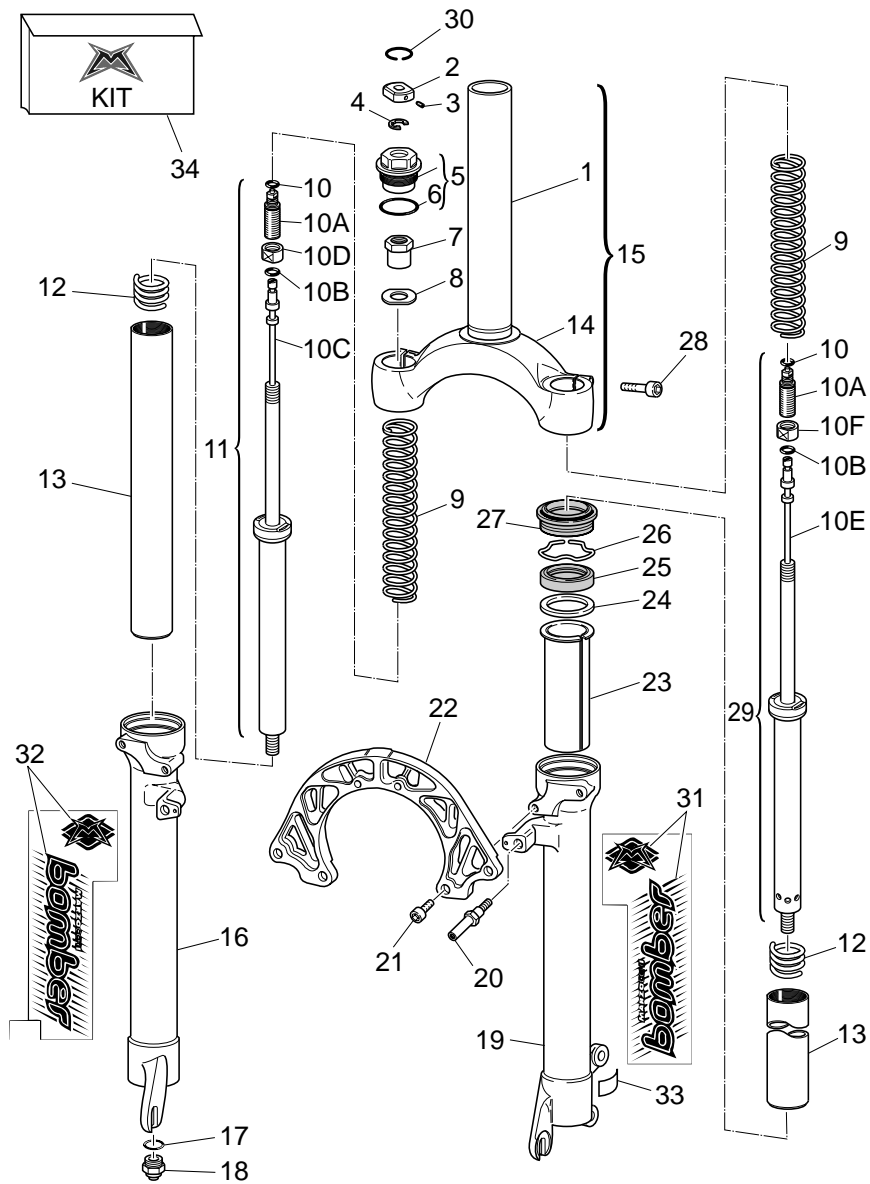
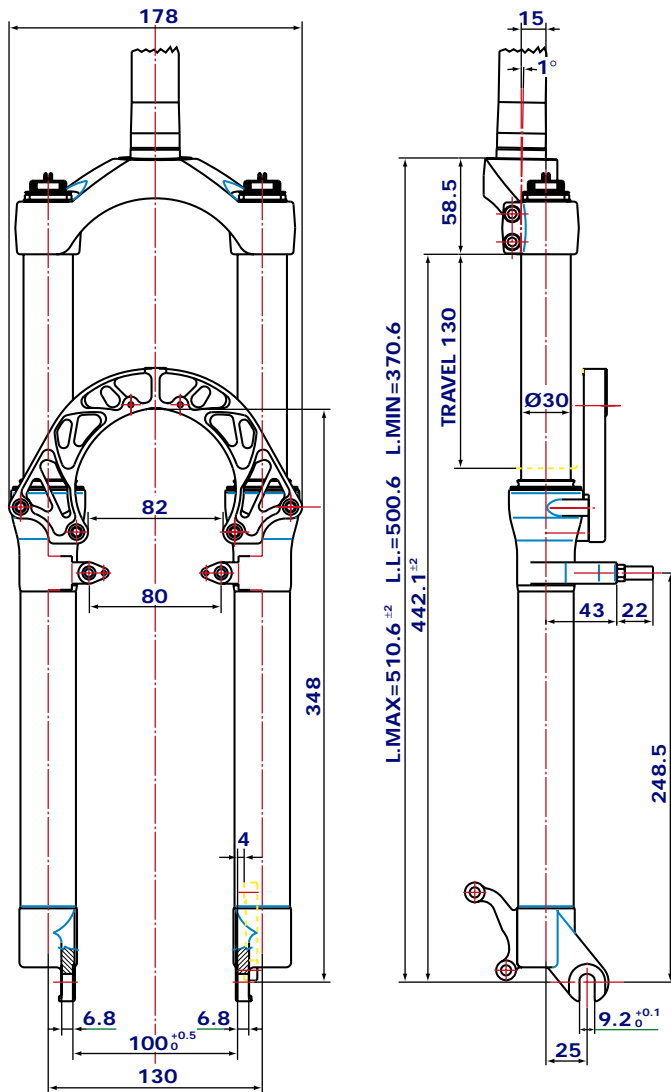


Z1  
C  
R



# Z1 CR



## GENERAL

- The fork is specifically designed for Downhill use and damped by a coil spring and hydraulic cartridges.
- Rebound damping cartridge inside RH fork leg, compression damping cartridge in LH fork leg.
- Spring pre-load and hydraulic damping adjustment controlled via external top mount adjusters.
- Stanchion tubes feature full length 360° slider bushings giving this fork an incredibly smooth stiction free stroke, in addition to unmatched structural strength.
- Parts subjected to friction are cooled and lubricated by a specially formulated oil.
- Stanchion tubes secured to crown so they will not become separated accidentally.

