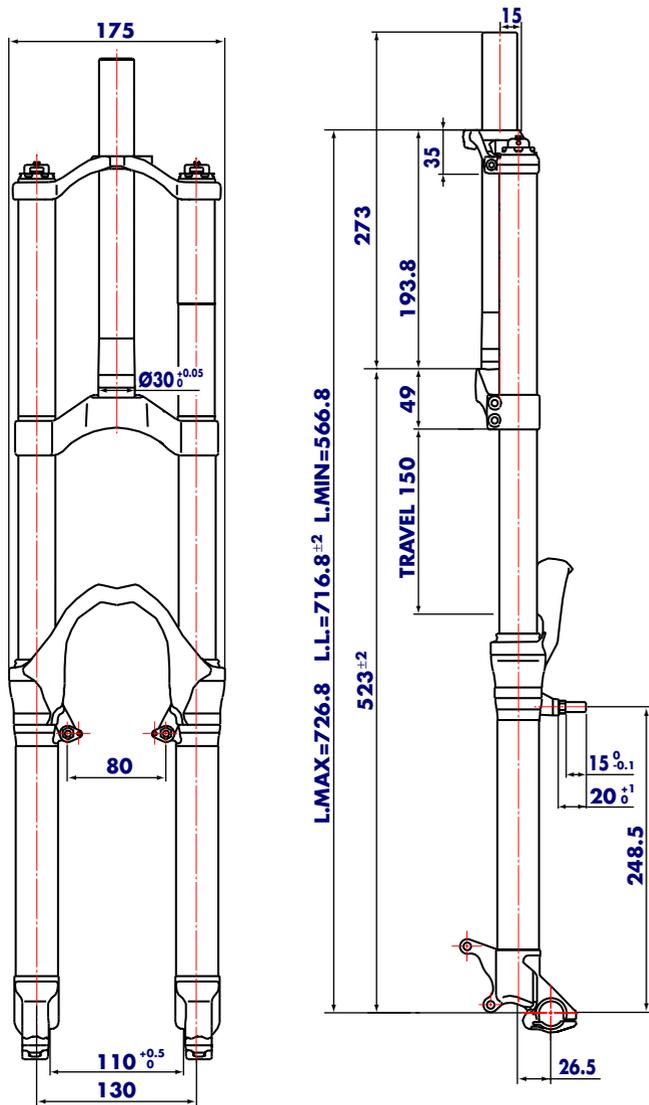


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GENERAL

- The double clamp fork is specifically designed for Downhill use.
- The fork is damped by hydraulic cartridges for rebound damping.
- Spring pre-load and rebound adjustment controlled via external top leg adjusters.
- Stanchion tube secured to the crown and upper crown. The system is equipped with full length 360° slider bushings giving this fork an incredibly smooth stiction free stroke, in addition to unmatched structural strength.
- 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.
- QR20 wheel shaft retaining system for special hubs (110-mm stop) and wheel shafts with 20-mm diameter.

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

Crown: Forged and CNC-machined aluminum alloy.

Upper crown: Forged and CNC-machined aluminum alloy.

Arch: Cast magnesium alloy.

Stanchions: Anodized EASTON aluminum with variable butting.

Springs: Constant pitch springs.

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

Slider bushing: Full length guide bushing composed of a copper base and impregnated with a 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: 170 cc type EBH 16- SAE 7.5.

* **BAM: Bomber Aerospace Material.**
Special alloy extracted 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. 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.
4. Clean all metal parts with a special, preferably biodegradable solvent, such as trichloroethane or trichloroethylene.
5. Before reassembling, lubricate all parts in contact with each other using silicone fat spray.
6. Always grease the conic seal rings before reassembling.
7. 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
<i>Excessive oil build up on stanchions</i>	<i>1. Oil seal is worn out 2. Stanchion tube is scored 3. Excessive dirt on slider oil seal</i>	<i>1. Replace oil seal 2. Replace stanchion tube, oil seal and dust seal 3. Clean the oil seal seat and replace oil seal</i>
<i>Oil leaking through the bottom of slider</i>	<i>O-ring seal on the cartridge nut is damaged</i>	<i>Replace the O-ring seal</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, oil seal and dust seal</i>
<i>Fork rebounds too fast even though the adjuster is set to hardest damping position</i>	<i>Cartridge is faulty</i>	<i>Replace hydraulic cartridge</i>
<i>Excessive play of stanchions into the sliders</i>	<i>Main slider bushings are worn</i>	<i>Replace main slider bushings</i>
<i>Adjuster position does not affect fork operation</i>	<i>Dirt inside legs</i>	<i>Clean carefully and change oil</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.

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.

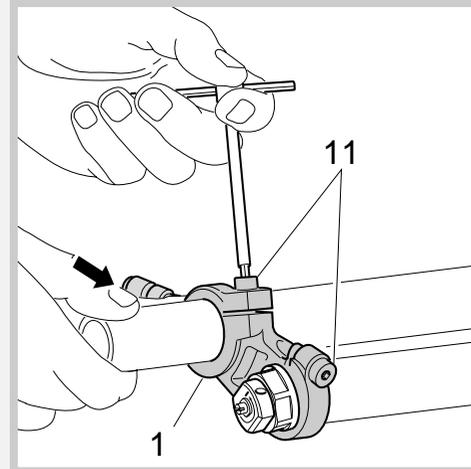
To replace it, contact one of our Technical Service Centers with the required tools.

