

Product

Exploded View

Disassembly & assembling



Shock absorber

5018 PDS 1998

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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 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 in the vice.

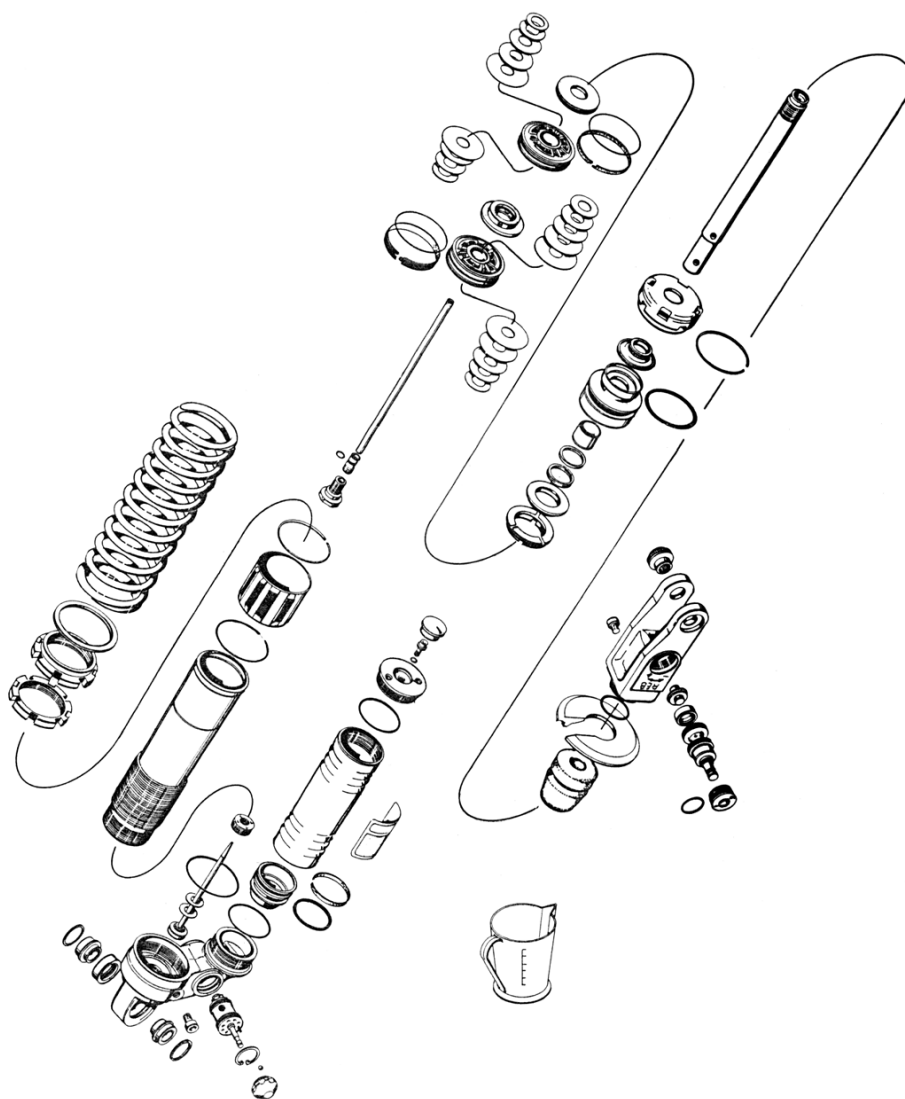
Replace always damaged or worn parts.

Clean all parts before assembling.

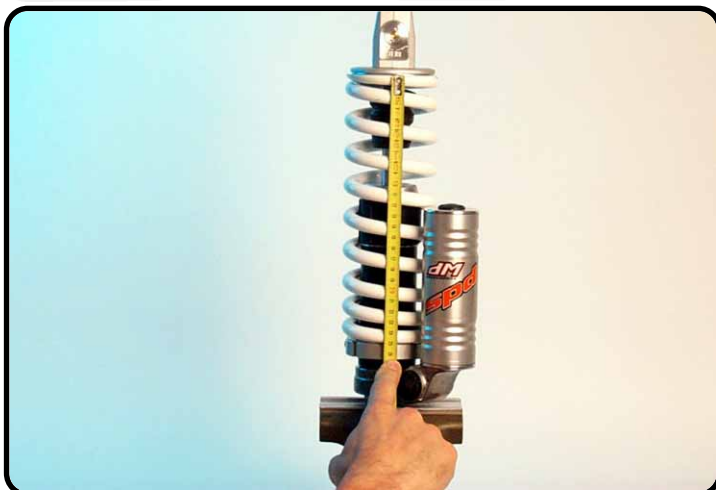
Caution:

Many times it is necessary to assemble parts with T131, T132 and T163.
These parts must to dry for at least four hours!!

Exploded view



Disassembly shockabsorber



Measure the length (preload) of the spring.



Take notice of position rebound.
(1 is closed, “+” mark)



Take notice of position compression,
and turn knob to position 1.
(1 is open “-” mark)



Unscrew with T106 the spring retainers.



Turn both spring retainers to the bottom.



Remove the spring retainer open.



Remove the spring.



Remove the spring washer.



Remove rubber cap of the nitrogen reservoir.



Release slowly the nitrogen pressure.
Allenkey size 4.



Tap off the cover on one side...



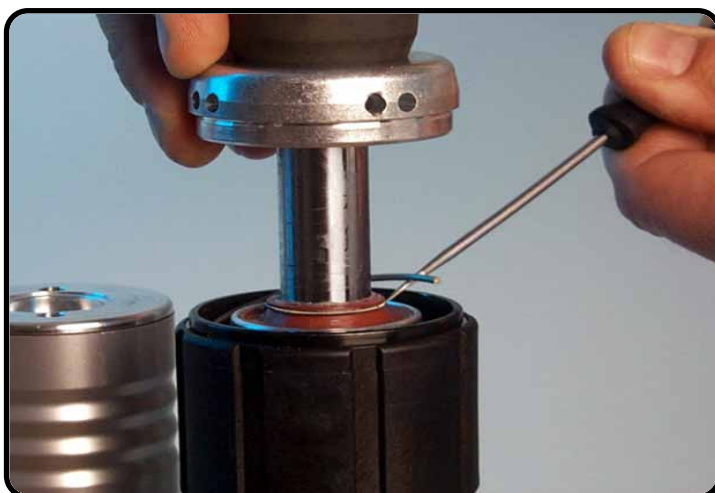
...and on the other side.



