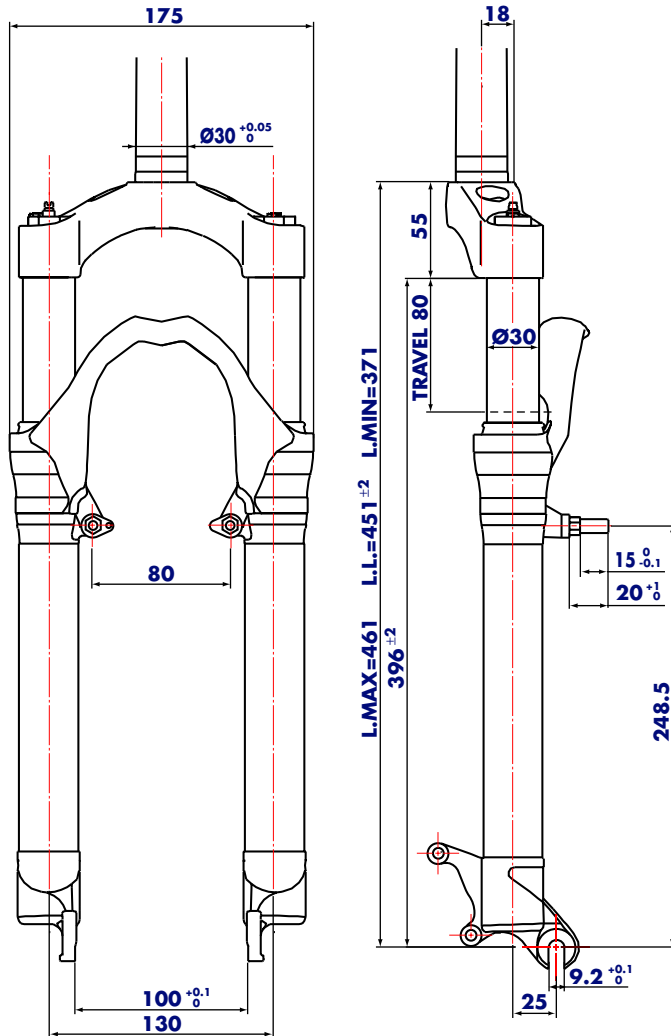


X-FLY (80)



GENERAL

- Special air/oil damped cross-country fork: each leg uses pressurized air blown through a special valve on stanchion caps as damping medium.
- The right leg rebound is damped by a hydraulic cartridge.
- Rebound damping adjustment controlled via external top right leg adjuster.
- Stanchions fitted into lower Crown by cryofit technique. Full length bushings guarantee superior rigidity.
- Sliders and arch are an integral assembly for reduced weight and improved rigidity.
- Parts subjected to friction are cooled and lubricated by a specially formulated oil.

Steer tube: EASTON aluminum steer tube available for 1 1/8" diameter, threadless.

Crown: Forged and CNC-machined BAM* aluminum alloy.

Arch: Cast magnesium alloy.

Stanchions: anodized aluminum with variable section.

Sliders: Forged and CNC-machined BAM* aluminum alloy. Left slider comes with supports for disc brake caliper.

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.

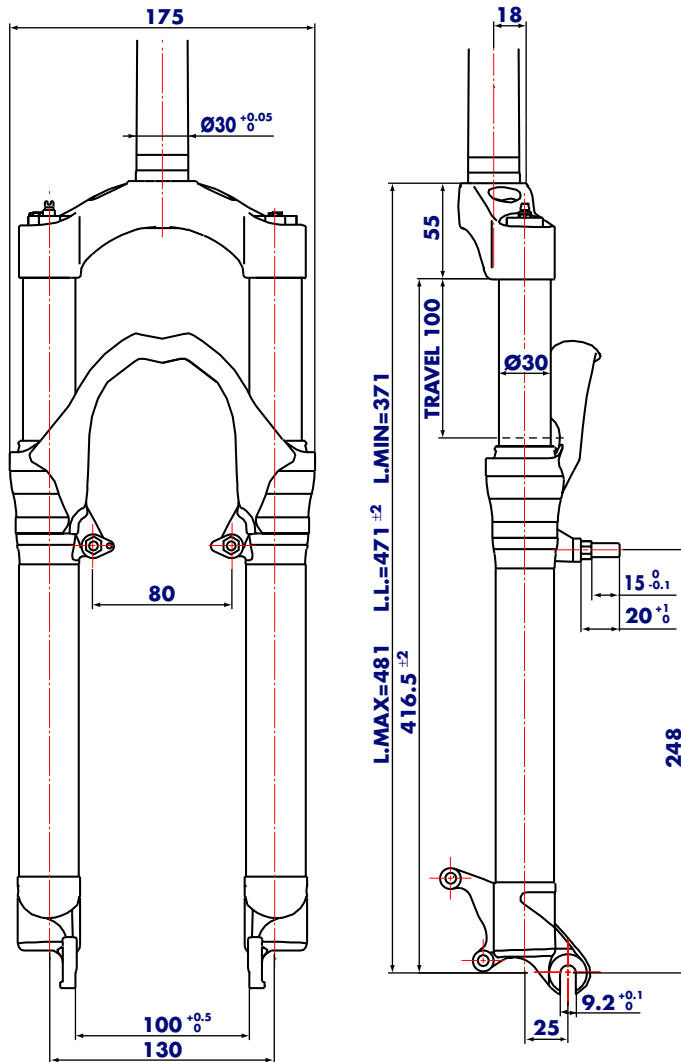
Fork leg oil: type EBH 16 - SAE 7.5.

