DT SWISS FORKS

O.D.L

Technical Manual

V2016.10

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1 General

Validity

This manual describes the component specified on the front page and the footer. Deviations are possible and all items are subject to technical changes.

Safety

The safety instructions are classified as follows:

DANGER

...indicates a hazardous situation that, if not avoided, will result in death or serious injury.

CAUTION

...indicates a hazardous situation that, if not avoided, could result in a minor or moderate injury.

NOTICE

...indicates information considered important, but not hazard-related.

...characterizes further information, or information which supplement the respective steps.

Target Group

This manual is intended for end users and dealers.
It offers the possibility for experienced users to carry out small maintenance works on their own. If there are any doubts concerning the own skills, a DT Swiss service center should be contacted.
Warranty will expire if works are not done properly.

Layout

The cover page and the footing provide information about the type of product and manual as well as the version of the manual.

The backside provides a list of the DT Swiss service centers. A list of all DT Swiss service centers can be found at www.dtswiss.com.

This manual is intended for being printed as an A5 booklet. Only print this manual if electronic usage is not possible.

DT Swiss Manual Concept

The DT Swiss manuals are split into the following types of manuals:

- User Manual
  Information for the end user on how to install and use the component.
- Technical Manual
  Detailed information for the end user and the dealer on how to maintain the component, spare parts and technical data.

How to Use this Manual

The steps described in this manual must be carried out in the order they are shown. If steps are ignored or executed in a wrong order, the function of the component cannot be guaranteed.

Instructions begin with the table «Preparatory Steps» and end with the table «Closing Steps». The instructions in these tables must be carried out.

Moving parts, threads, O-rings and sealings must be greased before assembling.

Cross References

In order to simplify the use of this manual, some text is edited as hypertext. Whenever the text is formatted blue and underlined, it is a reference to a chapter. If the text is formatted black and underlined, it is a reference to a figure. After clicking you will be automatically redirected to the target of the reference.
Example: Click here: chap. 1, page 3 to jump to the beginning of this chapter.

Warranty (Europe)

In addition to the general guarantee required by law, DT Swiss AG based in Biel/Switzerland, provides a guarantee for 24 months from the date of purchase. DT Swiss AG shall reject any liability for both indirect damage caused by accidents and consequential damage.

Any contradictory or extended national rights of the purchaser are not affected by this warranty. Place of performance and jurisdiction is Biel/Switzerland. Swiss law shall apply.

Submit any warranty claims to your retailer or a DT Swiss service center. Any defects recognized by DT Swiss AG as a warranty claim will be repaired or replaced by a DT Swiss service center.

Warranty and guarantee claims can only be made by the original purchaser with a valid sales receipt.

There shall be no claim under the guarantee for:

- Normal wear and tear caused by use of the components
- Incorrect assembly
- Incorrect or nonexistent maintenance
- Incorrectly completed repairs
- Use of unsuitable products
- Modification of components
- Incorrect use or misuse
- Carelessness
- Leasing, commercial use or use in competitions
- Damage caused by accidents
- Delivery and transport damage
- Modification, defacing or removal of the serial number

Limited Equipment Warranty USA

DT Swiss LTD makes every effort to assure that its product meets high quality and durability standards and warrants to the original retail consumer/purchaser of our product that each product is free from defects in materials and workmanship as follows:

2 YEAR LIMITED WARRANTY ON THIS DT SWISS PRODUCT. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities or to a lack of maintenance.

DT SWISS LTD LIMITS ALL IMPLIED WARRANTIES TO THE PERIOD OF TWO YEARS FROM THE DATE OF INITIAL PURCHASE AT RETAIL. EXCEPT AS STATED HEREIN, ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS ARE EXCLUDED. SOME STATES MAY NOT ALLOW LIMITATIONS ON HOW LONG THE IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. DT SWISS LTD SHALL IN NO EVENT BE LIABLE FOR DEATH, INJURIES TO PEOPLE OR PROPERTY OR FOR INCIDENTAL, CONTINGENT, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF OUR PRODUCTS. SOME STATES MAY NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

To take advantage of this warranty, the product or part must be returned for examination, postage prepaid, to the dealer where you bought the product or to a DT Swiss service center. Proof of purchase date and an explanation of the complaint must accompany the product. If our inspection discloses a defect, DT Swiss will either repair or replace the product or refund the purchase price, if we cannot readily and quickly provide a repair or replacement. DT Swiss will return repaired product or replacement at DT Swiss expense, but if it is determined there is no defect, or that the defect resulted from causes not within the scope of this warranty, then the user must bear the cost of shipping. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Legal venue and place of performance is Biel (Switzerland). Swiss law shall apply. Subject to technical changes. Please keep the user manual and warranty for future use.

1.1 General Maintenance Information

Cleaning

For an optimal result of the maintenance works, every component that will be disassembled must be cleaned. Only cleaners which do not damage the components may be used. Especially the cleaning of O-rings and sealings requires mild cleaners. Always consider the instructions of the respective cleaner.

DT Swiss recommends the following cleaners:

- Motorex Rex
- Motorex Swissclean
- Motorex OPAL 2400, OPAL 3000, OPAL 5000

Use soap water or similar mild cleaners for external cleaning.

Tools

If special materials like grease or oil are needed, they will be specified in the table «Required Material» at the beginning of a chapter. The symbol «🛠» refers to the table «Required Material» in the respective steps.

Environmental Protection

Whenever possible, waste has to be avoided. Waste, especially carbon, lubricants, cleaners and any other fluids must be disposed in an environmentally compatible manner.

Only print this manual if electronic usage is not possible.

Disclaimer

The operations described in this manual should only be performed by experts. The user is liable for any damage or consequential damage caused by wrong maintained or wrong installed components. If you have doubts, please contact a DT Swiss service center.

2 Description

Details on setting the damping and the air pressure ca be found in chapter 4 on page 23.

2.1 Spring: NCS (Negative Coil Spring)

DT Swiss forks with NCS (Negative Coil Spring) technology use an air spring consisting of a positive air chamber and a negative steel spring. The negative spring counteracts the pressure inside the positive air chamber and thus improves the response characteristics drastically. The negative spring is designed to achieve a perfect spring rate and therefore performance, irrespective of the rider's weight.

2.2 Damping: O.D.L (OPEN, DRIVE, LOCK)

The O.D.L damping unit is a closed system. The damping oil is separated from the air in the fork by a preloaded floating piston. This prevents the oil from foaming and ensures a constant damping performance even on long, rough downhills.
The oil gets in contact with the inner wall of the stanchion. This leads to a better heat dissipation compared to a completely closed cartridge.

2.2.1 Low-Speed Compression (LSC)

The low-speed compression (LSC) can be pre-adjusted in three steps «OPEN», «DRIVE» and «LOCK» for different terrain and different demands.

OPEN

Full functionality and sensibility of the fork can be attained in the mode «OPEN». This setup is mostly suitable for downhills, technical and rough uphills and comfortable rides on flat trails.

To meet the needs of all riders, the low-speed compression (LSC) can be adjusted in the mode «OPEN» with the blue compression adjusting wheel.

- When the compression is completely opened (compression adjusting wheel is turned anti-clockwise until stop), the fork is very sensible and comfortable. This is mostly suitable for the comfort-oriented rider, who is riding in easy terrain.
- When the compression is increased (turning the compression adjusting wheel clockwise), the fork gets more firm and sporty. The sporty rider with an active riding style gets more feedback from the ground. This setting is mostly advantageous on technical, demanding trails.
  Additionally, the change of the viscosity in cold conditions can be compensated by adjusting the compression.
- When the compression is completely closed, the setting mostly meets the setup of the «DRIVE» mode.

DRIVE

The «DRIVE» mode sets the fork into a very firm mode. Movements from pedaling are mostly eliminated.
This setting is mostly advantageous for sporty and efficient pedaling on flat trails and uphills.

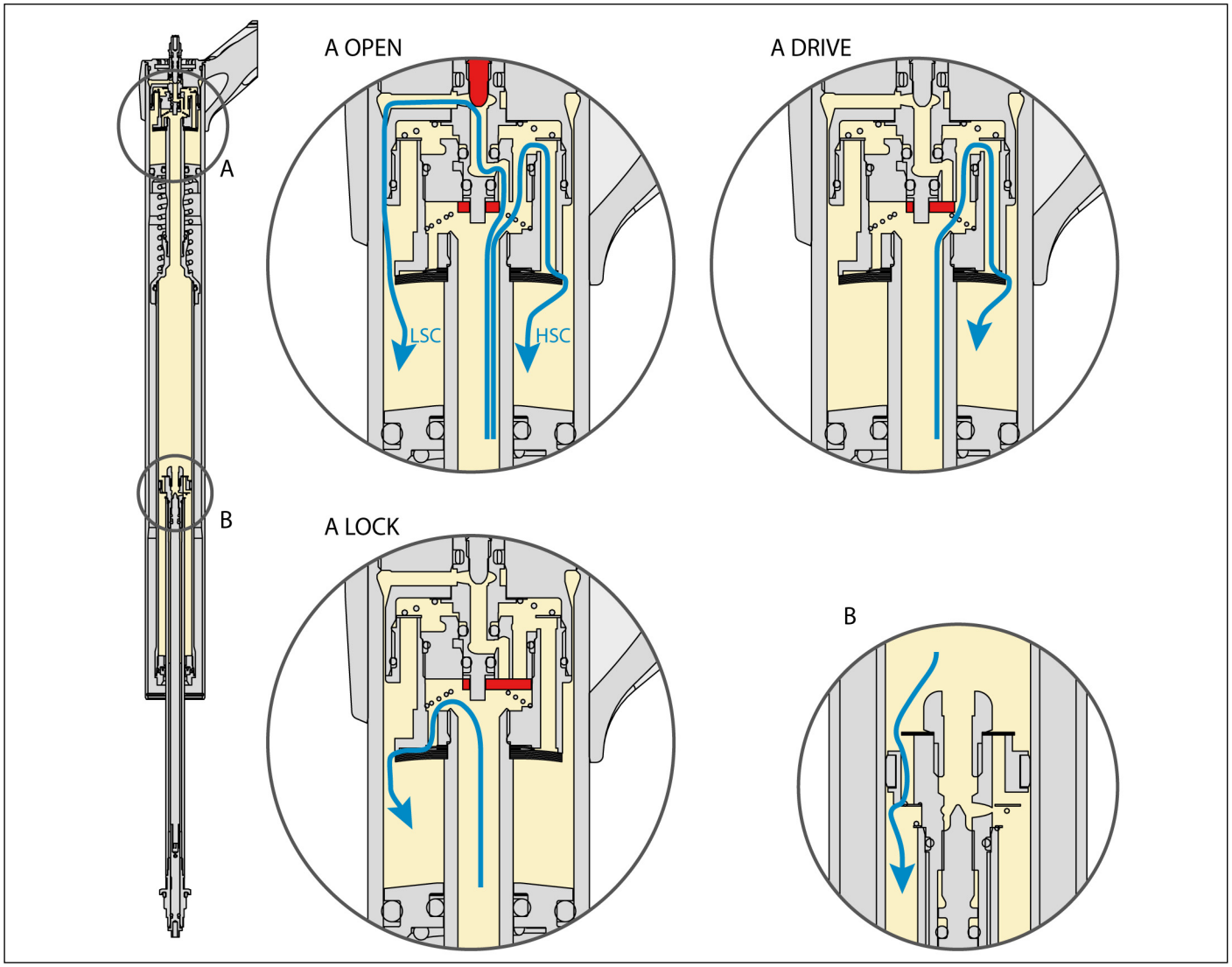
LOCK

The «LOCK» mode blocks the fork in fully extended position. This is mostly suitable for situations where no suspension is needed (for example riding on the road or connecting trails).
The lockout in the «LOCK» mode is hard and defined. A blow-off valve protects rider and material from unexpected hits.

2.2.2 High-Speed Compression (HSC)

The firm setup of the high-speed compression leads to a controlled feeling even on hard hits, jumps or steps.
The high-speed compression is pre-set and is not adjustable.

2.2.3 Compression - Function in Detail



When the fork deflects, the piston inside the oil chamber is pushed upwards. Some of the oil passes through a one way valve past the piston into the lower part of the oil chamber. Thus the volume beneath the piston is smaller than above, only part of the displaced oil can flow into the space beneath the piston. This excess oil is pushed through the damping circuit in the upper part of the damping unit. The preloaded floating piston creates a counter pressure to the inflowing oil.

In the «OPEN» mode (see A OPEN) the oil flows through the oil channel of the low-speed compression (LSC) and thus over the adjusting needle, which position can be adjusted with the blue compression wheel. The position of the adjusting needle controls the flow resistance of the oil and thus the intensity of damping. The higher the flow resistance, the higher the damping.

Additionally, the oil flows through the oil channel of the high-speed compression (HSC). Shims are placed at the end of the oil channel. These shims only open when a defined oil pressure is attained. Oil which cannot flow through the oil channels of the LSC (because of fast deflection of the fork, and thus big displacement of the oil generated by the piston), flows through the oil channels of the HSC. This ensures separate damping characteristics on small and medium or on fast deflection speeds.

When the «DRIVE» mode is set (see A DRIVE), a slider closes the oil channel of the LSC. The entire oil flows through the oil channels of the HSC.

When the «LOCK» mode is set (see A LOCK), a slider closes the LSC and HSC oil channel. The oil can only flow through the blow-off channel. Shims at the end of the blow-off channel open the access to the HSC channel at a defined oil pressure. The blow-off itself does not represent a damping function, it protects rider and material from big hits.

