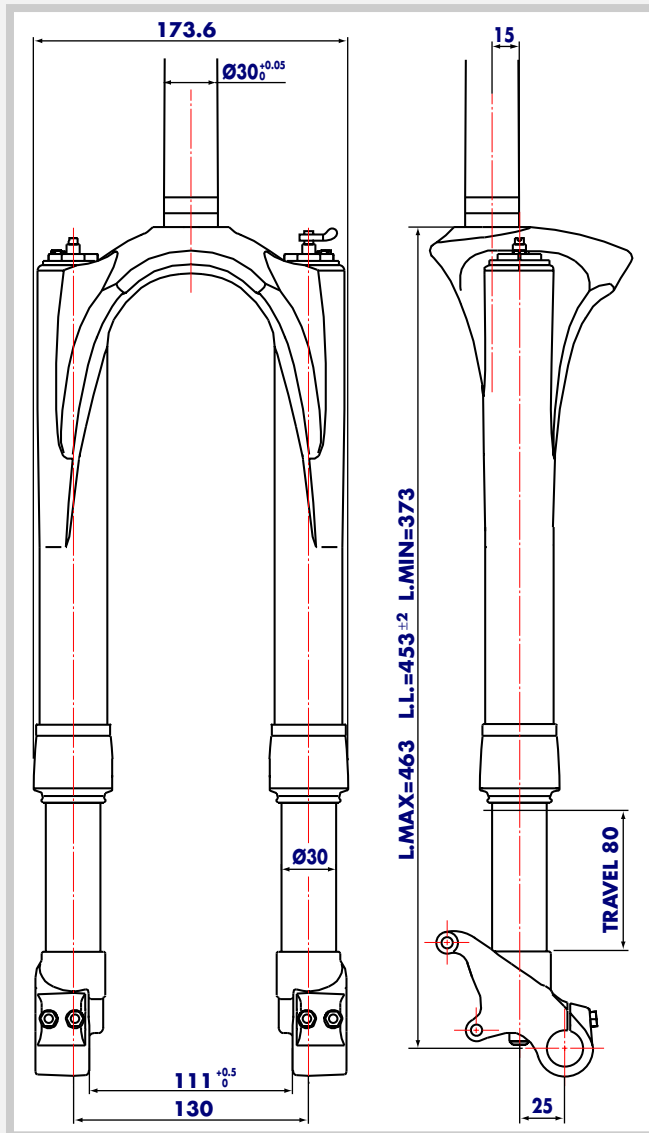


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GENERAL

- Upside down-leg fork specifically designed for Cross-Country use .
- Each leg uses pressurized air blown through a special valve on upper caps as damping medium.
- Its monolith structure secures lower Crown with steer tube to outer slider offering reduced front section and wide wheel area.
- Cartridge inside the left fork leg works during rebound. The cartridge has a rebound spring to counteract limit position stop action.
- Hydraulic damping adjustment controlled via an external adjuster on the right leg top.
- The left leg features a hydraulic cartridge with a control knob limiting leg rebound.
- Stanchions feature full length 360° slider bushings giving this fork an incredibly smooth stiction free stroke, in addition to unmatched structural strength.
- Parts subjected to friction are cooled and lubricated by a specially formulated oil.
- Stanchions are integral with wheel shaft pinch bolts.
- Left wheel shaft pinch bolt comes with brake caliper adapter.
- Axle support is the same drop-out design as in motorbikes, having advanced wheel shaft with twin nut locking.
- Wheel shaft (20 mm diam.) available on request.

Steer tube: EASTON aluminum steer tubes available on request for 1 1/8", threadless.

Stanchions: Anodized EASTON aluminum with variable butting.

Wheel shaft pinch bolts: CNC-machined magnesium wheel shaft pinch bolts.

Monolith: EASTON aluminum alloy and carbon fiber monolith.

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

Seals: Computer designed oil seals and dust 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.

INSTRUCTIONS

GENERAL RULES

1. Where specified, assemble and disassemble the suspension 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 specific seal oil.
5. Always grease the conic 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.
7. 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.

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FAILURES, CAUSES AND REMEDIES

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

FAILURES	CAUSES	REMEDIES
<i>Oil leaking through dust seal.</i>	<ol style="list-style-type: none"><i>1. Oil seal is worn out</i><i>2. Stanchion tube is scored</i><i>3. Excessive dirt on slider oil seal</i>	<ol style="list-style-type: none"><i>1. Replace oil seal</i><i>2. Replace oil seal and wheel shaft pinch bolt/ stanchion tube assembly</i><i>3. Clean the oil seal seat, replace oil seal and dust seal</i>
<i>Oil leaking through the wheel shaft pinch bolt</i>	<i>O-ring for cartridge / slider seal damaged</i>	<i>Replace the O-ring</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 with silicone grease</i>
<i>Pressure drop</i>	<ol style="list-style-type: none"><i>1. Inflating valve loose or damaged</i><i>2. Valve seal damaged</i>	<ol style="list-style-type: none"><i>1. Tighten spreading some medium-strong glue or replace the valve</i><i>2. Replace the seal</i>
<i>Fork rebounds too fast even though the adjuster is set to hardest damping</i>	<i>Right leg cartridge is faulty</i>	<i>Replace hydraulic cartridge</i>
<i>Adjuster position does not affect fork operation</i>	<i>Dirt inside legs</i>	<i>Clean carefully and change oil</i>
<i>Excessive play of stanchions on monolith</i>	<i>Pilot bushings worn out</i>	<i>Replace bushings</i>
<i>Fork does not react to rebound lock</i>	<i>LH fork cartridge faulty</i>	<i>Replace hydraulic cartridge</i>