- right leg 110 cc,
- left leg 85 cc.

* **BAM: Bomber Aerospace Material.**

Special alloy developed from aerospace material.

X-FLY (100)



GENERAL

- Special air/oil damped cross-country fork: each leg uses pressurized air blown through a special valve on stanchion caps as damping medium.
- The right leg rebound is damped by a hydraulic cartridge.
- Rebound damping adjustment controlled via external top right leg adjuster.
- Stanchions fitted into lower Crown by cryofit technique. Full length bushings guarantee superior rigidity.
- Sliders and arch are an integral assembly for reduced weight and improved rigidity.
- Parts subjected to friction are cooled and lubricated by a specially formulated oil.

Steer tube: EASTON aluminum steer tube available for 1 1/8" diameter, threadless.

Crown: Forged and CNC-machined BAM* aluminum alloy.

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Stanchions: anodized aluminum with variable section.

Sliders: Forged and CNC-machined BAM* aluminum alloy. Left slider comes with supports for disc brake caliper.

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.

X-FLY

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

Oil leaking through the top of the slider

Oil leaking through the bottom of slider

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

Pressure drop

Excessive play of stanchions in the sliders

Fork rebounds too fast in any adjuster position

Adjuster position does not affect fork operation

CAUSES

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

O-ring on the pumping rod or on cartridge securing nut bottom damaged

Oil seals and dust seals tend to stick to stanchions

Cap valve damaged

Pilot bushings worn out

Dirt inside fork legs

Dirt inside legs

REMEDIES

- 1. Replace oil seal*
- 2. Replace crown/stanchions assembly, oil seals and dust seals*
- 3. Clean the oil seal seat and replace oil seal*

Replace the O-ring

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

Replace cap and/or valve

Replace bushings

Clean carefully and change oil

Clean carefully and change oil

X-FLY

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

 **WARNING:** If a disc brake system is installed, it is absolutely forbidden to loosen and remove original brake supports fixing pins. In fact, apart from retaining Cantilever or V-brake levers, they also play an important role in securing slider bottom to slider-arch monolith. If needed, replace these pins with screws (part no. **532979QF**) available as spare parts.

Tighten the above screws to 15 Nm.

IMPORTANT: screw and pin threading is treated to ensure hydraulic seal. Never reuse screws and pins which have been removed.

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.

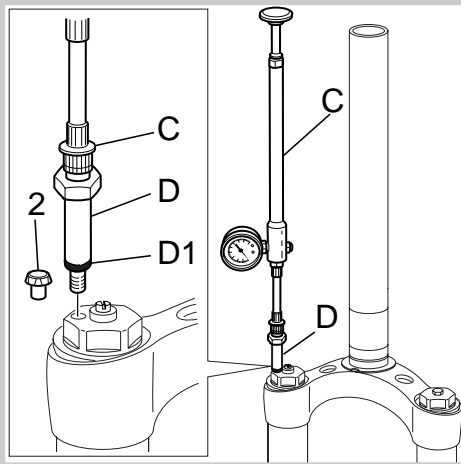
ADJUSTMENTS

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.

