BCS SUSPENSION

KIRK

mtbenduroracingshock

# KIRK since year 2014

*All serial numbers*

# Service manual

*SM_151512_rev00*

# Table of contents

# BOS S.A.R.L. Warranty

BOS MTB offers warranty on its products on the following terms:

BOS MTB guarantees to the original purchaser that the BOS 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 a 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 MTB 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, 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 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 MTB 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.

# 1 Environment

Mountain biking is a marvelous sport which gives you a lot of happiness. However it is potentially a source of environmental conflict with other people.

A responsible behavior when using your bicycle automatically defuse problems and conflicts.

To ensure the sustainability of the mountain bike sport, be sure that you stay in the legal framework, be respectful towards the environment and recognize the rights of the others.

# 2 Glossary of terms

**Base Valve:** Base valves are located at the base of the fork leg or on the shock's reservoir and generally function to control high speed compression. Base valves or "BV" are fixed & the piston that is attached to a shaft is referred to as the mid-valve or "MV". Both forks and shocks can have a "BV" and a "MV".

**Bottoming Out:** When your suspension reaches the end of its travel on an impact. You generally want to reach full bottom on occasion but NOT all the time. Continual bottoming can wreak havoc on the suspension system leading to breakage.

**Closed Cartridge Dampers:** Closed Cartridge Dampers are the opposite of an Open Bath Damper, in a closed system the oil solely contained within a cartridge tube and does not flow into the fork leg. Therefore, additional oil or lubricant is added to the inside of the leg to lubricate the seals and bushings.

**Compression Damping:** This is what gives your bike it's feeling of plushness, or stiffness. Compression determines how fast the suspension can compress when hitting a bump. If your suspension is too "stiff", the system won't compress fast enough to absorb a bump force. When there is not enough damping, the bike has soft, mushy feeling to it and will compress through its travel with little damping resistance.

**Fork Oil Level:** The level of oil inside the fork. It's typically measured in cc's by fully compressing the fork without the spring installed. It is used in tuning the amount of air contained inside the fork. Since compressing air acts like a spring, raising the oil level leaves less room for air, resulting in a rising rate throughout the fork's travel.

**Free Sag:** The amount the bike settles under its own weight without the rider. With mountain bikes becoming lighter and lighter, free sag is really not a critical tuning element but still worth mentioning.

**High-Speed Damping:** Damping feature that controls fast suspension movements. High-speed damping comes into effect on fast, rough, technical trails, g-outs, hard landings. HSD refers to the shaft speed of the suspension and not the actual riding speed. HSD is controlled through a high speed oil circuit best located in the base valve.

**Low-Speed Damping:** Damping feature to control slower vertical movements such as climbing or slower paced trails and bumpy whoop sections. A good example of low speed is rolling slowly over a large rock and riding to its downside, this is where the suspension will fully compress but at a slower rate and low speed compression circuit comes into play. LSD refers to the shaft speed of the suspension and not the actual riding speed. LS damping is best controlled through a low speed oil circuit and or shim stack.

**Mid-Valve:** Mid valves are located on the piston shaft and function in the middle part of the stroke. Mid valves ""MV" function when oil passes through the "MV" from one side of the chamber to the other. The rebound valve is also located on the "MV".

**Negative Spring:** A negative spring functions to control the return of the suspension when it reaches full extension. Negative springs can be air, coil spring, rubber bumper or a combination of both. A negative spring also functions to soften the "top out feel" when the wheel/suspension rapidly extends and it also helps initiate compression providing a smoother or more sensitive initial feel. An adjustable negative spring offers the greatest tuning range for rider's weight, for example a heavy rider will need a higher or stiffer spring to resist pre-compression, but the high spring rate may also completely compress the negative spring rendering it ineffective to control top out.

**Open Bath Dampers:** Open Bath refers to a cartridge that is NOT closed and allows oil to flow from the inside of the damper to the outside of the cartridge or inside of the fork legs. Open Bath Dampers use oil for damping, lubrication, cooling, and end stroke "ramp up" or "progression". But the downside of all this oil is the added weight of all the excess oil that is used to fill the entire fork leg.

**Packing:** An issue caused from too much rebound damping. When a series of bumps are encountered, the suspension doesn't rebound fast enough to absorb the next bump. The suspension keeps compressing more and more after each bump and it gives the rider a very harsh feeling and even loss of traction and control because the wheels no longer follows the contour of the terrain.

**Platform Damping:** A platform is generally referred to as resistance to initial suspension compression usually generated by pedaling or rider induced forces. A platform can be achieved by various methods and usually the best way to limit suspension "bobbing" is to restrict oil flow through the low speed circuit. Depending on what technology you have and there are various designs out there, choking off the low speed circuit can be achieved by either adjusting a pressure spring on the shim stack, adjusting the depth of a bleed needle or changing the size of an orifice via a slide. These are just a few of the most common methods to deliver platform damping feel to improve pedaling efficiency.

**Rebound Damping:** Once your suspension has hit a bump and compresses, now it's time for your rebound damping to kick in. Rebound controls how fast the fork extends back from compression to keep the wheel on the ground. Rebound can affect your traction as well. Too much rebound damping will keep the suspension compressed when it should be extending to stay on the ground on the downside of a bump, and the wheel will lose contact with the ground. This is called "Packing". Too little rebound damping will cause the suspension to "bounce" and "hop" also causing a loss of traction and control. Proper rebound control is equally important as compression and it is very important to properly tune this performance feature. The rebound valve is best located on the "MV" with a tapered shim stack controlling oil flow. Damping systems that use orifice or small holes to control damping simply cannot control the dynamics of high performance suspension.

**Spring Preload:** The preload ring or collar compresses the shock or 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.

