Sachs fork service manual

2014-2016 RR (Standard model)

2013-2016 RS

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Introduction

For removal and replacement of the fork refer to the pages in this shop manual. These procedures must take place in a clean environment using professional tools and some special tools.
Take special care not to damage the surface of the fork, especially the stanchions and seal locations .

On the vice, always use protective jaws of brass or aluminum.

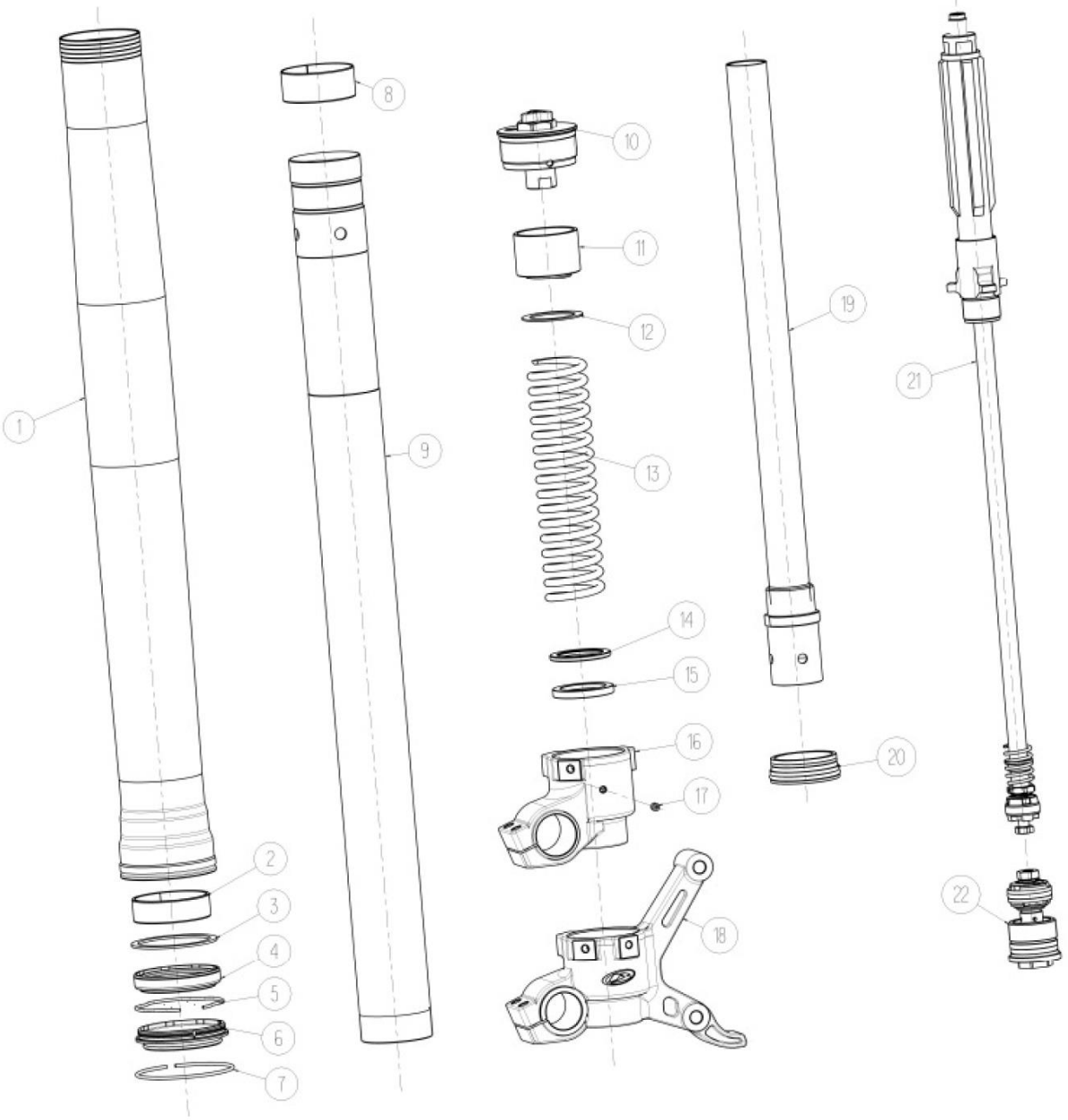
Clean all parts before assembly using lint free rags or towels as not to release fibers avoiding oil contamination.
Contamination inside the fork can affect the operation and may cause premature wear. Always replace worn or damaged parts.

CAUTION;
Disassembly and assembly of the fork or the incorrect use of aftermarket parts can cause malfunctions or serious risk to the safety of persons and property.
Therefore, before performing any maintenance, be sure to read and follow the instructions carefully as described in this manual.

List Special Tools CODE DESCRIPTION

005299000094 damping rod holding tool
005299000095 fork seal guide
005299000096 brass soft jaws (brass)
005299000097 seal driver

Exploded view



legend

1 Outer tube

2 Bushing

3 Support washer

4 Fork seal

5 Retaining clip

6 Dust seal

7 Spring clip

8 bushing

9 Inner fork tube

10 Top cap

11 Preload spacer

12 Spring washer

13 Fork spring

14 Spring preload ring

15 spring preload ring

16 Right yoke

17 Set screw

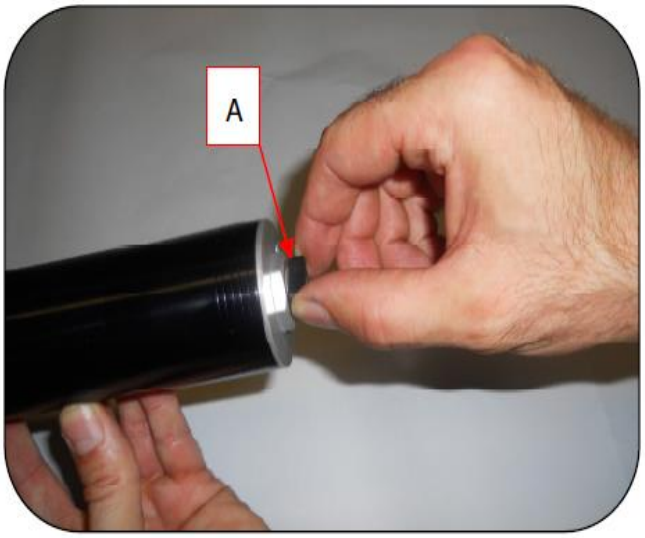
18 Left yoke

19 Cartridge

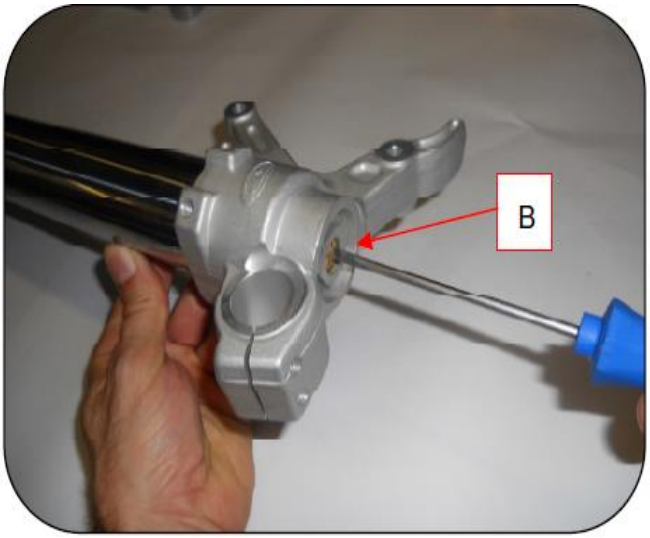
20 Cartridge guide

21 Damping rod

22 Compression valve



Check and record the position of the rebound adjustment.
To do so, turn the adjuster A clockwise counting the number of clicks until it stops(note this setting).
Then turn the adjuster fully open by turning it counter clockwise until it stops.



Check and record the position of the compression adjustment.
To do so, turn the adjuster B clockwise counting the number of clicks until it stops(note this number).
Then turn the adjuster fully open by turning counter clockwise until it stops.

Unscrew the cap.

Secure the fork by clamping the yoke at the axle hole in a vice using soft jaws. Pull the outer tube down towards the yoke.

Pull the spring down while pushing the preload spacer up to expose the locking nut.

