

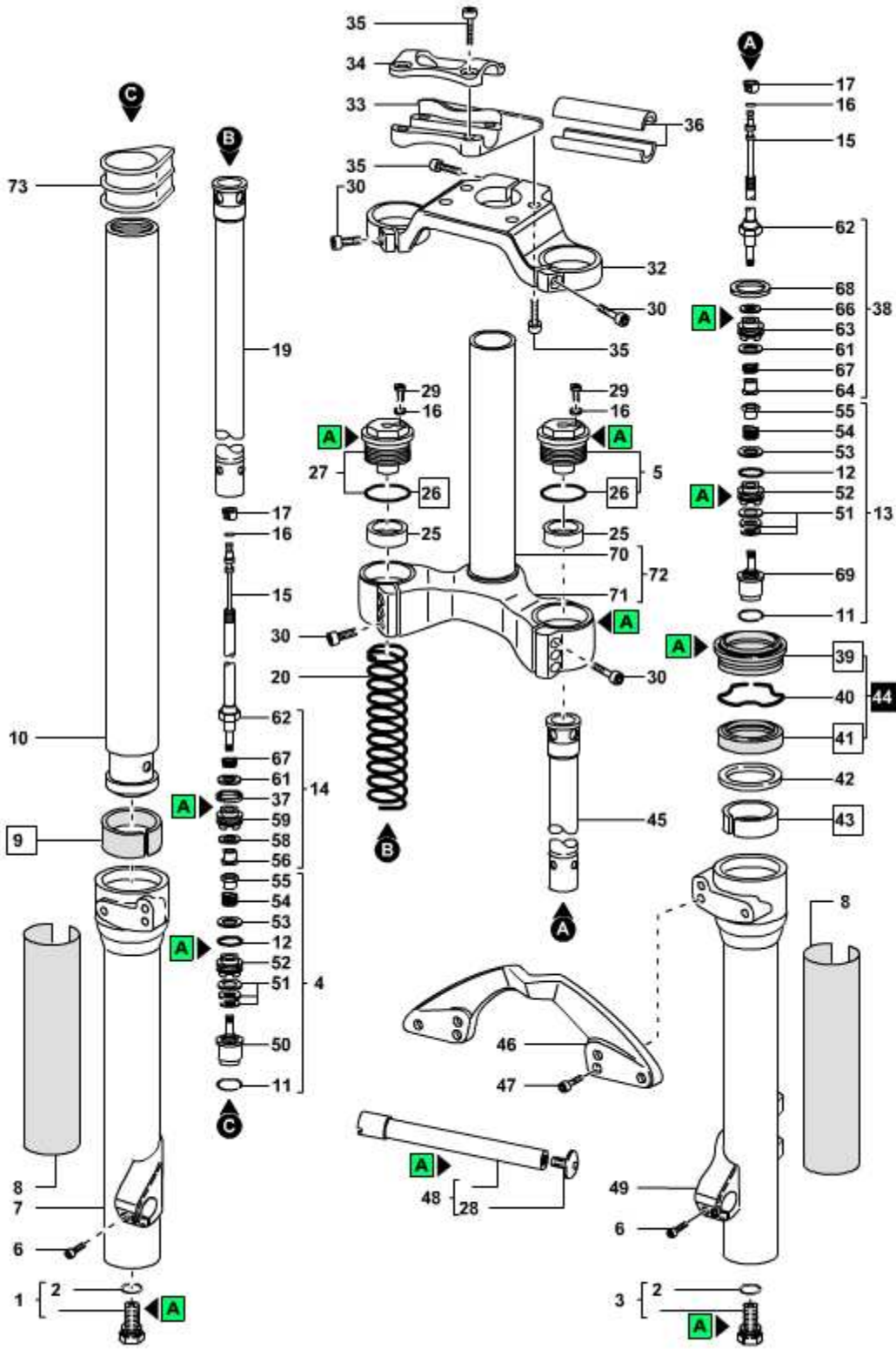
**marzocchi**  
WWW.MARZOCCHI.COM



# 2006 - Monster

Technical instructions

Exploded view - Monster



Rif.	Code	Quantity
1	850332>A	1
2	528050	2
3	850333	1
4	717069/R	1
5	701218/C	1
6	520023PN	4
7	5031609LUCI	1
8	547702	1
9	538028>B	2
10	507657	2
11	523232	2
12	528005	2
13	717068/R	1
14	309683CH/R	1
15	5321103	2
16	528223	4
17	521142IW>A	2
19	5181239CH/R	1
20	5141159	2
25	518057	2
26	528144	2
27	701206/C	1
28	520264AC	1
29	520324	2
30	520048	8
32	501493LA	1
33	505059LA>A	1
34	505056LA	1
35	520308PN	9
36	526127KR/C	1
37	524163	1
38	309683CH/K/R	1
39	533281	2
40	523243	2
41	528053>A	2
42	522226AA	2
43	538035>D2	2
44	850691	1
45	5181240CH/R	1
46	5321119LA	1
47	520279QF	6
48	850755/C	1
49	5031651/C	1
50	5321143	1
51	517030	2
51	517076	2
51	517029	2
51	517057	2
51	517028	2
52	530089>B	2
53	517044	2
54	5141087	2
55	521171	2
56	521189	1
58	517080	1
58	517082	1
59	530097>B	1
61	517044	2
62	5321181/R	2
63	530090>B	1
64	521190	1
66	517074	1
66	517057	1
66	517028	1
67	5141087	2
68	535099	1
69	5321018	1
70	508983>B/R	1
71	502531LA	1
72	7051133	1
73	531067	2

Monster - Oil levels

Position	Oil type	Quantity (cc)
Right fork leg	SAE 7,5 - 550013	430
Left fork leg	SAE 7,5 - 550013	430

**Spare part list - Monster**

Rif.	Code	Description	Q.ty in the model
1	850332>A	<b>SCREW + PIN</b>	1
2	528050	<b>O-RING</b>	2
3	850333	<b>SCREW UNIT</b>	1
4	717069/R	<b>R.H VALVE UNIT</b>	1
5	701218/C	<b>COMPRESSION PLUG UNIT</b>	1
6	520023PN	<b>SCREW TCE M6X20</b>	4
7	5031609LUCI	<b>RH SLIDER</b>	1
8	547702	<b>RH+LH MONSTER '06 LABELS-BLK</b>	1
9	538028>B	<b>LOWER BUSH</b>	2
10	507657	<b>STANCHION TUBE</b>	2
11	523232	<b>O-RING</b>	2
12	528005	<b>O-RING 2081</b>	2
13	717068/R	<b>L.H VALVE UNIT</b>	1
14	309683CH/R	<b>R.H PUMPING ROD</b>	1
15	5321103	<b>INNER ROD</b>	2
16	528223	<b>O-RING</b>	4
17	521142IW>A	<b>NUT</b>	2
19	5181239CH/R	<b>R.H BODY</b>	1
20	5141159	<b>SPRING</b>	2
25	518057	<b>PRELOAD SLEEVE</b>	2
26	528144	<b>O-RING</b>	2
27	701206/C	<b>REBOUND PLUG UNIT</b>	1
28	520264AC	<b>IN CAP AXLE</b>	1
29	520324	<b>SCREW</b>	2
30	520048	<b>SCREW</b>	8
32	501493LA	<b>UPPER CROWN</b>	1
33	505059LA>A	<b>LOWER HANDLEBAR CLAMP</b>	1
34	505056LA	<b>UPPER HANDLEBAR CLAMP</b>	1
35	520308PN	<b>SCREW</b>	9
36	526127KR/C	<b>HANDLEBAR SHIM SHIVER</b>	1
37	524163	<b>PISTON RING</b>	1
38	309683CH/K/R	<b>L.H PUMPING ROD</b>	1
39	533281	<b>DUST SEAL DIA.40</b>	2
40	523243	<b>STOP RING</b>	2
41	528053>A	<b>OIL SEAL DIA.40</b>	2
42	522226AA	<b>CAP</b>	2
43	538035>D2	<b>UPPER PILOT BOSS</b>	2
44	850691	<b>MTB MONSTER T OIL SEALS KIT</b>	1
45	5181240CH/R	<b>L.H BODY</b>	1
46	5321119LA	<b>ARCH</b>	1
47	520279QF	<b>SCREW</b>	6
48	850755/C	<b>AXLE</b>	1
49	5031651/C	<b>LH SLIDER + SPACERS</b>	1
50	5321143	<b>VALVE</b>	1
51	517030	<b>COMPRESSION DAMPING WASHER</b>	2
51	517076	<b>COMPRESSION DAMPING WASHER</b>	2
51	517029	<b>COMPRESSION DAMPING WASHERS</b>	2
51	517057	<b>SHIM 21X8.1X0.2</b>	2