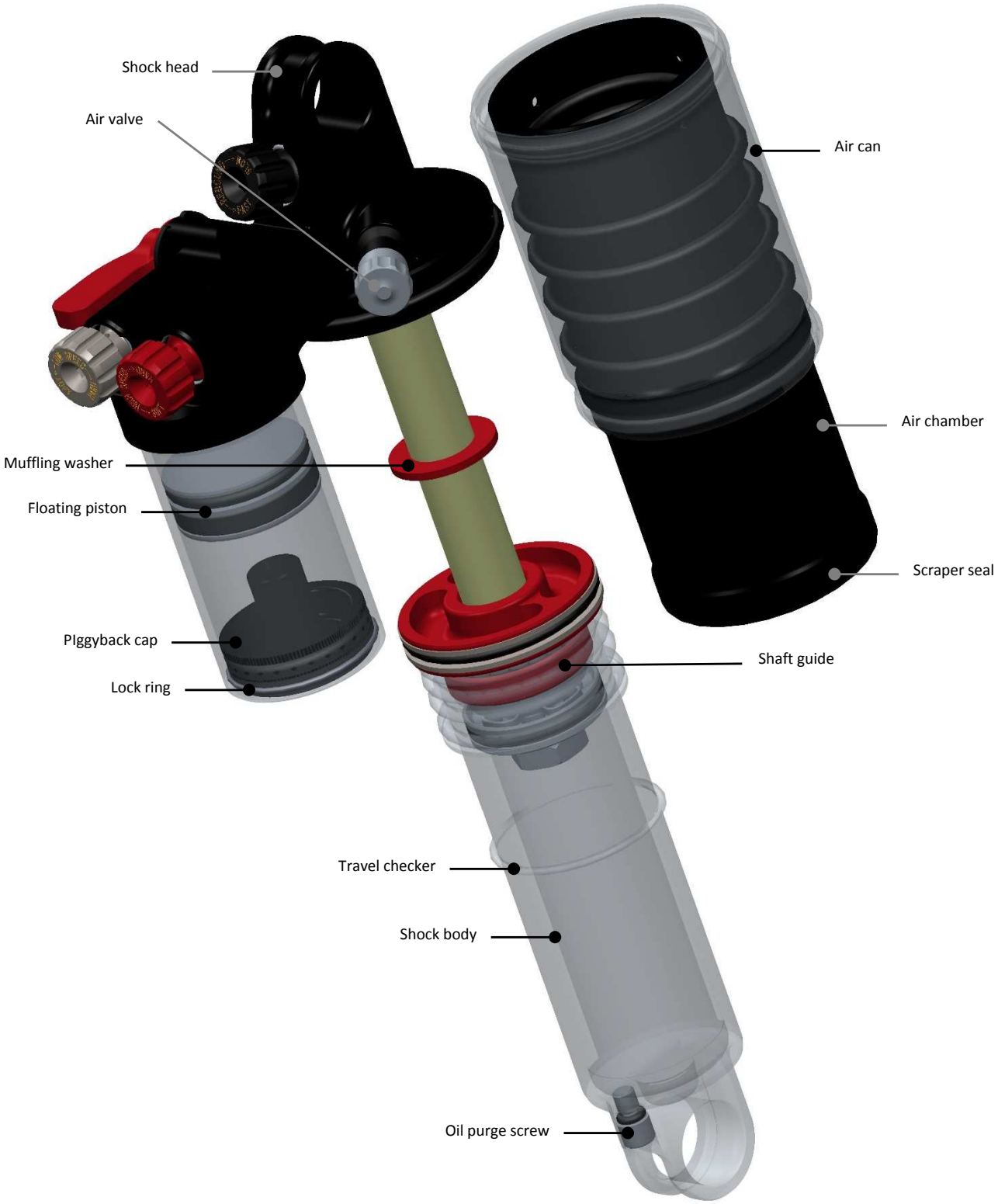
**Spring Type:** Springs can either be coil or air and both are widely used in mountain bike suspension systems. Springs work to resist pre-compression of the suspension under the rider's weight and is independent of the compression system which refers to damping. Too stiff of a spring rate delivers a harsh and uncontrolled feel, if your spring rate is too soft, the suspension will sit too far into its travel and will feel mushy and easily bottom out. It's important to have the correct spring rate for each rider and setting up "SAG" will determine whether you have the correct rate or not.

**Stiction:** Or static friction, is a term that describes friction that occurs from parts rubbing or gliding across one another. For example, on both the rebound and compression stroke, the stanchion tubes must glide against the bushings, O-rings, seals, and other parts. The parts that come in contact with one another create friction and when a bending load is applied the stiction can increase causing the suspension to bind and feel notchy. Stiction can also dramatically increase after seals become dry resulting in the loss of small bump sensitivity.

**Twin Tube Dampers:** Twin Tube systems generally combine the technology of an "Open Bath" Damper and a "Closed Cartridge" system. With a Twin Tube design, the cartridge damper is inside of a tube (hence twin tube) allowing oil to flow from the cartridge damper into and from the twin tube providing additional oil flow and damping performance without the added weight of "excess" oil that is needed to fill the fork leg.

**Valving:** The mechanical hardware that creates compression or rebound damping. Valving is a combination of check valves, holes, ports, shims, springs, etc. The best valving arises out of piston with a series of tapered shim stacks which are very thin high quality steel "washers" that when combined together produce a smooth yet linear flex pattern when oil flows around them. Shims provide the resistance to the oil flowing through the piston at various speeds. The lower amount of shims used typically means the damping quality is less. Systems that use one or two shims deliver a harsh feel on high speed hits, unfortunately, many so-called high performance suspension designs use very few shims and/or only small holes to control damping forces. If your clickers are ineffective or have a very small range, this is due to improper piston & shim stack design.

# 3 Exploded view of the shock



# 4 BOS Suspension Service

## 4.1 SAFETY

While working on BOS suspension please wear appropriate safety equipment's as apron, safety gloves and glasses.

When manipulating suspension oil, please wear nitrile gloves and glasses.

## 4.2 CLEANLINESS

When servicing your BOS suspension, be sure that you are working in conditions that will not affect the performance:

- Work in dust free environment
- Work on clean and organized workstation
- Use aluminum soft jaws to protect the equipment when using a vice
- Do not scratch any of the surface when using tools
- Clean elements when your disassemble them
- Drop sub-assemblies on your station in order to easily find how to reassemble them together
- Wear long sleeves is recommended or shaved arms

If you are servicing your BOS suspension outside a workshop, you should have at least:

- Avoid dust and air flow around your working area
- A clean tarpaulin to place underneath the suspension on the floor
- A bicycle repair stand to lock and maintain the suspension
- An oil pan
- All necessary tools listed below

## 4.3 TOOLS REQUIRED FOR SERVICE

**Cleaning + Safety:**

- Safety glasses
- Nitrile gloves
- Apron
- Bottle brush
- Clean, lint-free rags
- Pressure washer
- Oil pan
- Spray bottle
- Soap (+ hot water)
- Oil fountain (optional)
- Isopropyl alcohol

