



BOXXER

2004 USER MANUAL

POWERED BY **SRAM**™



NOTE: YOUR FORK'S APPEARANCE MAY VARY FROM THE ILLUSTRATIONS/PHOTOS IN THIS MANUAL.

FOR THE LATEST INFORMATION ABOUT YOUR FORK VISIT OUR WEBSITE AT WWW.ROCKSHOX.COM.

Congratulations! You have the best in suspension components on your bicycle! This manual contains important information about the safe operation and maintenance of your fork. To ensure that your RockShox fork performs properly, we recommend that you have your fork installed by a qualified bicycle mechanic. We also urge you to follow our recommendations to help make your riding experience more enjoyable and trouble-free.

I M P O R T A N T

Consumer Safety Information

1. The fork on your bicycle is designed for use by a single or tandem bicycle, on mountain trails, and similar off-road conditions.
2. Before riding the bicycle, be sure the brakes are properly installed and adjusted. If the brakes do not work properly, the rider could suffer serious and/or fatal injuries.
3. Your fork may fail in certain circumstances, including, but not limited to, any condition that causes a loss of oil; collision or other activity bending or breaking the fork's components or parts; and extended periods of non-use. Fork failure may not be visible. Do not ride the bicycle if you notice bent or broken fork parts, loss of oil, sounds of excessive topping out, or other indications of a possible fork failure, such as loss of shock absorbing properties. Instead, take your bike to a qualified dealer for inspection and repair. In the event of a fork failure, damage to the bicycle or personal injury may result.
4. Always use genuine RockShox parts. Use of aftermarket replacement parts voids the warranty and could cause structural failure to the shock. Structural failure could result in loss of control of the bicycle with possible serious and/or fatal injuries.
5. Use extreme caution not to tilt the bicycle to either side when mounting the bicycle to a carrier by the fork drop-outs (front wheel removed). The fork legs may suffer structural damage if the bicycle is tilted while the drop-outs are in the carrier. Make sure the fork is securely fastened down with a quick release. Make sure the rear wheel is fastened down when using ANY bike carrier that secures the fork's drop-outs. Not securing the rear can allow the bike's mass to side-load the drop-outs, causing them to break or crack. If the bicycle tilts or falls out of its carrier, do not ride the bicycle until the fork is properly examined for possible damage. Return the fork to your dealer for inspection or call RockShox if there is any question of possible damage (See the International Distributor List). A fork leg or drop-out failure could result in loss of control of the bicycle with possible serious and/or fatal injuries.
6. Only mount cantilever-type brakes to the existing brake posts. Forks with hangerless style braces are only designed for V - style or hydraulic cantilever brakes. Do not use any cantilever brake other than those intended by the brake manufacturer to work with a hangerless brace. Do not route the front brake cable and/or cable housing through the stem or any other mounts or cable stops. Do not use a front brake cable leverage device mounted to the brace.
7. Observe all owner's manual instructions for care and service of this product.

ROCKSHOX FORKS ARE DESIGNED FOR COMPETITIVE OFF-ROAD RIDING AND DO NOT COME WITH THE PROPER REFLECTORS FOR ON-ROAD USE. YOUR DEALER SHOULD INSTALL PROPER REFLECTORS TO MEET THE CONSUMER PRODUCT SAFETY COMMISSION'S (CPSC) REQUIREMENTS FOR BICYCLE STANDARDS IF THE FORK IS GOING TO BE USED ON PUBLIC ROADS AT ANY TIME.

I N S T A L L A T I O N

It is extremely important that your RockShox fork is installed correctly by a qualified bicycle mechanic. Improperly installed forks are extremely *dangerous* and can result in *severe and/or fatal injuries*.

1. Remove the existing fork from the bicycle and the crown race from the fork. Measure the length of the fork steerer tube against the length of the RockShox steerer tube. The RockShox steerer tube may need cutting to the proper length. Make sure there is sufficient length to clamp the stem (refer to the stem manufacturer's instructions). Install the upper crown when taking the steerer tube measurements. Use a short upper crown for head tube and headset stack heights of less than 160 mm or a tall upper crown for stack heights of more than 160 mm.