51	517028	<b>SHIM 23X8.1X0.2</b>	2
52	530089>B	<b>PISTON</b>	2
53	517044	<b>SHIM 23X8.1X0.3</b>	2
54	5141087	<b>REBOUND SPRING</b>	2
55	521171	<b>NUT</b>	2
56	521189	<b>NUT</b>	1
58	517080	<b>SHIM 15X8.1X0.1</b>	1
58	517082	<b>SHIM 23X8.1X0.1</b>	1
59	530097>B	<b>PISTON</b>	1
61	517044	<b>SHIM 23X8.1X0.3</b>	2
62	5321181/R	<b>ROD</b>	2
63	530090>B	<b>PISTON</b>	1
64	521190	<b>NUT</b>	1
66	517074	<b>REED VALVE</b>	1
66	517057	<b>SHIM 21X8.1X0.2</b>	1
66	517028	<b>SHIM 23X8.1X0.2</b>	1
67	5141087	<b>REBOUND SPRING</b>	2
68	535099	<b>PISTON CUP</b>	1
69	5321018	<b>VALVE</b>	1
70	508983>B/R	<b>ALLOY STEER TUBE DIA.30</b>	1
71	502531LA	<b>LOWER CROWN</b>	1
72	7051133	<b>CROWN+ ALLOY STEM</b>	1
73	531067	<b>BUFFER</b>	2

## Technical characteristics: Technical characteristics

---

Dual-crown fork with  $\varnothing$  40mm legs.

**Available travels:** 200 mm.

**Right fork leg damping element:** spring.

**Left fork leg damping element:** spring.

**Right fork leg damping system:** HSCV cartridge with external adjustment of rebound and compression.

**Left fork leg damping system:** HSCV cartridge with external compression adjustment at travel end (High Speed Compression).

The stanchion tubes are joined with screws to the steering crown.

The guide of the stanchion tubes inside the sliders has special long-life bushes that are easy to reach.

Lubrication and cooling of the parts subject to friction with a specially formulated oil.

**Steer tube:** aluminium, 1-1/8", threadless.

**Crown:** BAM® aluminium alloy forged and CNC machined.

**Top crown:** aluminium alloy forged and CNC machined.

**Stanchions:** anodised aluminium.

**Sliders:** aluminium alloy, CNC machined.

**Arch:** aluminium alloy, CNC machined, to improve the structural stiffness of the fork.

**Sliding bushings:** made of friction-free and wear-free material.

**Springs:** constant pitch.

**Seals:** computer designed oil seals that guarantee maximum seal in any condition.

**Oil:** specially formulated oil that prevents foam and keeps the viscosity unchanged while offering high performance; free from static friction.

**Dropout type:** motorcycle type wheel axle support, with 20mm advanced axle and double screw locking system on both dropouts (specific wheel axle, supplied).

**Disk brake mount:** DH International Standard for post-mount 8" disk.

**Max wheel size:** 3.0" x 26".

**Handlebar with direct clamp on top crown:** available as option.

## Warnings: Instructions for use

MARZOCCHI forks are based on an advanced technology coming from the company's years long experience in the professional mountain bike industry.

For the best results, we recommend inspecting and cleaning the area below the dust seal and the stanchion tube after every use and lubricating the parts with some silicone oil.

MARZOCCHI forks usually offer the best performances since the very first rides. Notwithstanding this, a short running-in period may be necessary (5-10 hours) to adjust the internal couplings. This precaution will lengthen your fork's life and guarantee its best performances.

We recommend changing the oil at least every 100 hours.

The forks with a polished finish must be treated periodically with polishing paste to keep the exterior shining like new.

## Warnings: General safety rules

After disassembling the forks, always use new, original Marzocchi seals when reassembling.

To tighten two bolts or nuts that are near each other, always follow the sequence 1-2-1, and tighten to the required tightening torque.

Before reassembly, wash all new and old components and dry them with some compressed air, making sure there are neither breaks nor burrs.

Never use flammable or corrosive solvents when cleaning the forks, as these could damage the fork's seals. If you must use a solvent, use biodegradable detergents that are not corrosive, non-flammable, or have a high flash point.

Before reassembling, always lubricate those components that are in contact with the fork's oil.

If you are planning not to use your forks for a long period of time, always lubricate those components that are in contact with the fork's oil.

Always collect and keep any lubricants, solvents, or detergents, which are not completely biodegradable in the environment. These materials should be kept in appropriate containers, and disposed of according to local laws.

Always grease the seal lips before reassembling.

All of the components of Marzocchi forks require the use of metric tools. Use only metric tools. Imperial (US) tools may have similar sizes, but can damage the bolts, making them impossible to loosen or tighten.

When using a screwdriver to assemble or disassemble metal stop rings, O-rings, sliding bushings, or seal segments, avoid scratching or cutting the components with the screwdriver tip.

Do not carry out any maintenance and / or adjustment operations that are not explained in this manual.

Only use original Marzocchi spare parts.

Before servicing the fork, we recommend washing the fork thoroughly.

Work in a clean, organized, and well-lit place. If possible, avoid servicing your forks outdoors.

Carefully check to see that your work area is free of dust and metal shavings from any component of the forks.

Never modify your fork in any way.

We recommend overhauling one fork leg at a time.

## Warnings: Fitting the fork onto the frame

The fork is supplied with "A-Head Set" steer tube to be cut to size according to frame being used.

Fitting the fork onto the bike frame is a very delicate operation that must be carried out at one of our service centres only.

The assembling on the frame and the adjustment of the steer tube must be carried out following the instructions of the steering set manufacturer.

**A wrong installation can be dangerous for the rider.**

**Marzocchi does not guarantee the assembly and accepts no liability for damage and/or accidents arising from a wrong installation.**

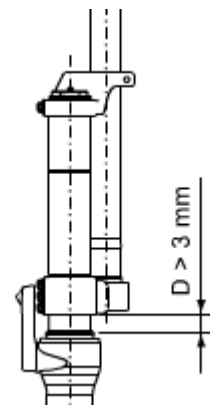
The steer tube must be pressed into the crown; its replacement must be carried out by one of our service centres using the adequate tools.

