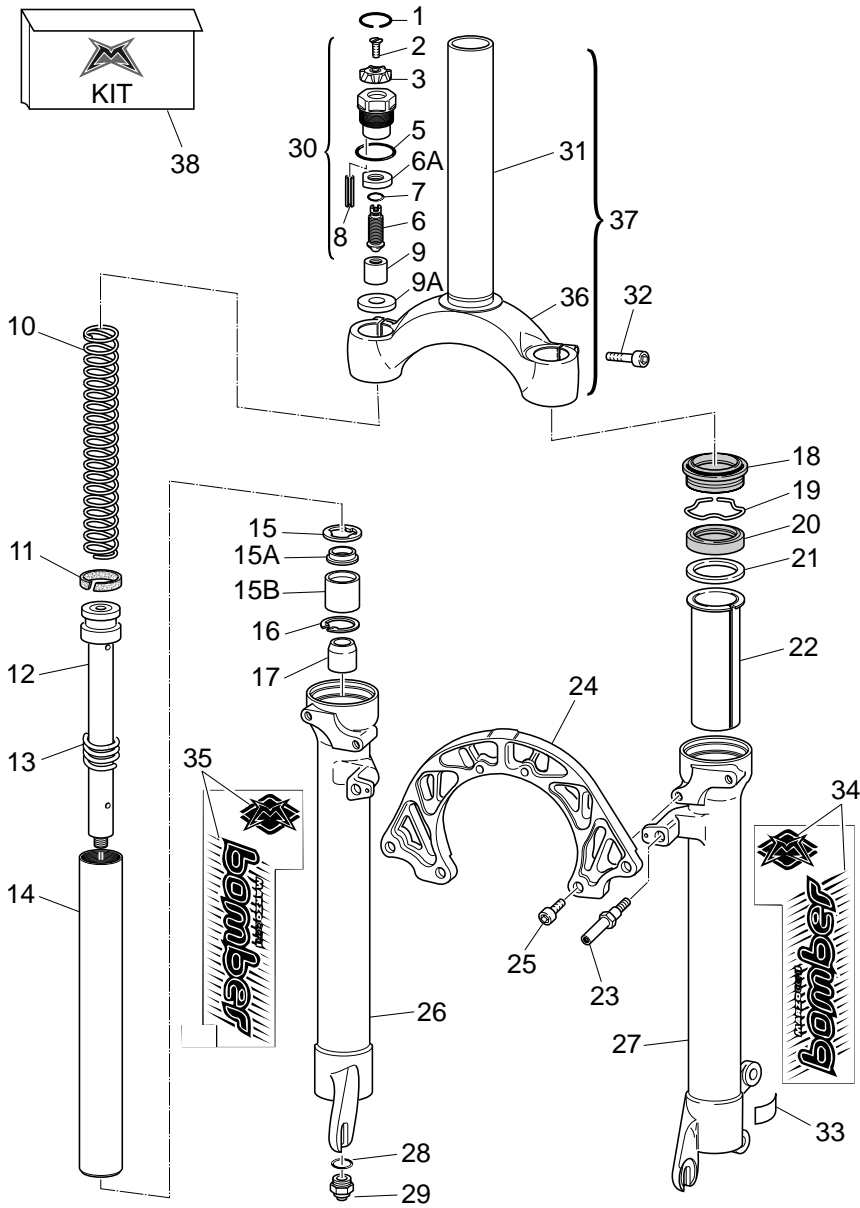
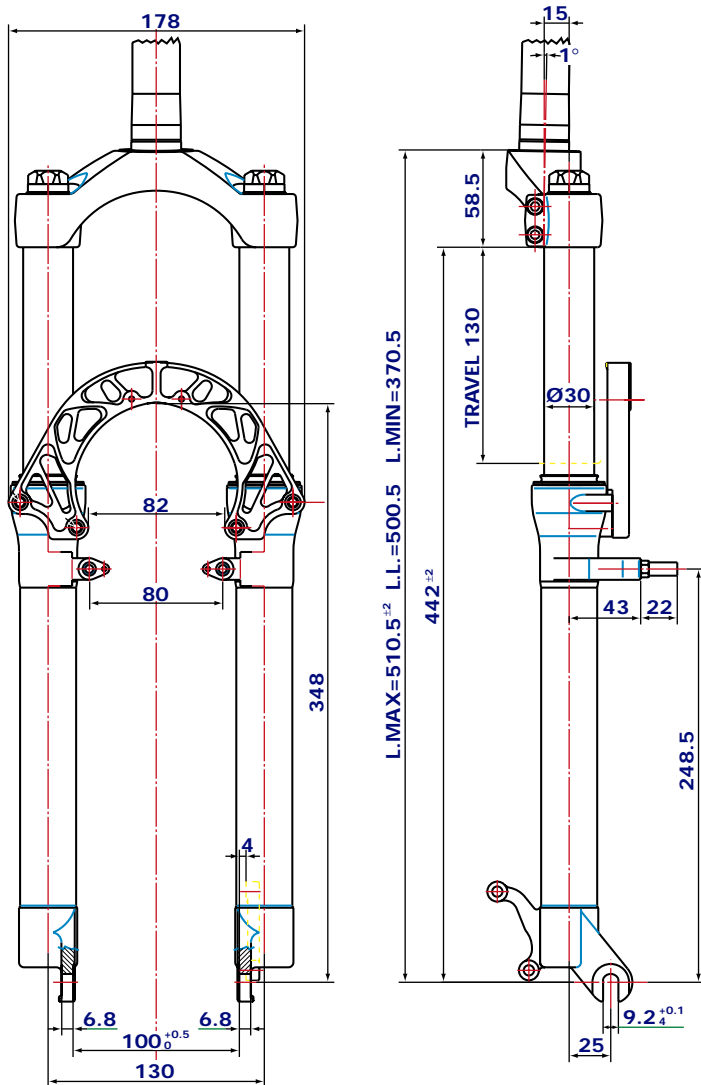


