


# Cargo Bike Fork

## Service Manual –



This manual is meant for authorized  Formula Service Centers.  
The manual contains information regarding the complete servicing for the Cargo Bike fork.






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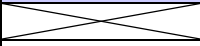
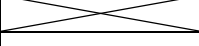
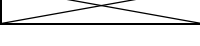
## Important Informations and Maintenance Intervals

IMPORTANT	
	Repeatedly using our products in extreme conditions requires more frequent servicing. Using unrecommended high-pressure washing methods, using unrecommended spare parts, solvents and lubricants not recommended by  Formula reduce the life span of our products.

IMPORTANT	
	 Formula recommends only ORIGINAL spare parts and lubricant products. <ul style="list-style-type: none"><li>• Accurately clean the fork before performing any maintenance.</li><li>• Immediately replace any rusted components.</li></ul>

SAFETY INFORMATION	
	Always wear nitrile gloves and safety glasses when working on the fork. Ensure correct disposal of waste materials and liquids.

To keep the fork efficient during normal usage and ensure proper maintenance, follow the maintenance intervals chosen by  Formula:

Procedure	Every 40 Hours	After 10000Km	After 20000Km
Washing with water and mild soap. Visual inspection.			
Oil change			
Full inspection			

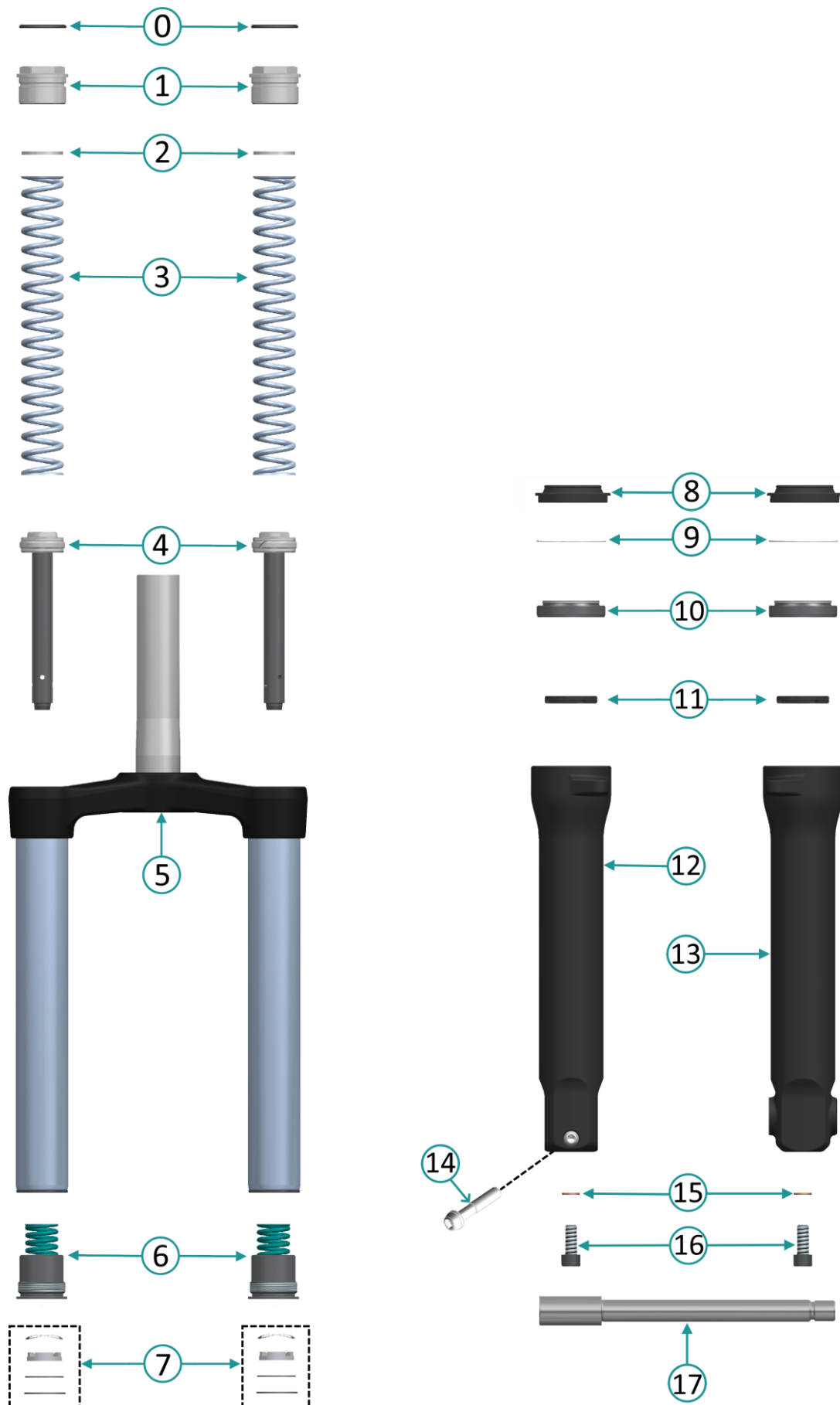
## Troubleshooting

- The fork's rebound is too fast and very springy:
  - a) There might be an oil leak, ensure there are no oil leaks from the lower screws or dust seals: [Dust seal and oil seal replacement](#);
  - b) Items 4 or 6 are damaged: [Crown and tubes kit replacement](#);
- The fork is sitting low:
  - a) Check the integrity of the springs (3): [Upper internal components replacement](#);

## Spare Parts List

Description	Position	Part Number
Top Cap Kit	0-1	SB40287-00
Spring Spacer	2	SB-R061-01
Fork Spring (Default Spring)	3	SB-M071-32
Fork Spring (Optional Stiffer Spring)	3	SM-M072-32
Stem Kit	4	SB40274-00
Crown and Tubes Kit (Urban Arrow)	5	SB40275-00
Lower Cap Kit	6	SB40276-00
Inner Lower Cap Kit	7	SB40277-00
Oil Seal and Dust Seal Kit	8-10	SB40286-00
Seals Kit	0-15	SB40288-00
End Stroke Bumper	11	SB-G109-25
Right Leg	12	SB-G104-04
Left Leg	13	SB-G103-04
Axle Safety Screw	14	FD-V155-34
Lower Leg Screw	16	SB-V050-24
Axle	17	SB-P140-10
20000 Km Maintenance Kit	0+8+10+15	SB40289-00
Oil Kit	-	SB40290-00

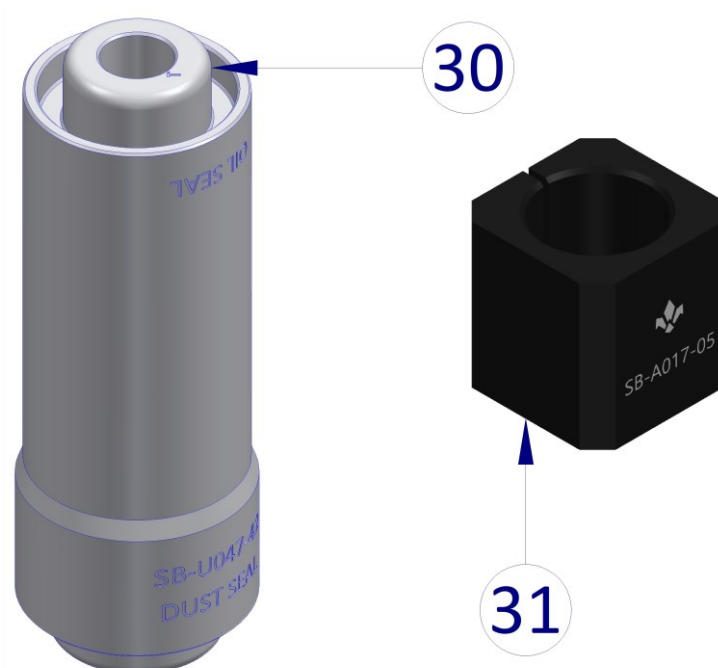
## Exploded View



## Required Tools

Description	Position	Q.ty	Part number
Oil and Dust Seal Tool	30	1	SB-U047-32
Steerer Tube Tool	31	1	SB-A017-05

- Hex key - 5 mm, 7 mm, 8 mm;
- Wrench key 17 mm;
- Socket wrench 27 mm;
- Torque wrench up to 35 Nm;
- Seeger ring clamp;
- Formula grease;
- Bench vise.