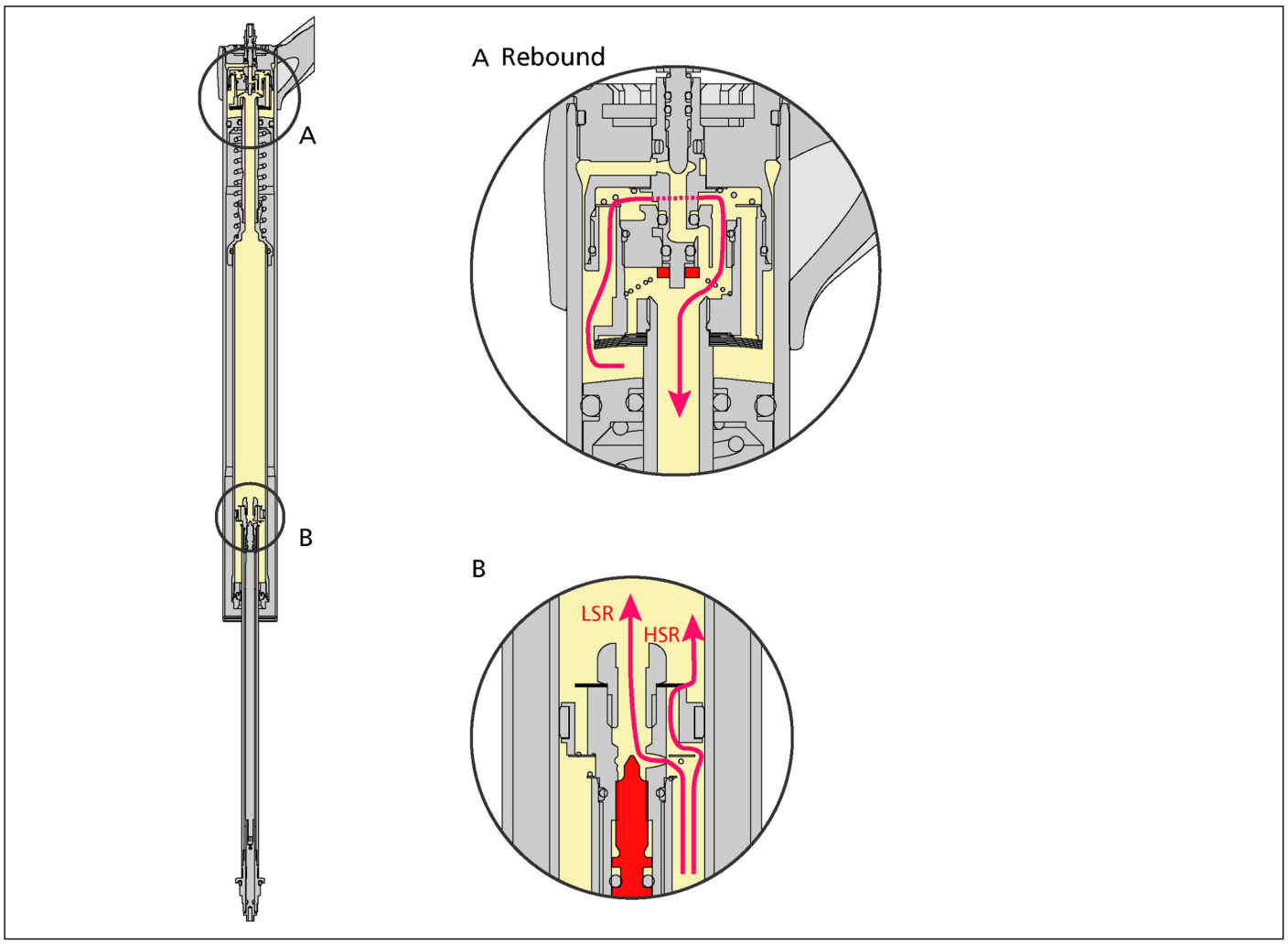
2.2.4 Low-Speed Rebound (LSR)

Fast rebound speed after small hits leads to a sensible fork on fast trails and perfect grip in turns because the wheel gets contact to the ground immediately after hits.

2.2.5 High-Speed Rebound (HSR)

Medium rebound speed after big hits enables the fork to be ready for following hits. The rebound speed is not too fast so that the fork gives a controlled feeling after drops and steps.

2.2.6 Rebound - Function in Detail



The preloaded floating piston pushes the oil from the upper part of the damping unit into the oil chamber when the fork is released. The oil can flow directly from the upper unit of the damping unit into the oil chamber (see A). The rebound damping happens in the damping piston (see B).

When the fork rebounds slowly, the oil flows through the oil channel of the low-speed rebound (LSR). An adjusting needle, which position can be adjusted with the red rebound wheel, controls the flowing resistance through the LSR oil channel. The higher the flowing resistance, the higher the rebound damping.

Additionally, the oil flows through the oil channel of the high-speed rebound (HSR). Shims are placed at the end of the oil channel. These shims only open when a defined oil pressure is attained. Oil which cannot flow through the oil channels of the LSR (because of fast deflection of the fork and thus big displacement of the oil generated by the piston) flows through the oil channels of the HSR. This ensures separate damping characteristics on small and medium or on fast rebound speeds.

3 Installation

DANGER

Danger due to exceeding or falling below the given torque!

Especially for carbon parts, exceeding or falling below the given torques may lead to faulty mechanical connections.

- Use torque wrenches with an appropriate adjustment range.
- Consider the torque values of each component. The lowest values are decisive, but it may not be fallen below values given by DT Swiss.

3.1 Shortening the Steerer

The length of the steerer essentially depends on the headset and the stem. It is mandatory to consult the instruction manual of the headset and the stem.

NOTE: When the headset and/or the stem is exchanged, the new installation height can have an effect on the length of the steerer.

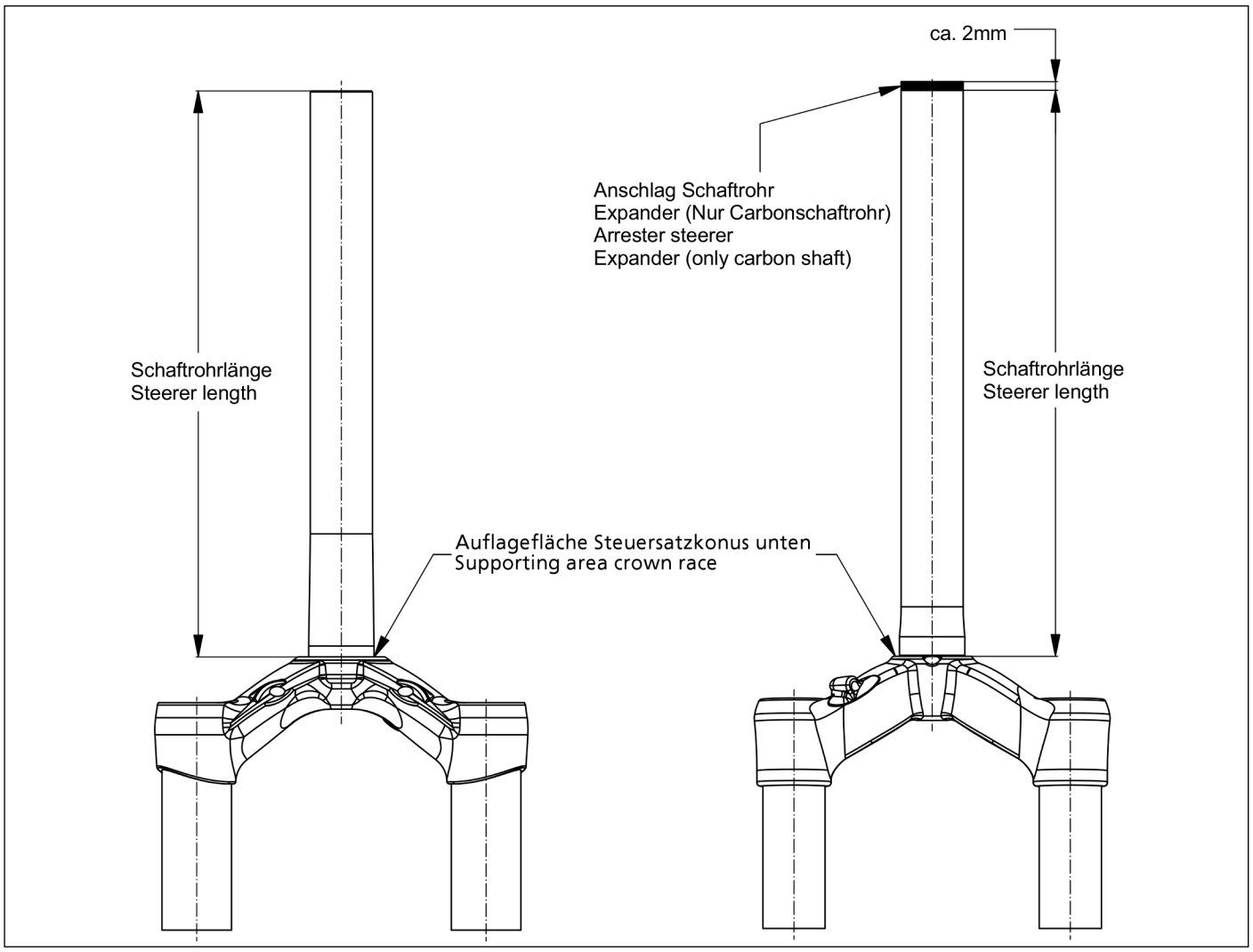


Figure 3-1: Steerer

3.1.1 Shortening a Carbon Steerer

Preparatory Steps	Link
1. Dismount the fork from the bike. **2.** Dismount the crown race of the old fork. **3.** Measure the length of the old fork's steerer. Make sure to measure the length from the support of the crown race to the end of the steerer. **4.** Transfer the measured value to the new steerer. **5.** Ensure that the remaining clamping surface on the steerer complies with the total height of the stem including a 5 mm spacer on top of the stem.	-

DANGER

Risk of injuries when carrying out works with carbon!

Take measures to protect yourself, especially your eyes, your skin and your respiratory tract before starting shortening the carbon steerer.

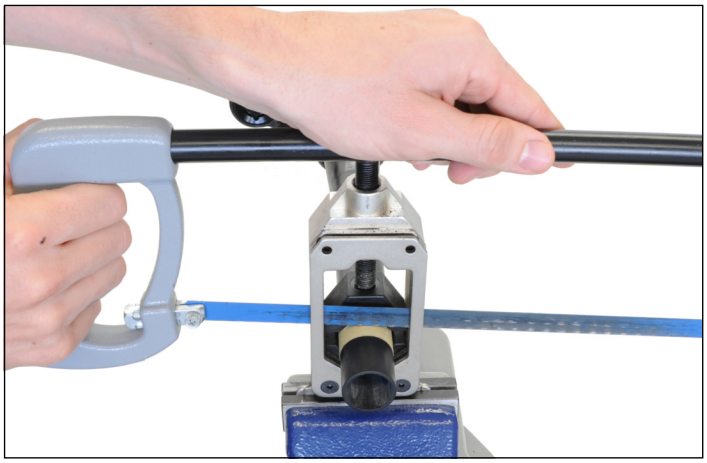
- Wear protective goggles.
- Wear protective gloves.
- Wear a respirator mask.

Required Material	Specification	Amount
protective goggles	-	1
protective gloves	-	1 pair
respiration mask	-	1
adhesive tape	-	as required
handsaw	new saw blade for metal with min. 24 teeth per inch	1
sandpaper	grain min. 400	as required
cleaner	Motorex Swissclean 2300	as required

1. Put adhesive tape around the steerer where the steerer needs to be cut. This prevents the carbon fibers to fringe.



2. Cut the steerer to the required length.
   Use a saw guide for cutting a carbon steerer!



3. Remove the adhesive tape from the steerer completely.
   Do not use aggressive cleaners to remove remaining adhesive.
4. Grind the cutting edges on the inside and the outside of the steerer using sand paper.
   The carbon fibers on the cutting edge must not fringe.
5. Check the inner surface of the steerer for dirt and clean it if necessary.



3.1.2 Shortening an Aluminum Steerer

Required Material	Specification	Amount
star nut	for 1 1/8“ steerers	1
pipe cutter	-	1
file	-	1

1. Cut the steerer to the required length. DT Swiss recommends using a pipe cutter.
2. Deburr the steerer on the inside and on the outside using a file.
3. Drive the star nut into the steerer using a suitable tool.

Closing Steps	Link
Install the fork.	see following chapter

3.2 Mounting the Steerer Expander

There are two different types of DT Swiss steerer expanders available:

Type 1	Type 2
	
DT Swiss Art.Nr.:FWXXXX0XXXX046011S	DT Swiss Art.Nr.: FWXXXXXXXXXX46348S
Must only be used in combination with Twin Shot forks with carbon steerer and with all forks with aluminum steerer.	Must be used in combination with O.D.L Race and O.D.L Limited forks.
Installation, see chap. 3.2.1, page 15	Installation, see chap. 3.2.2, page 16

The DT Swiss steerer expander increases the length of the steerer about 2 mm.

DANGER

Risk of injury when using a star nut in combination with a carbon steerer!

No star nut shall be used in combination with a carbon steerer.

- Only use the original DT Swiss steerer expander.
- The DT Swiss steerer expander must be mounted at all times.

3.2.1 Installation of the Steerer Expander [Type 1]

Required Material	Specification	Amount
steerer expander	 FWXXXX0XXXX046011S	1

1. Slide the steerer expander into the steerer until the upper part of the expander contacts the upper part of the steerer. Align the slotted bushing backwards (opposite drive direction).



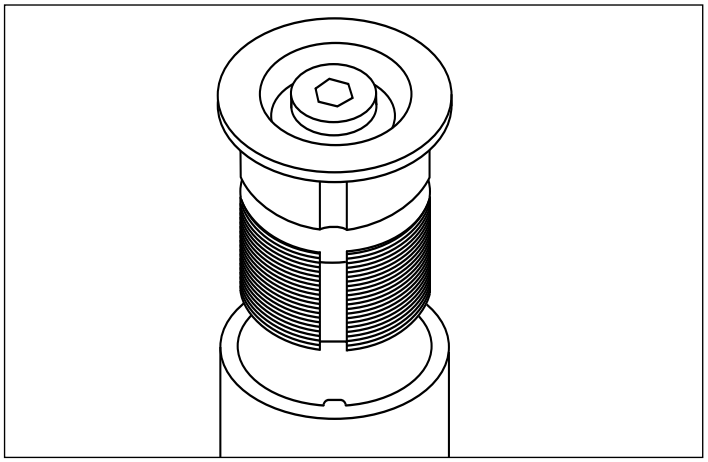
2. Hold the expander by hand.
3. Use a 6 mm Allen key to tighten the screw that fast, that the expander does not turn itself. The maximum torque of 7 Nm must not be exceeded.



3.2.2 Installation of the Steerer Expander [Type 2]

Required Material	Specification	Amount
steerer expander	 FWXXXXXXXXXX46348S	1

1. Clean the inner surface of the steerer using a dry cloth.
2. Apply carbon installation paste in the area of the contact surface between the steerer expander and the steerer.
3. Insert the expander into the steerer up to the stop.
   ⇨The expander can only be installed in the positions specified by the ribs in the steerer.
   ⇨The grooves on the expander must be aligned with the ribs in the steerer.
4. Tighten the screw for the steerer expander to a maximum torque of 8 Nm.



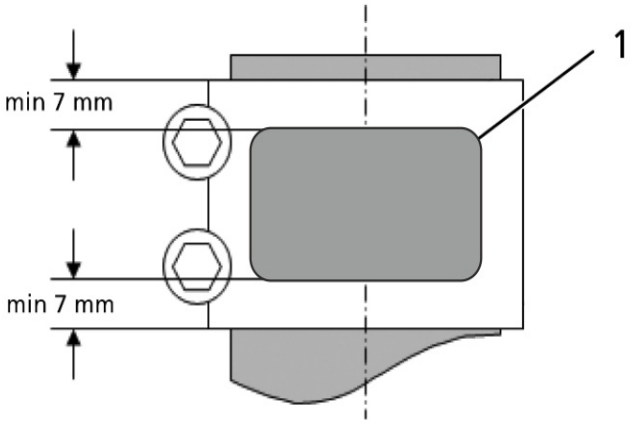
3.3 Installing the Fork

Preparatory Steps	Link
Read the instructions of the stem manufacturer.	

DANGER

Danger due to incorrect installation of the fork!

- Only use compatible headsets.
  DT Swiss forks either have a straight steerer with a diameter of 28.6 mm (1 1/8“) or a tapered steerer with a diameter of 39.82 mm (1.5") at the bottom and 28.6 mm (1 1/8“) at the top. Only use a headset which is compatible with your steerer diameter.
- Only use crown race reducers of the respective headset manufacturer.
- DT Swiss forks are built for a stem clamp without thread. Do not add any holes or threading, nor make any kind of technical alterations to the fork.
- The steerer or the crown must not be damaged when assembling or using the DT Swiss fork. Special attention must be paid when fitting the headset crown race to the base of the steerer tube. The parts mounted on the fork must not have sharp edges.
- Do not use cotter style stems.
- The flange of the discontinuous clamp area of the stem must be at least 7 mm high (see following figure).



