BOS MX SHOCK
Factory/Factory-R

All serial numbers

Service manual

BOS Suspension
4 Impasse Léonce Couture
ZA du Mont Blanc
31200 Toulouse - FRANCE

SM-43115-001-EN

SUMMARY

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DEAR CUSTOMER

Congratulations, you have just acquired one of our suspensions and we thank you for it.

We have a common passion, motorcycling!

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

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 for choosing BOS suspension!

This document was written at the time of the creation of this product, however, BOS Suspension does not exclude the existence of possible discrepancies due to the evolution of the product since its initial version.

BOS Suspension reserves the right to update the information in this document during the life of the product. BOS Suspension accepts no liability for any printing problems or errors. All information in this document is provided without any obligation on the part of BOS Suspension.

BOS Suspension
4 Impasse Léonce Couture
ZA du Mont Blanc
31200 Toulouse - FRANCE

Valid for all BOS Factory and Factory-R shock absorbers.

SAFETY INSTRUCTIONS

When working on a BOS suspension, please wear appropriate safety equipment such as an apron, safety gloves and goggles.

When handling the suspension oil, please wear goggles and nitrile gloves.

MANUAL SYMBOLS

CAUTION operations may impair your safety or cause damage to your suspension.

Be sure to take note of these warnings.

These indications are provided to enable you to perform the operations described in this manual and to optimize the performance of your suspension.

GENERAL WARNINGS

The shock absorber is an important element which has a direct influence on the behaviour of your vehicle.

This manual must be consulted before using the BOS shock absorber and during its entire service life. It is an integral part of the shock absorber.

If necessary, or for any service operation, please contact an authorized BOS Suspension centre or consult this manual.

After installation, test your vehicle at low speed to make sure that it works properly.

USE IN SAFETY

- When using BOS products, make sure you are in good physical shape and not under the influence of products that affect your lucidity and decision-making capacity (alcohol, drugs, etc.). If you are not able to ride, do not endanger yourself or any other person.

- The shock absorber has the effect of absorbing shocks, which can generate strong heat. Do not touch the shock absorber after use. Allow it to cool before attempting any work on it.

OPERATING RULES ON YOUR SHOCK

Before carrying out any operation, check that you have the necessary tools to perform it. Some tools will be specific to BOS shock absorbers, they will be indicated in this manual when using them and can be ordered directly on our website *www.bos-suspension.com*.

The disassembly of your shock absorber implies the replacement of certain parts which cannot be reassembled worn without risk of malfunction of your product (O-rings, seals, wiper seals, rings...).

Before reassembly, clean the parts thoroughly of any impurities and check their state of wear. If this seems correct, you can reassemble your shock absorber, otherwise, change the worn parts.

ENVIRONNEMENT

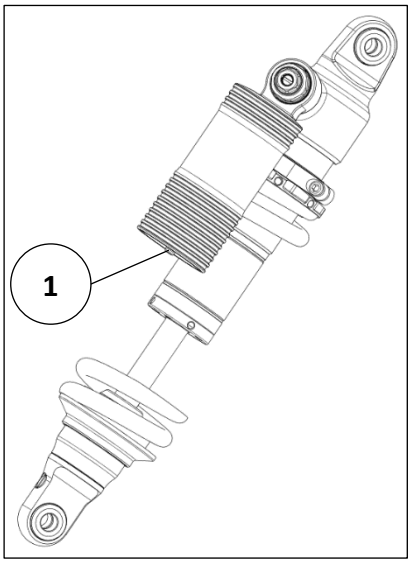
Motocross is a wonderful sport that brings you a lot of happiness. However, it is potentially a source of environmental conflict with other people.

Responsible behaviour when using your motocross bike automatically defuses problems and conflicts. Make sure that you comply with the legislation in force in your country regarding the disposal of used shock absorber oils and components.

To ensure the continued existence of MX, make sure that you stay within the legal framework, are environmentally friendly and recognise the rights of others.

NUMERO DE SERIE

The part number of your shock absorber is engraved on the cap (1) of your shock. It is a sequence of 15 characters including the letter E in the seventh position. (0000-E-0000000).



WARRANTY

BOS SUSPENSION grants a contractual guarantee under the following conditions:

BOS guarantees its products against all defects in form and manufacturing faults for a period of one year from the date of original purchase. Proof of purchase will be required for any application of the guarantee. The warranty is granted to the original owner and is non-transferable. Wearing parts such as wiper seals, O-rings, guide rings, pins, bushings, screws and bolts are not covered by the warranty.

Application

The application of the warranty is subject to the laws in force in the country or state in which the original owner resides. If the local legislation differs from the warranty as described here, the warranty is deemed to be amendable to comply with it.

Limitation

BOS SUSPENSION is not liable for direct, indirect, special, incidental or unforeseen damage resulting from the use of its products, subject to compliance with local legislation.