## Oli Change

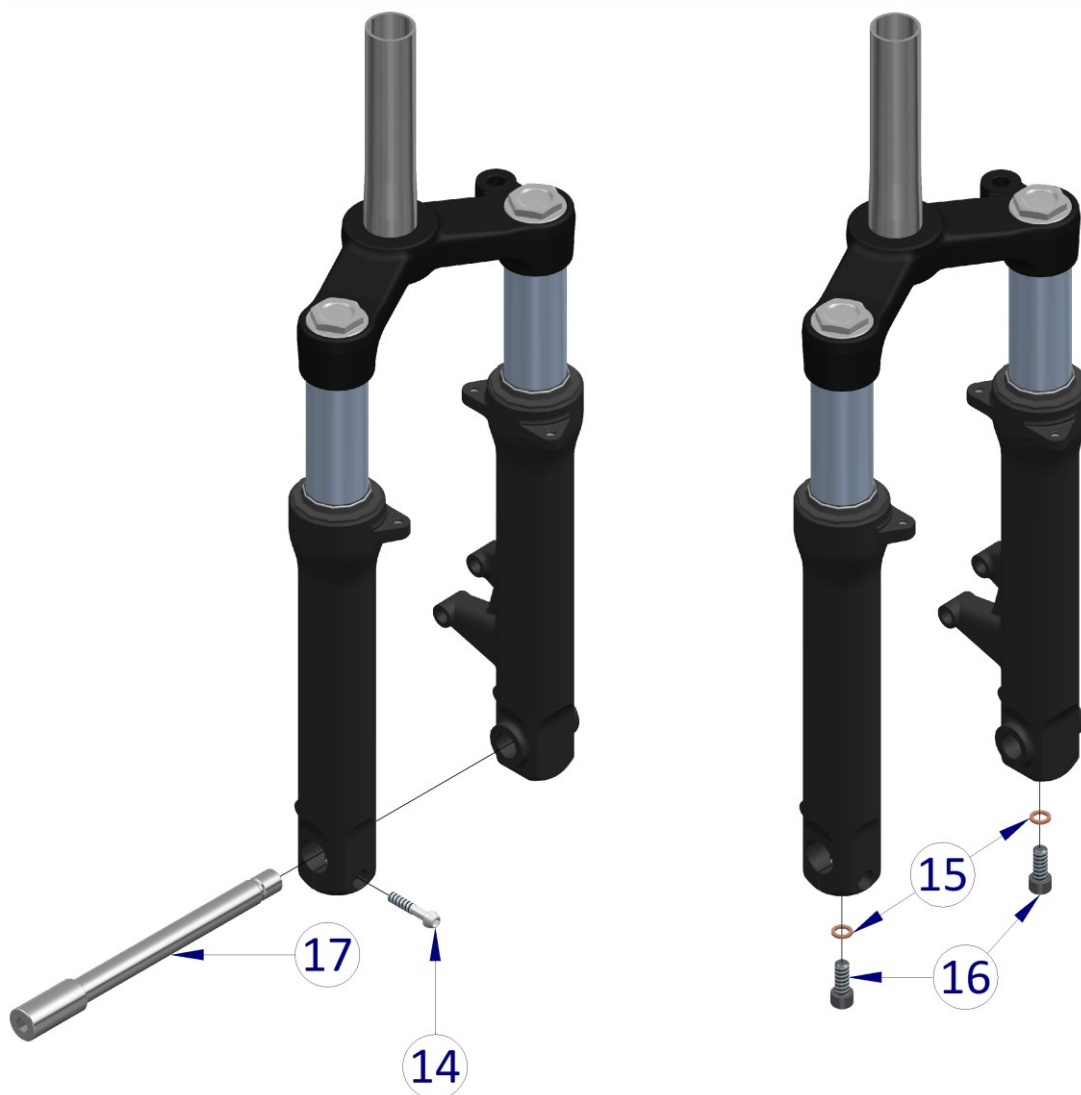
### Tools:

Part number	Description	Position	Quantity
FM-R005-24	Washer	15	2

Formula Grease, Hex key 5 mm, 6 mm, 8 mm, Socket wrench 27 mm, Torque wrench

### Procedure:

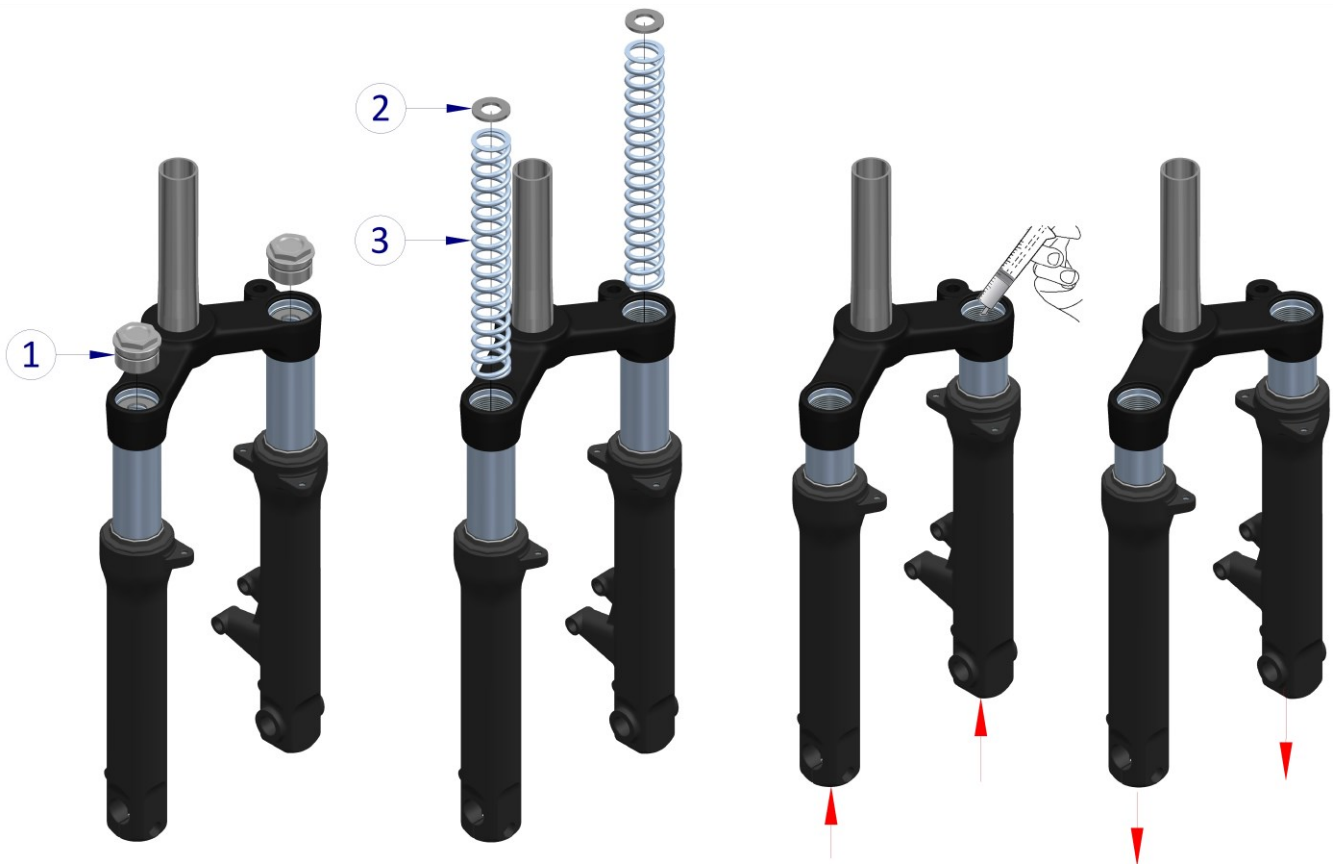
1. Before proceeding accurately clean the fork;
2. Remove the mudguard from the fork. Remove the safety screw (14) with a 5 mm hex key and remove the wheel and the axle (17) with a 8 mm hex key;
3. Place an oil pan below the fork legs (12, 13);
4. Unscrew the lower screws (16) with a 6 mm hex key and remove the copper washers (15);



5. Wait until the fork is completely empty from oil;
6. Dispose the oil and the old washers (15);
7. Insert a new washer (15) on the lower screw (16) and screw them with a 6 mm hex key and a tightening torque of 12-14 Nm;



8. Unscrew the top cap (1) with a 27 mm key and ensure the o-ring (0) is not damaged;
9. Remove the spring spacer (2) and the spring (3), ensure they are not damaged;
10. Push the legs upwards to allow the tubes to go inside the legs;
11. Insert with a syringe 115 mL of 7.5W oil inside each leg;
12. Move the legs up and down five times to allow the oil to lubricate all internal components of the fork. Wait 60 seconds and repeat again;
13. Push the legs upwards and ensure the oil is at the correct level X mm  $\pm 3$ ;
14. If the oil level is correct push the legs downwards;



15. Insert the springs (3) and the spring spacers (2);
16. Apply grease on the o-ring (0);
17. Screw the top cap (1) on the fork with a 27 mm key and a tightening torque of 35 Nm;
18. Assemble the wheel and insert the axle (17) with an 8 mm hex key, screw the safety screw (14) with a 5 mm hex key and a tightening torque of 12 Nm.

