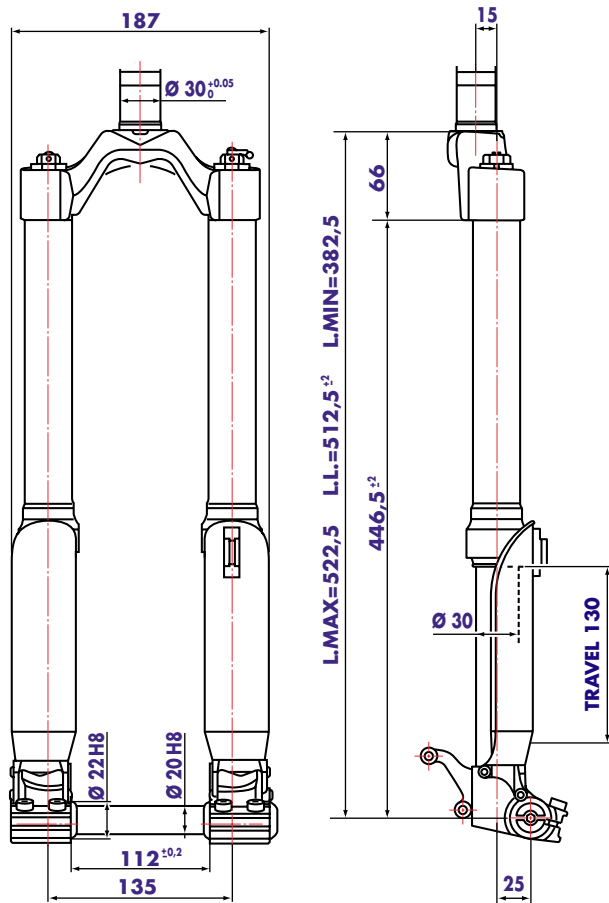


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GENERAL

- The upside down-leg fork is specifically designed for Freeride, Downhill and Slalom/Dirt jumper use. Damped by hydraulic cartridges and sprung by a mechanical coil spring system.
- Spring pre-load adjustment (in both legs) and rebound damping (right leg only) controlled via external top leg adjuster.
- The left leg is also damped by a hydraulic cartridge with a control knob limiting leg rebound (ECC).
- Outer sliders criogenically secured to the steering crown. The system gives the fork unmatched structural strength.
- Stanchions are integral with wheel shaft pinch bolts.
- Stanchions are guided by special long-life bushes inside the sliders. Bushes can be easily reached for servicing.
- Parts subjected to friction are cooled and lubricated by specially formulated oil.
- 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 screw securing wheel shaft onto both wheel shaft pinch bolts.
- Wheel shaft (20 mm diam.) available on request.

Steer tube: aluminum steer tubes or steel tube available for 1 1/8", threadless.

Crown: Forged and CNC-machined aluminum alloy.

Stanchions: Anodized aluminum.

Feet: Forged and CNC-machined aluminum alloy.

Springs: worm springs with steady pitch.

Sliders: CNC-machined aluminum alloy.

Slider 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: 145 cc, 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.

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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

Oil leaking through the dust seal.

- 1. Oil seal is worn out*
- 2. Stanchion tube is scored*
- 3. Excessive dirt on slider oil seal*

- 1. Replace oil seal*
- 2. Replace oil seal and stanchion tube/
wheel shaft pinch bolt assembly*
- 3. Clean the oil seal seat and replace oil
seal and dust seal*

Oil leaking through wheel shaft pinch bolt

*O-ring seal on the cartridge nut is
damaged*

Replace the O-ring seal

*Fork has not been used for some time
and is locked out*

*Oil seals and dust seals tend to stick to
stanchion tube*

*Raise dust seal and lubricate stanchion
tube, oil seal and dust seal*

*Fork compresses and/or rebounds too
fast even though the adjuster is set to
hardest damping position*

Hydraulic cartridge is faulty

Replace hydraulic cartridge

*Adjuster position does not affect fork
operation*

Dirt inside legs

Clean carefully and change oil

Excessive play of stanchions into the sliders

Main slider bushings are worn

Replace main slider bushings

Fork does not react to rebound lock

LH fork cartridge faulty

Replace hydraulic cartridge

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.

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

Assembling the brake caliper onto the wheel shaft pinch bolt is a very delicate operation that should be carried out with extreme care.