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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.

INSTALLATION

Installing a **RAC** on a bicycle is a very delicate operation that should be carried out with extreme care.

- The installation should always be checked by an authorized Service Center.



WARNING: steering tube must be installed and adjusted in compliance with manufacturer's instructions. Improper installation may jeopardize the safety of the rider.

- The fork is supplied with "**A-Head set**" steering tube to be cut according to frame length.
- Steering tube is fitted to the monolith structure through a special process and cannot be replaced.



WARNING: in case of improper installation of the steering tube into the lower Crown, the rider might lose control of his/her bicycle, thus jeopardizing his/her safety.

DISC BRAKE SYSTEM ASSEMBLY

Assembling the brake caliper onto the wheel shaft pinch bolts 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 installed by specialized technicians in a position to fully understand and properly follow the instructions given by the manufacturer.

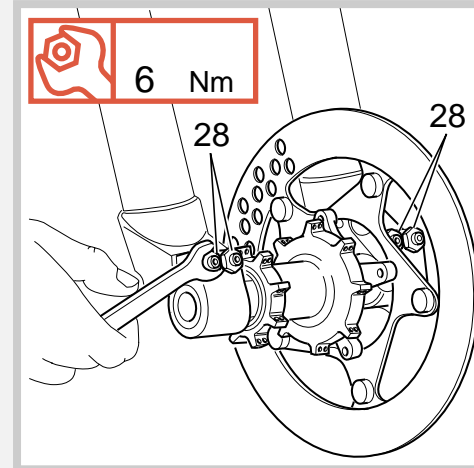
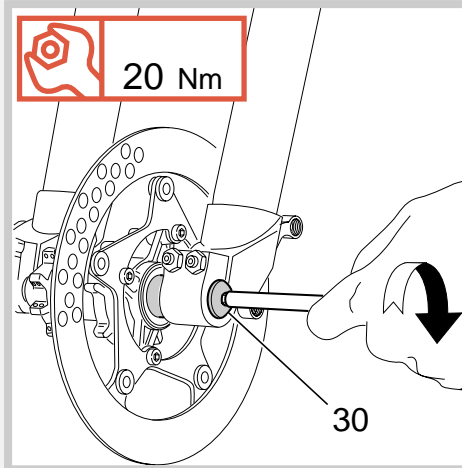
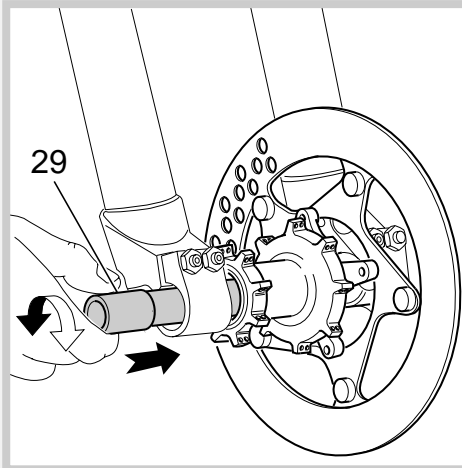
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FITTING WHEEL

- Insert the complete wheel assembly between the legs and fit the wheel shaft (29) into the wheel shaft pinch bolt from the right hand side; push down until it stops against the wheel hub.

- Tighten the wheel shaft screw (30) onto the LH to the specified torque.

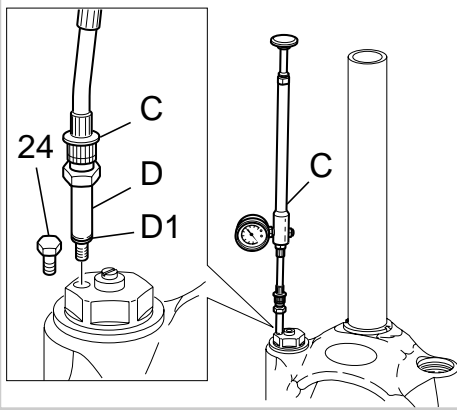
- Compress the fork several times so the fork legs will become properly seated onto wheel shaft. Lock the bolts (28) in wheel shaft pinch bolts to the specified torque.