# Z1 DROP OFF



# Z1 D R O P O F F



## GENERAL

- The fork is sprung by a mechanical spring and uses hydraulic rebound damping.
- Spring pre-load adjustment controlled via external top mount adjuster, rebound damping adjustment controlled by adjuster inside each fork leg.
- The system is equipped with 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.

**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 special aluminum.

**Springs:** Constant pitch springs.

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

**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. 90 c.c. for 100 mm travel; 95 c.c. for 130 mm travel.

\* **BAM: Bomber Aerospace Material.**  
Special alloy extracted from aerospace material.

## INSTRUCTIONS

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

1. *Where specified, assemble and disassemble the shock absorption system using 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 or a specific oil for oil seals.*
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.*

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## **FAILURES, CAUSES AND REMEDIES**

*This paragraph reports some failures 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><i>1. Oil seal is worn out</i></li><li><i>2. Stanchion tube is scored</i></li><li><i>3. Excessive dirt on oil seal</i></li></ol>	<ol style="list-style-type: none"><li><i>1. Replace oil seal</i></li><li><i>2. Replace oil seal and stanchion tube</i></li><li><i>3. Clean the oil seal seat and replace oil seal</i></li></ol>
<i>Oil leaking through the bottom of slider</i>	<i>O-ring seal on the cartridge rod 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, dust seal and oil seal</i>
<i>Excessive play of stanchions into the sliders</i>	<i>Main slider bushings are worn</i>	<i>Replace main slider bushings</i>

# Z1 D R O P O F F

## 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.

## 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/Steering 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.

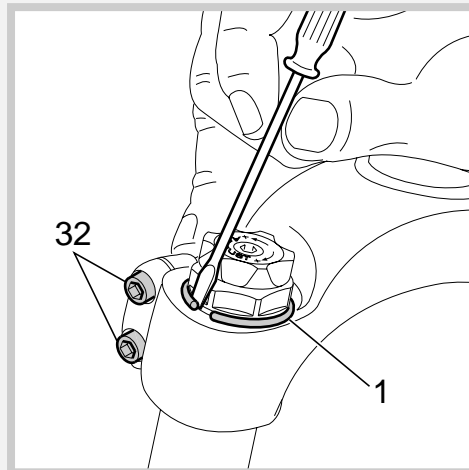
**⚠ WARNING:** In case of improper installation of the steer tube into the crown, the rider could lose control of his/her bicycle, thus jeopardizing his/her safety.

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 (32) and slip off the safety ring (1). 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

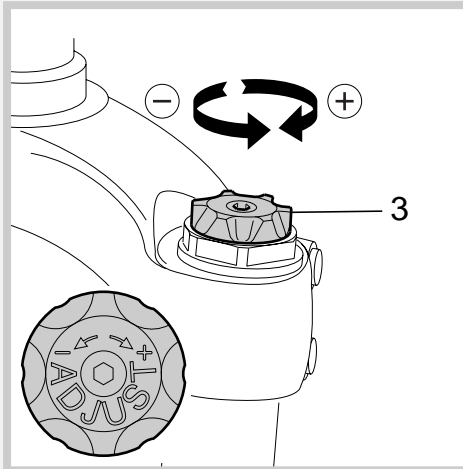
Assembling the brake caliper onto the slider is a very delicate operation that should be carried out with extreme care. Improper assembly might overstress the caliper supports which might break.

