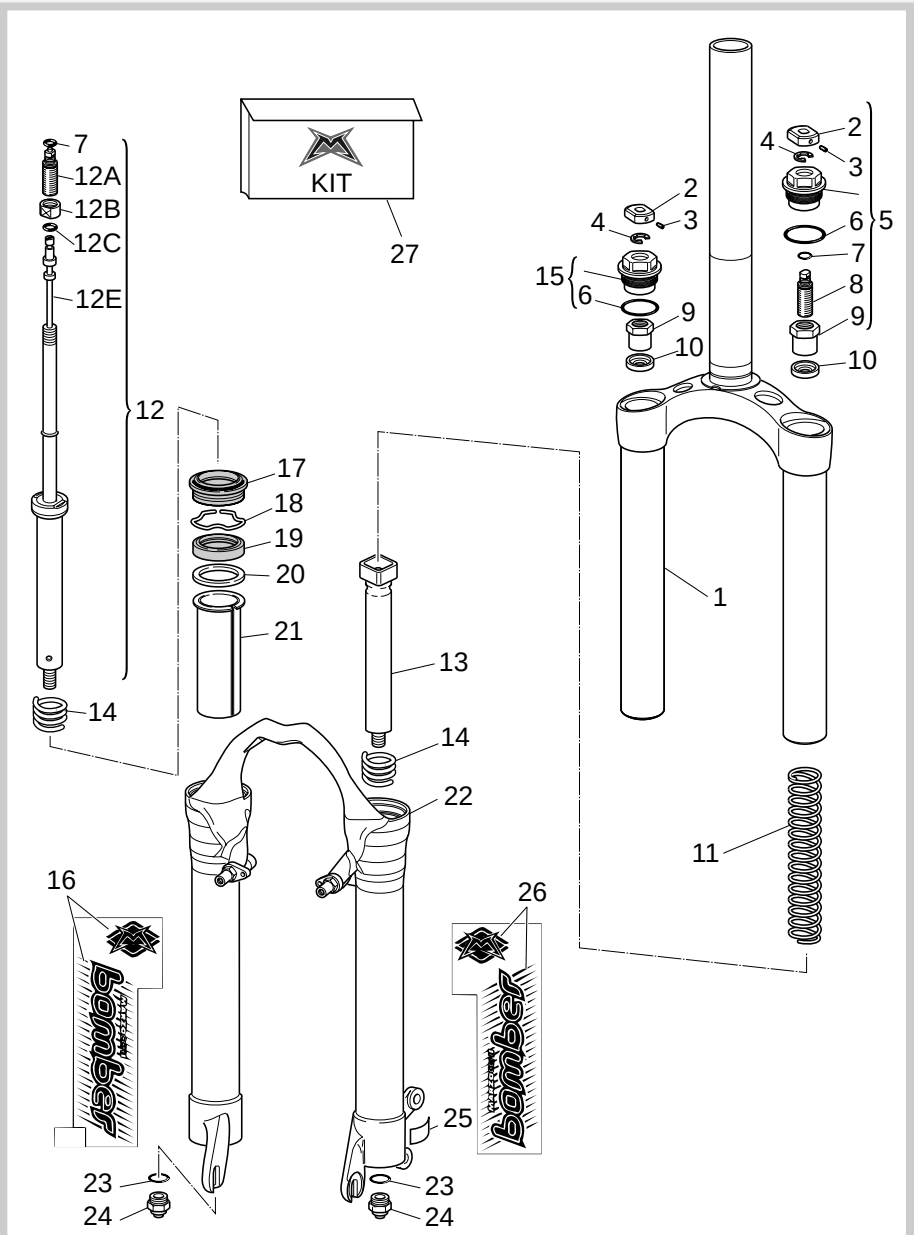
Z2

ATOM 80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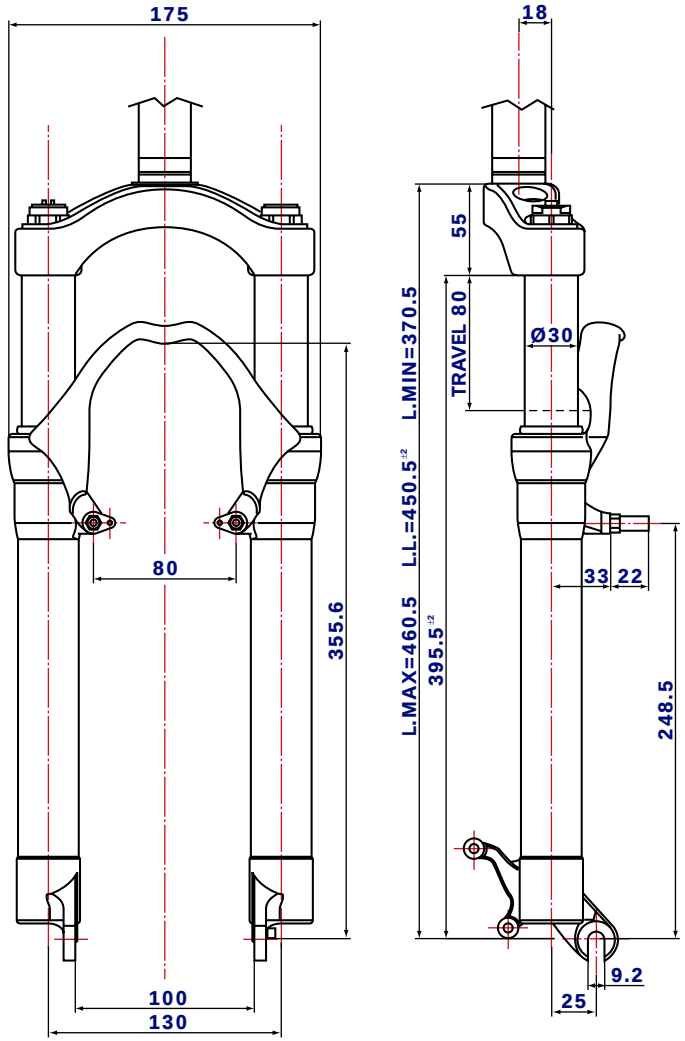
Z2 ATOM 80



GENERAL

- *Special cross-country fork whose legs are damped by a differentiated system.*
- *Both legs use a mechanical coil spring system for compression damping*
- *The right leg is also damped by a hydraulic cartridge.*
- *Spring pre-load adjustment (in both legs) and rebound damping (right leg only) controlled via external top mount adjusters.*
- *Stanchions fitted into steering 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 tubes available for 1 1/8" diameter, threadless.*
Crown: *Forged and CNC-machined BAM* aluminum alloy.*
Arch: *Forged and CNC-machined BAM* aluminum alloy.*
Stanchions: *anodized EASTON aluminum with variable butting.*
Sliders: *Forged and CNC-machined BAM* aluminum alloy. Left slider equipped with disc brake adapter.*
Slider bushing: *Full length guide bushing 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 90 cc,*
– *left leg 100 cc.*

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

INSTRUCTIONS

GENERAL RULES FOR CORRECT OVERHAULING AND MAINTENANCE

1. *Where specified, assemble and disassemble the shock absorption system using the MARZOCCHI special tools only, as shown in the table below.*
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.*
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.*

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 slider	1. Oil seal is worn out 2. Stanchion tube is scored 3. Excessive dirt on oil seal	1. Replace oil seal 2. Replace oil seal and stanchions and crown assembly 3. Clean the oil seal seat and replace oil seal