Tap the adaptor DU-bush loose with T1216.



Push the adaptor downwards.



Remove the circlip.



Pull firmly but carefully the piston-rod "complete" out of the tube.

Disassembly piston-rod

Remove the piston-rod bolt. (size 22)



Place a screwdriver on top of the piston-rod and lift the entire assembly, consisting of rings, pistons and shims.



- rebound bush
- compression shims piston 1
- piston 1
- piston ring
- rebound shims piston 1
- washer
- compression shims piston 2
- piston 2
- rebound shims piston 2
- piston-rod bolt.





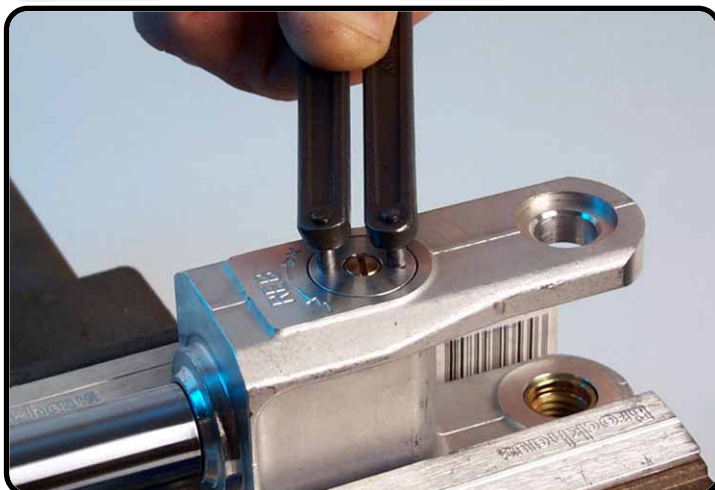
Remove the adaptor DU-bush.



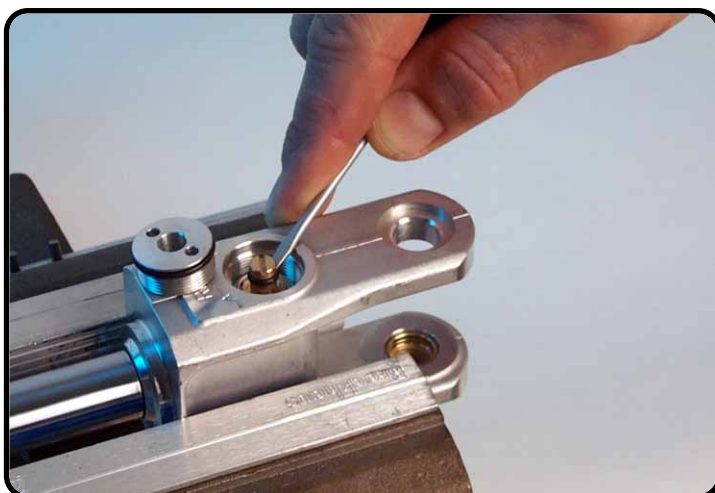
Remove the cap.



Remove bump rubber.



Disassemble the screw-cap rebound with T1218.



Disassemble rebound adjusting holder out of the mounting fork with a screwdriver.



Rebound adjusting holder.



Remove the rebound valve seat and bush.



The rebound adjusting mechanism in parts.

Disassembly adaptor DU-bush



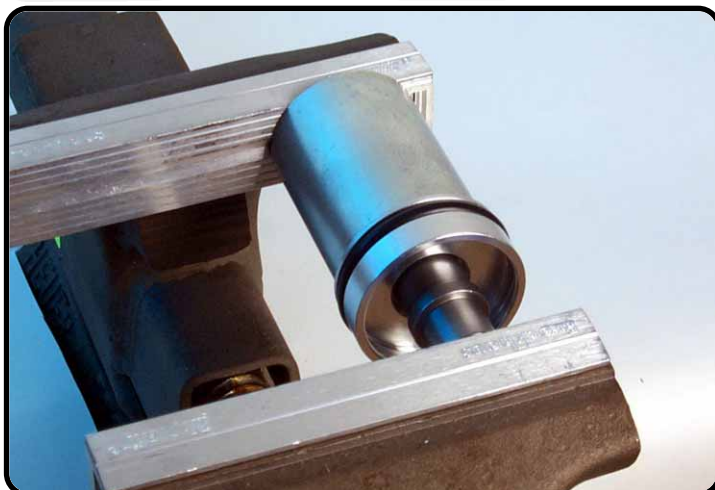
Pull the rebound rubber out of the adaptor.



Pry the dirt scraper out of the holder.



Disassemble the DU-bush with T1208 and T1209.



Press the DU-bush out of the adaptor.



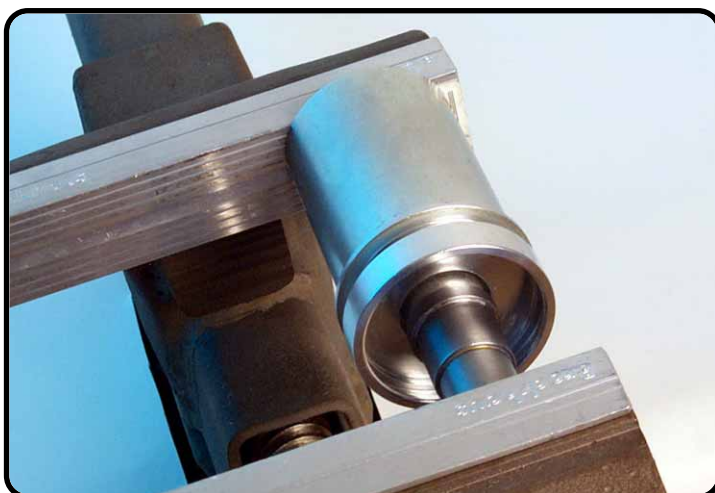
- rebound rubber
- disc steel
- quad ring
- back-up ring
- DU-bush
- adaptor
- O-ring
- dirt scraper

Assembling adaptor DU-bush

Assemble a new DU-bush with T1208
and T1209.



Press the DU-bush into the adaptor.

