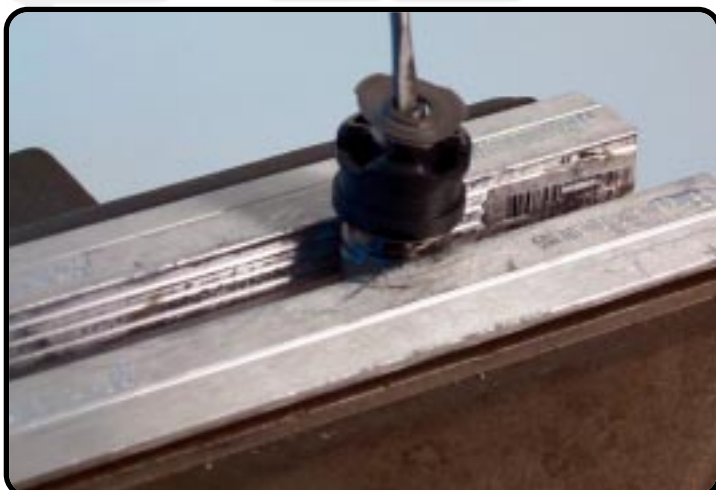


Unscrew the nut. (size 10)
Pay attention to the position of the
triangular shims and assembling
direction of the nut!!!

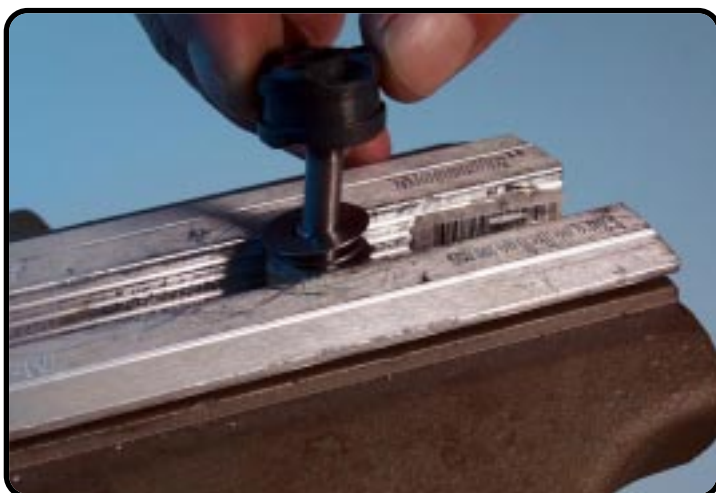


Remove the nut.





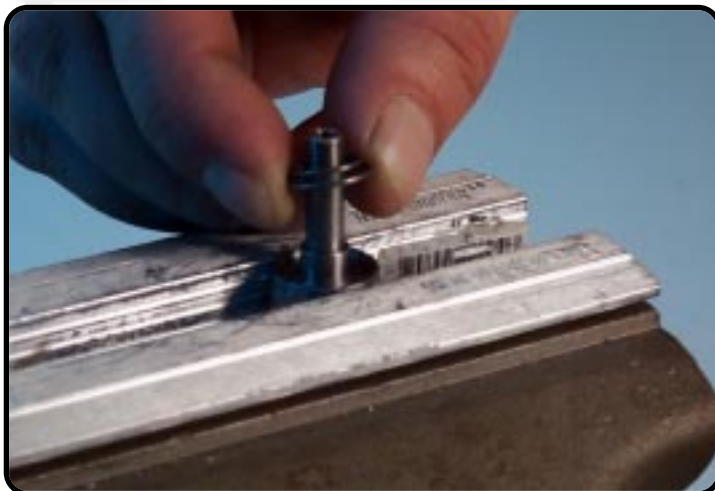
Place a screwdriver on top of the tap and remove the entire shim packet.



Remove the piston.
Pay attention to the assembly direction!!



Remove the shim for check-valve.



Remove the spring for check-valve.
Pay attention to the assembly
direction!!!



- rod tap (rebound/compression)
- spring for check-valve
- shim for check-valve
- piston rebound
- piston ring
- rebound shims
- nut M6x0.5 reb.

Assembling rod tap

Assemble the spring for check-valve.



Assemble the shim for check-valve, piston and the shims.



Tighten the nut to a torque of 5Nm.