-End of Procedure-

## Dust Seal and Oil Seal Replacement

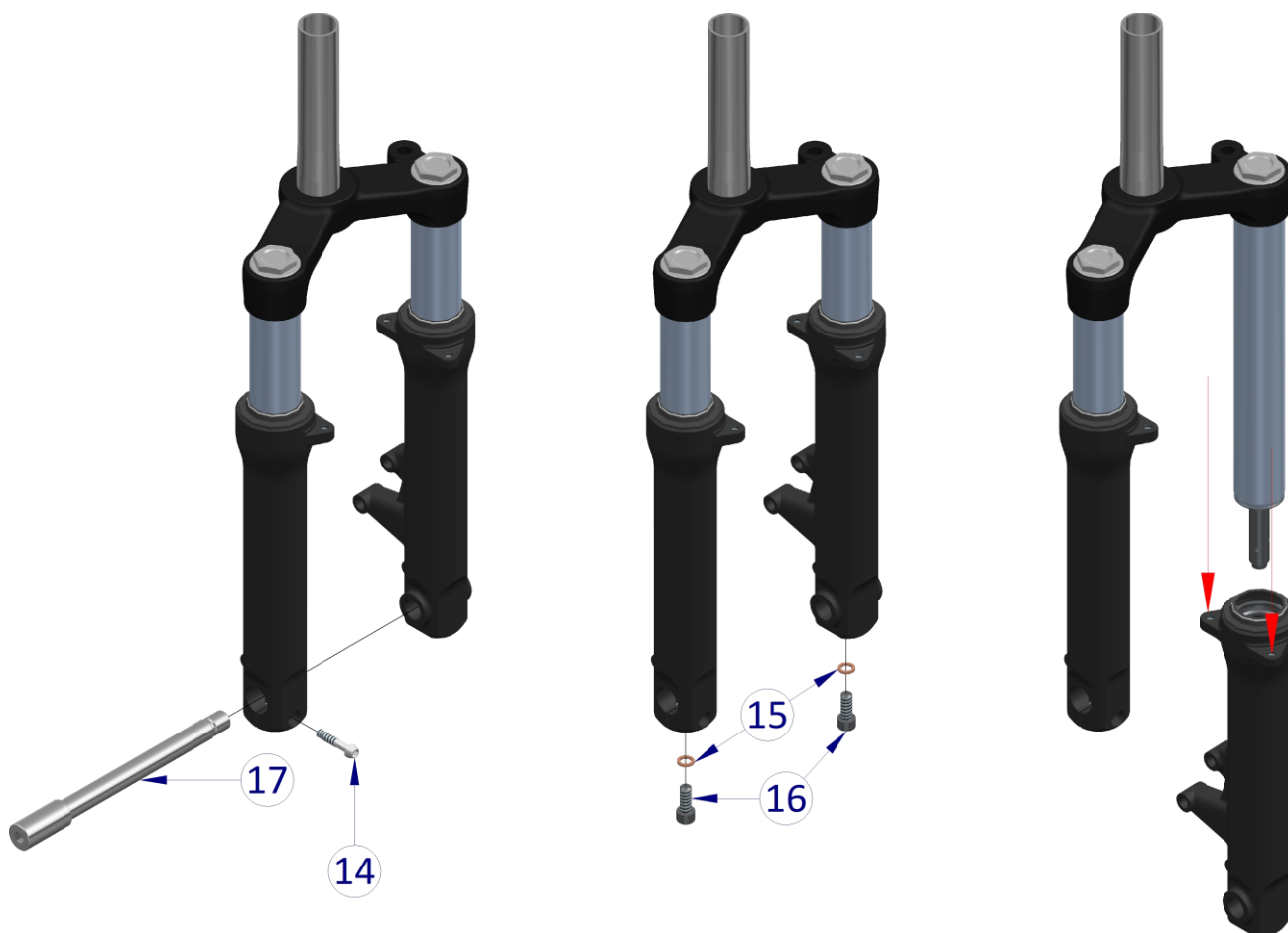
### Tools:


Part number	Description	Position	Quantity
493546121	Dust Seal	8	2
047002301	Seeger Ring for Oil Seal	9	2
483546111	Oil Seal	10	2
FM-R005-24	Washer	15	2

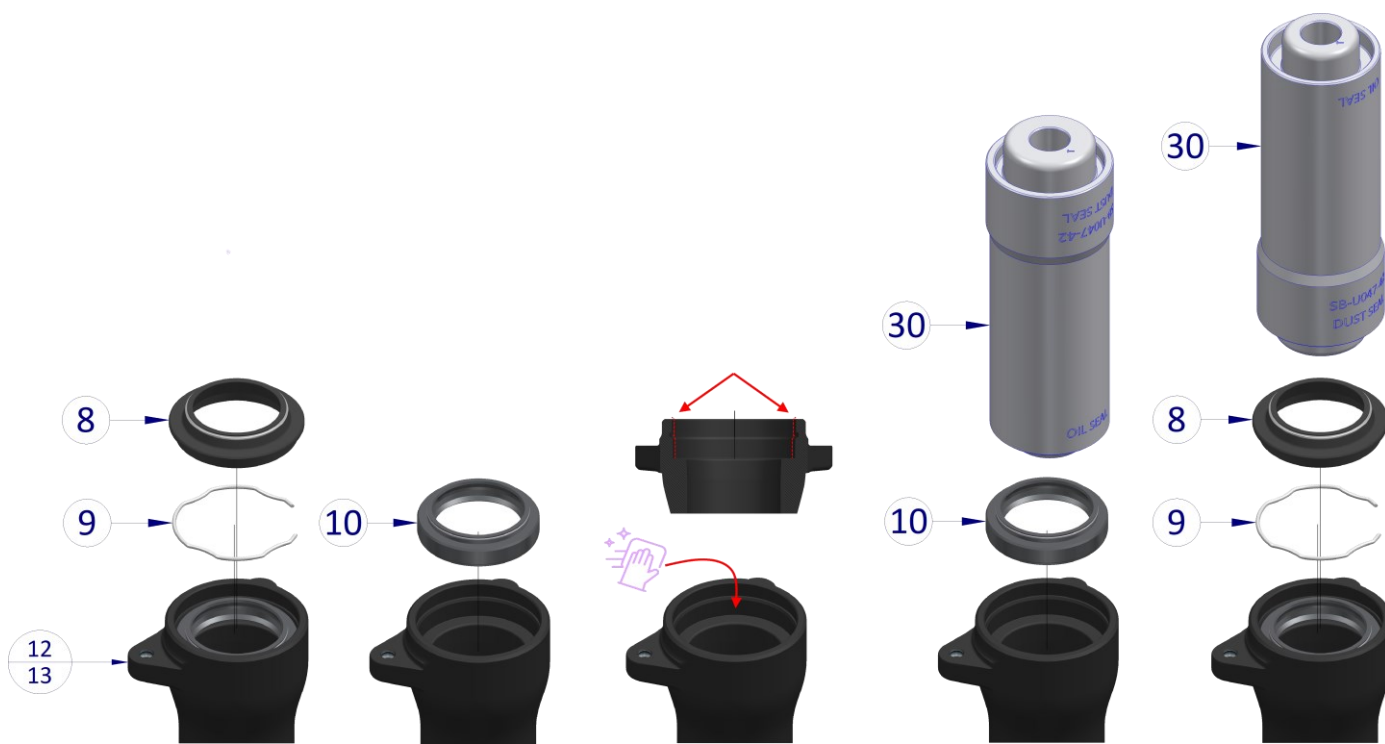
Formula Grease, Hex key 5 mm, 6 mm, 8 mm, Socket wrench 27 mm, Torque wrench