DANGER

Danger due to incorrect installation of the headset!

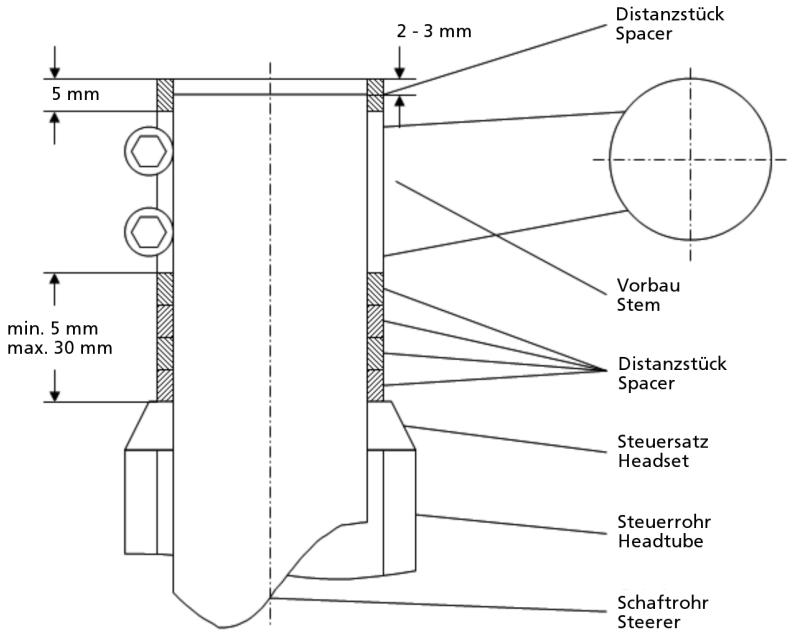
- The max. torque given by the manufacturer of the headset must not be exceeded.
- The DT Swiss steerer expander must be installed when a carbon steerer is used.
- Stem and headset must be installed in accordance with the instructions of the respective manufacturer.
- The adjusting screw of the headset is intended for adjusting the play of the headset. The screw is not intended for fixing!
- The crown race must not have sharp edges. These edges cause scratches to the steerer and shorten the lifetime of the fork or induces a breakage of the steerer.
- The fork must not be damaged while installing. Damages shorten the lifetime of the fork and can cause a breakage.
- If you are using a carbon steerer, only use stems which are released for usage in combination with carbon steerers.

DANGER

Danger due to incorrect installation of the headset!

For a faultless function, the following instructions must be followed:

- The spacers between headset and stem must be within the following limits:
  - minimum height: 5 mm
  - maximum height: 30 mm
- There must be a spacer on top of the stem with a height of 5 mm. This ensures that the stem is contacting the steerer with its entire surface.
- Ensure that the distance between the upper edge of the spacer and the steerer is big enough. Otherwise the play of the headset cannot be adjusted correctly. DT Swiss recommends a distance of 2 to 3 mm.



Installing the Crown Race

1. Aluminum steerer: Apply a thin layer of grease onto the contact area of steerer and crown race. DT Swiss recommends Motorex Langzeitfett 2000.
   Carbon steerer: Apply a thin layer of DT Swiss carbon fitting lubricant.
2. Install the crown race in accordance with the instructions of the manufacturer.

Installing the Fork and the Stem

1. Install the fork to the frame.
2. Ensure that the headset crown race and the compliant headset are fitted together properly.
3. Install the upper part of the headset in accordance with the instructions of the manufacturer.

Installing the Stem and the Spacers

1. Add the spacers onto the steerer to set the required height of the stem.
2. Carbon steerer: Apply a thin layer of DT Swiss carbon fitting lubricant onto the contact area of the stem and the steerer.
3. Slide the stem onto the steerer. Do not tighten the fixing screws.
4. Add the spacer to the top of the stem.
   Note the restrictions regarding the height of the spacers between stem and headset (see above).

Adjusting the Bearing Play of the Headset

Adjust the bearing play in accordance with the instructions of the manufacturer.

Installing the Stem

1. Align the stem and tighten the fixing screws in accordance with the instructions of the manufacturer. Consider the max. torque for carbon steerers!
2. In case the manufacturer of the stem does not specify torques for carbon steerers, proceed as follows:
   a) Tighten the fixing screws with a torque of 4 Nm using a torque wrench.
   b) Check if the stem is fitting securely on the steerer by jamming the front wheel between your legs and trying to twist the handlebar.
   c) If this is not the case, enhance the torque in steps of 0.5 Nm and alternately tighten the fastening screw until the stem cannot be twisted anymore.
      - Do not exceed the maximum torque mentioned by the stem manufacturer.
      - The steerer expander delivered with the fork has to be mounted during these operations.

Closing Steps	Link
Installing the brake.	chap. 3.4, page 20
Inflating the fork.	chap. 4.2, page 24

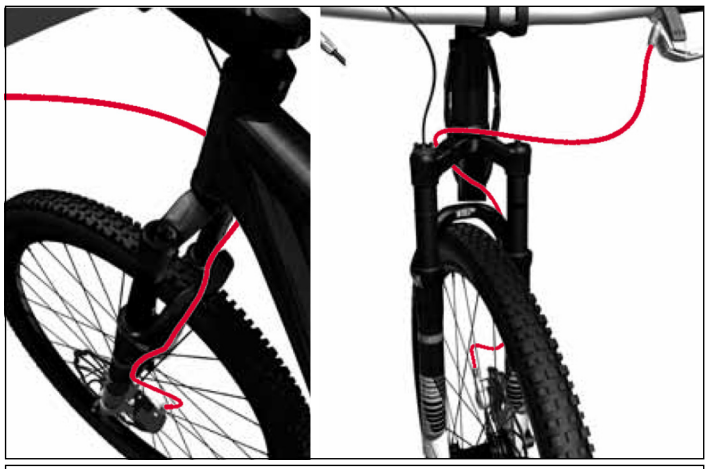
3.4 Installing the Brake

Preparatory Steps	Link
not required	

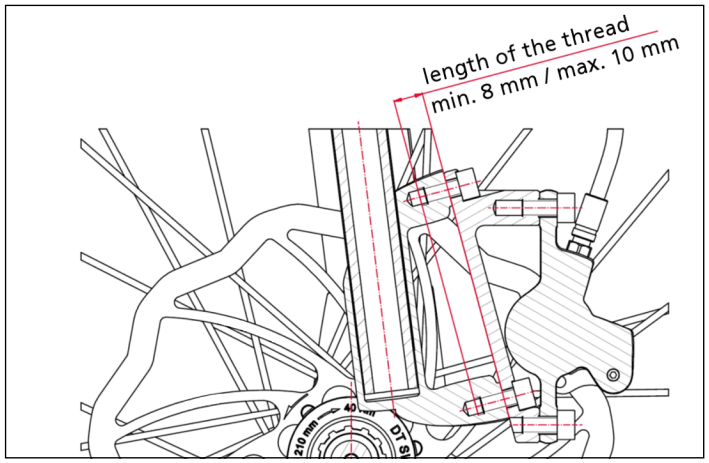
DT Swiss O.D.L forks are compatible with brake discs with a maximum diameter of 210 mm.

All DT Swiss Forks from 2009 on are equipped with Post Mount (PM) brake mounting standard for 160 mm. For usage of brake discs with a diameter bigger than 160 mm, an appropriate adapter is needed.

1. Install the brake lever in accordance to the instructions of the manufacturer.
2. Install the brake pipe like shown in the picture. Do not affix the brake pipe to the crown. Scratch areas must be protected by a suitable sticker.



3. Install the brake caliper.
4. Screw in the fixing screws and tighten them with a torque of min. 6 Nm and max. 10 Nm.
   - The max. torque must not exceed the specifications of the manufacturer.
   - The length of the thread must be min. 8 mm and max. 10 mm.



5. When using disc brakes without Center Lock adapter or disc brakes with a spider arm construction, a collision test must be made between the front wheel with mounted disc brake and the fork.
6. Install the brake in according to the instructions of the manufacturer.

Closing Steps	Link
Install the front wheel and perform a braking test.	see following

3.5 Installing the Front Wheel

DANGER

Risk of injury due to collision of the tire with parts of the fork!

A collision test must be performed after the front wheel was installed!

DANGER

Risk of injuries due to damages of the fork caused by parts with sharp edges!

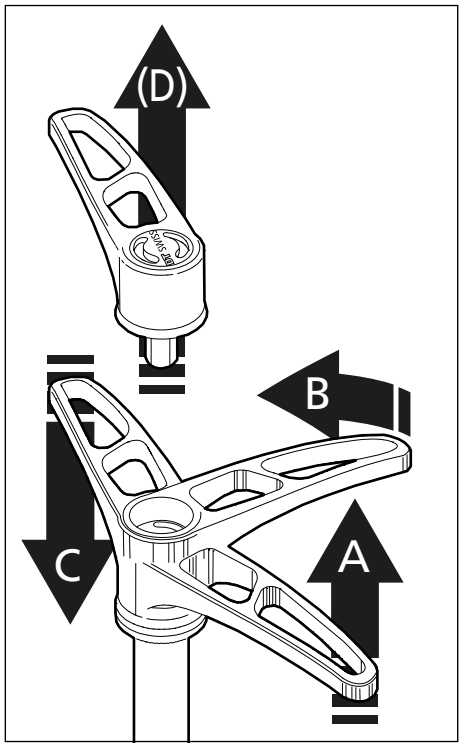
Mounting hubs, thru axles or quick releases with sharp edges can damage the fork. Such damages can lead to a sudden failure of the fork.

- Check hubs, thru axles or quick releases for sharp edges.
- Do not use hubs, thru axles or quick releases if there are sharp edges.

Preparatory Steps	Link
not required	

Using a RWS Thru Axle

1. Remove the axle from the fork and check it for sharp edges. If sharp edges are present, the axle must not be used.
2. Clean and lightly grease the axle and the axle thread.
3. Clean the contact surfaces between the hub and the fork and check for sharp edges. If sharp edges are present, the hub must not be used.
4. Position the wheel between the fork dropouts.
5. Push the axle through the dropouts and hub.



Closing the RWS:

1. Turn the lever in a clockwise direction and secure as tightly as possible by hand (min. 15 Nm).
   Lift the RWS lever (A), turn it to the required position (B) and let go (C).
   If a RWS plug-in is being used, the lever can be removed by pulling it (D).
2. Check to ensure the wheel is secured correctly in the fork.

Opening the RWS:

1. Turn the RWS lever anti-clockwise.

Check before every ride

Before every ride, ensure that the wheel is securely mounted in the fork. Ensure that the RWS lever is tightened to at least 15 Nm.

Using a Quick Release

Install the front wheel in accordance with the instructions of the manufacturer of the quick release.

Collision Test

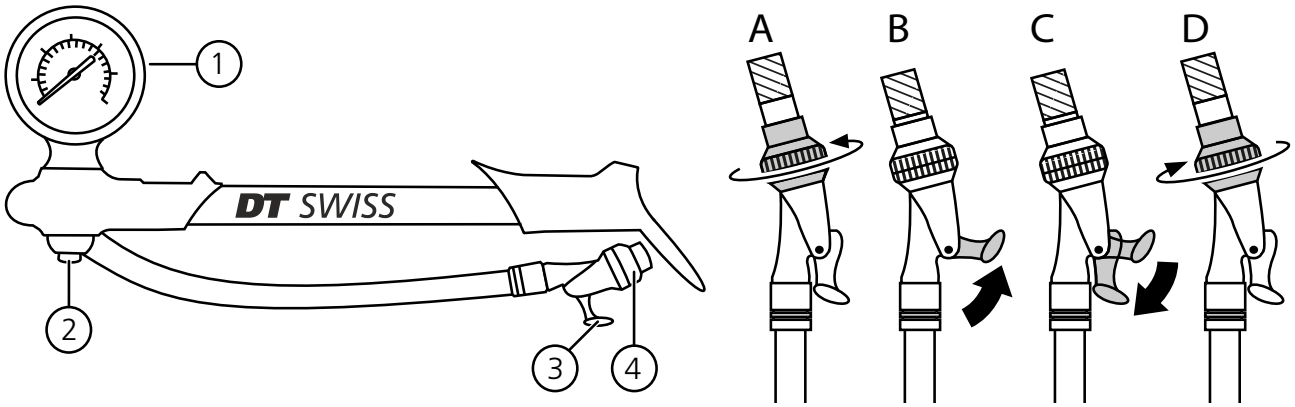
1. Inflate the used tire to the max. pressure.
   ⇨ The max. pressure is given by either the tire or the rim. Decisive is the lower pressure of both components.
2. Release the air from the fork completely. Compress the fork completely.
3. Check if the tire touches any part of the fork while it is fully compressed. Is this the case, the tire or the wheel must not be used!
4. If necessary, reduce the tire pressure to the required operating pressure.

Closing Steps	Link
Check the correct installation of the fork and function of the brake.	

4 Operating and Setting

4.1 Using the DT Swiss shock pump

On forks that have been purchased as aftermarket components, the DT Swiss shock pump is part of the supplied package.



The DT Swiss shock pump has a pressure gauge (1) which can be used to precisely adjust the fork's pressure. A release valve (2) allows the pressure in the fork to be reduced. A valve lever (3) on the pump head (4) allows the shock pump to be unscrewed without any loss of pressure.

Operating the shock pump

A Screw the pump head (4) fully onto the valve on the fork.

B Close the valve lever (3) (push the lever towards the valve) and pump up the fork.
→Closing the valve lever (3) opens the valve on the fork.
→Pressing the release valve (2) allows the pressure in the fork to be reduced.

C Open the valve lever (3) (push the lever towards the pump tube).
→Opening the valve lever closes the valve on the fork. No air is able to escape from the fork when the pump is unscrewed.

D Unscrew the pump head (4) from the valve on the fork.

4.2 Setting the Air Pressure

Recommended Air Pressure

The following air pressures are only reference values. The air pressure should be set to your personal preferences and to the correct SAG.