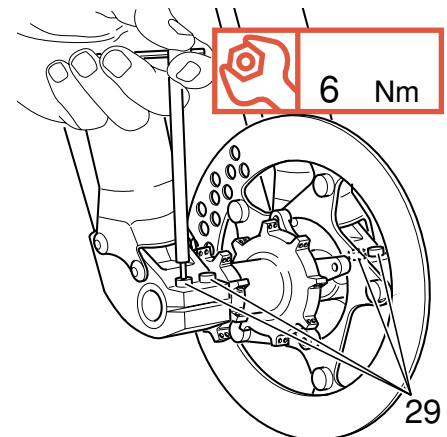
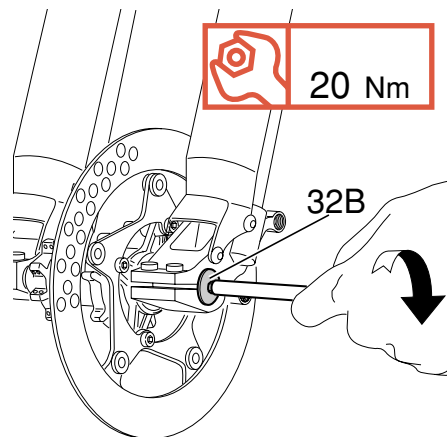
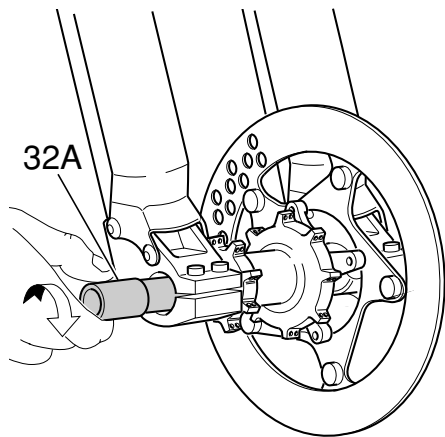
Improper assembly might overstress the caliper supports which might break.

When installing the disc brake system, be sure to properly follow the instructions given by the manufacturer.

FITTING WHEEL

- Insert the complete wheel assembly between the legs and fit the wheel shaft **(32A)** 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 **(32B)** onto the LH to the specified torque.
- Compress the fork several times so the legs will become properly seated onto wheel shaft. Lock the screws **(29)** in the wheel shaft pinch bolts to the specified torque.

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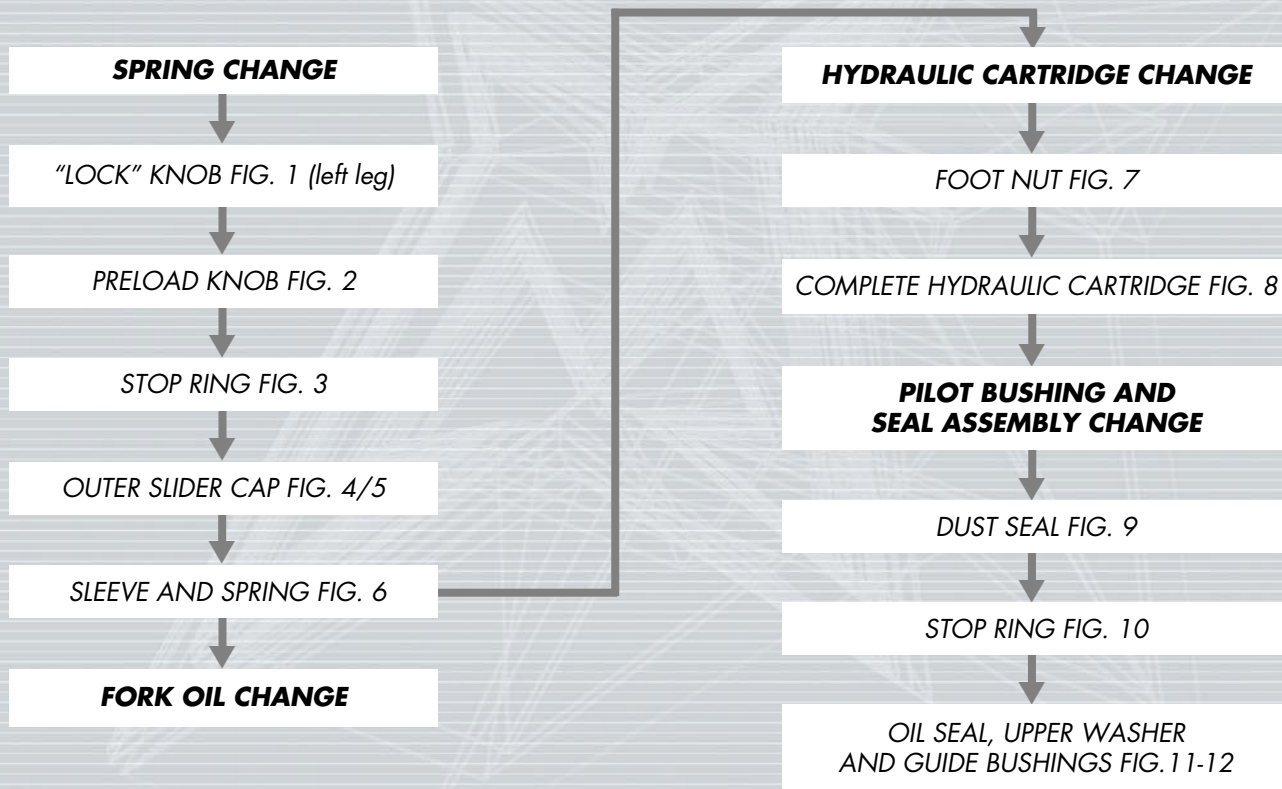