### Procedure:

1. Before proceeding accurately clean the fork;
2. Remove the mudguard from the fork. Remove the safety screw (14) with a 5 mm hex key and remove the wheel and the axle (17) with a 8 mm hex key;
3. Place an oil pan below the fork legs (12, 13);
4. Unscrew the lower screws (16) with a 6 mm hex key and remove the copper washers (15);
5. Wait until the fork is completely empty from oil;
6. Dispose the oil and the old washers (15);
7. Hit the mudguard supports with a rubber hammer to allow the internal components to detach from the legs (12, 13), then carefully remove them from the crown and tubes group (5);
8. Ensure the legs and the tubes are free of scratches or cracks;

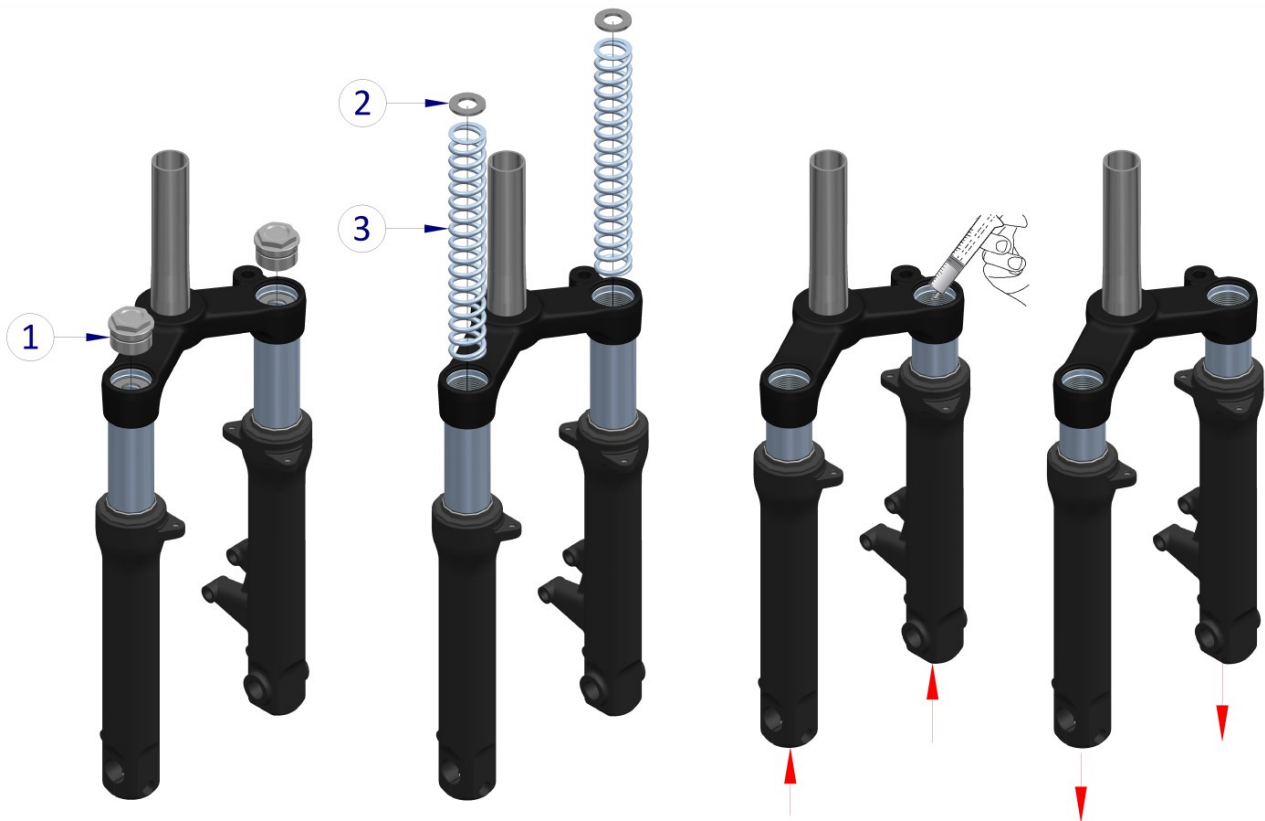


9. Remove the dust seal (8) with a screwdriver. Remove the seeger ring (9);
10. Remove the oil seal (10) with an oil seal extractor;
11.  Clean the oil seal and dust seal housing from dust, oil and grease;
12. Dispose the used oil seal and dust seal. If the seeger ring (9) is in good conditions it can be reused;
13. Apply Formula grease on the dust seal and oil seal housing (areas highlighted in red);
14. Insert the oil seal (10) with tool (30) with a rubber hammer. Fix in place the dust seal with the seeger ring (9);
15. Insert the dust seal (8) with tool (30) with a rubber hammer;



16. Insert the legs on the tubes and push them upwards until they are fixed on the stem (4);
17. Insert a new washer (15) on the lower screw (16) and screw them with a 6 mm hex key and a tightening torque of 12-14 Nm;

18. Unscrew the top cap (1) with a 27 mm key and ensure the o-ring (0) is not damaged;
19. Remove the spring spacer (2) and the spring (3), ensure they are not damaged;
20. Push the legs upwards to let the tubes move inside them;
21. Insert with a syringe 115 mL of 7.5W oil inside each leg;
22. Move the legs up and down five times in order to allow the oil to lubricate all internal components of the fork.  
Wait 60 seconds and repeat again;
23. Push the legs upwards and ensure the oil is at the correct level  $X \text{ mm} \pm 3$ ;
24. If the oil level is correct push the legs downwards;



25. Insert the springs (3) and the spring spacers (2);
26. Apply grease on the o-ring (0);
27. Screw the top cap (1) on the fork with a 27 mm key and a tightening torque of 35 Nm;
28. Assemble the wheel and insert the axle (17) with an 8 mm hex key, screw the safety screw (14) with a 5 mm hex key and a tightening torque of 12 Nm.

-End of Procedure-

## Upper internal components replacement

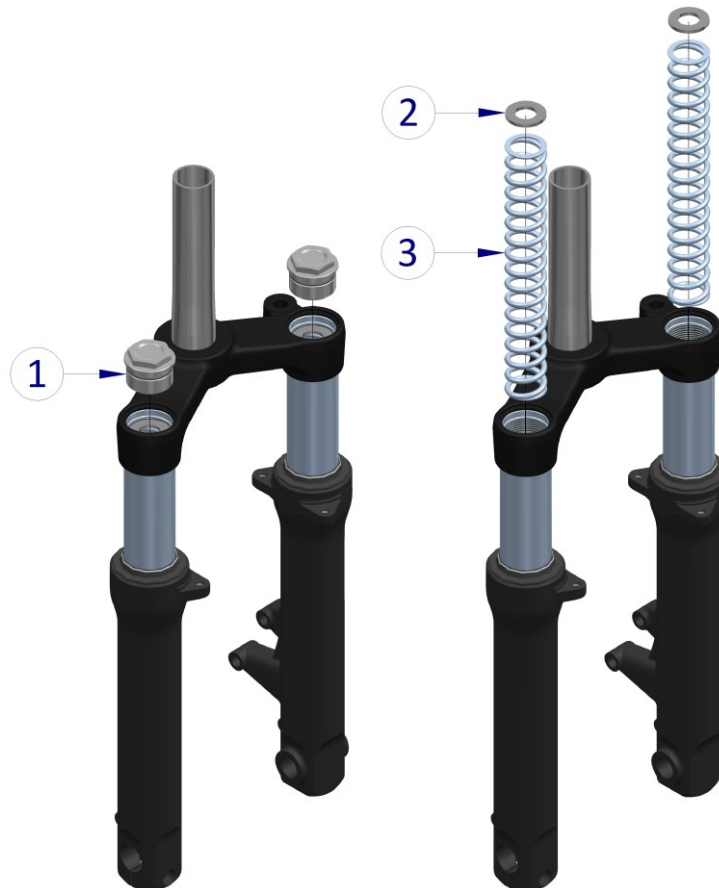
### Tools:

Part number	Description	Position	Quantity
SB-O003-24	Top Cap O-Ring	0	4
SB-T142-05	Top Cap	1	1
SB-R061-01	Spring Spacer	2	1
SB-M071-32	Fork Spring	3	1

Formula Grease, Socket wrench 27 mm

### Procedure:

1. Before proceeding accurately clean the fork;
2. Unscrew the top cap (1) with a 27 mm key and ensure the o-ring (0) is not damaged;
3. Remove the spacer (2) and the spring (3) without losing any oil from the fork;



4. Ensure the components are in good conditions and replace them if necessary;
5. Apply grease on the o-ring (0);
6. Screw the top cap (1) on the fork with a 27 mm key and a tightening torque of 35 Nm.

