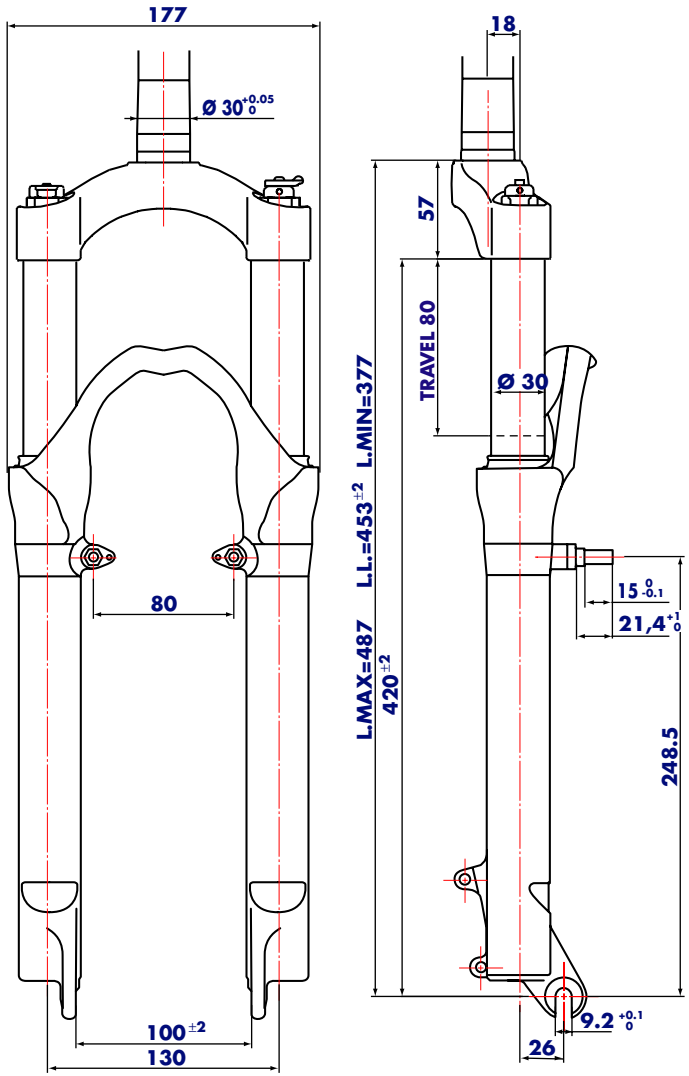
MXC + ECC Air (80)



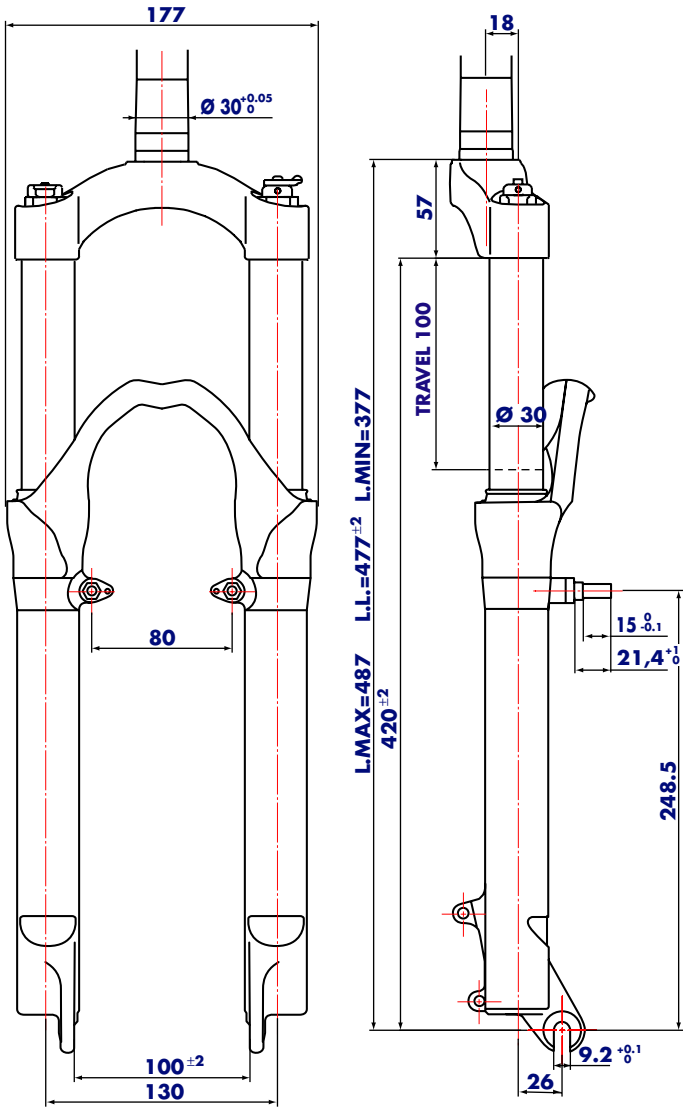
GENERAL

- *Special air/oil damped Aggressive XC Enduro fork: each leg uses pressurized air blown through a special valve on stanchion caps as damping medium.*
- *Rebound damping is controlled by a pumping element fixed to the bottom of r.h. slider; it can also be adjusted from the inside of the stanchions.*
- *The left leg is also damped by a hydraulic cartridge with a control knob limiting leg rebound (ECC).*
- *Stanchions fitted into lower Crown by cryofit technique. Full length bushings guarantee superior rigidity.*
- *Sliders and arch are an integral assembly offering evident advantages in terms of reduced weight and improved rigidity.*
- *Lubrification et refroidissement des composants sujets à friction par huile à formule spéciale.*