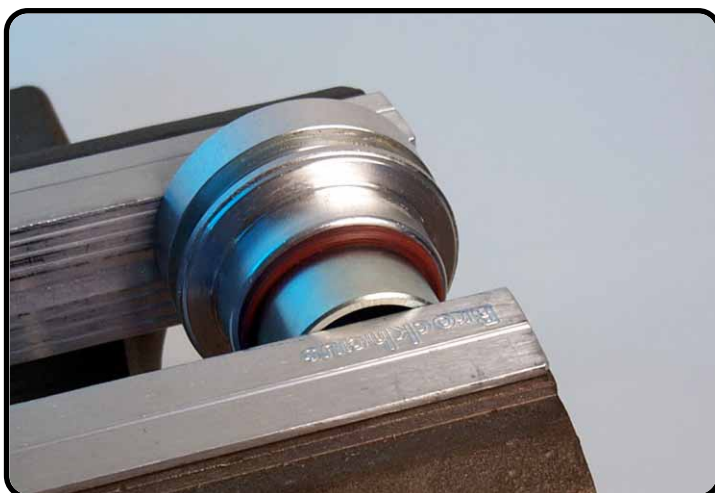


Calibrate the DU-bush with T1205 and
T1209.





Drive the calibration mandrel through the DU-bush.



Press with T1204 a new dirt scraper into the adaptor.



Replace the O-ring.



Assemble the back-up ring.



Assemble the quad ring.



Assemble the steel disc.

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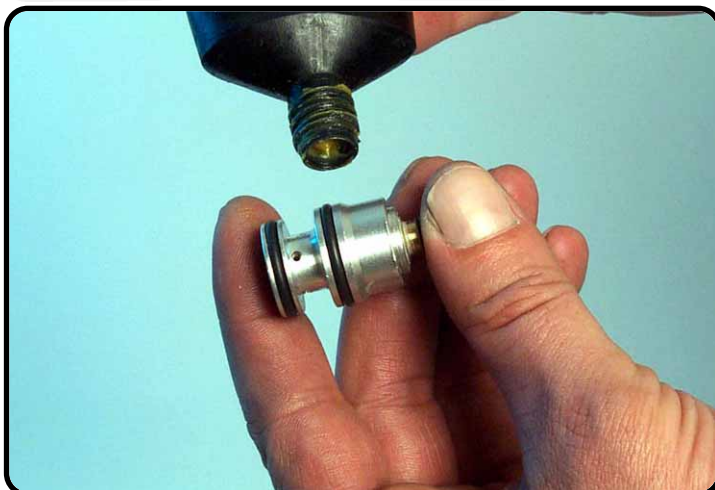


After assembly the rebound rubber check if the rubber can be rotate in the adaptor.

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Assembling piston-rod



Grease both O-rings of rebound mechanism with T158.



Place the entire assembly inside the housing.



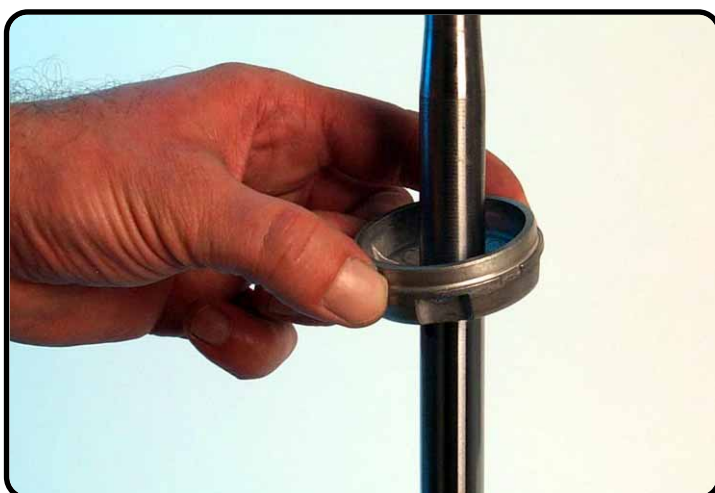
Tighten the screw-cap with T1218.



Place T1215 on top of the piston-rod.



Assemble bump rubber.



Place the cap.



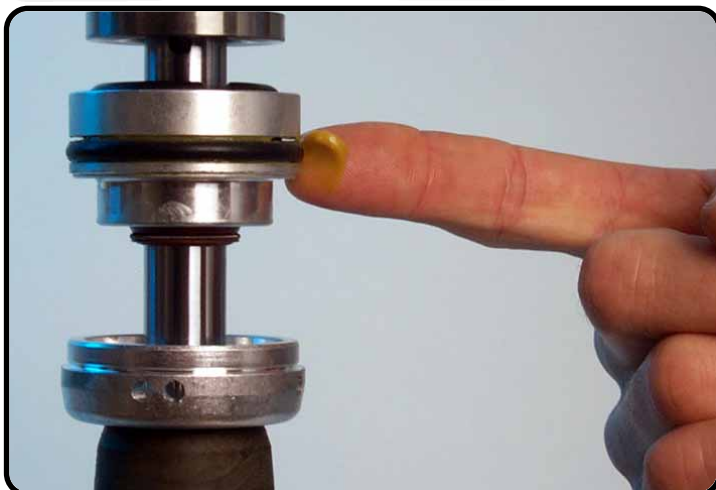
Grease dirt scraper with T625 and...



...assemble the DU-bush adaptor.



Replace the entire damping packet.



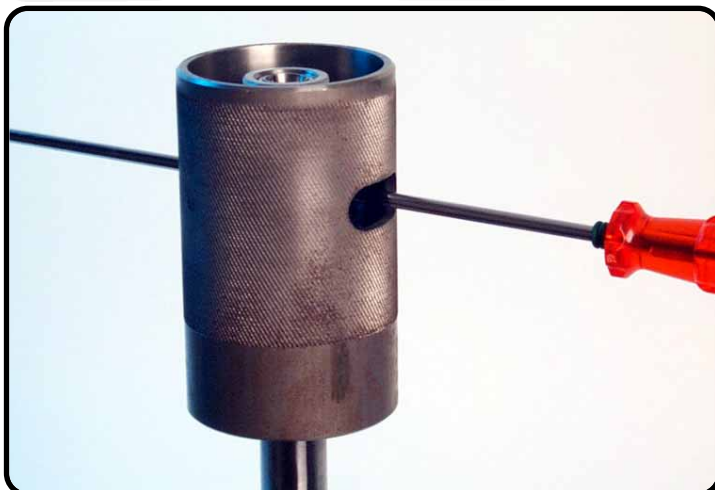
Grease the O-ring of the adaptor with T158.



Drip T163 on the thread of the piston-rod bolt.



Slide T1214 over both pistons and the adaptor and assemble the bolt.