! W A R N I N G

DO NOT ADD THREADS TO ROCKSHOX THREADLESS STEERERS. THE STEERER TUBE CROWN ASSEMBLY IS A ONE-TIME PRESS FIT. REPLACEMENT OF THE ASSEMBLY MUST BE DONE TO CHANGE THE LENGTH, DIAMETER OR HEADSET TYPE (THREADED OR THREADLESS).

DO NOT REMOVE OR REPLACE THE STEERER TUBE. THIS COULD RESULT IN THE LOSS OF CONTROL OF THE BICYCLE WITH POSSIBLE SERIOUS AND/OR FATAL INJURIES.

2. Install the headset crown race (29.9mm for 1 1/8" steerers) firmly against the top of the fork crown. Install the fork assembly on the bike. Adjust the headset until you feel no play or drag. **Do not exceed 160 mm of exposed upper tube above the lower crown.**
3. Install the brakes according to the manufacturer's instructions and adjust brake pads properly. Use the fork only with disc style brakes mounted through the provided mounting holes.
4. Apply grease or anti-seize to the axle. Set the wheel in the recesses of the dropouts and insert the 20 mm axle. Torque the axle bolt to a maximum of 40 to 60 in-lb. Tighten axle clamp bolts to 20 to 30 in-lb max.
5. Keep in mind tire clearance as you choose tires. Maximum size is 2.4 x 26" wide or 696 mm diameter installed. Be sure to check this diameter whenever you change tires. To do this, remove the top caps and spring stack assemblies and compress the fork completely to make sure at least 5 mm of clearance exists between the top of the tire and the bottom of the crown. Exceeding maximum tire size will cause the tire to jam against the crown when the fork is fully compressed. The upper tubes must always be fully engaged in the crown with no more than 160 mm of exposed upper tube above the lower crown.

P E R F O R M A N C E T U N I N G

The Boxxer fork is designed as a high performance, world class downhill fork. Our forks are factory tuned for the 150-180 lbs. (65-85 kg.) downhill racer and can be tuned to many different rider weights or riding styles. You can tune this fork to benefit your needs by changing preload, internal coil springs, rebound damping, and low or high speed compression damping.

Changing the Spring Rate

If you are bottoming out too often or not using all the available travel then the overall spring rate should be changed. The standard spring rate (medium) is designed for the 150-180 lbs. (65-85 kg.) downhill racer. You may change the overall spring rate by changing the main coil spring in each leg with one that is softer or firmer than the standard spring. By changing the coil springs, you alter the overall spring rate.

RockShox has designed nine spring configurations for the Boxxer. By changing the springs in either one or both legs you can tune the bike to your specific needs. Below is a table that breaks down the spring rates into rider weight ranges. Use this table as a guide when choosing a different spring rate than the one provided in the fork.

Color	Spring Rate (lb-in.)
White	Extra Soft (10 lb-in.)
Silver	Soft (15 lb-in.)
Yellow	Medium (20 lb-in.) - Standard
Red	Firm (25 lb-in.)

The Boxxer is built standard with two medium springs (20 lb-in.).

Rate	Rider Weight	Fork Leg #1	Fork Leg #2
Soft (17.5 lb.)	120 to 150 lb.	15 lb-in.	20 lb-in.
Standard (20 lb.)	150 to 180 lb.	20 lb-in.	20 lb-in.
Firm (22.5 lb.)	180 to 210 lb.	20 lb-in.	25 lb-in.

Setting Sag

The Boxxer is designed to compress (sag) when you are sitting on the bike. This sag allows the front wheel to stay in contact with the ground when braking and cornering over rough and uneven terrain. Optimum sag is between 35 and 60 mm of total fork travel.

To measure sag, install a zip tie on the upper tube so that it is flush against the seal; sit on the bike in normal riding position; then step off the bike and measure from the bottom of the zip tie to the top of the wiper. This measurement is sag. Changing the preload alters the sag and firmness of the initial fork movement. A heavier, more aggressive riders need more spring preload to maintain proper ride height and allow more of the fork's travel to be used during bump impact.

The preload can be changed by adding or removing preload spacers into the main coil spring stack.