-End of Procedure-

## Lower internal components replacement

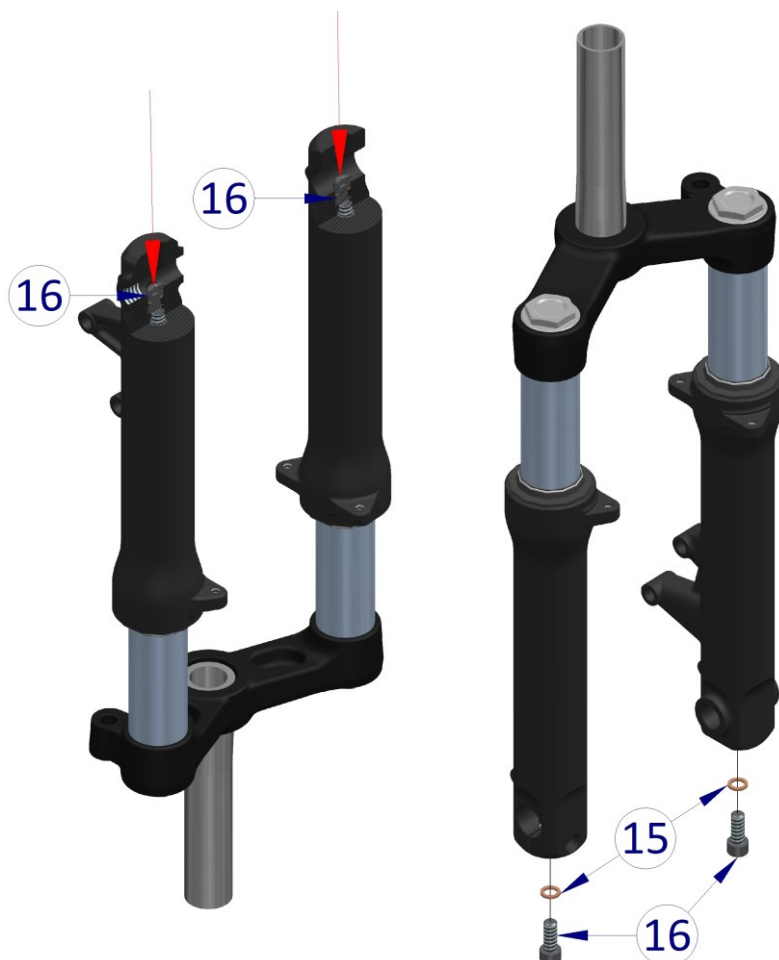
### Tools:

Part number	Description	Position	Quantity
SB40274-00	Stem Kit	4	1
SB40277-00	Inner Lower Cap kit	7	1
SB-A017-05	Steerer Tube Tool	31	1

Formula Grease, Hex key 5 mm, 6 mm, 8 mm, Socket wrench 27 mm, Torque wrench

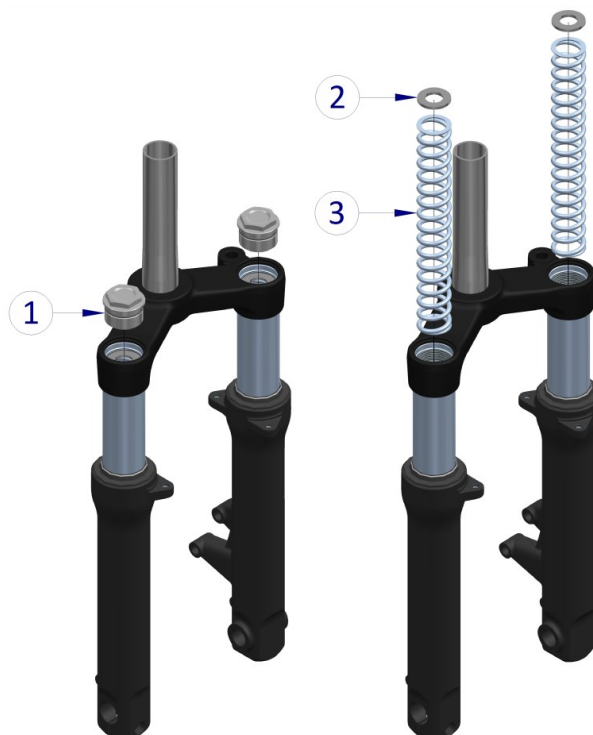
### Procedure:

1. Before proceeding accurately clean the fork;
2. Remove the mudguard from the fork. Remove the safety screw (14) with a 5 mm hex key and remove the wheel and the axle (17) with a 8 mm hex key. Remove the fork from the bike;
3. Insert the steerer tube in a bench wise with the required tool (31) and the legs upside down;
4. Unscrew by 6-8 mm the lower screws (16) with a 6 mm hex key;
5. Hit the lower screws (16) with a rubber hammer so that the internal components detach from the legs (12, 13), allowing them to move freely;
6. Place an oil pan below the fork legs (12, 13);
7. Unscrew the lower screws (16) with a 6 mm hex key and remove the copper washers (15);
8. Wait until the fork is completely empty from oil;