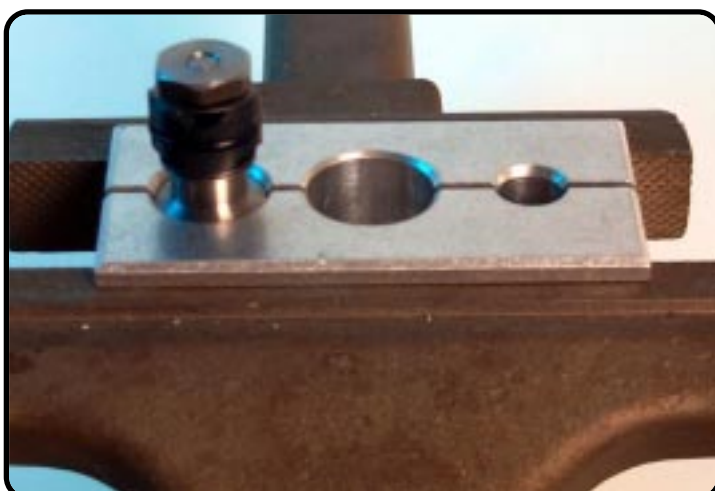
Disassembly tap compression



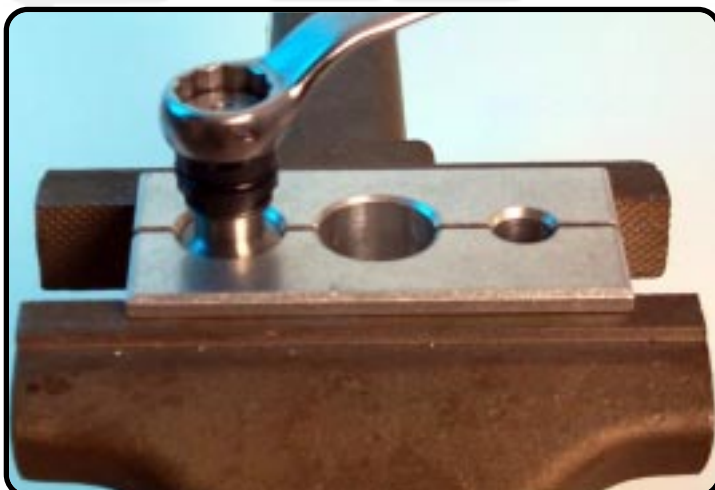
Push with support of the piston-rod, tap compression out the tube.



Tap compression "complete"



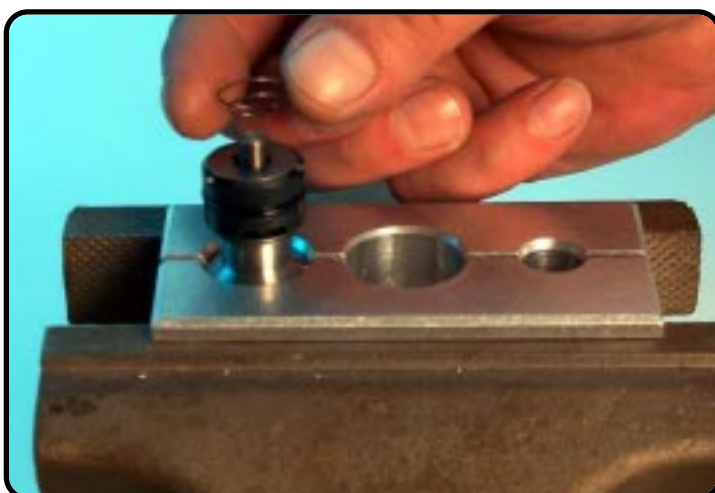
Clamp the tap in T639S.



Unscrew the check-valve nut.



Remove the check-valve nut.



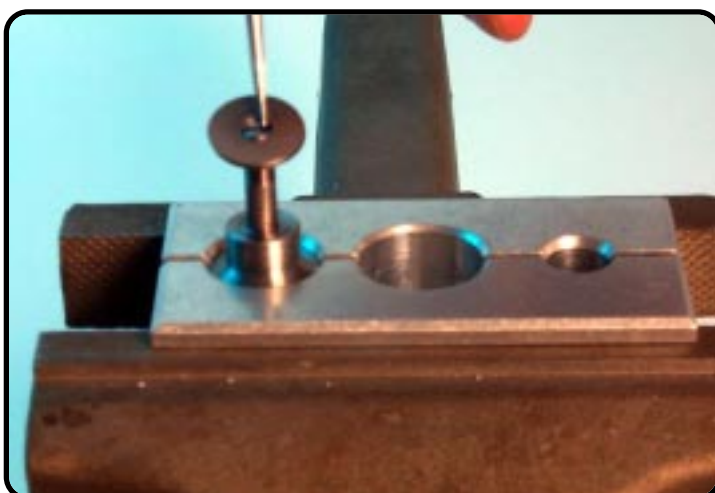
Remove the spring for check-valve.



