



PILOT AND SEAL ASSEMBLY

The guiding and sealing assembly for the stanchion tubes is installed on the slider top in all models. The tube is guided inside the slider by a **pilot bushing (1)** with an upper bearing support. Being the pilot bushing very large (92 mm), it offers a wide guiding surface into the slider for the stanchion tube, so that the fork is very stiff.

The pilot bushing consists of an outer copper support and an inner anti-friction coating. As this coating is very thin, maximum care must be paid not to damage it when disassembling the slider, otherwise fork stiffness and performance might decrease.

A **washer (2)** working as a pilot bushing stopper and seal ring support is on the pilot bushing.

A special **seal ring (3)** ensures proper hydraulic and pneumatic sealing (the latter for air-operated forks) of the slider with respect to its stanchion.

MARZOCCHI has manufactured a special sectioned seal ring for improving the efficiency of this part.

If sections are compared one with the other, it can be noted that the special inner shoulder tends to become tighter on the tube, thus increasing sealing, when the oil/air pressure pushes from the inside to the outside of the MARZOCCHI ring (3).

In the COMMERCIAL type, this push tends to widen the inner lip, thus worsening ring sealing.

The seal ring (3) is kept into its seat by a round **circlip (4)** with three openings for easy removal from the slider.

The slider also has a **dust ring (5)** to prevent foreign bodies such as dust, mud, water and so on, from getting in touch with the seal ring (3).

This part is very important as it keeps inner parts safe and therefore ensures proper suspension performance. It is therefore of major importance that this part is kept in perfect working conditions.

Clean the area under the dust seal at regular intervals to avoid dust and/or mud deposit onto the seal ring.



STANCHION TUBES

*Steel or anodized "EASTON" aluminum stanchion tubes, for hardened outer surface and smoother sliding.
Stanchion tube thickness may vary according to the fork structure and features.*

⚠ IMPORTANT !

For smooth operation of the stanchion tubes, clean them at regular intervals.

SLIDER-ARCH ASSEMBLY

Both parts are made of forged and CNC-machined "BAM" aluminum alloy (with the exception of some special cases). Not only is this technique used for machining sliding parts and seats for sealing and fastening parts, but also for replacing some kinds of material with "BAM", which has proved to work better.

Sliders are turned on their sides, whereas the arch tralice is machined where it mates with the slider and made thinner and machined down using special milling machines.

The arch is secured to the sliders with two well spaced screws. In this way, the structure will work as if it were a single block so that the fork legs go into the sliders as evenly as possible. To this aim, the arch fastening screws must be perfectly tightened onto the sliders.

Contrary to monolithic structures used on some models, this system offers the possibility of replacing each part of the assembly.



ARCH-SLIDER MONOLITH

The need for limiting the assembly weight and increasing its stiffness has lead to the monolithic structure of sliders and arch. Both parts are made of "BAM" aluminum alloy (with the exception of some special cases). Their sliding surfaces and seats for sealing and fastening parts are forged and CNC-machined.

Sliders are internally and externally turned on their sides as well as on wheel spindle support fork and where they mate with the arch. The arch is machined where it mates with the sliders.

Then parts are assembled according to the position of the bearing surface of the brake lever pivot pin seat on both parts.

Sliders are glued to the arch; together with the fastening screw at the brake pivot point, this structure offers high system stiffness, provided that the brake pin or, as an alternative, the brake screw is perfectly tightened.

Apart from its interesting make design, the particular shape of the arch has a wide front side offering large wheel opening, avoiding undesired mud deposit.



IMPORTANT !

Never disconnect the two components!



STEER TUBE-STEERING CROWN ASSEMBLY

"EASTON" aluminum steer tube with variable thickness or steel steer tube. It is forced onto the crown and then cut according to the frame size.

"BAM" aluminum alloy crown, which is later CNC-machined at the leg and steer tube seats.

Fork legs are secured to the crown with two fastening screws.

For proper coupling, tighten the screws to the specified torque, following the tightening sequence 1-2-1.



STEER TUBE-STEERING CROWN-STANCHION TUBES ASSEMBLY

"EASTON" aluminum steer tube with variable thickness or steel steer tube. It is forced onto the crown and then cut according to the frame size.

"BAM" aluminum alloy crown, which is later CNC-machined at the leg and steer tube seats. Some models have two large holes, which are coaxial to the steer tube, for lighter structure.

For proper mating of the stanchion tubes, their seats have been extended for having a wider contact surface.

Stanchions are fitted into steering crown by the cryofit technique.



IMPORTANT !

Never remove any parts!

OIL

The required amount of SAE 7.5 oil is used in all fork models. To avoid excessive damping, increase the oil level in each leg gradually, by some millimeters each time. On the contrary, to use the whole useful travel of the fork, decrease the oil level. To change rebound speed, in models with no adjusters, use different grade oil. Please note that the rebound speed decreases as oil density increases.

“OPEN-BATH” HYDRAULIC SYSTEM

All MARZOCCHI forks are equipped with “open-bath” hydraulic system, that is the oil flows freely inside the fork legs, thus helping lubricating and cooling down all moving parts and avoiding all problems linked to sealed systems.

MARZOCCHI engineers have been successfully using this system for several years in the motorcycle field. Apart from the above benefits, it also reduces the oil quantity needed inside each fork leg.

SPRING PRELOAD

For optimal suspension operation and best use of the useful travel, **spring preload must be as low as possible.** Springs must be able to bear the biker’s weight, being at the lowest possible preload degree. Suspension sagging under the biker’s weight (“sag”) must be about 1/4 of the fork actual travel. Should this not be the case, it is recommended the springs be replaced with harder ones, instead of overloading them. When adjusting the preload, please also consider the friction generated by the fork sliding parts due to the frontal load transmitted while braking or passing obstacles at a high speed. Preload knobs or adjusters on the stanchion tube plugs are of the screw type. When turned, they produce a screw compression of about 15 mm. In air-operated forks, the preload value is determined by the pressure inside the fork legs.

⚠ IMPORTANT ! It is recommended to position the preload adjusters or adjust the internal pressure to the same value on both fork legs.