Exclusion

The guarantee does not apply in the following cases :

- Failure to comply with the installation instructions as described in the installation and adjustment manual.
- Failure to follow the disassembly/assembly instructions as described in the service manual.
- Modifications made to the product by the owner or a third party.
- Inappropriate use.
- Damage resulting from an accident, violent shock, fall, under any circumstances.
- Failure to comply with the instructions and maintenance intervals.
- Replacement of original parts with parts from manufacturers other than BOS SUSPENSION.
- Alteration of the serial numbers with the obvious aim of making it illegible.

Procedure

Regardless of where the product was purchased, the owner must contact an authorised BOS centre to apply for the guarantee. It is compulsory to produce the purchase invoice. Otherwise, the warranty will not apply. Sending the product is subject to the prior agreement of the BOS SUSPENSION after-sales service department. Outward carriage, dismantling and packaging costs are the responsibility of the customer. In the event of refusal to apply the guarantee, the packaging and return shipping costs are the responsibility of the customer.

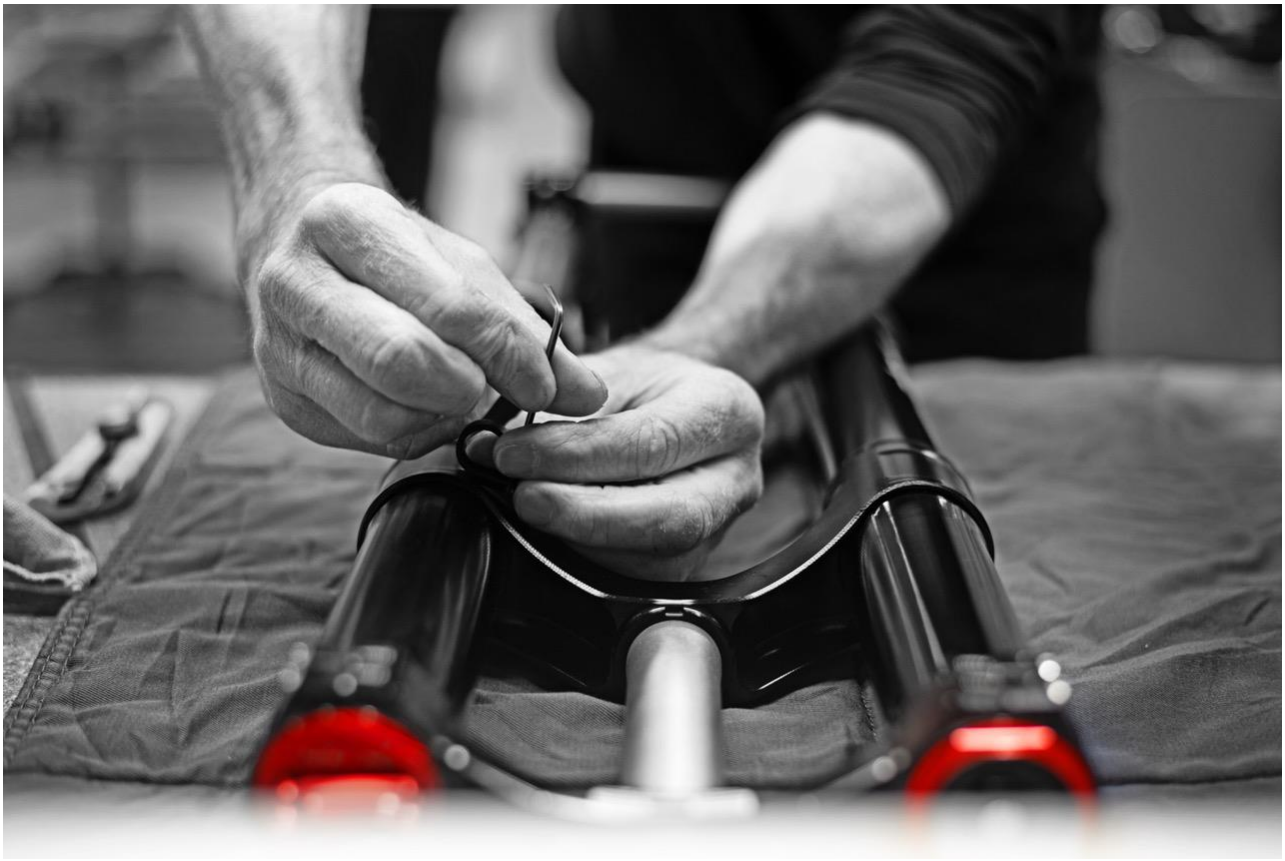
CLEANLINESS

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

- Work in a dust-free environment
- Work at a clean and organised workstation
- Use soft aluminium jaws to protect the equipment when using a vice.
- Do not scratch any surfaces when using tools.
- Clean the components when disassembling them
- Remove the sub-assemblies in the order of disassembly so that you can easily find out how to reassemble them together.
- Long sleeves are recommended or shaved arms.