**A wrong installation of the steer tube into the crown may cause the rider to lose the control of the bike and lead to serious personal injury.**

For a correct installation of the fork onto the frame, check that:

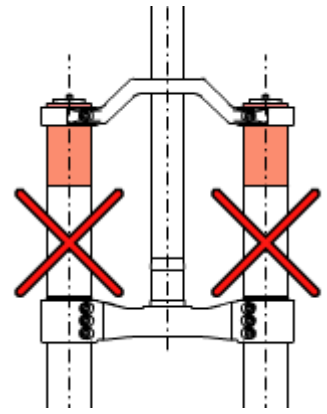
with the fork legs at travel end, the distance "D" between the bottom face of the crown and the dust seal is higher than 3 mm.

The clamping of the stanchions to the crowns shall be done in the areas with the large diameter.

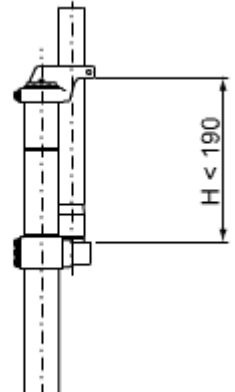


Fix the stanchions to the crowns so that the bottom face of the crown is slightly above the reference notch on the stanchion.

The clamping of the stanchions to the crowns must be done only in the areas with larger diameter (darker area in the picture).



For a correct installation of the fork onto the frame, check that distance **H**, corresponding to the length of the steer tube between the two crowns, is less than **190 mm**.



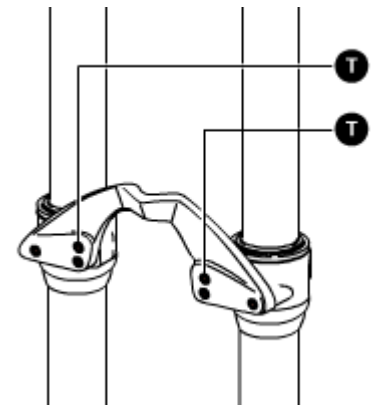
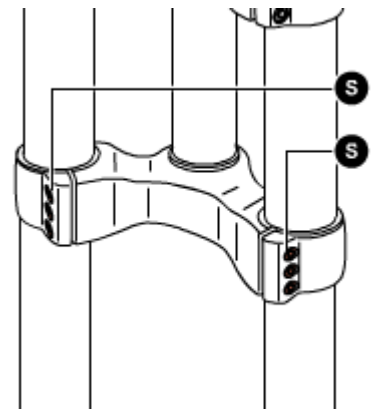
With the fork legs at travel end, the distance between the inflated tire and the bottom of the crown must be at least **4 mm**.

**A different position of the crowns can result in damage to the fork and in serious personal injury.**

For a correct installation of the fork onto the frame, proceed as follows:

With the fork legs at travel end, the distance "**D**" between the bottom face of the crown and the dust seal shall be higher than 3 mm.

The clamping of the stanchions to the crowns shall be done in the areas with the large diameter.

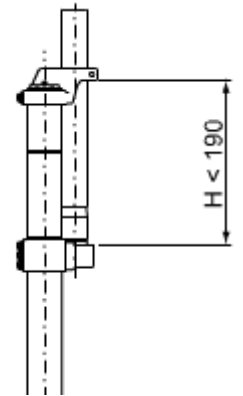
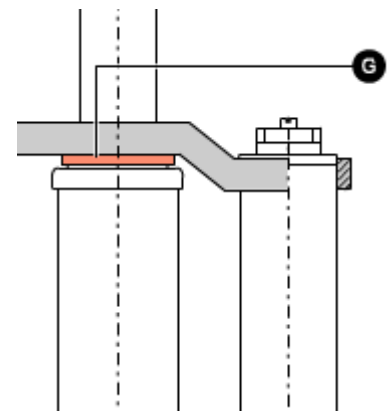


Install the fork without top steering crown onto the frame already equipped with steering set.

Mount the top steering crown onto the stanchions and the steer tube.

If the legs come out too much, put some shims (**G**) onto the crown, in correspondence of the steer tube, taking into account that distance "**H**" shall be less than 190 mm.

**Two different top crowns are available to adapt the fork to frames with longer or shorter steer tube seat.**

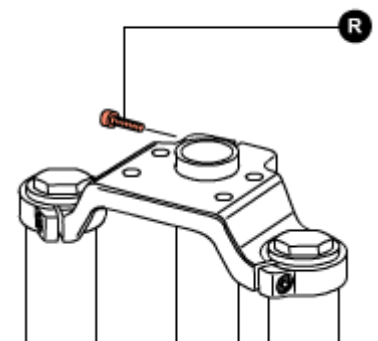
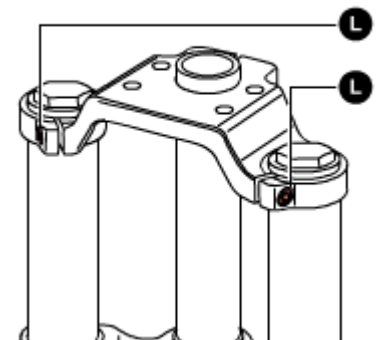


If the position of the crown with respect to the sliders has been changed, restore the original distance "D".

After tuning the steering set, tighten the screws (L) onto the top crown to the recommended tightening torque ( $10 \text{ Nm} \pm 1$ ).

**Over-tightening the screws (L) can deform the tubes and weaken the structure.**

Tighten screw (R) of the steer tube to the recommended tightening torque ( $10 \text{ Nm} \pm 1$ ).



### Warnings: Installing the disk brake

Installing the brake system is a delicate and critical operation that must be carried out by an authorized Marzocchi Service Center.

Marzocchi is not responsible for the installation and accepts no liability for damage and/or accidents arising from this operation.

Improper installation of a disk brake system can overstress the caliper mountings, which may cause the caliper mountings to break, resulting in loss of control of the bicycle, an accident, personal injury, or death. Be sure that the brake system installation is also performed in strict compliance with the instructions provided by the brake system manufacturer.

**Improper installation can result in an accident, personal injury, or death.**

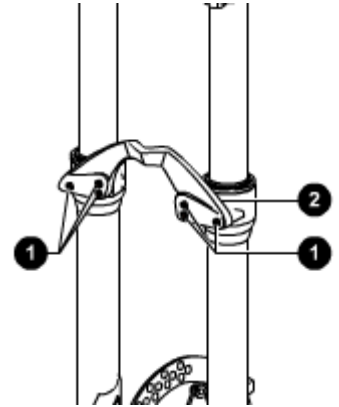
Use only brake systems that comply with the forks specifications.

**The brake cable must never touch the crown and stanchions.**

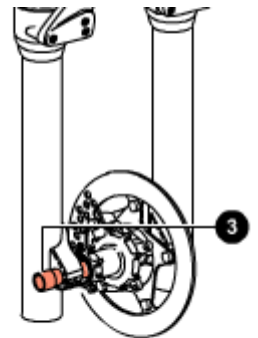
**Warnings: Assembling the wheel on forks with  $\varnothing 20\text{mm}$  through-axle**

For a correct operation of the fork, install the wheel as explained below:

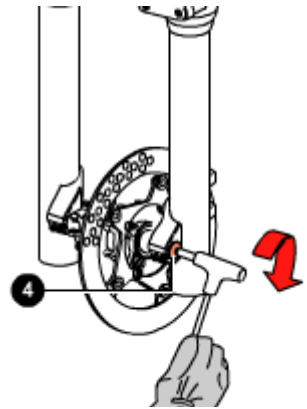
If the fork has been dismantled from the bike frame or the position of the fork legs with respect to the steering crowns has been changed, loosen the 6 screws (1) fixing arch (2) with a 4mm Allen wrench.