DISASSEMBLY

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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ADJUSTMENTS

SPRING PRELOAD

The spring preload determines COMPRESION damping and can be adjusted by turning the knob **(19)** on top of the fork legs. From the factory the fork is set at minimum preload, i.e. the adjustment knob completely unscrewed counterclockwise. However, the springs are slightly preloaded to help counteract static loads. By turning the adjustment knob clockwise, the preload is increased up to the maximum value equal to 15 mm's of spring preload. This adjustment is essential in order to have the right fork response for the rider's weight and riding style.

REBOUND ADJUSTMENT (only right leg)

The right fork leg is equipped with an adjuster screw **(9)** for REBOUND damping. Turning this adjuster clockwise into the cartridge rod, changes the hydraulic setting of the inner valves. In short, the amount of adjustment applied on the piston in the fluid determines the rate of damping. To adjust, always start from the minimum damping setting, i.e. unscrew completely counterclockwise. About 8 turns - abt. 4 mm of the adjustment - are possible.

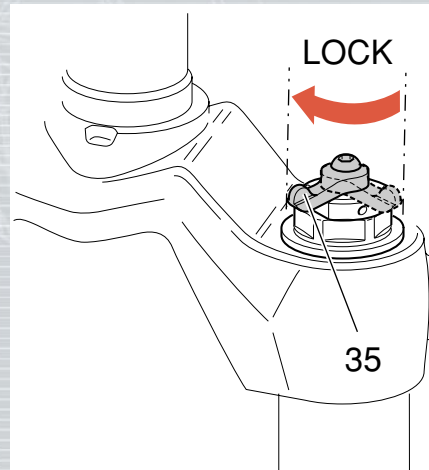
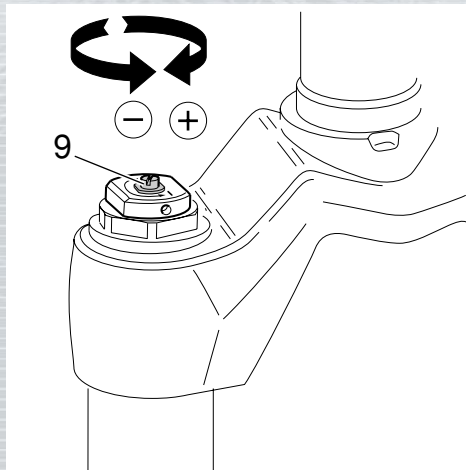
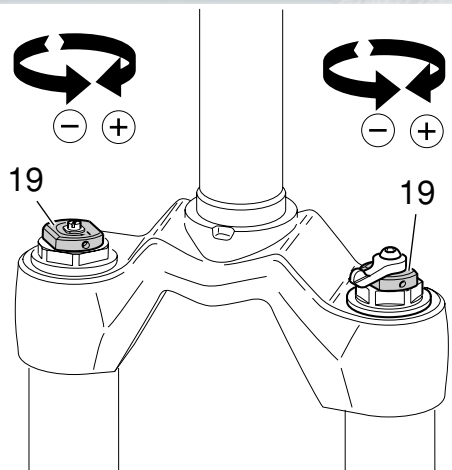
REBOUND LIMITER (only left leg)

In case of hard uphill path, fork leg rebound can be locked for improved behavior. Position the knob **(35)** 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

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SPRING CHANGE

FIG. 1 (only left leg)

Loosen screw (36) and remove rebound limiting knob (35).

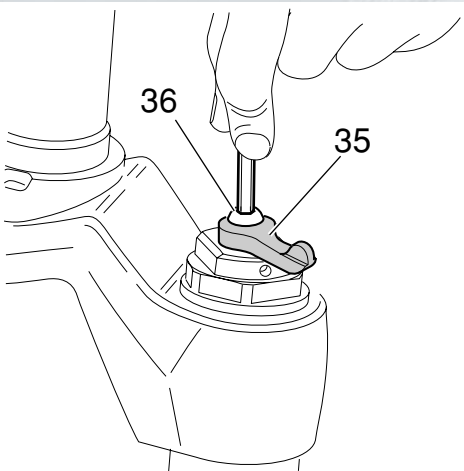


FIG. 2

Set knob (19) of both legs to minimum preload.