ADJUSTMENTS

AIR PRESSURE

Blow pressurized air through the valves on cap top to set COMPRESSION damping. To change the pressure, remove the protection cap (24) 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 inside the cap (14), and pressurize until the required value is reached. Unscrew the fitting/pump assembly and refit the cap (24).



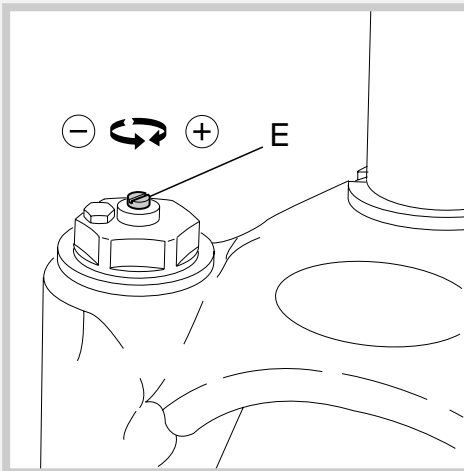
IMPORTANT: inflate using special MARZOCCHI pump with pressure gauge. Use of improper tools or other procedures than specified ones might lead to improper inflating.

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

REBOUND ADJUSTMENT (only right leg)

The right fork leg is equipped with an adjuster screw (E) for REBOUND damping. When turning inside the cartridge rod, this adjuster will change the hydraulic configuration of the inner valves. To adjust, always start from the minimum damping setting, i.e. with the screw fully turned counterclockwise.

IMPORTANT: do not force the adjuster screw (E) over its limit.



REBOUND LIMITER

(only left leg)

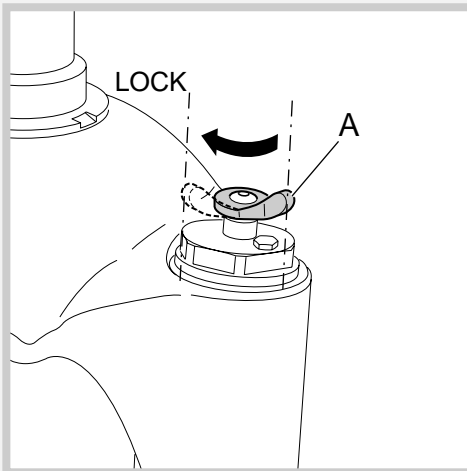
In case of hard uphill path, fork leg rebound can be locked for improved behavior.

Position the knob **(A)** 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.