**Steer tube:** in CrMo steel with variable butting. Several lengths available in threaded and non threaded 1 1/8" diameters. EASTON aluminum steer tubes available for 1 1/8", threadless.

**Crown:** Forged and CNC-machined BAM\* aluminum alloy.

**Arch:** Forged and CNC-machined BAM\* aluminum alloy.

**Stanchions:** Anodized EASTON aluminum with variable butting.

**Sliders:** Cast and CNC-machined BAM\* aluminum alloy. Left slider equipped with disc brake adapter.

**Springs:** Constant pitch springs.

**Slider bushing:** Full length guide bushing composed of a copper base and impregnated with an anti-friction coating.

**Seals:** Computer designed oil seals guarantee the highest quality seals available.

**Oil:** Specially formulated oil which eliminates foaming and viscosity breakdown while providing complete stiction-free performance.

**Fork leg oil:** type EBH 16- SAE 7.5. 100 c.c.

\* **BAM: Bomber Aerospace Material.**

Special alloy extracted from aerospace material.

## INSTRUCTIONS

### **GENERAL RULES FOR A CORRECT OVERHAULING AND MAINTENANCE**

1. *Where specified, assemble and disassemble the shock absorption system using the MARZOCCHI special tools only.*
2. *On reassembling the suspension system, always use new seals.*
3. *If two screws are close one to the other, always tighten using a 1-2-1 sequence. In short, screw the first screw just up to the point it is well tightened, then tighten the second screw and then go back to the first one and screw it tighter.*
4. *Clean all metal parts with a special, preferably biodegradable solvent, such as trichloroethane or trichloroethylene.*
5. *Before reassembling, lubricate all parts in contact with each other using silicone fat spray.*
6. *Always grease the conic seal rings before reassembling.*
7. *Use wrenches with metric size only. Wrenches with inch size might damage the fastening devices even when their size is similar to that of the wrenches in metric size.*

**FAILURES, CAUSES AND REMEDIES**

*This paragraph reports some troubles that may occur when using the fork. It also indicates possible causes and suggests a remedy. Always refer to this table before doing any repair work.*

<b>FAILURES</b>	<b>CAUSES</b>	<b>REMEDIES</b>
<i>Oil leaking through the top of slider</i>	<ol style="list-style-type: none"> <li>1. Oil seal is worn out</li> <li>2. Stanchion tube is scored</li> <li>3. Excessive dirt on slider oil seal</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace oil seal</li> <li>2. Replace oil seal and stanchion tube</li> <li>3. Clean the oil seal seat and replace oil seal</li> </ol>
<i>Oil leaking through the bottom of slider</i>	<i>O-ring seal on the cartridge nut is damaged</i>	<i>Replace the O-ring seal</i>
<i>Fork has not been used for some time and is locked out</i>	<i>Oil seals and dust seals tend to stick to stanchion tube</i>	<i>Raise dust seal and lubricate stanchion tube, oil seal and dust seal</i>
<i>Fork compresses and/or rebounds too fast even though the adjuster is set to hardest damping position</i>	<i>Cartridge is faulty</i>	<i>Replace hydraulic cartridge</i>
<i>Excessive play of stanchions into the sliders</i>	<i>Main slider bushings are worn</i>	<i>Replace main slider bushings</i>

## RECOMMENDATIONS FOR MAINTENANCE

MARZOCCHI forks are based on advanced technology, supported by year-long experience in the field of professional mountain biking. In order to achieve best results, we recommend to check and clean the area below the dust seal and the stanchion tube after each use and lubricate with silicone oil.

**Polished** forks must be treated with body work polish at regular intervals in order to retain their finish.

## INSTALLATION

Installing the Z1 fork on a bicycle is a very delicate operation that should be carried out with extreme care.

Always have the installation checked at one of our Technical Service Centers.

**⚠ WARNING:** "A-Head Set" headset/Steer tube mounting and adjustment must be carried out in compliance with the headset manufacturer's instructions. Improper installation may jeopardize the safety of the rider.

Be sure to install correct steer type, (A-Head Set or threaded steer tube) diameter and length for the frame on which it should be fitted. The steer tube is an interference fit in the crown and must be installed at one of our Technical Service Centers who have the proper equipment.

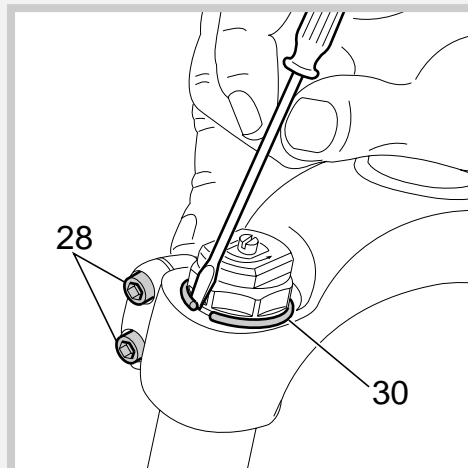
**⚠ WARNING:** In case of improper installation of the steer tube into the crown, the rider could lose control of his/her bicycle, thus jeopardizing his/her safety.