Loosen dowels (21) fastening the preload knobs by means of a 1.5 mm Allen wrench. Remove the knobs from the caps.

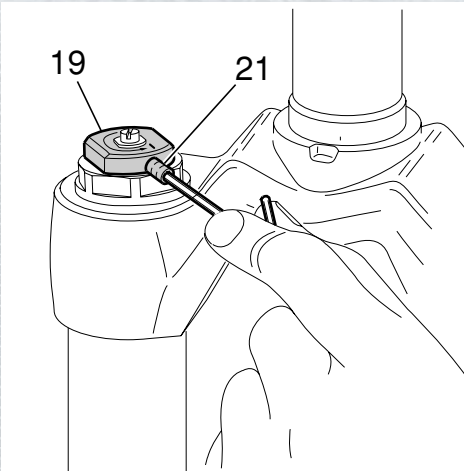
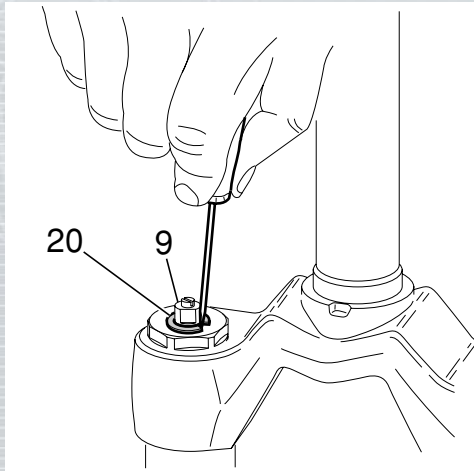


FIG. 3

Remove preload knob support (9) stop rings (20) from the top of the cap using a small screwdriver.

WARNING: never use the fork without upper cap otherwise the stanchion might detach from its slider.

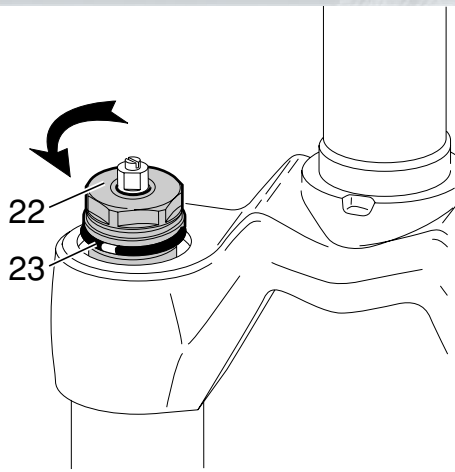


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FIG. 4

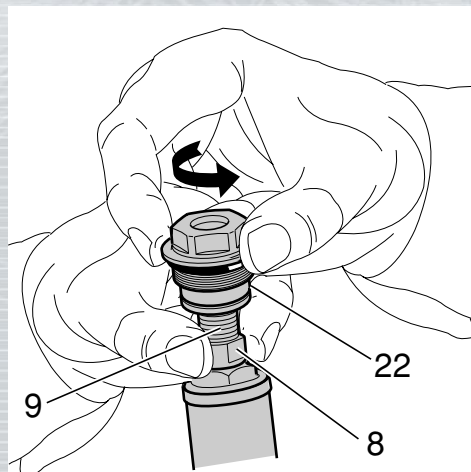
Unscrew the caps (22) with a 21 mm socket wrench.

Remove the caps complete with O-ring (23) from the outer sliders.

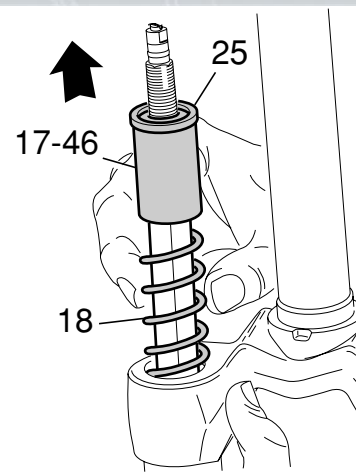
**FIG. 5**

Push down the outer sliders onto the stanchion tubes.

Lock the check nut (8) and remove the cap (22) from hydraulic cartridge top (9).

**FIG. 6**

Push the stanchion tubes into the sliders and remove the upper washer (25), the preload sleeve (17) or (46) and the spring (18). Remove all parts and let all the oil drain into the fork leg. By following this procedure, there is no need to check the oil level. Make all necessary changes.



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REMOVING HYDRAULIC CARTRIDGE

FIG. 7

Let all the oil drain out.



WARNING: dispose of exhausted oil in compliance with current laws.

To change the fork leg oil follow the procedure as described at section FILLING WITH OIL.

Turn the stanchion tube upside-down and unscrew the foot nut (1) complete with O-ring (2) using a 15 mm socket wrench.