IMPORTANT: NO MORE THAN EIGHT PRELOAD SPACERS SHOULD BE ADDED TO EITHER SIDE OF THE FORK. MORE THAN EIGHT SPACERS CAN CAUSE THE SPRING TO BE DAMAGED. IF YOU CAN NOT ACHIEVE THE PROPER PRELOAD, YOU MAY NEED TO INSTALL SOFTER OR FIRMER COIL SPRINGS.

To change the preload:

1. Remove the top caps with a 24mm six-point socket wrench.
2. Inspect the O-rings for damage and replace if necessary.
3. Slightly compress the fork to get access to the preload spacers, which sit on top of the spring stacks.
4. Add or remove preload spacers and/or springs as necessary.
5. Re-install top caps and torque to 55 to 75 in-lb.

External Rebound Adjustment

Rebound damping controls the speed at which a fork returns to its full extension following compression. Located at the bottom of the right fork leg is the rebound adjuster. Using the 2.5mm hex key that came with your fork, turn the adjuster in the direction indicated by the rebound speed decal. Turning the adjuster toward the "rabbit" decreases rebound damping, causing the fork to return to full extension faster. Turning the adjuster in the direction indicated by the "turtle" increases rebound damping, slowing the return of the fork to full extension.

Excessive rebound damping will cause the fork to "pack up" over successive bumps, reducing travel and causing the fork to bottom out. Set your fork to rebound as fast as possible without "topping out" or kicking back. This allows your fork to follow the contours of the trail, maximizing stability, traction and control.

NOTE: ALL MODELS NOW INCLUDE A 2.5MM HEX KEY. THIS HEX KEY MAY BE USED ON BOTH REBOUND AND COMPRESSION DAMPING ADJUSTMENTS. FOR ON-THE-TRAIL-USE, THE HEX KEY MAY BE STORED BY CAREFULLY SLIDING IT IN BETWEEN THE UPPER TUBE AND RUBBER FORK STOP.

External Low Speed Compression Adjustment (World Cup and Team)

Low speed compression damping controls pedal bob and fork sensitivity. The adjuster is located in the lower left leg and is accessible with a 2.5mm Allen wrench inserted through the hollow shaft bolt. Clockwise rotation of the adjuster results in more low speed compression damping. Compression damping should be adjusted any time the springs or preload have been changed. Proper compression damping depends on rider style, weight, preference and fork setup. This adjuster is not indexed.

Internal High Speed Compression Adjustment (World Cup and Team)

This adjuster controls high speed compression blow-off while leaving your low speed compression adjustment virtually unchanged. The high speed compression adjuster is located inside the left leg. To adjust the high speed compression you must follow instructions available in the Boxxer Service Guide available on our website at www.rockshox.com. With the assembly removed, use a 5mm wrench, turn the compression nut clockwise to increase high speed compression damping and counterclockwise to decrease high speed compression damping (Fig. 1). Note the location of the low speed adjuster prior to making the high speed adjustment.

CAUTION: ENSURE THE END OF THE COMPRESSION ADJUSTER ROD DOES NOT BECOME RECESSED INTO THE NUT. THE NUT MAY BECOME DISENGAGED DURING OPERATION IF THE ADJUSTER IS NOT FULLY THREADED INTO THE NUT.

Changing Travel (Race Only)

To change the travel of your fork you must perform a full service on your fork. To obtain service information or instructions, visit our website at www.rockshox.com or contact your local RockShox dealer or distributor.

High Speed Compression Adjuster Nut

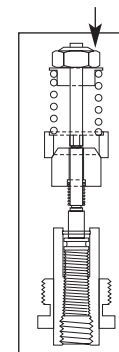


Fig. 1

MAINTENANCE

To maintain the high performance, safety, and long life of your fork, periodic maintenance is required. If you ride in extreme conditions, maintenance should be performed more frequently.

Maintenance				
	Every Ride	25 Hours	50 Hours	100 Hours
Clean dirt and debris from upper tubes	✓			
Check upper tubes for scratches	✓			
Check top caps, crown, axle and shaft bolts for proper torque		✓		
Inspect top cap o-rings, spring stacks, change oil		✓		
Remove lower casting, clean bushings and change oil			✓*	
Rebuild fork				✓*

* WE RECOMMEND THIS SERVICE BE PERFORMED BY A QUALIFIED BICYCLE MECHANIC. TO OBTAIN SERVICE INFORMATION OR INSTRUCTIONS, VISIT OUR WEBSITE AT WWW.ROCKSHOX.COM OR CONTACT YOUR LOCAL ROCKSHOX DEALER OR DISTRIBUTOR.

