BOS suspension

obsys DOWNHILL

USER MANUAL

OBSYS

UM_151916-001_Eng_OBSYS

Congratulations, you have just acquired one of our suspensions.

We have a common passion, the Mountain Bike!

This passion has led us to design our products with all the care and expertise you can expect as a user.

Our suspensions are the result of advanced research from our research department, bench validations and many test sessions with our professional riders.

The goal of all this work is to provide you the best of our technologies for your greatest satisfaction.

In order to make the most of your new acquisition, we invite you to read this user manual carefully. The mounting instructions and tips for use contained on it will allow you to make the most of the potential of your suspensions.

Thank you to have chosen BOS suspension!

SYMBOLS OF THE MANUAL

CAUTION operations may impair your safety or cause damage to your suspension.
Be sure to take note of these warnings.

These indications are intended to allow you to optimize the operations described in this manual or optimize the performance of your suspension.

GENERAL WARNINGS

The shock is an important element that has a direct influence on the stability of the bike.

This manual must be consulted before using your shock absorber and for the duration of its life.

If necessary, or for any service operation, please contact an authorized BOS suspension.

After installation, test your bike at a slow pace to make sure that everything works properly.

WARRANTY

Terms and conditions

BOS suspension offers warranty on its products on the following terms:
BOS suspension guarantees to the original purchaser that the BOS suspension product for which they received this warranty is free from defects in material and workmanship for one year from the date of original retail purchase. A proof of purchase will be asked for any warranty claim. This warranty is not transferable to a subsequent purchaser.
Wear and tear parts such as dust seals, O-rings, bushings, rear shock mounting hardware, stanchions, threaded parts and bolts are not covered under this warranty.

Terms

This warranty is subject to legal jurisdictional or warranty rights of the country where it has been originally purchased, which will prevail if different from the terms herein listed.

Limits

BOS suspension cannot be liable for any loss, inconvenience damages, whether direct, incidental, consequential, resulting from the use of its products, local legislation prevailing.

Warranty exclusions

This warranty does not cover the following cases:
- Damage to products resulting from improper assembly other than listed below
- Products that have been modified by the owner or a third party
- Improper use
- Damages resulting from an accident or a crash under any circumstances
- Invalid servicing procedures and servicing time frame not respected
- Replacement of the original parts by parts from others manufacturers
- Products whose serial numbers has been altered, defaced or removed.

Warranty procedure

The owner should always refer to an approved BOS suspension service center for any warranty claim. A proof a purchase is compulsory for any warranty claim. Otherwise the warranty claim will not be considered. Always contact BOS suspension warranty department before returning any products that may fall under this warranty. If “the faulty parts” do not fall under warranty, the customer will be charged for any costs in respect with warranty such as transport and package back and forth.

Tool	Symbol
5 mm Hexagonal wrench	
t25 Torx wrench	
Marker	
Metal saw	
Torque wrench	
Flat screwdriver	

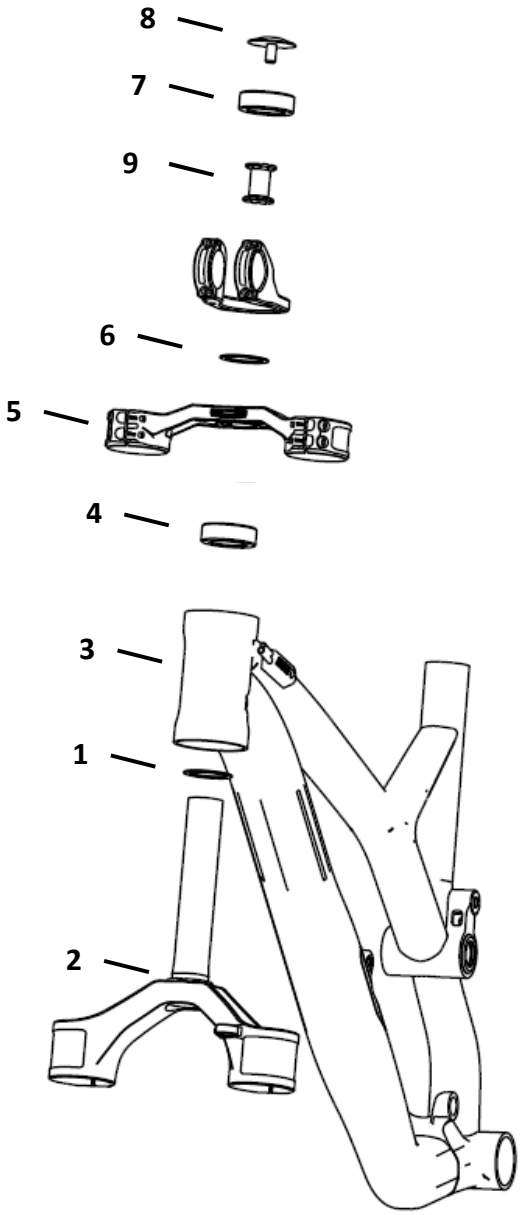
This section details the installation of your BOS OBSYS fork.
First of all, remove the original suspension from your bike. To do this, please refer you to the original manual of your bike.