FIG. 8

Pull the hydraulic cartridges (11) or (37) out of the stanchion tube.

Replace the whole hydraulic cartridges.

PILOT BUSHING AND SEAL ASSEMBLY CHANGE

FIG. 9

Remove dust seal (16) on end of outer slider (27) using a small screwdriver.

CAUTION: make sure not to score the stanchions (3) and (30) while removing the dust seal.

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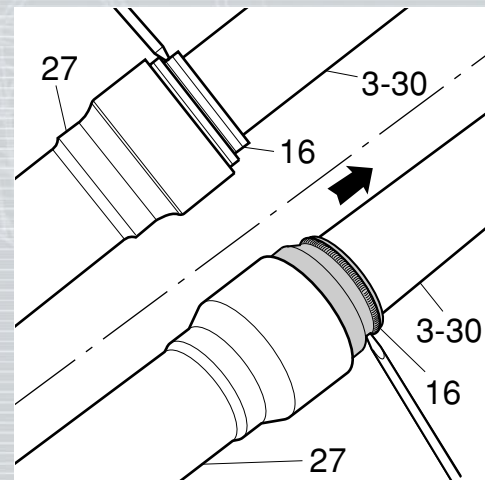
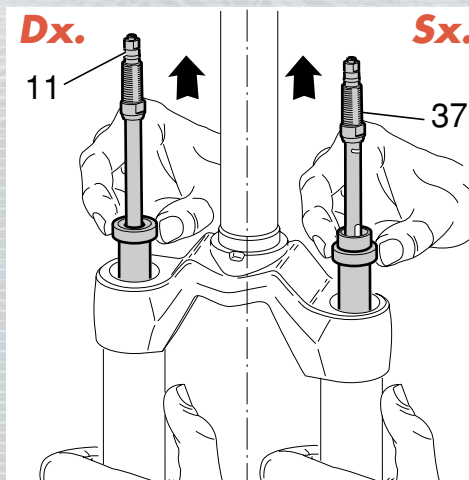
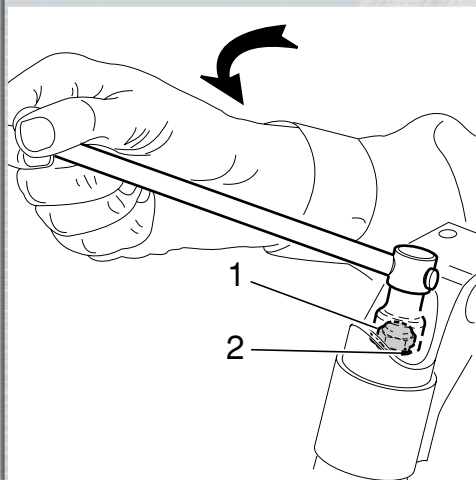


FIG. 10

Slide out stop ring (15) using the same screwdriver.

CAUTION: make sure not to damage the slider inner side and the stanchion while removing the stop ring.

FIG. 11

Slide out outer slider (27) from the stanchion (3) or (30). Pull components apart with strength. The seal ring (14), cap (13) and guide bushing (12) will be thus removed from the slider.

FIG. 12

Insert the tip of a flat screwdriver into the bushing slot to lever and remove guide bushing (40) from stanchion.

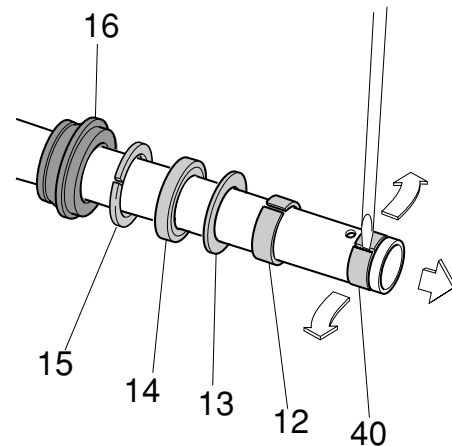
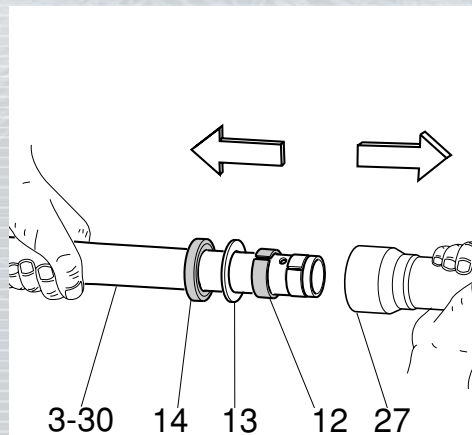
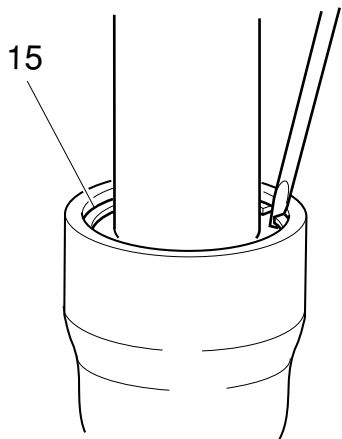
CAUTION: make sure not to score the stanchion while removing the bushing.