Rider Weight (rider with equipment) [kg / lbs]	Travel 100 mm	120 mm	130 mm	140 mm	150 mm
	Recommended Air Pressure [bar / psi]				
40 / 88	3,4 / 49	3,3 / 48	3,2 / 46	3,1 / 45	2,8 / 41
45 / 99	3,8 / 54	3,7 / 53	3,6 / 52	3,5 / 50	3,2 / 46
50 / 110	4,1 / 60	4,0 / 58	3,9 / 56	3,8 / 55	3,5 / 51
55 / 121	4,5 / 65	4,4 / 63	4,3 / 62	4,2 / 61	3,9 / 56
60 / 132	4,8 / 70	4,7 / 69	4,6 / 67	4,5 / 66	4,2 / 61
65 / 143	5,2 / 75	5,1 / 74	5,0 / 73	4,9 / 71	4,6 / 67
70 / 154	5,5 / 80	5,4 / 79	5,3 / 77	5,2 / 76	4,9 / 72
75 / 165	5,9 / 86	5,8 / 84	5,7 / 82	5,6 / 81	5,3 / 77
80 / 176	6,3 / 91	6,2 / 89	6,0 / 87	6,0 / 86	5,7 / 82
85 / 187	6,6 / 96	6,5 / 94	6,4 / 92	6,3 / 92	6,0 / 87
90 / 198	7,0 / 101	6,9 / 100	6,8 / 99	6,7 / 97	6,4 / 92
95 / 210	7,3 / 106	7,2 / 105	7,1 / 103	7,0 / 102	6,7 / 98
100 / 220	7,7 / 111	7,6 / 110	7,5 / 109	7,4 / 107	7,1 / 103
105 / 232	8,0 / 117	7,9 / 115	7,8 / 113	7,7 / 112	7,4 / 108
110 / 245	8,4 / 122	8,3 / 120	8,2 / 119	8,1 / 117	7,8 / 113
 Max. Air Pressure	12 / 174	12 / 174	12 / 174	12 / 174	12 / 174

Setting the SAG (Negative-Travel)

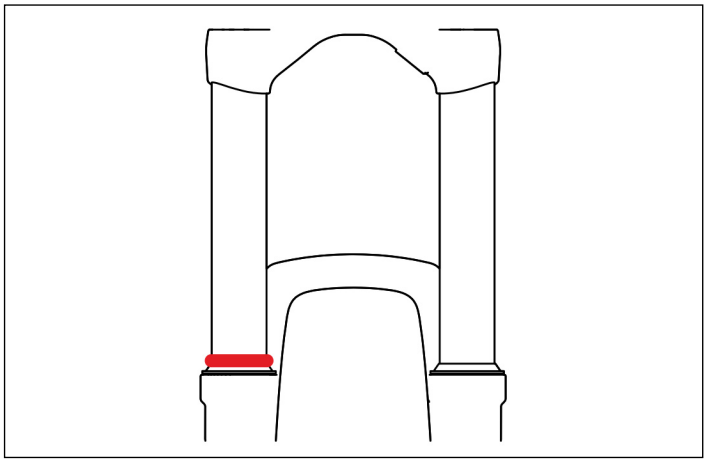
The SAG is the amount of travel of which the fork will be compressed by the weight of the rider with full equipment. If the SAG is adjusted correctly, the front wheel can follow the ground during the ride better.

Riding Style	SAG [% of Travel]	SAG [mm] of Travel				
		100 mm	120 mm	130 mm	140 mm	150 mm
Cross Country / Race	15%	15 mm	18 mm	19.5 mm	21 mm	22.5 mm
Marathon / Tour	20%	20 mm	24 mm	26 mm	28 mm	30 mm
All Mountain / Enduro	25%	25 mm	30 mm	32.5 mm	35 mm	37.5 mm

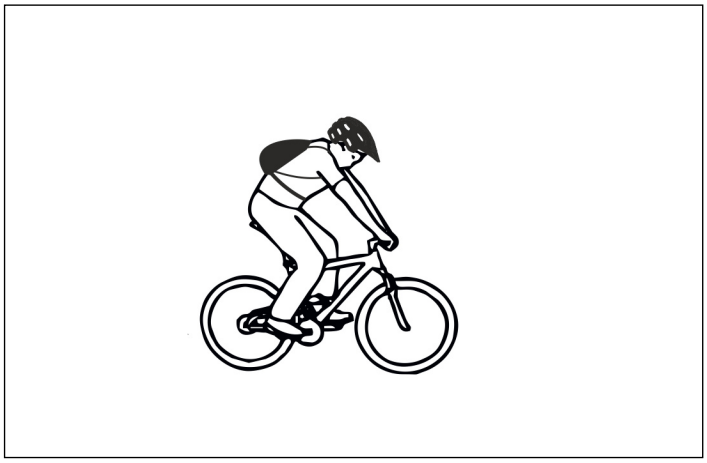
To set the SAG, you should use the help of a second person.

1. Switch the fork to position «OPEN».
   - Push the manual lever in position «OPEN» or
   - push the lever into position «OPEN» or
   - push the remote lever into position «OPEN».

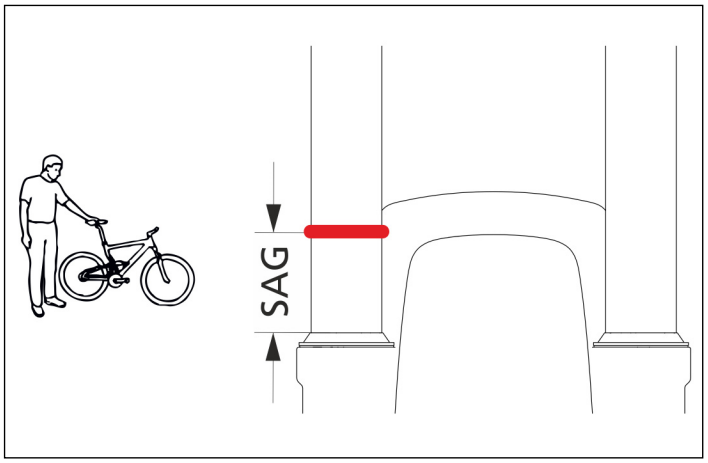
2. Push the O-ring on the right stanchion to the bottom, until it touches the wiper seal.



3. Sit on the bike with full equipment (backpack, helmet, shoes...).
4. Sit on the bike as you would sit during the ride.
   ⇨ The fork goes down because of your own weight.
   ⇨ Avoid impact loads.



5. Get off your bike and measure the distance between O-ring and wiper seal.
   ⇨ This measurement is called SAG.
   ⇨ The SAG should be between 15% and 25% of the full travel and can be adjusted depending on the riding style and use.



6. Set the air pressure if necessary (see following). Repeat steps above until the correct SAG is set.

Setting the Air Pressure

In all DT Swiss forks, the air spring is located in the left stanchion. By adjusting the air pressure, the spring rate will be affected. The higher the air pressure, the harder the spring. Adjusting the air pressure to the weight of the rider can slightly change the total length of the fork.
The air chamber is filled with a small amount of lubricating oil. Make sure that the valve is facing upwards during inflation or deflation.

NOTICE

Do not use the fork while the shock pump is mounted!
This may cause the shock pump to touch the frame and the thread of the valve to break off.

Only use a suitable shock pump to adjust the air pressure. We suggest to use the DT Swiss shock pump.

1. Position the bike so that the valve of the air chamber is facing upwards.
2. Remove the valve cap.
3. Mount a suitable shock pump onto the valve.
4. Adjust the air pressure by in- or deflating.
   ⇨ Check if the correct SAG is set (see above).
5. Screw on the valve cap.

4.3 Setting the Damping

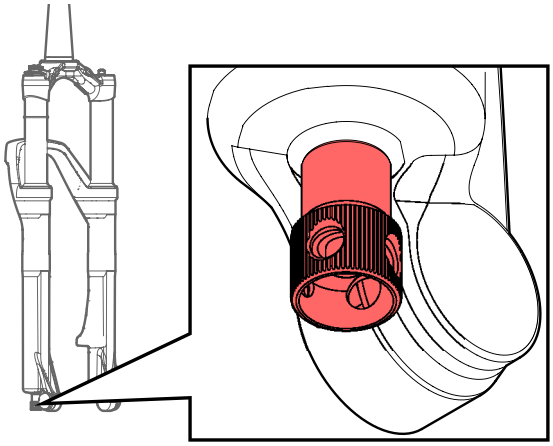
The correct setting of the damping requires some patience but the full potential of the fork can only be attained if the setting is perfect.

4.3.1 Rebound

The rebound controls the speed of the decompression movement.

To adjust the rebound damping, turn the red adjusting knob on the bottom of the right stanchion.

- Turn clockwise to increase the rebound damping.
- Turn anti-clockwise to decrease the rebound damping.



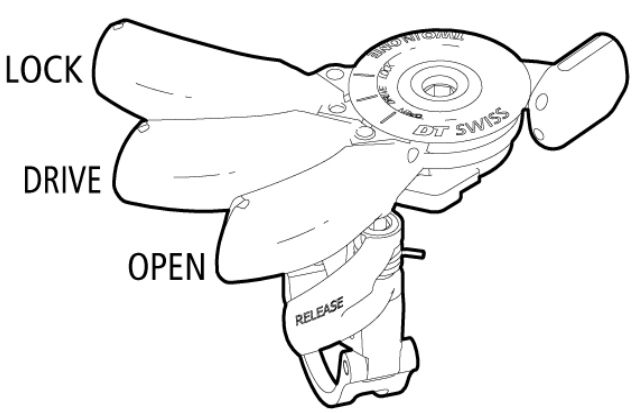
If the rebound damping is too low, the front wheel decompresses too fast and loses the contact to the ground. If the rebound damping is too high, the front wheel cannot follow fast impacts and the suspension hardens. The aim of setting the rebound damping is to achieve the best setting possible, which meets the requirements of the terrain best. Rough, fast downhills require a low rebound damping, while flowy downhills without big hits require a higher damping.

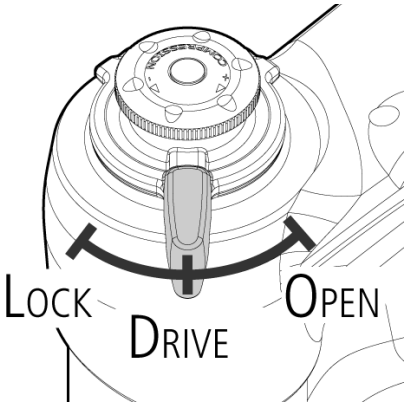
Basic rebound setup: 12 clicks based on a fully opened damping.

Based on this setup, the user can fine tune the damping to fit specific needs.

If the weight of the rider is more than 75 kg/165 lbs, the rebound should be closed additional 2 to 5 clicks. If the weight of the rider is clearly lower than 75 kg/165 lbs, the rebound should be opened additional 2 to 5 clicks.

4.3.2 Compression



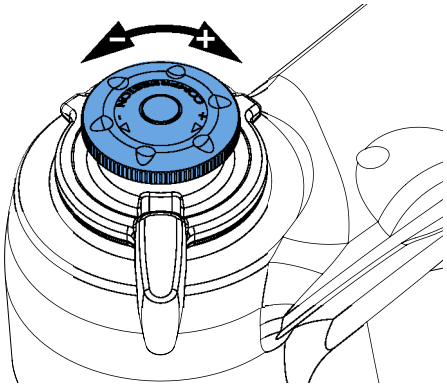


The compression damping regulates the compression speed of the fork and can be adjusted in three stages via the lever on the fork or using the remote lever on the handlebar:

OPEN

In the position «OPEN» the compression can be adjusted using the blue compression adjusting wheel. The compression will be increased by turning the wheel clockwise. When the compression is fully closed, the setting meets the compression setting of the «Drive Mode».
The adjustment of the compression using the blue compression adjusting wheel only affects the mode «OPEN». The modes «DRIVE» and «LOCK» will not be affected.

In the mode «OPEN» the most sensible adjustment is possible. This is mostly suitable for rough downhills.



Basic compression setup: 5 clicks based on a fully opened damping.

Based on this setup, the user can fine tune the damping to fit specific needs.

DRIVE

The «DRIVE» mode meets the compression setting of the mode «OPEN» with fully closed compression.
In this mode, the adjustment of the blue wheel has no effect (see Open Mode).

The «DRIVE» mode is mostly suitable for riding on terrain without rough sections or for riding uphill away from paved roads. Depending on the rider's preferences, this mode can also be used for any other terrain.

LOCK

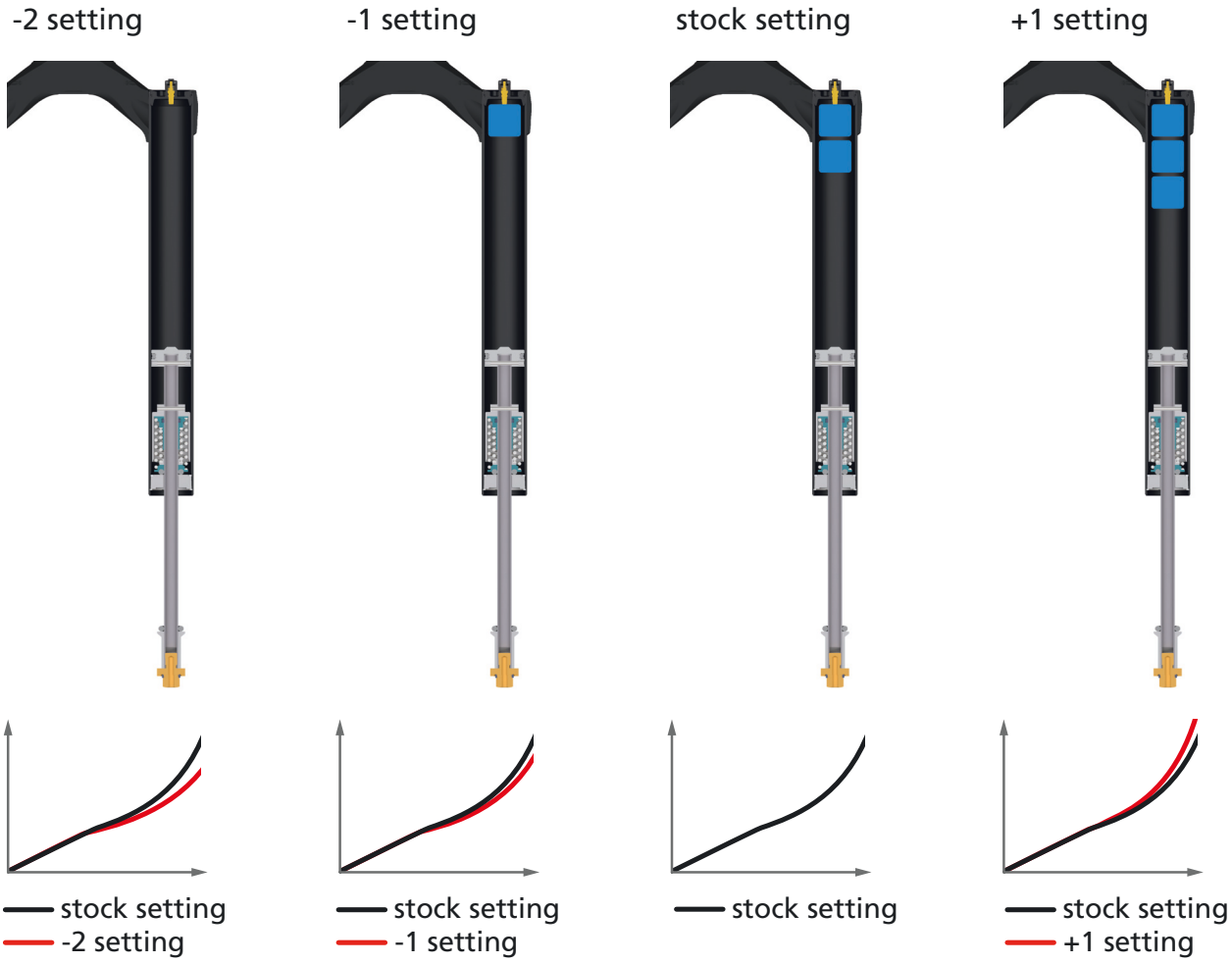
The lockout closes the compression damping circuit. The fork cannot be compressed anymore. A pressure control valve, called «blow-off», protects the system against damages caused by impacts on the fork while the lockout is activated.

The lock out supports a sporty riding style on flat ground or tarmac uphills. The force of the rider can be fully converted into speed.