⚠ 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.

MOUNTING THE FORK ON THE FRAME

FIG. A

Remove the upper crown (1) from steer tube and fork legs by loosening the 3 fastening bolts (11).



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FIG. B

Assemble the fork to the frame complete with headset. Fit the upper crown (1) into the stanchions and the steer tube.

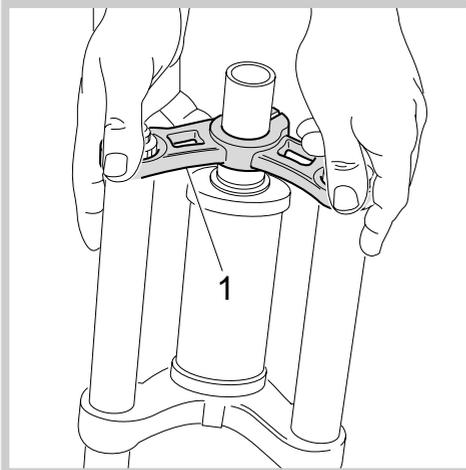


FIG. C

The stanchions edge (28) must be aligned with or slightly lower than the upper crown (1).

If fork legs overprotrude, fit some spacers (C) to the plate close to the steer tube.

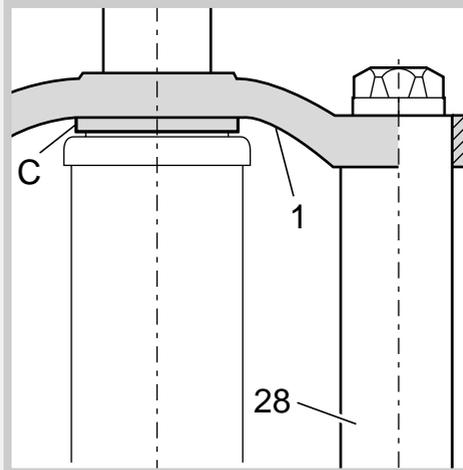


FIG. D

Fit the handlebar support and the A-Head Set cap over the upper crown (1) and then adjust the steering.

Now finally tighten the 3 bolts (11) on the upper crown to 11 Nm.



WARNING: Loosen the 3 screws (11) on the upper crown before adjusting the steering. Tighten the above bolts to the specified torque when finished.

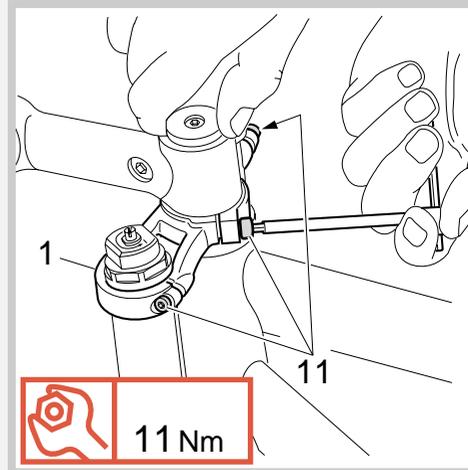


FIG. E

If the crown (13) position with respect to the stanchions (28) has been changed for any reason, adjust the original distance.

- Distance "H" between crown and tyre edge (when inflated) should not be lower than total travel (150 mm) + 3 mm.



WARNING: if lower Crown is improperly matched with stanchions, it may touch the tyre and cause severe injuries to the rider.

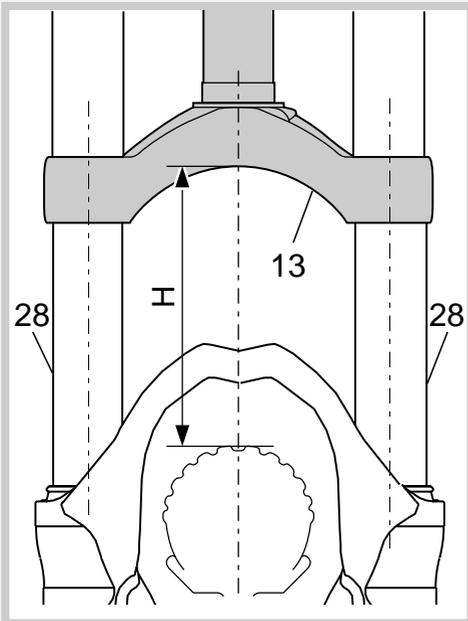


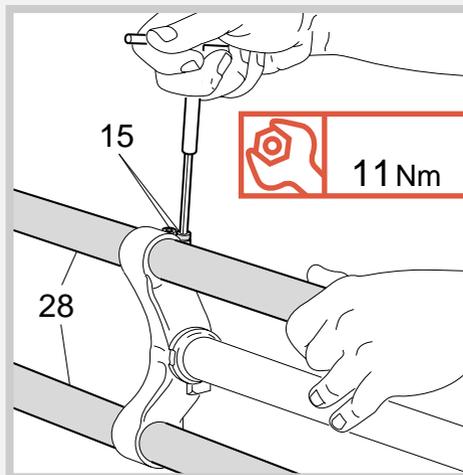
FIG. F

Tighten the 4 stanchions (28) fastening screws (15) onto the crown to 11 Nm.



WARNING: do not overtighten the screws holding the stanchions to the crown as this may distort the stanchions and weaken the whole structure.