Oil leaking through the bottom of slider	O-ring on the cartridge seal nut and/or pumping rod 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 stanchion tube	Raise dust seal and lubricate stanchion tube, dust seal and oil seal with silicone grease
Fork rebounds too fast even though the adjuster is set to hardest damping position (right leg)	Cartridge is faulty	Replace hydraulic cartridge
Excessive play of stanchions in the sliders	Pilot bushings are worn	Replace pilot bushings

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.

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

INSTALLATION

Installing the Z2 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.*
Have the steer tube changed at one of our Technical Service Centers only.

***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.*

***WARNING:** Brake supports feature fixing pins or - as an option - bolts. Never remove these pins (or bolts), as they help keep brake arch-sliders-assembly locked securely together.*

DISC BRAKE SYSTEM ASSEMBLY

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.
Be sure to properly follow the instructions given by the manufacturer when installing the brake disc system.

ADJUSTMENTS

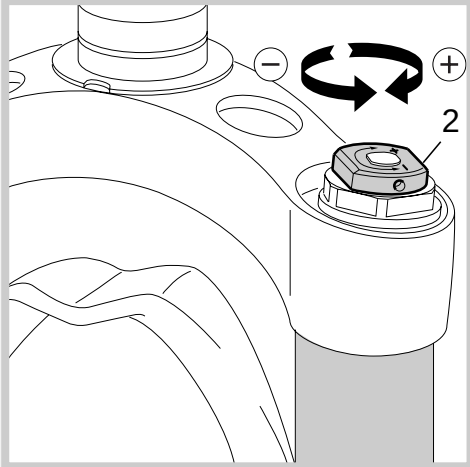
SPRING PRELOAD (Fig. A)

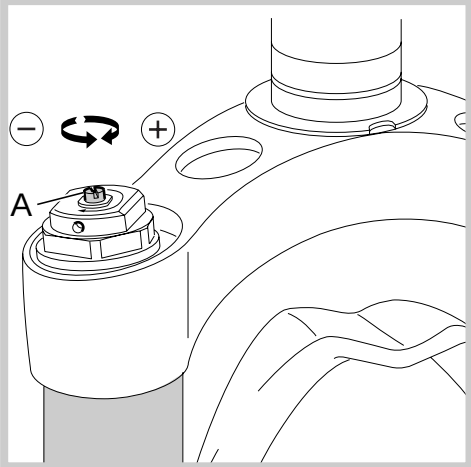
The spring preload determines COMPRESSION damping and can be adjusted by turning the knob (2) on top of the fork legs. From the factory the Z2 is set with the minimum preload, i.e. the adjustment knob is completely unscrewed counterclockwise. However, the springs are slightly preloaded to help counteract 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 Z2 response for the rider's weight and riding style.