Place T107S through T1214, washer and piston-rod.



Tighten the bolt to a torque of 40Nm.

Disassembly tube-side



Heat the nitrogen reservoir on the bottom side.



Unscrew reservoir with T146 and T147.



Clamp nitrogen reservoir into T146 and T147 and unscrew the screw-cap with T125S and T145S.



Push the separation piston out of the reservoir with T107S.



Remove springring from the tube.



Remove spring guide.

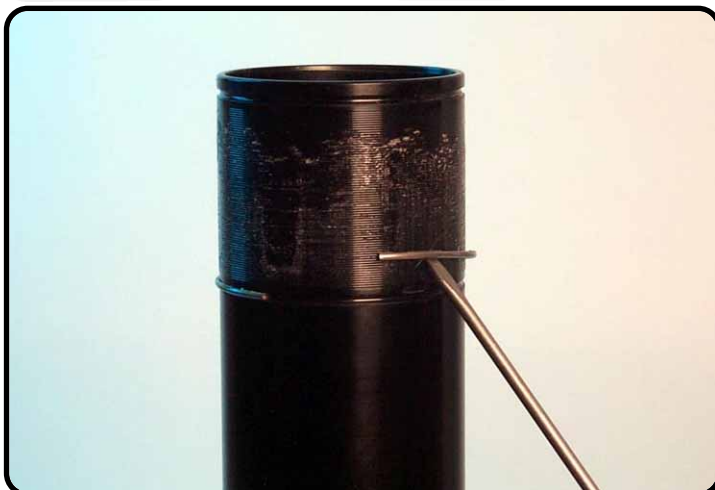
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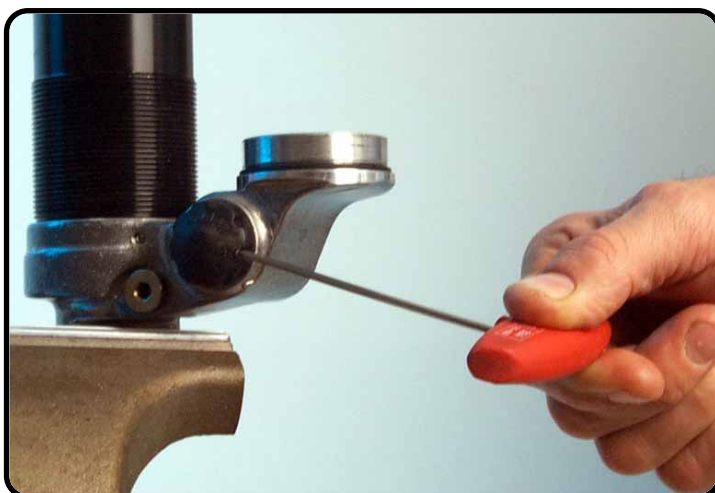
Remove the second springing.

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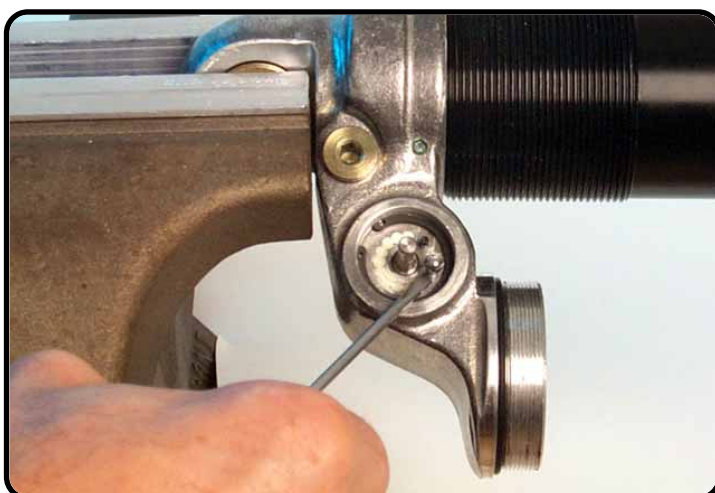
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Screw both screw retainers from the tube.



Unscrew (size 2.5) the compression adjusting knob and remove it.



Remove the ball-steel.



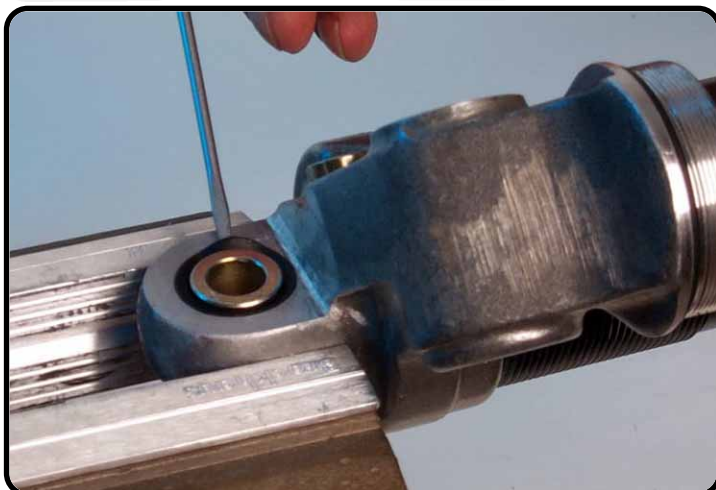
Disassemble the lockwasher.
Pay attention to the assembling
direction!!!



Pull out the compression control
mechanism.



The compression control mechanism
complete.



Remove both seals with a screwdriver.



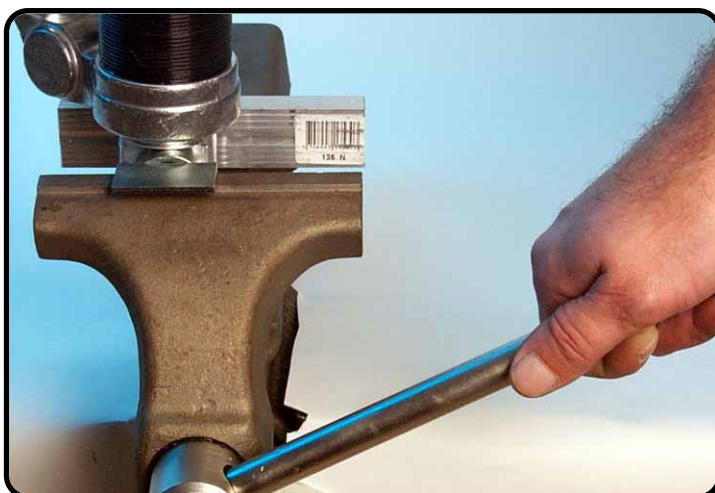
Disassemble the adaptor bushes with T120.