**Standard tools:**

- 1.5 / 2.5 / 4 / 5 mm hex wrenches
- 13 / 14 / 26 mm open end wrenches
- White grease (vegetal)
- Socket wrench
- Reglet
- Graduated pitcher
- Large internal retaining ring pliers
- Torque wrench
- Universal grease
- Bench vise with aluminum soft jaws
- Syringe
- Pin wrench
- Bicycle stand (optional)
- Rubber mallet
- Teflon grease
- Small screwdriver grounded
- Air pump
- Nylon strap wrench

**BOS specific tools:**

- BOS Floating piston tool / ref. 150807-O-035
- BOS Syringe adapter for purge / ref. 151512-O-001
- BOS Shaft guide tool / ref. 151310-O-018
- BOS Piggyback cap extraction tool / ref. 150807-O-030
- BOS Nitrogen inflation needle / ref. 151512-SEO-001
- BOS Bushing extraction & insertion / ref. 150807-SEO-001

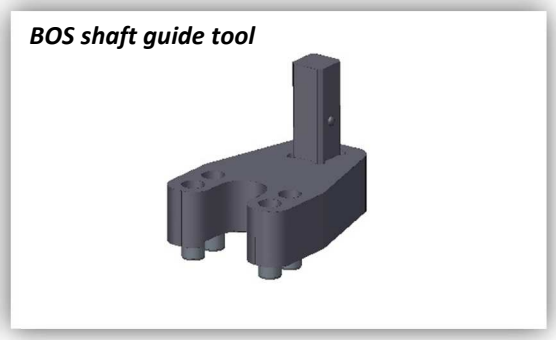
*BOS floating piston tool*

*BOS piggyback cap extraction*

*BOS syringe adapter for purge*

*BOS nitrogen inflation needle*

*BOS bushing extraction & insertion*



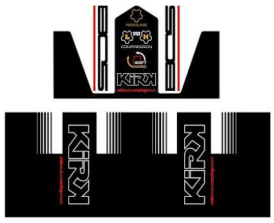
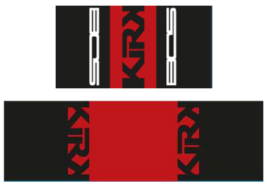
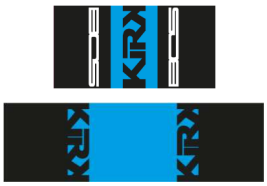
*BOS shaft guide tool*

## 4.4 COMPONENTS REQUIRED FOR SERVICE

For operations on the suspension, you may have to order components according to the table below:

| Operations | Components | Quantity | Tools required |
|---|---|---|---|
| Basic Service:<br>Change Oil | <br>AMX1 | <br>0.70 L | <br>Standard + Pack 1 |
| Complete service:<br>Change Oil<br>Shaft guide replacement<br>Scraper seals replacement<br>O-ring replacement<br>Chamber guide replacement<br>Stickers replacement | <br>AMX1<br>Complete service kit ref. 151512-SE-016<br>Kit stickers* | <br>0.70 L<br>1<br>1 | <br>Standard + Pack 1 |
| Stickers replacement | Kit stickers* | 1 | Standard |

*Choose your sticker kit following this table:

| KIRK | KIRK 1 Way Red | KIRK 1 Way Blue | KIRK 3 ways |
|---|---|---|---|
| Ref. stickers: KITSTICKKIRK | Ref. stickers: 151512-S-004 | Ref. stickers: 151512-S-003 | Ref. stickers: 151512-S-002 |
|  |  |  |  |
| Ref. shock: all other | Ref. shock: 014xxxx to 016xxxx | Ref. shock: 014xxxx to 016xxxx | Ref. shocks: 001xxxx to 006xxxx |

*OEM stickers exists, please contact BOS for more information.*

## 4.5 PERIODICAL SERVICE INFORMATION

To ensure that your shock will keep its best performance, be sure to respect the following program:

| Usage | Cleaning | Basic service | Complete service |
|---|---|---|---|
| Recreational | After each ride | Once a year | Every two years |
| Racing | After each ride | Once a year | Once a year |

## 4.6 TRAVELER FOR SERVICE CONTROL (PRINTABLE DOCUMENT)

**General information**:

Product Designation: _____ Serial number: _____

Owner of the product: _____ Date of service: _____

Technician: _____ VISA: _____ Shop Order #: _____

**Customer initial settings**:

| Pressure (psi) | Low speed (clicks) | High speed (clicks) | Rebound (clicks) |
|---|---|---|---|
| | | | |

**Services check list**

☐ Basic service operations:

Cleaning: ☐ YES ☐ NO – Note: _____

Oil change: ☐ YES ☐ NO – Note: _____

Basic control: ☐ YES ☐ NO – Note: _____

Travel checker replacement: ☐ YES ☐ NO – Note: _____

☐ Complete service operations:

Cleaning: ☐ YES ☐ NO – Note: _____

Oil change: ☐ YES ☐ NO – Note: _____

Complete control: ☐ YES ☐ NO – Note: _____

Travel checker replacement: ☐ YES ☐ NO – Note: _____

Shaft guide replacement: ☐ YES ☐ NO – Note: _____

Scraper seal replacement: ☐ YES ☐ NO – Note: _____

Chamber guide: ☐ YES ☐ NO – Note: _____

Stickers replacement: ☐ YES ☐ NO – Note: _____

**Comments / Parts changed**:

_____

_____

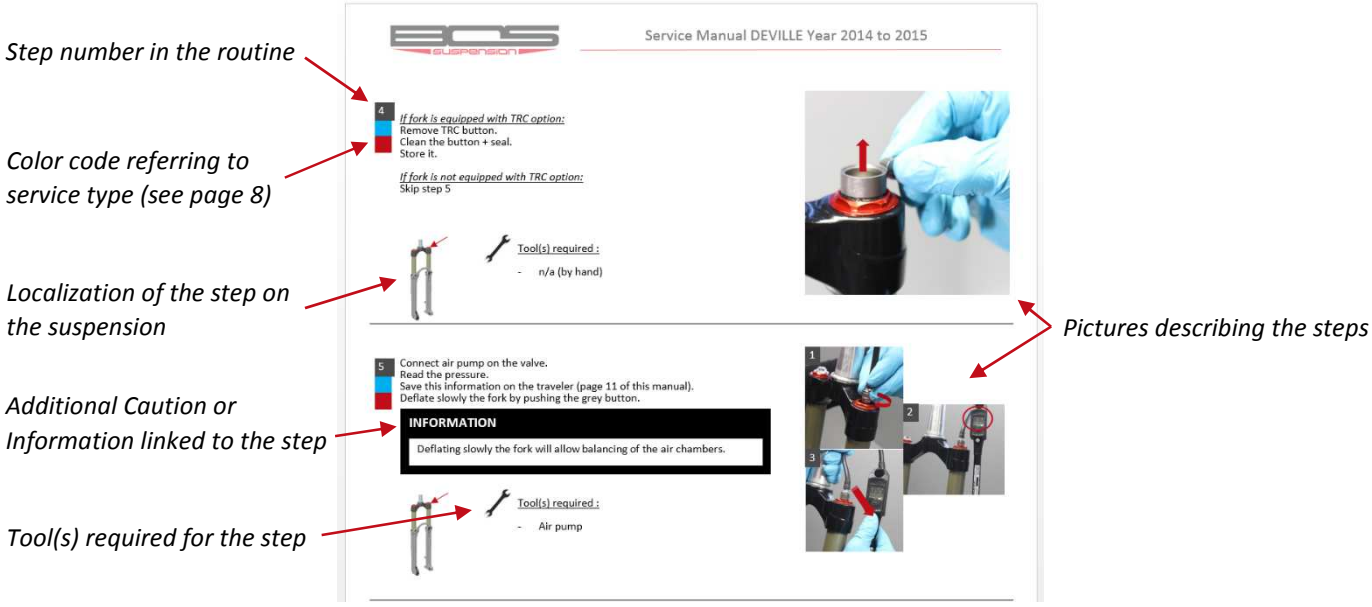
# 5 Operations Summary

## 5.1 STEP BY STEP CHART

For all BOS suspension's service, the following chart is followed:

1. Receive the suspension
    a. Fill the traveler included in this manual page 10
    b. Attribute a shop order #, apply this # on the traveler and on the suspension thanks to a tape
2. Control the suspension
    a. Oil leakages
    b. General condition (scratches, damages…)
    c. Establish a potential quotation for repairing the suspension
    d. Check settings consistency
3. Clean the suspension. There is multiple way to clean:
    a. Pressure washing
    b. Hot water + soap
    c. Oil bath + brush
    d. Alcohol spray
4. Note the customer's settings of the suspension. You could use page 10 of this manual to do so.
5. Disassemble the suspension following the §6 – Step by Step
6. Clean the sub-assemblies and control them when removing from the suspension
7. Change parts, reassemble and control the suspension
8. Apply back the suspension's settings.
9. Clean the suspension before packaging
10. Complete traveler with all information and join it with the suspension

## 5.2 HOW TO USE THIS DOCUMENT?



# 6 Step by Step

## 6.1 CLEANING

**Cleaning is very important and part of the BOS service. Do not forget the cleaning steps during service.**

1 Inspect the shock:
- Check eventual loose
- Control parts damaged
- Seek for oil leakages

If one of those inspection points shows that something needs to be replaced, you should quote it to the customer and replace it.

Tool(s) required:

- n/a (by hand)

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2 Clean the shock:
- Washer.

OR (if not equipped):
- Hot water + soap.

Tool(s) required:

- Washer
- Soap

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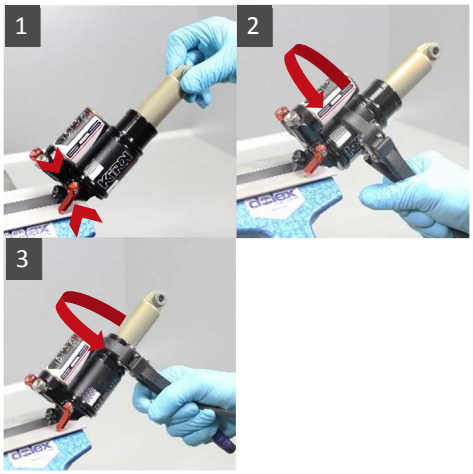
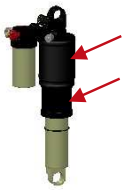
## 6.2 DISASSEMBLE

1 Hold the shock head into a vise block with aluminum soft jaws.
Unlock on a ¼ turn the air can thanks to the nylon strap wrench.
Unlock on a ¼ turn the air chamber thanks to the nylon strap wrench.




**CAUTION**

Do not unscrew more than a ¼ turn as the chambers are still pressurized.



Tool(s) required:

- Nylon strap wrench

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2 Unscrew the air valve cap and plug the air pump on the shock.
Read and save the customer's setting on the traveler (page 8 of this document).
Deflate slowly the shock thanks to the pump.


**INFORMATION**

Deflating slowly the fork will allow balancing of the air chambers.

Tool(s) required:

- Air pump

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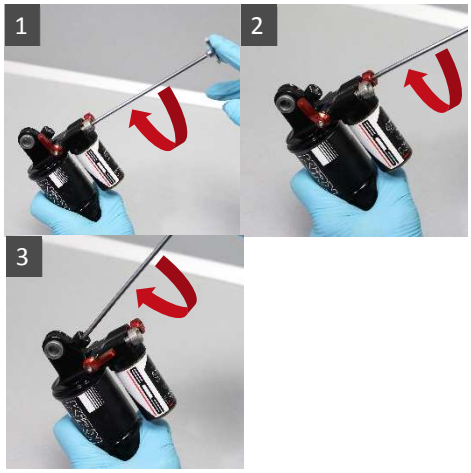
3 Save the high speed compression, low speed compression and rebound settings:
- Screw clockwise the button
- While screwing, count the number of clicks until the stop
- Write down the number of clicks on the traveler (page 8 of this manual)

Unscrew anti clockwise all the settings after saving.




Tool(s) required:

n/a (by hand)

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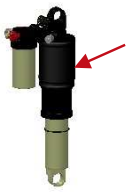
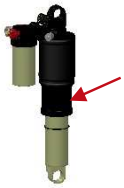
4 Unscrew by hand the air can.
Clean it.
Store it.