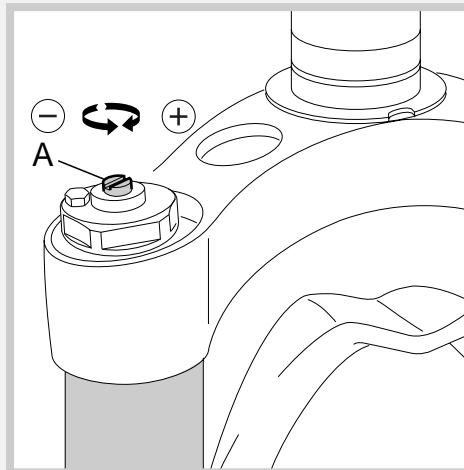
NOTE: in case of air leakages when adapter fitting **(D)** is fitted, ensure that the O-ring **(D1)** is not damaged.



REBOUND ADJUSTMENT

The right fork leg is equipped with an adjuster screw **(A)** 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.

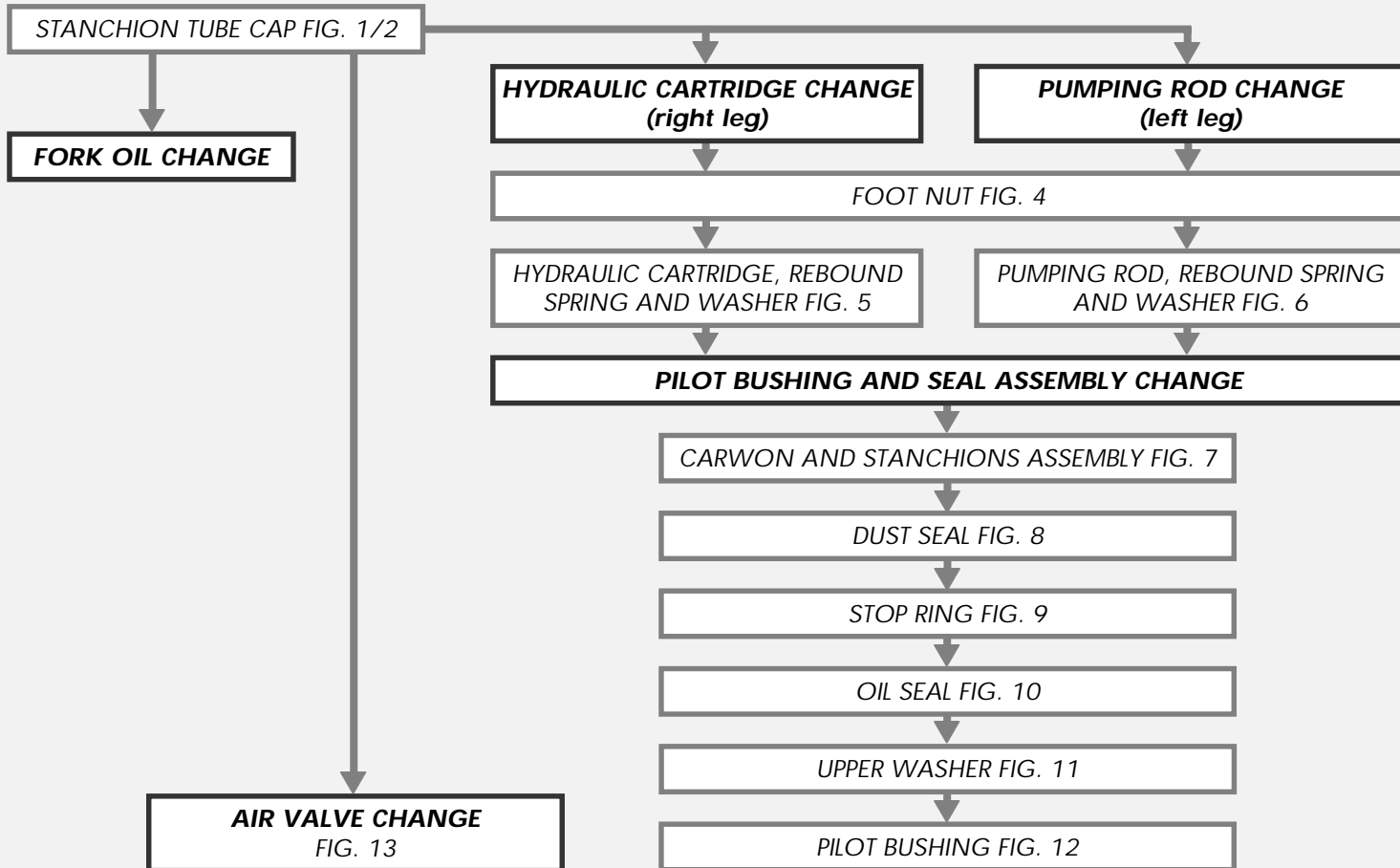


DISASSEMBLY

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



X-FLY

FIG. 1

Depressurize each fork leg (see section ADJUSTMENT).