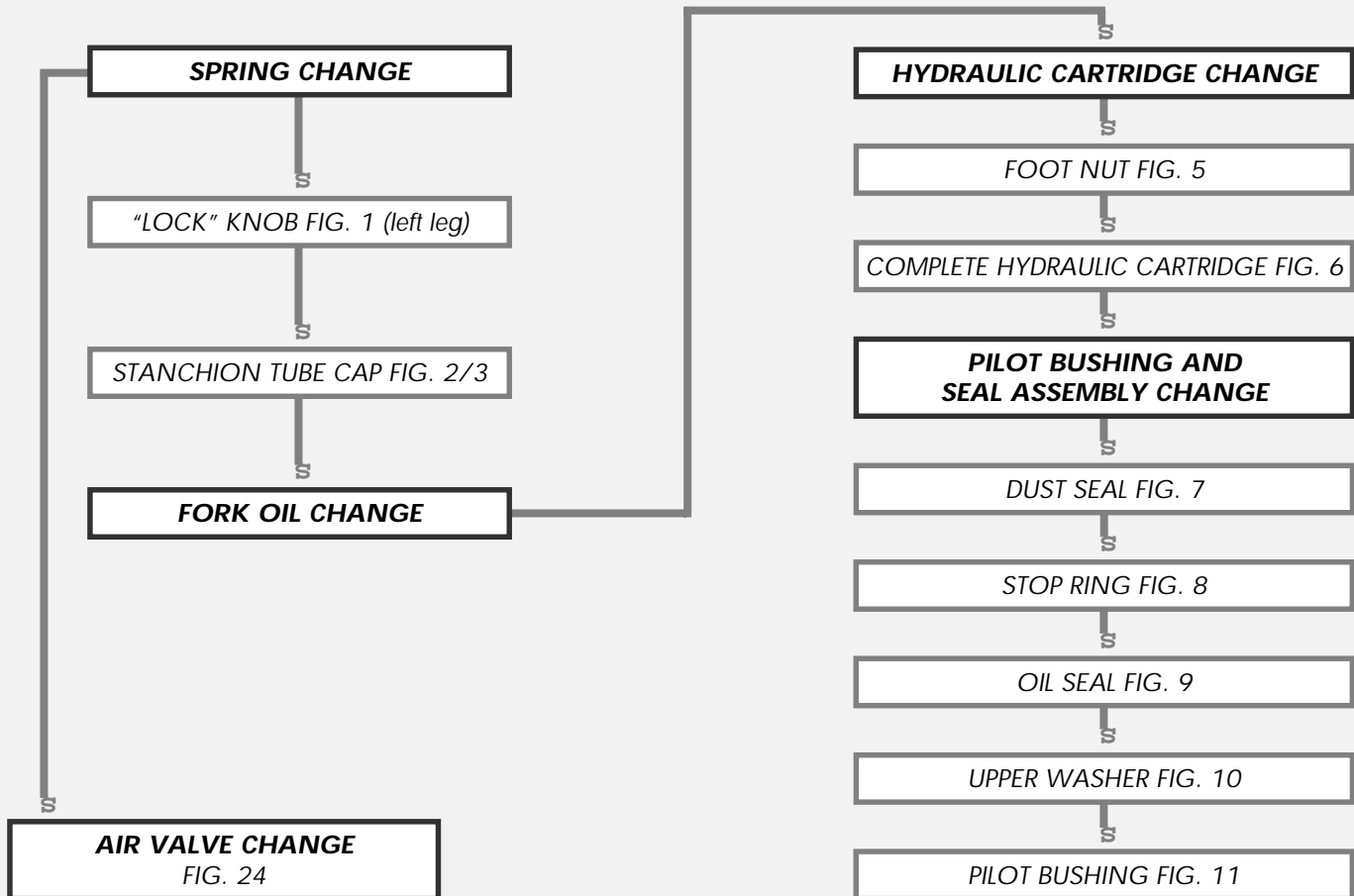


DISASSEMBLY

GENERAL

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

DISASSEMBLY DIAGRAM



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ASSEMBLY INSTRUCTIONS

REMOVING CAP

FIG. 1 (only left leg)

Loosen screw (26) and remove rebound limiting knob (25).

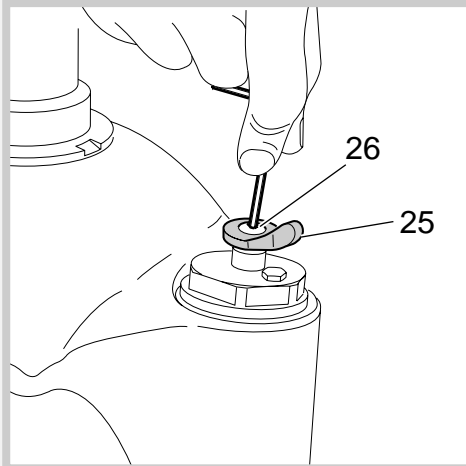


FIG. 2

Depressurize fork legs by means of valves under protection caps (24).

Remove the caps (14) on each leg with a 24-mm socket wrench.

Fully lower the monolith (17) on to stanchions.

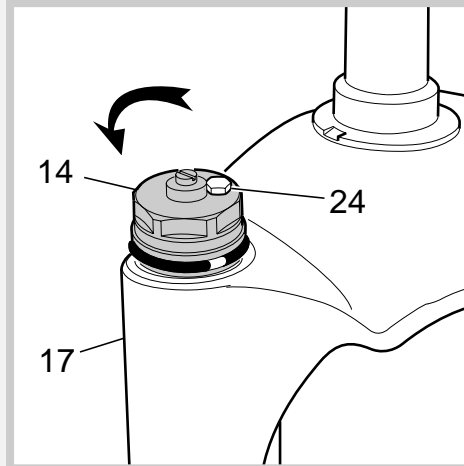
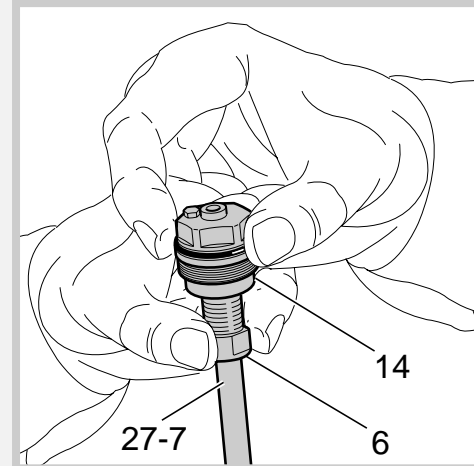


FIG. 3

Lock the check nut (6) and remove the caps (14) from hydraulic cartridge end (7) and (27).



REMOVING HYDRAULIC CARTRIDGE

FIG. 4

Let all the oil drain out from the fork leg. Pump stanchions and hydraulic cartridge rod (7) and (27) 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 at section FILLING WITH OIL.

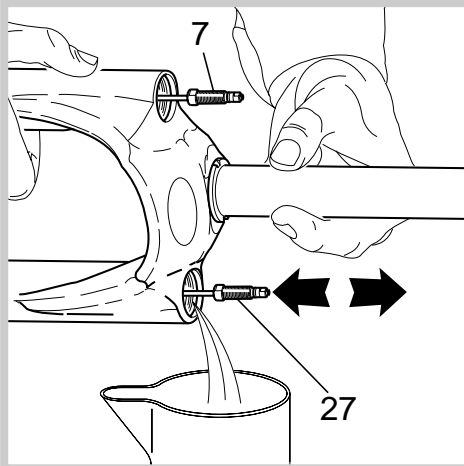


FIG. 5

Remove stanchions (3) and (20) from monolith (17).