Tool(s) required:

- n/a (by hand)

5 Unscrew and pull the air chamber from the shock.
Clean it.
Store it.

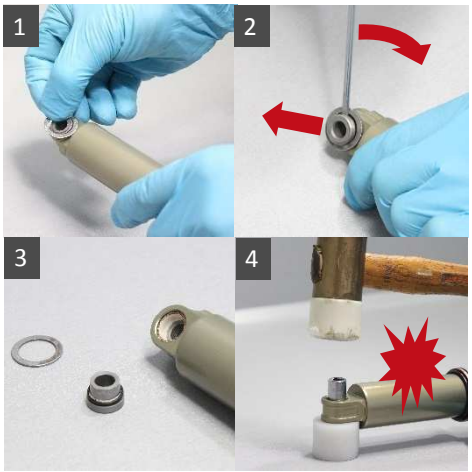


Tool(s) required:

- n/a (by hand)

6 Remove the mounting kit from the shock:
- Place a screwdriver under the mounting kit
- Pry the mounting kit (shock protection is required: ring or tape)
- Push the other mounting kit thanks to a socket

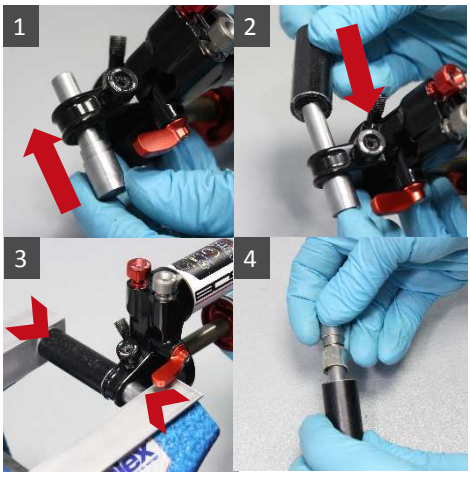
Repeat these operations for the other mounting kit.




Tool(s) required:

- Small screwdriver
- 7mm socket

7 Take the right extraction tool according to the bushing type installed.
Place the housing in front of the bushing and the extraction tool at the opposite.
Squeeze the tools in a vise block and screw until the bushing fall into the housing.
Repeat the operation for the other bushing.




Tool(s) required:

- BOS Bushing extraction & insertion / ref. 150807-SEO-001
- Vise block

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8 Unscrew the bolt from the piggyback.
Thanks to the needle, pierce the membrane in the middle to deflate the piggyback.


Tool(s) required:

- BOS Nitrogen inflation needle / ref. 151512-SEO-001

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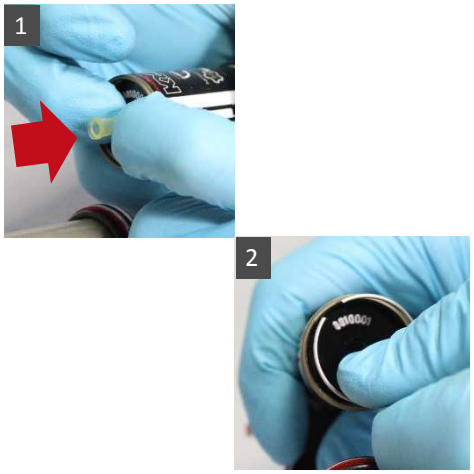
9 Push moderately the cap inside the piggy back.
Remove the lock ring from its groove by hand.




Tool(s) required:

- n/a (by hand)

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10 Take the BOS piggyback cap extraction tool.
Screw it on the cap and pull the cap out from the shock.



Tool(s) required:

- BOS Piggyback cap extraction tool
  ref. 150807-O-030

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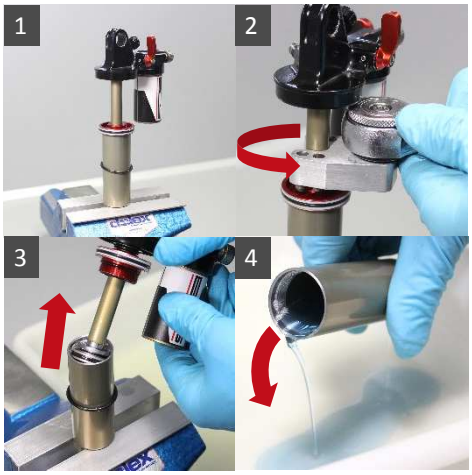
11 Squeeze the bottom of the shock body in a vise block.
Unscrew the shaft guide unit with the pin wrench OR specific BOS tool.
Pull the shaft from the shock body and remove the anti-volume O-rings.
Empty the oil from the shock body.

**CAUTION**

Be sure to place soft aluminum jaws on the vise before squeezing the shock. This will prevent damages.




Tool(s) required:

- Pin wrench

OR

- BOS Shaft guide tool / ref. 151310-O-018
- Socket wrench

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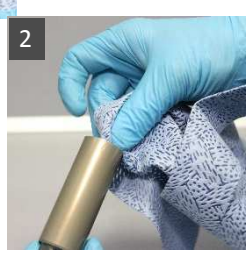
12 Inspect the shaft, seals, and piston.
In case of any damage, quote the repair to the customer.
Clean the assembly with a rag and alcohol.


Tool(s) required:

- Spray of Isopropyl alcohol
- Rag

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13 Take the specific tool and screw it into the floating piston.
Pull the tool to extract the floating piston.
Clean it.
Store it.
Empty the oil inside the piggyback.


Tool(s) required:

- BOS Floating piston tool / ref. 150807-O-035

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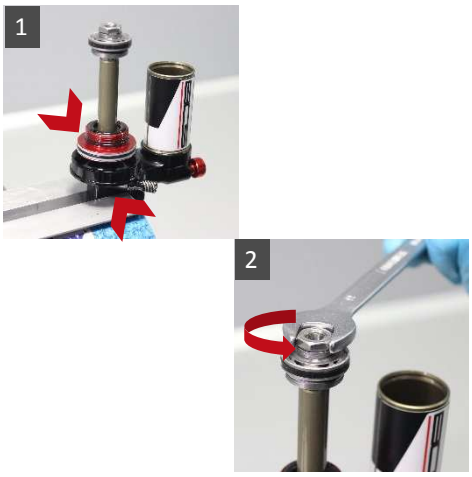
14 Squeeze the shock into a vise block.
Unscrew the nut for the piston with an open ends wrench.
Clean the thread and nut (remove thread locker).
Store the nut.




Tool(s) required:

- 13mm open ends wrench

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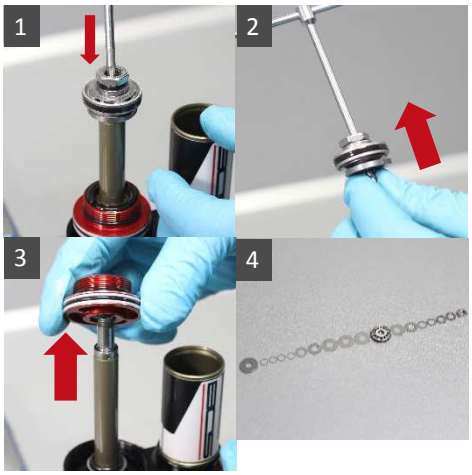
15 Place a long tube or tool on the top of the stack-up, then slide the stack-up on the tube.
Take off step by step the piston stacking.
Take off the shaft guide.