If you carry out maintenance on your BOS suspension outside a workshop, you should at least :

- Avoid dust and air circulation around your work area
- A clean tarpaulin to be placed under the suspension on the floor
- A repair bracket to maintain the suspension
- An oil pan
- All the necessary tools listed below



TOOLS

Cleaning and safety :

- Safety goggles
- Clean cloths (lint-free)
- Soap (+ hot water)
- Nitrile gloves
- High pressure cleaner
- Apron
- Oil pan
- Oil fountain (optional)

Standard tools :

- Torque spanner
- Socket 32/24/19
- Mallet
- Wide flat screwdriver
- Thermal stripper
- Ratchet key
- Allen key 3 and 5mm
- Spanner
- Pouring spout
- Valve
- Hooking tool
- Soft bite vice
- Needle

Specific tools :

- Half shell D18 (ref : 99006)
- Dividing piston tool (ref: 000019-O-031/000019-O-037)
- Rod guide cover tool (ref: 42312-O-012)
- 32mm fork tip (ref: 390115-O-024A)
- Corkscrew (ref: 150707-O-030)
- Rod guide ring extractor (ref: 000020-SEO-001/91707-O-013)

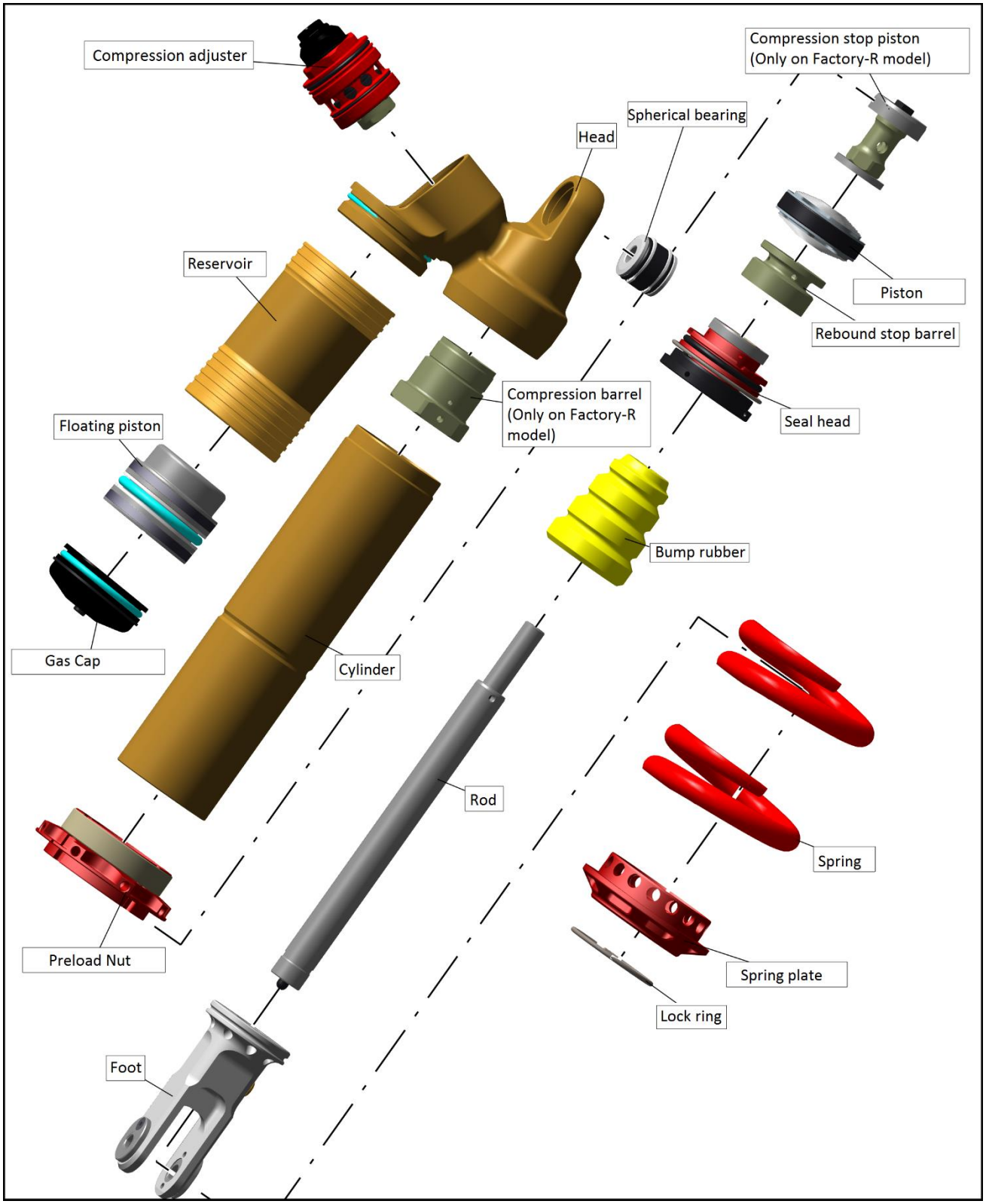
Service kit :

- KREVL-46X18-FTY (Lite service Factory)
- KREVL-46X18-FTYR (Lite service Factory-R)
- KREVC-46X18-FTY (Complete service Factory)
- KREVC-46X18-FTYR (Complete service Factory-R)

Oil/Grease/Glues :

- AMX1 (0.5L)
- White grease
- Copper grease
- Loctite 243
- Degreaser

EXPLODED VIEW



CLEANING

Clean your shock absorber with a washing machine if you have one available.