Steer tube: *in CrMo steel with variable butting. Several lengths available in non threaded 1 1/8" diameters.*
Crown: *Forged and CNC-machined BAM* aluminum alloy.*
Sliders + Arch: *full cast magnesium alloy.*
Stanchions: *anodized aluminum with variable section.*
Slider bushing: *Full length guide bushings 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.*
– *right leg 110 cc,*
– *left leg 85 cc.*

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

MXC + ECC Air (100)



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Slider bushing: *Full length guide bushings 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.*
– *right leg 95 cc,*
– *left leg 115 cc.*

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

INSTRUCTIONS

GENERAL RULES

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. *Clean all metal parts with a special, preferably biodegradable solvent, such as trichloroethane or trichloroethylene.*
4. *Before reassembling, lubricate all parts in contact with each other using silicone fat spray or a specific oil for seals.*
5. *Always grease the lip seal rings before reassembling.*
6. *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.*

MXC + ECC Air

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.

FAILURES	CAUSES	REMEDIES
Oil leaking through the top of the slider	1. Oil seal is worn out 2. Stanchion tube is scored 3. Excessive dirt on slider oil seal	1. Replace oil seal 2. Replace crown/stanchions assembly, oil seals and dust seals 3. Clean the oil seal seat and replace oil seal
Oil leaking through the bottom of slider	O-ring on the pumping rod or on cartridge securing nut bottom damaged	Replace the O-ring
Fork has not been used for some time and is locked out	Oil seals and dust seals tend to stick to stanchions	Raise dust seal and lubricate stanchion tube, dust seal and oil seal
Pressure drop	Cap valve damaged	Replace cap and/or valve
Excessive play of stanchions in the sliders	Pilot bushings worn out	Replace bushings
Fork rebounds too fast in any adjuster position	Dirt inside fork legs	Clean carefully and change oil
Adjuster position does not affect fork operation	1. Dirt inside legs 2. Pumping element of r.h. leg does not work properly.	1. Clean carefully and change oil 2. Replace pumping element.
Fork does not react to rebound lock	LH fork cartridge faulty	Replace hydraulic cartridge

MXC + ECC Air

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.*
In general, ***Marzocchi*** *forks can offer top performance from the start. However, in some cases a short running-in period is required (5-10 hours) for inner adjustments. This running-in period will make fork life longer and ensure fork top performance over time.*

IMPORTANT: *change oil at least every 100 working hours and check pressure at least every 10 working hours.*

Polished *forks should be cleaned with bodywork* ***polish*** *at regular intervals in order to preserve their original finish.*

INSTALLATION

Installing the fork on a bicycle is a very delicate operation that should be carried out with extreme care. The installation should always be checked by one of our Technical Service Centers.

WARNING: *Steer tube/headset mounting and adjustment must be carried out in compliance with the headset manufacturer's instructions. Improper installation may jeopardize the safety of the rider.*
To replace it, contact one of our Technical Service Centers with the required tools.

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

DISC BRAKE SYSTEM ASSEMBLY

If a disc brake system is installed, brake supports fixing pins can be replaced with screws (part no. ***532979QF****) available as spare parts.*
Tighten the above screws to 10 Nm.

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.

MXC + ECC Air

ADJUSTMENTS

FORK LEG PRESSURIZATION

Blow pressurized air through the valves to set COMPRESSION damping. To change the pressure inside the fork legs, remove the protection cap ***(2)*** *and depressurize each leg by pushing lightly on valve pin with a bit. Fully tighten adapter fitting* ***(D)****, supplied with the fork, on* ***MARZOCCHI*** *pump* ***(C)****. Screw fitting end –with O-ring* ***(D1)*** *on valve, and pressurize until the required value is reached. Unscrew the fitting/pump assembly and refit the cap* ***(2)****.*

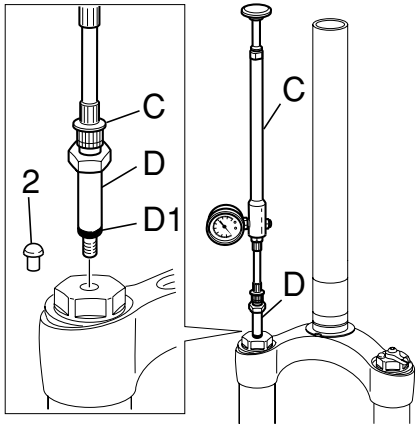
IMPORTANT: *inflate using special* ***MARZOCCHI*** *pump with pressure gauge. Use of improper tools or other procedures than specified ones might lead to improper inflating.*