Insert the wheel axle (3) through the right dropout, the wheel and the left dropout.



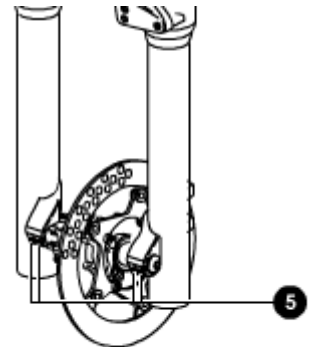
With the 6mm Allen wrench, tighten the left wheel axle screw (4) to the recommended tightening torque ( $15 \pm 1 \text{ Nm}$ ).



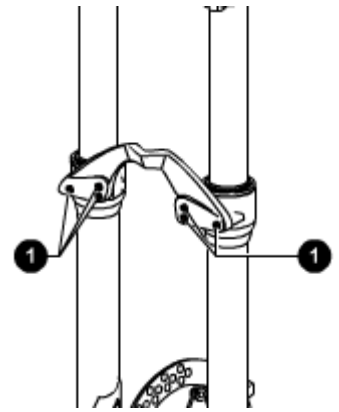
Check the correct fork-wheel alignment by fully compressing the fork a few times. The wheel should not come into contact with any parts of the fork.

Lift the front wheel above the ground; turn the wheel a few times to verify the correct alignment and the distance from the disk brake. Read the instructions of the brake system manufacturer for the correct specifications.

With a 5mm Allen wrench, tighten screws (5) on both dropouts to the recommended tightening torque ( $10 \text{ Nm} \pm 1$ ) following the sequence 1-2-3-2-1.



Using a 4mm Allen wrench, tighten screws (1) to the recommended tightening torque ( $6 \text{ Nm} \pm 1$ ) following the sequence 1-2-3-2-1.

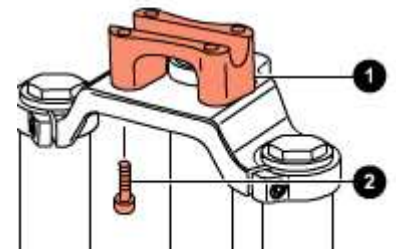


### Warnings: Installing the handlebar mount

For a correct installation of the handlebar mount, follow the instructions below:

Install the bottom handlebar mount (1) onto the top crown so that the fixing holes match.

With a 5mm Allen wrench, lock the handlebar mount tightening screws (2) to the recommended tightening torque (**10 Nm ±1**).

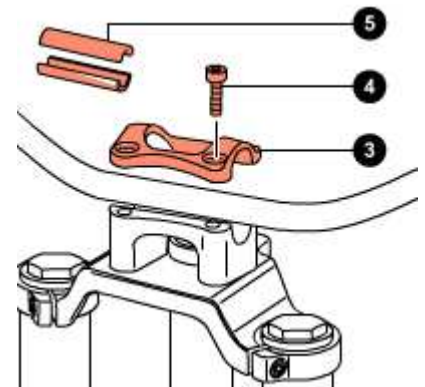


Fit the handlebar right in the middle of the mount.

Lock the handlebar in position with the special U-bolt (3).

With a 5mm Allen wrench, tighten screws (4) to the recommended tightening torque (**10 Nm ±1**).

On request, special adapters (5) are available to install handlebars with a different diameter.



### Dismantling: Removing the top caps

---

Put the fork in the vice in vertical position, fixing it by the dropouts.

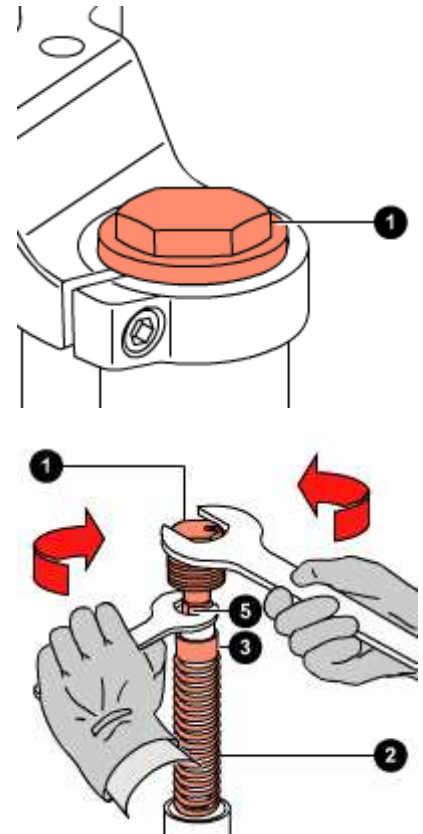
Put the fork in the vice in a vertical position, fixing it by the dropouts.

Fully unscrew lock cap (1), using a 28mm socket spanner.

Slowly lower the stanchions on the sliders.

Push spring (2) and the preload tube (3) downwards so you can reach locknut (5) with the 10mm spanner.

Holding locknut (5) with the 10mm spanner, use the 28mm spanner to unscrew the fork cap (1).



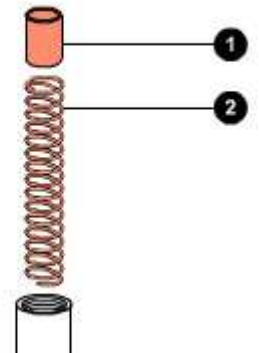
### Dismantling: Draining the oil

---

Remove the fork legs from the steering crowns.

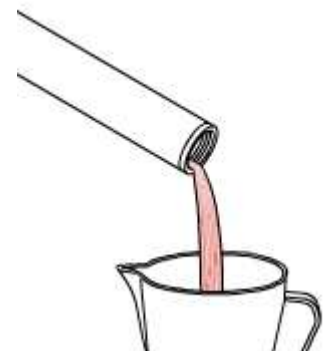
Remove the fork legs from the steering crowns.

Remove the preload tube (1) and spring (2) from both fork legs.



Free the fork from the vice and tip it into a container of a suitable size to drain the oil; compress the fork a few times to help the oil flow out.

**Do not pour used oils on the ground.**



### Dismantling: Dismantling the hydraulic cartridge

---

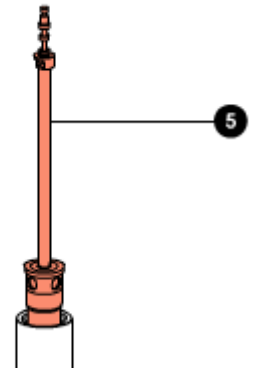
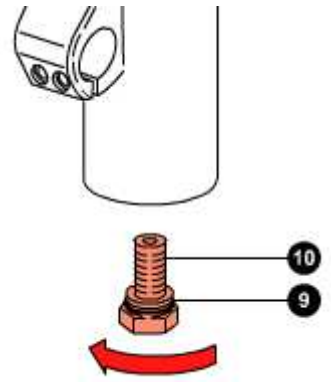
**This operation must be done only after having drained all of the oil out of the slider.**

Proceed as follows for both fork legs:

Turn the fork leg upside down and with an 8mm Allen wrench loosen the bottom screw (10).

Remove the bottom screw (10) complete with O-ring (9).

Pull the complete cartridge (5) off the fork leg.

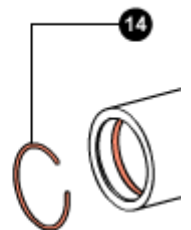
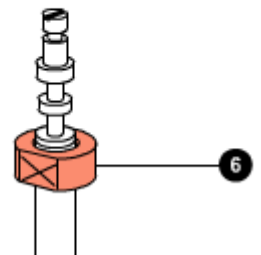


**This procedure shows how to fully overhaul the hydraulic cartridge; do these operations only if necessary.**

With a 10mm fixed spanner fully unscrew locknut (6).