Unscrew the caps (6) and (7) with a 21 mm socket wrench.

Remove the cap (6) complete with O-ring (5) from the left stanchion tube.

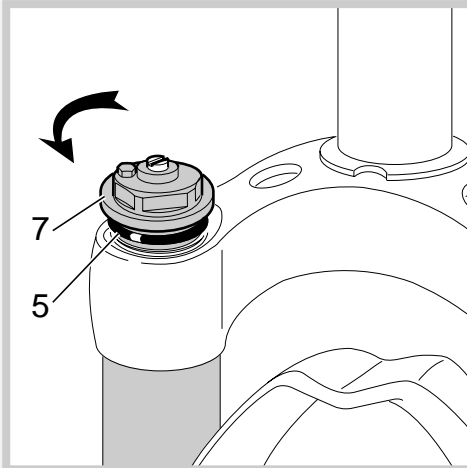


FIG. 2 (only right leg)

Lock the check nut (26) and remove the cap (7) from hydraulic cartridge end (12).

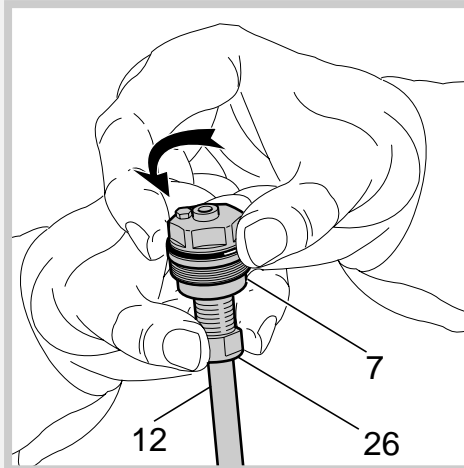


FIG. 3

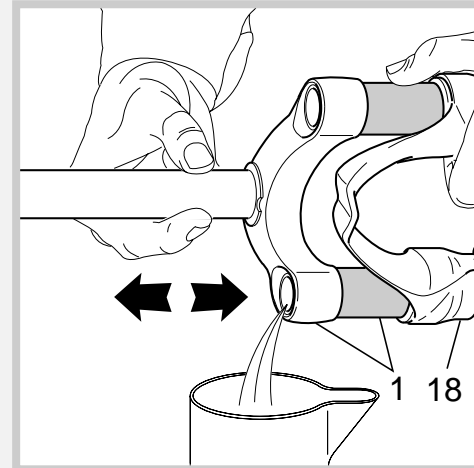
Push the stanchions (1) into the sliders (18) and let all the oil drain out from the fork legs.

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. 22 to Fig. 24.



HYDRAULIC CARTRIDGE CHANGE AND PUMPING ROD CHANGE

FIG. 4

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).

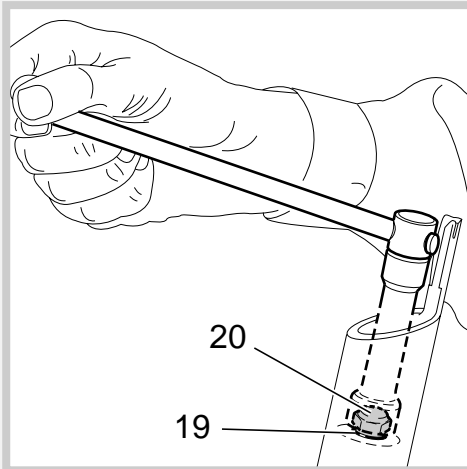


FIG. 5 (only right leg)

Pull the hydraulic cartridge (12) complete with rebound spring (9) and foot washer (23, see exploded view) out of the R.H. stanchion tube.

Replace the whole hydraulic cartridge.

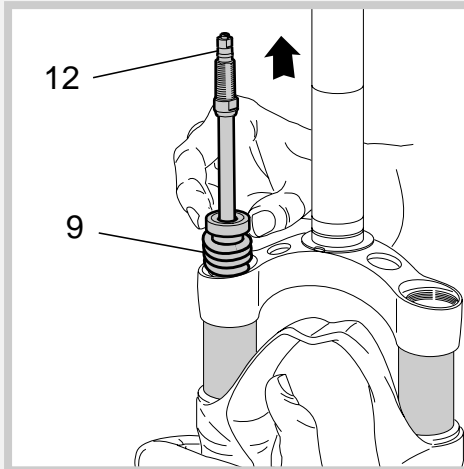


FIG. 6 (only left leg)

A pumping rod (8) complete with rebound spring (9) and foot washer (23, see exploded view) is fitted into the L.H. leg, inside the stanchion.