After any installation always check for the proper torque of screws fastening stanchion tube onto lower crown and on upper crown.



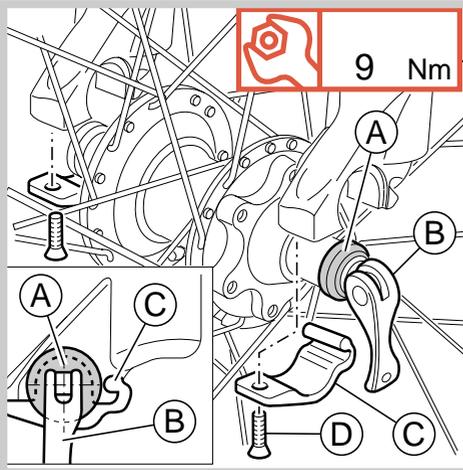
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FRONT WHEEL ASSEMBLY

IMPORTANT: fixing the front wheel properly as specified in the instructions given below is essential for the proper operation of this fork and all related devices, and therefore for safe riding. You are advised to follow these instructions closely. Slacken the lock nut of the quick release lever so the hub will fit between the fork sliders.

Make sure the quick release bushings **(A)** are centered to the recesses in the sliders. Lock the quick release lever **(B)** and make sure the bushings **(A)** are properly seated in the sliders.

Fit bolt end **(C)** in suitable slider groove and tighten the screw **(D)** to specified torque.



WARNING: These sliders are specifically designed to fit this type of hub. Do not use any hub design other than that specified here, as this would not ensure proper fastening of the wheel and may lead to breakdown of the assembly components.

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.

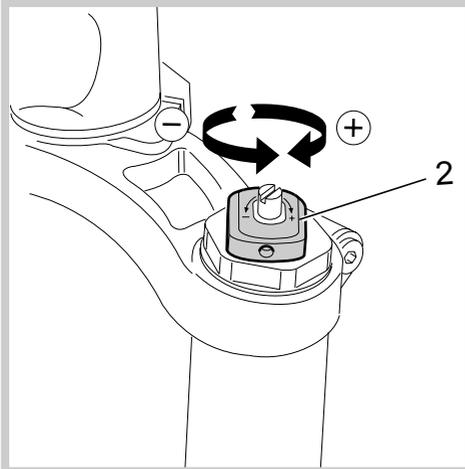
IMPORTANT: screw and pin threading is treated to ensure hydraulic seal. Never reuse screws and pins which have been removed.

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

SPRING PRELOAD

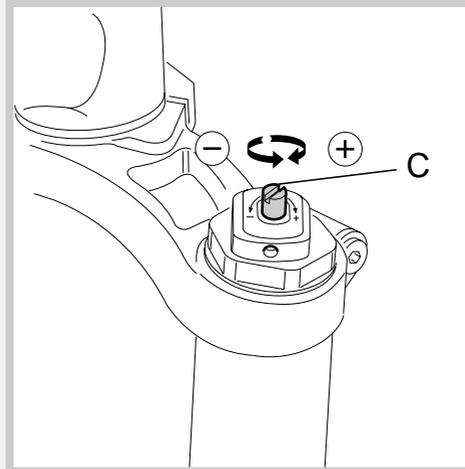
The spring preload for COMPRESSION damping can be adjusted by turning the knob **(2)** on top of fork legs. From the factory the fork is set at minimum preload, i.e. the adjustment knob completely unscrewed counterclockwise. However, the springs are slightly preloaded to help counteract static loads. By turning the adjustment knob clockwise, the preload is increased up to the maximum value equal to 15 mm of spring preload. This adjustment is essential in order to have the right fork response for the rider's weight and riding style.



REBOUND DAMPING ADJUSTMENT

The fork legs feature an adjuster **(C)** for REBOUND damping adjustment. 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 compression 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.