Check the torque of the bolts fastening the stanchion tubes to the crown and those securing the brake arch to the sliders at regular intervals. Recommended torque is 11 Nm.

## REMOVING THE FORK LEGS FROM THE CROWN (Fig. A)

Installation procedure may require removing the fork legs from the slider. When this is the case, loosen the screws (28) and slip off the safety ring (30). Aid removal by slipping a small screwdriver between ring and cap. Remove the complete fork legs.

**⚠ IMPORTANT:** Be sure to refit the safety rings into the fork legs upon reassembly so that the fork legs will not become separated from the crown in the event the fastening bolts become loose accidentally.



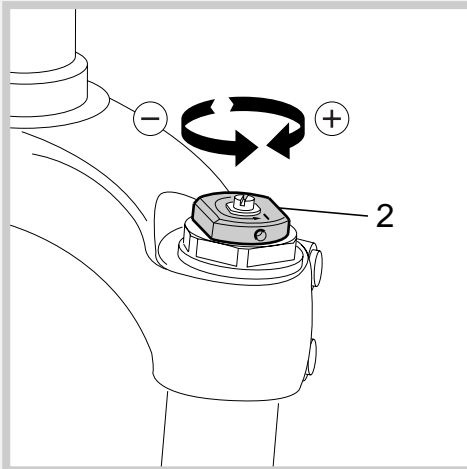
**DISC BRAKE SYSTEM ASSEMBLY**

*Assembling the brake caliper onto the slider is a very delicate operation that should be carried out with extreme care. Improper assembly might overstress the caliper supports, which might break. When installing the disc brake system, be sure to properly follow the instructions given by the manufacturer.*

## ADJUSTMENTS

### SPRING PRELOAD (Fig. B)

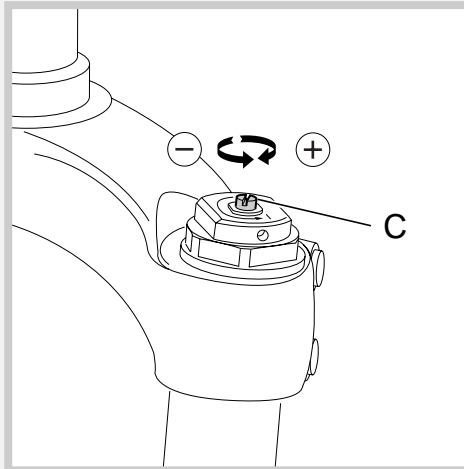
The spring preload for COMPRESSION damping can be adjusted by turning the knob (2) on top of fork legs. From the factory the Z1 fork is set with the minimum preload, i.e. the adjustment knob is completely unscrewed counterclockwise. However, the spring is slightly preloaded to help counteract static loads. By turning the adjustment knob clockwise, the preload is increased up to the maximum value equal to 15 mm of spring preload. This adjustment is essential in order to have the right Z1 response for the rider weight and riding style.



### COMPRESSION DAMPING ADJUSTMENT (Fig. C)

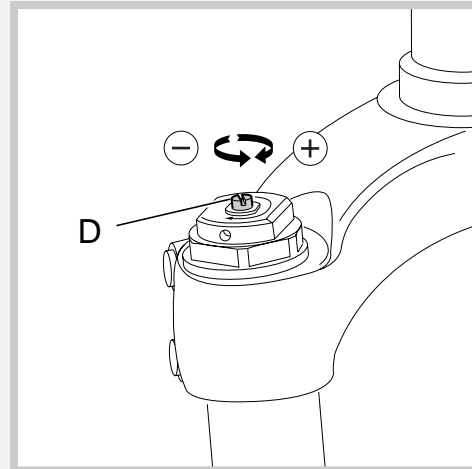
The l.h. fork leg is equipped with an adjuster (C, BLACK) for COMPRESSION damping adjustment. Turning this adjuster clockwise into the cartridge rod, changes the hydraulic setting of the inner valves. In short, the amount of adjustment applied on the piston in the fluid determines the rate of compression damping.

To adjust, always start from the minimum damping setting, i.e. unscrew completely counterclockwise. About 8 turns - abt. 4 mm of the adjustment - are possible.



### REBOUND DAMPING ADJUSTMENT (Fig. D)

The r.h. fork leg features an adjuster (D) for REBOUND damping adjustment. Adjustment and setting range are the same as for the compression damping adjuster (C) above.