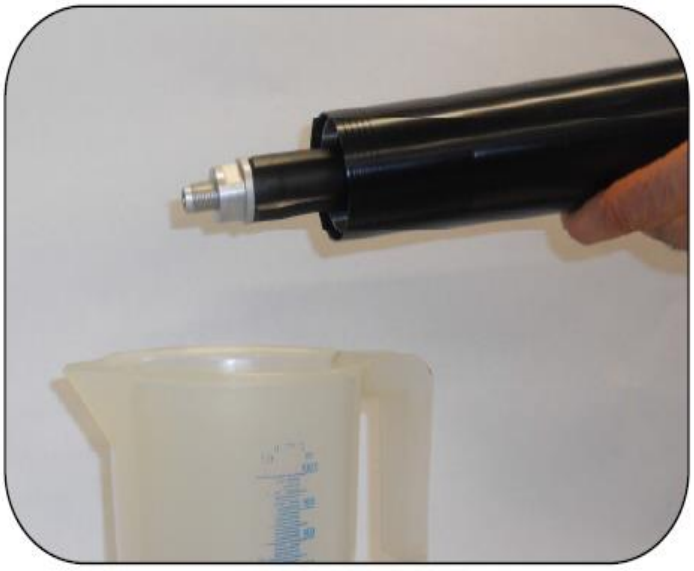
While exposing the nut, install a wrench .

While holding the lock nut, unscrew the cap.

Remove the cap.

<u>Do not</u> unscrew the lock nut from the damping rod.

Remove the spring.



Drain the oil.

Secure the fork in a vice at the caliper hanger or axle mounting area at a 30 degree angle.

Insert the damping rod holding tool (005299000094) into the fork tube.

Firmly hold the tool in position.

Unscrew the compression assembly from the damping rod.

Remove the compression assembly.

<u>Warning:</u> Oil will leak out of the fork. Make sure to use a catch container.

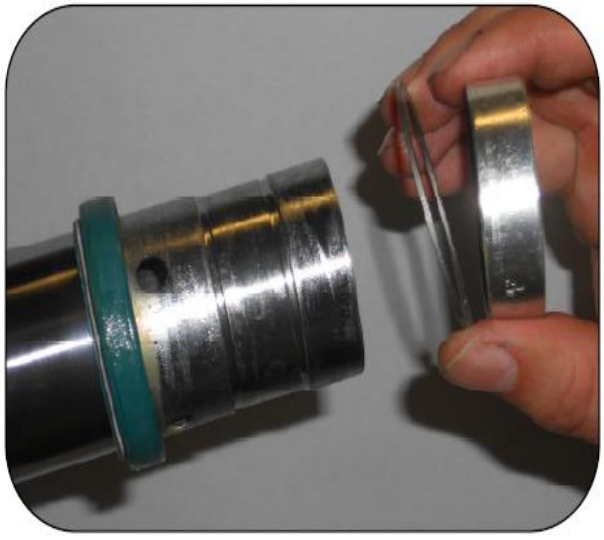
Remove the damper cartridge assembly.

Using a small screw driver, remove the dust seal by prying it at various points being careful not do damage the edge of the outer fork leg.

Remove the retaining clip being careful not to scratch the inner fork tube.

Pull using two hands and remove the outer tube from the inner .

Remove the bushing from the inner tube.

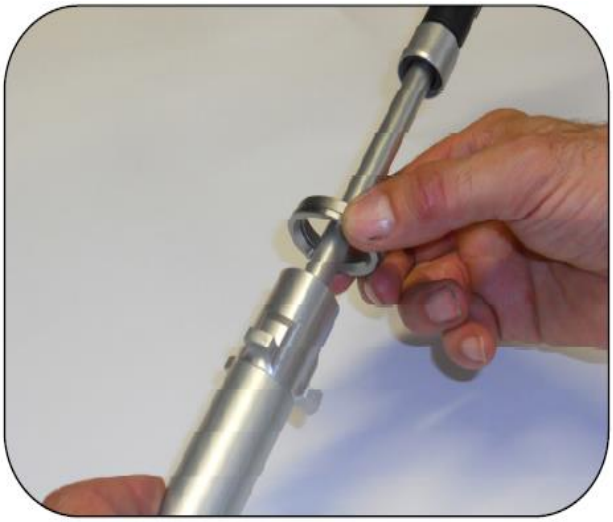


Remove the outer tube bushing and washer.

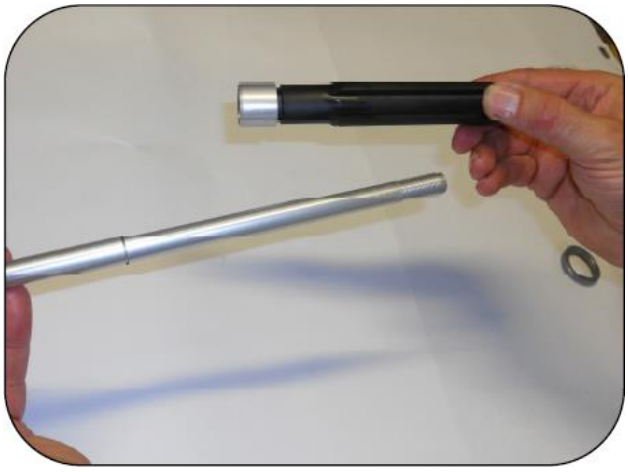
Remove the oil seal.

Remove the retaining clip and dust seal.

Dismantling the damping rod



Remove the two spring preload rings from the damping rod paying attention to there orientation .

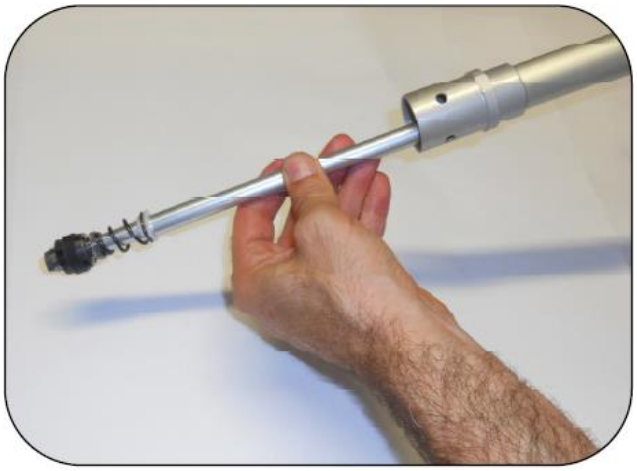


Unscrew the spring guide from the damping rod.

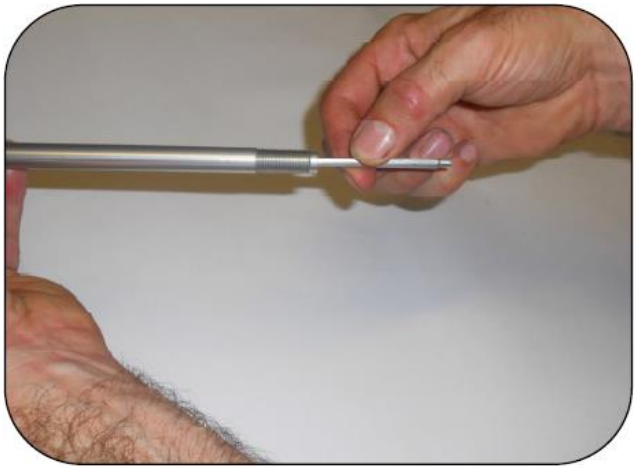
Remove the snap ring with a screw driver and pliers.

Check that there are no burrs on the edges of the aluminum shaft that can damage the Teflon stem guide.

In the case there is a burr, remove with 400 grit sand paper(limited to the area of the burr).



Remove the shaft from the bottom of the damping tube.

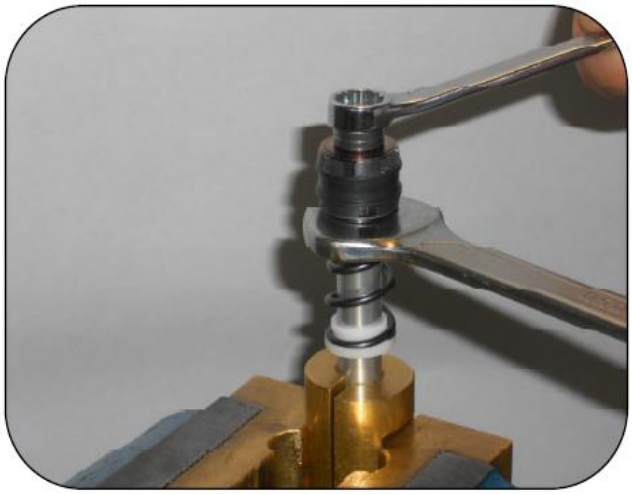


Remove the rebound adjuster rod from the damping shaft.

Remove the Teflon bushing from the rebound piston.

Place the soft jaws (005299000096 brass) on the damping rod shaft.

Tighten the brass jaws in a vice with the piston facing up.



Loosen the nut above the piston while holding the nut in place below the piston with a wrench.

Remove the nut.