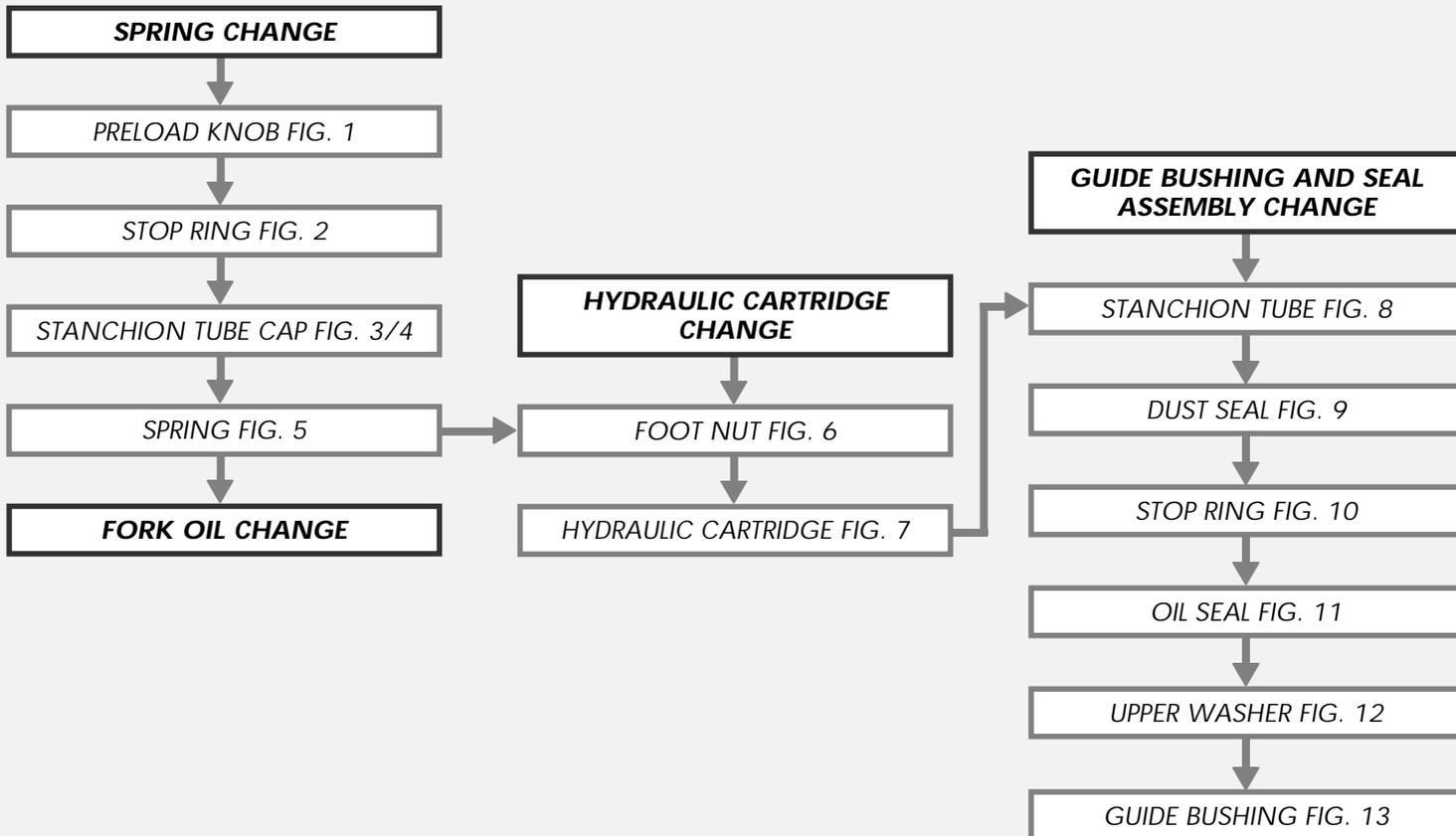


DISASSEMBLY

GENERAL

- The reference numbers given in this section relate to the components shown in the fork exploded view.
- Operations refer to the fork legs already removed from the upper crown and from the crown.
- Before starting any operation, please read the diagram below. It shows the quickest procedure and the exact disassembling sequence. Start from the part to be disassembled and then follow the arrows to remove the other parts.

DISASSEMBLY DIAGRAM



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SPRING CHANGE

FIG. 1

Set the knob (2) to the minimum preload position.

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

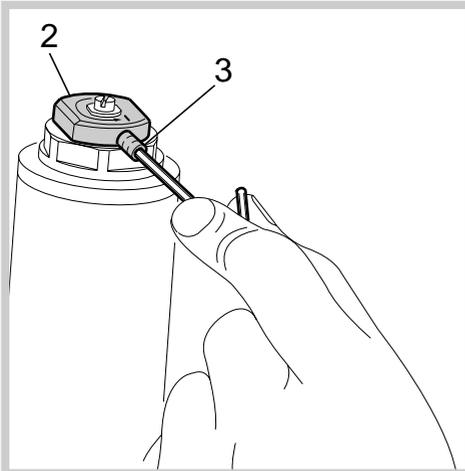


FIG. 2

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

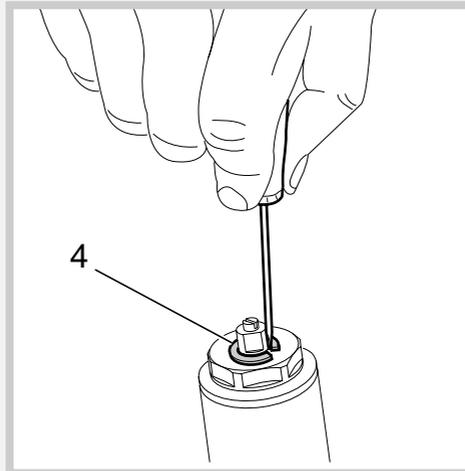
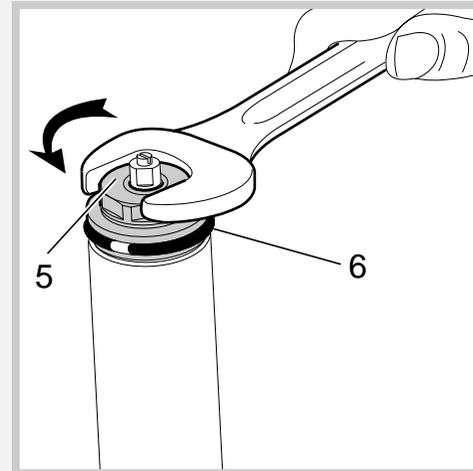


FIG. 3

Place the stanchion tube in a vice. Be sure not to damage or squeeze stanchion in the process. Unscrew the plugs (5) with a 26 mm hexagon wrench.