Otherwise, use the high pressure cleaner and finish cleaning with hot water and soap.

Absolutely prohibited : any aggressive product such as degreaser on joints and spherical bearing. If you use a high-pressure washer, never direct the jet directly onto the joints. Regularly remove any soil that may accumulate in the rubber stop.

Required tools :

- Washing machine
- Soap

DISASSEMBLY

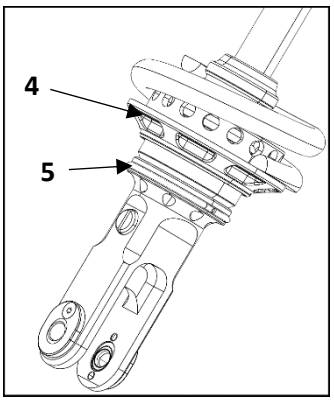
PREREQUISITE

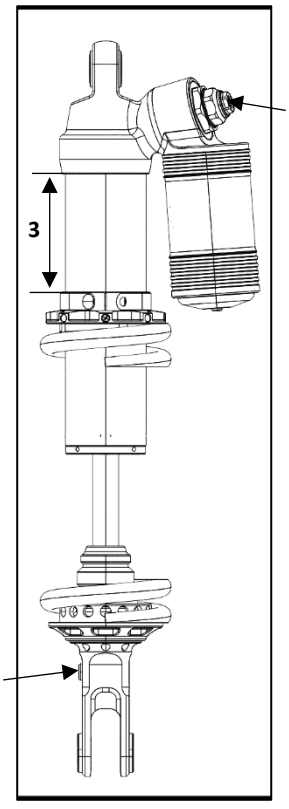
1) Before any dismantling, make sure to note down your compression (1)/rebound(2) and preload(3) settings on a notebook.

   To do this, count the number of clicks until the position is completely closed. Once the setting has been noted, unscrew your settings completely for operations on your shock absorber.

2) Once the pre-load value has been noted, unscrew the clamp against nut and then the pre-load nut until the spring is free.

3) Remove the retaining ring (5) from the cup (4) and remove it and the spring.





Required tools :

- Réglet
- Tournevis plat
- Clé ergot

HEAD SET/FOOT SET DISASSEMBLY

- Unscrew the grub screw from the rod guide cap using a 3mm Allen key.
- Remove it and place it on your workbench

Be carefull not to scratch the rod of your shock during this operation.

Required tools :

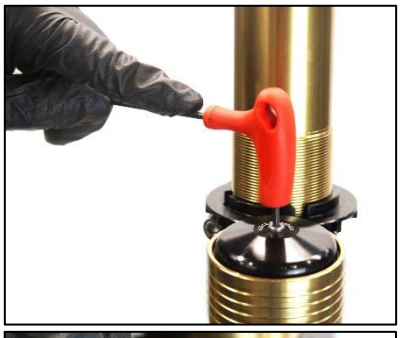
- 3mm allen key

- Place the tool on the rod guide cap of your shock and then unlock it only !

- Be carefull not to scratch the rod of your shock during this operation.
- Do not unscrew your cap, your shock is still under pressure.

Required tools :

- Open-end spanner 32 / adjustable spanner
- Rod guide cap tool (ref : 42312-O-012)

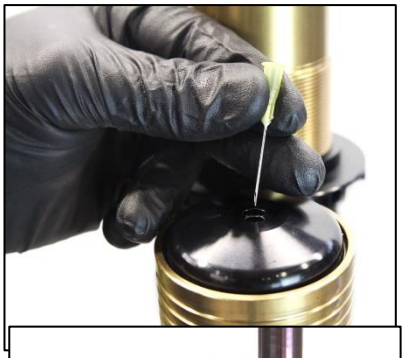


- Unscrew the gas cap screw
- Remove it and the seal

Required tools :

- 3mm allen key

- Deflate the shock absorber by inserting a needle into the hole in the inflation cap.
- Let the air flow until you no longer hear any noise.

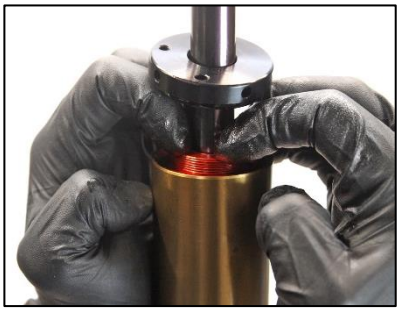


Required tools :
- Needle

- Unscrew completely the rod guide cap

Required tools :
- By hand

- Press on the rod guide in order to release the retaining ring



Make sure your settings are fully open and leave your needle in the gas cap port for your comfort.

Required tools :
- By hand

- Remove the retaining ring of the rod guide

Required tools :
- Flat screwdriver/hooking tool

- Pull gently on the rod until the rod guide is completely free of the cylinder.

Beware of oil splashes, please wear protective glasses.

Required tools :
- By hand

- Remove the rod assembly from the cylinder and place it on your workbench.

- Beware of oil splashes, please wear protective glasses.
- During this step, oil may leak out of your shock absorber. Be sure to put an oil pan under your vise to collect the used oil.