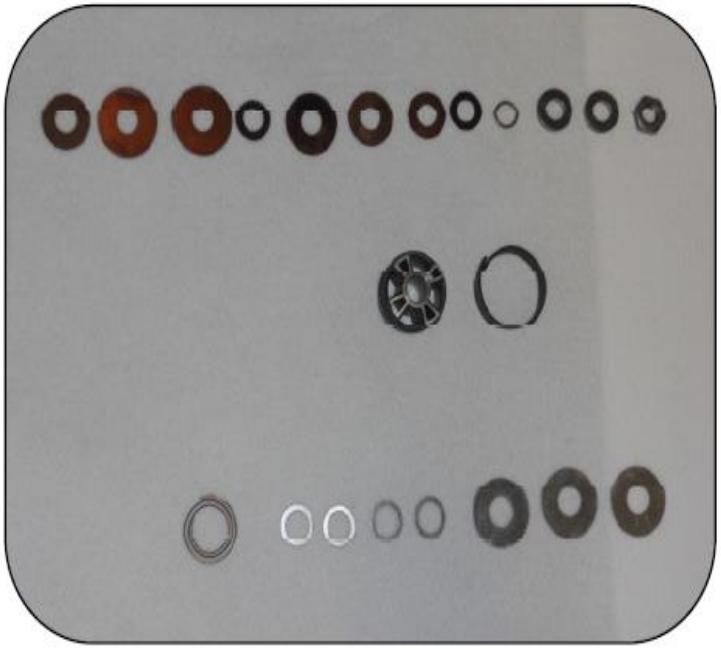
Remove the rebound shim stack paying close attention to the order of assembly!

Remove the piston.

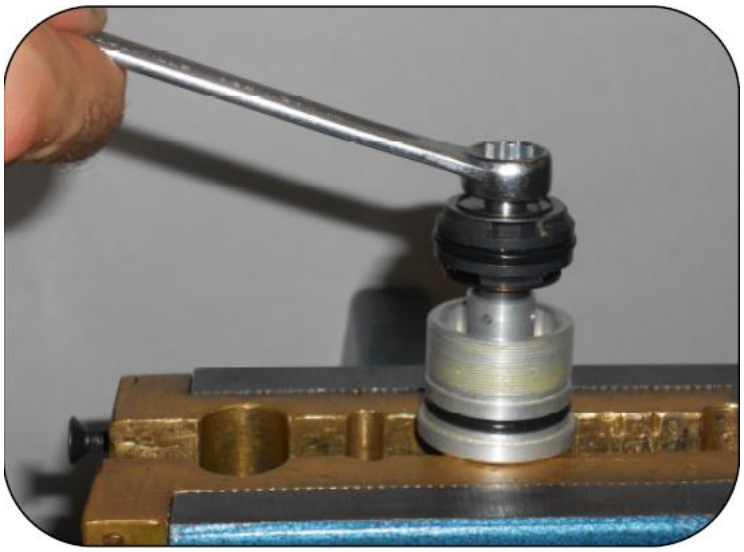
Remove the bypass washers.

Remove the bypass spring
(observing the orientation).

Remove the remaining washers.



The rebound valve calibration is shown in the table on page 42 for the 2T and page 44 for the 4T.

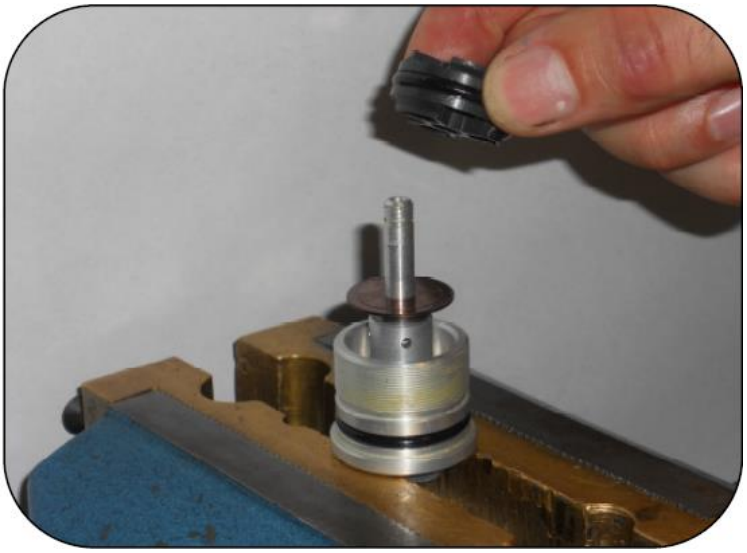


Disassembly of the compression assembly.

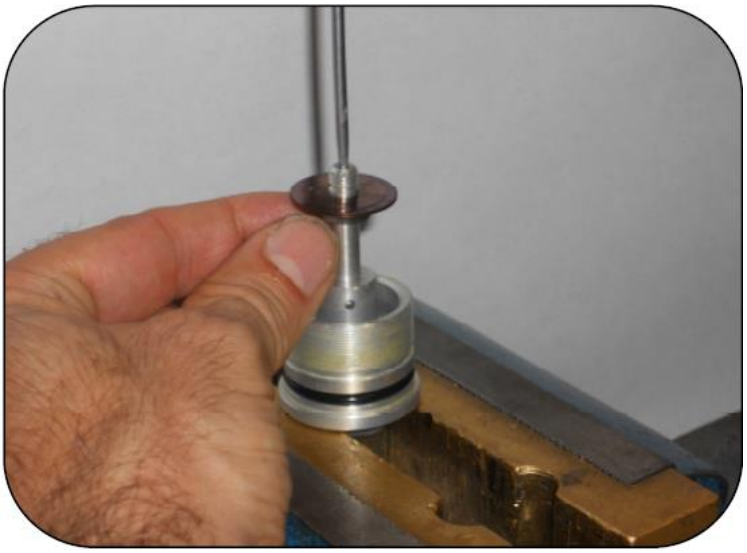
Lock the lower cap in a vice and loosen the nut from the assembly.

Remove the nut with the bypass spring.

Remove the bypass washer.

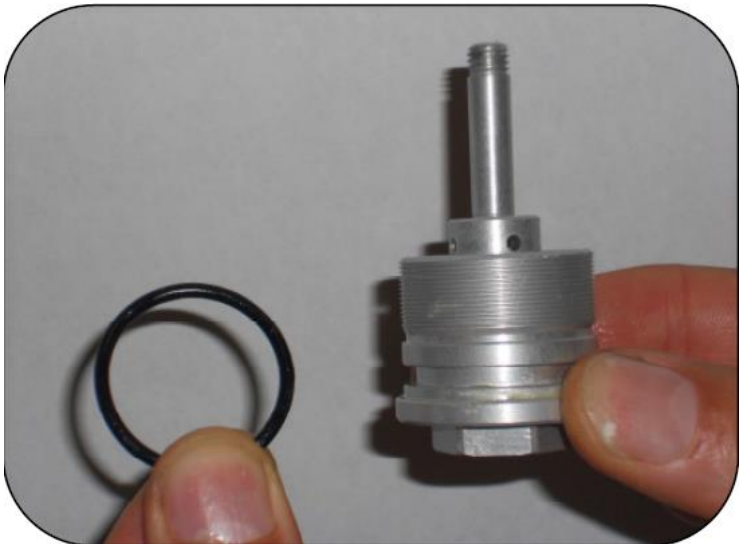


Remove the compression piston.

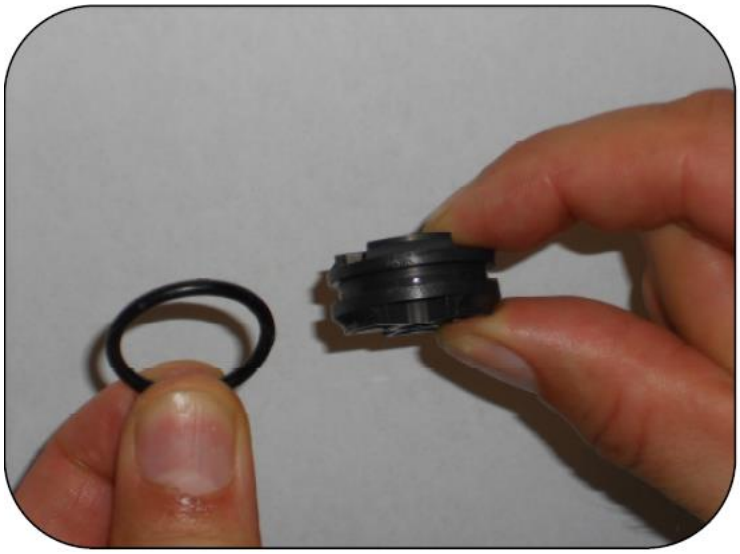


Remove the compression shim stack paying close attention to the order of assembly.

The compression valve calibration is shown in the table on page 43 for the 2T and page 45 for the 4T.