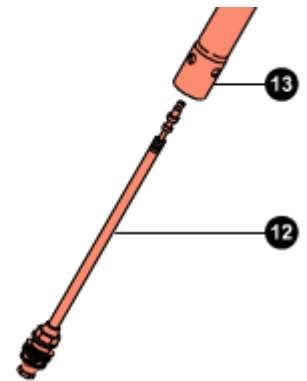
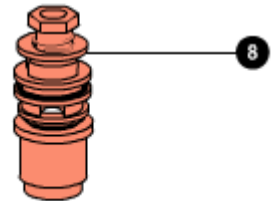
Push the bottom valve into the cartridge.

Remove the metal stop ring (14) from the bottom of the cartridge.



Push the rod of the pumping element downwards and remove the complete bottom valve (8).

Pull the piston rod (12) off the liner (13).



### Overhauling the right bottom valve

Block the valve body (8).

With a 13mm spanner loosen nut (20).

Remove in this order: nut (20), spring (21), washer (22), the piston complete with O-ring (23), and the compression adjusting washer or stack of washers (24).

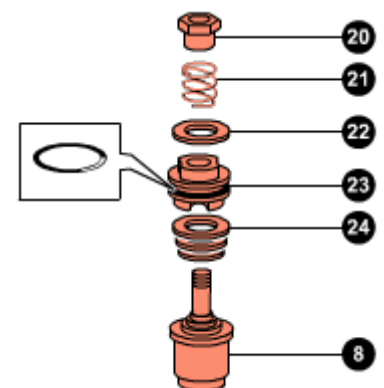
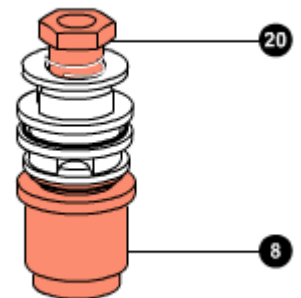
Replace the piston O-ring, if necessary.

Washers (24) and piston (23) determine the compression damping. To change the fork behaviour you can replace such components.

**Use only MARZOCCHI genuine washers and pistons.**

To reassemble the bottom valve, proceed in reverse order.

**The nut (20) shall be tightened to 6 Nm; over-tightening nut (20) can weaken the structure.**



### Overhauling the right pumping element

Hold the rod of the pumping element through the wrench mount (12).

With a 12mm spanner loosen nut (25).

Remove in this order: nut (25), the rebound adjusting washer or stack of washers (26), the piston complete with segment (27), washer (28) and spring (29).

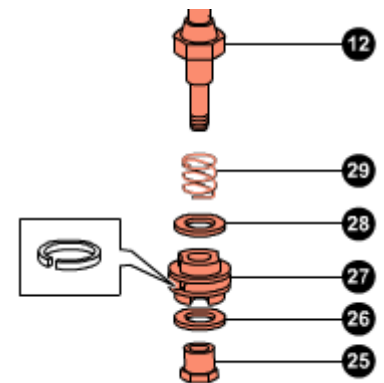
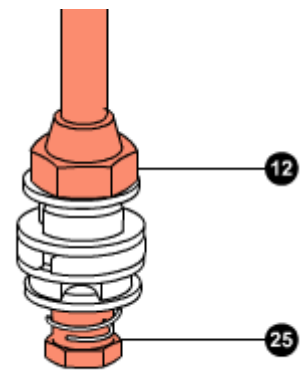
Replace the piston segment, if necessary.

Washers (26) and piston (27) determine the rebound damping. To change the fork behaviour you can replace such components.

**Use only MARZOCCHI genuine washers and pistons.**

To reassemble the pumping element, proceed in reverse order.

**The nut (25) shall be tightened to 6 Nm; over-tightening nut (25) can weaken the structure.**



### Overhauling the left bottom valve

Block the valve body (8).

With a 13mm spanner loosen nut (20).

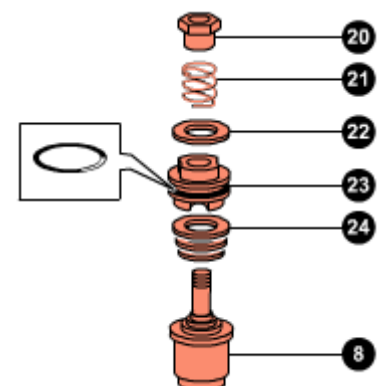
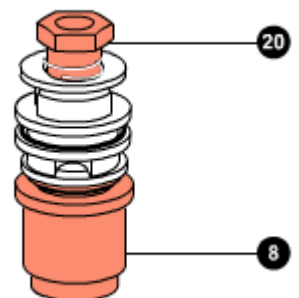
Remove in this order: nut (20), spring (21), washer (22), the piston complete with O-ring (23), and the stack of washers (24).

Replace the piston O-ring, if necessary.

Washers (24) and piston (23) are not adjusting elements.

To reassemble the bottom valve, proceed in reverse order.

**The nut (20) shall be tightened to 6 Nm; over-tightening nut (20) can weaken the structure.**



### Overhauling the left pumping element

Hold the rod of the pumping element through the wrench mount (12).

With a 12mm spanner loosen nut (25).

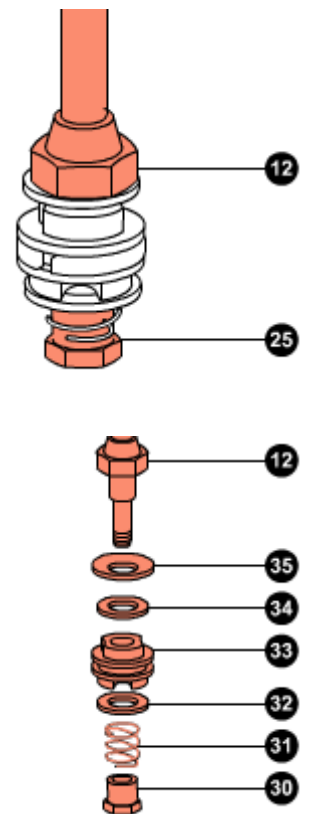
Remove in this order: nut (30), spring (31), washer (32), piston (33), the washer or stack of washers adjusting the compression at travel end (34) and the spring cup (35).

Washers (34) and piston (33) determine the compression damping at travel end. To change the fork behaviour you can replace such components.

**Use only MARZOCCHI genuine washers and pistons.**

To reassemble the pumping element, proceed in reverse order.

**The nut (25) shall be tightened to 6 Nm; over-tightening nut (25) can weaken the structure.**



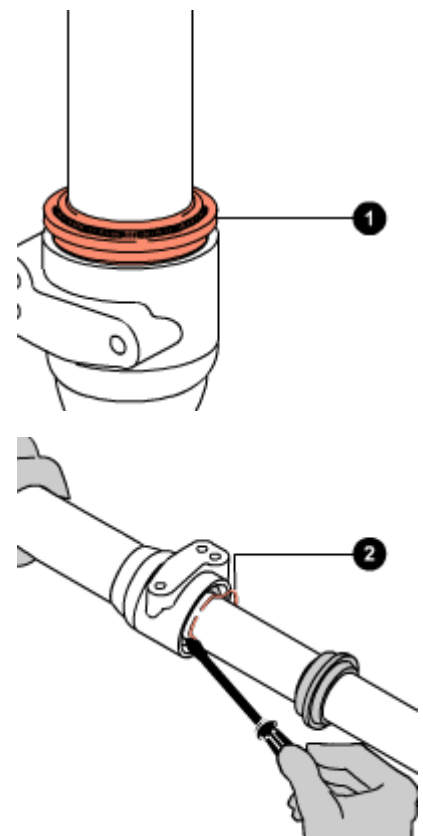
### Dismantling: Breaking down stanchion tube, slider and removing the sealing rings

**This operation must be done only after having drained all of the oil out of the slider.**

Proceed as follows for both legs:

Remove the dust seal (1) from its seat using a small flat-tip screwdriver.