Tap adaptor bushes out the heim- joint KGW.



Disassemble heim-joint KGW with T1207S.



Press with the vice the heim-joint KGW out of the bottom.



- seal
- adaptor bush
- heim- joint KGW
- bottom
- adaptor bush
- seal

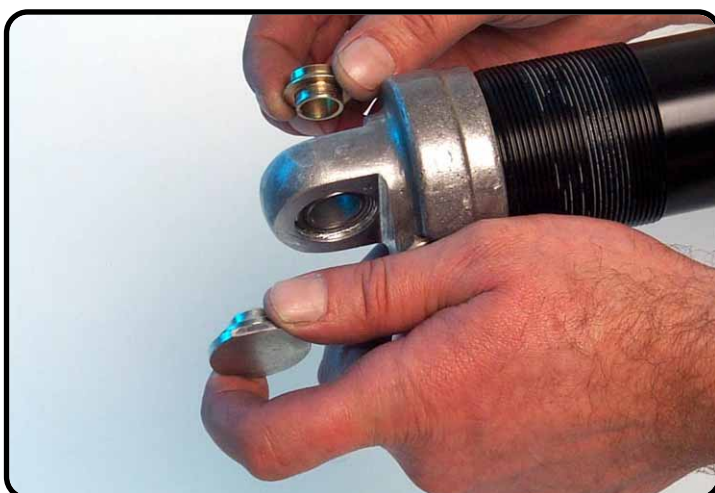
Assembling tube-side



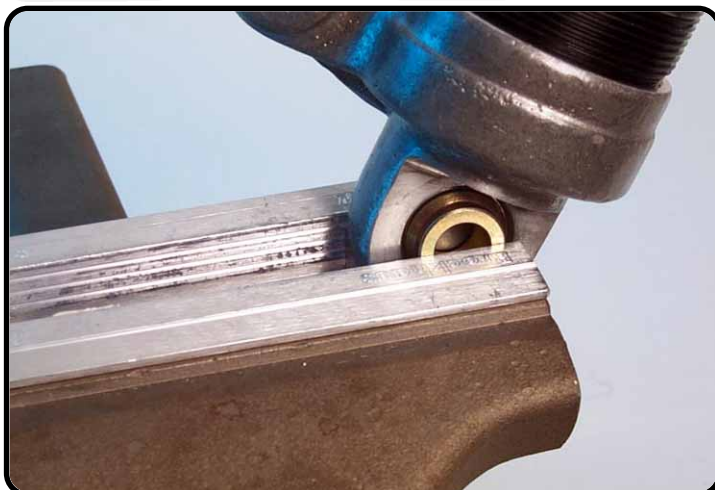
Drip on the innerside of the bottom-eye T163, and mount heim-joint KGW with T1206.
(With the bevelled edge direction bottom)



Press heim joint into the bottom-eye with support of the vice.



Press one adaptor bush in the heim-joint with T1206.



And the second without tool.



Assemble the seals.



Building up the nitrogen reservoir.
Grease the O-ring of the separation piston with T158.



Assemble the separation piston with the spherical surface in the direction of the bottom.



Wetting the thread of the reservoir on both inner sides with T132.



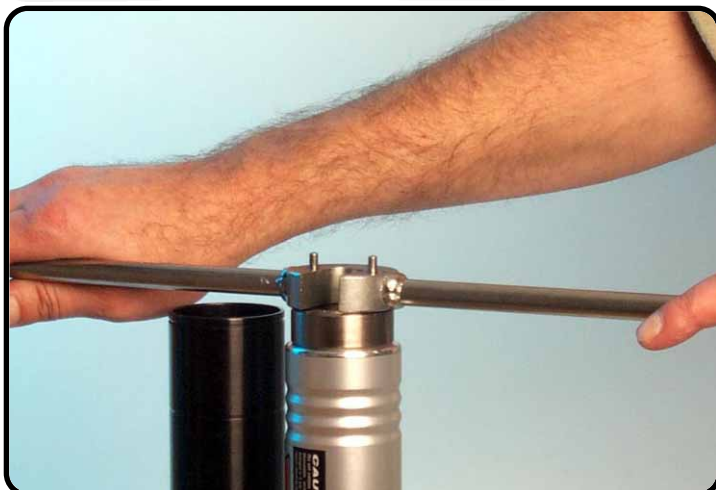
Drip T132 on thread screw-cap reservoir.



And T132 on the thread of the bottom.



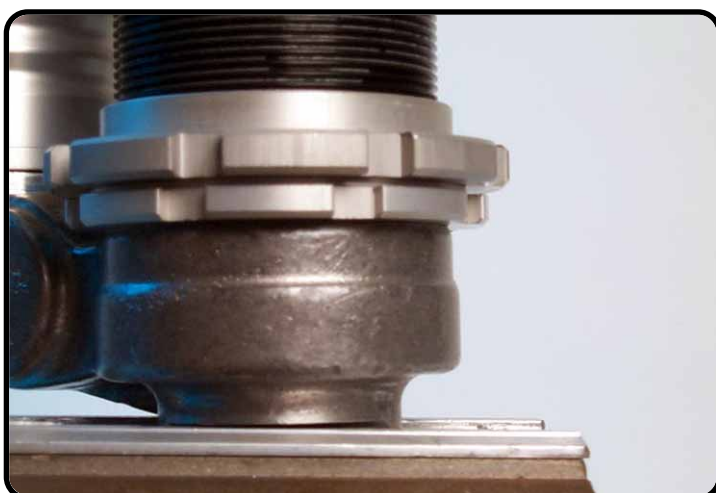
Assemble the screw-cap with the reservoir.



Tighten screw-cap and reservoir on bottom with T125S and T145S.



Assemble both springretainers.



Screw the screw retainers against the bottom.



Assemble the springing in the groove.



Slide spring guide over the tube.