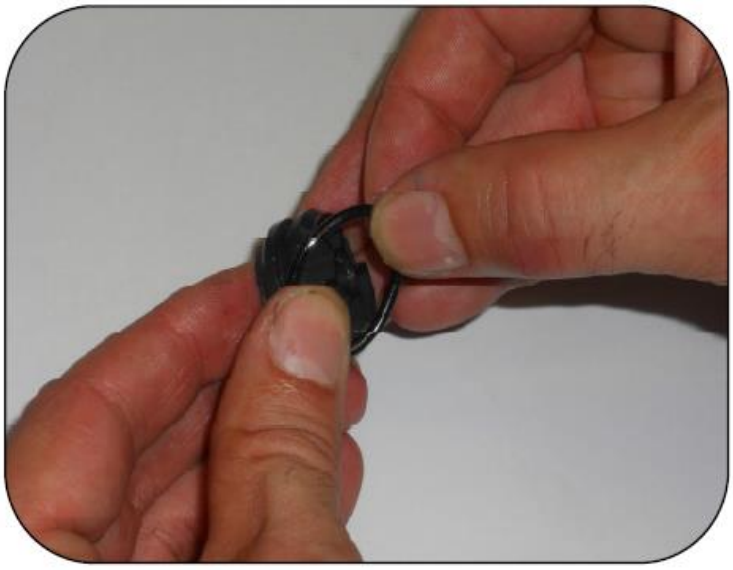
Remove the O-ring from the compression valve cap.



Remove the O-ring from compression piston being careful not to damage or scratch the seat.

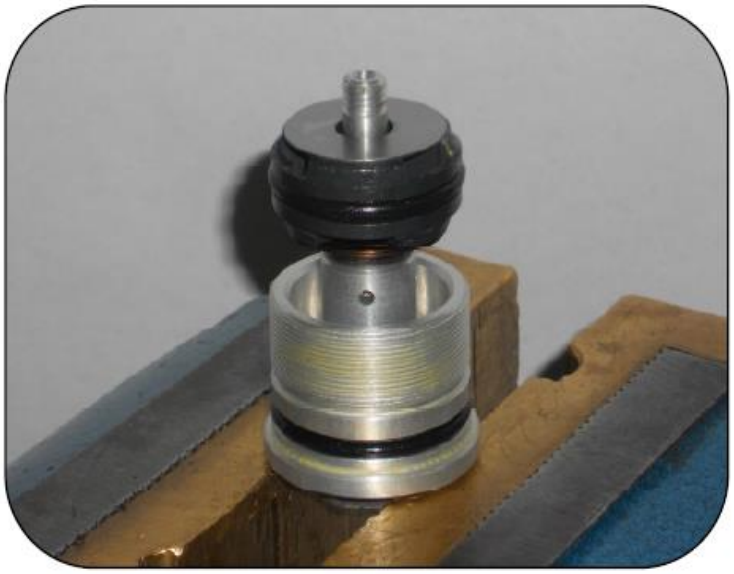
Reassembly of the compression valve

Place a new O-ring onto the compression cap.



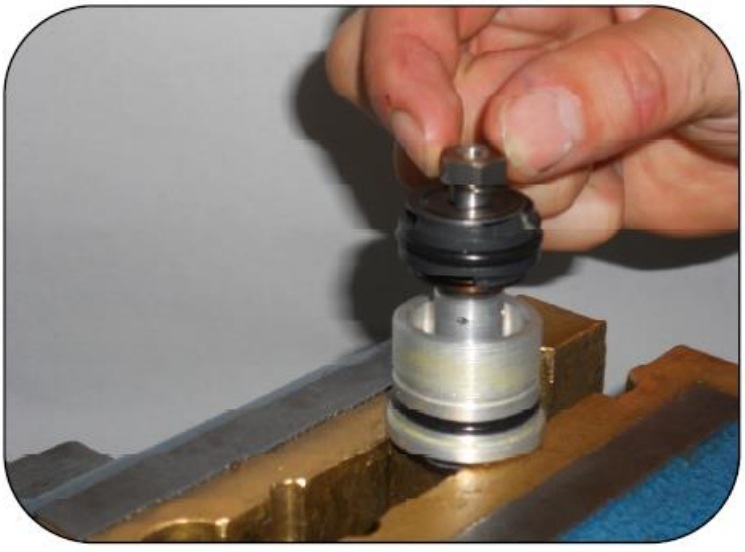
Place a new O-ring onto the compression piston.

Install the compression piston with the stepped edge facing upward.



Place the bypass washer on the piston.

Apply a drop of high strength locking agent to the nut.



Install the nut with the spring facing the piston.

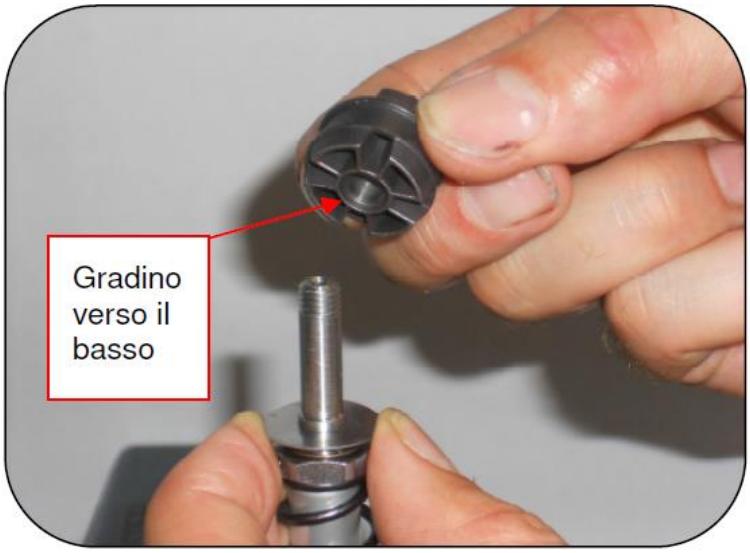
Torque the nut to 6-7Nm.

Rebound valve assembly

Install the small bypass washer.

Install the bypass spring noting the orientation.

Install the large bypass washer.



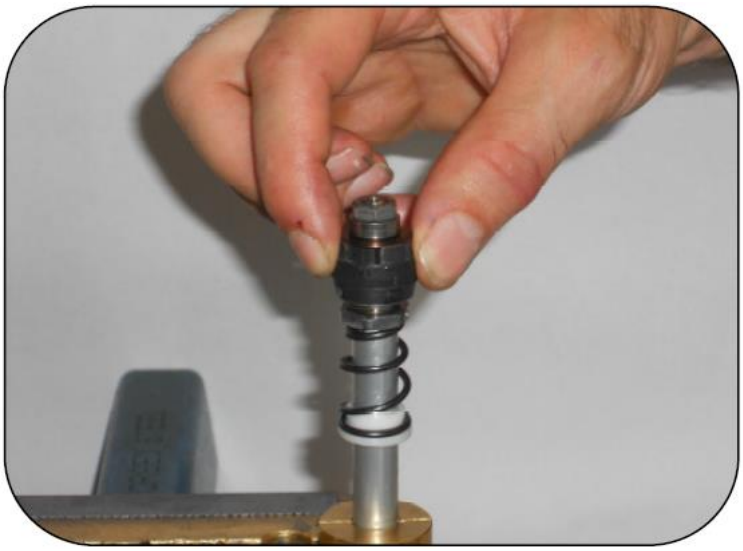
While pressing the large bypass washer and spring down with one hand, install the compression piston with the stepped edge facing down until it is seated.

Install the rebound stack of washers in the correct order(see table on page 42).

Apply a drop of high strength thread locking agent to nut.

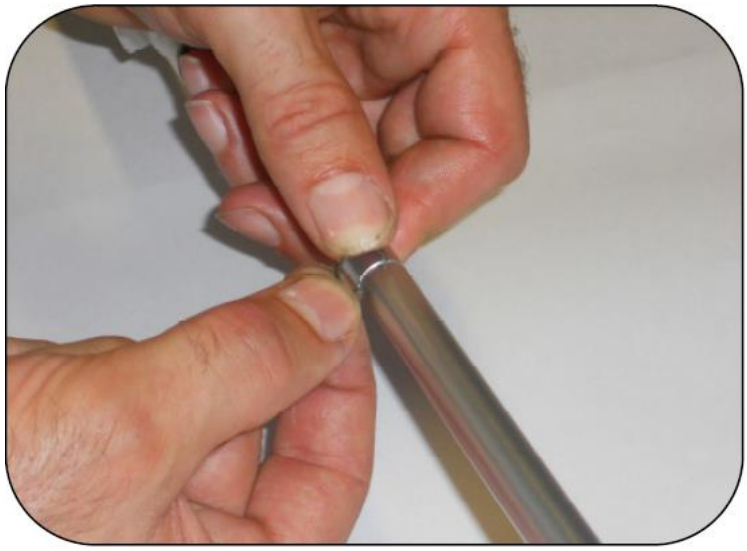
Thread the nut on the rebound assembly.