Then remove guide bushing (12), cap (13), seal ring (14), stop ring (15) and dust seal (16) from stanchion.

CAUTION: Do not reassemble the seal rings you have removed.

Before reassembly, check guide bushings for wear: replace if they show signs of scoring or scratches.

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REASSEMBLY

CAUTION: before reassembling, clean all metal parts carefully with inflammable and biodegradable solvent and dry them with compressed air.

PILOT BUSHING AND SEAL ASSEMBLY

FIG. 13

Protect the stanchion (3) and (30) end with adhesive tape in order not to damage the seals.

Follow this sequence to fit the components on the stanchion: dust seal (16) first, then stop ring (15), seal ring (14), cap (13) and guide bushing (12).

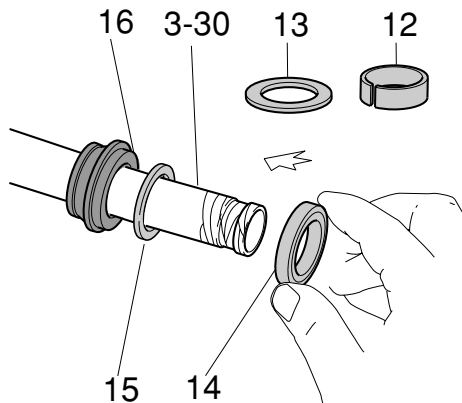


FIG. 14

Remove adhesive tape and clean-off any glue.

Insert the screwdriver tip into the guide bushing slot (40) to fit it on the stanchion: drive it on its location by hand.

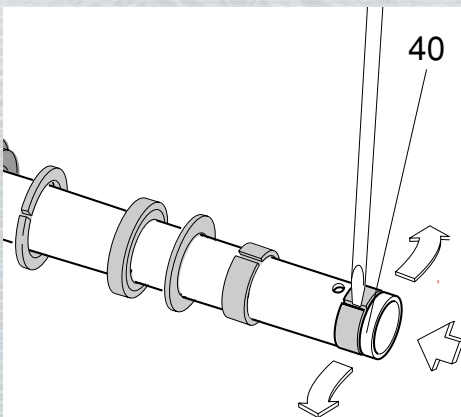


FIG. 15

Install the stanchion (3) and (30) with bushing into the outer slider (27) with max. care. Drive guide bushing (12), cap (13) and seal ring (14) manually until they contact the outer slider.

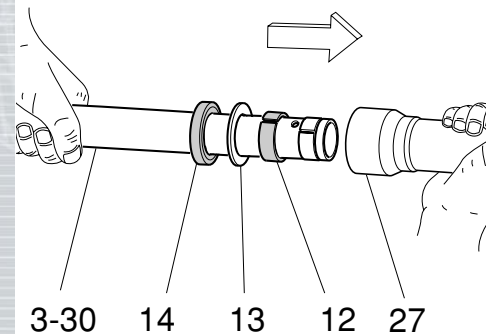


FIG. 16

Fit tool (A) onto stanchion (3) and (30) and use it to drive home guide bushing (12), cap (13) and seal ring (14).

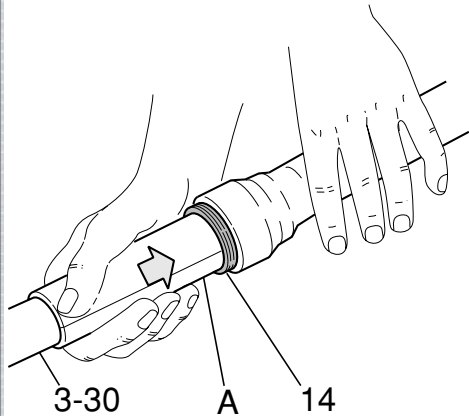
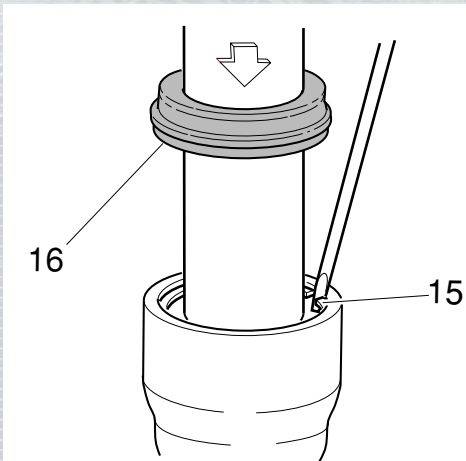