Required tools :
- By hand

- Pour the contents of your shock into an oil pan and let it drain for a fex moments.

Don't throw your oils into nature, recycle them to protect our environment.

Required tools :
- By hand

DISASSEMBLY OF CYLINDER SET

- Tap the gas cap with a mallet to make the locking ring accessible.

Required tools :
- Mallet

- Remove the canister ring by pushing it with a flat screwdriver or hooking tool. Position it at an angle to facilitate its disassembly.

- Be careful not to scratch the inside of the canister during this operation.

Requiered tools :
- Flat screwdriver / Hooking tool

- Screw the corkscrew on the inflation cap and pull it vertically to extract the cap from the canister.
- Remove the canister seal with a hook and loop tool and replace with a new one.

Requiered tools :
- Corkscrew (150707-O-030)

- Screw the separating piston extractor tool into the separating piston and pull vertically until the piston is extracted from the canister

Make sure your shock absorber is properly locked in the vise to avoid damaging it.

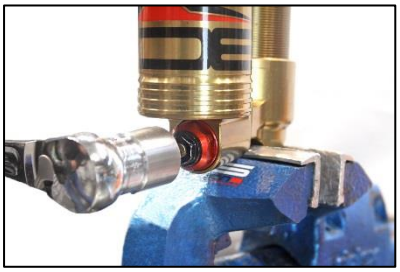
Requiered tools :
- Separating piston extractor tool (000019-O-031 and 000019-O-037**)**

- Remove the old O-ring with a hook tool and replace with a new one

Be careful not to damage the anti-extrusion rings and piston guide strips. Check that the o-ring is not rolled up.

Required tools :
- Hooking tool

- Unscrew the compression block using a ratchet and a 24mm socket



Required tools :
- Ratchet / 24mm socket (Factory) / 32 socket (Factory-R)

- Remove the compression block seals (the one on the block and the one in the head) and replace them with new ones

Required tools :
- Hooking tool

- Then clean the inside of the cylinder and canister properly with a clean cloth or a washing machine if you have one available.
- Clean the compression block, splitter piston and inflation cap properly with a clean cloth as well.
- Place all the elements on your workbench before proceeding to the disassembly of the rod assembly.

ROD SET DISASSEMBLY

- Hold the rod assembly in a vice using a D18mm half-shell (tighten sufficiently so that the rod does not turn on itself when unscrewing the nut)
- Heat the nut for a few moments

It is recommended to clamp the rod flush with the damper foot. This will prevent damage to the rod in the effective working area if the vice is not tight enough.

Required tools :
- Thermal scraper
- D18 Half-shell (99006)

- After heating the nut, loosen it with a ratchet and a 19 mm socket

IMPORTANT

If you have a Factory-R shock absorber, heat the stop piston holder at the base and unscrew it with a 19 mm open-end wrench

Required tools :
- Ratchet with 19mm socket (Factory)
-19mm flat wrench (Factory-R)

- Position a valve or screwdriver at the end of the rod and slide the piston assembly over it
- Clean the valve assembly and the piston. Use a clean cloth and some degreaser. Dry the parts well afterwards.

- When cleaning, place all the parts in the order of disassembly on a clean cloth on your workbench to ensure proper reassembly.
- A wrong order of assembly of the valves will induce a bad functioning of your damper.

- Cut the guide band of the main piston with a blade. Remove it and the O-ring under it.
- Position the seal and the new guide band on your piston