Torque the nut to 8-9 Nm.

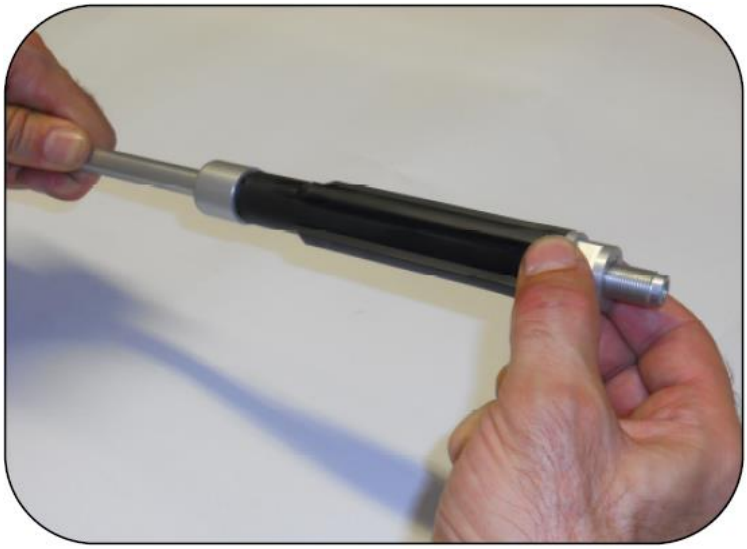


Install the Teflon bushing onto the piston. Make sure the bushing stays snugly on the piston. Otherwise roll it on a 8-9mm rod to preform its shape before mounting on the piston.

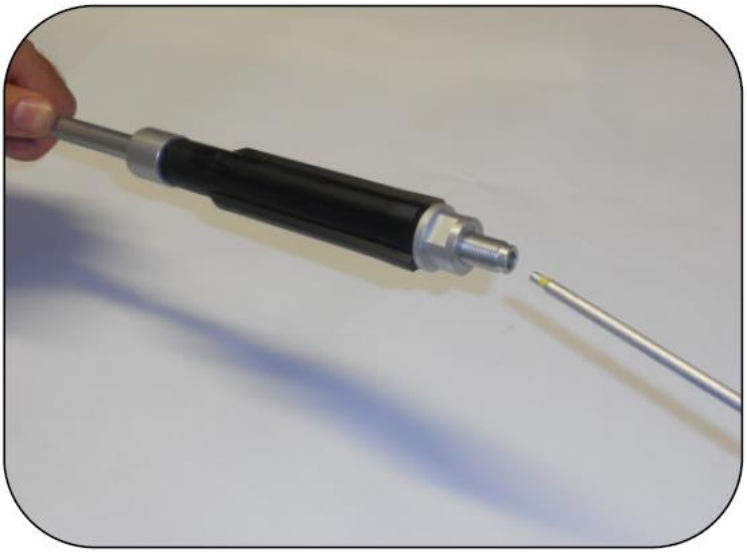
Insert the damping shaft into the tube.



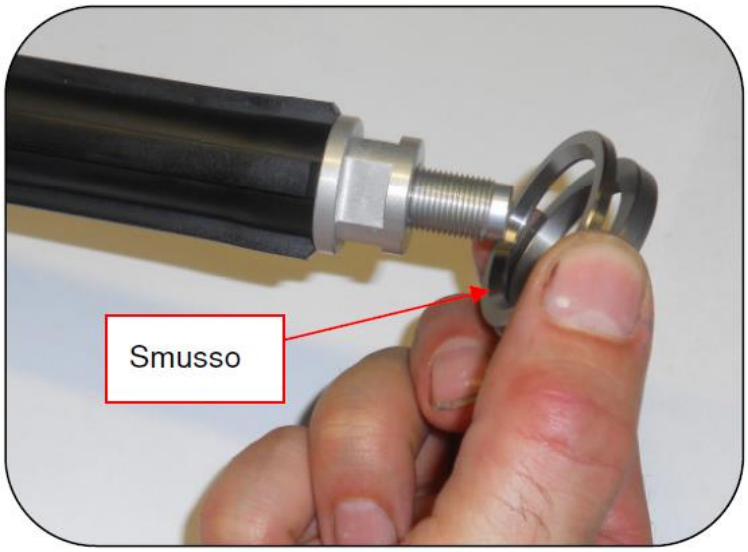
Install the shaft snap ring.



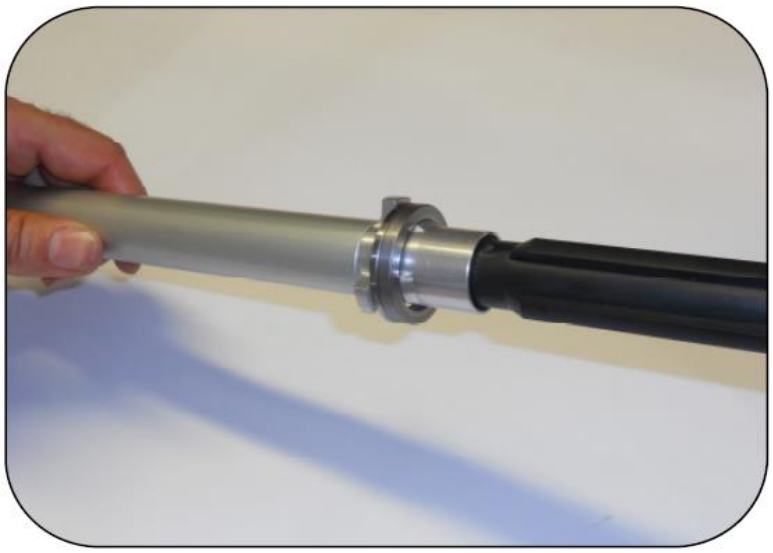
Screw the spring guide onto the shaft until it stops.



Slide the rebound adjuster rod into the shaft.
Note: If the rod has a taper on one end, the tapered side should be inserted into the shaft.



Slide the spring support rings onto the damping cartridge with the beveled or chamfered side facing down.



The spring support rings should slide over the spring guide and rest on the spring support tabs.

Fork leg reassembly

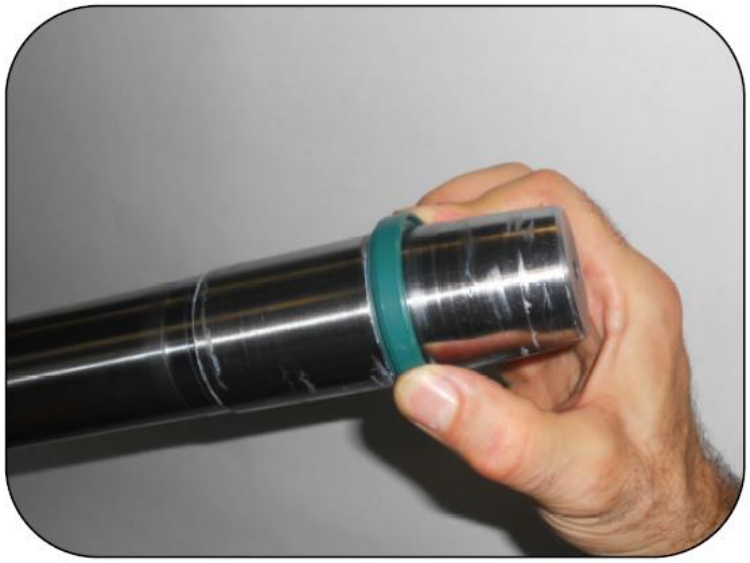
Apply O-ring and seal grease to the inside edge of the dust seal.

Slide special seal installation tool (005299000095) over the of the inner fork tube.

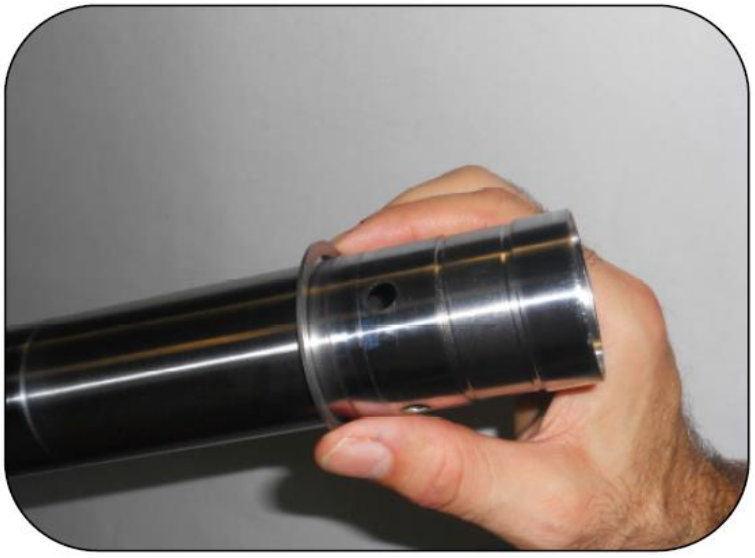
The use of this tool prevents damage to the edge of the seal.