Remove the plugs complete with the O-ring (6) from the stanchions.



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FIG. 4

Unscrew the cap (5) from the cartridge (21) rod.

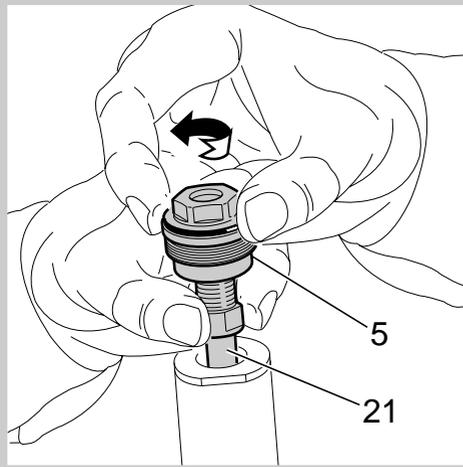
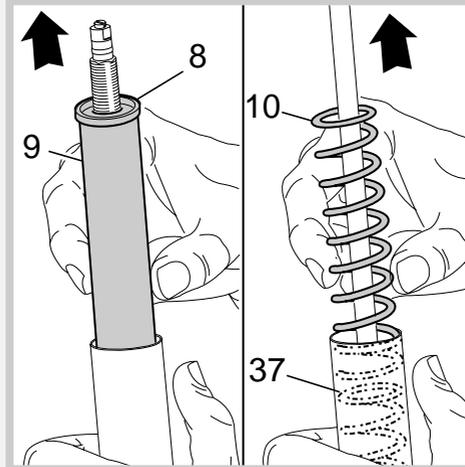


FIG. 5

Push the stanchion tube into the slider and remove the lower washer (8), the preload sleeve (9) and the springs (10) and (37). 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

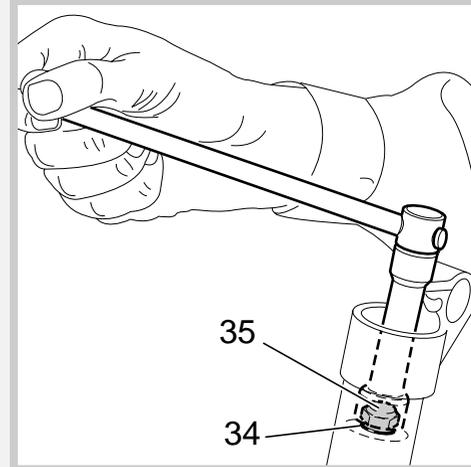
FIG. 6

Let all the oil drain out.



WARNING: Remember to always recycle any used oil.

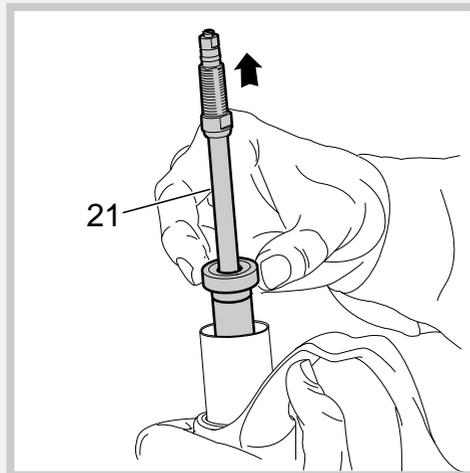
To change the fork leg oil follow the procedure as described in section "REASSEMBLY" from FIG. 22 to FIG. 27. Turn the fork leg upside-down and unscrew the foot nut (35) complete with O-ring (34) by the use of a 15 mm socket wrench.



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FIG. 7

Pull the hydraulic cartridge (21) complete with foot washer (36, see exploded view) out of the stanchion tube. Replace the whole hydraulic cartridge.



GUIDE BUSHING AND SEAL ASSEMBLY CHANGE

FIG. 8

Pull the stanchion tube (28) completely out of the slider (27).

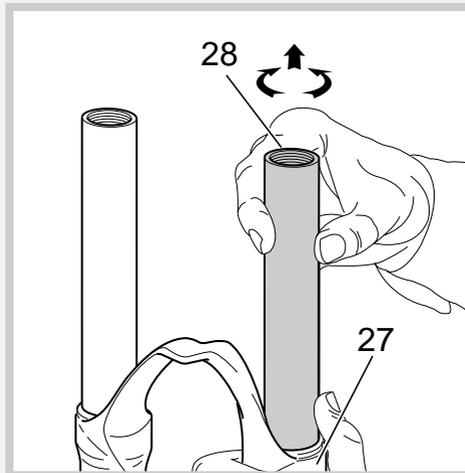
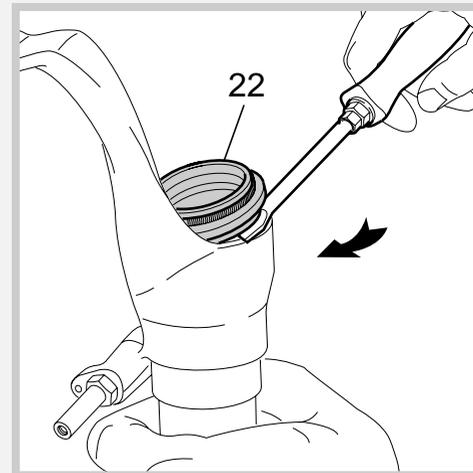


FIG. 9

Use a small screwdriver and remove the dust seal (22) from slider top.



