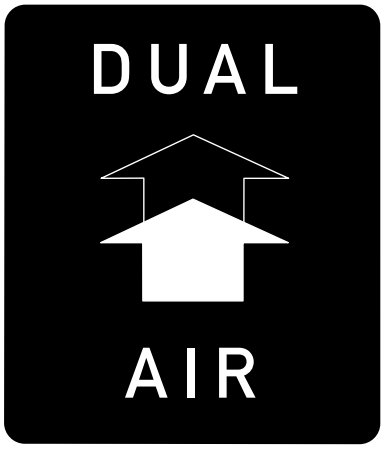
ROCK SHOX



Dual Air
Spring Tuning Guide
2001 - 2012

GEN.0000000004160 Rev A

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SRAM LLC WARRANTY

EXTENT OF LIMITED WARRANTY

Except as otherwise set forth herein, SRAM warrants its products to be free from defects in materials or workmanship for a period of two years after original purchase. This warranty only applies to the original owner and is not transferable. Claims under this warranty must be made through the retailer where the bicycle or the SRAM component was purchased. Original proof of purchase is required. **Except as described herein, SRAM makes no other warranties, guaranties, or representations of any type (express or implied), and all warranties (including any implied warranties of reasonable care, merchantibility, or fitness for a particular purpose) are hereby disclaimed.**

LOCAL LAW

This warranty statement gives the customer specific legal rights. The customer may also have other rights which vary from state to state (USA), from province to province (Canada), and from country to country elsewhere in the world.

To the extent that this warranty statement is inconsistent with the local law, this warranty shall be deemed modified to be consistent with such law, under such local law, certain disclaimers and limitations of this warranty statement may apply to the customer. For example, some states in the United States of America, as well as some governments outside of the United States (including provinces in Canada) may:

a. Preclude the disclaimers and limitations of this warranty statement from limiting the statutory rights of the consumer (e.g. United Kingdom).

b. Otherwise restrict the ability of a manufacturer to enforce such disclaimers or limitations.

For Australian customers:
This SRAM limited warranty is provided in Australia by SRAM LLC, 1333 North Kingsbury, 4th floor, Chicago, Illinois, 60642, USA. To make a warranty claim please contact the retailer from whom you purchased this SRAM product. Alternatively, you may make a claim by contacting SRAM Australia, 6 Marco Court, Rowville 3178, Australia. For valid claims SRAM will, at its option, either repair or replace your SRAM product. Any expenses incurred in making the warranty claim are your responsibility. The benefits given by this warranty are additional to other rights and remedies that you may have under laws relating to our products. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

LIMITATIONS OF LIABILITY

To the extent allowed by local law, except for the obligations specifically set forth in this warranty statement, in no event shall SRAM or its third party suppliers be liable for direct, indirect, special, incidental, or consequential damages.

LIMITATIONS OF WARRANTY

This warranty does not apply to products that have been incorrectly installed and/or adjusted according to the respective SRAM user manual. The SRAM user manuals can be found online at sram.com, rockshox.com, avidbike.com, truvativ.com, or zipp.com.

This warranty does not apply to damage to the product caused by a crash, impact, abuse of the product, non-compliance with manufacturers specifications of usage or any other circumstances in which the product has been subjected to forces or loads beyond its design.

This warranty does not apply when the product has been modified, including, but not limited to any attempt to open or repair any electronic and electronic related components, including the motor, controller, battery packs, wiring harnesses, switches, and chargers.

This warranty does not apply when the serial number or production code has been deliberately altered, defaced or removed.

This warranty does not apply to normal wear and tear. Wear and tear parts are subject to damage as a result of normal use, failure to service according to SRAM recommendations and/or riding or installation in conditions or applications other than recommended.

Wear and tear parts are identified as:

- Dust seals
- Bushings
- Air sealing o-rings
- Glide rings
- Rubber moving parts
- Foam rings
- Rear shock mounting hardware and main seals
- Upper tubes (stanchions)
- Stripped threads/bolts (aluminium, titanium, magnesium or steel)
- Brake sleeves
- Brake pads
- Chains
- Sprockets
- Cassettes
- Shifter and brake cables (inner and outer)
- Handlebar grips
- Shifter grips
- Jockey wheels
- Disc brake rotors
- Wheel braking surfaces
- Bottomout pads
- Bearings
- Bearing races
- Pawls
- Transmission gears
- Spokes
- Free hubs
- Aero bar pads
- Corrosion
- Tools
- Motors
- Batteries

Notwithstanding anything else set forth herein, the battery pack and charger warranty does not include damage from power surges, use of improper charger, improper maintenance, or such other misuse.

This warranty shall not cover damages caused by the use of parts of different manufacturers.