Required tools :
- Valve
- Blade

- Then remove the rubber rebound stop

Required tools :
- By hand

- Remove the rod guide, the ring and the cap

Required tools :
- By hand

- Finish by removing the bump rubber

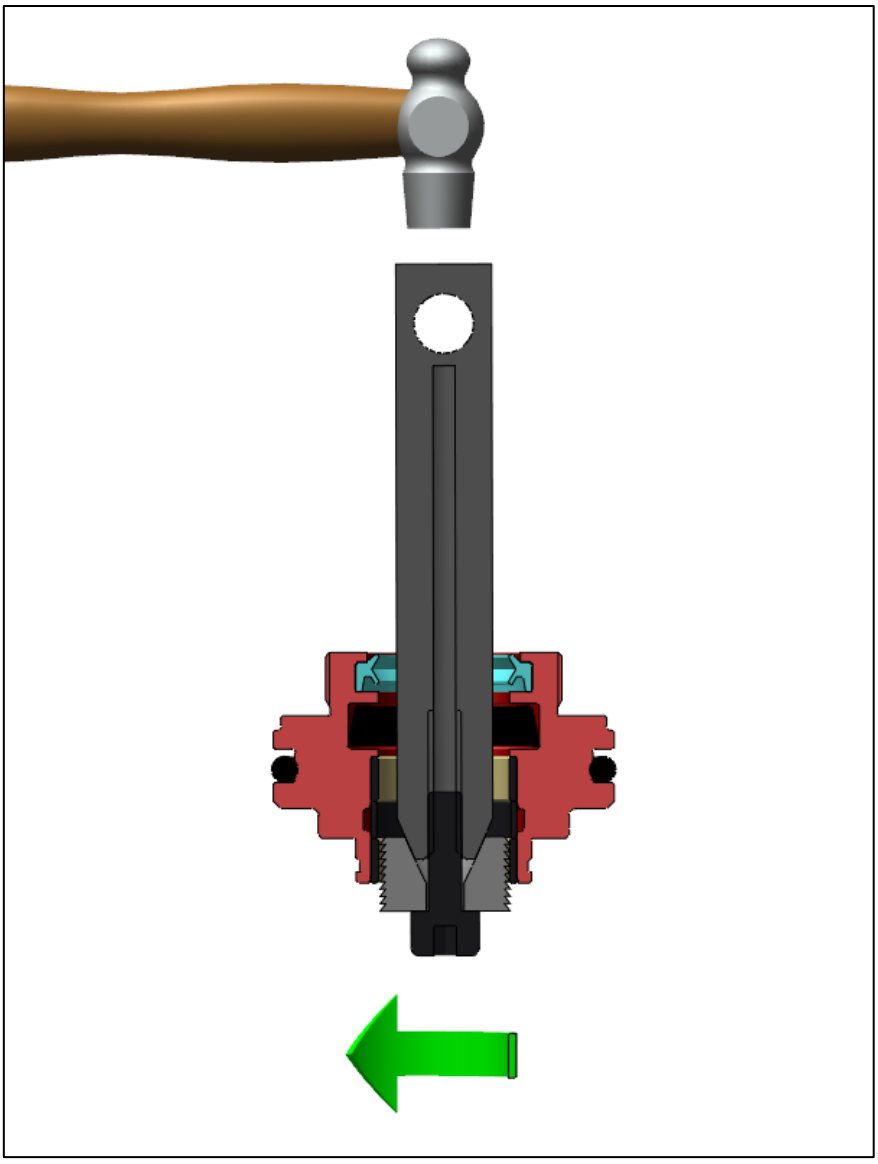
Required toold :
- By hand

IMPORTANT

Clean all the components you have removed with a clean cloth.

ROD GUIDE SEALS CHANGE

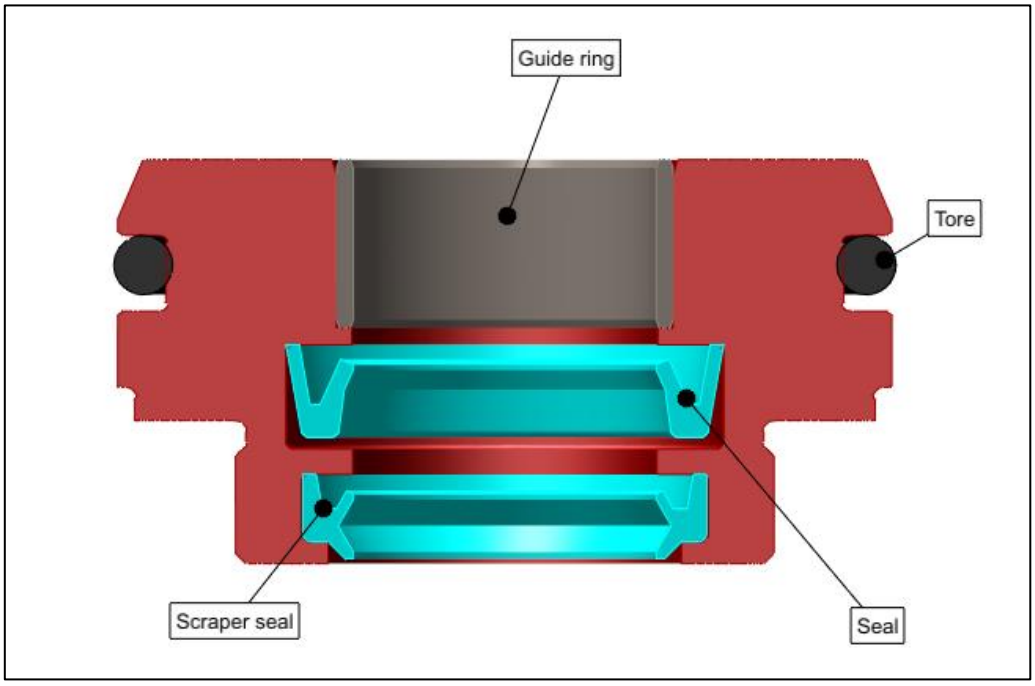
- Remove the seals from your rod guide using a hook and loop tool
- Then remove the used guide ring(s) using tool 000020-SEO-001 and 91707-O-013
- Position the sleeve on the guide ring and then screw the screw in so that the grooves are pressed into the ring
- Then tap the top of the tool to remove the ring
- Replace the seals with white grease and press-fit the rings (refer to the sectional views below)