## DISASSEMBLY

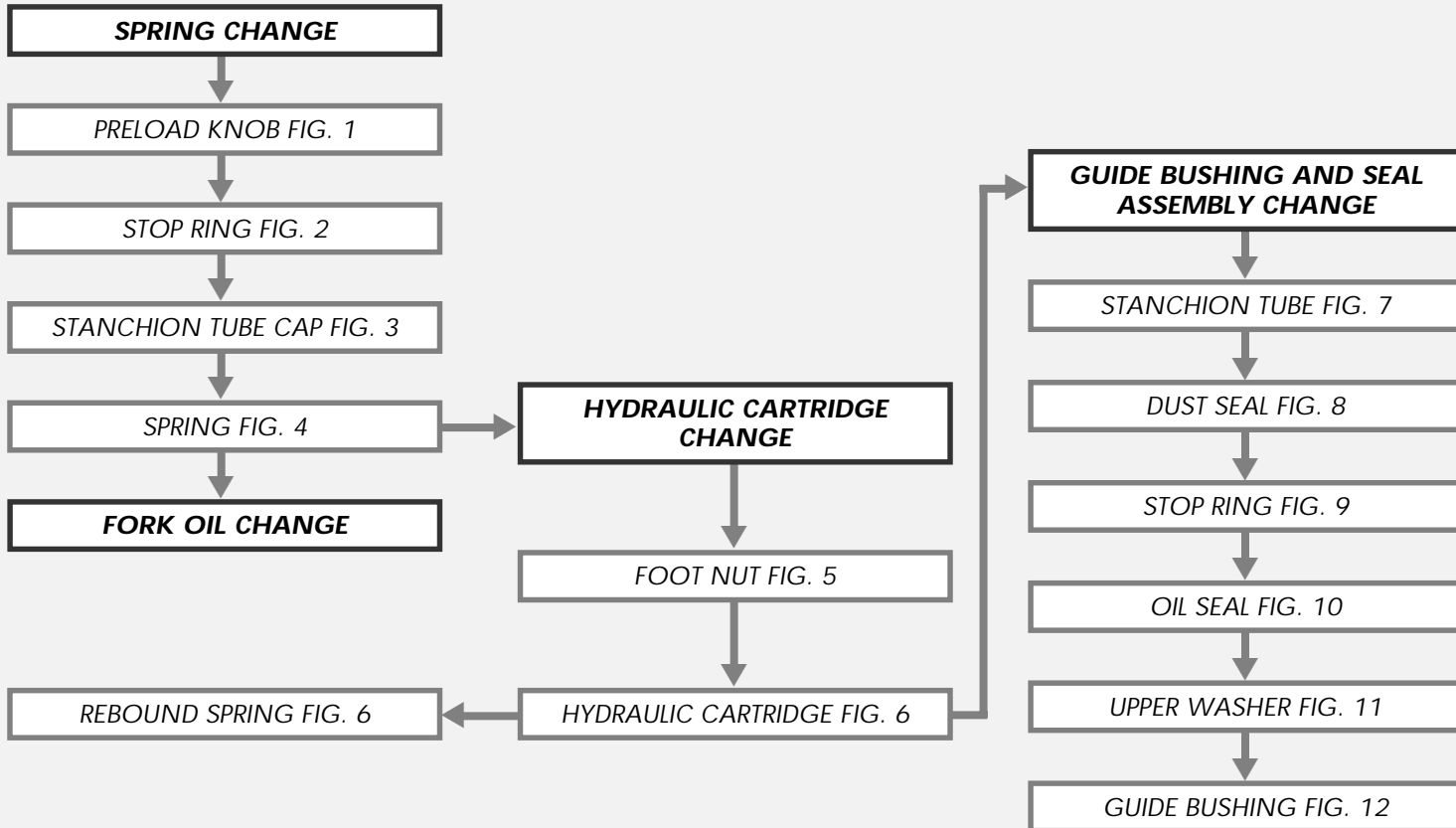
### GENERAL

- The reference numbers given in this section relate to the components shown in the fork exploded view.
- Operations refer to the fork legs already removed from the crown and disassembled from the brake arch.
- Before starting any operation, please read the diagram below. It shows the quickest procedure and the exact disassembling sequence. Start from the part to be disassembled and then follow the arrows to remove the other parts.

Z1

C  
R

### DISASSEMBLY DIAGRAM



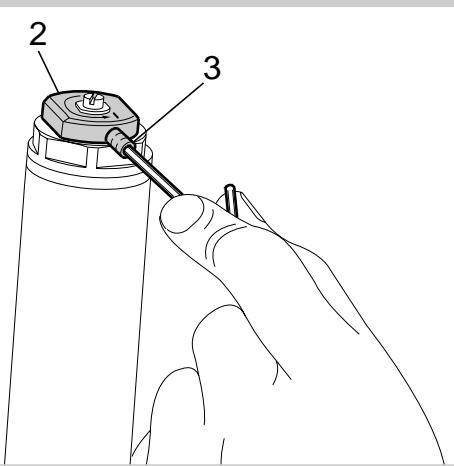


**SPRING CHANGE**

**FIG. 1**

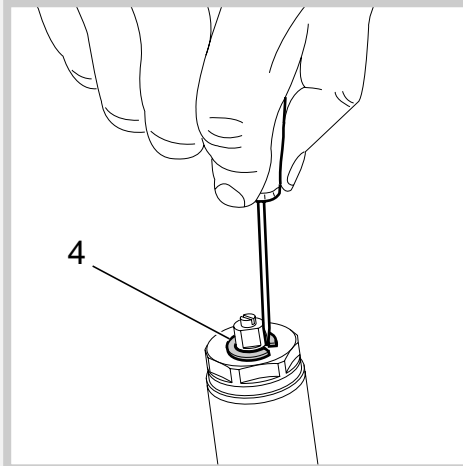
Set the knob (2) to the minimum preload position.

Loosen the grub screw (3) fastening the preload knob (2) by means of a 1.5 mm Allen wrench. Remove grub screw from cap assembly.



**FIG. 2**

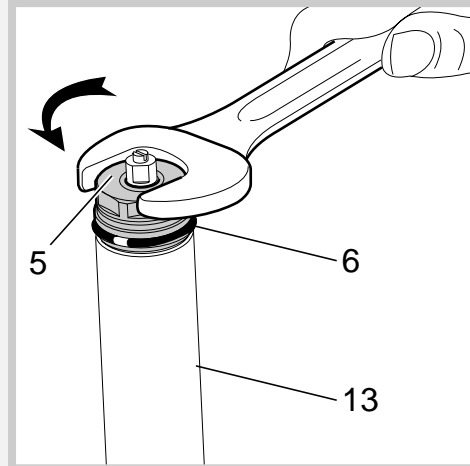
Remove the stop ring (4) from the top of the preload knob support with a small screwdriver.