With the same screwdriver remove the metal stop ring (2).

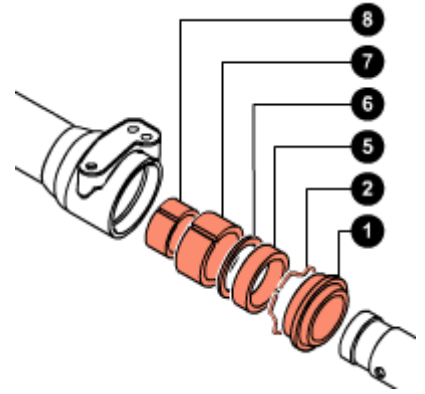
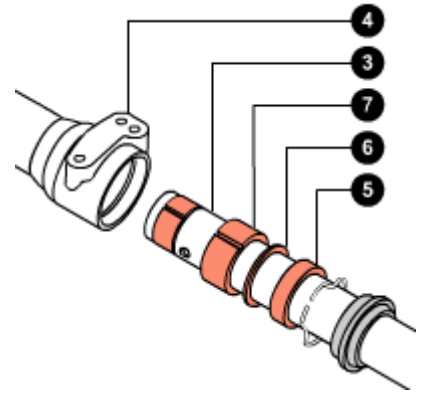


Pull stanchion (3) out of slider (4); to separate these two elements you will have to pull hard. With this operation the sealing ring (5), the spring cup (6) and the top guide bush (7) will be removed from the slider.

Remove the bottom guide bush (8) by hand. If this operation is difficult by hand, use a flat-tip screwdriver in the bush groove.

Remove the top guide bush (7), the spring cup (6), the sealing ring (5), the stop ring (2) and the dust seal (1) from the stanchion.

**The old sealing rings and the dust seals must not be used again.**



## Assembling: Reassembling stanchion tube, slider and sealing rings

The old sealing rings and dust seals must not be used again.

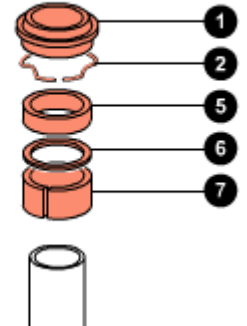
Before reassembling, check the conditions of the guide bushes. Replace, if they are scratched or grooved. Check the wearproof coating of the guide bushes which must be in a good condition.

The old sealing rings and dust seals must not be re-used.

Before assembling, check the conditions of the guide bushes: replace them if they are scratched or grooved. Check the wearproof coating of the guide bushes which must be in a good condition.

Smear the dust seal and the sealing ring with some grease.

Insert the following components in the stanchion tube in this order: top guide bush (7), spring cup (6), sealing ring (5), stop ring (2) and dust seal (1).

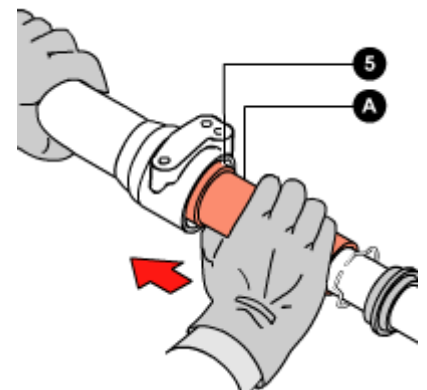
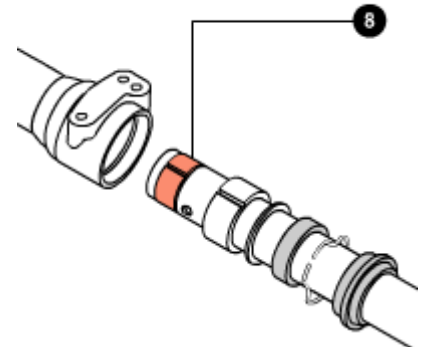


Insert the bottom guide bush (8) by hand.

**If this operation is difficult by hand, use a flat-tip screwdriver in the bush groove.**

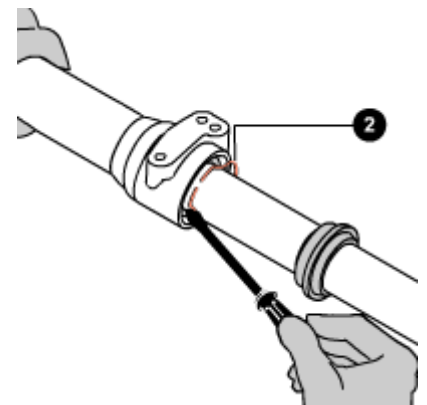
Delicately introduce the stanchion into the slider, being very careful not to damage the bottom guide bush.

Guide the top guide bush until it comes in contact with the slider, the spring cup and the sealing ring. Mount the introducer (A) on the stanchion and use this, by pushing on sealing ring (5), to insert the top guide bush, the spring cup and the sealing ring.

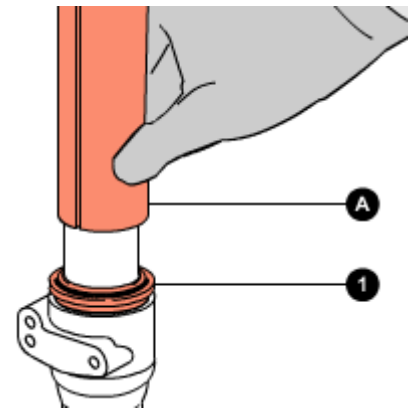


Using a small flat-tip screwdriver, fit stop ring (2) and check that it fits perfectly into its groove.

**Take great care not to damage the internal surfaces of the slider when fitting the stop ring.**



Insert the dust seal (1) in its seat using the special inserting tool (A).



### Assembling:

During the assembly of the pumping unit, strictly obey the instructions below.

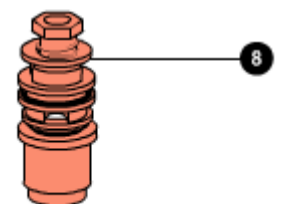
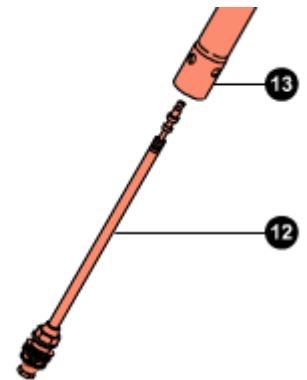
Do not, at any times, reverse the position of the pumping elements in the fork legs (if you are unsure about anything, please refer to the relevant exploded view).

### Assembling: Assembling the cartridge

Proceed as follows for both legs:

Insert the piston rod (12) in liner (13).

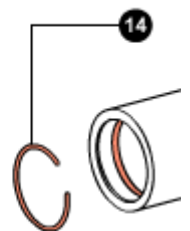
Insert the complete bottom valve (8) in its seat.



Mount the stop ring (14) using a small screwdriver and check it fits perfectly into its groove.

Push the pumping element rod downwards and rest the bottom valve down; check that the stop ring (14) does not come out of its seat.