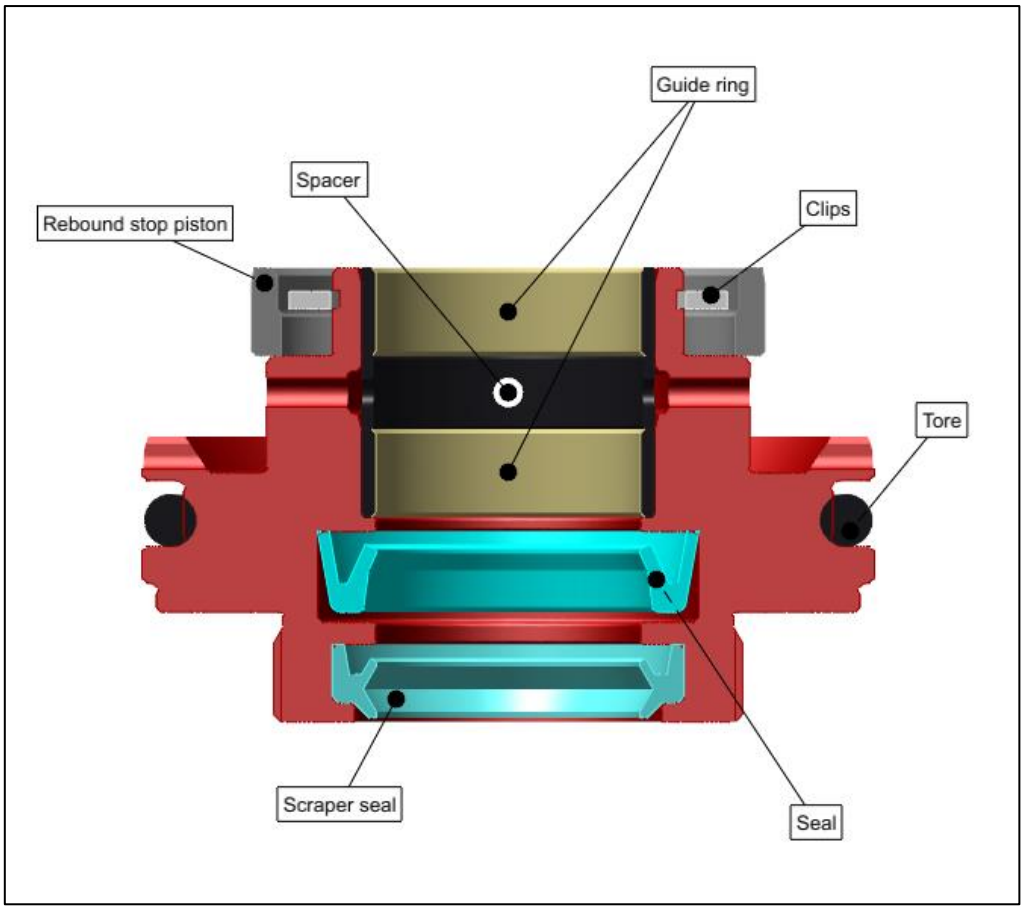
Required tools :

- Extractor tool with screw (ref : 000020-SEO-001)
- Extractor socket D18 (ref : 91707-O-013)
- Mallet

FACTORY Model



FACTORY-R Model



ROD SET REASSEMBLY

- Insert the new bump rubber

Required tools :
- By hand

- Insert the rod guide cap and the ring

Required tools :
- By hand

- Insert the reconditioned and greased rod guide

Required tools :
- By hand

- Insert the rebound stop

Required tools :
- By hand

- Degrease the thread of the rod
- Clean with a clean cloth

Required tools :
- Degreaser
- Clean cloth

- Insert the piston assembly in the same order as during disassembly

Required tools :
- Valve/screwdriver

- Apply Loctite 243 on the nut

Required tools :
- Loctite 243

- Tighten the nut with a torque of 30Nm

Required tools :
- Torque wrench
- 19mm socket

REASSEMBLY OF CYLINDER SET

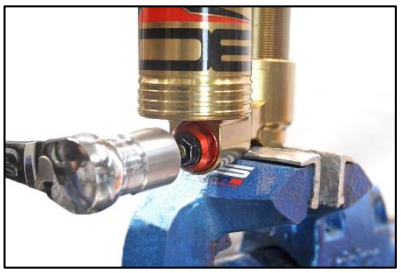
- Apply white grease on the compression block o-ring

Required tools :
- White grease

- Screw the compression block into the head

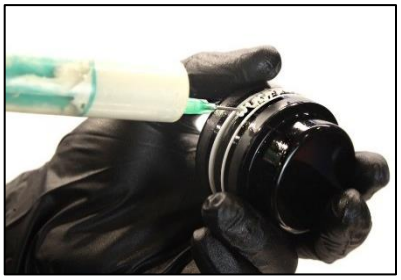
Required tools :
- By hand

- Screw the compression bloc with a torque of 30 Nm



Required tools :
- Tork wrench 32mm socket (Factory-R)/ 24mm socket (Factory)

- Apply white grease on the floating piston o-ring



Required Tools :
- White grease

- Spread the white grease on the top strip

Required tools :
- By hand

- Plan to use about 500ml of BOS AMX oil to fill your shock absorber
- Fill the canister to the brim