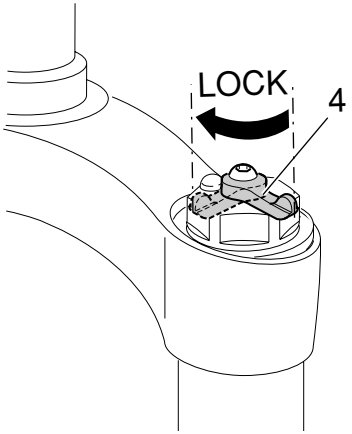
NOTE: *in case of air leakages when adapter fitting* ***(D)*** *is fitted, ensure that the O-ring* ***(D1)*** *is not damaged.*

REBOUND LIMITER (only left leg)

In case of hard uphill path, fork leg rebound can be locked for improved behavior. Position the knob ***(4)*** *on l.h. fork leg top to "LOCK" to lock rebound limit in this position; this also allows to decrease fork leg height for optimal attitude uphill, thus supporting suspension compression operation. Reposition the knob to its original position so that the fork will rebound and restart to work as before.*

⚠ ***WARNING:*** *do not position to "LOCK" when riding downhill as available travel might not be enough, thus jeopardizing rider's safety*





MXC
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Air

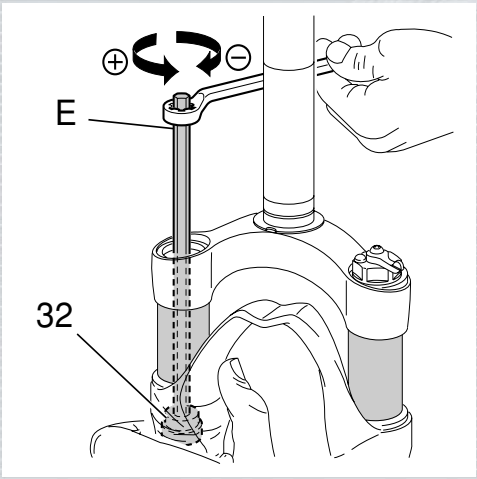
REBOUND ADJUSTMENT VIA INNER PUMPING ROD

The adjuster controlling REBOUND damping adjustment is accommodated inside the pumping element ***(32)*** *inside the r.h. fork leg.*

To access the adjuster, unscrew the top cap ***(8)*** *and push the stanchions fully down (see section DISASSEMBLY* ***Fig. 2****).*

Fit the supplied hexagon rod ***(E)*** *into the stanchion tube and into the adjuster inner hole. Rotate the adjuster clockwise for harder damping, counterclockwise to soften it.*

Refit the cap ***(8)*** *and tighten it to the specified torque (see section REASSEMBLY,* ***Fig. 29****).*



MXC + ECC Air

DISASSEMBLY

GENERAL

– *The reference numbers given in this section relate to the components shown in the fork exploded view.*
– *Before starting any operation. please read the diagram below. It shows the quickest procedure and the exact disassembling sequence. Locate the part you need to remove in the diagram, then look at the arrows to determine which other parts you need to remove first.*

DISASSEMBLY DIAGRAM

STANCHION TUBE CAP FIG. 1/2/3

FORK OIL CHANGE

AIR VALVE CHANGE
FIG. 15

HYDRAULIC CARTRIDGE CHANGE (l.h. fork leg)

FOOT NUT FIG. 5

HYDRAULIC CARTRIDGE, REBOUND SPRING AND WASHER FIG. 6

SEAL ASSEMBLY AND PILOT BUSHING CHANGE

CROWN AND STANCHIONS ASSEMBLY FIG. 7

DUST SEAL FIG. 8

STOP RING FIG. 9

OIL SEAL FIG. 10

REPLACING PUMPING ELEMENT (r.h. fork leg)

REBOUND BUMPER, PUMPING ROD, REBOUND SPRING FIG. 13

REPLACING VALVE ASSEMBLY

STOP RING, VALVE ASSEMBLY FIG. 14

UPPER WASHER FIG. 11

PILOT BUSHING FIG. 12

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STANCHION TUBE CAP

FIG. 1 (only left leg)

*Loosen screw **(3)** and remove rebound limiting knob **(4)**.*

FIG. 2

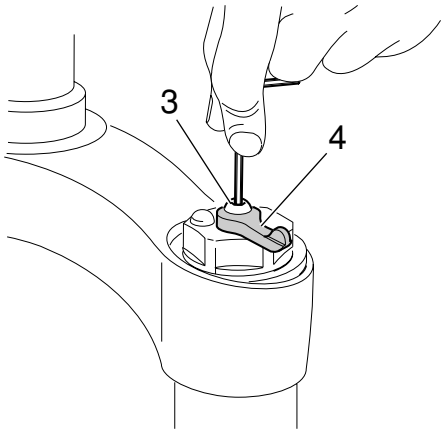
Depressurize each fork leg (see section ADJUSTMENT).