Turn the fork leg upside-down and unscrew the foot nut (1) complete with O-ring (2) by the use of a 15 mm socket wrench.

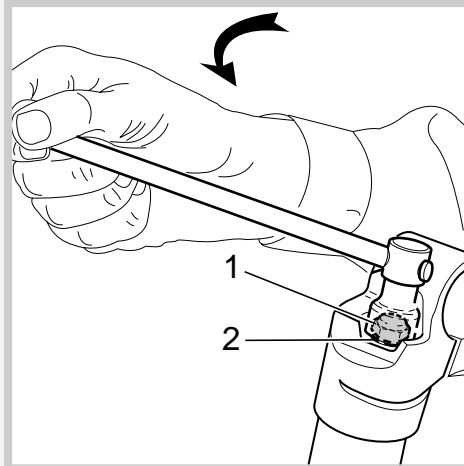
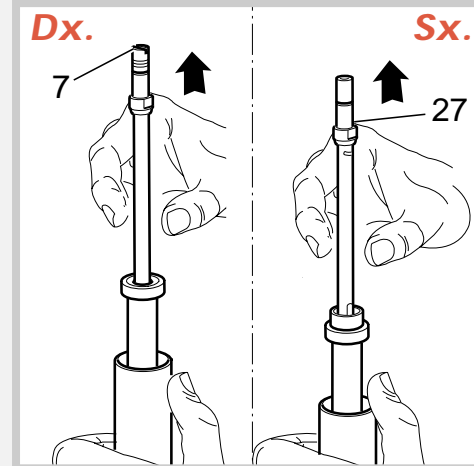


FIG. 6

Pull the hydraulic cartridges (7) and (27) out from stanchion top and check as required.

NOTE: when supplied, the hydraulic cartridge is complete with seals and check nut (6).



**REMOVING GUIDE BUSHING
AND SEAL ASSEMBLY**

FIG. 7

Remove the dust seal (12) from the top of monolith sliders (17).

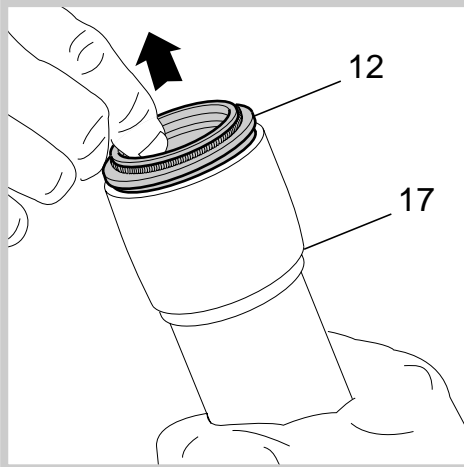


FIG. 8

Remove the stop ring (11) from the slider by placing the screwdriver bit between seat and stop ring.

IMPORTANT: when removing the stop ring, make sure not to damage the slider inner seat.

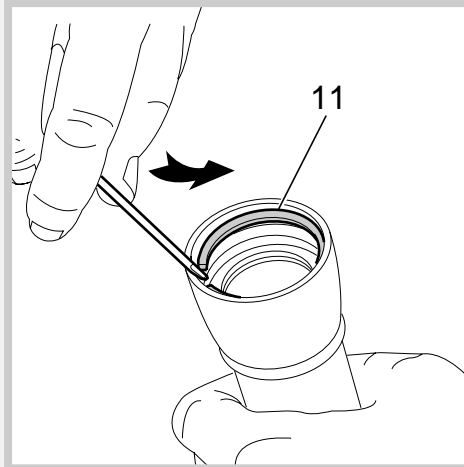


FIG. 9

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

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

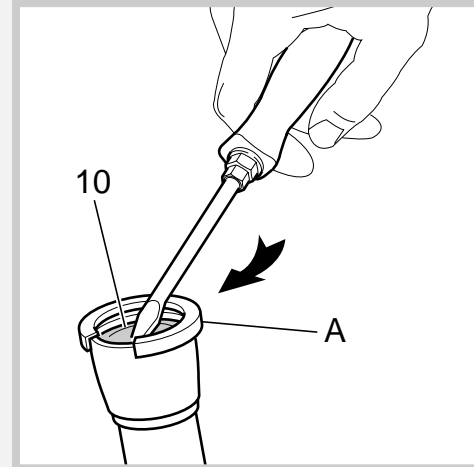


FIG. 10

Remove the bush washer (9) from the slider.