5 APT (Adaptable Progression Tune)

The APT system allows the progression of the suspension curve to be adapted by easily adding or taking away one or more volume spacers in the fork's air chamber.

The fork is supplied with two volume spacers fitted. For personal adjustment, a further volume spacer is included in the supplied package.



The "-2 setting" offers a linear and comfortable suspension curve for lighter riders or riders who prefer more comfort.

The "-1 setting" offers a slightly less comfortable and less linear suspension curve, recommended for the average rider who prefers more pleasant and soft riding behaviour.

The "stock setting" offers a more progressive suspension curve for sporty riders looking for direct riding behaviour.

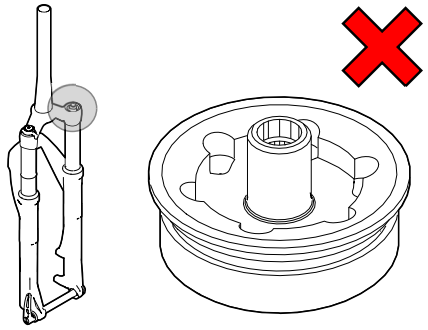
The "+1 setting" offers a progressive suspension curve for aggressive riders looking for very direct riding behaviour.

5.1 Mounting / Dismounting Volume Spacers

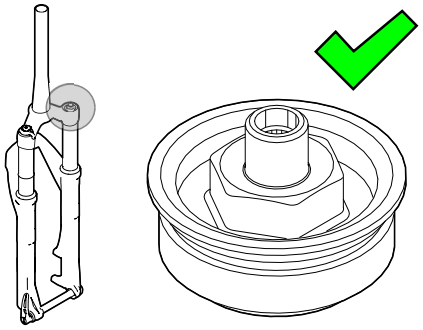
NOTICE

The APT system only fits with forks with a hexagonal air chamber cap!

non hexagonal air chamber cap



hexagonal air chamber cap



Deflating the Fork

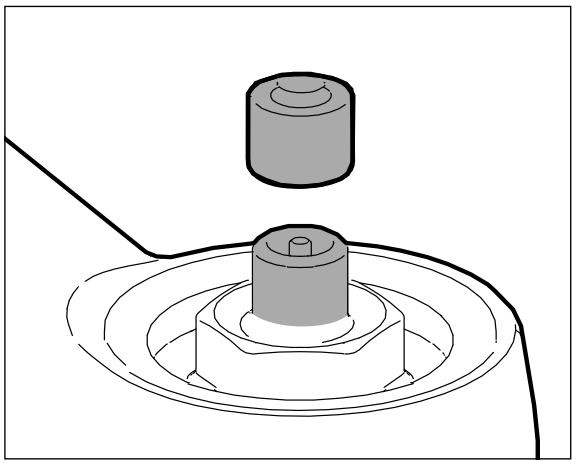
Preparatory Steps	Link
Clean the area of the air chamber cap.	

DANGER

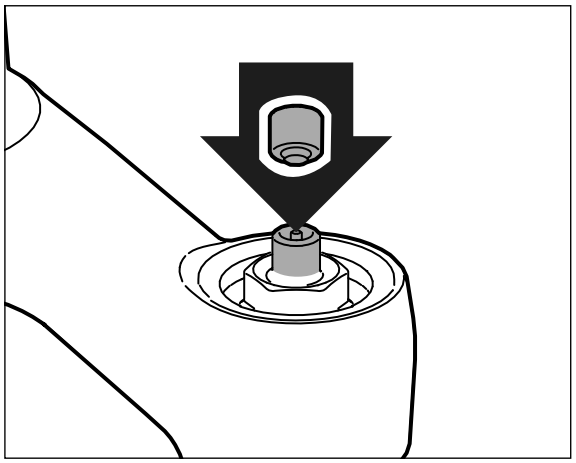
Risk of injury due to high air pressure!

- The valve must face away from your body while releasing the air!

1. Unscrew the valve cap.

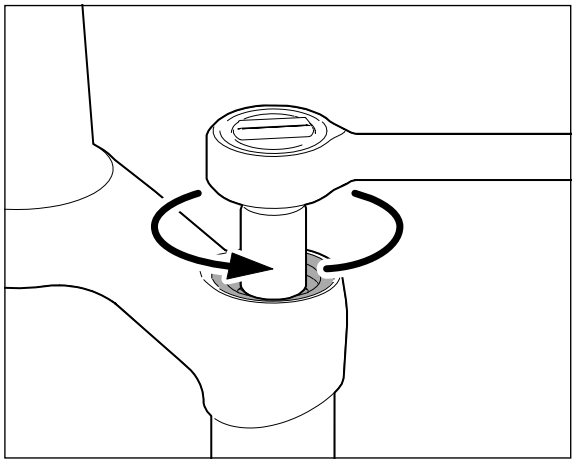


2. Push in the valve insert carefully using the backside of the valve cap and slowly release the air.
   The valve must face from your body while releasing the air!

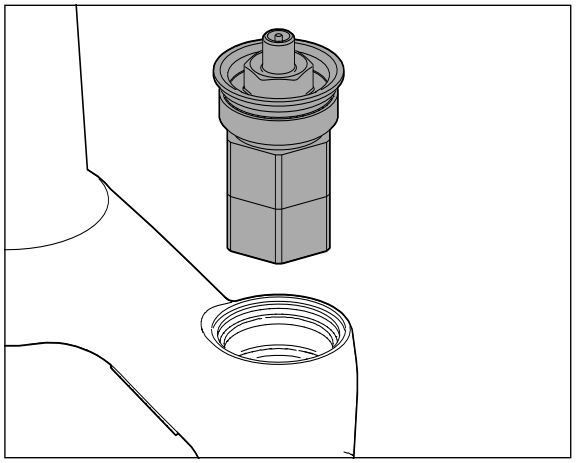


Opening the Air Chamber

1. Ensure, the valve cap is removed and the air is released.
2. Unscrew the air chamber cap using a 15 mm socket wrench.



3. Remove the air chamber cap.
   Ensure that no dirt gets into the air chamber.



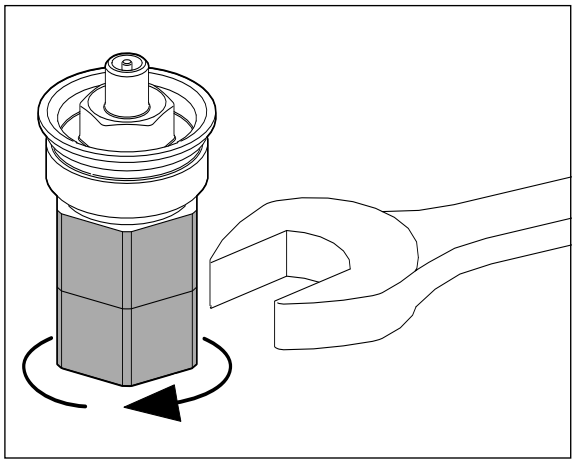
Adding / Removing Volume Spacer(s)

NOTICE

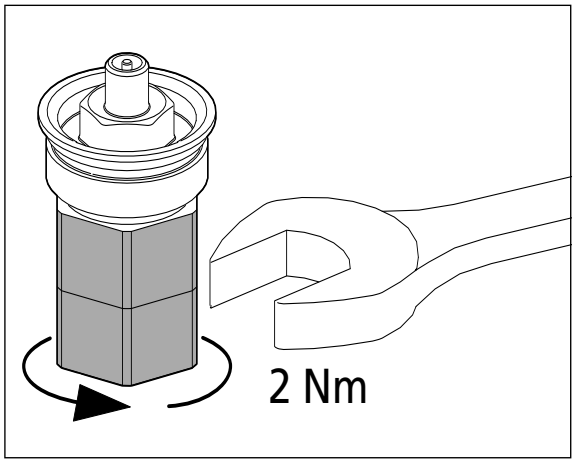
If more than three volume spacers are installed, the fork cannot compress fully and the spring unit will get damaged!

- Never install more than three volume spacers!

1. Add or remove volume spacer(s) using a 25 mm wrench. The maximum amount of volume spacers is three!

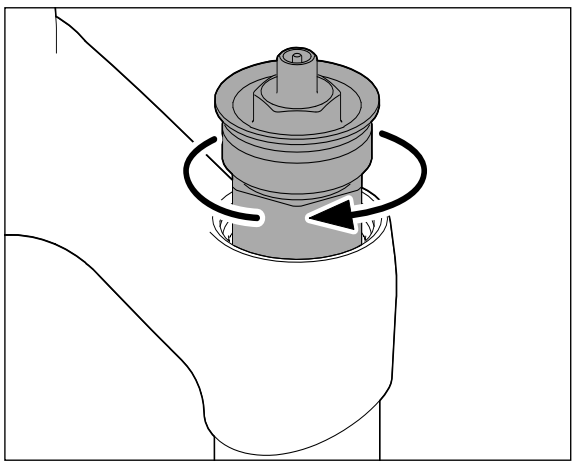


2. Tighten the volume spacer(s) with a torque of 2 Nm using a 25 mm wrench.

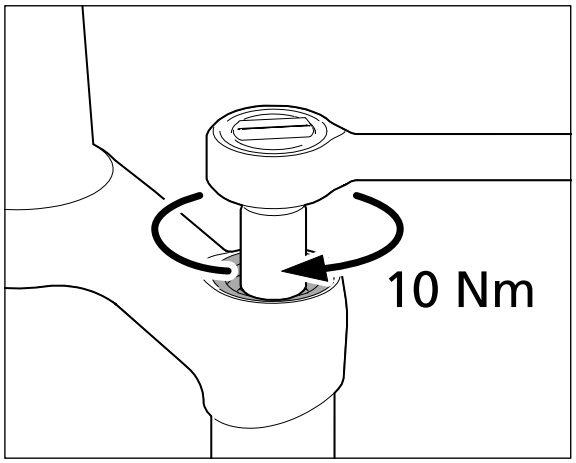


Closing the Air Chamber

1. Clean the thread of the air chamber cap and the thread of the air chamber.
2. Slightly grease the thread and the O-ring of the air chamber cap.
3. Screw the air chamber cap onto the air chamber by hand.

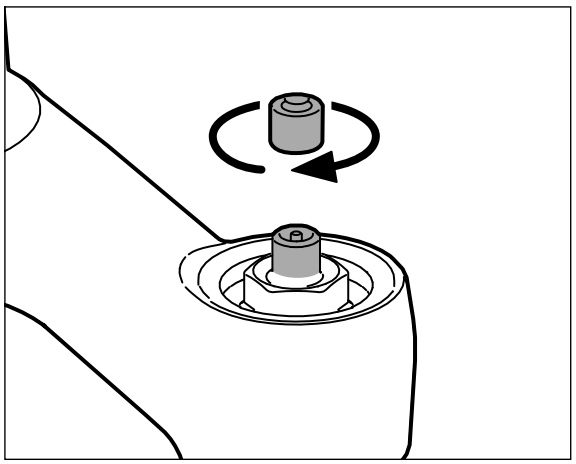


4. Tighten the air chamber cap with a torque of 10 Nm using a torque wrench with a 15 mm socket.



Inflating the Fork

1. Inflate the fork.
   The air pressure should be set to your personal preferences and to the correct SAG (see chap. 4.2, page 24).
2. Screw on the air chamber cap.



Closing Steps	Link
Check the proper function of the fork.	

6 Converting the Control Elements

DT Swiss forks are available with manual or remote control elements. The following chapters describe the conversion between these versions and the installation of the remote levers.

- Conversion from remote to manual operation: chap. 6.1, page 34
- Conversion from manual to remote operation: chap. 6.2, page 38
- Installation of the lightweight remote lever: chap. 6.3.1, page 42
- Installation of the Two In One remote lever: chap. 6.3.2, page 43

6.1 Converting from Remote to Manual Operation

Preparatory Steps	Link
Clean the fork.	
Check all functions of the fork.	

Required Material	Specification	Amount
thread lock	Loctite 241 or Loctite 243	as required

Removing the Remote Control Elements

1. Hold the compression wheel and unscrew the fixing screw using a T8-Torx key.
2. Remove the compression wheel.



3. Unscrew the fixing nut of the remote wheel using an 8 mm hex-key.
4. Remove the nut and the remote wheel.



5. Remove the cable guide from the damping unit.

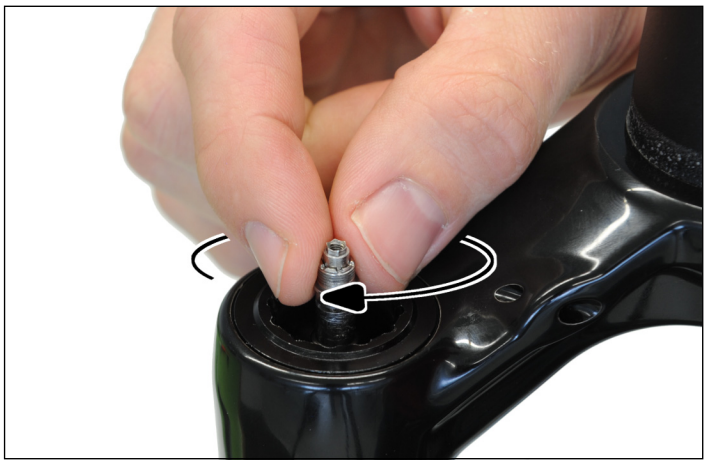


6. Remove the O-ring from the top of the damping unit.



Mounting the Manual Control Elements

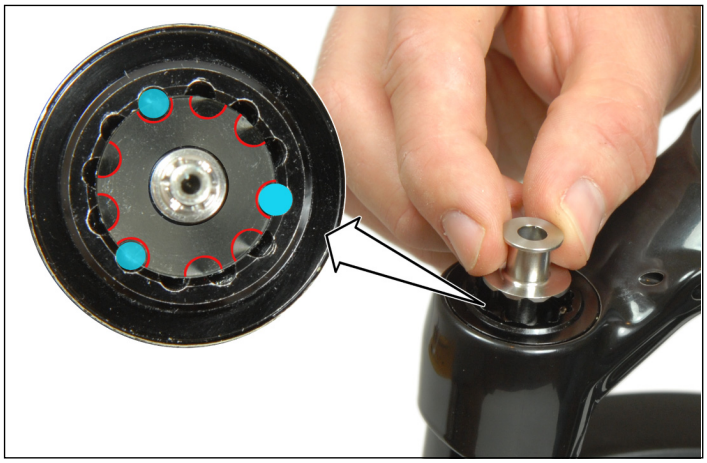
1. Ensure that the lockout pin is turned until stop in clockwise direction.
   ⇨ Turn the lockout pin if needed.



2. Put the springs into the index caps.
   TIP: Put some grease onto the springs so that they stick inside the index caps.
3. Put all three index caps with the springs into the bores of the damping unit.



4. Put the index onto the index caps.
   ⇨ The rasters (red) on the bottom side of the index have different distances.
   ⇨ The big distances must be located to the right side in clockwise direction to the index pins (blue).



5. Put on the mode-lever.
6. Put the O-ring between the angled end of the lever and the fork crown.
7. Screw on the fixing nut by hand.



8. Hold the lever in position «LOCK» and tighten the fixing nut with 5 Nm using an 8 mm socket wrench (or ring spanner).



9. Check the position of the lever.
   ⇨ In the position «DRIVE», the lever must face in drive direction.
   ⇨ The lever must lock in the three positions.
10. Check the damping function of the positions «OPEN», «DRIVE» and «LOCK» by compressing the fork.