**FIG. 3**

Place the stanchion tube (13) in a vice making sure not to damage or dent it in the process and unscrew the cap (5) with a 26 mm open end wrench.

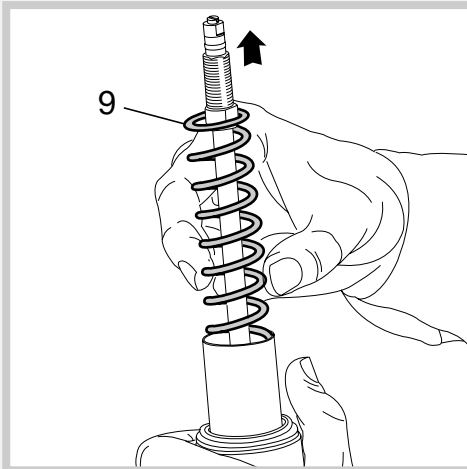
Remove the cap complete with O-ring (6) from the stanchion tube.



**FIG. 4**

Push the stanchion tube into the slider and remove the spring (9).

Let all the oil drain into the fork leg. By following this procedure, there is no need to check the oil level. Make all necessary changes.



**HYDRAULIC CARTRIDGE CHANGE**

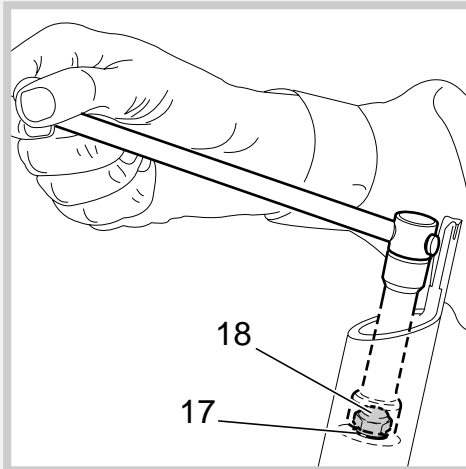
**FIG. 5**

Let all the oil drain out.



**WARNING:** Remember to always recycle any used oil.

To change the fork leg oil follow the procedure as described in section "REASSEMBLY" from FIG. 21 to FIG. 26. Turn the fork leg upside-down and unscrew the foot nut (18) complete with O-ring (17) by the use of a 15 mm socket wrench.



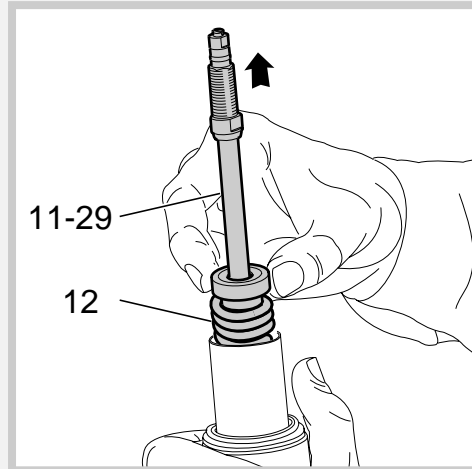
**FIG. 6**

Pull the hydraulic cartridge (11) or (29) complete with rebound spring (12) out of the stanchion tube.

Replace the whole hydraulic cartridge.



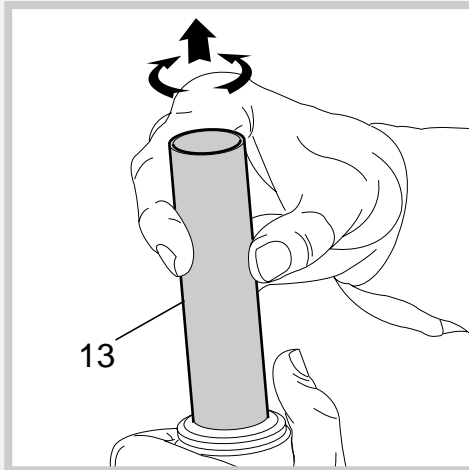
**IMPORTANT:** The hydraulic cartridge accommodated in the l.h. fork leg controls COMPRESSION damping. You can tell it from the rebound cartridge by the BLACK end and the holes in cartridge casing.



**GUIDE BUSHING AND SEAL  
ASSEMBLY CHANGE**

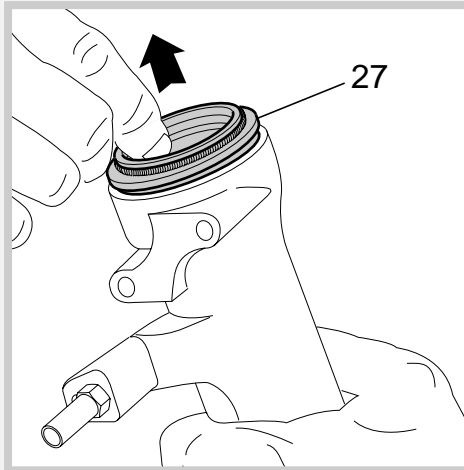
**FIG. 7**

Pull the stanchion tube (13) completely out of the slider.



**FIG. 8**

Use a small screwdriver and remove the dust seal (27) from the top of slider.