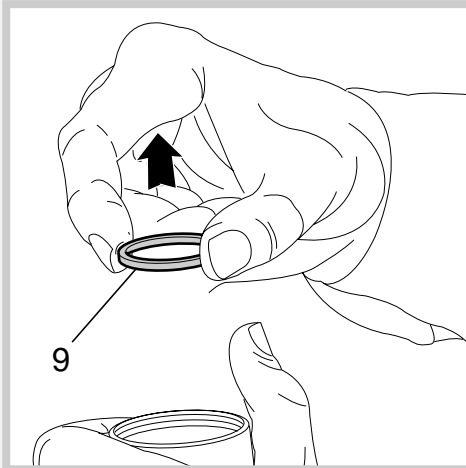
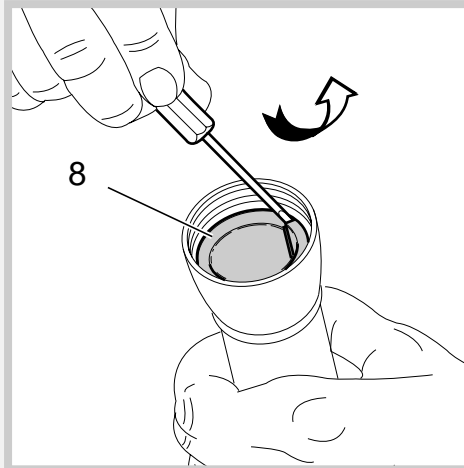


FIG. 11

Fit the bit of a small screwdriver into the upper edge slot of the guide bushing (8) and lift gently. Pull the bushing out of the slider and make all necessary changes.



REASSEMBLING GUIDE BUSHING AND SEAL ASSY

FIG. 12

Check that no dirt or debris is between slider and bushing. Insert the guide bushing (8) into place so that it adheres to the slider.

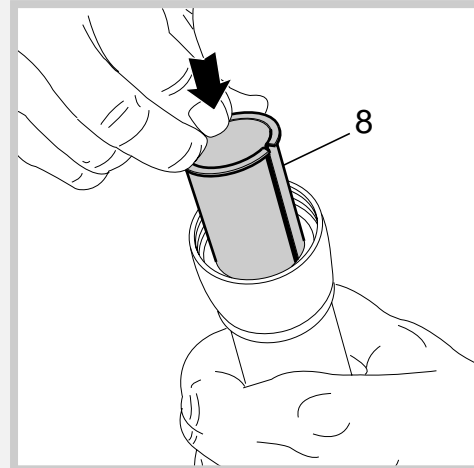


FIG. 13

Fit the bush washer (9) into the slider so that it touches the guide bushing.

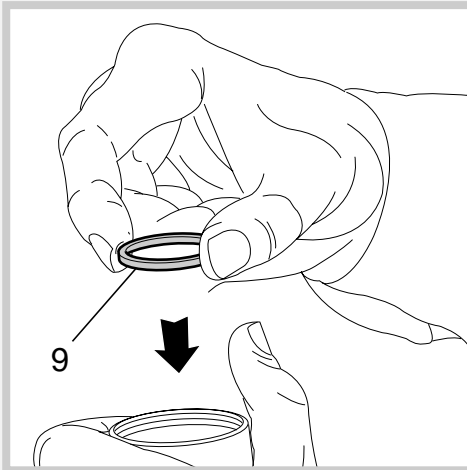


FIG. 14

Lubricate the oil seal (10) and place it onto the drift (B) with the hollow side toward the slider.
Press the oil seal into place until it touches the upper washer by using the above drift.

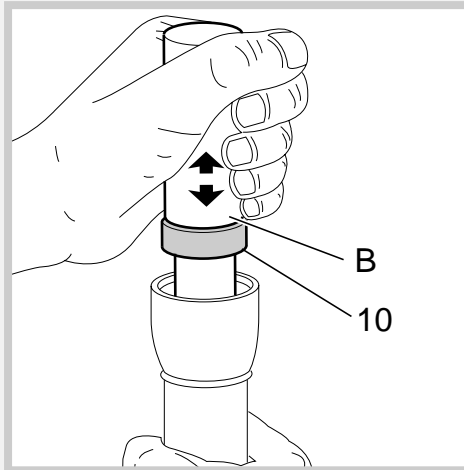


FIG. 15

Insert the stop ring (11) and make sure it is properly seated into place in the slider.
Use the drift (B) used previously to properly seat the ring into the slider.

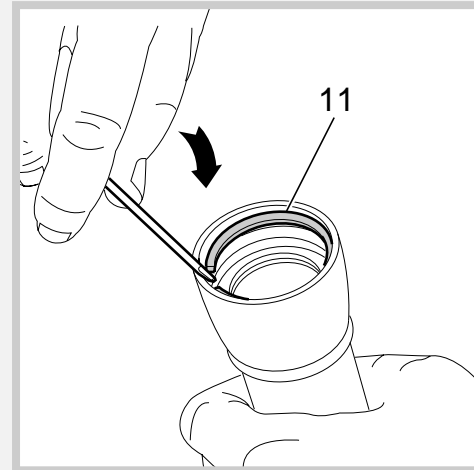


FIG. 16

Lubricate the dust seal **(12)** and insert it into the stanchion from the spring end.