REBOUND ADJUSTMENT (Fig. B)

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.



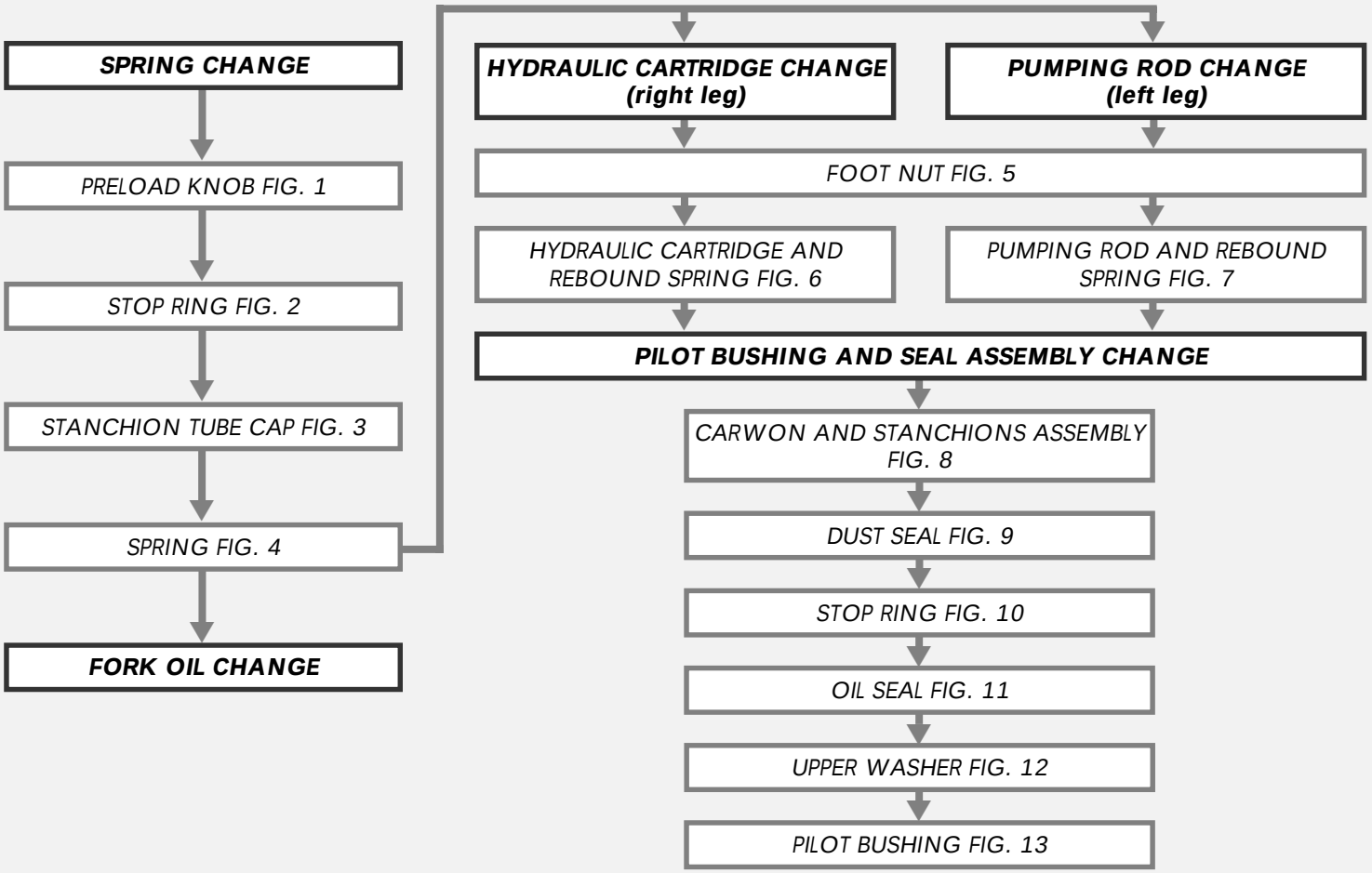


DISASSEMBLY

GENERAL

– *The reference numbers given in this section relate to the components shown in the 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



SPRING CHANGE

FIG. 1

Set knob (2) to minimum preload.
Loosen the small grub screw (3) fastening the preload knob by means of a 1.5 mm Allen wrench. Remove the knob from the cap.