IMPORTANT

To facilitate reassembly, locate the order of disassembly of parts and arrange them on your worktop so as to quickly identify the location of each of them during reassembly.

Fork clamp assembly

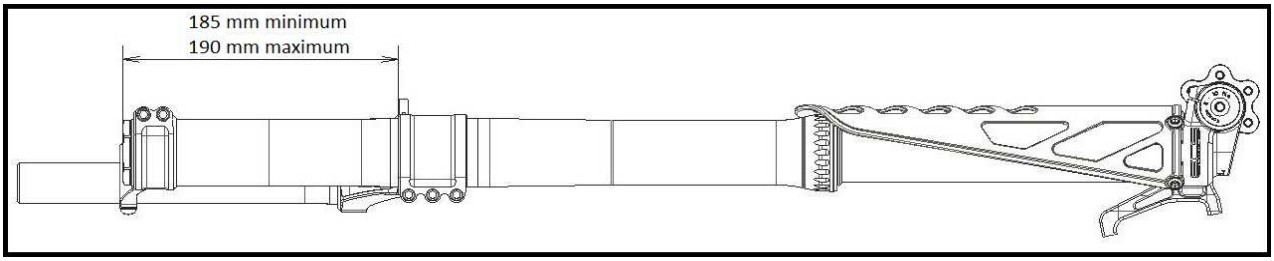
1. Place the washer **1** of the lower clamp provided with the headset.
2. Insert the pivot tube assembled with the lower clamp **2** through the headset tube **3** by checking the correct setting of the lower and upper conical bearing.
3. Insert the original stacking **4** on the upper bearing seat including eventually a first washer and then one or several setting shims.
4. Insert the upper clamp **5** and then the upper washer **6**.
5. Insert one setting shim **7** and mark with a marker the height of this shim on the pivot tube.
6. Then remove the assembly doing the operations 1 to 5 in opposite direction.
7. If necessary, cut the pivot tube 2 to 3 mm down of your mark to make possible the adjustment of the headset.
8. Reassembly the parts by respecting the **1** to **5** operations and tight smoothly the headset screw with his mounting plate **8** in the pivot nut **9** preliminary inserted in the pivot tube.



Never disengage the pivot tube from the lower clamp, even if the pivot tube is too short, or when changing the frame. It is imperative to change the set for important security reasons

Setting the fork tubes

Dimension you have to respect:

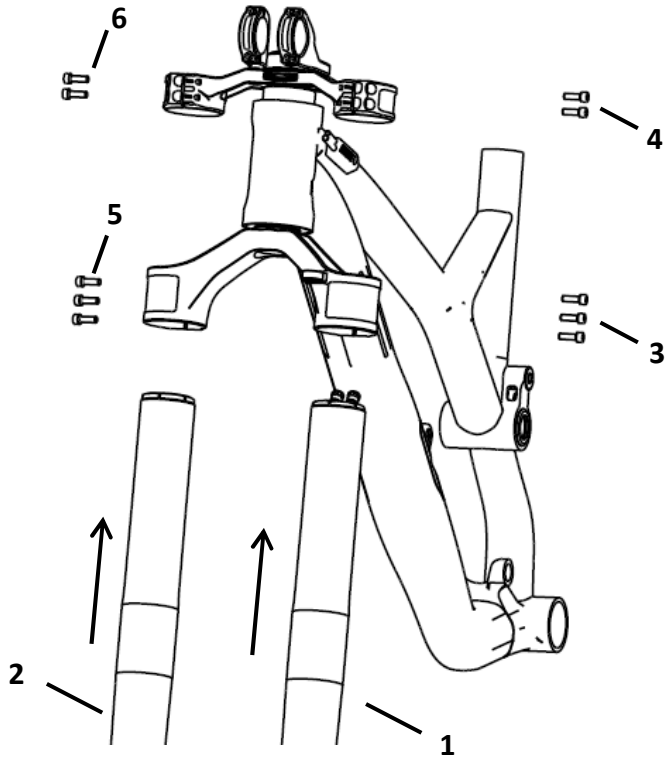


9 Insert the air tube **1** in the left part of the clamps by respecting the dimension above and by orienting the air valves in the rear bike direction.

10 Tight the three clamping screws **3** in order to clamp statically the fork tube. 5

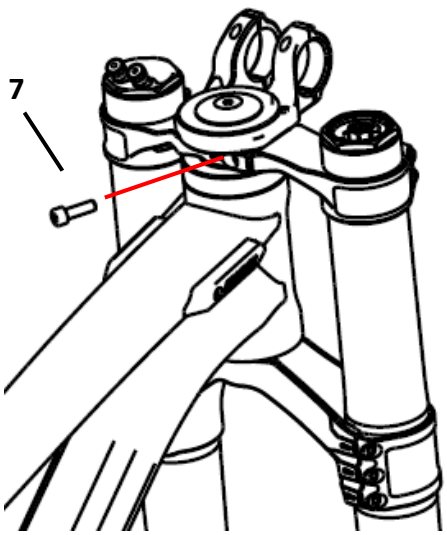
11 Insert the hydraulic tube **2** in the right part of the clamp, symmetrically to the air tube by orienting the upper bleed screw in the head direction of the bike.

12 Tight the three clamping screws **5** in order to clamp statically the fork tube. 5



Final tightening

When everything is assembled, tight the entire set in the following way:



13 Adjust the headset according to the process shown in the manual of your bike.

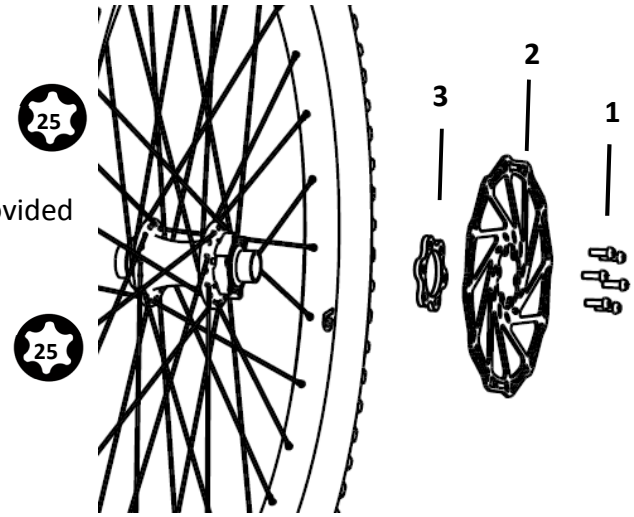
14 Tight the clamping screw **7** of the pivot tube with specified torque: **8 N.m** 5

15 Tight the six clamping screws **3** and **5** of the lower clamp with specified torque: **6 N.m** 5

16 Tight the four screws **4** and **6** of the upper clamp with specified torque: **7 N.m** 5

Front wheel mounting with standard hubs

In order to set a Standard hub wheel on the OBSYS fork, it is necessary to place a supplied specific shim between the hub and the brake disc as follows:



17 Loose the six fixing screws **1** of the brake.

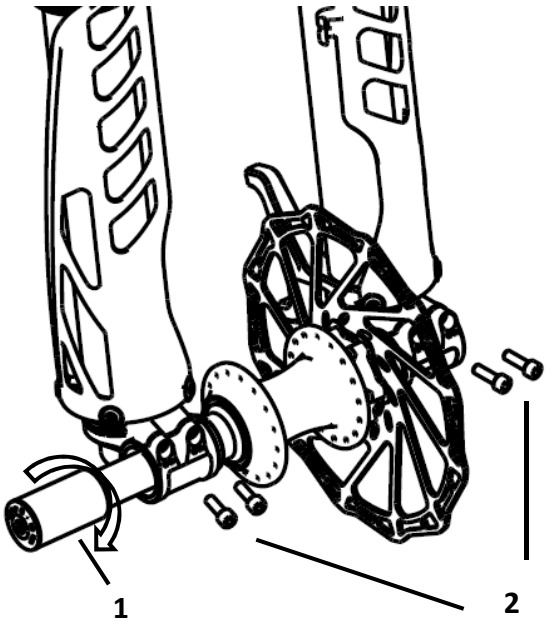
18 Remove the brake disc **2**.

19 Assemble the set Disc/Shim **3** with the six screws provided with the shim.

20 Tight the six new screws in the hub with the torque specified by the hub's manufacturer or at **6.2 N.m**

Then carry out the operations 21 to 23.

Front wheel mounting with BOOST hubs



To assemble the front wheel equipped with a BOOST hub, proceed directly as follows:

21 Place the front wheel.

22 Screw the wheel axle with specified torque: **6-8 N.m** 5 

23 Tight the four clamping screws **2** of the wheel axle with specified torque: **6.2 N.m** 5 

The disassembly of the front wheel must respect the reverse previous operations.

Front wheel brake mounting

The Deville brake caliper bolt pattern uses PostMount 180 standard (PM180).
To assemble the disc brakes, follow this procedure:
Install the disc brake caliper, according to disc brake manufacturer's specifications.
Be sure to torque all fasteners and bolts to manufacturer's recommendations. Consult the instructions that came with your disc brakes for proper installation procedures. It is recommended to install new brake pads, to ensure proper alignment.
Route the disc brake hose or cable housing from the caliper to the inside of the lower leg and through the supplied disc brake hose guide.

Test the brakes for proper operation on ground level before hitting the trails.

The disc brake caliper mounting bolts must have 10 mm of thread engagement with the fork.
The disc brake caliper mounting bolt tightening torque level must never exceed 10 N.m.

AIR Spring

The first adjustment that should be done on the fork is to set the air pressure. This adjusts the stiffness of the air spring according to your weight. The stiffness of the air spring induces a degree of fork travel when you sit on your bike. This value, commonly called sag, can vary based on your usage.
This value should be between 20% and 30% of the fork overall travel. The sag measurement should be taken standing with both feet on the pedals and both hands on the bars. You can experiment and vary your sag percentage to better suit your riding style and overall feel.

The preload compresses the fork spring and either shortens or extends the spring to its original length. Preload is used to adjust the suspension to the correct range of operation within the suspension's travel- more spring preload will the raise the bike up and less preload will lower it.

To achieve the best performance from your BOS suspension product, it is important to set your optimal pressure. The chart below will give you some base values based on your weight. Your specific pressure may vary based on your riding style and personal preference. However, do not stay too far from the indicated pressures, or you may risk changing the performance of your fork

Stiffness of the Spring

IMPORTANT

Whatever your weight, the air pressure must be between **135** and **250** Psi. It is recommended to use our BOS digital air pump.

Weight (kg)	55	60	65	70	75	80	85	90	95	100	105	110	115	120
Pression (psi)	149	160	169	179	187	195	202	209	216	221	226	231	235	238

Spring Preload

The pression of the preload must be done via the "preload" valve and can be set independently to the stiffness of the spring.
Setting range: 0 à 500 gr.