This system should be assembled by specialized technicians in a position to fully understand and properly follow the instructions given by the manufacturer.

## ADJUSTMENT

### SPRING PRELOAD (Fig. B)

The spring preload for COMPRESSION damping can be adjusted by turning the knob (3) 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.



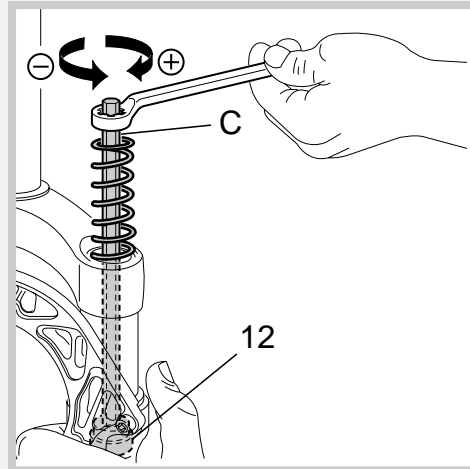
### REBOUND DAMPING ADJUSTMENT (Fig. C)

The adjuster controlling REBOUND damping adjustment is accommodated inside cartridge rod (12) inside each fork leg.

To access the adjuster, unscrew the top caps (30) and push the stanchion tubes fully down (see Fig. 1).

Fit the supplied hexagon rod (C) into the stanchion tube and into the adjuster inner hole. Rotate the adjuster clockwise for harder damping, counterclockwise to soften it. Refit the cap (30) and tighten it to the specified torque (see Fig. 24).

**⚠ WARNING:** Do not remove the springs or this will alter the amount of oil inside the fork legs.



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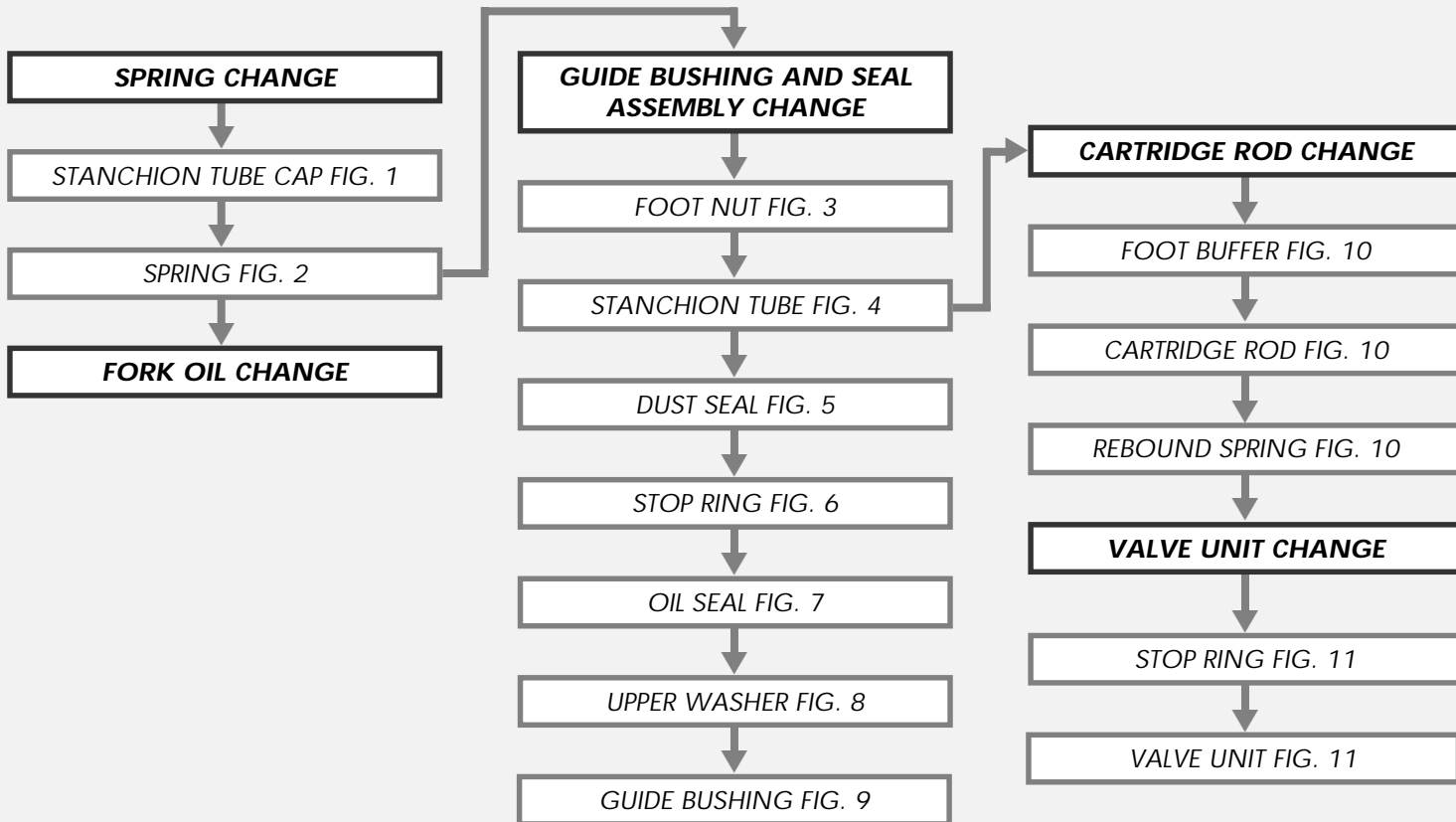
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## DISASSEMBLY