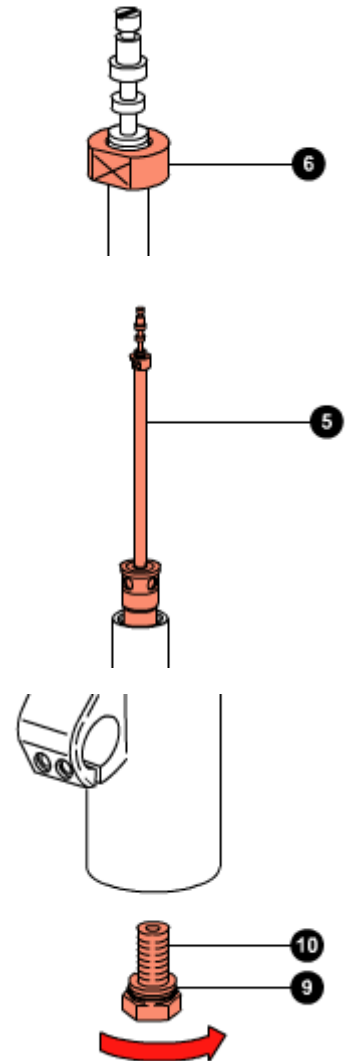
Screw down locknut (6) without tightening.



Insert the complete cartridge (5) into the stanchion.

With an 8mm Allen wrench, tighten the bottom screw (10) complete with O-ring (9) to the recommended tightening torque ( $25 \text{ Nm} \pm 1$ ).

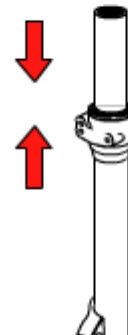
**In the screw of the right fork leg there is a small pin to adjust the compression; if necessary, tighten this pin down with a flat-tip screwdriver.**



### Assembling: Filling with oil

Block the fork in the vice in perfectly vertical position.

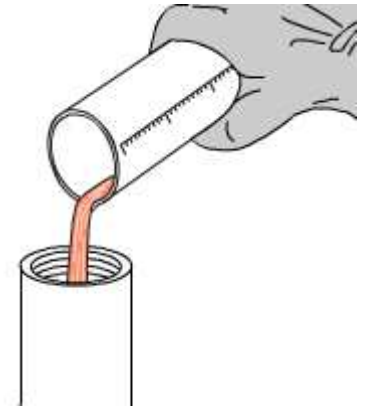
Fully lower the stanchion tubes.



In a graduated recipient, prepare the quantity of oil to pour into the fork leg (see table).

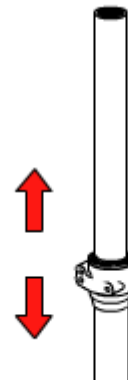
Pour roughly 1/3 of the oil required into each stanchion, then pump the fork a few times to eliminate any traces of air.

Pour the rest of oil in.

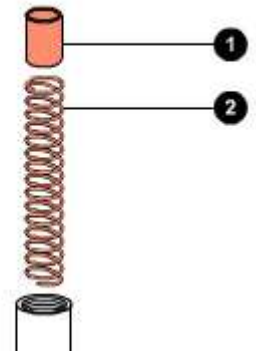


**A lower or higher volume or a type of oil other than the one recommended can change the behaviour of the fork in every phase.**

Fully lift the stanchion tubes.



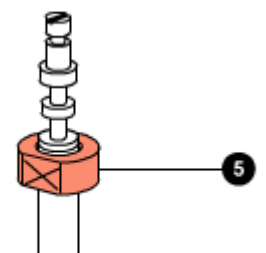
Insert spring (2) and the preload tube (1) in both legs.



### Assembling: Mounting the top caps

Put the fork in the vice in vertical position, fixing it by the dropouts.

Put the fork in the vice in vertical position, fixing it by the dropouts.  
Check that locknut (5) is fully screwed on the pumping element rod.  
Check that the adjusting rod (6) is tight.



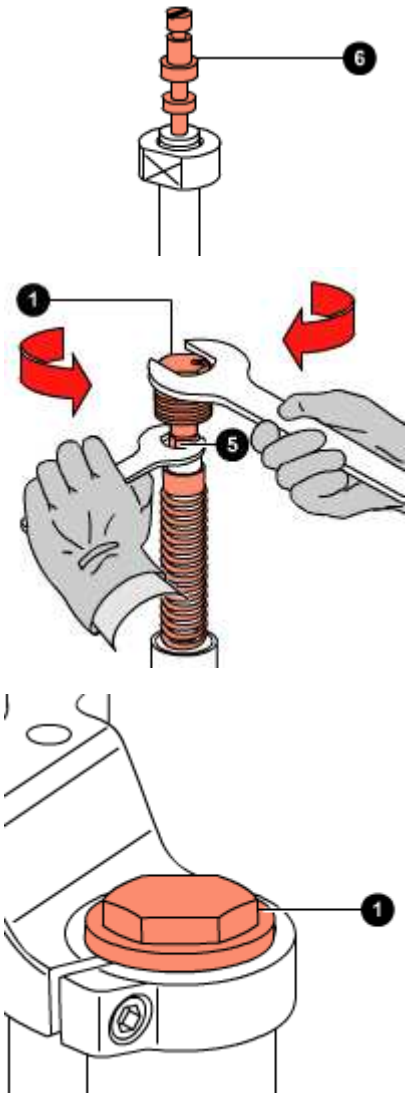
Screw lock cap (1) down on the cartridge rod without tightening being very careful not to damage the O-ring.

With the 10mm and 28mm spanners, tighten locknut (5) on cap (1) to the recommended tightening torque (**6 Nm ± 1**).

Lift the stanchion.

Screw down lock cap (1).

With the 28mm socket spanner, tighten lock cap (1) to the recommended tightening torque (**10 Nm ± 1**).



## Setting: General rules for calibration

By carefully calibrating the damping system you can get the maximum performance out of the same.

This paragraph indicates the sequence of operations to perform to set up the Marzocchi forks correctly.

In order to find the best settings for you, you will need to try several times to understand where and how to make adjustments. When doing so, please ride in an open area, free from traffic, obstacles and other hazards.

The optimal setting is influenced by the geometry of the frame of the mountain bike, the weight of the cyclist, the type of terrain the bike will be used on and the type of obstacles you have to deal with, but also by subjective factors associated with your riding style; therefore it is impossible to provide objective data on the desired settings.

Nevertheless by carefully following the instructions below you will soon be able to find the optimal setting for you.

The shock absorber must be calibrated simply by using one adjuster at a time, following the order explained, noting the operations and any result step-by-step.

**During setting don't force the adjusters beyond their limit of travel and don't exceed the max recommended air pressure.**

**To keep the pressure inside the fork's legs, only use the special MARZOCCHI pump with pressure gauge.**

**The use of any other pump can compromise the inflating operation and cause malfunction or damage to the fork, resulting in an accident, personal injury or death.**

*Once the correct setting has been found, we recommend noting the number of clicks or turns of the adjuster with respect to the "fully closed" position (adjuster fully clockwise) for a faster re-setting of your fork in case of need.*

## Setting: SAG

SAG means the fork bottoming under the biker's weight.

How to measure the SAG:

Follow these simple steps to measure the SAG.

On the leg portion of the fork, measure the distance between the lower crown and the dust seal (see Picture **A**). Note this value as "**H1**".

While sitting on the bike, repeat the measurement (see picture **B**). Note this value as "**H2**".