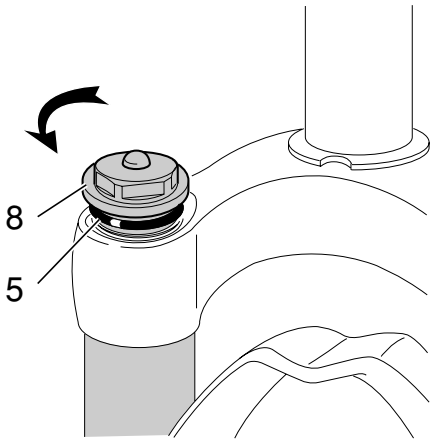
*Unscrew the caps **(8)** and **(6)** with a 21 mm socket wrench.*

*Remove the caps complete with O-ring **(5)** from the stanchion tubes.*

FIG. 3 (only left leg)

*Lock the check nut **(34)** and remove the cap **(6)** from hydraulic cartridge end **(11)**.*





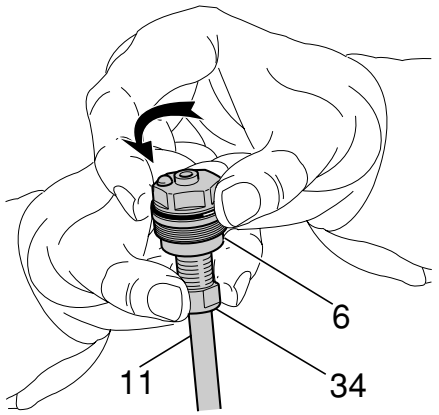


FIG. 4

*Push the stanchions **(1)** into the sliders **(18)** and let all the oil drain out from the fork legs. Pump the stanchions several times to help oil drain off.*

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

To change the fork leg oil follow the procedure as described in section "REASSEMBLY" from Fig. 27 to Fig. 30.

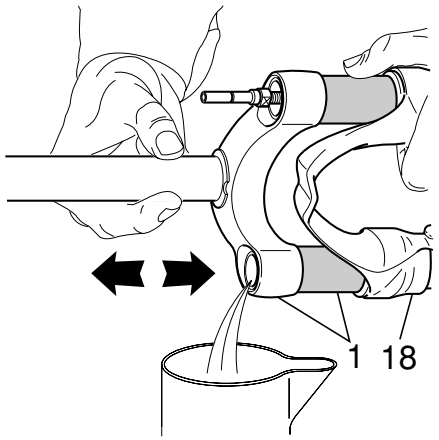
HYDRAULIC CARTRIDGE CHANGE AND PUMPING ROD CHANGE

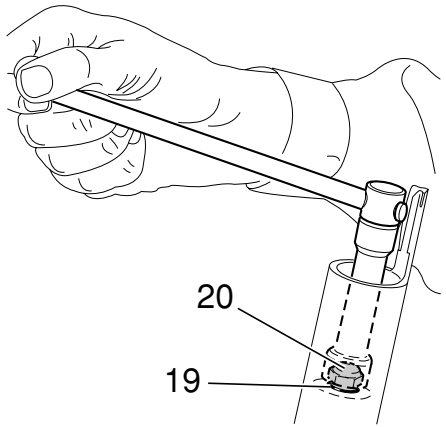
FIG. 5

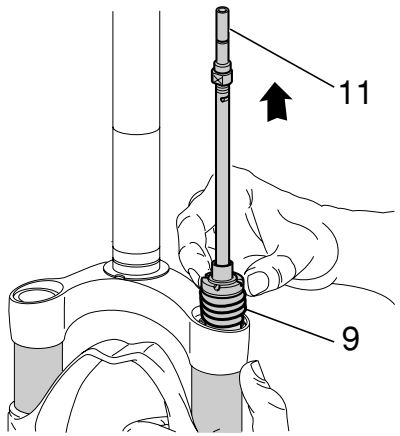
*Turn the fork leg upside-down and unscrew the foot nuts **(20)** by the use of a 15 mm socket wrench complete with O-Rings **(19)**.*

FIG. 6 (only left leg)

*Remove the hydraulic cartridge **(11)** complete with rebound spring **(9)** and foot washer (**23**, see exploded view) from the l.h. stanchion.*
Replace the whole hydraulic cartridge.







SEAL ASSEMBLY AND PILOT BUSHING CHANGE

FIG. 7

*Withdraw the crown and stanchions assembly **(1)** from the sliders **(18)**.*

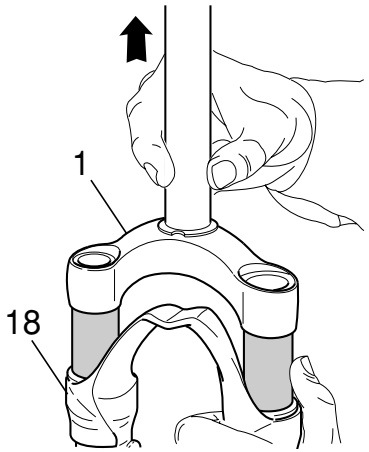


FIG. 8

*Remove the dust seal **(13)** from the top of the sliders using a small screwdriver.*