Withdraw the above parts from the tube top by pushing them from slider bottom.

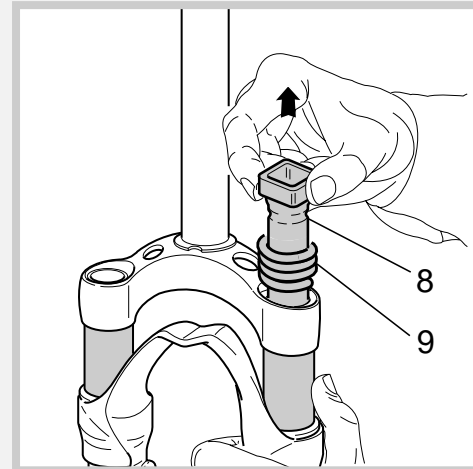


FIG. 7

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

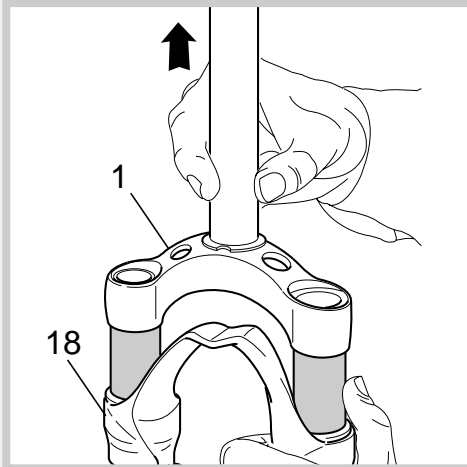


FIG. 8

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

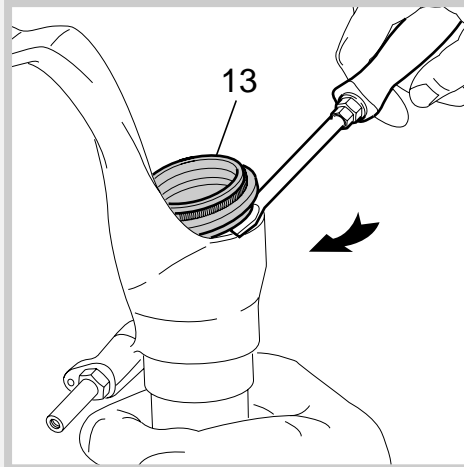


FIG. 9

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.