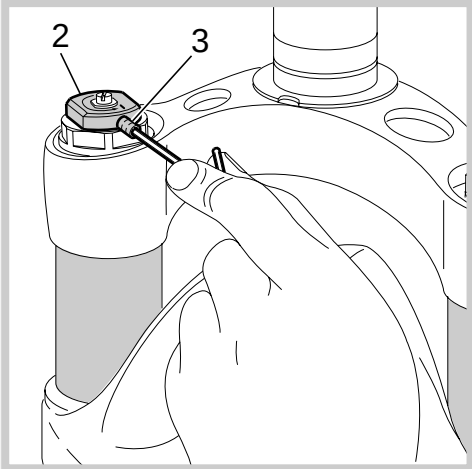


FIG. 2

Remove the stop ring (4) from the top of the preload knob support with a small screw-driver.

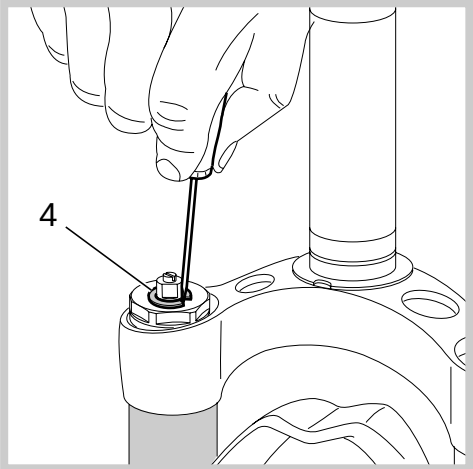


FIG. 3

Unscrew the caps (5/28) with a 21 mm socket wrench.
Remove the caps complete with O-ring (6) from the stanchion tubes.

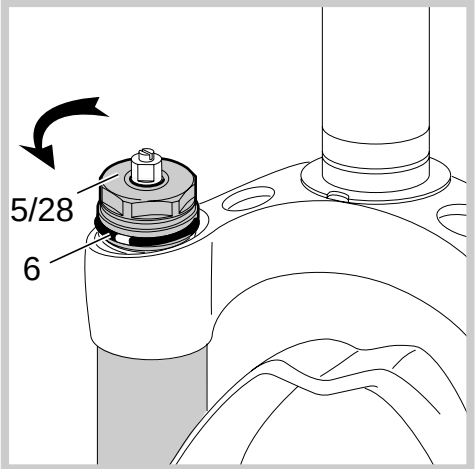
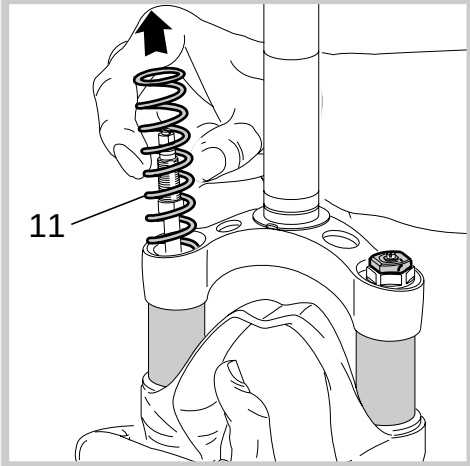


FIG. 4

Push the stanchion tubes into the sliders and remove the spring (11).
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.



HYDRAULIC CARTRIDGE CHANGE (right fork leg) AND PUMPING ROD CHANGE (left fork leg)

FIG. 5

Drain all oil from the fork legs.

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. 27. Turn the fork leg upside-down and unscrew the foot nut (24) complete with O-ring (23) by the use of a 15 mm socket wrench.

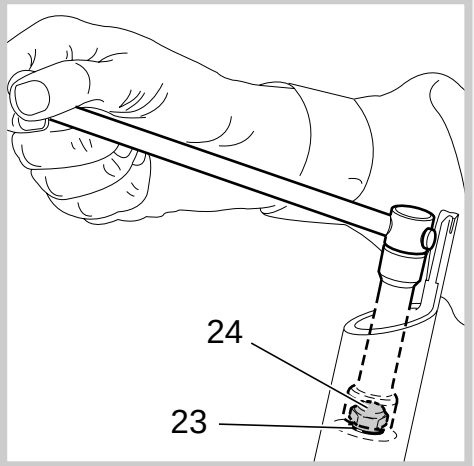


FIG. 6

Pull the hydraulic cartridge (12) complete with rebound spring (14) out of the R.H. stanchion tube.
Replace the whole hydraulic cartridge.