### 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 upper plate and 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.

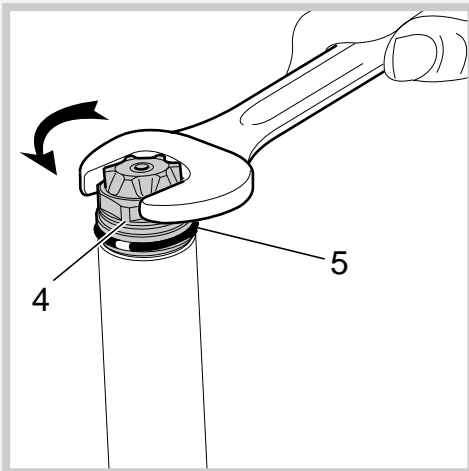
### DISASSEMBLY DIAGRAM



**SPRING CHANGE**

**FIG. 1**

Place the stanchion tube (14) in a vice. Be sure not to damage or squeeze stanchion in the process. Unscrew the plug (4) with a 26 mm hexagon wrench. Remove the plug complete with the O-ring (5) from the stanchion tube.



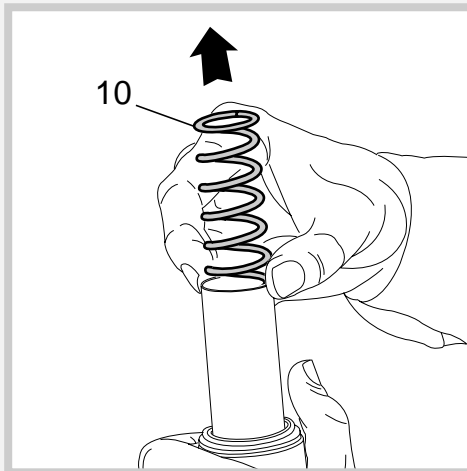
**FIG. 2**

Push the stanchion tube into the slider and remove the washer (9A) and the spring (10). Let all the oil drain out.



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

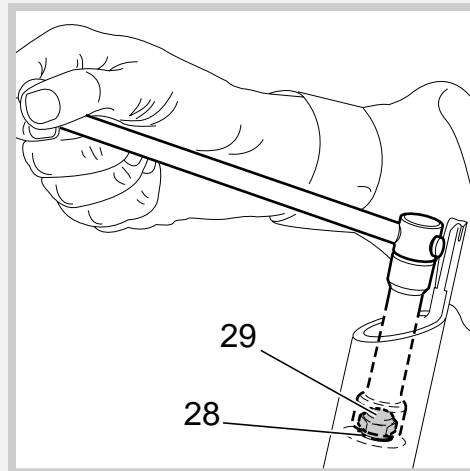
To change the fork leg oil follow the procedure as described in section "REASSEMBLY" from Fig. 22 to Fig. 24.



**GUIDE BUSHING AND SEAL ASSEMBLY CHANGE**

**FIG. 3**

Turn the fork leg upside-down and unscrew the foot nut (29) complete with O-ring (28) by the use of a 15 mm socket wrench.

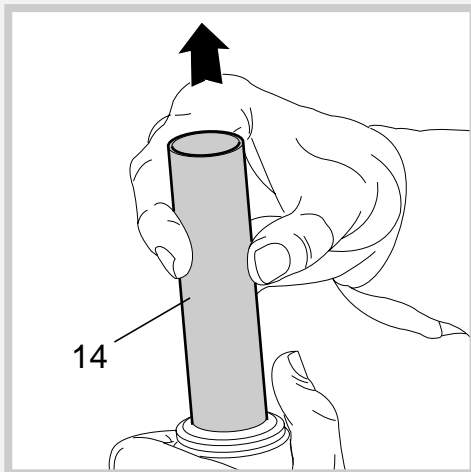




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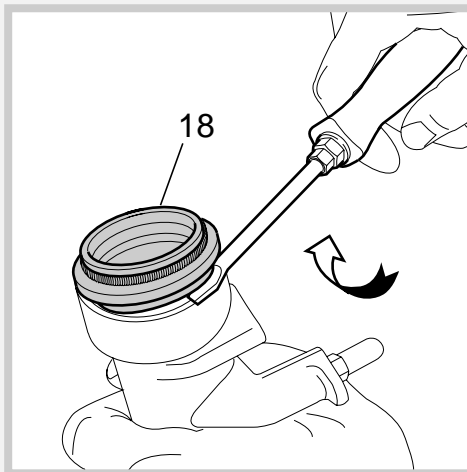
**FIG. 4**