**CAUTION**

Each element may have an asymmetric shape from one side to another.
Keep the side of the elements when disassembling the stacking.




Tool(s) required:

- n/a (by hand)

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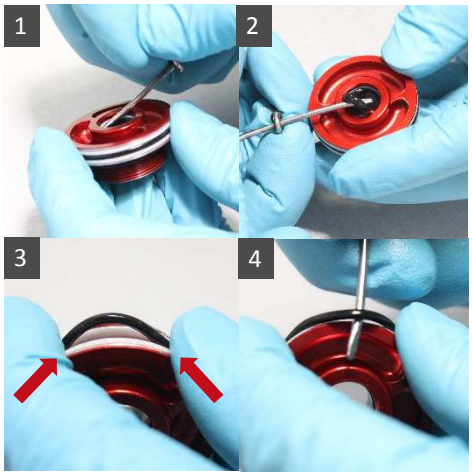
16 Extract the internal O-ring from the shaft guide with a small screwdriver grounded.
Extract the external O-ring from the shaft guide with a small screwdriver grounded.

**CAUTION**

Take care while using the screwdriver, scratches on the parts should generate performance lost.

Tool(s) required:

- Small screwdriver grounded

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17 Extract the O-ring from the air chamber with a small screwdriver grounded.
Extract the scraper seal from the air chamber with a small screwdriver grounded.
If there is a chamber guide, remove it with a small screwdriver grounded.

**INFORMATION**

The chamber guide is not present on all versions. If you're KIRK gets a chamber guide, it is necessary to replace it during complete service.

Tool(s) required:

- Small screwdriver grounded


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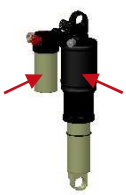
18 Remove the piggyback decal.
Remove the air can decal.



Tool(s) required:

- n/a (by hand)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## 6.3 REASSEMBLE

1 Take a new internal O-ring (ref. JT123706A3) and place it inside its groove on the shaft guide.
Apply grease on the O-ring.
Remove grease excess.


Tool(s) required:

- Vegetal grease (white)

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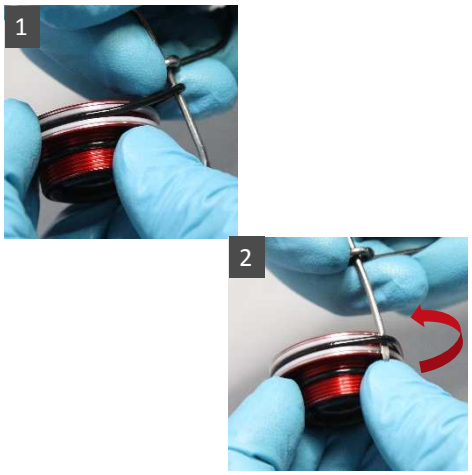
2 Take a new external O-ring (ref. JT320004A3) and place it inside its groove on the shaft guide.

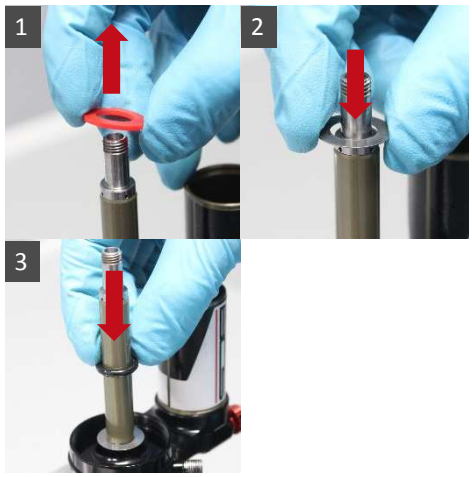



Tool(s) required:

- n/a (by hand)

---

3 Remove the muffling washer from the shaft and drop it.
Apply the ring (ref. CALPD1224030) on the shaft.
Then apply the O-ring (ref. JT100007A3) on the shaft.




Tool(s) required:

- n/a (by hand)

---

4 Replace the shaft guide on the shaft.
Replace the piston stacking on the shaft.
Put Loctite 243 on the nut (1cm long on first threads).
Screw the nut with the torque wrench.

Tool(s) required:

- Loctite 243
- Torque wrench
- 13mm socket


*Torque = 4Nm*

5 Place back the piston inside the shock body.
Screw the shaft guide by hand.

Tool(s) required:

- n/a (by hand)



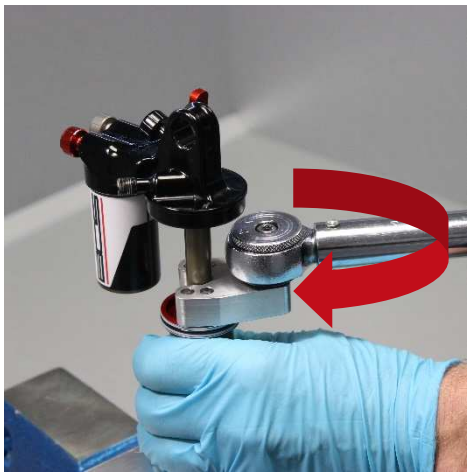
6 Squeeze the body shock into a vise block.
Screw the shaft guide thanks to a pin wrench OR specific BOS tool.

Tool(s) required:

- Pin wrench

OR

- BOS Shaft guide tool / ref. 151310-O-018
- Torque wrench

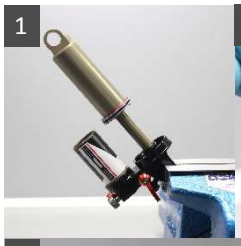


*Torque = 30Nm (with BOS tooling)*

7 Orient the shock at 45° in the vise block.
Unscrew the oil purge screw.
Screw the syringe adapter in place of the screw.
Place the syringe on the adapter.

Tool(s) required:

- BOS Syringe adapter for purge / ref. 151512-O-001





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8 Fill the syringe with AMX1 oil.
Cycle the shock 4-5 times to fill the shock.
Turn the shock body 180° to remove any air bubbles trapped inside the shock body.
Cycle again the shock 4-5 times.

Tool(s) required:

- Syringe 60ml
- AMX1 Oil

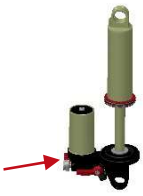


---

9 Close and open completely all the settings knobs (rebound, low speed compression, high speed compression).
Cycle again the shock 4-5 times.
Repeat this step until no air bubbles appears in the syringe when cycling the shock.