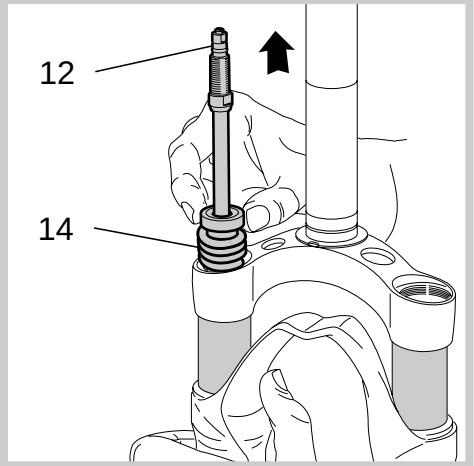
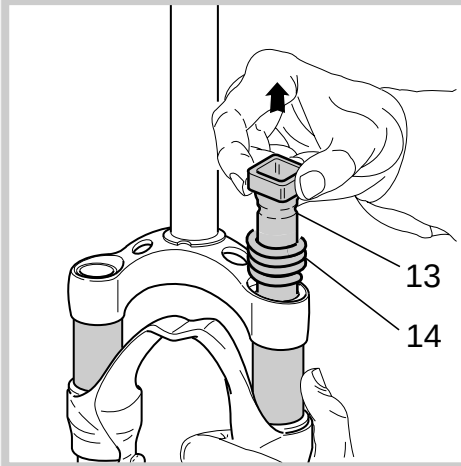


FIG. 7

A pumping rod (13) complete with rebound spring (14) is fitted into the L.H. leg, inside the stanchion. Withdraw the above parts from the tube top by pushing them from slider bottom.



PILOT BUSHING AND SEAL ASSEMBLY CHANGE

FIG. 8

Pull the crown and stanchions assembly (1) completely out of the sliders (22).

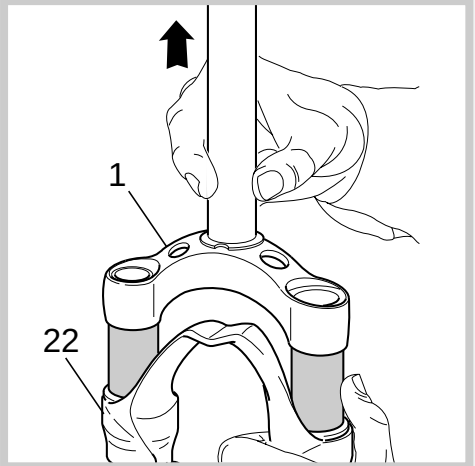


FIG. 9

Use a small screwdriver and remove the dust seal (17) from the top of the slider.

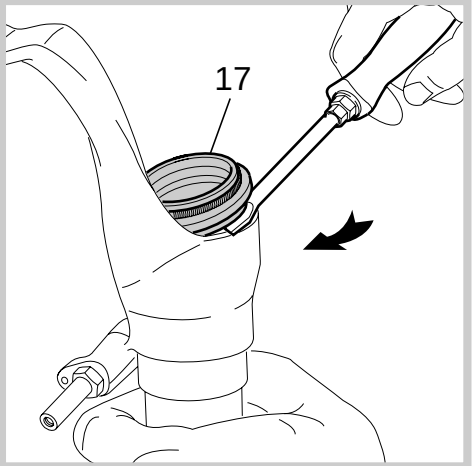


FIG. 10

Remove the stop ring (18) from the slider by placing the screwdriver bit in one of the three openings on the stop ring and carefully lifting the ring out of place.

IMPORTANT: *when removing the stop ring, make sure not to damage its seat.*

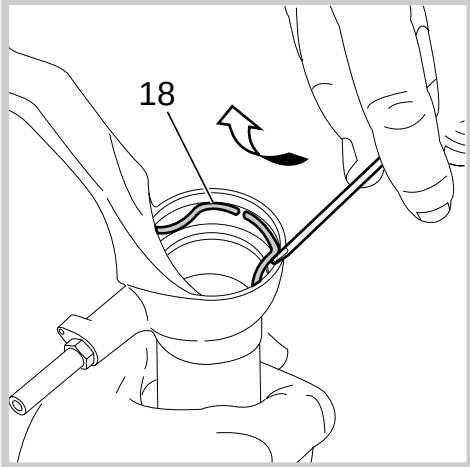


FIG. 11

Fit the slider protector (A) onto the slider and remove the oil seal (19) with the help of a large slot screwdriver.

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

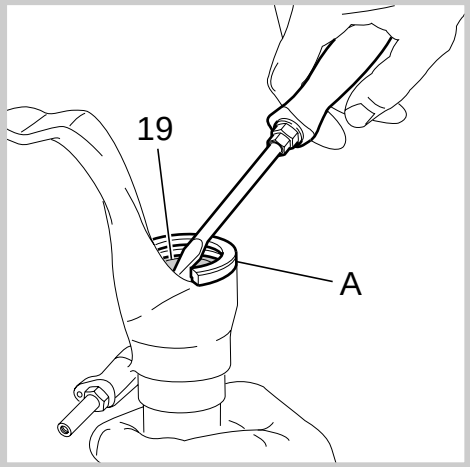


FIG. 12

Remove the upper washer (20) from the slider.