Remove the shim for check-valve.



Remove the compression piston and check the O-ring.
Pay attention to the assembly direction!!!



Place a screwdriver on top and remove the entire shim packet..

Product

Exploded View

Disassembly & Assembling



- tap compression
- shims
- compression piston with O-ring
- shim for check-valve
- spring for check-valve
- check-valve nut

Assembling tap compression

Assemble the shims and the piston with O-ring.



Assemble the shim and spring for check-valve.



Assemble the nut and tighten it to a torque of 5Nm.
Check if the spring is placed in the chamber of the nut.



Disassembly screw sleeve

For disassembling the bump rubber use T109.



Lift the bump rubber out the screw sleeve.



Disassemble the DU-bush with T619.





Remove the DU-bush with support of the vice.



- springretainer
- screw sleeve
- DU-bush
- bump rubber

Assembling screw sleeve



Assemble the DU-bush with support of T620.



Press the DU-bush into the screw sleeve.



Assemble the bump rubber.



With support of the stop you can...



...push the bump rubber downwards.

Assembling cartridge

Grease the O-ring with frontfork oil.



Assemble the tap compression "cpl." in the tube.



Push with support of the piston-rod the tap downwards until the springing.





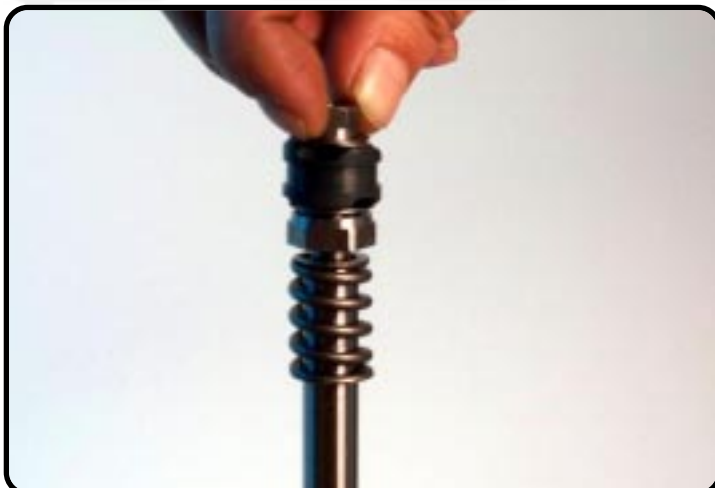
Clamp the piston-rod in the clamping block with the bevelled edge on top.



Replace the screw sleeve and spring retainer.



Replace the rebound spring.



Assemble the rod tap...



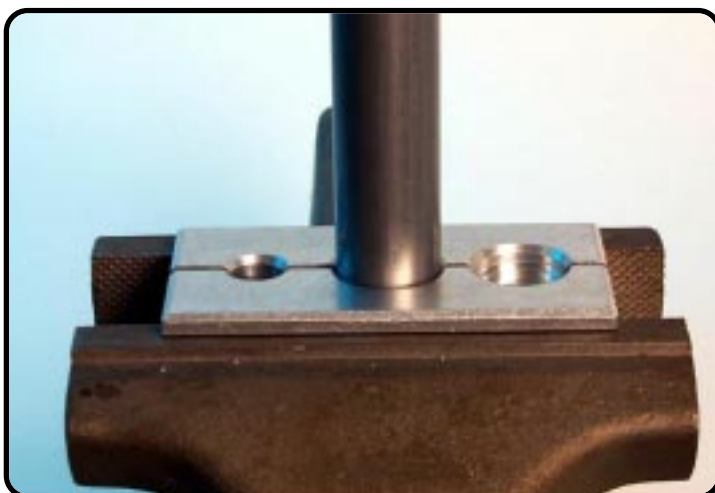
...and tighten it.



Assemble the stop "cpl."



Tighten the stop "complete".



Clamp the tube in the clamping block.



Assemble the piston-rod "complete" with the piston ring into the tube.



Assemble the screw sleeve on the tube.



Tighten the screw sleeve.

Assembling forkleg



Place a new O-ring in the groove of the axle-clamp.