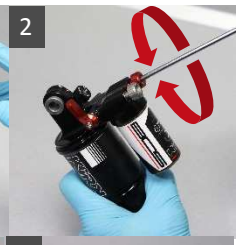
**CAUTION**

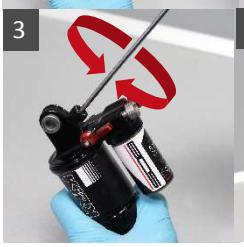
Removing air bubbles is very important to ensure a good performance of the shock (avoid oil foaming).



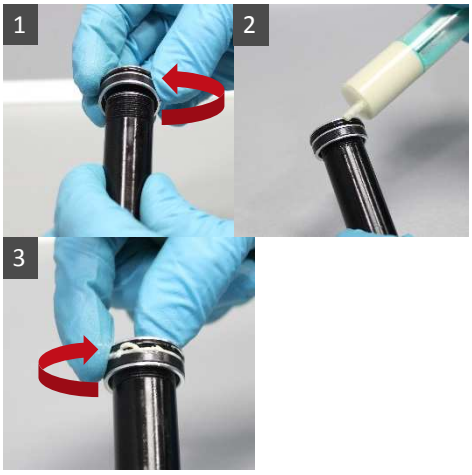
Tool(s) required:

- n/a (by hand)


10 Flip the shock vertical in the vise block (keep the syringe installed).
Screw the specific tool on the floating piston.
Lube the floating piston with white grease.




Tool(s) required:

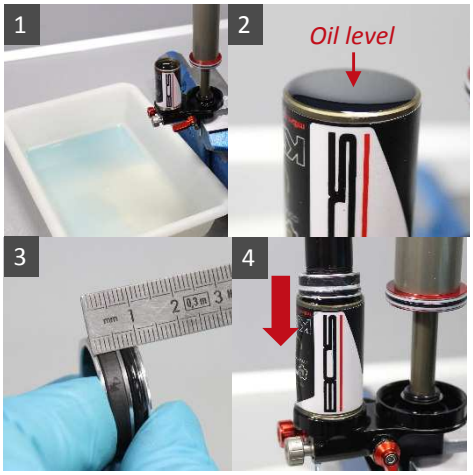
- White grease (vegetal)
- BOS Floating piston tool / ref. 150807-O-035

---

11 Place an oil pan under the shock and fill the piggyback at its maximum.
Measure the height of the floating piston (2 versions exist: 10mm or 15mm).
Install the floating piston into the piggyback of the shock.
Start to install the floating piston on the first centimeters.

**CAUTION**

When installing the floating piston, oil will overflow from the piggyback. Be sure to protect your workstation correctly.



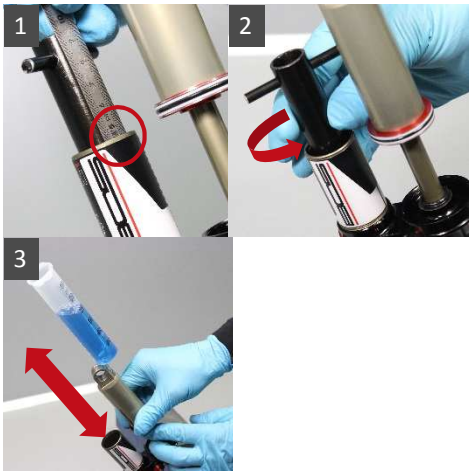

Tool(s) required:

- Oil pan
- BOS Floating piston tool / ref. 150807-O-035
- Reglet

---

12 Push the floating piston inside the piggyback and control how deep it is immerged:
- If piston height = 10mm -> insertion depth = 45,5mm
- If piston height = 15mm -> insertion depth = 40,5mm

Unscrew the tool from the floating piston.
Flip back the shock at 45°.
Cycle the shock 3-4 times to remove any air bubbles trapped in the piggyback.




Tool(s) required:

- BOS Floating piston tool / ref. 150807-O-035
- Reglet

---

13 Remove the syringe from the adapter and the adapter from the shock.
Place back the screw with its O-ring on the shock body.



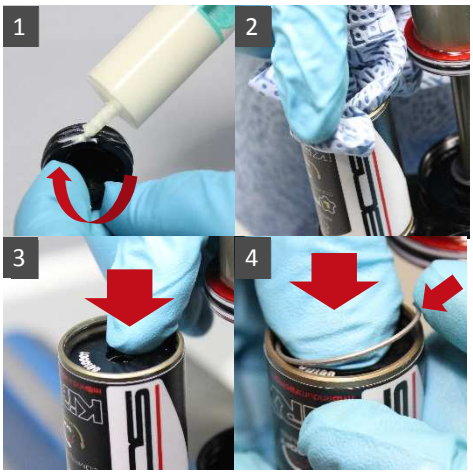
*No torque - hand tighten*

Tool(s) required:

- 3mm HEX socket

---

14 Grease piggyback cap & dry clean piggyback.
Replace the piggyback cap inside the chamber.
Push it until the lock ring groove is visible.
Place the lock ring by hand.




Tool(s) required:

- Vegetal grease (white)

---

15 Place a new O-ring (JT298206A3) and scraper seal (ref. JR03B300D).
Place a new guide chamber (ref. 151008-D-041) if there was one while disassembling.
Replace the anti-volume O-rings on the shock body (apply the same number of O-ring that were mounted while disassembling).


Tool(s) required:

- n/a (by hand)

---

16 Remove the travel checker O-ring from the shock body.
Place a new travel checker O-ring (ref. JT260002B5).



Tool(s) required:

- n/a (by hand)

---

17 Apply universal grease on the scraper seal of the air chamber.
Apply universal grease on the shaft guide's seal and O-rings.
Squeeze the shock head into the vise block.
Place back the air chamber on the shock.
Screw the air chamber by hand.


Tool(s) required:

- Universal grease

*No torque – Hand tight*

---

18 Apply Teflon grease on both air can O-rings.
Remove excess of grease.
Place back the air can on the shock.
Screw the air can by hand.