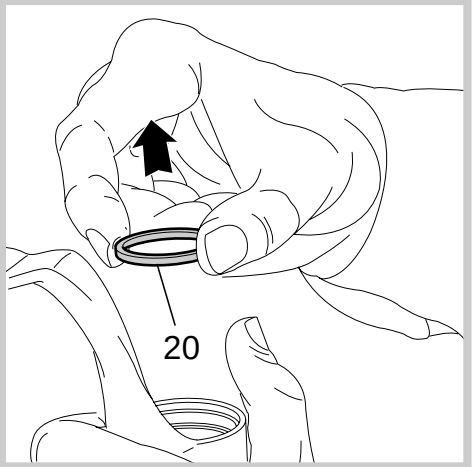
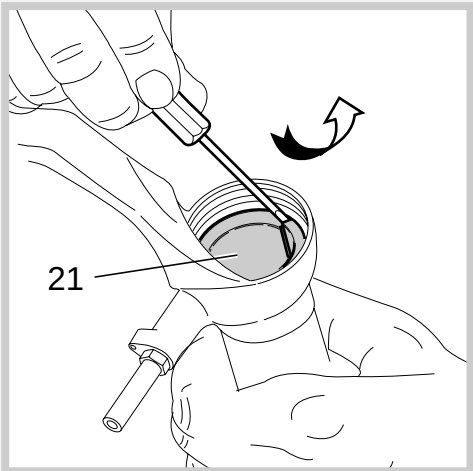


FIG. 13
Fit the bit of a small screwdriver into the upper edge slot of the pilot bushing (21) and lift gently. Pull the bushing out of the slider and make all necessary changes.



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. 14

Check that no dirt or debris is between slider and bushing. Insert the pilot bushing (21) into place so that it adheres to the slider.

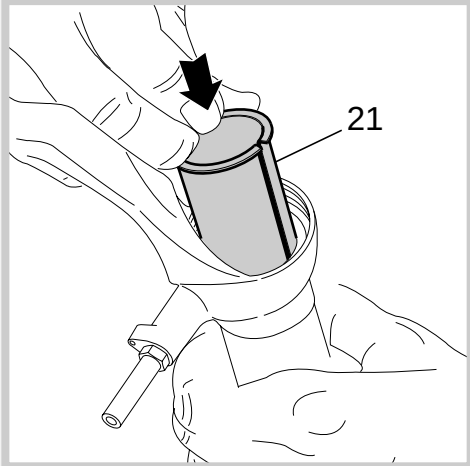


FIG. 15

Fit the upper washer (20) into the slider so that it touches the pilot bushing.

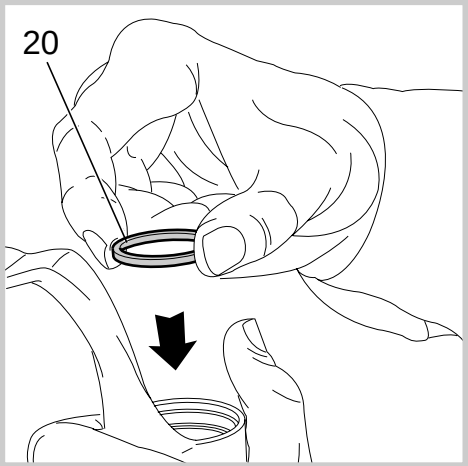


FIG. 16

Lubricate the oil seal (19) and place it onto the seal press (B) with the hollow side toward the slider.

Press the oil seal into place until it touches the lower washer by using the above seal press.

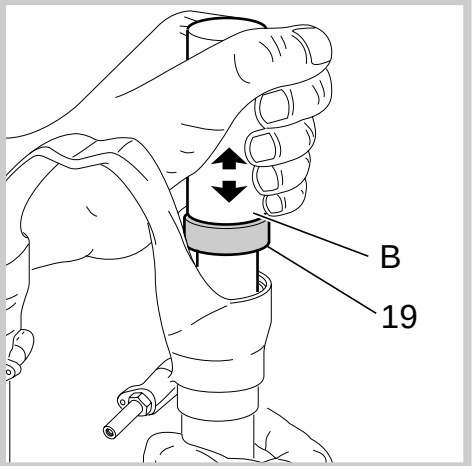


FIG. 17
Insert the stop ring (18) making sure it is properly seated into place.