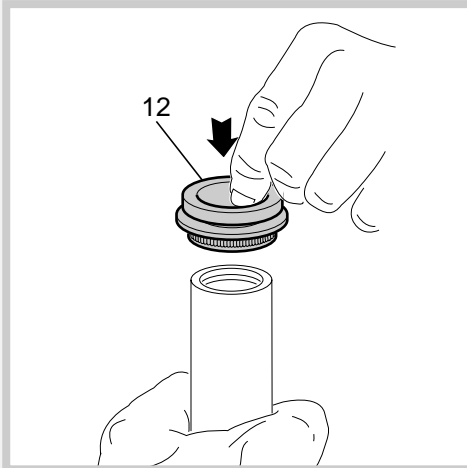
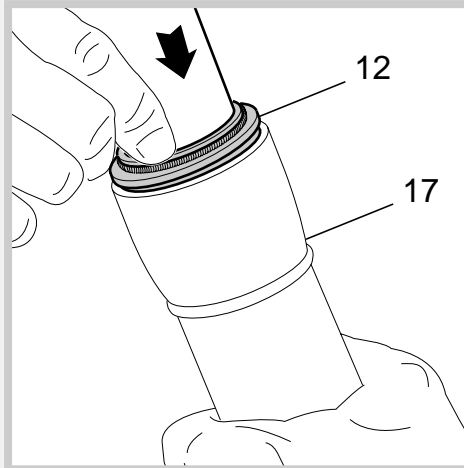


FIG. 17

Duly lubricate the stanchions **(3)** and **(20)** and fit them into monolith sliders **(17)**. Push stanchions down until they stop and gently seat dust seals **(12)** into sliders.



REASSEMBLING HYDRAULIC CARTRIDGE

FIG. 18

With the monolith fully down, fit the hydraulic cartridges **(7)** and **(27)** complete with seals and caps.

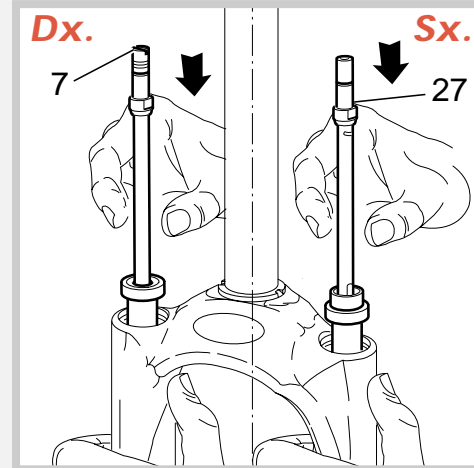
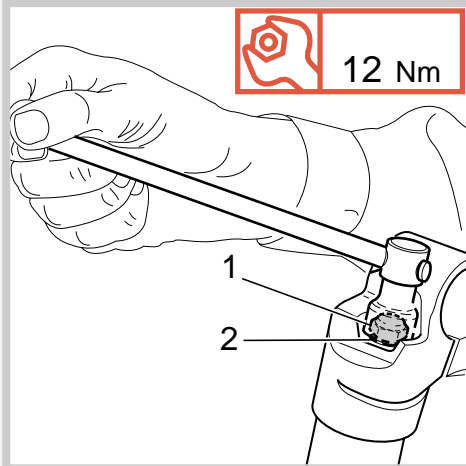


FIG. 19

Grease the O-ring (2) on the foot nut (1) and screw the nut on the hydraulic cartridge threaded end. Tighten to **12 Nm**.



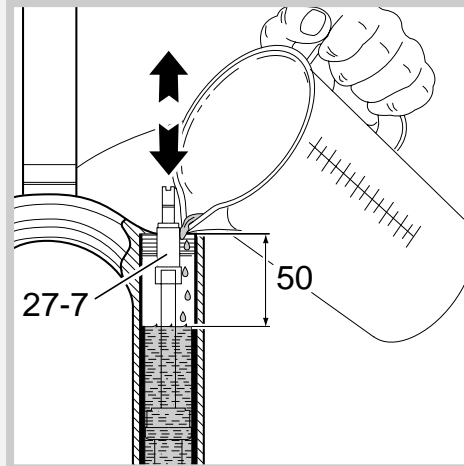
HOW TO FILL WITH OIL

FIG. 20

Pour the oil little by little when the monolith is fully down and then pump with the cartridges (7) and (27) rod so as to have a better filling.

Cartridge is full when no air is detected when pumping, in the fully compressed position (clockwise).

Check that the oil level from the top of the stanchion tube is as shown in the figure (in each leg).



REASSEMBLING CAP

FIG. 21

Screw the caps (14) on the end of hydraulic cartridges (7) and (27) and tighten to the specified torque.

Lock the check nuts (6) on caps (14) using the wrenches used for disassembly.