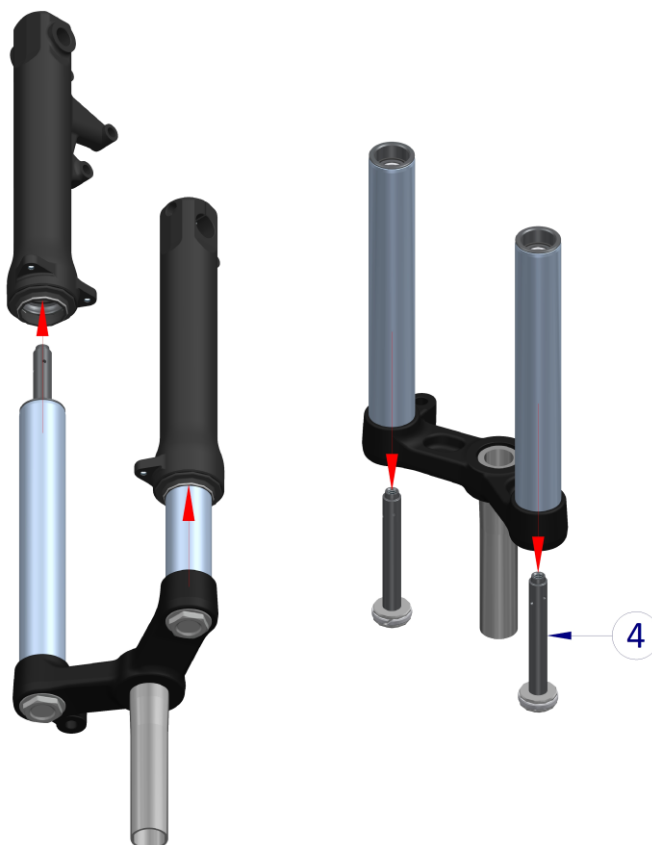


9. Unscrew the top cap (1) with a 27 mm key and ensure the o-ring (0) is not damaged;

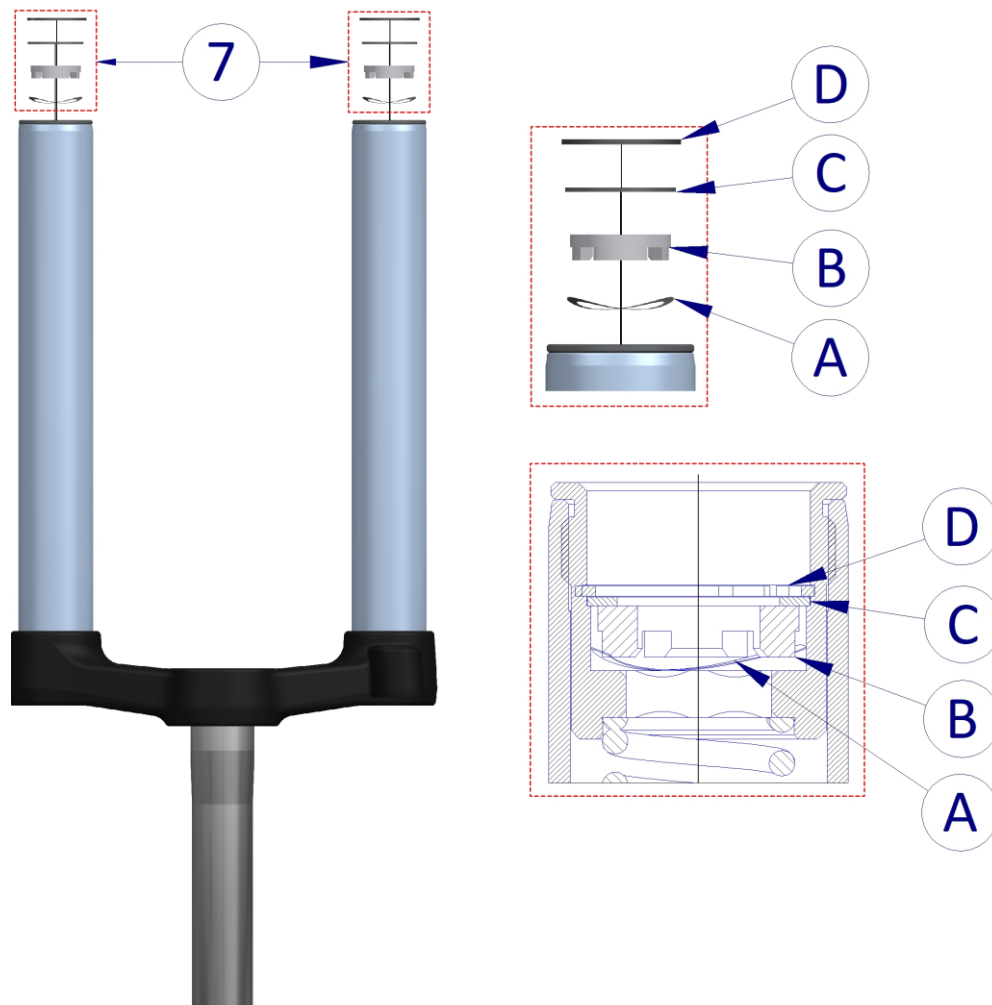
10. Remove the spring spacer (2) and the spring (3), ensure they are not damaged;
11. Ensure the components are in good conditions and replace them if necessary;



12. Carefully remove the legs from the crown and tubes group (5) and ensure the legs and the tubes are free of scratches or cracks;
13. Clean all components and ensure they're not damaged;
14. Dispose the oil and the old washers (15);
15. Remove the Stem Kit (4) and ensure they're not damaged;

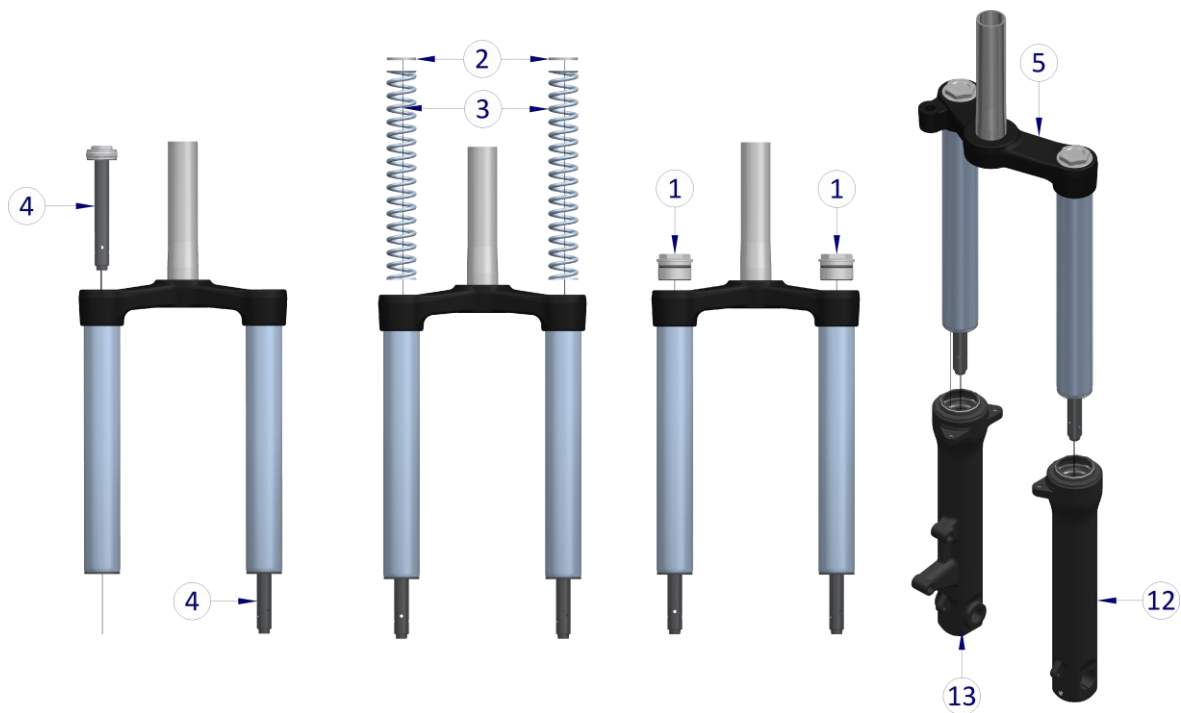


16. Insert the steerer tube in a bench wise with the required tool (31) and the tubes upside down;
17. Remove the seeger ring from the lower cap (6) and remove all its components (7);
18. Dispose the worn-out components of kit (7);
19. Assemble the inner lower cap kit (7). Insert the wave spring (A) ensuring it is facing downwards, the valve (B), the washer (C) and the seeger ring (D). Perform a manual test by placing a finger inside the lower cap hole and ensure that the spring properly works by pushing items B and C against item D;

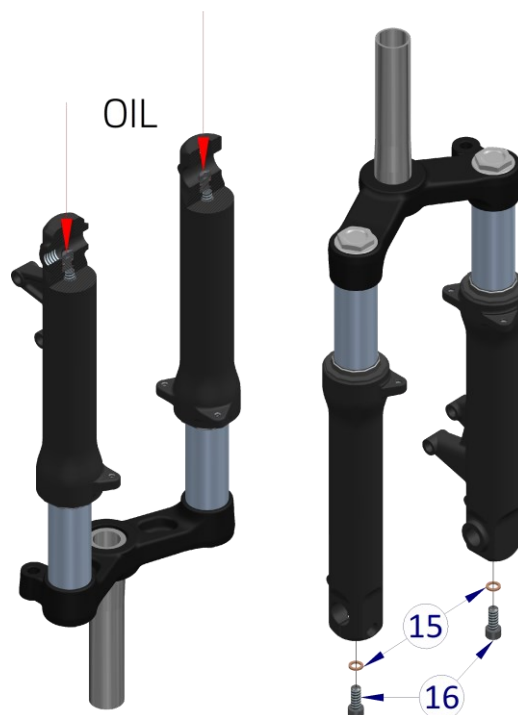




20. Insert the stem kit (4) inside the tubes. Insert the springs (3) and the spring spacers (2);
21. Apply grease on the o-ring (0);
22. Screw the top cap (1) on the fork with a 27 mm key and a tightening torque of 35 Nm;
23. Insert the legs on the tubes and push them upwards until they are fixed on the stem (4);



24. Use a syringe with an extension and put it inside the lower hole. Insert 115 mL of 7.5W oil inside the legs;
25. Insert a new washer (15) on the lower screw (16) and screw them with a 6 mm hex key and a tightening torque of 12-14 Nm;



26. Assemble the wheel and insert the axle (17) with an 8 mm hex key, screw the safety screw (14) with a 5 mm hex key and a tightening torque of 12 Nm.