Air Chamber Equalization

IMPORTANT

You must equalize the positive and negative air chambers each time you adjust your pressures. If the air chambers are not equalized, the fork will not function properly.
Once your pressure is adjusted, compress and release the fork over the first inch of travel 5-10 times. Once this is done, you're ready to roll!

Hydraulic adjustements

The OBSYS fork has the specificity of having a single compression damping adjustment. This feature allows an easier adjustment of the compression behavior of the fork and which, combined with the technology used, is more efficient.
The setting of the rebound damping, located on the lower part of the right stanchion allows to adjust the rebound speed of the suspension. This parameter is very important to make the suspension more efficient to absorb successive shocks and to guarantee your stability.

Compression Damping

Adjust the compression damping using the flat screwdriver by acting on the compression screw in the center of the top cartridge cap.

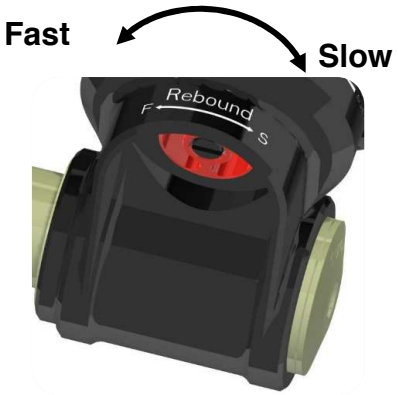
By screwing, you will make the fork harder in compression and unscrewing it will be softer.

<u>Compression:</u> 20 clics

Basic settings	
Compression	10 clics
rebound	6 clics

Rebound Damping

Adjust the rebound damping using the flat screwdriver by acting on the rebound screw located under the right stanchion.
By screwing, you will make the rebound slower and unscrewing it will be faster.



<u>Rebound:</u> 13 clics

To begin your adjustments, fully tighten the adjustment screw and then count the number of clicks by unscrewing from the fully screwed position.

Do not keep load when you feel that the adjusting screw has reached its stop

Tuning tips

When it comes to hydraulic settings, there is no such thing as a “magical formula”; many factors have to be taken into account (bike balance, bike geometry, and rider preferences to name a few). Having that said, the following may help guide your adjustments:

- Excessive diving of the fork under braking : use a longer negative air spacer and/or harden the traction control
- Frequent bottom-out : harden compression
- Feeling of harshness on roots and rocks (square edges) : soften compression
- Discomfort, arms getting sore : soften compression, and/or traction control, and/or use a shorter negative air spacer
- Fork stays low over successive impacts and doesn’t spring back : speed up rebound
- Bike sits too high in travel : slow down rebound

Proceed step by step, one setting at a time by hardening or softening just a few clicks each time.
If you ever get lost while you are setting up the forks, always go back to the starting point settings.

It is necessary to clean your forks after every use! Nothing is worse for your fork's seals than dirt and dust. It is very simple to clean your forks: wipe off the stanchions and dust seals with a clean rag. You can also slightly lube the stanchion (with fork oil).

Do not under any circumstances use degreaser. On the same note, do not power wash the forks seals! It will only push the mud inside the forks and get it stuck between the stanchion and the seals.

		Every ride	Every 6 months	Every year	Every two years
Clean fork exterior		**x**			
Basic service	Wet/Muddy conditions		**x**		
	Racing/frequent use		**x**		
	Dry/dusty conditions			**x**	
Complete service	Wet/Muddy conditions			**x**	
	Racing/frequent use			**x**	
	Dry/dusty conditions				**x**
Inspect Bushings	Wet/Muddy conditions			**x**	
	Racing/frequent use		**x**		
	Dry/dusty conditions				**x**

IMPORTANT

The oil service and full service should be performed by a BOS-approved service center. Only BOS suspension service centers are able to identify and appraise a damaged or worn part, especially in case of shock or wear on structural elements such as the legs, the stanchions, clamper and the crowns.

Oil level

As an indication, the volumes of oil used during the service of your OBSYS by an approved service center:

Lubrication : Bi'Oil	**Volume (ml)**
Hydraulic tube (right)	150
Air tube (left)	50

IMPORTANT

It is necessary to use BOS Bi'oil for lubrication and AMX1 for the closed cartridge, at risk of notably affect the damping performance and reduce wear and tear parts lifespan.