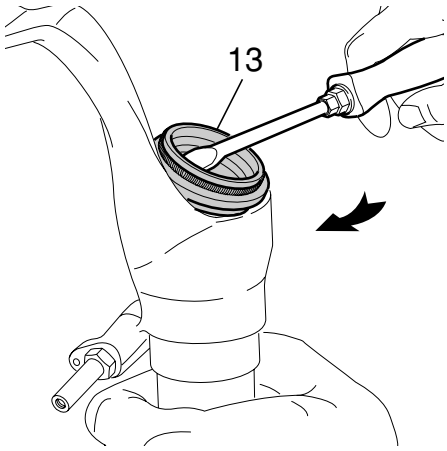


FIG. 9

*Remove the stop ring **(14)** from the sliders 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.*

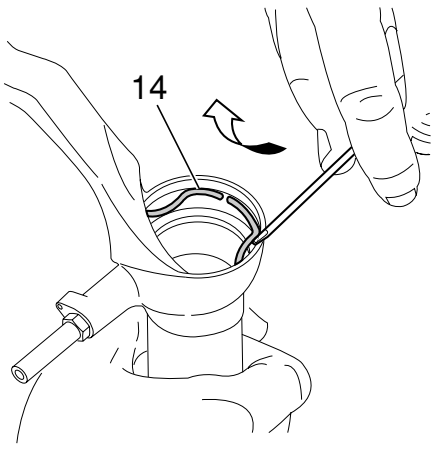


FIG. 10
*Fit the slider protector **(A)** onto the slider and remove the oil seal **(15)** with the help of a large screwdriver.*

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

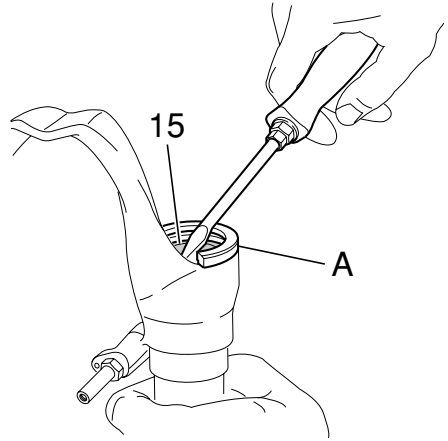


FIG. 11
*Remove the upper washer **(16)** from the slider.*

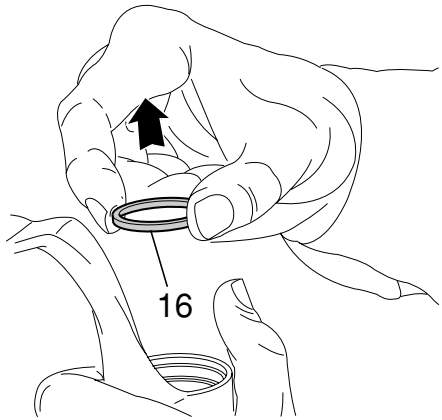
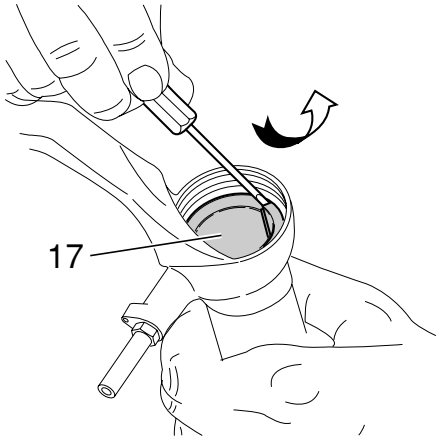


FIG. 12
*Fit the bit of a small screwdriver into upper edge slot of the pilot bushing **(17)** and lift gently. Pull the bushing out of the slider and make all necessary changes.*



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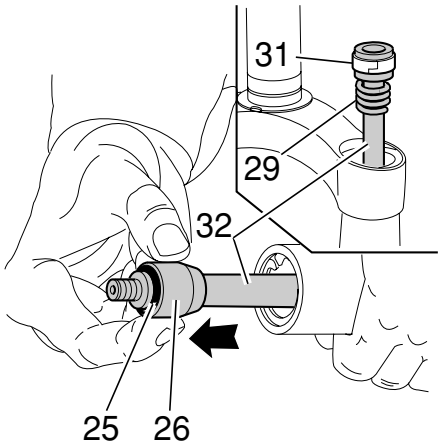
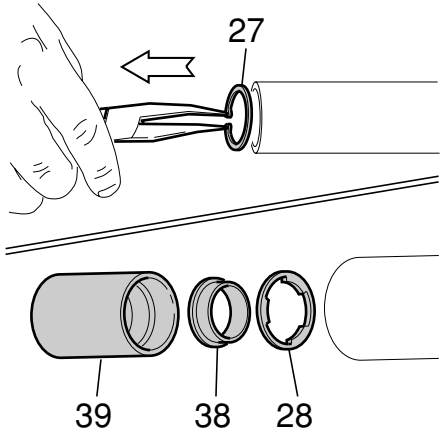
PUMPING ROD CHANGE
FIG. 13