-End of Procedure-

## Crown and tubes kit replacement

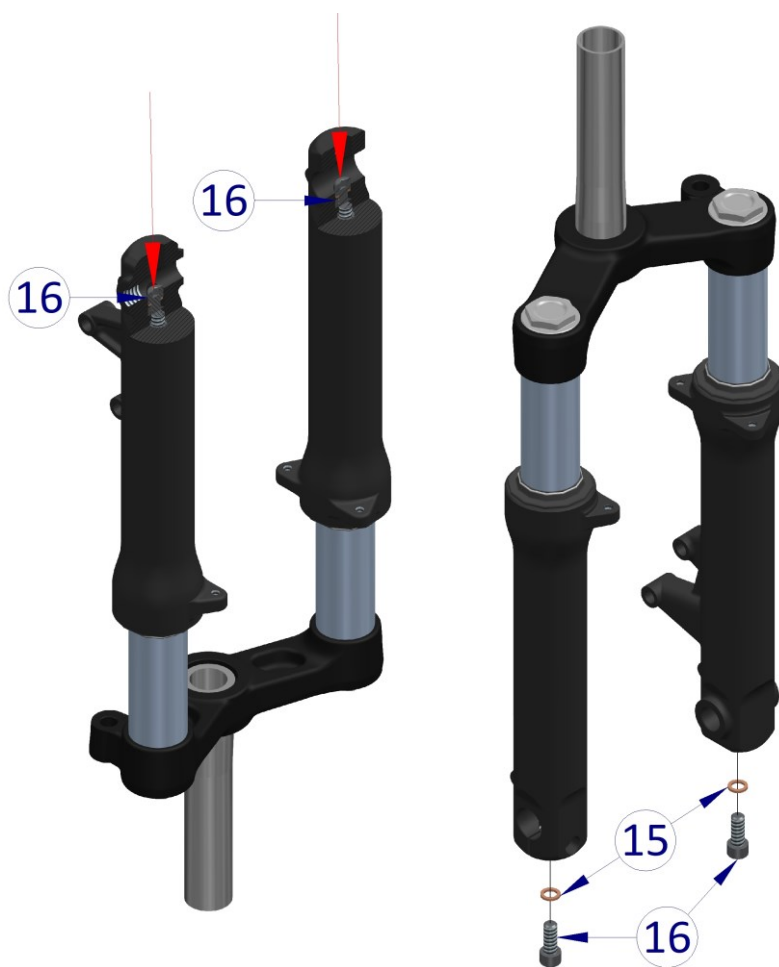
### Tools:

Part number	Description	Position	Quantity
SB40275-00	Crown and Tubes Kit	5	1
SB-A017-05	Steerer Tube Tool	31	1

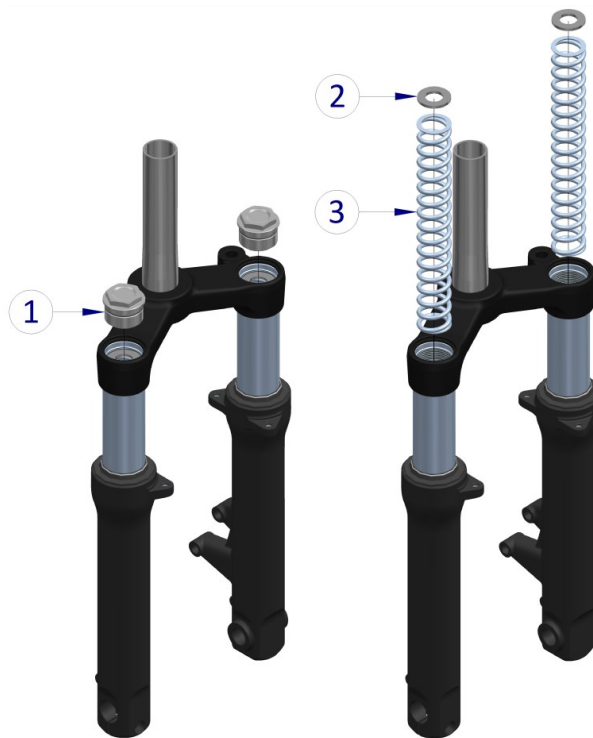
Formula Grease, Hex key 5 mm, 6 mm, 8 mm, Socket wrench 27 mm, Torque wrench

### Procedure:

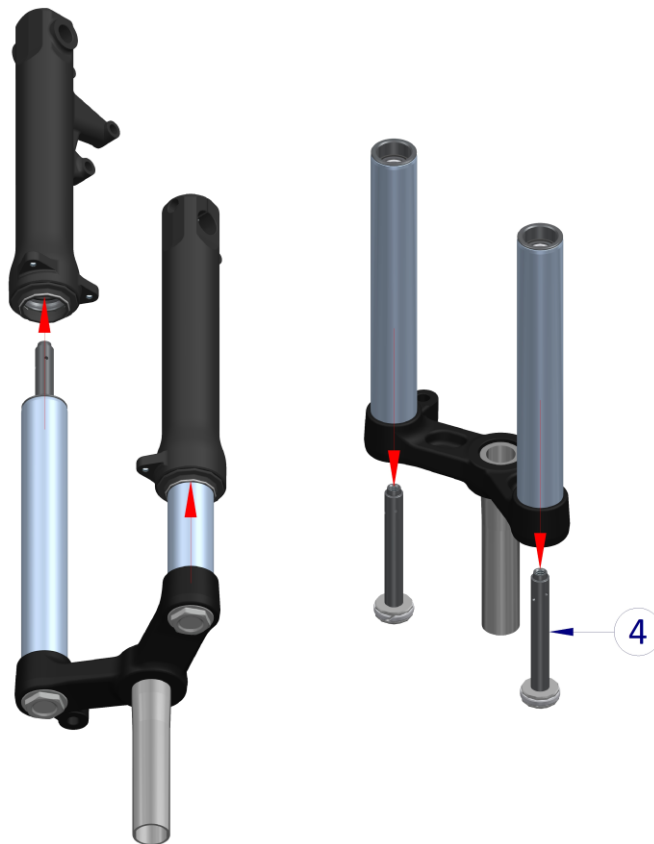
1. Before proceeding accurately clean the fork;
2. Remove the mudguard from the fork. Remove the safety screw (14) with a 5 mm hex key and remove the wheel and the axle (17) with a 8 mm hex key. Remove the fork from the bike;
3. Insert the steerer tube in a bench wise with the required tool (31) and the legs upside down;
4. Unscrew by 6-8 mm the lower screws (16) with a 6 mm hex key;
5. Hit the lower screws (16) with a rubber hammer so that the internal components detach from the legs (12, 13), allowing them to move freely;
6. Place an oil pan below the fork legs (12, 13);
7. Unscrew the lower screws (16) with a 6 mm hex key and remove the copper washers (15);
8. Wait until the fork is completely empty from oil;