This warranty shall not cover damages caused by the use of parts that are not compatible, suitable and/or authorised by SRAM for use with SRAM components.

This warranty shall not cover damages resulting from commercial (rental) use.



SAFETY FIRST!

We care about YOU. Please, always wear your safety glasses and protective gloves when servicing RockShox products. Protect yourself! Wear your safety gear!

INTRODUCTION

Dual Air technology provides the rider with a tremendous range of setup and tuning possibilities for their suspension fork, using air positive and air negative springs.

Positive springs support the weight of the bike and the rider.

Negative springs counteracts friction and breakaway.

This guide will show you how to:

- Determine the amount of fork travel.
- Perform initial spring setup for your approximate rider weight.
- Use sag to perform a more detailed spring setup for your exact rider weight.
- Use performance tuning to set the fork to be “XC (Cross Country)” fast and efficient, or “All Mountain” smooth and supple.

ITEMS YOU WILL NEED FOR TUNING

- Shock pump
- Small hex wrench
- Clean, lint-free rag
- A wall or a strong, trustworthy friend

SHOCK PUMP USE

When the suspension pump is attached to the fork, a small amount of air will move from the fork into the pump. This is why you can pump the fork up to a certain pressure, then remove the pump, re-attach it, and find a lower reading. This is normal and does not indicate that the fork is leaking air.

In addition, when you remove the pump from the fork, you will hear a hissing sound. This is pressurized air escaping from the pump, not the fork. This is also normal.

NOTICE

Do not use an air compressor to adjust the air spring pressure in your fork. Air compressors may cause damage to the fork.

SAG

Sag is the amount the fork compresses when you are sitting on your bike while wearing your normal riding gear (hydration pack, helmet, clothing, etc.). It is important to tune the sag measurement of your fork because proper sag enhances the ability of the front wheel to follow the changing contours of the terrain as you ride.

LOCKOUT

If the fork is equipped with a lockout, turn the lockout, located at the top of the drive side fork leg, to the ‘Unlocked’ position.



DETERMINE FORK TRAVEL

Some RockShox forks have travel gradients printed on the upper tubes of the fork. If your fork has travel gradients, compare the top of the dust wiper to the travel gradients to determine the amount of travel the fork has, then move on to the next section, *Initial Setup*.



If your fork does not have travel gradients, use the following steps to determine how much travel your fork has.

1 Remove the caps from the air valves located at the top and bottom of the non-drive side fork leg.



2 While holding a rag over the front brake rotor (if applicable), use a small hex wrench to depress the Schrader valve at the bottom of the fork leg to release all of the pressure from the negative spring.



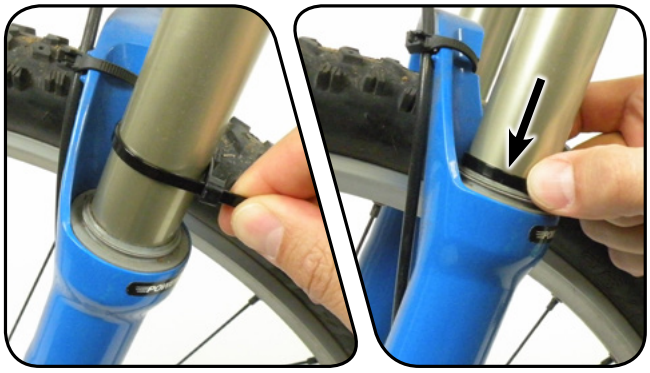
3 Use the small hex wrench to depress the Schrader valve at the top of the fork leg to release all of the air pressure from the positive air spring.



4 Some RockShox forks are equipped with a sag indicator o-ring. If your fork does not have an o-ring, fasten a zip tie around one of the upper tubes. Tighten the zip tie so that it stays in place but can slide along the upper tube easily. Slide the o-ring or zip tie down against the wiper seal.

You will use this zip tie later when setting sag.



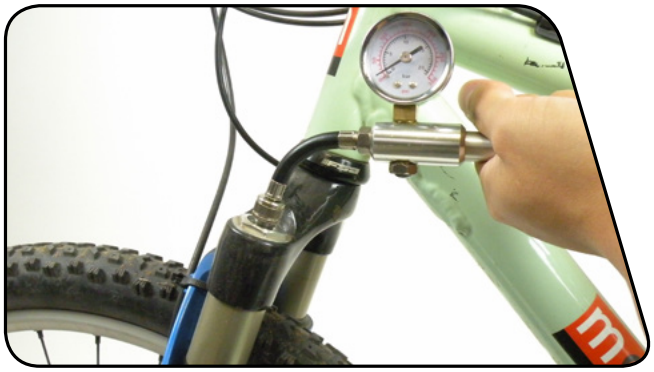


5 Compress the fork until it bottoms out.

Be careful when compressing the fork; a fork without air pressure will compress very easily.