Slide the dust seal over the tool and onto the inner fork tube.

Apply O-ring and seal grease to the inside of the oil seal.



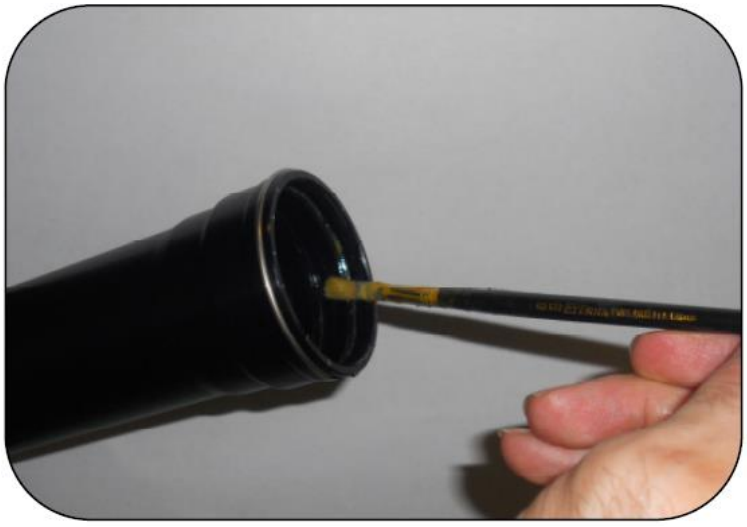
Slide the oil seal over the tool and onto the inner fork leg avoiding damage to the seal edges.



Remove the special tool and install the metal support washer.

Slide the bushing over the end of the inner fork tube.

Seat the bushing into the recess of the inner fork tube.



Apply O-ring and seal grease to the area of the outer fork tube where the seals rest.

Carefully slide the outer tube over the inner tube.

Use seal driver(005299000097) to push the bushing into place.

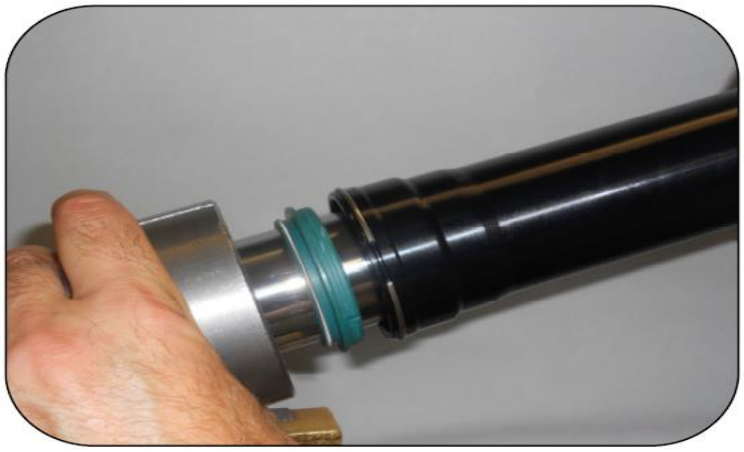
Push or tap the bushing until it is fully in seated.

Place the seal driver (00529900097) between the oil seal and dust seal.

Push or tap the oil seal until it is fully seated.

Place the retaining clip into the groove on the inside of the outer fork tube.

Caution: Make sure the clip is fully seated in the groove!



Push the dust seal into place.

Fully insert the cartridge into the fork tube.

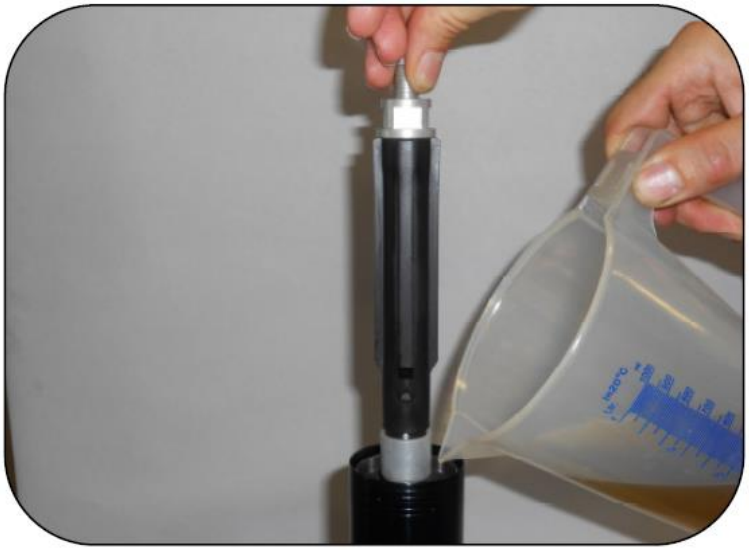
Apply O-ring and seal grease to the O-ring on the compression piston.

Apply O-ring and seal grease to the cap O-ring.

With the cap threads previously cleaned, apply a medium strength thread locking agent to an area 1/3 the circumference.

Insert the compression assembly into the hole in the fork yoke.

Tighten with a torque wrench to 30Nm.



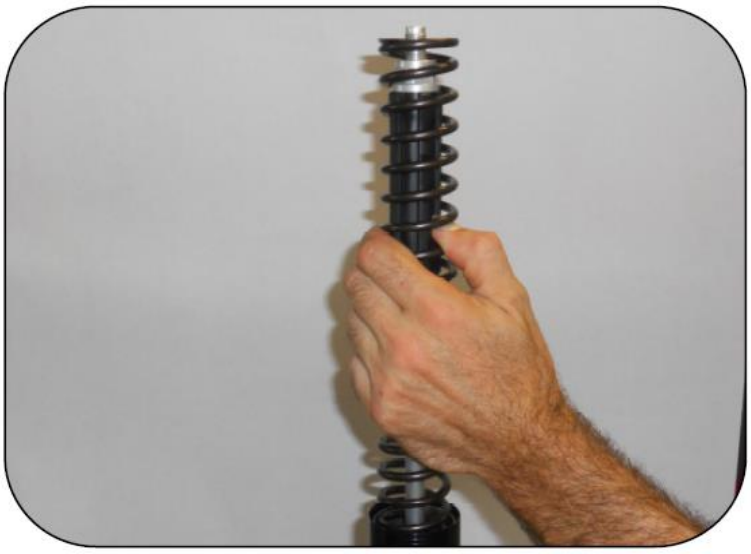
Measure out 533cc of fork oil for the 2T and 555cc for the 4T. With the outer tube as low as it will go and the damping rod slightly raised pour 2/3 of the measured oil into the fork.

While moving the rod up and down, pour in the rest of the oil. Continue moving the rod until it moves smoothly without and gaps or surges. Leave the leg stationary for a couple of minutes to allow the oil to fill the chamber between the cartridge and allow any air bubbles to rise. At this point move the rod and outer fork tube up and down together several times through out the stroke.

Lower the rod and outer tube all the way and check the oil level. Adjust the level with the appropriate tool.

110mm for 4T
130mm for 2T

Slide the spring over the guide and rod.

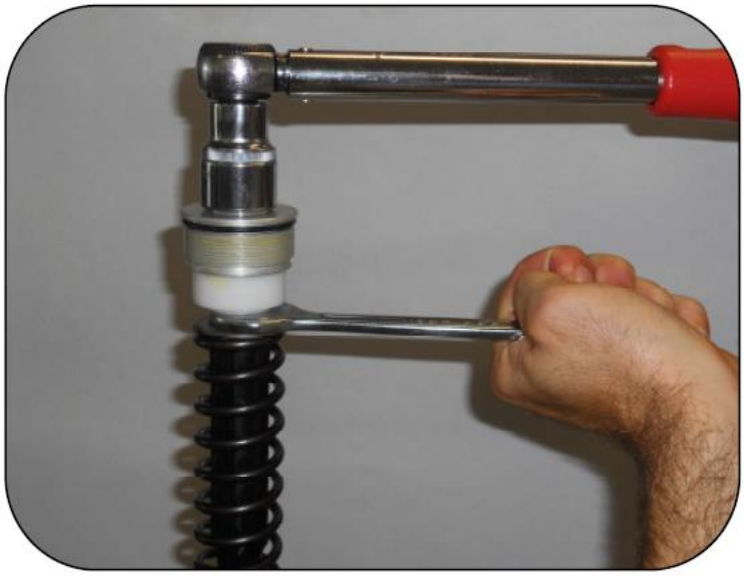


Pull the spring down with one hand while keeping the rod raised.

Install the two washers on top of the spring then put the wrench on.