FIG. 17

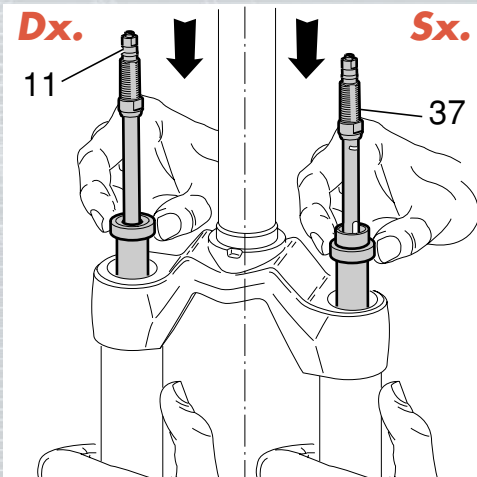
Fit stop ring (15). Make sure it is perfectly positioned into the outer slider groove and also not to score the stanchion. Refit the dust seal (16).



HYDRAULIC CARTRIDGE RE-FITTING

FIG. 18

Push the stanchions up to slider bottom. Fit the hydraulic cartridges (11) and (37) into the outer slider and push until they reach the bottom of stanchion.



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FIG. 19

Grease the O-ring (2) on the foot nut (1) and screw the nut on the hydraulic cartridge threaded end.

Tighten to specified torque.

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

HOW TO FILL WITH OIL**FIG. 20**

Pour the oil little by little when the outer sliders are fully down and then pump with the cartridges (11) and (37) rod so as to have a better filling.

Cartridge is full when no air is detected when pumping, in the completely closed position.

Check that oil level is 25 mm from the top of the outer slider in both fork legs.

RE-ASSEMBLING SPRING AND UPPER CAP**FIG. 21**

Fit spring (18), preload sleeve (17) or (46), and upper washer (25) in each fork leg.

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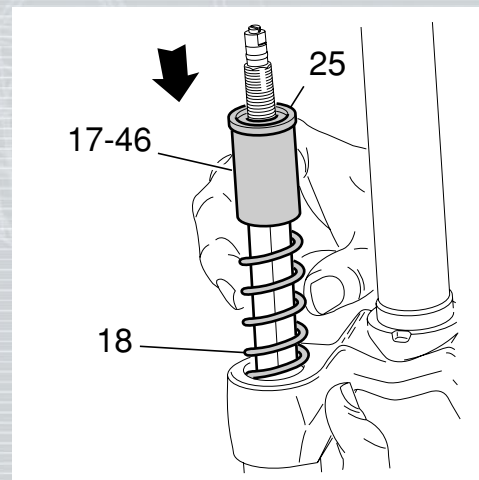
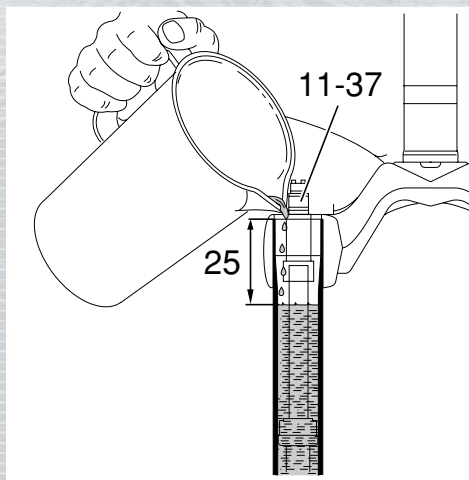
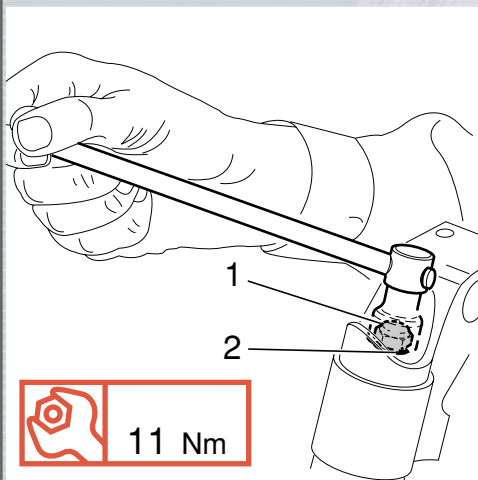


FIG. 22

Move the plunger (24, see exploded view), in the cap (22), to the minimum preload position.

Screw the cap (22) on preload knob support top (9) until it rests against the check nut (8).

Lock the check nut (8) on cap (22) with the wrenches used for disassembling.