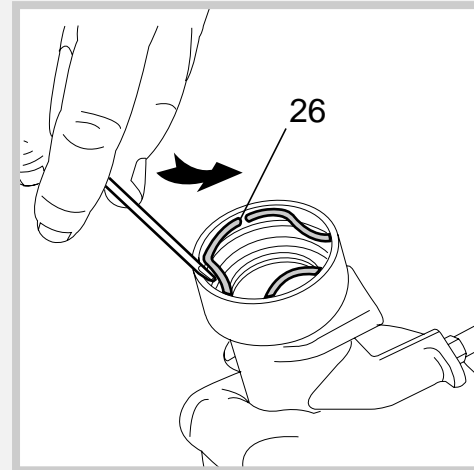


**FIG. 9**

Remove the stop ring (26) from the slider by placing the screwdriver bit in one of the three openings on the stop ring and carefully lifting the ring out of place.



**IMPORTANT:** when removing the stop ring, make sure not to damage its seat.

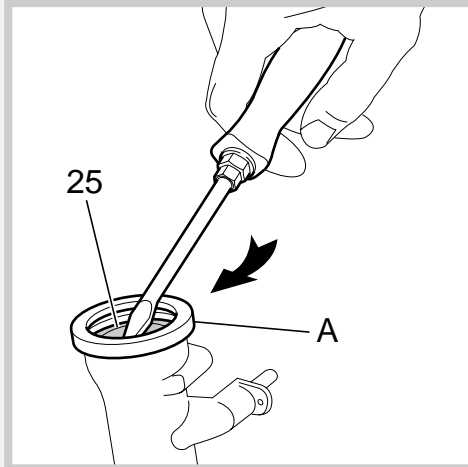


**FIG. 10**

Fit the slider protector (A) onto the slider and remove the oil seal (25) with the help of a large slot screwdriver.

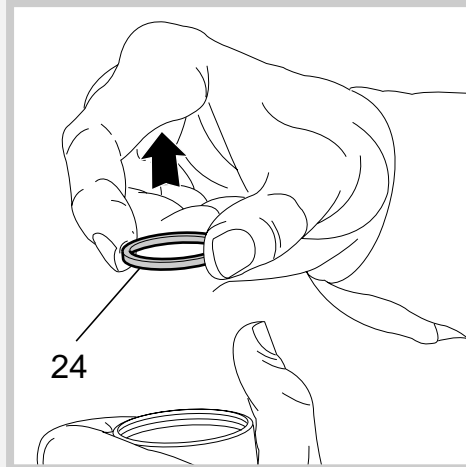


**IMPORTANT:** when removing the oil seal, make sure not to damage its seat. Once removed the oil seals should not be used again.



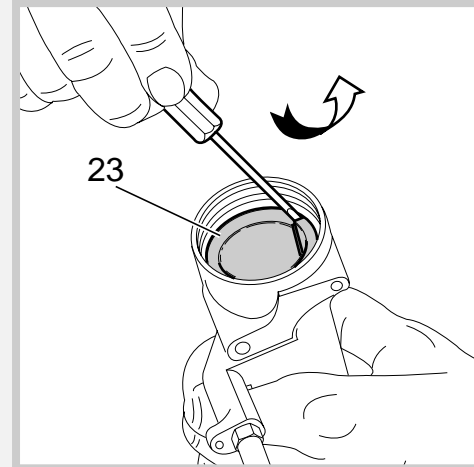
**FIG. 11**

Remove the upper washer (24) from the slider.



**FIG. 12**

Fit the bit of a small screwdriver into the upper edge slot of the guide bushing (23) and lift gently. Pull the bushing out of the slider and make all necessary changes.



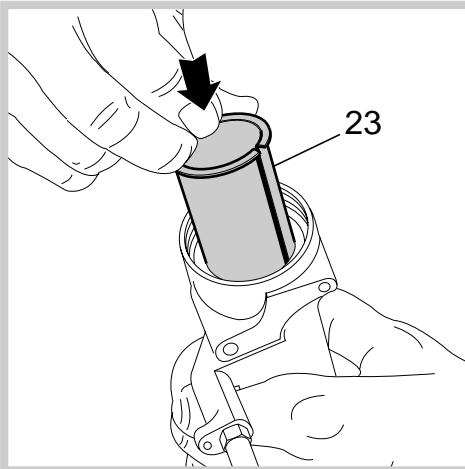
**REASSEMBLY**

**⚠ CAUTION:** before reassembling, all metal components should be washed carefully with inflammable and biodegradable solvent and dried with compressed air.

**GUIDE BUSHING AND SEAL ASSEMBLY**

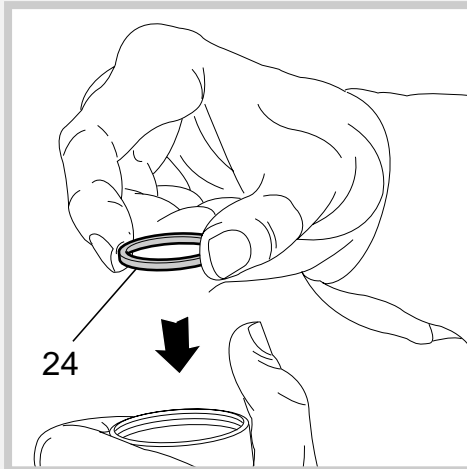
**FIG. 13**

Check that no dirt or debris is between slider and bushing. Insert the guide bushing (23) into place so that it adheres to the slider.



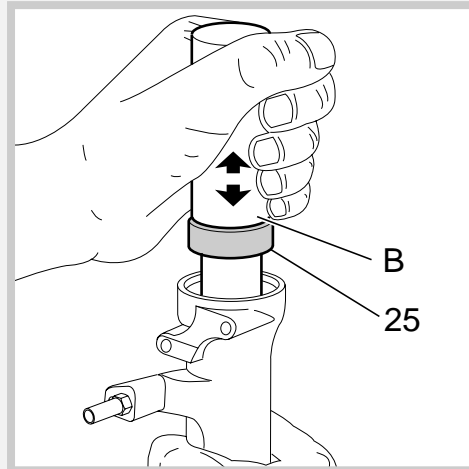
**FIG. 14**

Fit the upper washer (24) into the slider so that it touches the guide bushing.