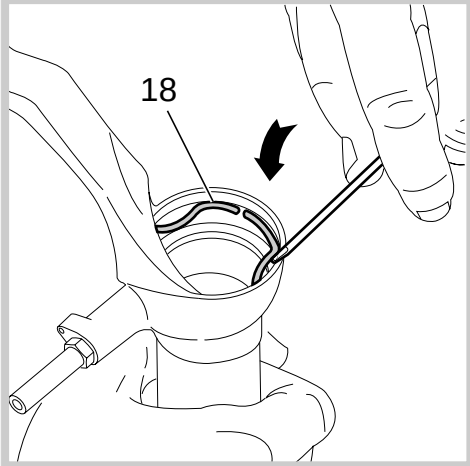
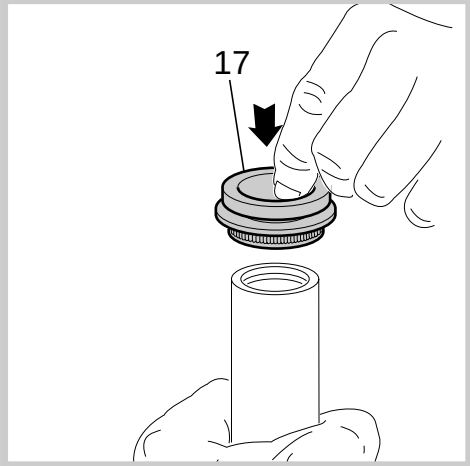


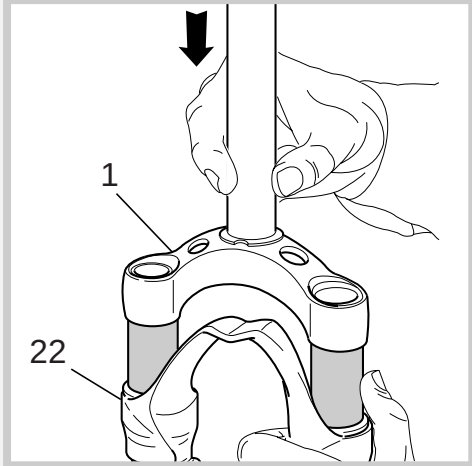
FIG. 18
Lubricate the dust seals (17) and fit them into the stanchions from the spring end.



CROWN AND STANCHIONS ASSEMBLY
FIG. 19
Fit the stanchions and crown assembly with the dust seals (17) in place gently into the sliders seals (22).

WARNING: *Be sure to fit the stanchions squarely into the sliders or the sealing surfaces will damage.*

Check to see that the stanchion tube slides 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.
Place the dust seals (17) on top of the sliders.



HYDRAULIC CARTRIDGE (right leg) AND PUMPING ROD (left leg)
FIG. 20

Push the stanchions up to slider bottom.
Fit the hydraulic cartridge (12) complete with the rebound spring (14) into the R.H. stanchion and push until it reaches the bottom.
Fit the pumping rod (13) complete with rebound spring (14) into the L.H. stanchion and push to the bottom.

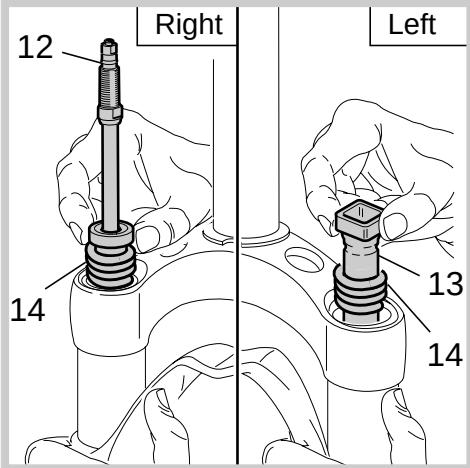
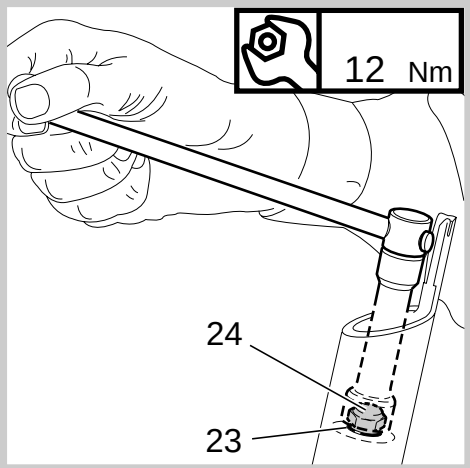


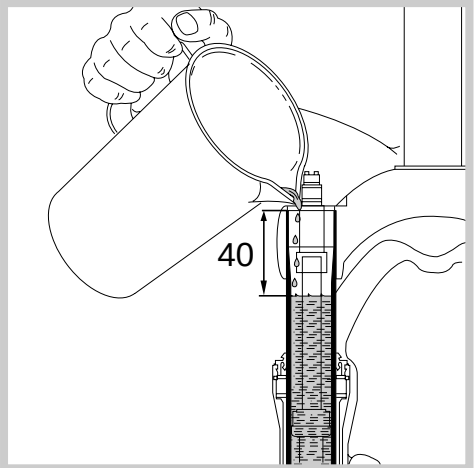
FIG. 21

Grease the O-ring (23) on the foot nut (24) and screw the nut on the threaded end of both the hydraulic cartridge and the pumping rod.
Tighten to 12 Nm.
Check to verify that the stanchion tubes slide properly through the stroke by pumping them up and down several times.