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FIG. 10

Remove the stop ring (23) 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.

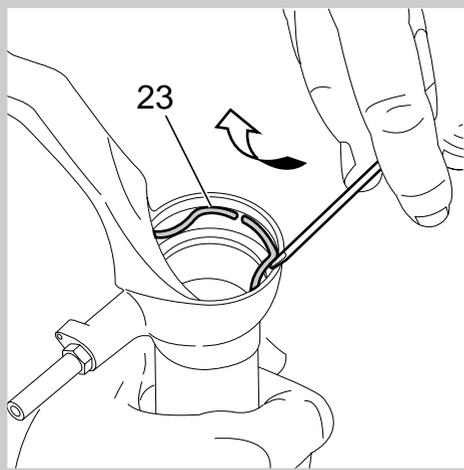


FIG. 11

Fit the slider protector (A) onto the slider and remove the oil seal (24) 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.

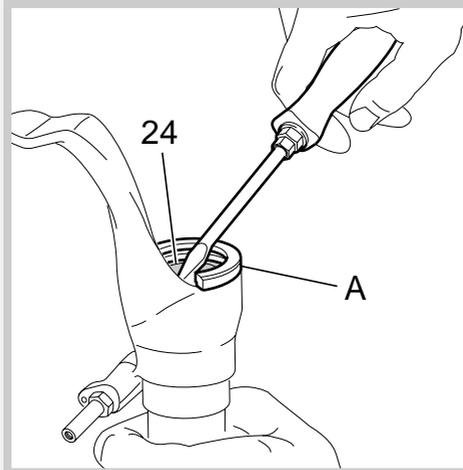
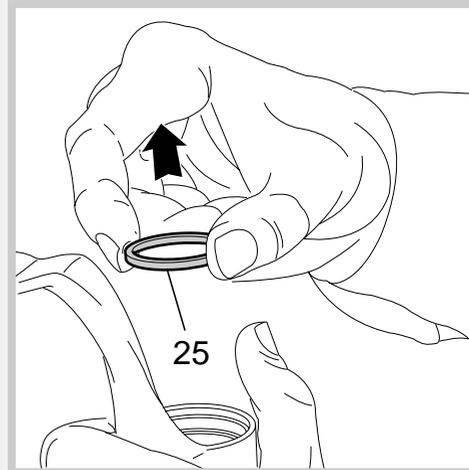


FIG. 12

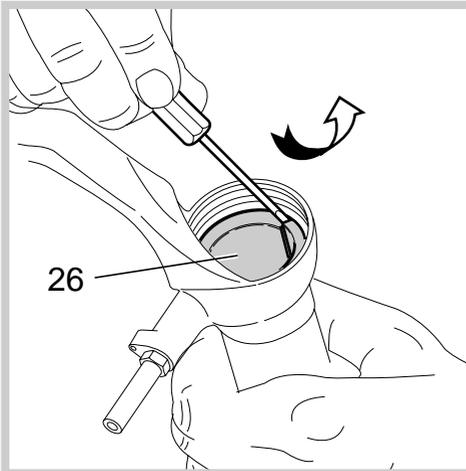
Remove the upper washer (25) from the slider.



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FIG. 13

Fit the bit of a small screwdriver into the upper edge slot of the guide bushing (26) and lift gently. Pull the bushing out of the slider and make all necessary changes.



REASSEMBLY

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

GUIDE BUSHING AND SEAL ASSEMBLY

FIG. 14

Check that no dirt or debris is between slider and bushing. Insert the guide bushing (26) into place so that it adheres to the slider.

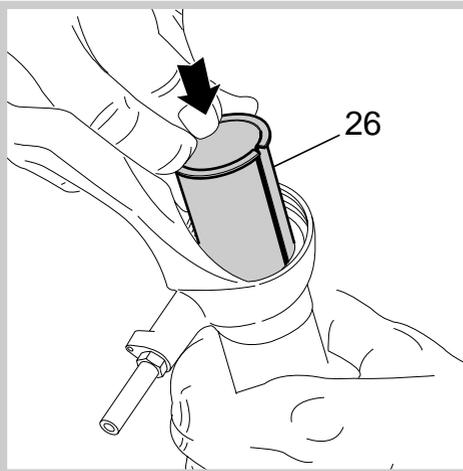


FIG. 15

Fit the upper washer (25) into the slider so that it touches the guide bushing.

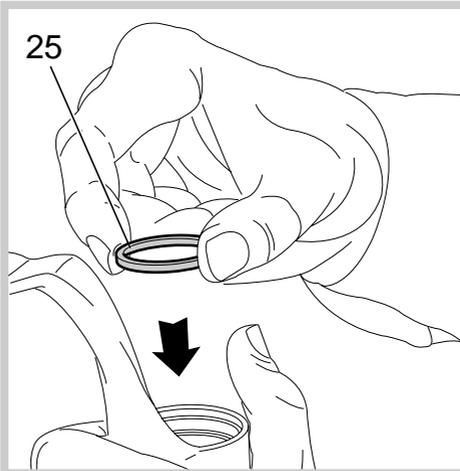
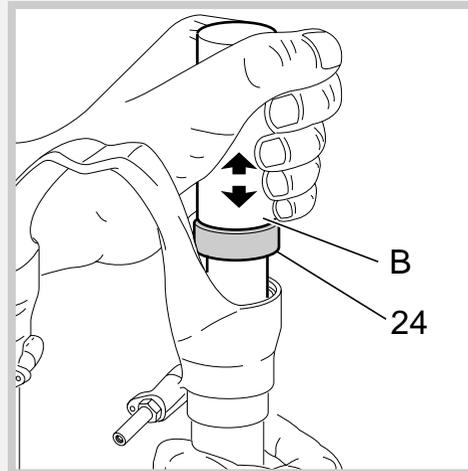


FIG. 16

Lubricate the oil seal (24) 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.