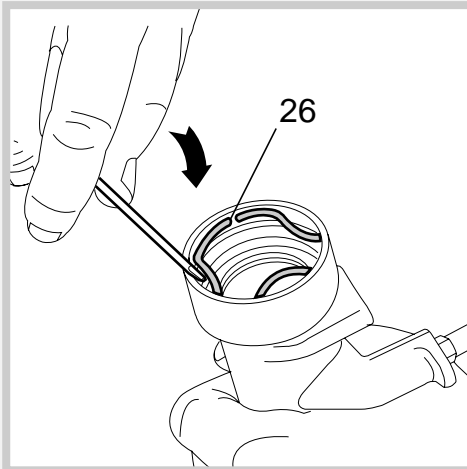
**FIG. 15**

Lubricate the oil seal (25) and place it onto the seal press (B) with the hollow side toward the slider. Press the oil seal into place until it touches the upper washer by using the above seal press.



**FIG. 16**

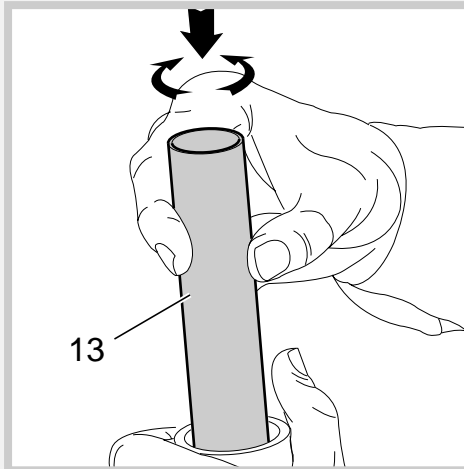
Insert the stop ring (26) making sure it is properly seated into place in the slider.



**STANCHION TUBE**

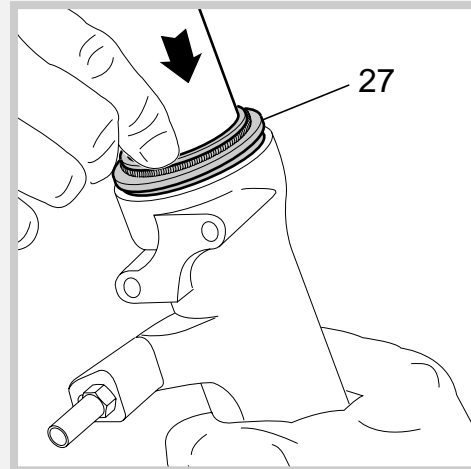
**FIG. 17**

Fit the stanchion tube (13) gently into the dust seal, from the non threaded end. Rotate the stanchion tube while inserting it into the seal to facilitate installation and reduce the chance of damaging the seals. Check to see that the stanchion tube slides unrestricted by cycling the fork up and down several times. The tube should slide freely inside the seal assembly without any side play. In the event it is too hard or too soft, repeat the previous steps described above and check components to ensure they are not damaged.



**FIG. 18**

Lubricate the dust seal (27) and fit it into its seat in the stanchion. Fit it into the slider seat.



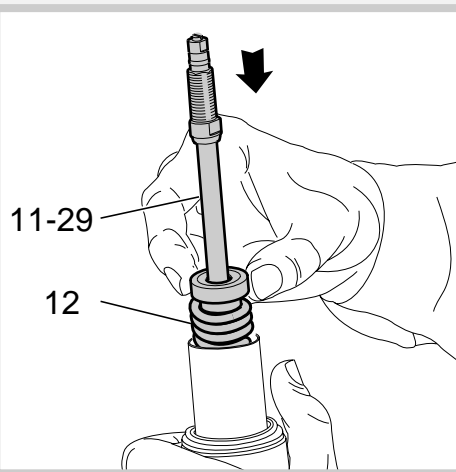
**HYDRAULIC CARTRIDGE**

**FIG. 19**

Fit the rebound spring (12) into the hydraulic cartridge. Insert the complete hydraulic cartridge (11) or (29) with the stanchion pressed fully down into the slider.



**IMPORTANT:** The cartridge with the BLACK adjuster goes into the l.h. fork leg.

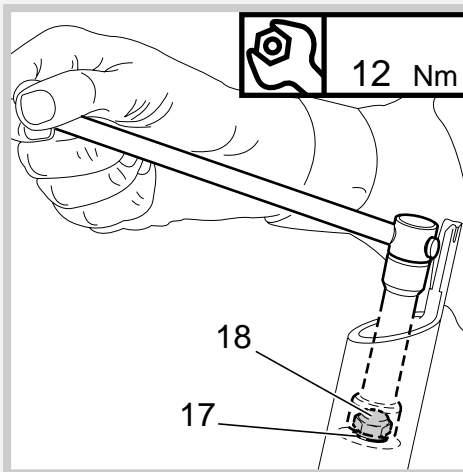


**FIG. 20**

Grease the O-ring (17) on the foot nut (18) and screw the nut on the hydraulic cartridge threaded end.

Tighten to 12 Nm.