After Twenty-Five Hours of Riding

1. With a 24mm six-point wrench remove the top caps. Inspect the O-ring and replace if necessary.
2. Push the lower legs up and remove the spring stacks. Note orientation of parts (spring, spring spacer, and preload spacers). Wipe clean.
3. Place an oil pan underneath the fork. Reinstall top caps, invert the fork and remove the top caps. Oil will pour out of the fork from the upper tubes.
4. Cycle lower legs up and down to pump out remaining oil.

5. Return the fork to an upright position.
6. Pour oil into the upper tubes while slowly cycling the lower fork leg up and down. With the fork leg fully compressed without springs, the oil level should be approximately 120 mm from the top of upper tube. Approximately 195 cc of oil (based on a dry fork) is required for each fork leg.

IMPORTANT: SETTING THE OIL ABOVE THIS SPECIFICATION MAY RESTRICT THE TRAVEL.

7. Completely extend the fork. Install the spring stacks into the leg.
8. Install top cap and torque to 55-75 in-lb.

Torque Tightening Values

Bottom shaft bolt	45-75 in-lb. (5.1-8.5 Nm)
Top caps	55-75 in-lb. (6.2-8.5 Nm)
Threaded rod plug, compression	30-40 in-lb. (3.5-4.5 Nm)
Axle clamp bolts	20-30 in-lb. (2.3-3.4 Nm)
Axle bolt	40-60 in-lb. (4.5-6.8 Nm)
Crown bolts	45-80 in-lb. (5.1-9.0 Nm)

WARRANTY

SRAM Corporation warrants its products for a period of two years from original date of purchase to be free from defects in materials or workmanship. SRAM, or an authorized SRAM Agent must inspect all SRAM products. If a product is found by SRAM or its authorized agent to be defective in materials or workmanship, replacement or repair is at the option of SRAM. This warranty is the sole and exclusive remedy. SRAM shall not be held liable for any indirect, special, or consequential damages.

Exclusions of Warranty

This warranty does not apply to products which have not been properly installed and adjusted according to RockShox installation instructions. The warranty does not cover any product that has been subject to misuse or whose serial number has been altered, defaced or removed. This warranty does not apply to damage to the product caused by a crash, impact, abuse of the product, non-compliance with manufacturer's specifications, or any other circumstances in which the product has been subjected to forces or loads beyond its design. This warranty does not cover paint damage or modifications to the product.

Original proof of purchase is required. Warranty repair/replacement is only valid upon presentation of proof of purchase, directly submitted to SRAM at the time of warranty evaluation. Warranty repair or replacement is at the discretion of SRAM or its authorized agent, upon physical product evaluation and proof of purchase.

This warranty does not include or cover common 'wear and tear' parts which are subject to damage as a result of normal use, failure to service product according to SRAM recommendations, wet conditions, racing, use of disc brakes, rider weight, riding or installation in conditions or applications other than recommended.

'Wear and Tear' parts are identified as: External dust seals, bushings, foam rings, rubber moving parts (such as air sealing o-rings and glide rings), stripped threaded shafts or bolts, upper tubes (stanchions), rear shock mounting hardware and springs, and fork drop outs.

Pioneer Support Program

In the event parts are unavailable at the time of your repair, at the option of SRAM or its authorized agent, a replacement fork may be provided at a determined discount price.

Warranty Expenses Incurred

The SRAM warranty policy excludes expenses incurred as a result of transportation of product from a SRAM dealer to SRAM, or its authorized distributor, labor performed by a SRAM dealer for removal of RockShox product, or warranty repair work performed by a SRAM dealer. Warranty work performed by a SRAM dealer is voluntary.

Warranty Repair

If for any reason it should be necessary to have warranty work done, return the product to a SRAM dealer. In the USA, dealers are required to call for a Return Authorization number (RA#) prior to returning product. Outside the USA, dealers are required to call an authorized SRAM Distributor.

For more technical information, visit our website at www.rockshox.com. Dealers outside the USA must contact their local distributor. For a complete list of Authorized Distributors outside the USA, visit www.rockshox.com.