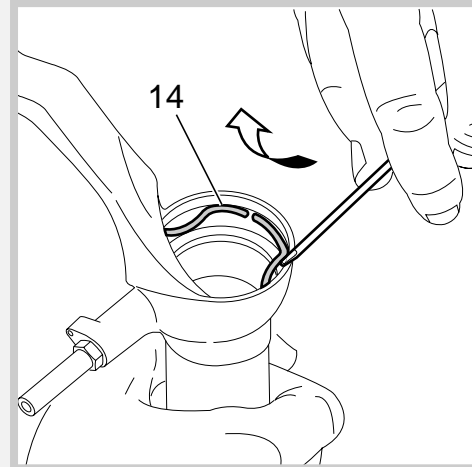


FIG. 10

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

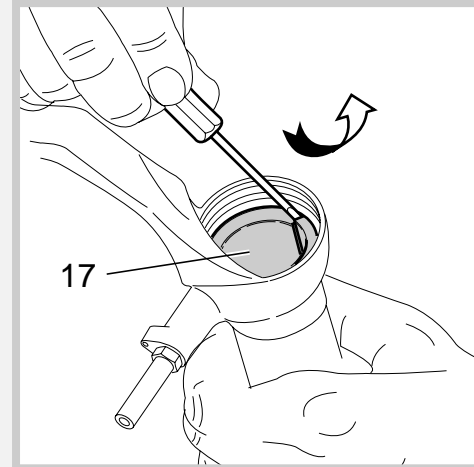
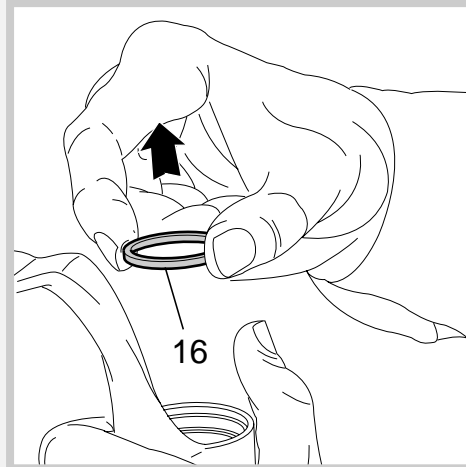
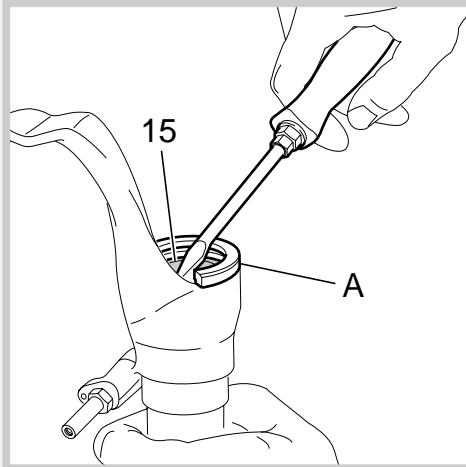
IMPORTANT: when removing the oil seal, make sure not to damage its seat. Once removed the oil seals should not be used again.

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.



REPLACING AIR VALVE

FIG. 13

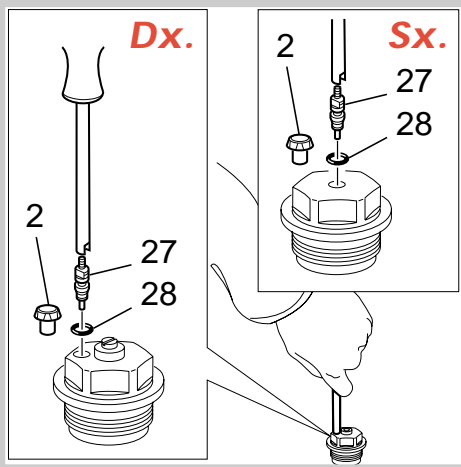
This operation can be performed when fork is fully assembled and fitted on bike, but only after draining inner pressure.

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 (27) and its O-ring (28) 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 (28) and screw the air valve (27) 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. 14

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.

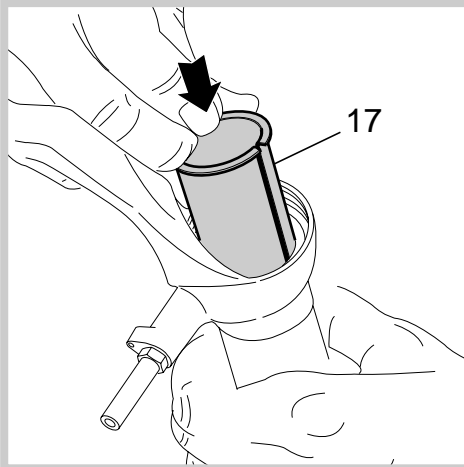


FIG. 15

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

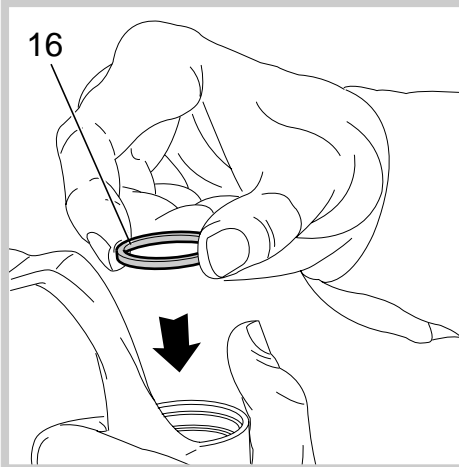


FIG. 16

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.

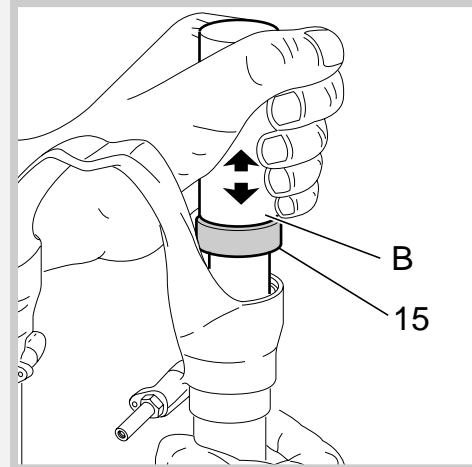


FIG. 17

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.