Withdraw the stanchion tube (14) from the slider.



**FIG. 5**

Remove the dust seal (18) from the top of slider using a small screwdriver.

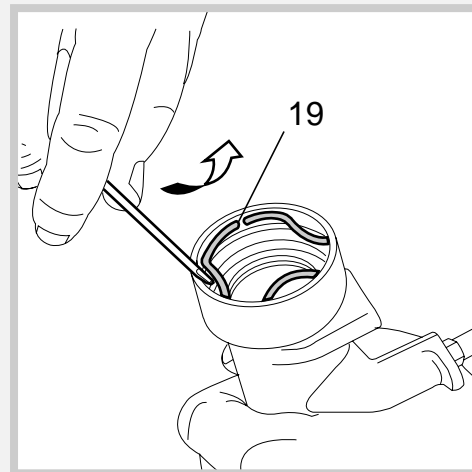


**FIG. 6**

Remove the stop ring (19) from the slider by placing the screwdriver bit in one of the three openings on the stop ring.



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

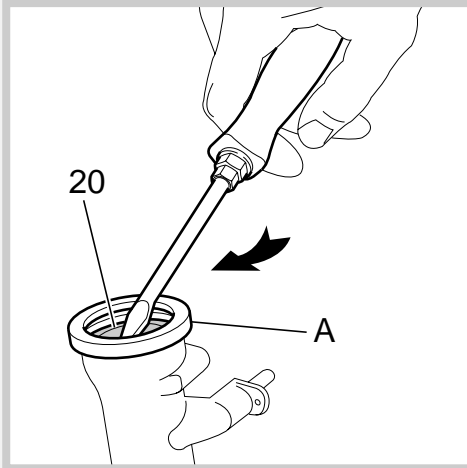


**FIG. 7**

Fit the slider protector (A) onto the slider and remove the oil seal (20) with the help of a large flat screwdriver.

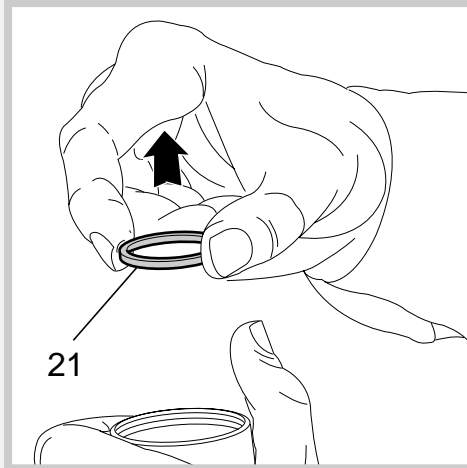


**IMPORTANT:** when removing the oil seal, make sure not to damage its seat. Do not reuse any oil seals you have removed.



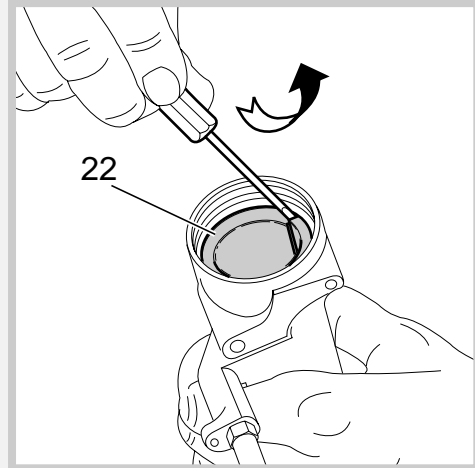
**FIG. 8**

Remove the upper washer (21) from the slider.



**FIG. 9**

Fit the bit of a small screwdriver into upper edge slot of the guide bushing (22) and lift gently. Pull the bushing out of the slider and make all necessary changes.