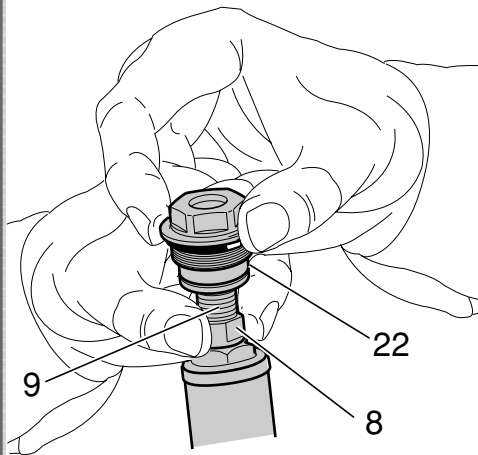


FIG. 23

Lift the slider and start the caps (22) onto the threads by hand. Tighten the caps to 20 Nm.

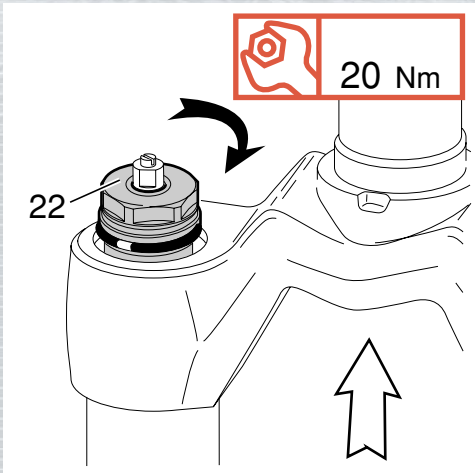


FIG. 24

Fit the stop ring (20) of the preload knob support and make sure it is properly seated into place.

WARNING: never use the fork without upper cap otherwise the stanchion might detach from its slider.

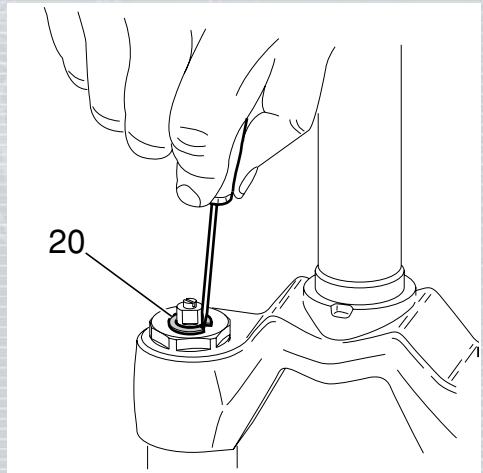


FIG. 25

Fit the preload knob (19) and secure it on the support by tightening the grub screw (21) to 1.5 Nm.

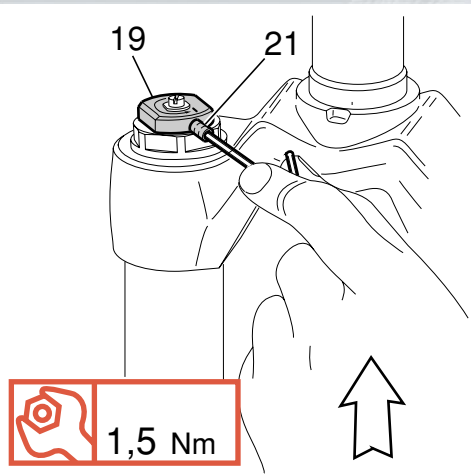
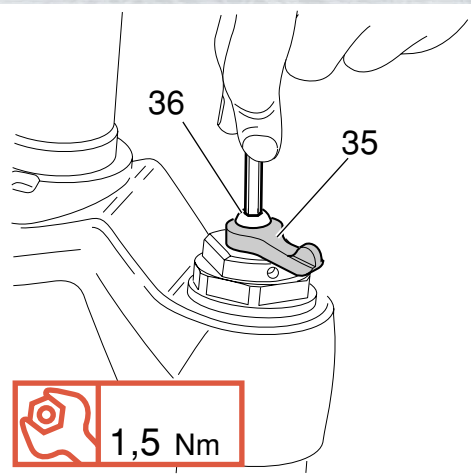


FIG. 26 (left leg only)

Set rebound limiting knob (35) on RH leg adjuster and tighten screw (36) to the torque of 1,5 Nm.



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SPECIFIC MARZOCCHI TOOLS

Ref.

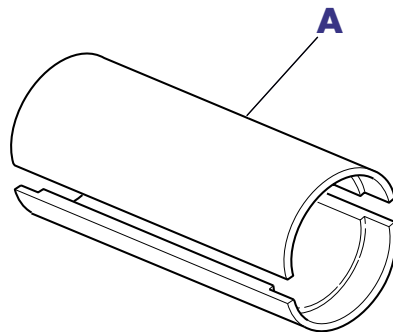
Item

Description and use

A

R 5107 AC

Oil seal press: to press oil seal into the slider



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