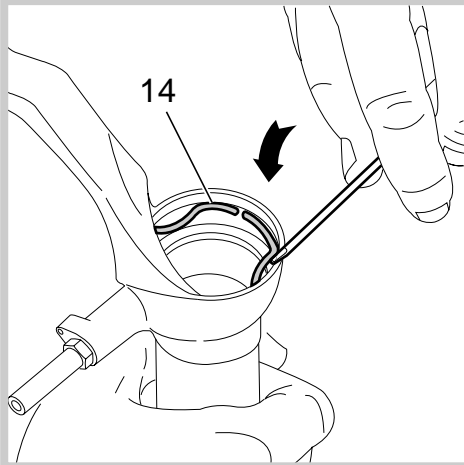
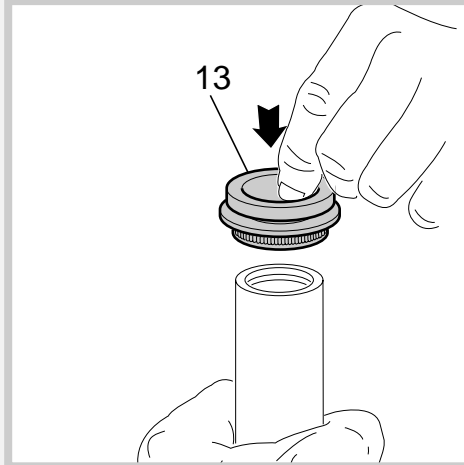


FIG. 18

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



CROWN AND STANCHIONS ASSEMBLY

FIG. 19

Fit the crown and stanchions assembly (1) - with the dust seals in place - gently into the sliders seals.

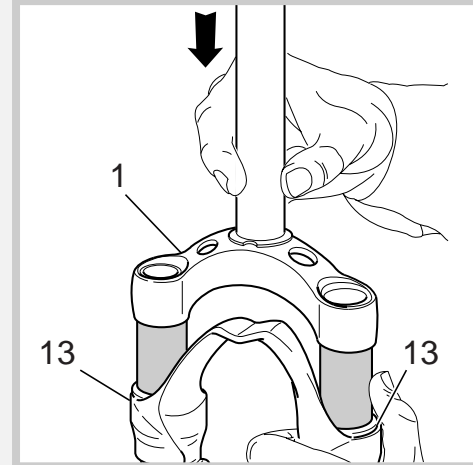


WARNING: to avoid any damages to sealing surfaces, keep the stanchions duly lubricated and squared into the sliders.

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 (right leg) AND PUMPING ROD (left leg)

RE-ASSEMBLY

FIG. 20

Push the stanchions up to slider bottom.
Fit the hydraulic cartridge (12) complete with the rebound spring (9) and foot washer (23, see exploded view) into the R.H. stanchion and push until it reaches the bottom.

Fit the pumping rod (8) complete with rebound spring (9) and foot washer (23, see exploded view) into the L.H. stanchion and push to the bottom.

FIG. 21

Lubricate O-Rings (19) on the foot nuts (20) and screw them onto the pumping rod (8) and cartridge (12) threaded end. Tighten to 12 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. 22

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.