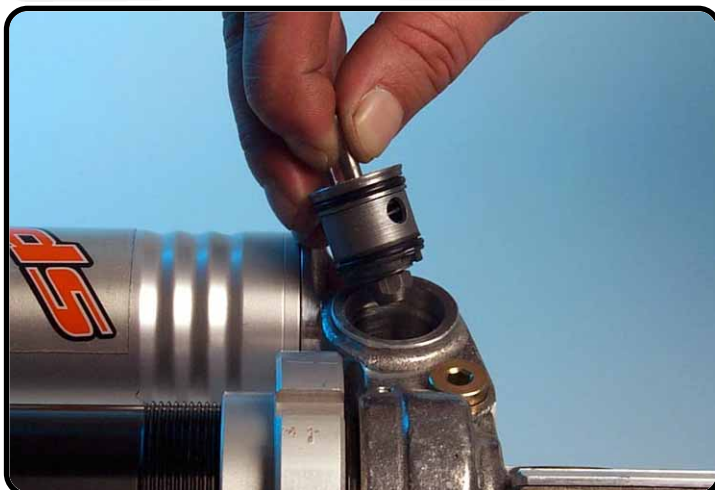


Place upper springing in the groove.

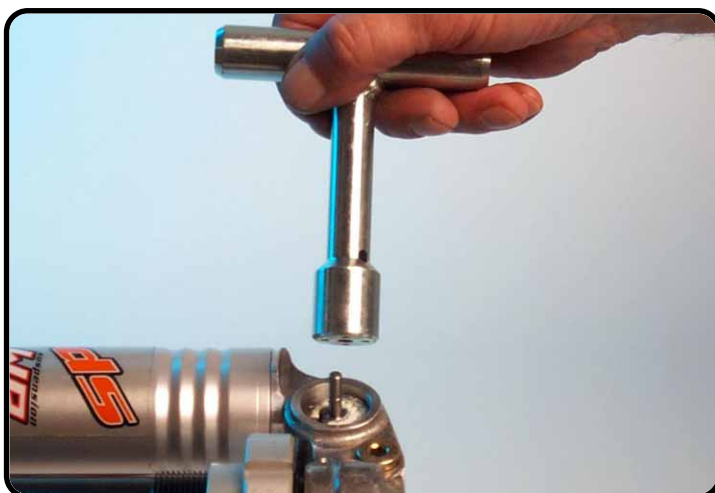


Assembling the compression control mechanism.

Grease the O-rings with T158.



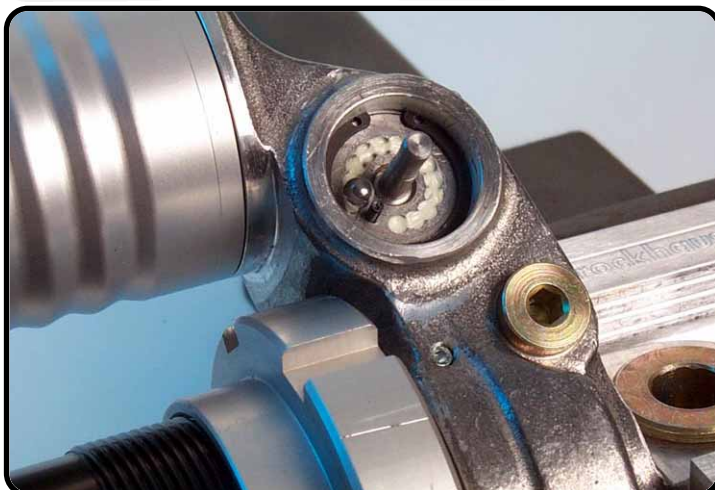
Assemble the mechanism so that the hole of this, is facing the hole to the direction of the tube.



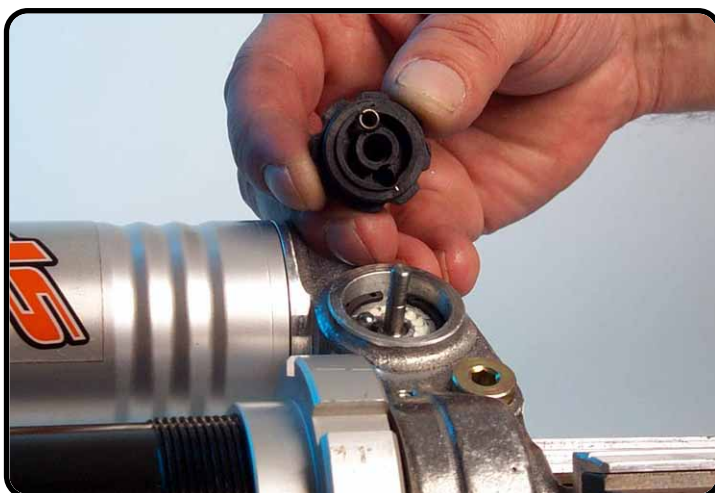
Push mechanism with T160 past the lock washer groove.



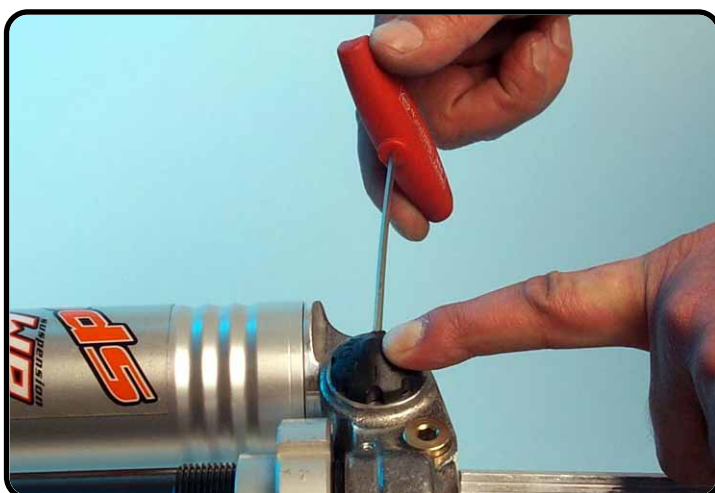
Assemble the lock washer with the flat side above.



Grease the upper side of compression mechanism with T159 and the place steel ball next to the pin.



Mount the adjusting knob with the spring directly on the steel ball.



Push on the knob and tighten it.
Adjust knob to position 1.

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Fill the tube with oil about 10mm under the springing groove.

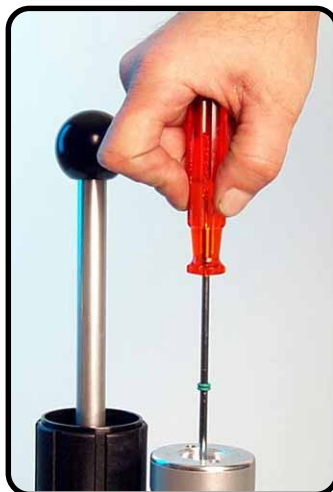


Place T1210S into the tube and T107S into the nitrogen resevoir, slide the O-ring as far as the screw-cap.