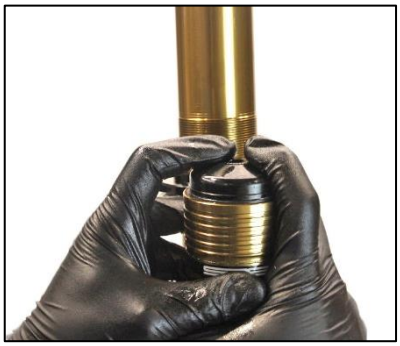
Required tools :
- Measuring cup
- BOS AMX1 Oil

- Immediately insert the floating piston into the canister and push it to the stop

- Make sure your canister is filled to the brim before inserting the floating piston. There should be no air trapped between the piston and the oil.
- Leave a cloth or oil pan under your shock absorber, oil will flow out when installing the floating piston

Required tools :
- Separating piston extractor tool (000019-O-031 et 000019-O-037)

- Insert the inflation cap and put the retaining ring in position



Make sure the snap ring is correctly positioned in its groove.

Required tools :
- By hand

- Inflate the shock absorber slightly so as to position the cap against the ring and to keep the dividing piston at the bottom of the canister

Required tool :
- Needle
- Air

REASSEMBLY OF ROD CYLINDER SET

- Top up the oil level in the cylinder if necessary so that the oil level in the cylinder is equal to the size of the rod guide
- Slowly insert the rod assembly into the cylinder

Required tools :
- By hand

- Move the rod back and forth in the cylinder to expel air
- Do this until there are no more bubbles on the surface of the oil

Be sure to keep the rebound stop submerged at all times or air will be drawn back in between the components. Top up the oil level if necessary to have an oil height equal to the size of the rod guide.

Required tools :
- By hand

- Once the purge is done, let the air in your canister escape
- Maintain the rod in extended position, with the trigger stop immersed flush with the oil
- Gently push the rod guide into the cylinder so as to be able to position the stop ring

Required tools :
- Needle

Clean your shock absorber properly with a clean cloth to remove oil spills due to oiling

Required tools :
- Clean cloth
- Washing machine

- Inflate the shock absorber with nitrogen at a pressure of 10 barsLe bon retour de la tige après enfoncement est gage d'une bonne purge de votre amortisseur

- If your rod does not return properly please re-purge your shock.

Required tools:
- Nitrogen
- Pressure gauge

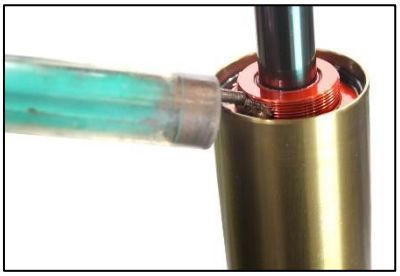
- Position the seal of the inflation screw previously greased with white grease

Required tools :
- White grease

- Tighten the inflation screw with a 3mm Allen key

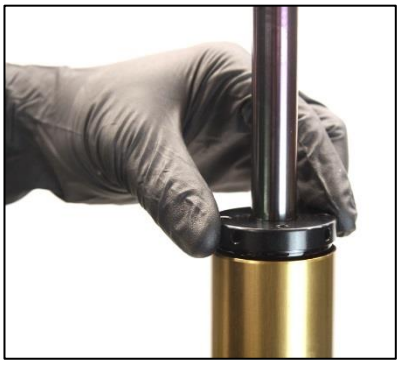
Required tools :
- 3mm Allen key

- Apply a dot of copper grease on the thread of the rod guide



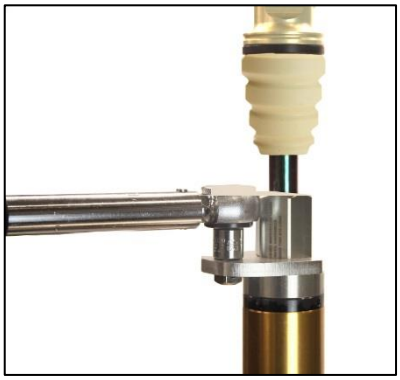
Required tools :
- Copper grease

- Screw the cap in the rod guide



Required tools :
- By hand

- Apply a 35 Nm torque on the cap



Required tools :
- Rod guide tool (42312-O-012)
- 32mm fork tip (390115-O-024A)
- Torque wrench

- Apply a drop of Loctite 243 to the grub screw
- Screw it into the cap with a torque of 2Nm

Required tools :
- 3mm Allen key
- Loctite 243

SPRING REASSEMBLY

- Finally, put the spring back on your shock absorber
- Position the snap ring and the cup
- Apply the spring preload and the compression and rebound settings found before disassembly. If you forgot your values, refer to your motorcycle manual to perform your SAG and apply the recommended compression and rebound settings

Congratulations, you have just completed the overall of your BOS shock absorber.

Reinstall your shock on your motorcycle, refer to the installation instructions in your motorcycle manual.

Ride slowly at first to make sure your motorcycle and shock absorber are working properly.

Thank you again for choosing BOS Suspension products.

SETTINGS TABLE

Type of terrain/circuit	High speed compression (clicks)	Low speed compression (clicks)	Rebound (clicks)	Spring preload (mm)

NOTES

NOTES

NOTES

www.bos-suspension.com

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