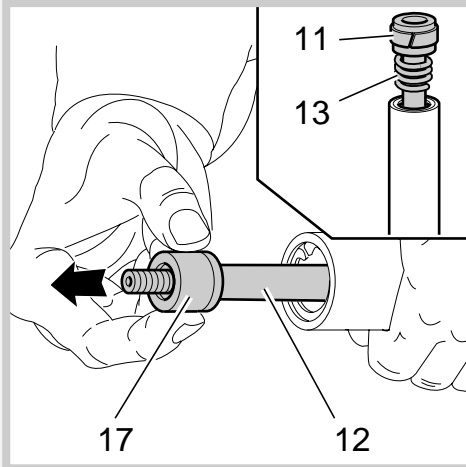


### CARTRIDGE ROD CHANGE

**FIG. 10**

Remove the foot buffer (17) from the cartridge rod (12) end.

Withdraw the cartridge rod (12) and the rebound spring (13) from the stanchion tube opposite side. Replace the seal ring (11) if damaged or worn out.



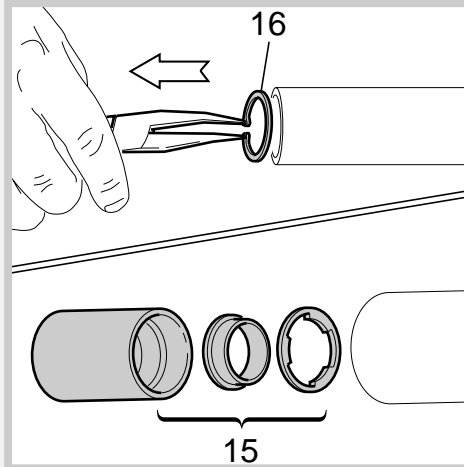
### VALVE UNIT CHANGE

**FIG. 11**

To check that the valve unit is operating correctly, it is necessary to work on the inside of the stanchion tube.

Slip off the stop ring (16) using pointed pliers.

Put the valve unit (15) out of the tube with one finger in the same sequence as in the figure.



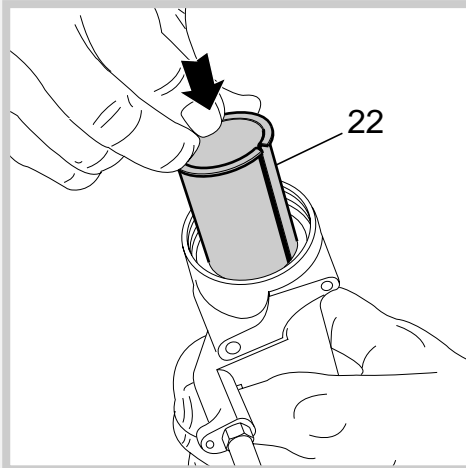
**REASSEMBLY**

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

**GUIDE BUSHING AND SEAL ASSEMBLY**

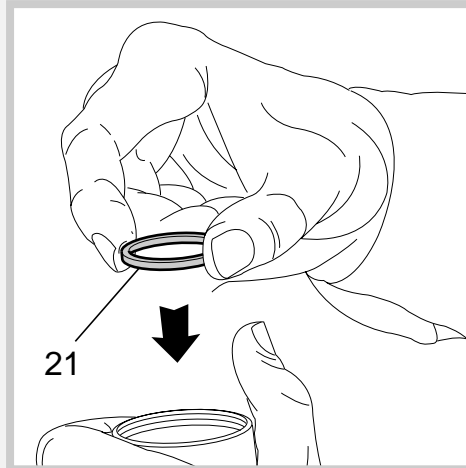
**FIG. 12**

Check for any debris or dirt lodged between slider and bushing. Insert the guide bushing (22) into the slider making sure it becomes properly seated against slider walls.



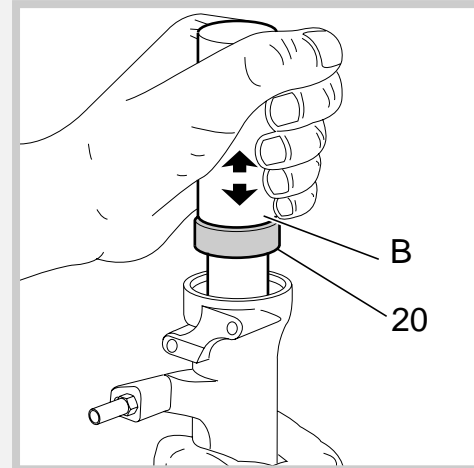
**FIG. 13**

Fit the upper washer (21) into the slider so that it comes in contact with the guide bushing.