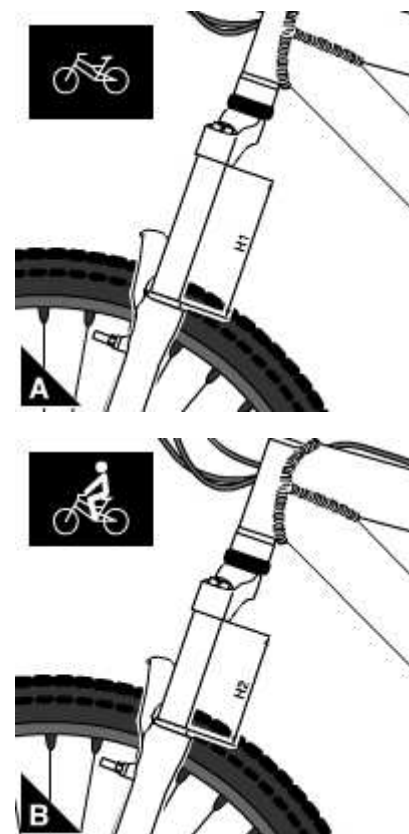
**SAG = H1 - H2**

How to find the best percent SAG:

The best percent SAG is 15-20% for Cross-country and All Mountain forks and 25-30% for Freeride and Downhill forks.

In order to calculate the best SAG for your own fork, you will need to make the following calculation:

**SAG = T x S** (**T** = total travel; **S** = suggested sinking percentage).



## Setting: Rebound adjustment

### Right fork leg:

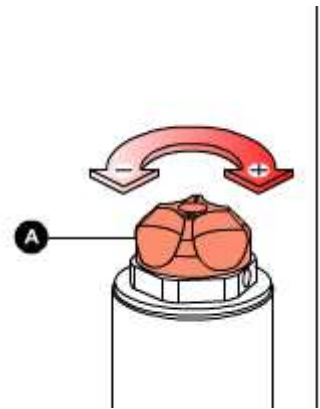
With the rebound adjuster you can control the return speed of the fork after compression.

The right rebound speed setting makes the bike stable letting it follow the variations in the terrain and any obstacles.

If the fork setting is too reactive this will make the rear suspension instable and the mountain bike will have a tendency to snake. A too slow setting however will cause problems when dealing with multiple obstacles where the suspension can't return to its fully extended position fast enough between one obstacle and the next.

Turning adjuster (**A**) clockwise increases the hydraulic damping making the fork slower during the rebound phase.

Turning adjuster (**A**) counter-clockwise decreases the hydraulic damping making the fork more reactive during the rebound phase.



**Do not force the adjuster beyond its limit of travel.**

### Setting: Compression adjustment

---

#### Right fork leg:

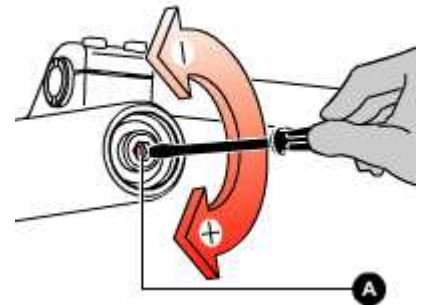
With the compression adjuster you can control the compression speed.

The compression setting is at the user's discretion and must be set to prevent the suspension bottoming out.

A "hard" compression setting gives you more stability and lets you ride more aggressively making the mountain bike more reactive, vice versa a "soft" setting means less stability but also a less "nervous" ride.

Turning adjuster **(A)** clockwise increases the hydraulic braking during compression and, under the same load conditions, reduces the fork travel.

Turning adjuster **(A)** counter-clockwise decreases the hydraulic compression damping making the fork more reactive on harsh grounds.



**Do not force the adjuster beyond its limit of travel.**

### Setting: Compression adjustment at travel end

---

#### Left fork leg:

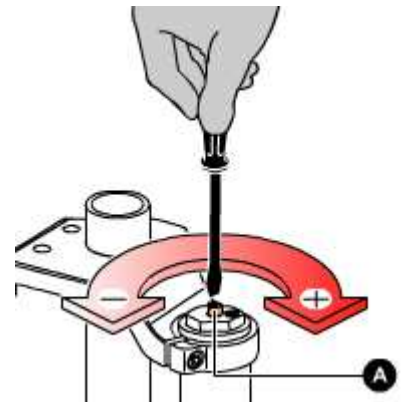
With the compression adjuster you can control the compression speed.

The compression setting is at the user's discretion and must be set to prevent the suspension bottoming out.

A "hard" compression setting gives you more stability and lets you ride more aggressively making the mountain bike more reactive, vice versa a "soft" setting means less stability but also a less "nervous" ride.

Turning adjuster **(A)** clockwise increases the hydraulic compression damping at travel end.

Turning adjuster **(A)** counter-clockwise decreases the hydraulic compression damping at travel end.



**Do not force the adjuster beyond its limit of travel.**

**Tightening torques**

Components	Tightening torque (Nm)
Air bleed screw	2±0,5
Arch screw	6±1
Bottom crown fixing screws	10±1
Cap locknut	6±1
Cartridge bottom screw	25±1
Fork leg top caps	10±1
Handlebar fixing screws	10±1
Top crown fixing screws	10±1
Wheel axle Allen screws	10±1
Wheel axle screws	15±1

**Monster - Oil levels**

Position	Oil type	Quantity (cc)
Right fork leg	SAE 7,5 - 550013	430
Left fork leg	SAE 7,5 - 550013	430

## Diagnosics

Finding the problem	Finding the possible cause	Possible solutions proposed
Fork doesn't get full travel	Oil level too high	Check oil levels
Fork doesn't get full travel	Spring rate too stiff	Change to softer spring rate
Fork extends too quickly; harsh top-out after impacts	Rebound damping is not enough	Increase rebound damping
Fork extends too quickly; harsh top-out after impacts	Rebound damping is not enough	Replace the oil (SAE 7.5) with one of higher viscosity index
Fork has too much sag	Oil is too fluid	Check oil levels
Fork has too much sag	Spring rate too soft	Change to stiffer spring rate
Fork has too much sag	Spring rate too soft	Increase spring preload
Fork has too much sag	Spring rate too soft	Increase spring preload by replacing the preload tube
Fork is "sticky"; fork does not perform as new	Dirty sealing rings; fork needs to be serviced	Renew all seals
Fork is too soft, but the sag is the one recommended	Compression damping is not enough	Increase compression damping by changing oil volumes
Fork is too soft, but the sag is the one recommended	Compression damping is not enough	Increase compression damping with the relevant register
Fork is too soft, needs more than the maximum preload	Oil is too fluid	Check oil levels
Fork is too soft, needs more than the maximum preload	Spring rate too soft	Change to stiffer spring rate
Fork stays down or "packs up" during multiple impacts	Rebound damping is too high	Decrease rebound damping with the relevant register
Front wheel tends to tuck under while turning left or right	Rebound damping is too high	Decrease rebound damping with the relevant register
Front wheel tends to tuck under while turning left or right	Spring rate too soft	Change to stiffer spring rate
Heavy amount of oil on stanchions; oil dripping down legs	Sealing rings damaged	Renew all seals
Heavy amount of oil on stanchions; oil dripping down legs	The stanchion tubes could be damaged	Have the stanchions be checked
Knocking sound during rebound, but no harsh top-out	Rebound damping is too high	Decrease rebound damping with the relevant register
Loss of sensitivity	Old oil	Change the oil
Loss of sensitivity	Sliding bushes worn	Renew the sliding bushes
Oil leaking from the bottom of the fork leg	Bottom nut/screw loose	Tighten the nut or screw
Oil ring on stanchions	Sealing rings dirty	Renew all seals