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FIG. 17

Insert the stop ring (23) into the slider making sure it is properly seated into place.

Use buffer (B) to properly seat the ring into the slider.

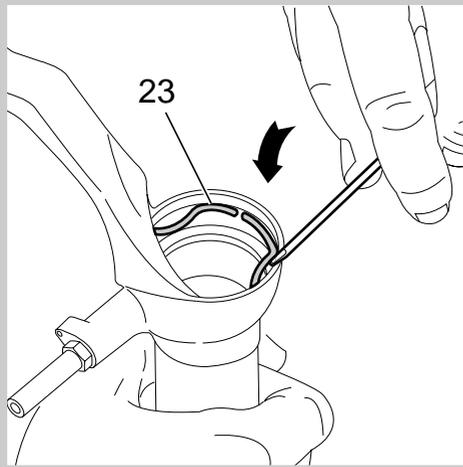


FIG. 18

Lubricate the dust seal (22) and fit it into the stanchion from the spring end.

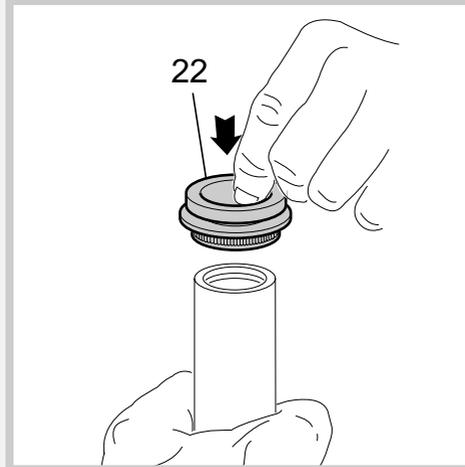


FIG. 19

Fit the stanchion tube (28) gently into the oil seal (24), together with dust seals. Rotate the stanchion tube while inserting it into the seal to reduce the chance of damaging the seals.

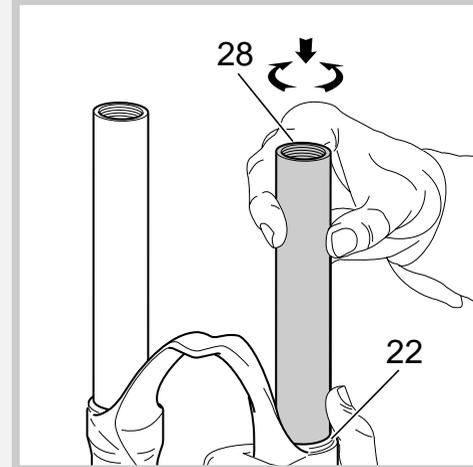
Turn the slider over and check that cartridge thread (21) is sticking out through the slider hole.

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.

Seat the dust seal (22) on top of the slider.



HYDRAULIC CARTRIDGE

FIG. 20

Insert washer (36, see exploded view) together with the complete hydraulic cartridge (21) with the stanchion pressed fully down into the slider.

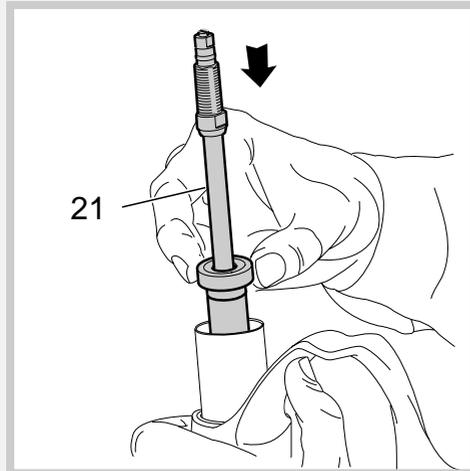
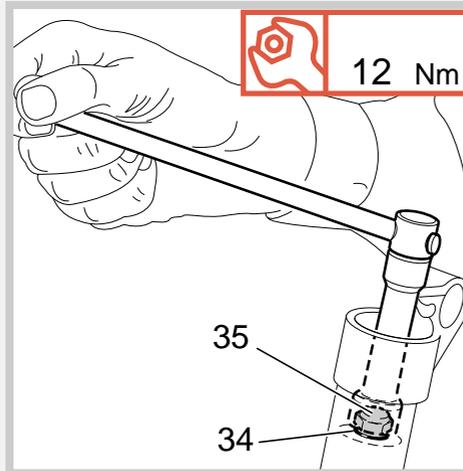


FIG. 21

Grease the O-ring (34) on the foot nut (35) and screw the nut on the hydraulic cartridge threaded end.

Tighten to 12 Nm.