Wetting the thread of the inner-tube with T132.



Wetting the thread of the axle-clamp with T132.



Clamp the axle-clamp in the vice and assemble the inner-tube.



Screw tight the inner-tube with T601S.

4357 ROTA with T503S.



Replace the circlip and spacer ring.



Place T615 on top of the inner-tube.

4357 ROTA with T512.



Dip in the oil, or grease the oilseal with frontfork oil.



Slide the oilseal over the inner-tube.



Replace the support ring.



Assemble the DU-bush outer-tube.



Assemble the washer.



Assemble the DU-bush on the inner-tube.



Assemble the plastic retainer and check if the retainer can rotate free.

4357 ROTA without plastic retainer.



Slide carefully the outer-tube over the inner-tube.



Assemble with T635S the DU-bush -with the flat side- back into the outer tube.

4357 ROTA with T502S.



Tapping the DU-bush in the outer-tube.



Use the other side of the tool to assemble the oilseal.



Tapping the oilseal into the outer-tube.



Place the spacer ring and assemble the circlip.



Replace the cartridge in the forkleg, in the center of the axle-clamp.



Screw the bolt with a new copper washer.



Tighten the bolt to a torque of 22Nm.



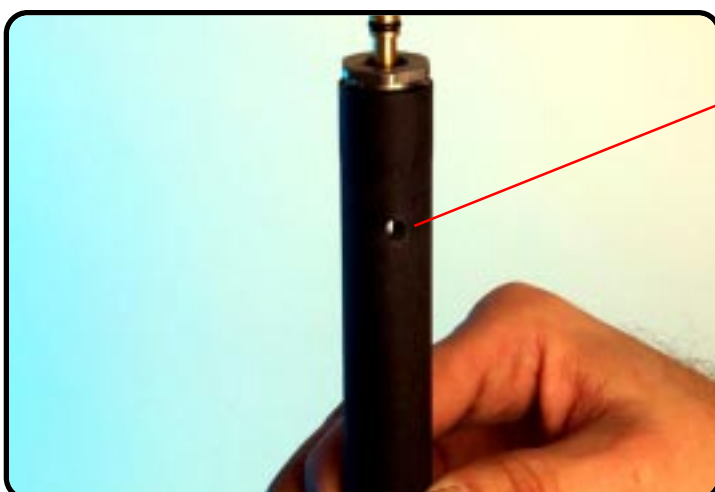
Clamp the forkleg (axle-clamp) in the vice and fill the forkleg just under the edge of the outer-tube with oil. Keep outer-tube down.



Move the outer-tube several times up and down.
(Not too high)



Move piston rod several times up and down, till you feel that all air is bled out.
(The damping is smooth over the entire stroke)



Compression side: the oil is coming through this hole.



Adjust the O-ring of T137S.



Hold the upper side of the piston-rod exactly level with the edge (fully compressed) of the outer-tube. Also the O-ring of the bottle. Remove the oil till the right level.



Assemble the spring with the progressive side on top. Hold the piston up with a screwdriver.



Assemble the steel washer and the preload spacers.



Assemble the spring retainer...



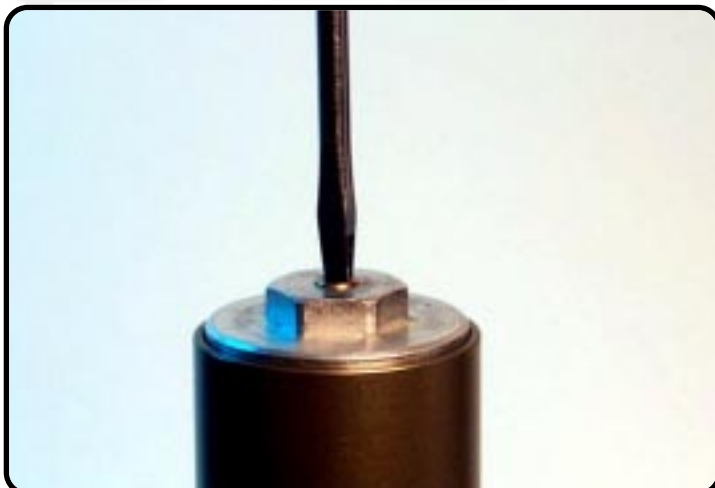
...and the second retainer.



Pull up the outer-tube and assemble the screw-cap.



Place the forkleg in the clamping block and tighten the screw-cap to a torque of 25Nm.



Adjust position rebound/compression.