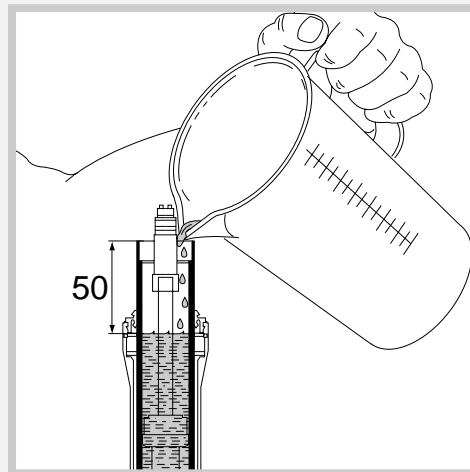
Pump stanchion up and down several times to make sure it slides properly through the stroke.



**HOW TO FILL WITH OIL**

**FIG. 21**

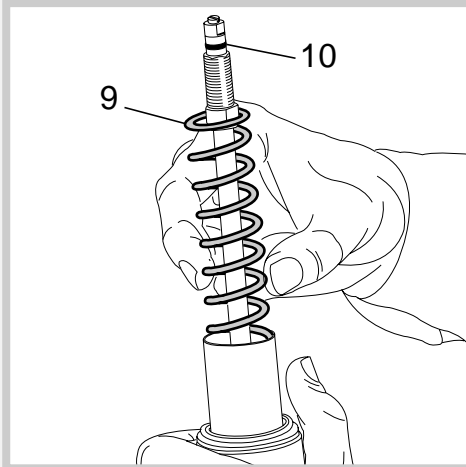
Pour the oil little by little when the stanchion tube is fully down and then pump with the cartridge (11) or (29) rod so as to have a better filling. Cartridge is full when no air is detected when pumping, in the fully compressed position. Check that the oil level is 50 mm/1.97 in. from the top of the stanchion tube in each leg.



**SPRING AND CAP**

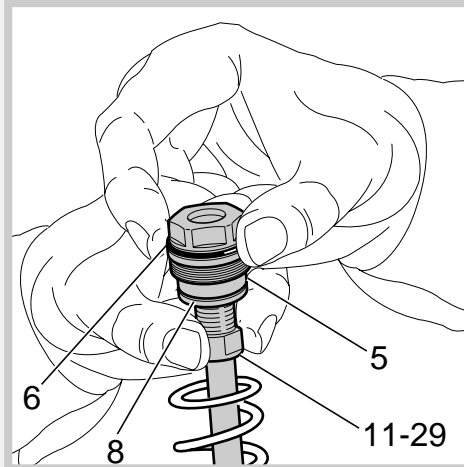
**FIG. 22**

Fit the spring (9) into the stanchion tube. Lubricate the O-ring (10) on the top of the preload knob support and the O-ring (6) on the cap (5).



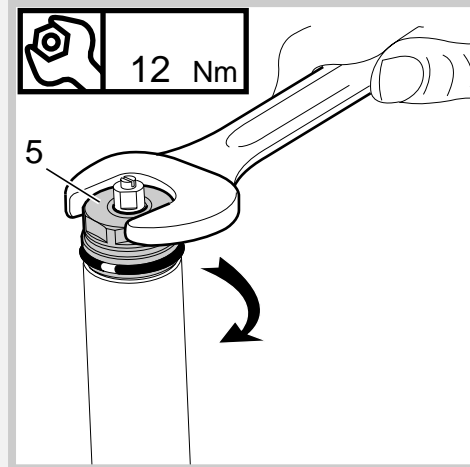
**FIG. 23**

Move the plunger (7), in the cap, to the minimum preload position. Screw the cap (5) complete with lower washer (8) onto the cartridge (11) or (29) rod. Screw cap all the way in.



**FIG. 24**

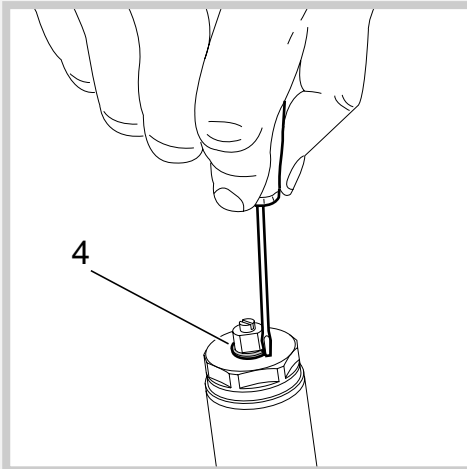
Take the stanchion tube and fit the cap (5) by hand. Place the stanchion tube in a vice making sure it is not damaged or dented in the process and tighten the cap to 12 Nm.





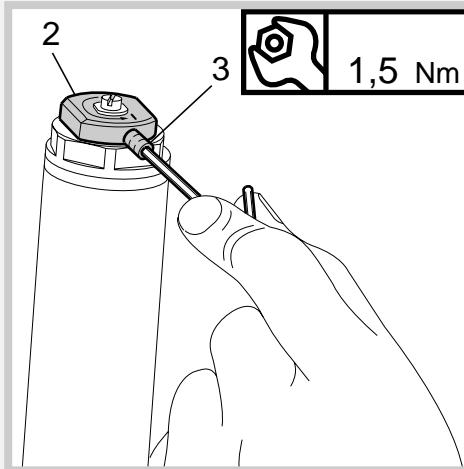
**FIG. 25**

Fit the stop ring (4) of the preload knob support and make sure it is properly seated into place.



**FIG. 26**

Fit the preload knob (2) and secure it on the support by tightening the grub screw (3) to 1.5 Nm.  
Fit the brake arch to the fork leg, and then install fork legs into crown as specified in section "INSTALLATION".



**SPECIFIC TOOLS**

<b>Ref.</b>	<b>Item.</b>	<b>Description and use</b>
<b>A</b>	536003 AB	Slider protector: to remove the oil seal from the slider
<b>B</b>	R 5068	Oil seal press: to press oil seal into the slider