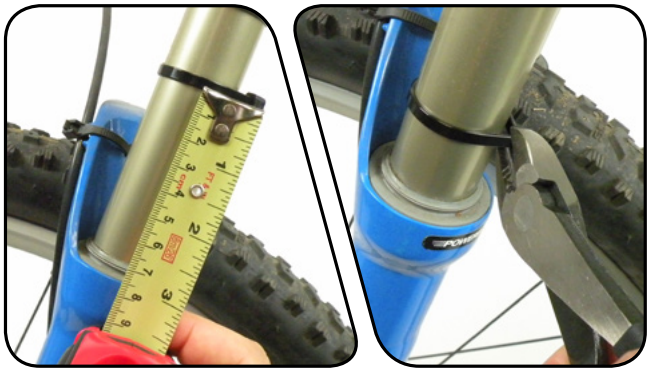


6 Thread a shock pump onto the air valve at the top of the non-driveside fork leg. Pressurize the fork to 20 psi. This is just enough pressure extend the fork to it's full length).



7 Measure the distance from the top of the dust wiper to the bottom of the o-ring or zip tie. Add 5-15 mm to this measurement. This is your approximate fork travel.

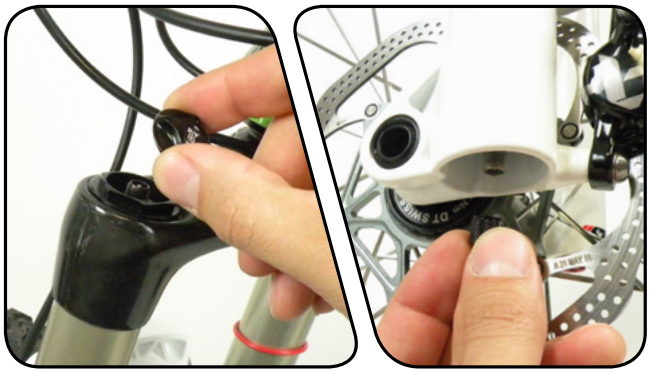
Once you've determined the fork travel, cut the zip tie and remove it from the fork



QUICK SETUP

Some RockShox forks have an air pressure chart printed on the back of the non-driveside fork leg, or in the fork User Manual. If this information is not available, skip to the next section, *Setup Using Sag*. The following steps will show you how to perform a quick spring setup using the air pressure chart.

1 Remove the caps from the air valves located at the top and bottom of the non-drive side fork leg.



2 While holding a rag over the front brake rotor (if applicable), use a small hex wrench to depress the Schrader valve at the bottom of the fork leg to release all of the air pressure from the negative spring.

Holding a rag over the rotor will prevent any fluid that escapes from the fork leg from contaminating the rotor.



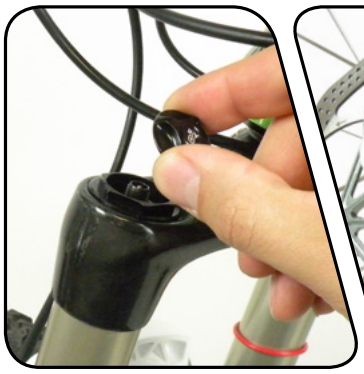
3 Thread a shock pump onto the air valve at the top of the non-drive side fork leg. Use the air pressure chart to determine the appropriate positive pressure for your weight (including riding gear). Use the pump to adjust the positive spring to this pressure.

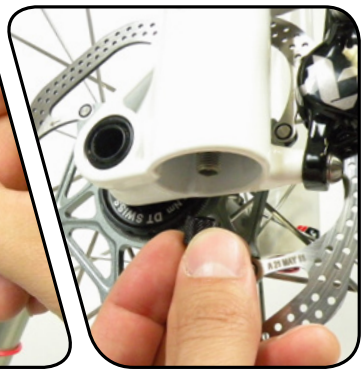


4 Once you have adjusted the positive spring pressure, remove the pump from the fork, then thread it onto the negative spring air valve, located at the bottom of the fork leg. Inflate the negative spring to the same pressure as the positive spring. Remove the pump from the negative spring air valve.

At this point, the fork is set up to your rider weight range. You can reinstall the air valve caps and go for a ride. However, if you want to dial the fork in to your exact rider weight, continue on to the next section, *Setup Using Sag*.