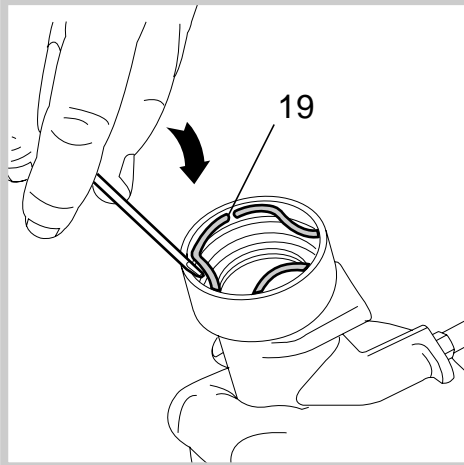
**FIG. 14**

Lubricate the oil seal (20) and fit it onto the seal press (B) - its hollow side toward the slider. Press the oil seal until it touches the lower washer by using the above seal press.



**FIG. 15**

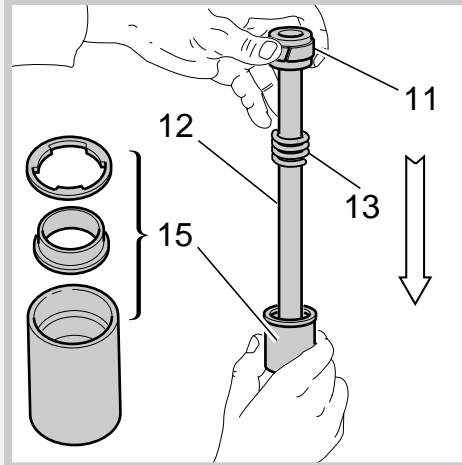
Insert the stop ring (19) and make sure it is properly fitted into its seat.



**VALVE UNIT AND CARTRIDGE  
ROD ASSEMBLY**

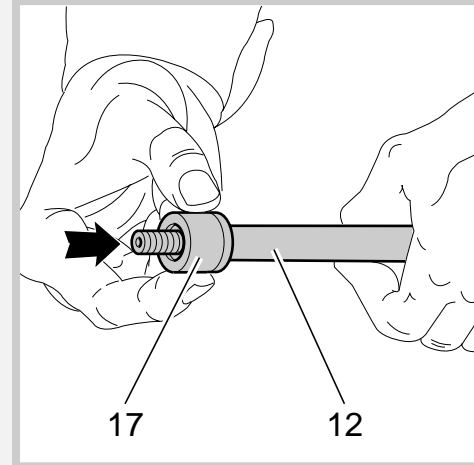
**FIG. 16**

After having overhauled or replaced the valve unit and after having cleaned the inside of the stanchion tube, reassemble. Assemble valve unit components (15), in correct sequence. Then fit cartridge rod (12), seal ring (11) and rebound spring (13) into the valve unit (15).



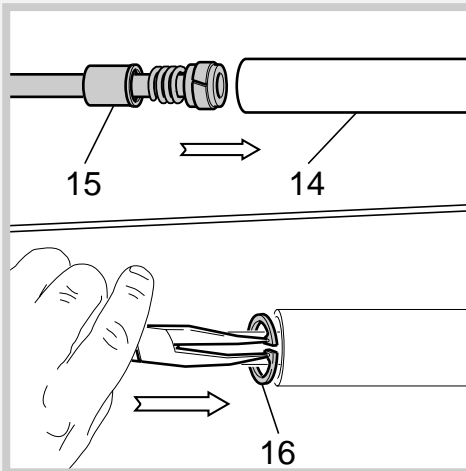
**FIG. 17**

Reassemble the foot buffer (17) onto the end part of cartridge rod (12).



**FIG. 18**

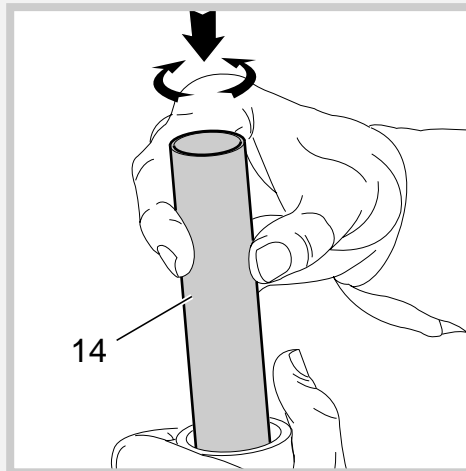
Fit this assembly into the stanchion tube (14) and properly seat the valve unit (15). Insert the stop ring (16).



**STANCHION TUBE ASSEMBLY**

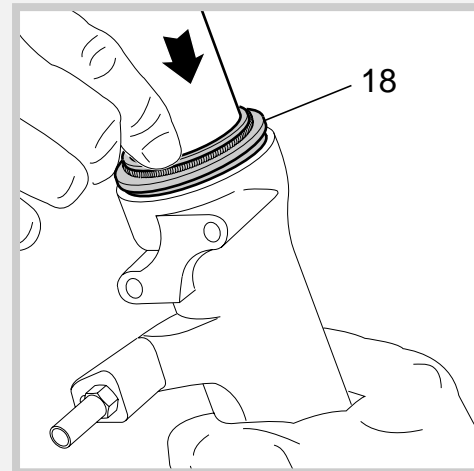
**FIG. 19**

Fit the stanchion tube (14) gently into the oil seal (20). Rotate the stanchion tube while inserting it into the seal to reduce the chance of damaging the seals. Turn the slider over and check that cartridge rod thread (12) is sticking out through the slider hole. If not so, press on hexagon rod (C) to push out cartridge rod.