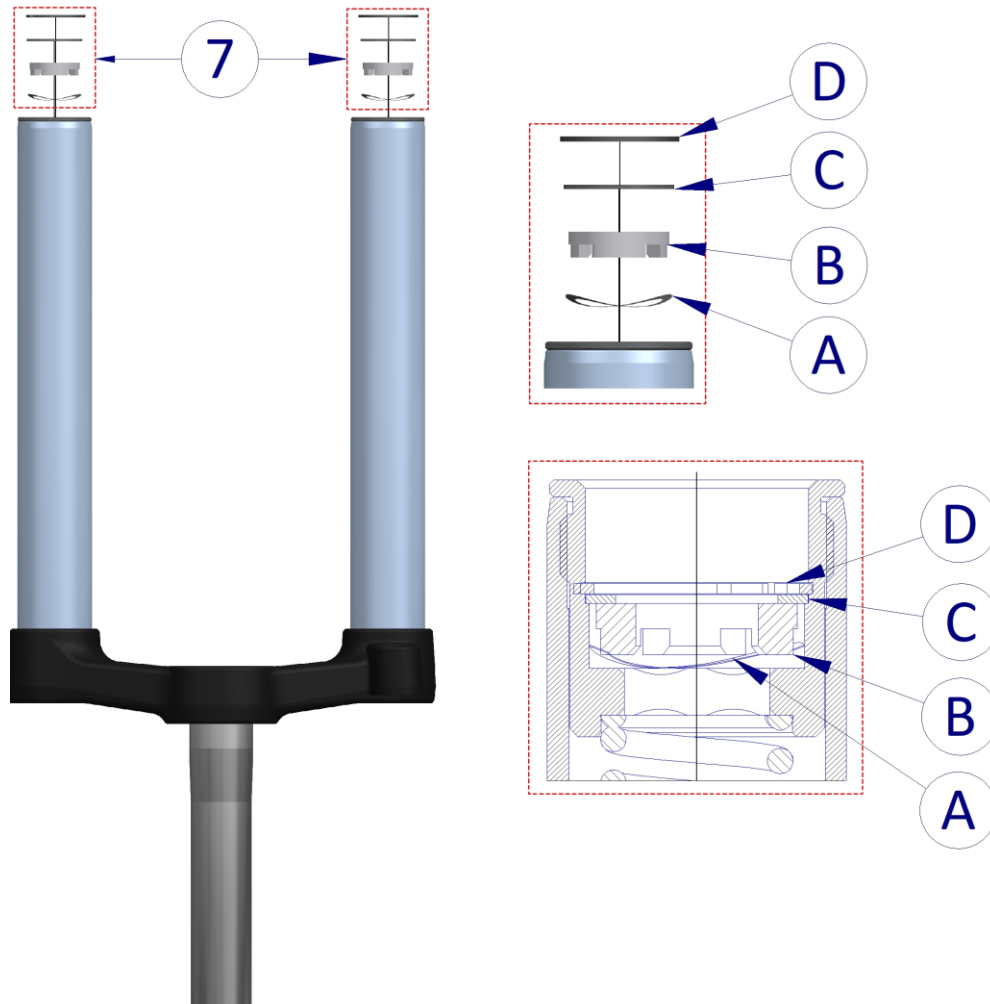
9. Unscrew the top cap (1) with a 27 mm key and ensure the o-ring (0) is not damaged;
10. Remove the spring spacer (2) and the spring (3), ensure they are not damaged;
11. Ensure the components are in good conditions and replace them if necessary;



12. Carefully remove the legs from the crown and tubes group (5) and ensure the legs and the tubes are free of scratches or cracks;
13. Clean all components and ensure they're not damaged;
14. Dispose the oil and the old washers (15);
15. Remove the Stem Kit (4) and ensure they're not damaged;

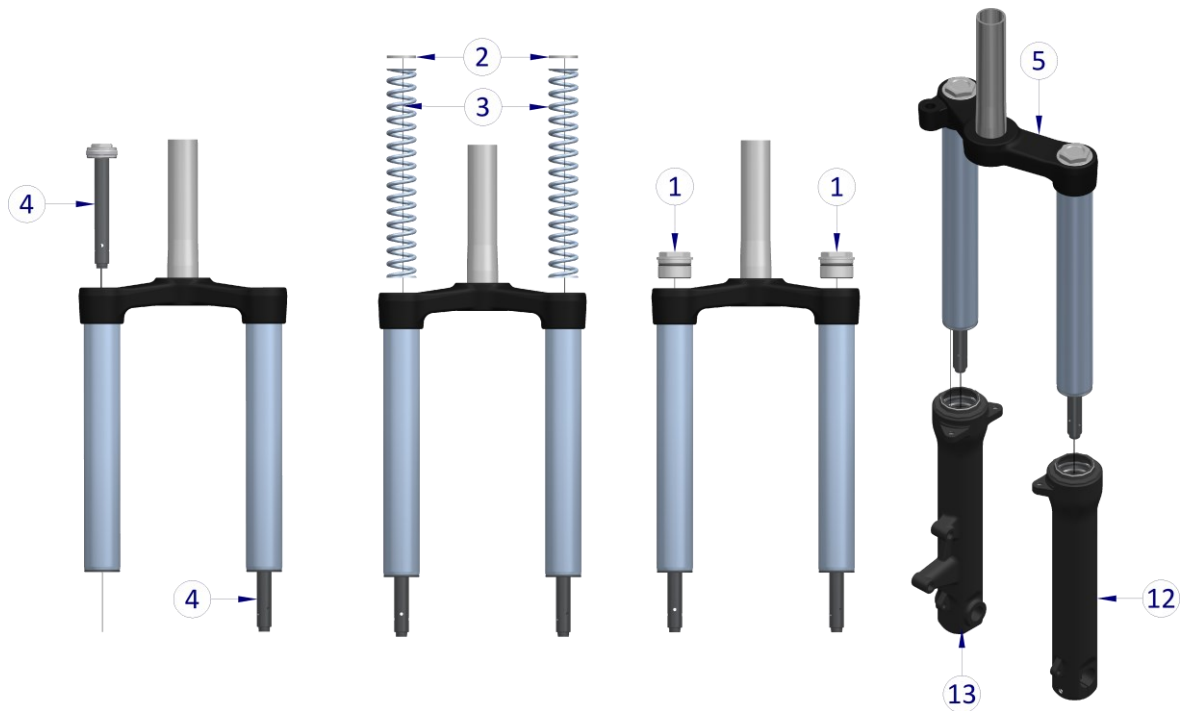


16. Place the crown and tubes kit in a bench vise with tool (31) and the tubes facing upwards;
17. Remove the seeger ring from the lower cap (6) and remove all its components (7);
18. Dispose the worn-out components of kit (7) and replace the crown and tubes kit (5) with a new one;
19. Apply Loctite 638 on the lower cap kit (6) and screw it with a 17 mm hex key and a tightening torque of 20 Nm.  
Remove eventual Loctite residues from the tube;
20. Assemble the inner lower cap kit (7). Insert the wave spring (A) ensuring it is facing downwards, the valve (B), the washer (C) and the seeger ring (D). Perform a manual test by placing a finger inside the lower cap hole and ensure that the spring properly works by pushing items B and C against item D;

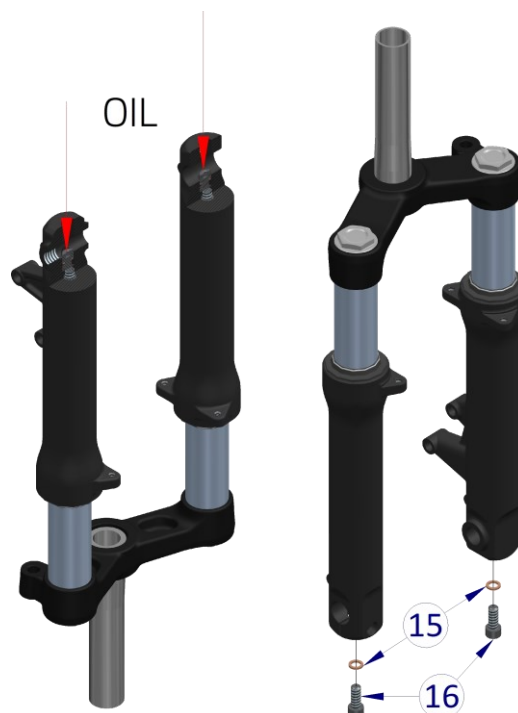


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21. Insert the stem kit (4) inside the tubes Insert the springs (3) and the spring spacers (2);
22. Apply grease on the o-ring (0);
23. Screw the top cap (1) on the fork with a 27 mm key and a tightening torque of 35 Nm;
24. Insert the legs on the tubes and push them upwards until they are fixed on the stem (4);



25. Use a syringe with an extension and put it inside the lower hole. Insert 115 mL of 7.5W oil inside the legs;
26. Insert a new washer (15) on the lower screw (16) and screw them with a 6 mm hex key and a tightening torque of 12-14 Nm;



27. Assemble the wheel and insert the axle (17) with an 8 mm hex key, screw the safety screw (14) with a 5 mm hex key and a tightening torque of 12 Nm.

-End of Procedure-

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