*Remove the foot buffer **(26)** with the o-ring **(25)** from the pumping rod **(32)** end.*
*Withdraw the complete pumping rod **(32)** and the rebound spring **(29)** from the top.*
*Replace the seal ring **(31)** if damaged or worn out.*



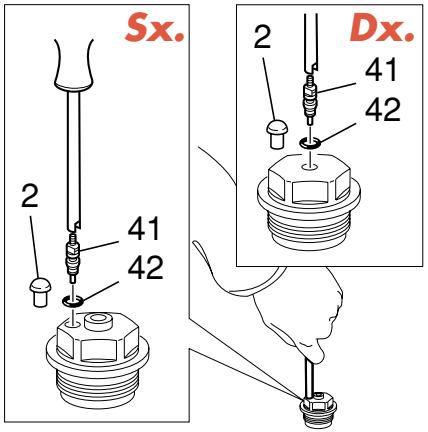
VALVE ASSEMBLY CHANGE
FIG. 14 (only right leg)

To check that the valve assembly is operating correctly, it is necessary to work on the inside of the stanchion tube.
*Slip off the stop ring **(27)** using pointed pliers.*
*Pull the valve assembly out of the tube with one finger in the following order: covering **(39)**, valve **(38)** and washer **(28)**.*



REPLACING AIR VALVE
FIG. 15

This operation can be performed when fork is fully assembled and fitted on bike, but only after draining inner pressure.
If the air valve is disassembled with the fork removed, keep the fork vertical so as to avoid any oil leakage.
*Remove the air valve **(41)** and its O-ring **(42)** from cap using a standard valve wrench.*
Check O-Ring and blow compressed air onto valve to eliminate possible clogging. Immediately replace damaged valve.
*When reassembling, slightly lubricate the O-ring **(42)** and screw the air valve **(41)** until it stops without forcing. Then, refit the cap **(2)**.*



REASSEMBLY

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

PILOT BUSHING AND SEAL ASSEMBLY

FIG. 16

Check that no dirt or debris is between slider and bushing. Insert the pilot bushing ***(17)*** *into place so that it adheres to the slider.*

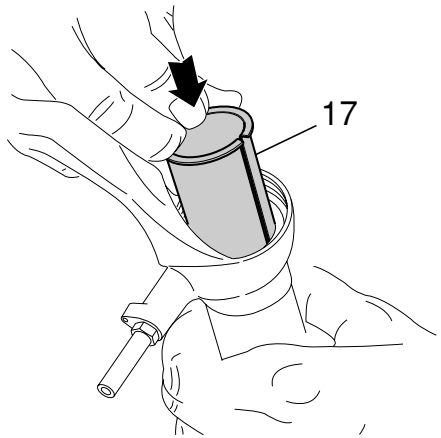


FIG. 17

Fit the upper washer ***(16)*** *into the slider so that it touches the pilot bushing.*

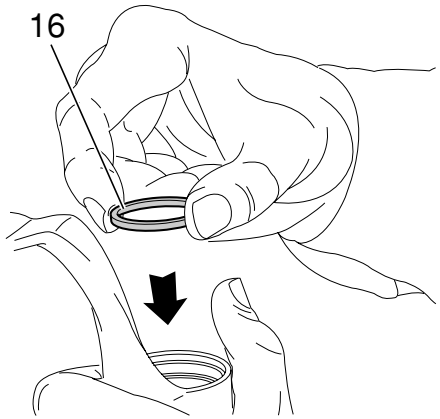


FIG. 18

Lubricate the oil seal ***(15)*** *and place it onto the seal press* ***(B)*** *with the hollow side toward the slider.*
Press the oil seal until it touches the lower washer by using the above seal press.

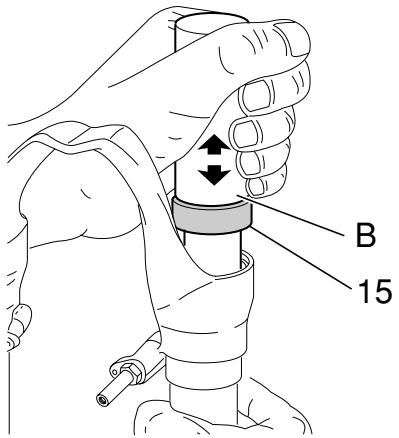


FIG. 19
Insert the stop ring ***(14)*** *into the slider making sure it is properly seated into place. Use buffer* ***(B)*** *to properly seat the ring into the slider.*

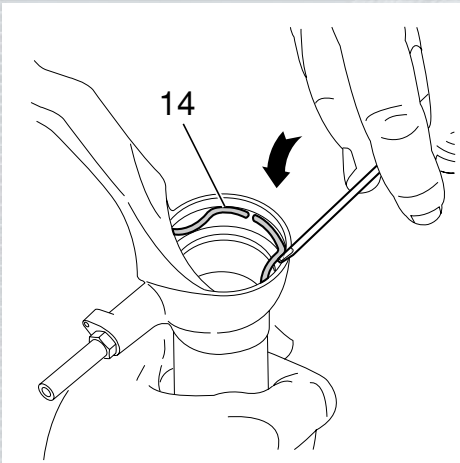
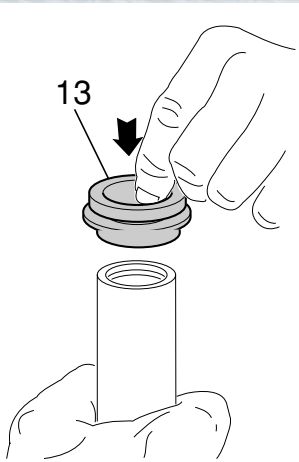