**FIG. 20**

Lubricate the dust seal (18) and seat it into the stanchion.

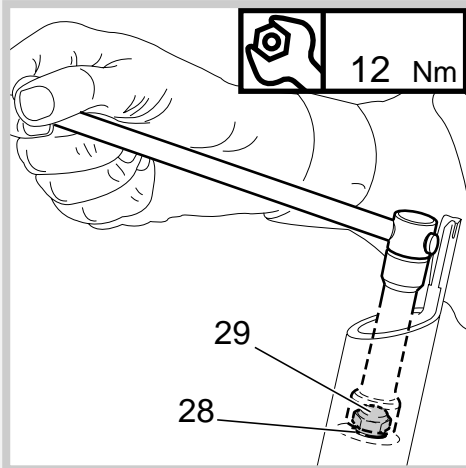


**FIG. 21**

Grease the O-ring (28) on the foot nut (29) and screw the nut onto cartridge rod thread.

Tighten to 12 Nm.

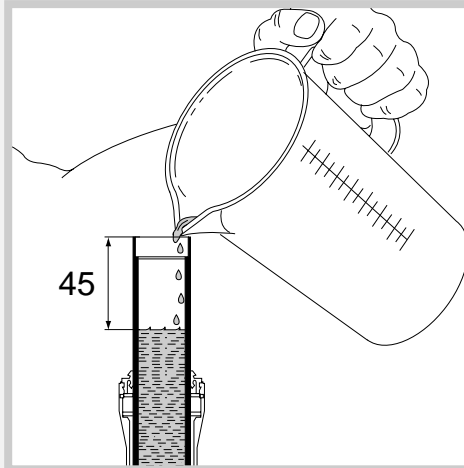
Pump stanchion up and down several times to make sure it slides properly through the stroke.



**HOW TO FILL WITH OIL**

**FIG. 22**

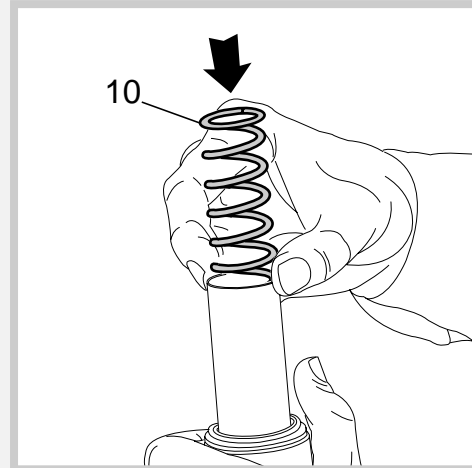
Pour the oil little by little when the stanchion tube is fully down and then pump stanchion tube up and down so as to have a better filling. Check that the oil level is 45 mm/1.31 in. from the top of the stanchion tube, in both legs.



**SPRING AND PRELOAD CAP**

**FIG. 23**

Fit the spring (10) into the stanchion tube.

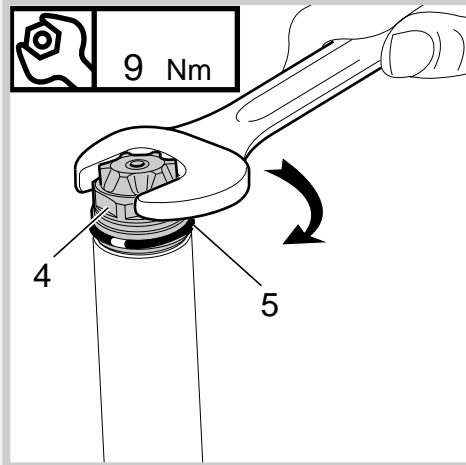


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**FIG. 24**

Lubricate the O-ring (5) on the cap (4). Turn the plunger (6) inside the cap counterclockwise until it is at its minimum setting. Fit the lower washer (9A). Start the complete cap assembly onto stanchion tube thread by hand. Place the stanchion in a vice being careful not to damage or dent it. Tighten to 12 Nm. Fit the brake arch to the fork leg, and then install fork legs into crown plate as specified in section "INSTALLATION".





**SPECIFIC MARZOCCHI 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
<b>C</b>	R 5085	Hexagon wrench: to set rebound adjuster