11. Put the O-ring around the lever.



12. Put thread lock onto the thread of the fixing screw of the compression wheel.
    🛠 Required thread lock, see table on page 34.
13. Put on the compression wheel and tighten the fixing nut with a torque of 0.5 Nm using a T8 Torx key.



Closing Steps	Link
Check all functions of the fork.	

6.2 Converting from Manual to Remote Operation

Preparatory Steps	Link
Clean the fork.	
Check all functions of the fork.	

Removing the Manual Control Elements

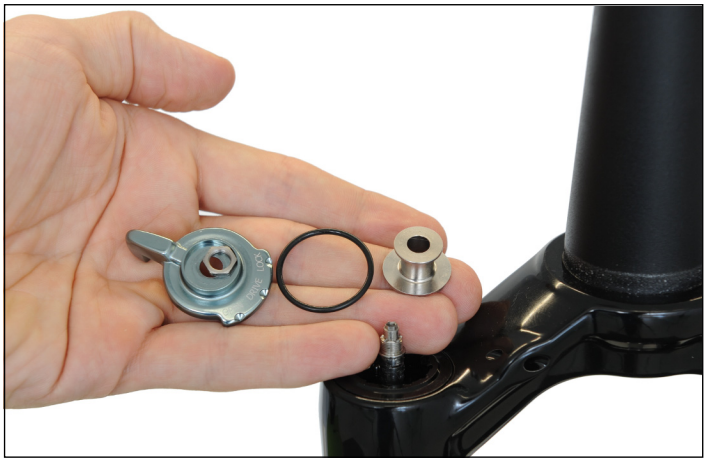
1. Hold the compression wheel and unscrew the fixing screw anti-clockwise using a T8 Torx key.
2. Remove the compression wheel and the fixing screw.



3. Unscrew the fixing nut of the lever anti-clockwise using an 8 mm socket wrench (or ring spanner).



4. Remove the lever, fixing nut, O-ring and index.

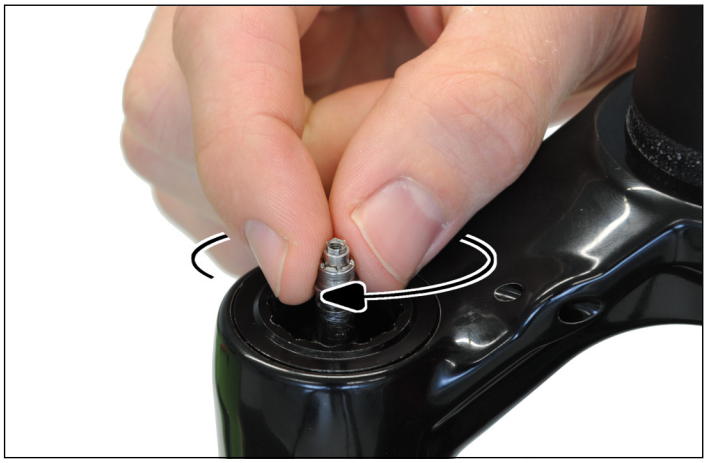


5. Remove the three index pins and the three springs using forceps (or s.th. similar).

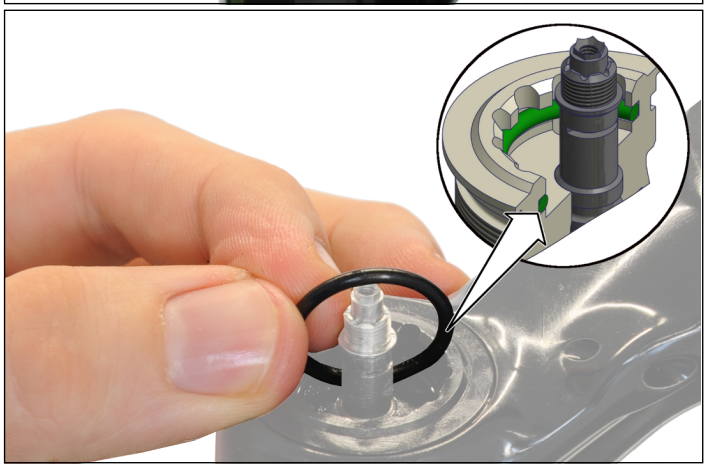


Mounting the Remote Control Elements

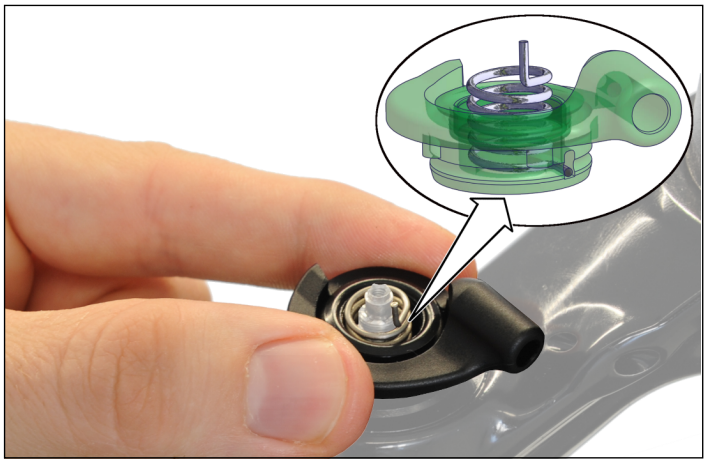
1. Ensure that the lockout pin is turned until stop in clockwise direction.
   ⇨ Turn the lockout pin if needed.



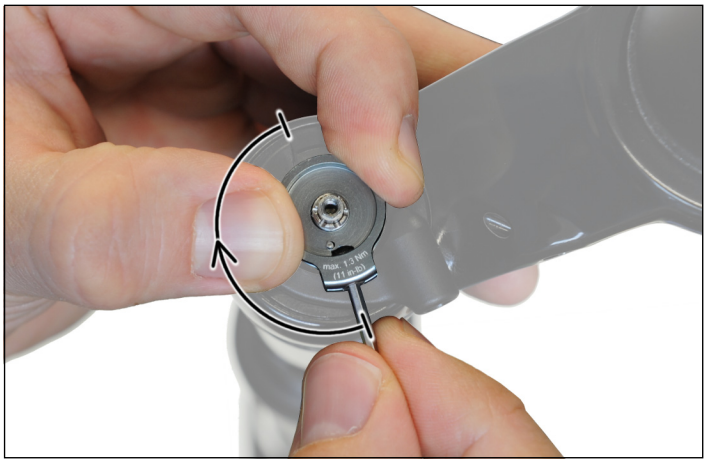
2. Slightly grease the O-ring and put it into the groove on the top of the damping unit.
   ⇨ The O-ring must rest equally in the whole circumference of the groove.
   🛠 Required grease, see table on page 34.
3. Slightly grease the lockout pin.
   🛠 Required grease, see table on page 34.



4. Check if the spring is inserted correctly into the cable guide.
   ⇨ The horizontally angled arm of the spring must rest in the slot of the cable guide.
5. Push the cable guide with the spring onto the damping unit.
   ⇨ If the cable guide cannot be pushed in fully, possibly the O-ring is not positioned correctly (see last step).
   ⇨ The cable guide must rest fully on the fork crown.
   ⇨ The cable guide must face in drive direction to the middle of the fork without touching the fork crown.



6. Put the end of the spring facing upwards into the bore of the remote wheel.
7. Put the remote wheel onto the lockout pin.
8. Put a 2 mm Allen key into the hex of the cable fixing screw and turn the remote wheel approx. 180° until the remote wheel engages behind the rise of the cable guide.
   ⇨ Push down the remote wheel while turning.
   ⇨ The rise of the cable guide prevents that the remote wheel turns backwards.
9. Push the remote wheel down in the engaged position and hold it in this position.
10. Remove the Allen key.



11. Screw the fixing nut onto the pin by hand.



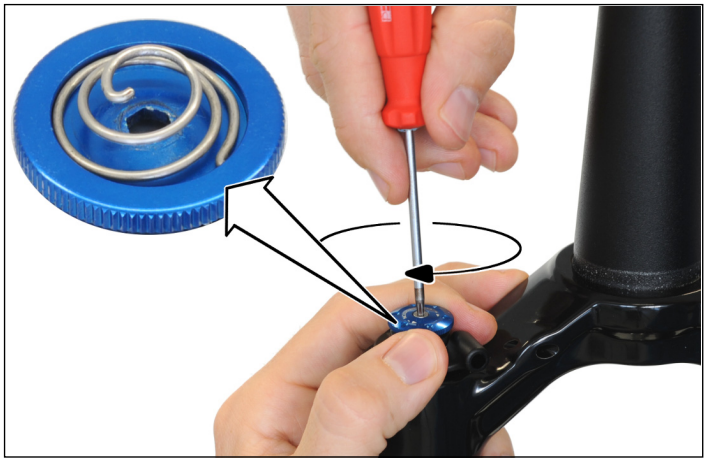
12. Turn the remote wheel into the lockout position using the short end of an angled 2 mm Allen key.
    ⇨ The remote wheel is in the lockout position when it touches the cable stop (see picture).
13. Screw on the fixing nut clockwise using an 8 mm socket wrench (or ring spanner).
14. Tighten the fixing nut with a torque of 5 Nm.



15. Check the correct assembly of the remote wheel: Turn the remote wheel with the short end of an angled 2 mm Allen key.
    ⇨ The remote wheel must turn from the left stop to the cable stop.
    ⇨ If the remote wheel cannot be turned in this angle, the lockout pin is not positioned correctly. Dismount the remote wheel and position the lockout pin again (see step 1, page 39).



16. Check if the spring on the bottom of the compression wheel is mounted.
17. Put thread lock onto the thread of the fixing screw of the compression wheel.
    🛠 Required thread lock, see table on page 34.
18. Put on the compression wheel with the spring facing downwards and screw on the fixing screw using a T8 Torx key.
19. Tighten the fixing screw hand-tight with a max. torque of 0.5 Nm.



Closing Steps	Link
Install the remote lever.	chap. 6.3, page 42
Check all functions of the fork.	

6.3 Installing the Remote Lever

There are different DT Swiss remote levers available: The lightweight lever and the Two In One lever. The lightweight lever can only operate a single DT Swiss fork while the Two In One lever can operate a DT Swiss fork and a DT Swiss shock at the same time.

Both levers are available as single stage and double stage versions. O.D.L forks must be used in combination with double stage levers.

Preparatory Steps	Link
not required	

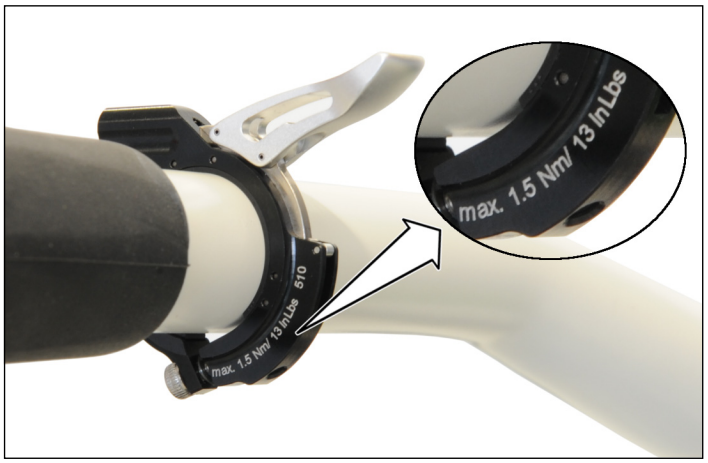
Required Material	Specification	Amount
cable	uncoated	approx. 70 cm
cable housing	Ø 4.2 mm	approx. 55 cm
carbon fitting lubricant		as required

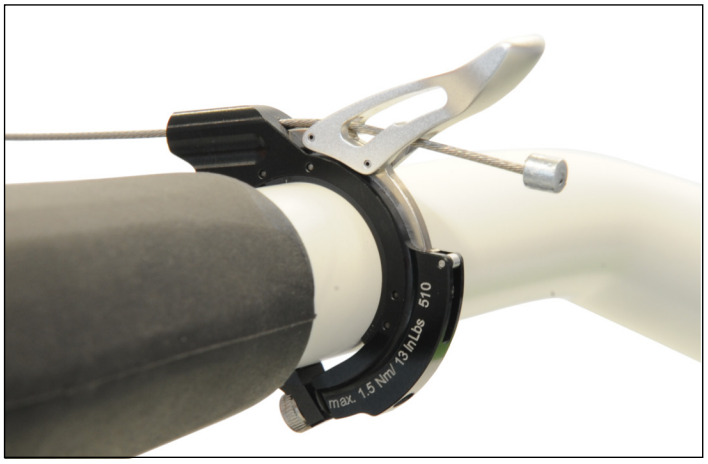
6.3.1 Installing the Remote Lever [Lightweight]

General Information: Lightweight-Lever:

- The remote lever can only be used for DT Swiss forks.
- The remote lever can be installed on the right side or on the left side of the handlebar.
- The remote lever is designed for a handlebar diameter of 22.2 mm. If the diameter of the handlebar is smaller, the clamp of the remote lever cannot be fixed strong enough.

1. Carbon handlebars: Apply a thin layer carbon fitting lubricant to the contact area of remote lever and handlebar.
2. Put the remote lever onto the handlebar and tighten the fixing screw with a torque of 1.5 Nm.
3. Check the proper function of the remote lever and the control elements next to it.
   Neither the remote lever nor any other control element may be affected in its proper function.
4. Push the remote lever in the position «open» (see figure).
5. Cut the cable housing to the required length.
   Check if the handlebar with the installed cable housing can be turned without being affected.
6. Put the cable into the remote lever.
   Only use uncoated cables!



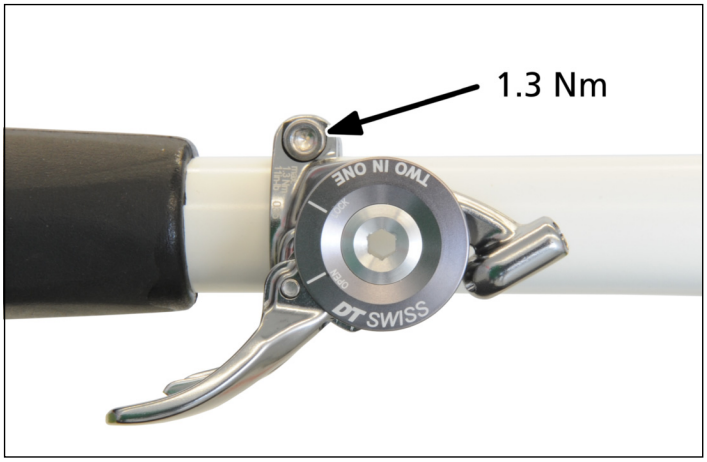


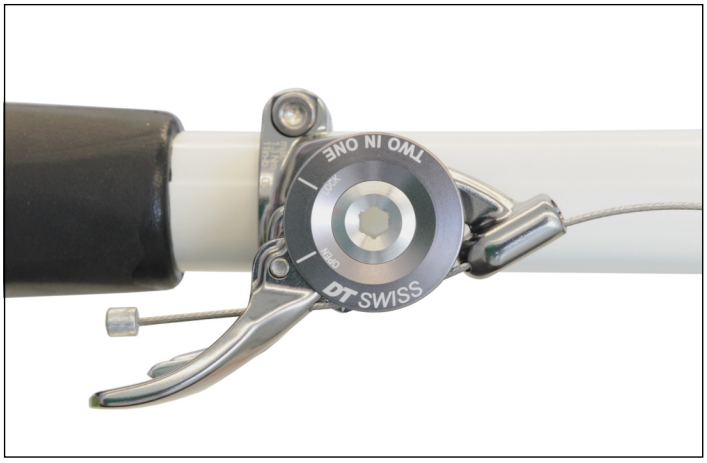
6.3.2 Installing the Remote Lever [Two In One]

General Information: Two In One-Lever:

- The remote lever can be used for DT Swiss forks and/or DT Swiss shocks.
- The remote lever must be installed on the left top side of the handlebar.
- The remote lever is designed for a handlebar diameter of 22.2 mm. If the diameter of the handlebar is smaller, the clamp of the remote lever cannot be fixed strong enough.