Apply O-ring and seal grease to the cap O-ring and threads. Put the cap and spacer onto the rod.

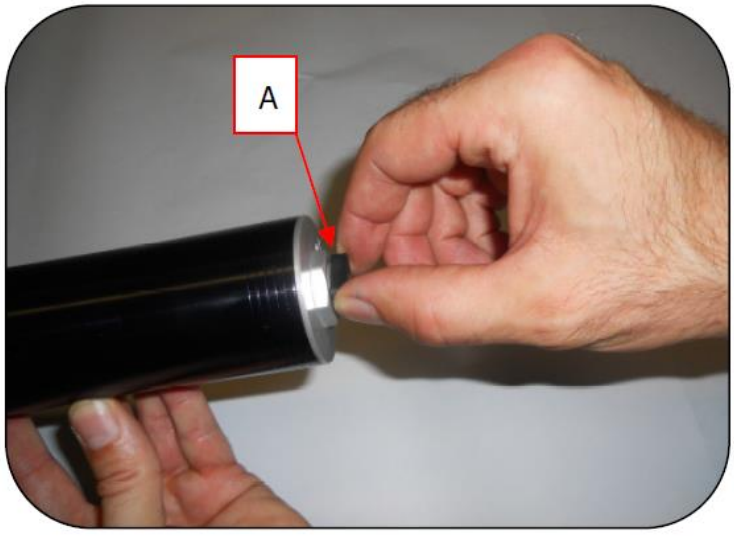
Screw the cap on by hand until it stops.



Holding the nut, tighten the cap to 10Nm with a torque wrench.

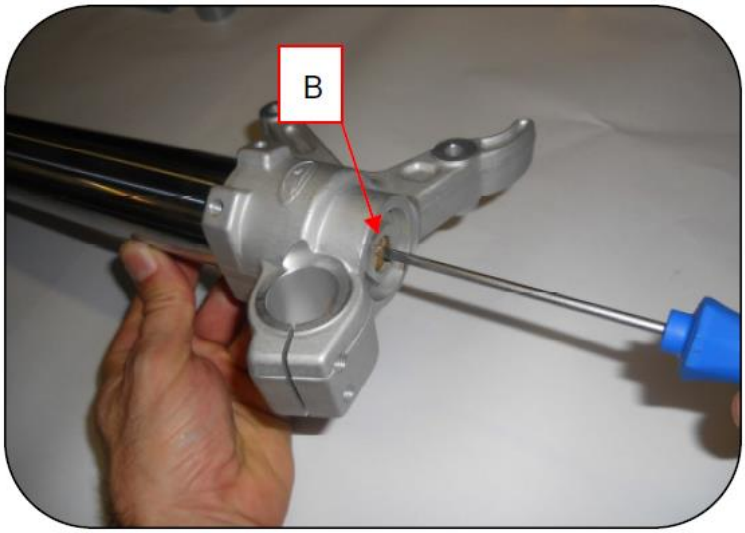
Pull down on the spring to remove the wrench.

Lift the outer fork tube and screw it to the cap until it stops.



Screw in the rebound adjuster clockwise until it stops A. Back it out the number of clicks recorded to set as before.

The stock setting from the factory is 12 clicks out for both the 4T and 2T.



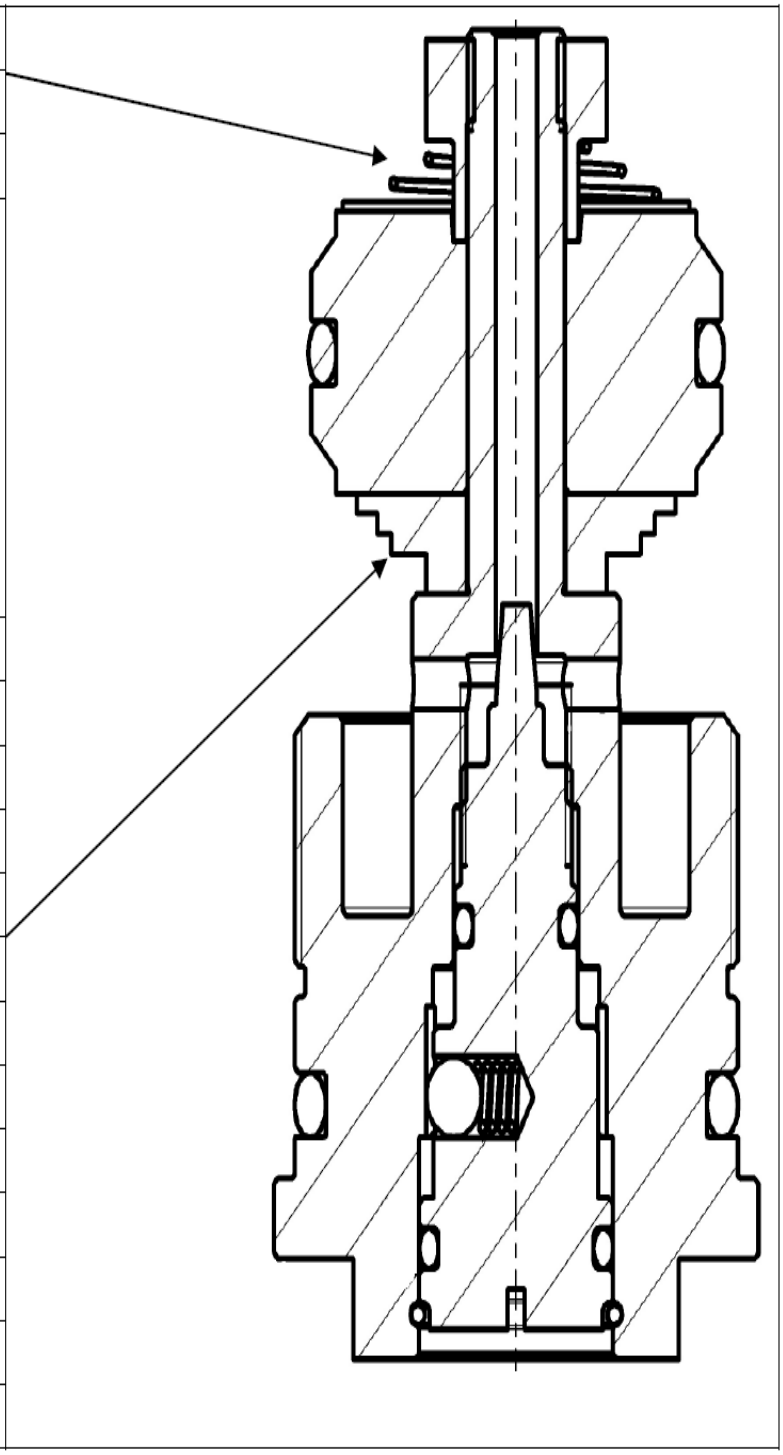
Screw in the compression adjuster clockwise until it stops B. Back it out the number of clicks recorded to set as before.

The stock setting from the factory is 12 clicks out for both the 4T and 2t.

Compression piston calibration setting
2T

Molla = spring Rondella = shim

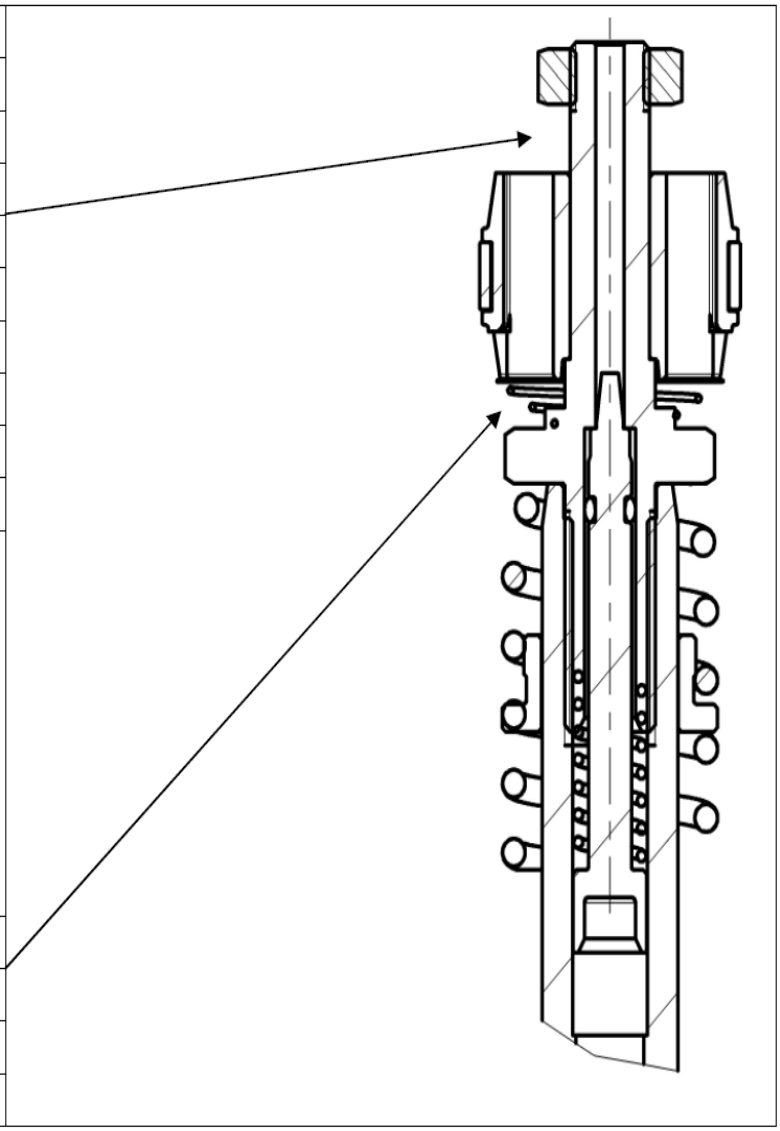
Quantità	Dimensione rondella
1	Molla
1	Ø25 x 9 x 0,50
1	Ø18 x 0,10
2	Ø25 x 0,10
1	Ø14 x 0,10
1	Ø22 x 0,10
2	Ø25 x 0,10
1	Ø23 x 0,10
1	Ø22 x 0,10
1	Ø20 x 0,10
1	Ø18 x 0,10
1	Ø16 x 0,15
1	Ø14 x 0,15
1	Ø12 x 0,30
1	Ø13 x 3