Push the plunger downwards.

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Push T107S (separation piston) and plunger alternate downwards.



Adjust the separation piston about 10mm from bottom, also the O-ring on the shaft of T107S will be 10mm above the screw-cap.



Adjust compression mechanism to “+” mark. (closed)



Fill up oil 35mm beneath the edge of the tube.



Assemble piston-rod "complete". Grease the O-ring of the DU-bush adaptor with T158.



Slide piston-rod "complete" into the tube.



Push the adaptor DU-bush into the tube.



Push adaptor past the springing groove.



Assemble the springring into the groove.



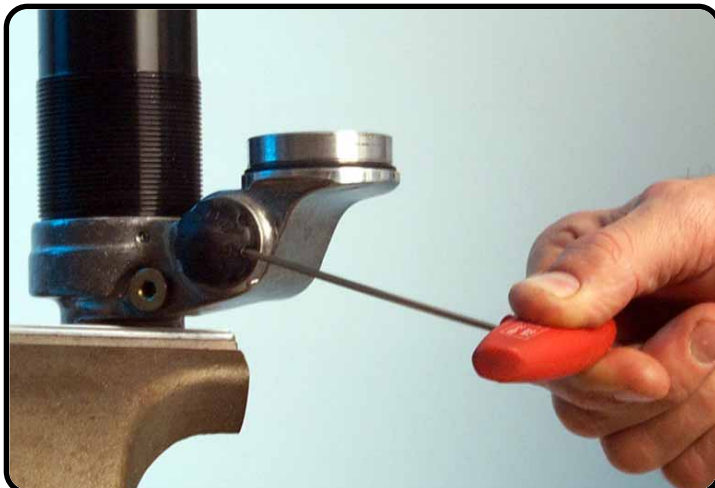
Pull up the piston-rod, and the springing will spring in the groove.



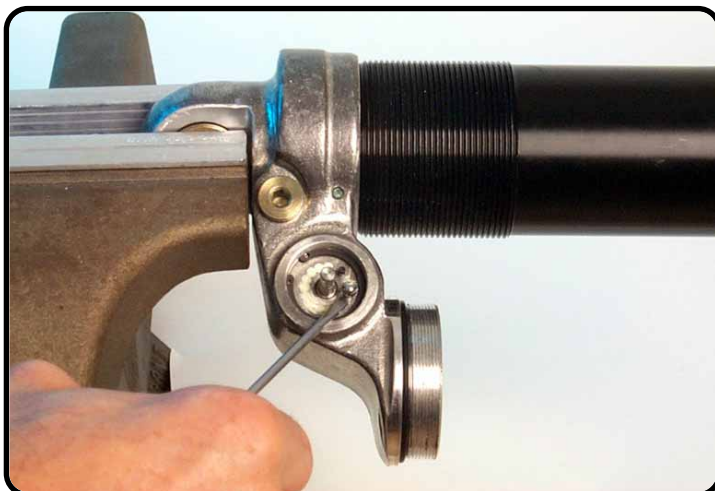
Tap the cap back into position.

Bleeding

Remove the compression adjusting knob.



Remove the steel ball.



Remove the lock washer.





1. Remove the compression control mechanism.



2.



Clamp the shock absorber (not too tight) on the spring guide into the vice at an angle of ± 45 degrees with the housing of the compression mechanism at the highest level. Connect the adaptor of T144S into the housing.





Ensure that there is sufficient oil in the bottle and that the hose is also full with oil.
You will see air bubbles rising up through the hose.



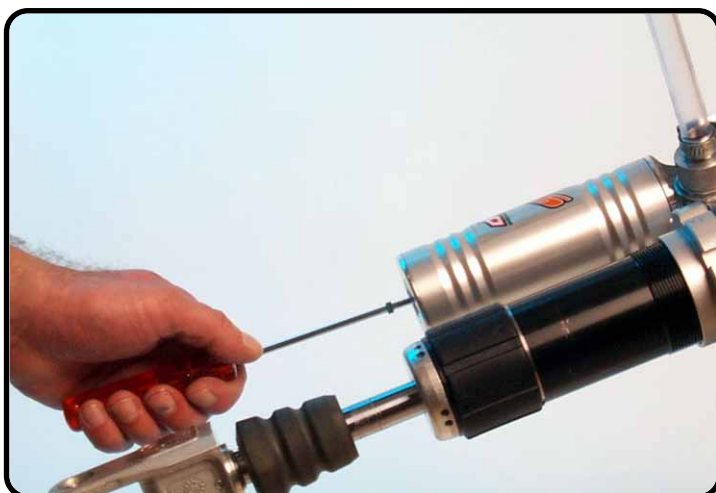
Push the piston-rod slowly in.



Pull the piston-rod out.



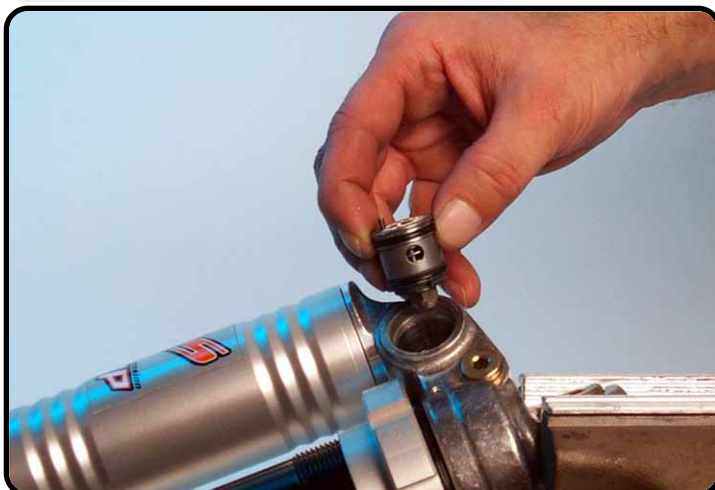
Remove the shock absorber out the vice and turn it 45 degrees to the right and left several times.
Repeat the procedures until all air is bled out.



Pull the piston-rod entirely out.
Check position of the separate piston with T107S. (O-ring on shaft tool)



Unscrew adjusting needle clockwise out of the compression control mechanism.