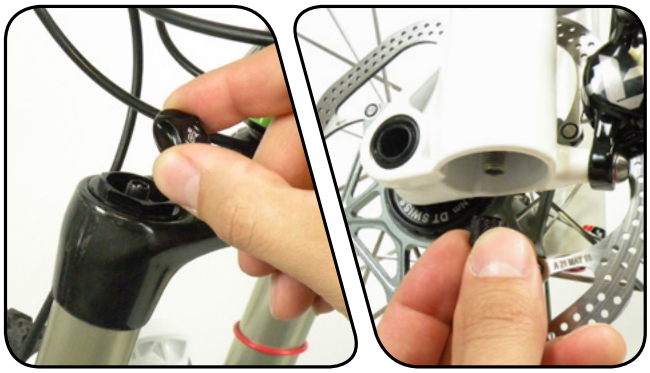




SETUP USING SAG

The following steps will show you how to set up the fork to your rider weight using sag.

1 Remove the caps from the air valves located at the top and bottom of the non-drive side fork leg.



2 If the fork has an external travel adjust feature, adjust the fork to its maximum travel setting.



3 Put on all of your normal riding gear. Sit on the bike and brace yourself upright, or have a friend securely hold the bike upright while you sit on it.



4 Compress the fork a couple of times, then gently sit down on the saddle.



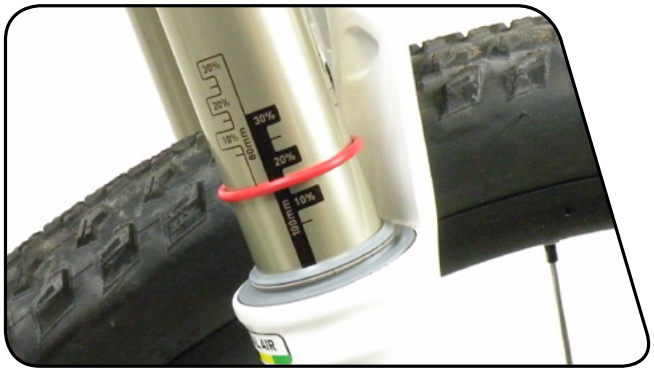
5 While remaining seated, slide the indicator o-ring or zip tie down against the wiper seal. Avoid compressing the suspension after the o-ring/zip tie is in place.



6 Carefully step off the bike.

If your fork has sag gradients, compare the location of the sag indicator o-ring or zip tie against the sag gradients. This is your sag.

If the fork does not have sag gradients, measure the distance from the top of the wiper seal to the sag o-ring or zip tie. Use this measurement and the travel of the fork to calculate sag. The ideal amount of sag is between 10-40% of the travel of the fork.





Fork travel (mm)	Sag percentage			
	10%	20%	30%	40%
60	6	12	18	24
80	8	16	24	32
100	10	20	30	40
120	12	24	36	48
140	14	28	42	56
160	16	32	48	64
170	17	34	51	68

7 If the fork does not sag the desired amount, you will need to adjust the air pressure settings.

To increase the amount of sag:
1. Release 5-10 psi from the negative spring
2. Release 5-10 psi from the positive spring
3. Recheck sag

To decrease the amount of sag:
1. Add 5-10 psi to the positive spring
2. Add 5-10 psi to the negative spring
3. Recheck sag

Repeat this process until the desired sag is achieved, then record the air pressure settings for future reference.

At this point, the fork is set up for your rider weight. You can reinstall the air valve caps and go for a ride. However, if you want to tune your fork for specific performance characteristics, continue on to the next section, *Performance Tuning*.

PERFORMANCE TUNING

Now that you've adjusted the positive and negative air springs in your fork to achieve proper sag for your weight, you can fine tune the springs for specific performance characteristics.

For a more supple ride with better small bump absorption:
Pressurize the negative spring 5 to 15 psi more than the positive. Reference the positive air pressure setting you recorded during sag setup.

Do not reference the pressure indicated on the pump after reattaching it to the fork, as this pressure will be lower than the recorded pressure.

Do not pressurize the negative spring more than 15 psi higher than the positive spring, as this will increase sag beyond the recommended amount.

For a firmer, more efficient ride:
Pressurize the negative spring 5 to 15 psi less than the positive. Reference the positive air pressure setting you recorded during sag setup.

Do not reference the pressure indicated on the pump after reattaching it to the fork, as this pressure will be lower than the recorded pressure.

Once you have achieved desired sag and spring performance, record your settings, reinstall the air valve caps, and go for a ride!

CONCLUSION

We would like to thank you again for choosing RockShox for your bicycle suspension. RockShox is committed to the quality of your ride experience. We hope that this tuning guide has helped you explore the full tuning capability of your suspension fork and opened your world to greater performance possibilities.

Please check back to www.rockshox.com frequently for more quick tips, tuning, and service information.

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