Rebound piston calibration
2t

Rondella = Shim

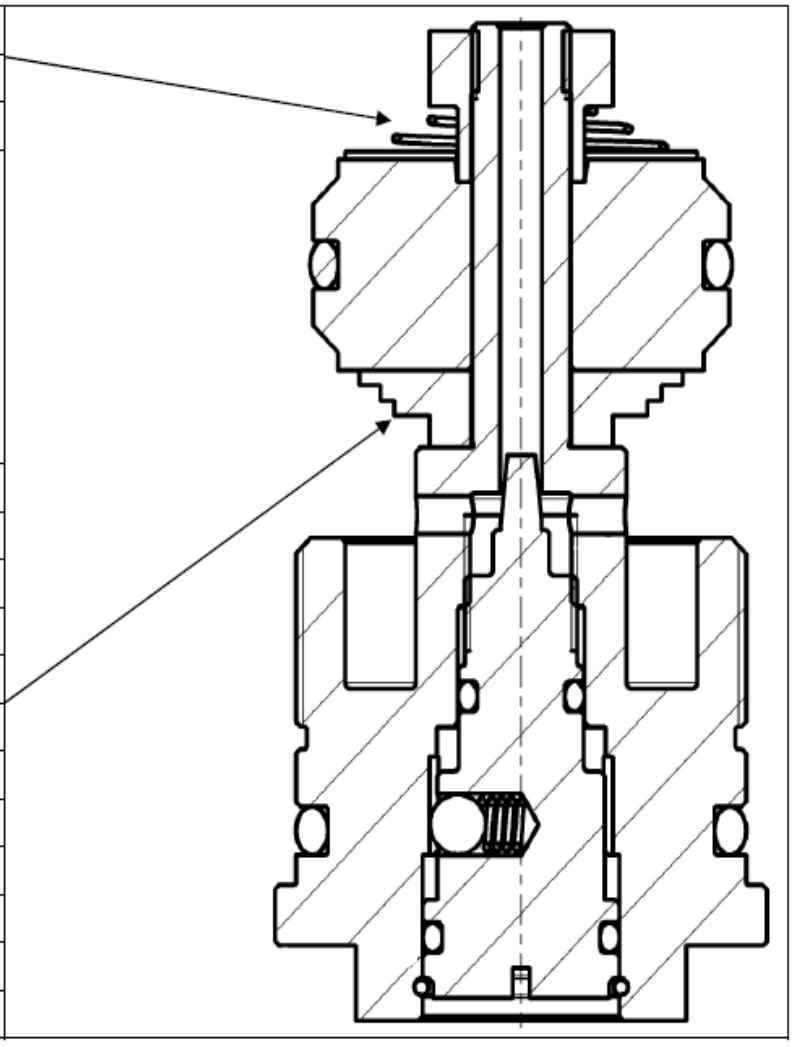
Quantità	Dimensione rondella
2	Ø13 x 2
1	Ø10 x 0,30
1	Ø12 x 0,10
1	Ø14 x 0,10
1	Ø16 x 0,10
1	Ø18 x 0,10
1	Ø12 x 0,10
2	Ø20 x 0,10
1	Ø18 x 0,10
3	Ø20 x 0,10
3	Ø11 x 0,35
1	Ø11 x 0,20
1	Molla



Compression piston calibration
4T

Rondella = Shim

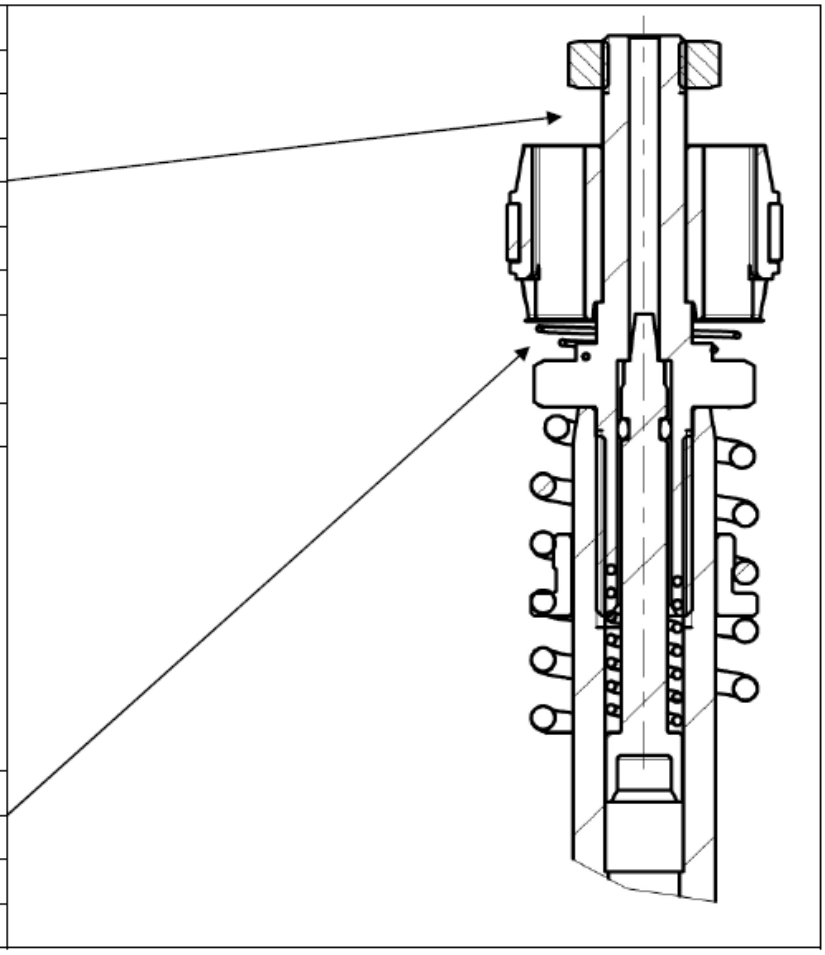
Quantità	Dimensione rondella
1	Molla
1	Ø25 x 9 x 0,50
1	Ø20 x 0,10
3	Ø25 x 0,10
1	Ø16 x 0,10
4	Ø25 x 0,10
3	Ø23 x 0,10
1	Ø22 x 0,10
1	Ø20 x 0,10
1	Ø18 x 0,10
1	Ø16 x 0,15
1	Ø14 x 0,15
1	Ø12 x 0,30
1	Ø13 x 3



Rebound piston calibration
4T

Rondella = Shim

Quantità	Dimensione rondella
2	Ø13 x 2
1	Ø9 x 0,30
1	Ø12 x 0,10
1	Ø14 x 0,10
1	Ø16 x 0,10
1	Ø18 x 0,10
1	Ø12 x 0,10
2	Ø20 x 0,10
1	Ø16 x 0,10
3	Ø20 x 0,10
3	Ø11 x 0,35
1	Ø11 x 0,20
1	Molla



Torque Values

6-7 Nm	
8-9 Nm	
30 Nm	
10 Nm	

General Data

	2T	4t
Spring dimension	040, 1x160mm	040, 5x160mm
Spring rate	.42	.48
Oil Quantity	130mm	110mm
Oil Type	5w Motul	
Rebound clicks (From completely closed)	12	12
Compression clicks (From completely closed)	12	12