X-FLY

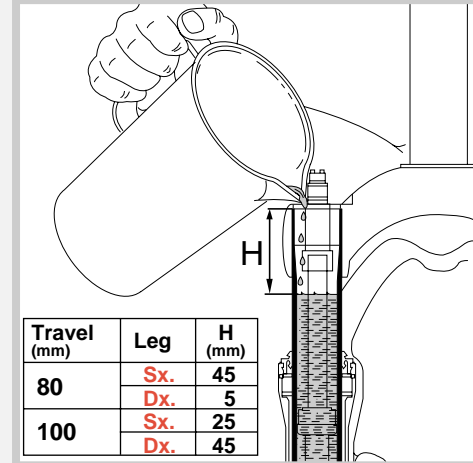
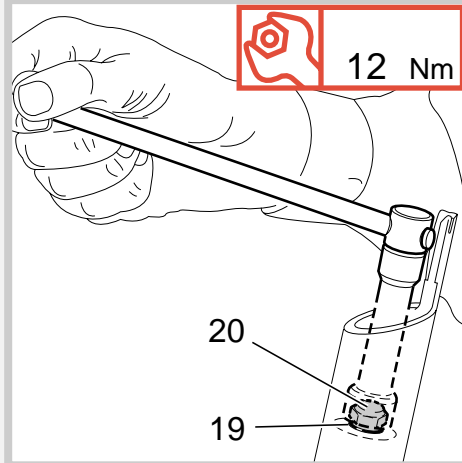
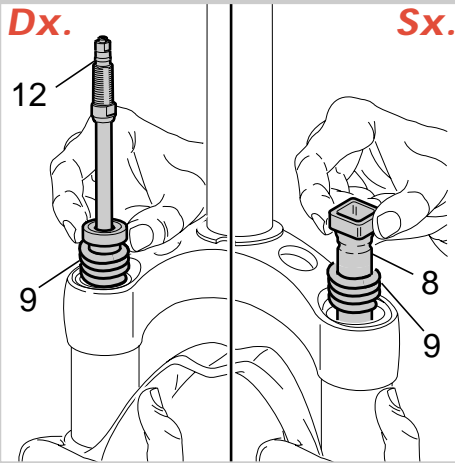
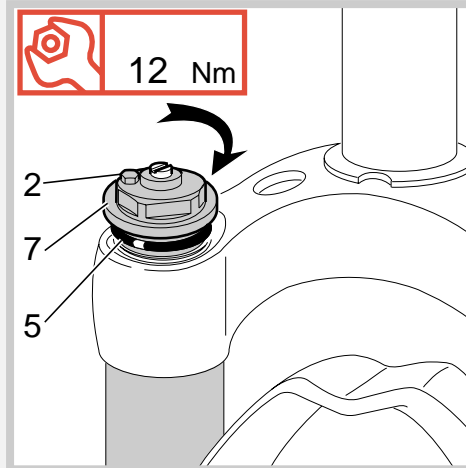
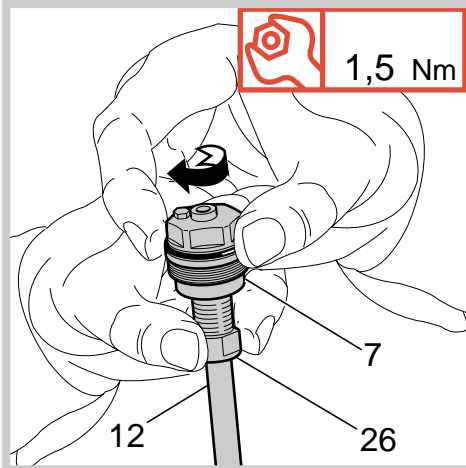


FIG. 23 (only right leg)

Screw the cap (7) on hydraulic cartridge end (12) and tighten to proper torque. Lock check nut on cap.

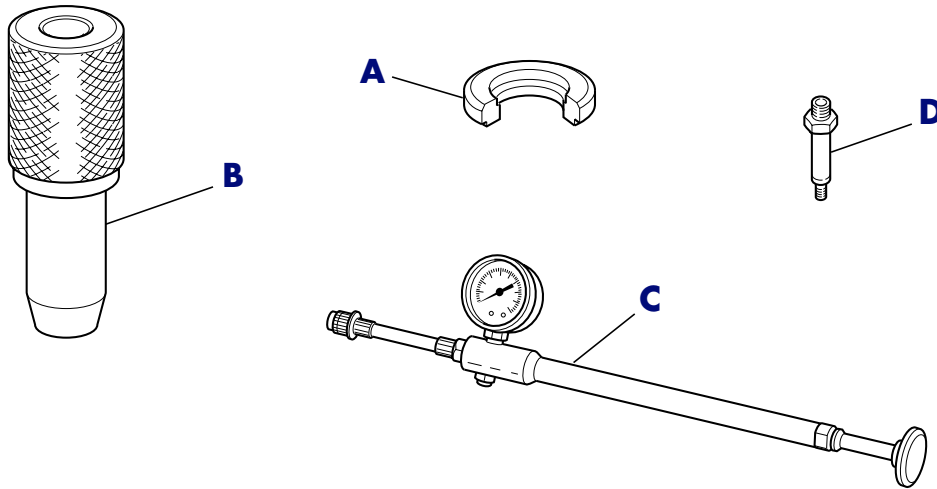
FIG. 24

Lubricate O-Rings (5) on caps and lift the stanchions, start the cap (7) onto the threads by hand. Screw cap (6) onto LH stanchion tube and tighten both caps to 12 Nm. Pressurize as shown in section ADJUSTING.



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



X-FLY