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



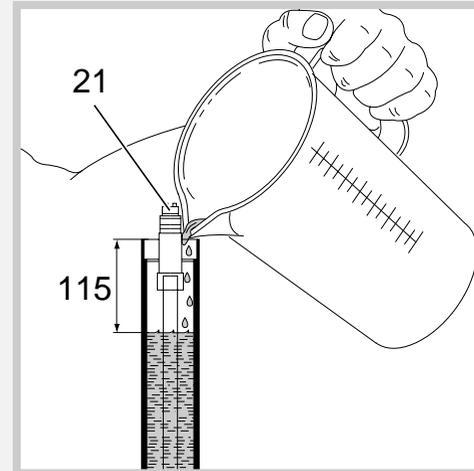
HOW TO FILL WITH OIL

FIG. 22

Pour the oil little by little when the stanchion tube is fully down and then pump with the cartridge (21) rod so as to have a better filling.

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

Check that the oil level is 115 mm from the top of the stanchion tube in each leg.



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SPRING AND CAP

FIG. 23

Fit the springs (37) and (10), the preload sleeve (9) and the top washer (8) into the stanchion tube.

Lubricate the O-ring (16) on the top of the preload knob support and the O-ring (6) on the cap (5).

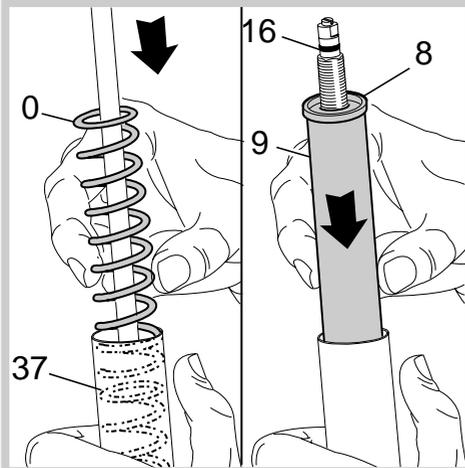


FIG. 24

Move the plunger (7, see exploded view), in the cap, to the minimum preload position.

Screw the complete cap (5) onto the cartridge (21) rod.

Screw cap all the way in.

Tighten check nut (18) against cap (5).

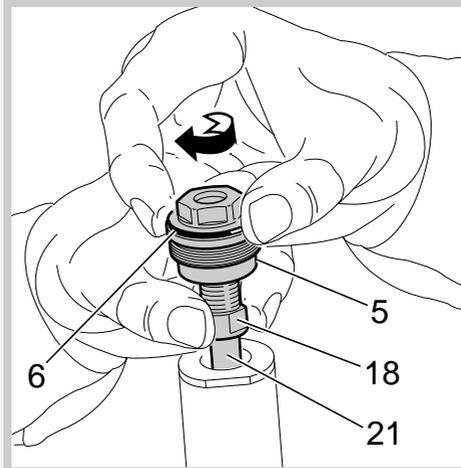
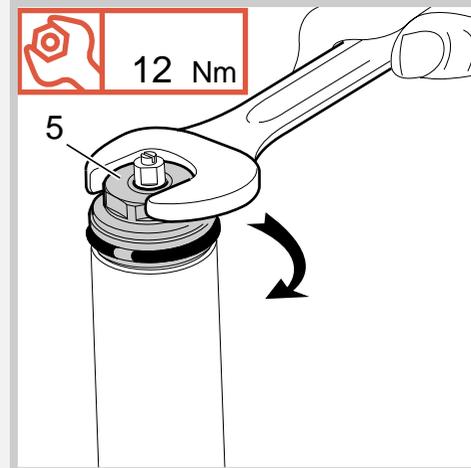


FIG. 25

Take out stanchions and fit caps (5) by hand.

Place the stanchions in a vice making sure they are not damaged or dented and tighten the caps to 12 Nm.



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FIG. 26

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

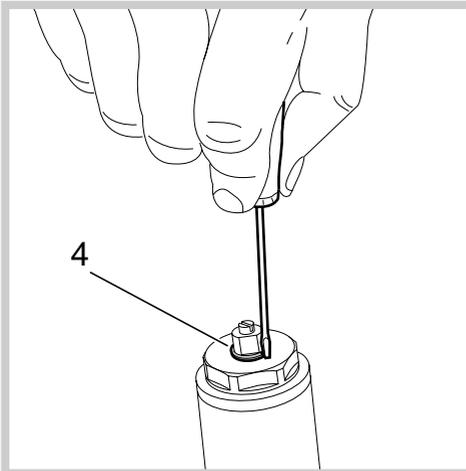
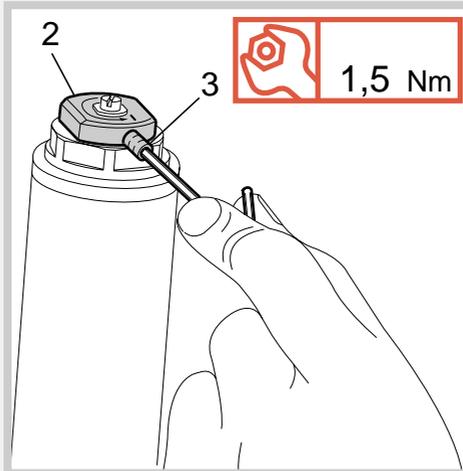


FIG. 27

Fit the preload knob (2) and secure it on the support by tightening the grub screw (3) to 1.5 Nm.
Install fork legs into crown and upper crown as specified in section "INSTALLATION".



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