FIG. 20
Lubricate the dust seals ***(13)*** *and fit them into the stanchions from the spring end.*



VALVE AND PUMPING ROD ASSEMBLY (only right leg)
FIG. 21
After having overhauled or replaced the valve unit and after having cleaned the inside of the tube, reassemble. Assemble valve components in correct sequence: covering ***(39)****, valve* ***(38)*** *and washer* ***(28)****. Then fit pumping rod* ***(32)*** *with seal ring* ***(31)*** *and rebound spring* ***(29)*** *into the valve assembly.*

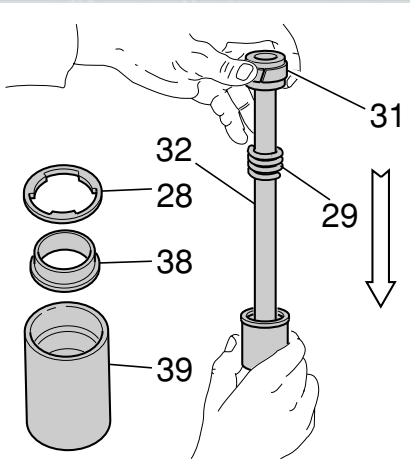


FIG. 22
*Lubricate O-rings**(30)** and **(25)** and reassemble the foot buffer **(26)** onto the end part of pumping rod **(32)**.*

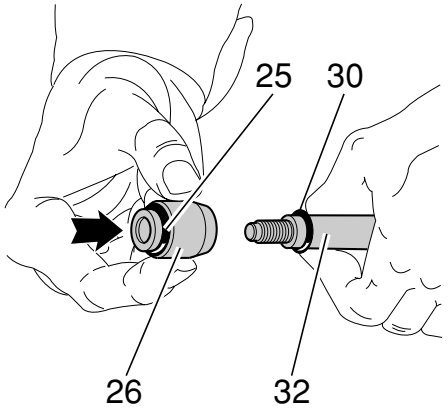
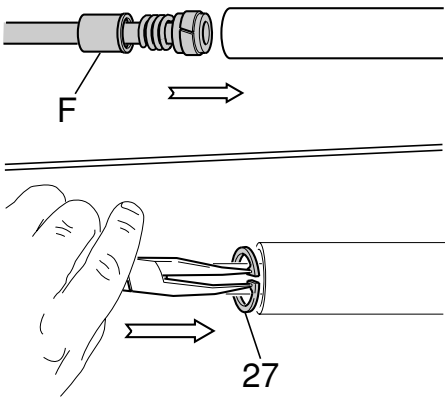


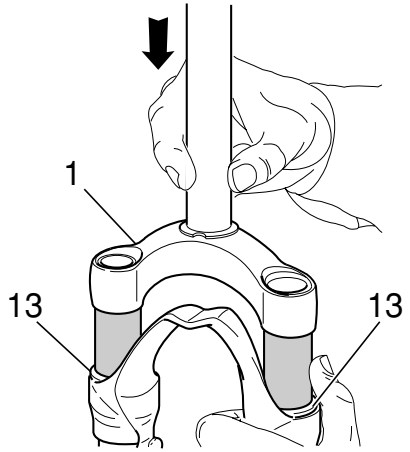
FIG. 23
*Fit this assembly into the stanchion tube and properly seat the valve assembly **(F)**.*
*Insert the stop ring **(27)**.*



CROWN AND STANCHIONS ASSEMBLY
FIG. 24
*Fit the crown and stanchions assembly **(1)** with the dust seals in place - gently into the sliders seals.*

***WARNING:** to avoid any damages to sealing surfaces, keep the stanchions duly lubricated and squared into the sliders.*

*Press the crown and stanchions assembly fully down and check that threaded the end of pumping element **(32)** is coming out through the bottom of the r.h. slider.*
Check to see that the stanchions slide 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.
*Seat the dust seals **(13)** on top of the sliders.*



HYDRAULIC CARTRIDGE RE-ASSEMBLY (left leg)
FIG. 25

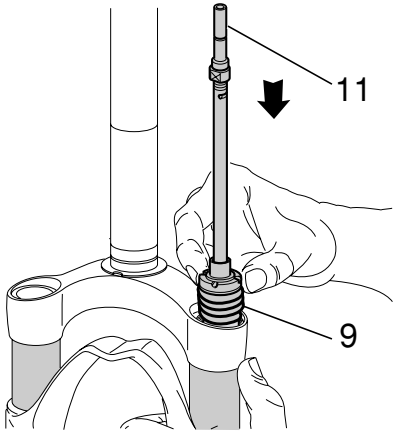
*Push the stanchions up to slider bottom. Fit the hydraulic cartridge **(11)** complete with rebound spring **(9)** and bottom washer (**23**, see exploded view) into the l.h. stanchion and push it fully down.*