1. Carbon handlebars: Apply a thin layer carbon fitting lubricant on the contact area of remote lever and handlebar.
2. Put the remote lever onto the handlebar and tighten the fixing screw with a torque of 1.3 Nm.
3. Check the proper function of the remote lever and the control elements next to it.
   Neither the remote lever nor any other control element may be affected in its proper function.
4. Push the remote lever in the position «OPEN» (see figure).
5. Cut the cable housing to the required length.
   Check if the handlebar with the installed cable housing can be turned without being affected.
6. Put the cable into the remote lever.
   Only use uncoated cables!





6.4 Installing the Pipe, Cable and Cable Housing

1. Put the pipe into the cable guide on the fork crown.
2. Screw in the adjusting screw of the pipe completely and then turn it back one turn.



3. Unscrew the fixing screw.
4. Fully push the cable housing into the pipe and the remote lever.
5. Put the remote lever into the position «OPEN».
6. Put the cable through the pipe and around the rebound wheel.



7. Pull the cable and tighten the fixing screw with a max. torque of 1.3 Nm.
8. Press the remote lever a few times.
9. Set the tension of the cable with the adjusting screw at the pipe.
   - ⇨ In Position «LOCK» (see «Function and Compatibility») the lever must lock completely and the lockout must be active.
   - ⇨ In Position «LOCK» the remote wheel touches the cable stop.
   - ⇨ If the lockout does not work, possibly the lockout pin is not positioned correctly. Dismount the remote wheel and position the lockout pin again (see step 1, page 35).



10. Cut the cable to the required length and attach a cable end cap.



Closing Steps	Link
not required	

7 Service and Care

7.1 Care

To ensure a long product life, follow the instructions below:

- Clean the fork with a damp cloth. Remove dirt between stanchion/lower unit.
- Never use aggressive cleaners that damage rubber materials (main seals)!
- Never use high pressure cleaners. Water and dirt can get into the system and damage it!
- Remove all visible, dried dirt from the area of the main seals. This will prevent dirt from getting into the fork.
- It is not necessary to grease the main seals. To get a good lubrication of the main seals, regularly turn your bike or fork upside down.
- After cleaning, lubricate the sliding surface of the remote lever on the handlebar.

7.2 Service Intervals



If service intervals are not respected, any warranty claims can be denied.

Action	Interval
Big service by a DT Swiss service center	annually or after 200 operating hours*
Small service (see following)	50 operating hours*
Check the fork for damages and faultless function	before and after each ride
Check proper fixation	before and after each ride
Check the air pressure	before each ride
Check the remote lever on the handlebar	after each ride
Clean with a soft cloth and a suitable cleaner, especially in the area of the main seals Do not use high pressure cleaners and aggressive cleaners!	after each ride

*If you use your bike in extreme conditions, you will have to service your components sooner.

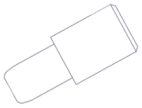
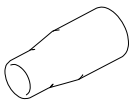
7.3 Small Service

This manual describes a small service. Further service works will be executed by a DT Swiss service center.

A small service should be carried out in the following cases:

- bad performance
- after rides in extreme conditions
- after 50 operating hours
- after a crash to check the parts

Preparatory Steps	Link
Clean the fork.	
Check all functions of the fork.	
Soak 2 new foam rings in DT Swiss Lube Fluid.	

Required Material	Specification	Amount
fork oil	 DT Swiss Lube Fluid 100 ml: 4064XXXXXXXX000026	1 bottle à 100 ml
fork oil	 DT Swiss Fork Oil 100 ml: 4064XXXXXXXX000024	1 bottle à 100 ml
grease	 Buzzy's Slick Honey 4.7 dl: 40341000AD02000001 OR  20 ml: TZXXXXXNSLICKS	as required
thread lock	Loctite 241 or Loctite 243	as required
wiper seal kit Ø32 mm	contains 2 wipers, 2 foam rings, 2 O-rings FWKXXXXXXXXX03718S	
special tool for SKF wiper seals Ø32 mm	 FWTXXXXXXXX013089S	1
O-ring protection tool	 FXTXXXXNXXXX12618S	1
cleaner	see section „Cleaning“, page 6	as required
tire lever	solid	1
sand paper	grade 150	as required

Releasing the Air

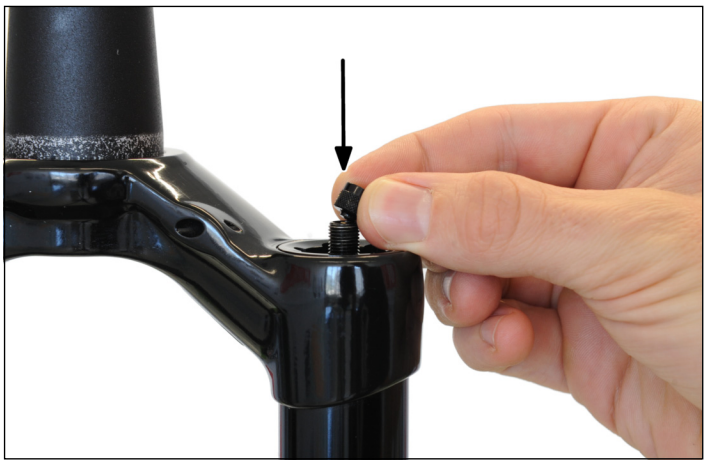
DANGER

Risk of injury due to high air pressure!

Air with high pressure can escape suddenly while dismounting the fork!

- Always release the air before starting any works.

1. Unscrew the valve cap.
2. Release the air completely by pressing the valve insert using the upper side of the valve cap.



Dismounting the Lower Unit

Left dropout:

1. Screw the hexagonal socket screw into the left dropout clockwise using a 4 mm Allen key.
2. Collect the leaking oil using a suitable container.



Right dropout:

3. Unscrew the fixing screw of the rebound wheel on the right dropout using a 2.5 mm Allen key.
4. Remove the rebound wheel.

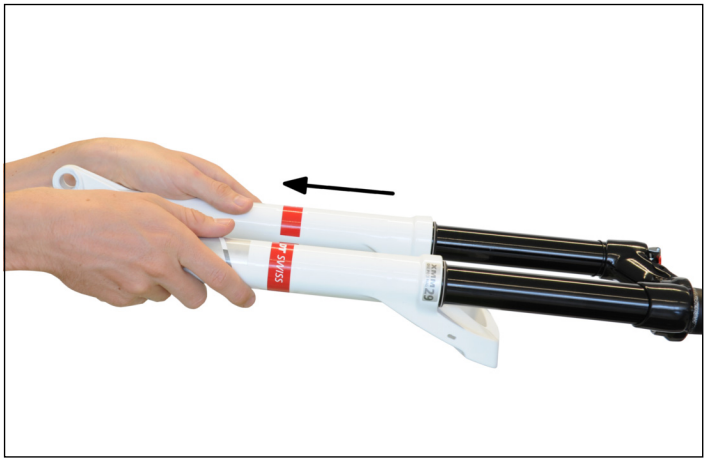


Right dropout:

5. Screw the hexagonal screw into the dropout clockwise using an 8 mm hexagon spanner.



6. Remove the lowers carefully.
7. Collect the leaking oil using a suitable container.



Dismounting the Wiper Seals

The wiper seals should be replaced at least once a year. If they are worn out, they should be changed earlier.

1. If present, remove both spring rings from the wiper seals.



2. Remove both foam rings below the wiper seals.
   ⇨ The foam rings should be replaced on every service.



3. Lever out the wiper seal using a metal tire lever.

Caution: The lowers must not be damaged. Remove the spring rings before dismounting the wiper seals.



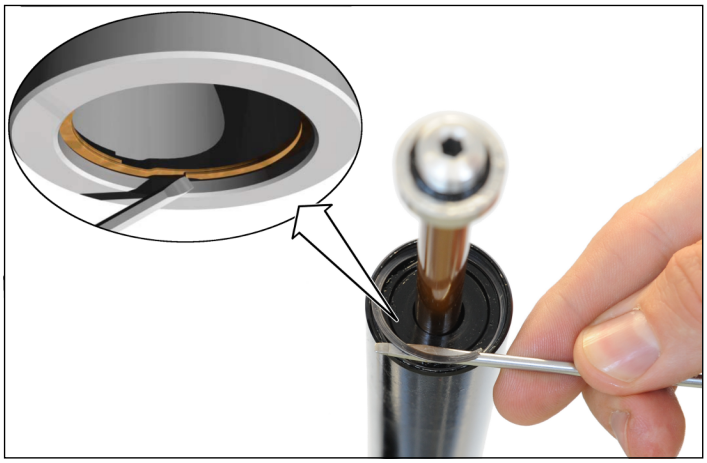
4. Remove the wiper seals.



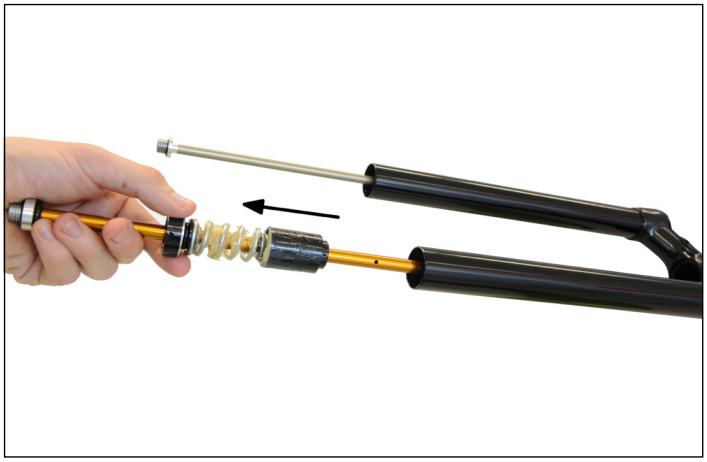
5. Remove the second wiper seal the same way.

Dismounting the NCS Unit

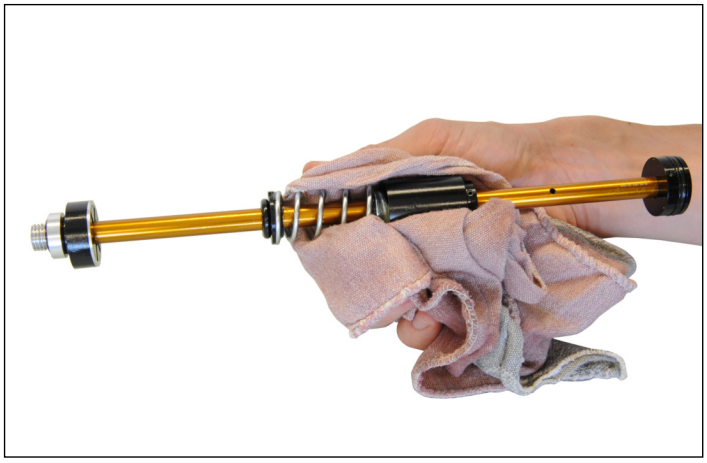
1. Check if the air is released (see section „Releasing the Air“, page 47).
2. Remove the Smalley ring:
   a) Insert a small screwdriver (or s.th. similar) into the removal notch.
   b) Pry out the first end of the ring.
   c) Manually spiral the ring around until it is free from the groove.



3. Push the valve insert and remove the NCS unit.
   ⇨ There is a small amount of lubrication oil inside the air chamber. If the valve insert faces downwards, the oil can escape through the valve.



4. Clean the NCS unit using a dry textile cloth.
   ⇨ Do not use paper towels. Small fibers can lead to air leakages.

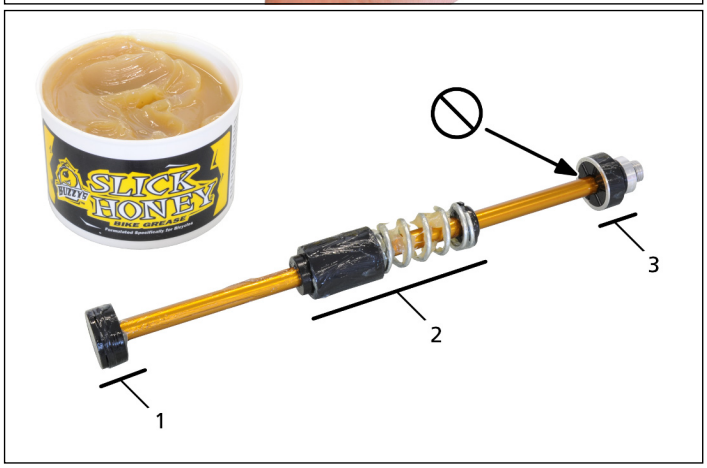


Mounting the NCS Unit

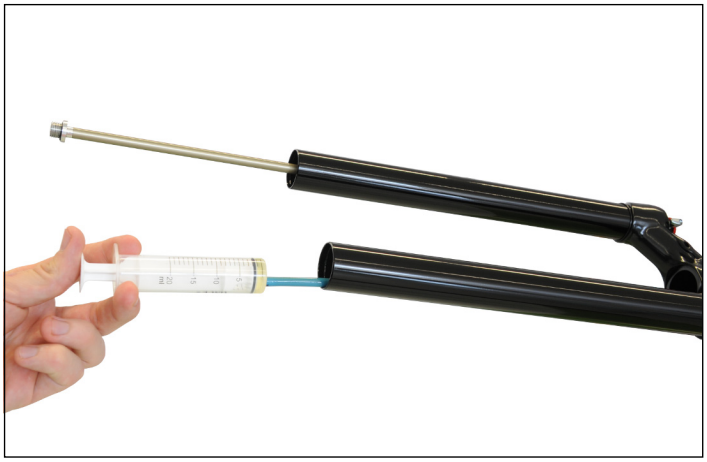
1. Clean the inner surface of the left stanchion and the whole outer surface using a dry cloth.
   ⇨ To prevent leakages, there must be no lint or other residues inside the stanchion.