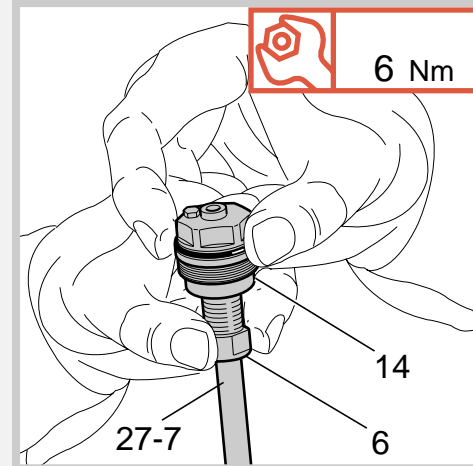


FIG. 22

Lightly grease the O-Ring (15), then lift the monolith (17) and fit the caps (14) on the stanchions by hand.

Tighten the caps to **12 Nm**.

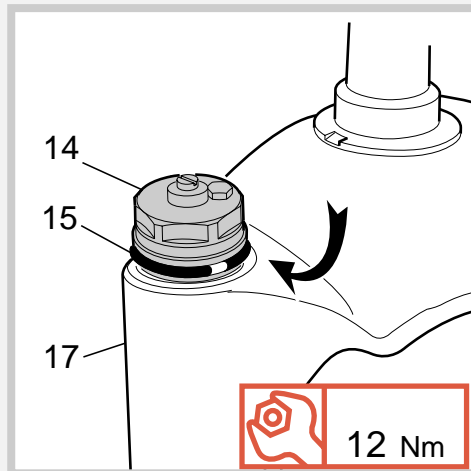
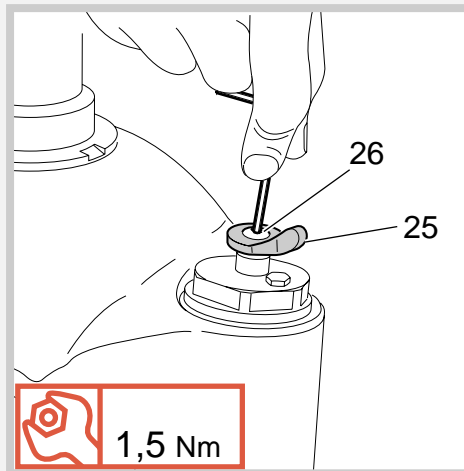


FIG. 23 (left leg only)

Set rebound limiting knob (25) on LH leg adjuster and tighten screw (26) to the torque of 1,5 Nm.



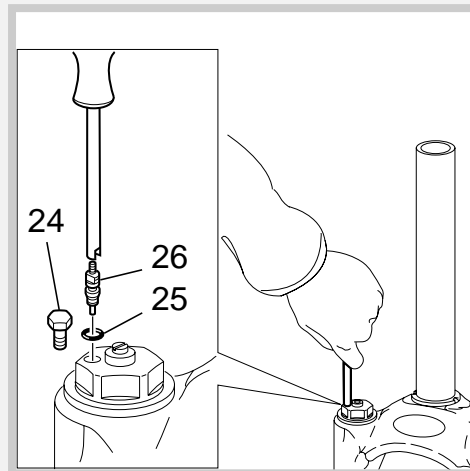
REPLACING AIR VALVE

FIG. 23

In case of pressure drops, remove the air valve (26) and its O-ring (25) using a standard valve wrench.

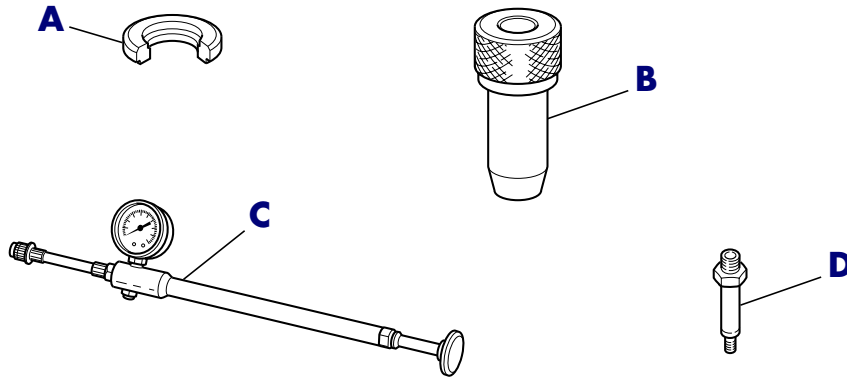
IMPORTANT: if the air valve is disassembled with the fork removed, keep the fork vertical so as to avoid any oil leakage.

When reassembling, slightly lubricate the O-ring (25) and screw the air valve (26) until it stops without forcing. Then, refit the cap (27).



SPECIFIC MARZOCCHI TOOLS

Ref.	Item.	Description and use
A	536003 AB	Slider protector: to remove the oil seal from the slider
B	R 5068	Oil seal press: to press oil seal into the slider
C	R 4008/C	Inflating pump
D	5321038	Adapter fitting



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