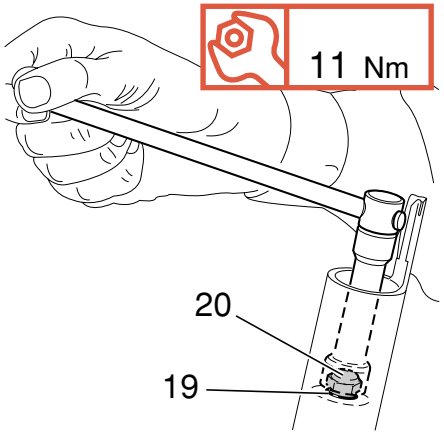
FIG. 26

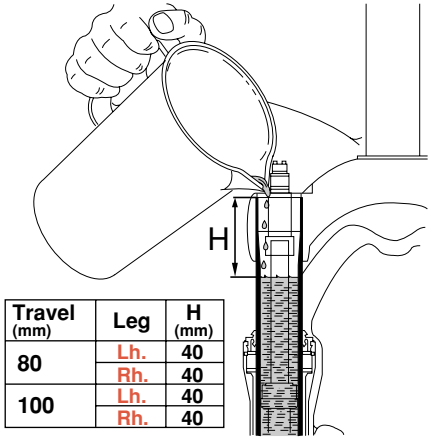
*Lubricate O-Rings **(19)** on the foot nuts **(20)** and screw them onto the pumping rod **(32)** and cartridge **(11)** threaded end. Tighten to 11 Nm.*
Check to verify that the stanchions slide properly through the stroke by pumping them up and down several times.

HOW TO FILL WITH OIL
FIG. 27

Pour oil little by little when the stanchions are fully down and then pump with the crown so as to have a better filling.
*Check that the oil level **(H)** is as required in both legs.*







Travel (mm)	Leg	H (mm)
80	Lh.	40
	Rh.	40
100	Lh.	40
	Rh.	40

FIG. 28 (onlyleft leg)
*Screw the cap **(6)** on hydraulic cartridge end **(11)** unti it rests against the rod.*
*Lock check nut **(34)** on cap to the specified torque.*

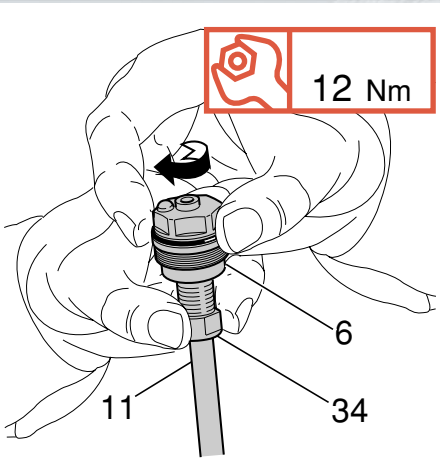


FIG. 29
*Lubricate O-rings **(5)** in caps. Then lift stanchions and fit caps **(6)** and **(8)** by hands.*
Tighten both caps to 20 Nm.

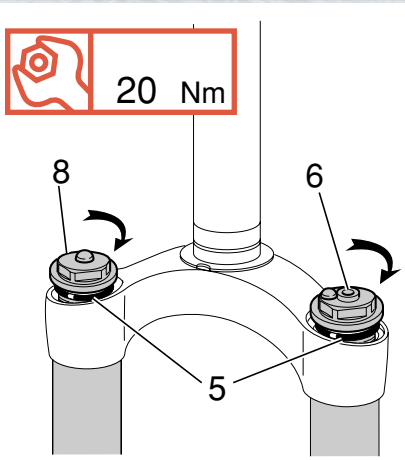
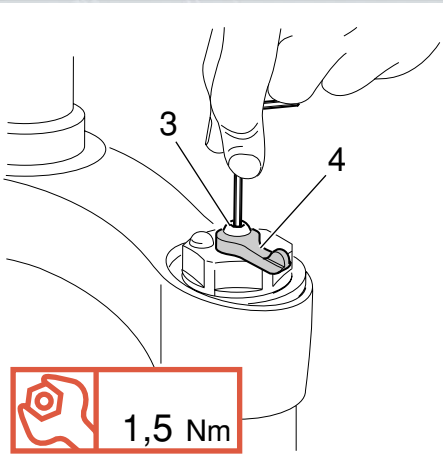


FIG. 30 (left leg only)
*Set rebound limiting knob **(4)** on RH leg adjuster and tighten screw **(3)** to the torque of 1,5 Nm.*



MXC
+
ECC
Air

SPECIFIC MARZOCCHI TOOLS

Ref.	Item.	Description and use
A	*R 5089 AB*	*Slider protector: to remove the oil seal from the slider*
B	*R 5090*	*Oil seal press: to press oil seal into the slider*
C	*R 4008/C*	*Inflating pump*
D	*5321038*	*Adapter fitting*
E	*R 5085*	*Hexagon wrench: to set rebound adjuster*