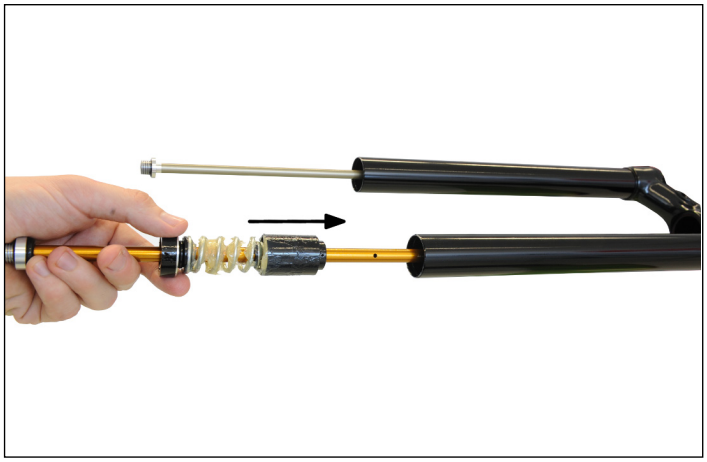
2. Grease the air piston (1), the spring unit (2) and the air chamber cap (3) of the NCS unit.
   ⇨ There must be no grease on the inner surface (⃠) of the air chamber cap (3).
   Required grease, see table on page 46.



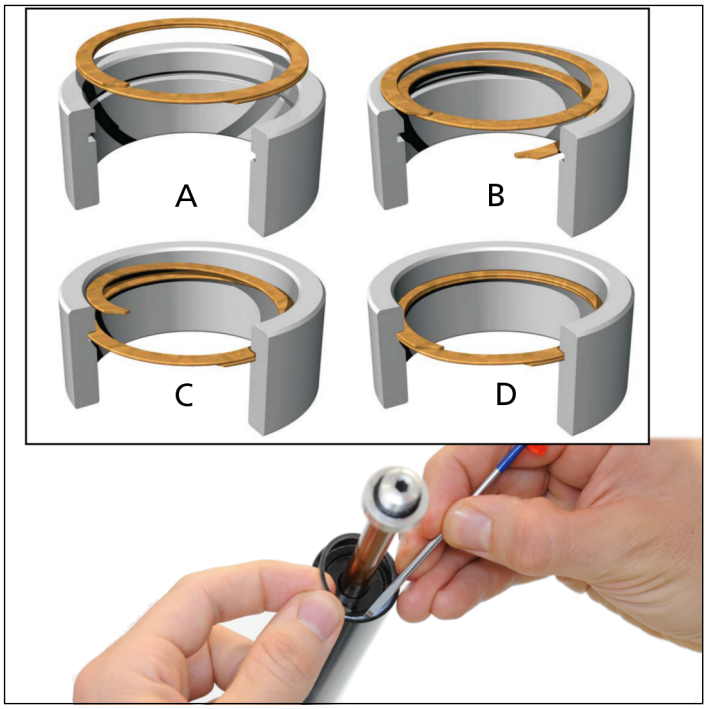
3. Position the upper unit so that the open end faces slightly upwards.
4. Fill 2 ml DT Swiss Factory Lube Fluid into the left stanchion.
   Required oil, see table on page 46.



5. Position the upper unit horizontally.
6. Slide the NCS unit into the left stanchion while pressing the valve insert.
   ⇨ The lubrication oil filled in in the last step should not escape through the valve hole while inserting the NCS unit.



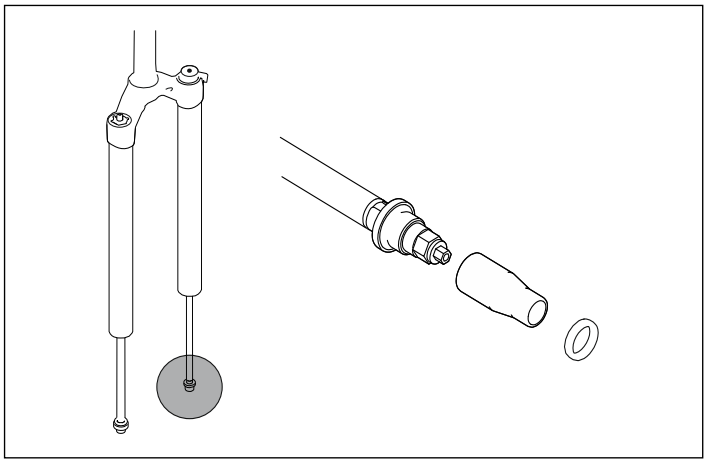
7. Put on the Smalley ring:
   a) Place the ring on the lower end of the stanchion [A].
   b) Separate the ring coils and insert one end of the ring into the groove [B].
   c) Wind the ring by pressing down around the circumference until the entire ring is inserted into the groove. [C].
   d) Check if the ring is installed properly [D].
8. Check if the NCS unit is fixed properly.



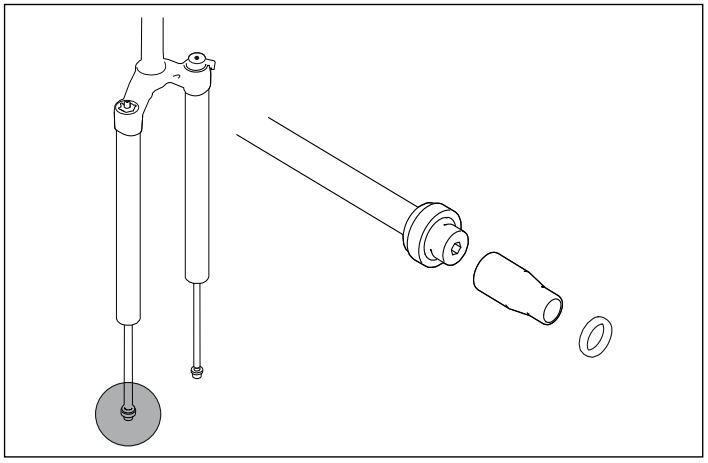
Changing the O-Rings of the Connecting Pieces

The O-rings of the connecting pieces should be changed every time the lower unit is dismounted.

1. Remove the O-ring from the connecting piece on the side of the damping unit.
2. Put the O-ring protection tool onto the thread of the connecting piece.
   Required tool, see table on page 46
3. Slide the new O-ring onto its seat on the connecting piece.
   Required material, see table on page 46
4. Remove the tool



5. Remove the O-ring from the connecting piece on the side of the air spring.
6. Put the O-ring protection tool onto the thread of the connecting piece.
   Required tool, see table on page 46
7. Slide the new O-ring onto its seat on the connecting piece.
   Required material, see table on page 46
8. Remove the tool.



Mounting the Wiper Seals

If the wiper seals were not dismounted, the following chapter can be skipped. Next step: section „Mounting the Lower Unit“, page 56

1. Hold the lower unit upside down and slightly grind the seats of both wiper seals using grade 150 sand paper.
   ⇨ Only remove the rubber abrasions.
   ⇨ The seat of the wiper seals must not be enlarged or damaged!



2. Clean the lower unit with an appropriate cleaner (see section „Cleaning“, page 6).
   ⇨ If you are using soap water, flush the lower unit with clear water after cleaning.
   ⇨ There must be no residual moisture inside the lower unit before re-mounting.
   ⇨ Only use lint-free textile cloths.
3. Slide the tool into the first wiper seal.



4. Carefully tap in the wiper seal.
5. Remove the tool from the wiper seal.



6. Mount the second wiper seal the same way.
7. Leave the lowers for minimum 15 minutes and allow the wiper seals to seat.

Mounting the Lower Unit

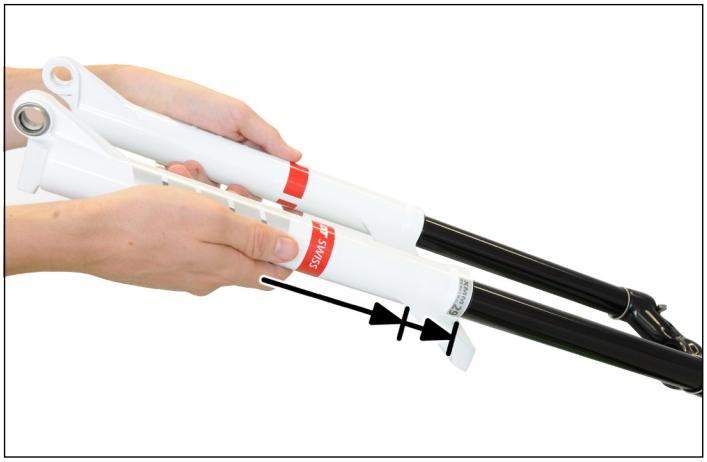
1. Clean the inside and the outside of the lower unit (see section „Cleaning“, page 6).



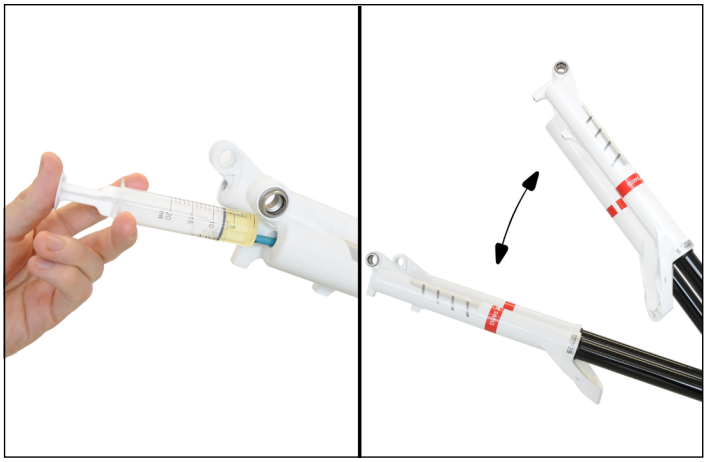
2. Put two new, in DT Swiss Lube Fluid soaked foam rings between the bushings and the wiper seals.
   ⇨ Ensure that the foam rings are not twisted.



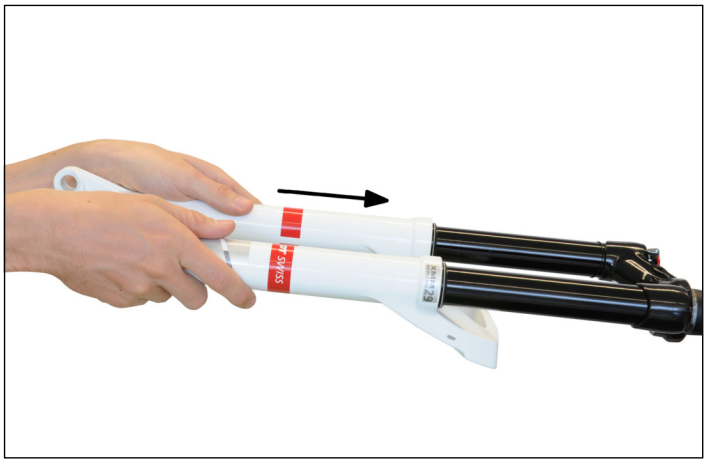
3. Slide the SAG O-ring onto the upper unit
4. Slide the lower unit about 2 cm onto the upper unit.



5. Fill 7 ml DT Swiss Fork Oil into the air side of the lower unit.
   Required oil, see table on page 46.
6. Fill 7 ml DT Swiss Fork Oil into the damping side of the lower unit.
   Required oil, see table on page 46.
7. Fix the fork between 40° and 70° for about 60 seconds to allow the bushings to be lubed.

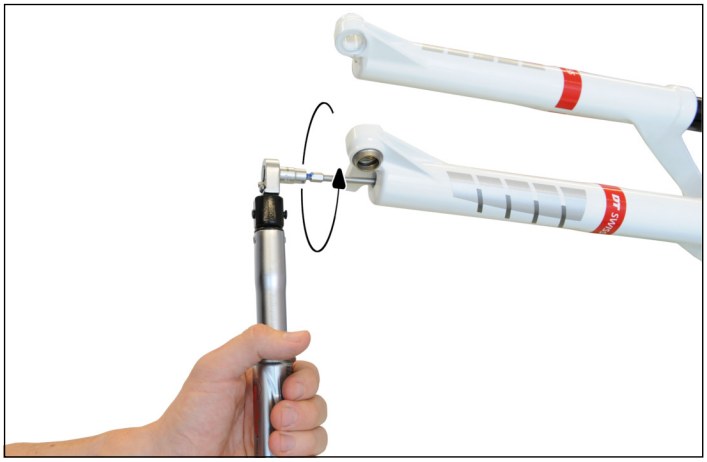


8. Fully slide the lower unit onto the stanchions.



Left dropout:

9. Screw the hexagonal socket screw on the left side into the lower unit anti-clockwise using a 4 mm Allen key.
10. Tighten the hexagonal socket screw with a torque of 6 Nm.



Right dropout:

11. Screw the hexagonal screw into the lower unit anti-clockwise using an 8 mm hexagon spanner.
12. Tighten the hexagonal screw with a torque of 6 Nm.



Right dropout:

13. Put on the rebound wheel.
14. Put thread lock onto the thread of the fixing screw.
    Required thread lock, see table on page 46.
15. Screw in the fixing screw and tighten it hand tight.



Closing Steps	Link
Dispose the oil in an environmentally compatible manner.	
Inflate the fork.	chap. 4.2, page 24
Clean the fork.	
Set the damping.	chap. 4.3, page 27
Check all functions of the fork.	

The maintenance of the fork is complete. Enjoy the Ride!

8 Trouble Shooting

DANGER

Risk of injury due to a damaged fork!

If damages or malfunctions are noticed, the fork must not be used!

- Contact a DT Swiss service center or your dealer to solve the problem.

Bedding-In Time

Some parts of the new fork may need some bedding-in or sagging-in time. Especially the bushings of a new fork may have a higher breakaway force. This can make the fork uncomfortable. After about 20 hours of riding the fork should be run in and the effect will disappear.

After a Crash

After a crash the danger of damages is very high. Check your fork after each crash.

- Visual check: Check for damages such as cracks, breaks, oil leakages and scratches etc.
- Functional check: Check if all functions are working correctly.
- Acoustic check: Listen for unusual noises during slow riding or braking in a secure area.

Do not use a defective fork! Contact your local dealer or the responsible DT Swiss service center to repair the damage!

Bushing Clearance

DT Swiss forks use bushings in combination with oil lubrication. The function of the bushings is laid out for driving operation regarding an optimum of lubrication, thermal expansion of parts based on warming, manufacturing tolerances and the occurring loads. The bushing clearance is therefore necessary for the correct function of the fork and may be noticeable. A noticeable bushing clearance does not automatically mean an excessive wear out.

Trouble Shooting

Problem	Cause	Action
The fork is not responding properly.	The bedding-in time is not over.	Continue riding (bedding-in time is about 20 operating hours).
	The air pressure is too high.	Decrease the air pressure controlled using a suitable shock pump.
	The fork needs a small service.	Carry out a small service (see chap. 7.3, page 46) yourself or by your dealer or a DT Swiss service center.
The fork bottoms out on moderate bumps.	The air pressure is too low.	Increase the air pressure controlled using a suitable shock pump.
The full travel of the fork cannot be used.	Air pressure is too high.	Reduce the air pressure.
	Wrong measurement of the travel. Some forks do not use the full stroke of the stanchions.	Always measure the distance between wiper seal and SAG O-ring.
The fork does not rebound completely and hardens on fast repetitive bumps.	Too much rebound damping.	Decrease rebound damping.
The fork rebounds too fast, the front wheel loses contact to the ground after bumps or it slides in turns.	Not enough rebound damping.	Increase rebound damping.
Damping		
The lockout does not work well.	Leaks inside the cartridge.	Contact your local dealer or the responsible DT Swiss service center to solve this problem.
	Remote Lockout: The lockout cable is not tensioned correctly.	Check the proper fixation and the tension of the lockout cable.

If the problem cannot be solved, contact a DT Swiss service center!

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