HOW TO FILL WITH OIL
FIG. 22

Pour the oil little by little when the stanchion tubes are fully down and then pump with the cartridge (12) 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 40 mm / 1.57 in. from the top of the stanchion tube in both fork legs.



SPRING AND CAP

FIG. 23

Fit the spring (11) into the stanchion tubes. Move the preload adjuster (9), in the cap, to the minimum preload position. Lubricate the O-ring (7) on the top of the preload knob support (right leg only) and the O-ring (6) on the cap (5/28).

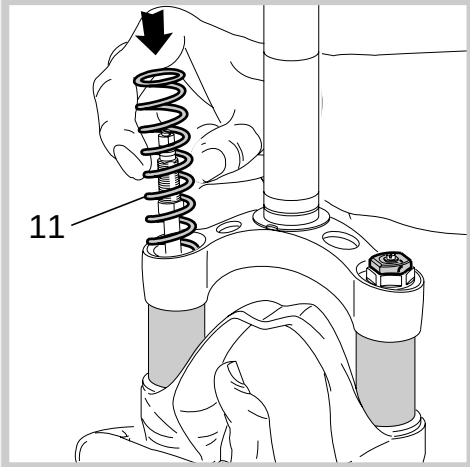


FIG. 24 (right leg only)

Screw the cap (5) complete with preload adjuster (9) and lower washer (10) onto the cartridge (12) rod. Screw cap all the way in.

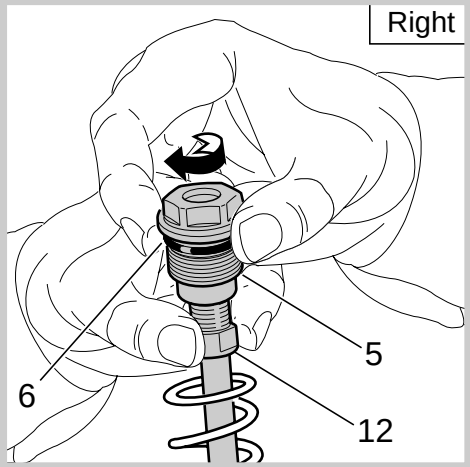


FIG. 25

Lift the stanchion tubes and start the caps (5/28) onto the threads by hand. Tighten the caps to 12 Nm.

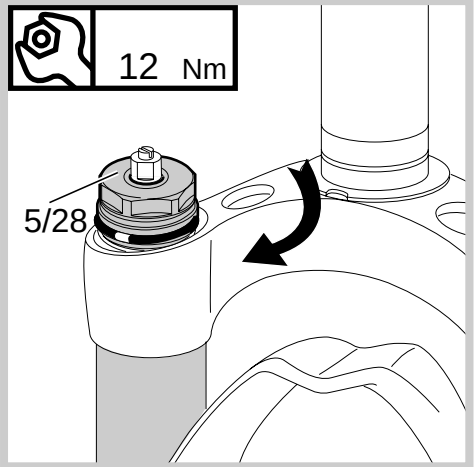


FIG. 26

Fit the stop ring (4) of the preload knob support and make sure it is properly seated into place.

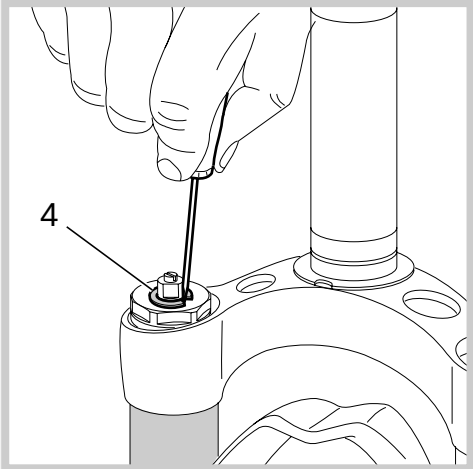
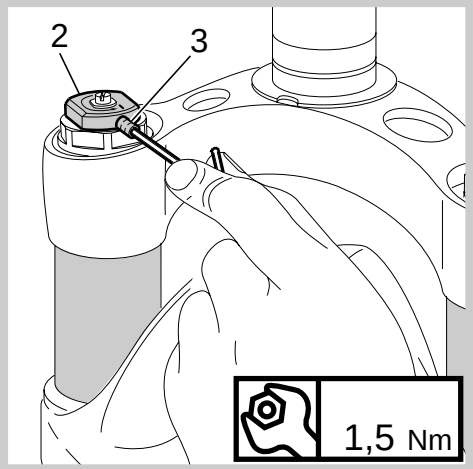


FIG. 27

Fit the preload knob (2) and secure it on the support by tightening the grub screw (3) to 1.5 Nm.



SPECIFIC 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