The air side lubrication oil has to be introduced in the fork leg and not in the air rod.

My fork loses pressure when I remove the pump, what can I do?
Check the valve core tightness using a Schrader valve core tool.

My fork has negative travel, is this normal?
The BOS suspension air spring is designed to lower the engagement threshold as much as possible. Therefore, it is possible on some bikes that there will be a small negative travel.

Where can I buy original stickers or a valve cap?
These items and more are available in our online store.

My fork has bushing play from new, what should I do?
The unique bushing alignment and tolerance on BOS suspension forks results in less friction, more sensitivity, and some bushing play from new. If the bushing play feels abnormally excessive, please contact a BOS suspension certified service center for expertise.

My fork is lowering as I deflate it, what is happening?
When you deflate the fork by the Schrader valve, you are only emptying the positive air chamber. The negative air chamber stays under pressure and exerts an opposing force on the air piston and pulls the fork down. To avoid this phenomenon, deflate the fork in steps of 30-40 PSI and equalize the air chambers between steps (compress and release the fork 5-10 times over the first 20mm – 1 inch) of travel.

I just inflated my fork for the first time and it is really hard, what can I do?
Have you equalized your fork's air chambers? If not, check how it's done in the setup section of your product's user manual.
Did you change your fork's settings? Check that your low-speed and high-speed compression are at our recommended base settings given in the setup section of your product's user manual.
If you've equalized your fork, you may have some internal pressure from the production process. You can eliminate this pressure by slipping a thin zip tie between your left dust seal and your stanchion until you hear the sound of air escaping. Then reset your pressure and equalize your air chambers.
If you've tried all that and your fork is still hard, email customer service and they'll give you a hand.

My fork was upside down or on its side and now it feels like there's no hydraulic control.
Your cartridge has depurged – air has entered the hydraulic system. Open bath cartridges like the one used in your fork allow air to mix with oil. The cartridge purges itself as you ride. You can purge the fork even faster by cycling it through its full travel 5-10 times.
If it is becoming increasingly difficult to purge your cartridge, it may be time for an oil change. Contact your closest BOS suspension authorized service center for a basic or a full service.

I have about 5mm of travel unused when I ride normally.
Our forks are designed to be very progressive at the end of travel to give you a bottomless feeling. This means that those last couple millimeters of travel might only be used on the biggest hits or when you case a landing. You can think of them as insurance to get you out of the trickiest situations. If you have more than about 5% of your travel unused, try lowering your air pressure by 5PSI and check your compression settings. If your compression settings are much harder than our recommended values, try bringing them closer to the base settings in your product's user manual.

I have grease/oil coming out of my brand new fork seals.
This is not unusual at the beginning of the life of a fork. Clean off the stanchions and the seals and it will stop after a few rides.

My fork has too much friction.
This is normal, some seals of your BOS OBSYS fork require wearing period when the fork is new or just after maintenance.

My fork has been sitting for a couple of weeks and some oil came out of the seal when I rode it the first time.
BOS suspension seals can let out a little bit of oil when they have been sitting and dried out. Wipe off any oil, and none more will come out when the seal is lubricated again.

I have grease/oil coming out of my used fork seals.
It's time for a service! Contact your nearest BOS suspension authorized service center for a full service.

But I haven't reached your recommended service interval yet.
Our recommended service intervals cannot cover 100% of customer's usage cases. Use in wet, muddy conditions; storage out in the sun; frequent use; or improper care can all cause your seals to wear out more quickly.

Where can I find the serial number?
You can read the serial number under the lower clamp or on the fork pivot tube.

For any other questions, please send us a message at customerservice@bosmtb.com.

You will also be able to obtain the service or warranty request forms and the revision rates for your BOS suspension product on our website www.bos-suspension.com or by simple request to the previous email address.

Date	Place	Track conditions	Pression Spring (Psi)	Comp	Rebound	Comments

"We love mountain bike"

BOS SUSPENSION

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