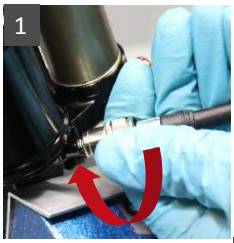

Tool(s) required:

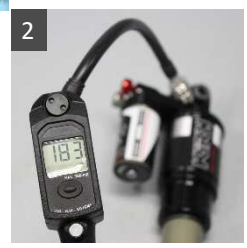
- Teflon grease

*No torque – Hand tight*

---

19 Plug the air pump on the shock.
Apply back customer's initial pressure setting.
Balance the air chambers by cycling slowly the shock on the 1st centimeter.




Tool(s) required:

- Air pump

---

20 Put back the customer's shock settings:
- Low speed compression
- High speed compression
- Rebound

Screw completely the buttons, then unscrew them while counting the "clicks".




Tool(s) required:

- n/a (by hand)

---

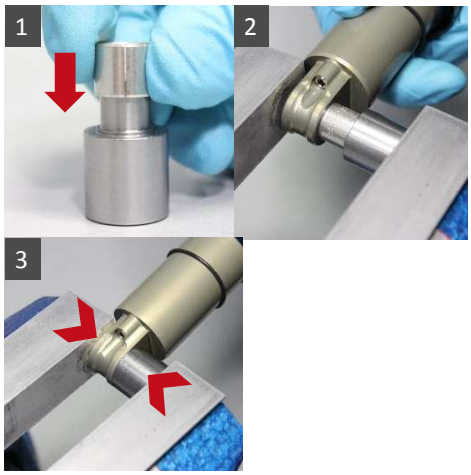
21 Pierce the membrane with the needle in the middle of the piggyback cap.
Inflate the piggyback with nitrogen @ 5 bars.

Tool(s) required:

- BOS Nitrogen inflation needle / ref. 151512-SEO-001
- Nitrogen bottle

---

22 Take 2x new bushings.
Place the bushing in the insertion tool.
Place the tool on the shock and squeeze them into the vise block.
Screw the vise block to insert the bushing in place until the tool touch the shock.
Repeat this step for the second bushing.




Tool(s) required:

- Vise block
- BOS Bushing extraction & insertion / ref. 150807-SEO-001

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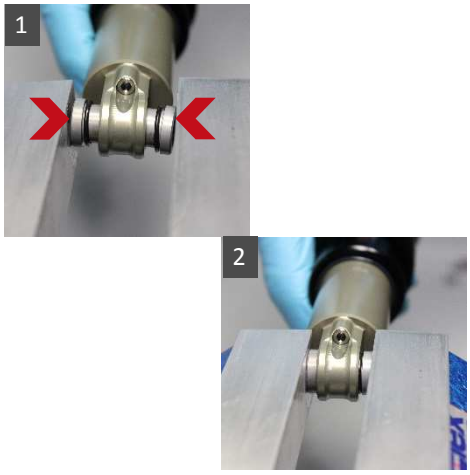
23 Engage the mounting kit into the bushing.
Squeeze the mounting into the vise until they touch each other.




Tool(s) required:

- Vise block

---

24 Clean the shock:
- Washer.

OR (if not equipped):
- Hot water + soap.

Tool(s) required:

- Washer
- Soap

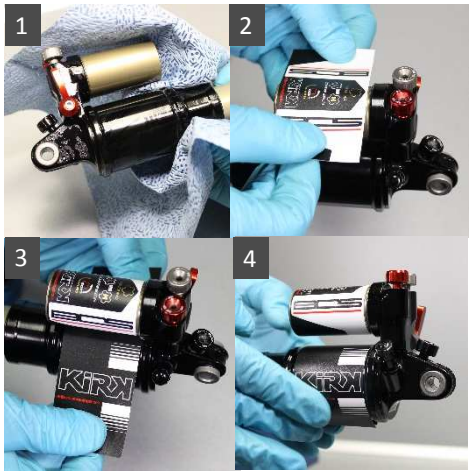
---

25 Clean the piggyback and air can with isopropyl alcohol and a rag.
Apply new stickers on the shock:
- 1x on the piggyback (arrow of the settings pointing the settings).
- 1x on the air can (joint opposite to the piggyback).

Clean the entire shock with isopropyl alcohol and a rag.
Put back the shock in its packaging.

Tool(s) required:

- Spray of isopropyl alcohol
- Rag



# 7 Additional Information

## 7.1 AIR SETTINGS

The air pressure depend of the body weight and of the frame kinematic. Refer to the «Kirk chart list». Standard factory pressure is between 80 to 100psi.

For chart list (Excel file), use this LINK, or flash this QR code:

## 7.2 HYDRAULIC SETTINGS

*To start setting your shock, turn clockwise completely the knobs (=click 0). Then turn counterclockwise one click at a time.*

**Standard setting:**
Low-speed compression: 15 clicks
High-speed compression: 12 clicks
Rebound: 12 clicks

## 7.3 F.A.Q.

**What is the basic set up?**
Your shock has been set up for your bike, with a specific internal valving and a specific air chamber volume. It is delivered with a standard pressure of 80 to 100psi. You can find in the download section of our website all the info about standard settings for each bike.

**There is air leaking when I connect the high pressure pump, what can I do?**
Check your pump: make sure that the shell of the shrader valve is correctly mounted.

**My shock is too stiff on the first inches of travel and / or the rebound is very fast. What can I do?**
The balance between the two air chambers is not correct. Refer to balancing the air chambers steps.

**Once reassembled, the stickers are not aligned. What can I do?**
To be sure that the stickers will be correctly aligned, the rebound knob must be perfectly aligned with the piggy back when you start to screw the air chamber.

**My shock features negative stroke. Is that normal?**
The air spring of the KIRK is designed to obtain the best sensibility on the first inches of travel. Thus, on a few bikes, you may notice some negative stroke.

**Where can I purchase original stickers and valve cap?**
You can purchase these items through your approved BOS center, or on the BOS store on bosmtb.com.

**I noticed some play between my shock and the frame, what can I do?**
The rear shock mounting hardware must be replaced. Contact an approved BOS center, or connect on bosmtb.com.

**My shock is getting compressed when I deflate it, is that normal?**
When you deflate your shock, you deflate only the positive air chamber. The negative air chamber is still pressurized, it acts in the opposite way, and pulls the shaft. If you want to avoid it, deflate step by step (30 to 40psi), and proceed to the balance of the air chambers between each step (5 to 6 slow extension moves, forth and back, on 15mm)

**My shock is noisy when the low pressure is completely closed and/or when the lock out lever is activated?**
The high speed spring is not conform. Refer to warranty conditions to replace the spring.

*For any other questions, please refer to our FAQ page at http://www.bosmtb.com/faq.html or send us a message at customerservice@bosmtb.com.*