Assemble the compression mechanism without needle.
Note: hole of mechanism facing hole direction tube.



Assembled compression control mechanism.



Screw the adjusting needle hand tight into the mechanism.

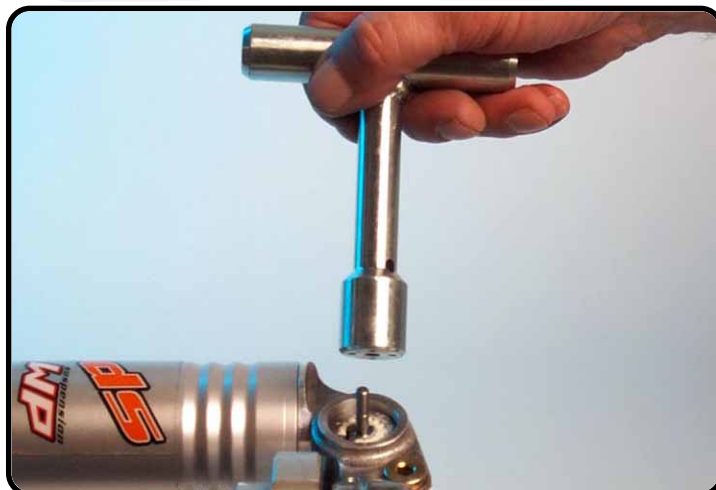
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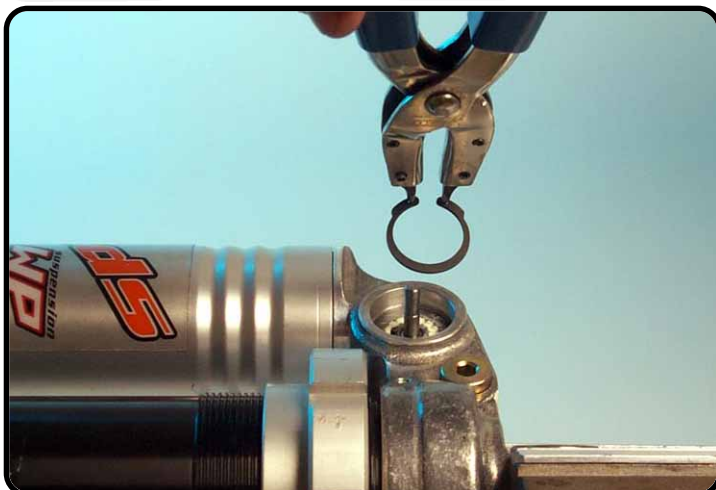
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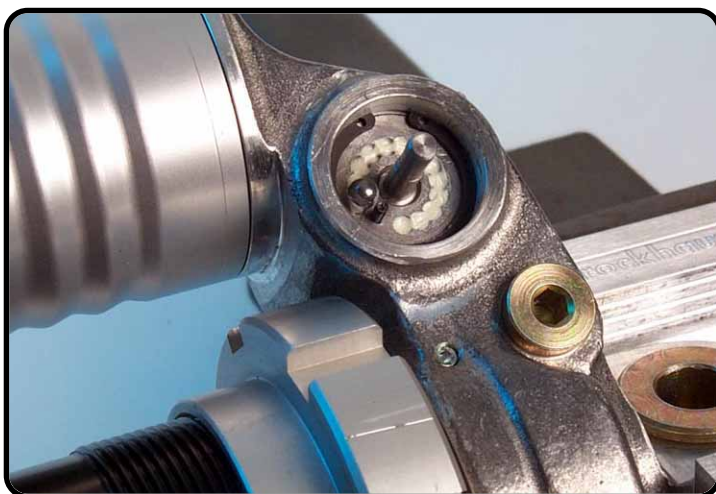
Push mechanism with T160 past the lock washer groove.

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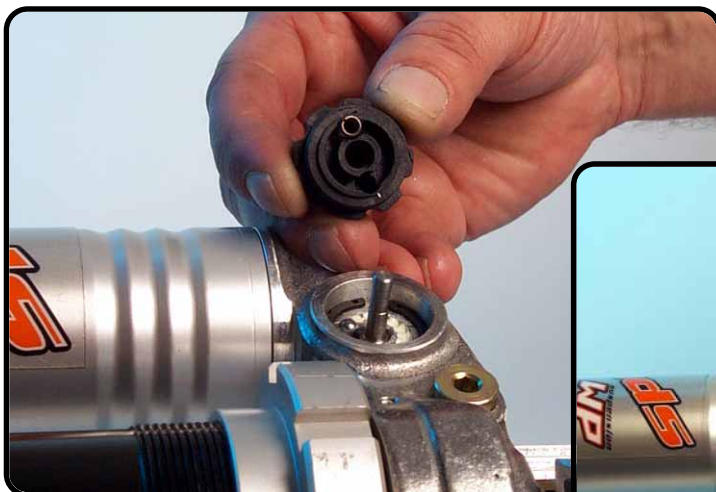
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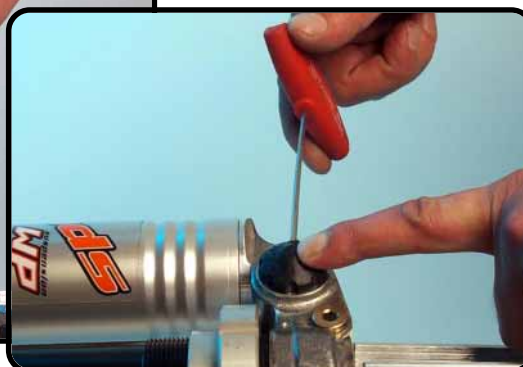
Assemble lock washer with the flat side above.



Place the steel ball next to pin.



Assemble the adjusting knob with spring on steel ball, push on the knob and tighten it.



On pressure with nitrogen



Screw the nitrogen plug with O-ring several turns into the screw-cap.



Place the shock absorber in T170S and fill the reservoir with nitrogen (± 20 sec.) and tighten the bolt under pressure.



Replace rubber dop "do not open"

Assembling the spring



Turn the mounting-fork parallel with bottom eye.
Rebound and compression mechanism in the same direction.



Replace the spring washer.



Replace the spring with the progressive coils into the direction of the bottom.



Assemble open spring retainer with the closed side on the end of the coil.



Turn the spring and retainer in this position.



Adjust the preload and tighten the spring retainers with T106.

Adjusting

Adjust the rebound position. (from closed position)



Adjust the compression position.

