



# BOXER

WORLD CUP

## Suspension Tuning Guide



# BOXXER WORLD CUP QUICK START TUNING GUIDE

## THANKS FOR CHOOSING ROCKSHOX!

We are excited, pleased, and honored that you have chosen RockShox for your bicycle suspension. You can feel confident that your suspension is the best in the market today because RockShox products are developed and engineered by people who love to ride and who are as passionate about performance as you.

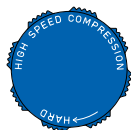
RockShox suspension can be performance tuned for your particular weight, riding style, and terrain. Our Tuning Guide contains quick start recommendations for performance tuning your BoXXer fork to get you out on the trail fast! In addition, it provides comprehensive tuning information that will allow you to maximize the performance of your suspension by customizing the feel and responsiveness of each available setting.

All settings are counted with the  adjustment control starting in the full counter-clockwise position (Soft, -, )

BoXXer World Cup	RIDER WEIGHT	SUGGESTED PRESSURE	LOW SPEED COMPRESSION	HIGH SPEED COMPRESSION	BEGINNING STROKE REBOUND	ENDING STROKE REBOUND	BOTTOM-OUT
	<140 lb (63 kg)	<40 psi (2.8 bar)	1 turn	2 clicks	8 clicks	8 clicks	1/2 turn
	140-160 lb (63-72 kg)	40-55 psi (2.8-3.8 bar)	1 turn	2 clicks	9 clicks	9 clicks	1 turn
	160-180 lb (72-81 kg)	55-70 psi (3.8-4.8 bar)	1 turn	2 clicks	10 clicks	10 clicks	1 turn
	180-200 lb (81-90 kg)	70-85 psi (4.8-5.8)	2 turns	3 clicks	11 clicks	11 clicks	2 turns
	200-220 lb (90-99 kg)	85-100 psi (5.8-6.9 bar)	2 turns	3 clicks	12 clicks	12 clicks	2 turns
	>220 lb (99 kg)*	100+ psi* (6.9+ bar)	2 turns	3 clicks	13 clicks	13 clicks	3 turns
	* Do not exceed 200 psi						

My Favorite Settings	FAVORITE RIDES	PRESSURE SETTING	LOW SPEED COMPRESSION	HIGH SPEED COMPRESSION	BEGINNING STROKE REBOUND	ENDING STROKE REBOUND	BOTTOM-OUT

**High Speed Compression**



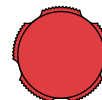
**Beginning Stroke Rebound**



**Low Speed Compression**



**Ending Stroke Rebound**



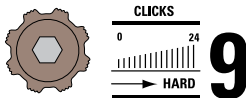
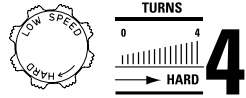
**Bottom Out**





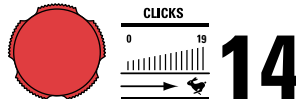
**Trail:** Slow maneuvering through highly technical terrain

**Control:** Minimize fork movement when slow speed balance and handling control is critical



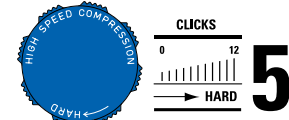
**Trail:** Wet, muddy, rooty, rocky

**Control:** Maximize front wheel traction and minimize unwanted movement



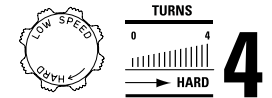
**Trail:** Launched drop to transition landing

**Control:** Maximize landing control and handling



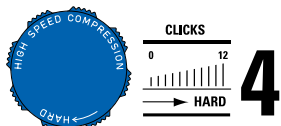
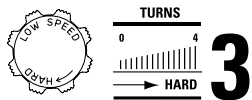
**Trail:** Fast burmed corners

**Control:** Fork higher in stroke for faster movement corner to corner



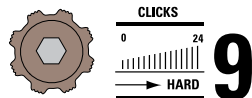
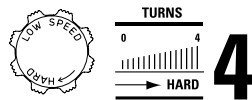
**Trail:** Fast, rocky terrain with plenty of aggressive cornering

**Control:** Maximize bump absorption and resist body roll when weight shifts in corners



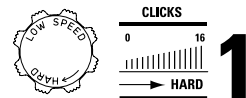
**Trail:** Slow steep descending with front end drops or step-downs

**Control:** Minimize "endo" potential and keep rider weight back over the rear wheel for traction



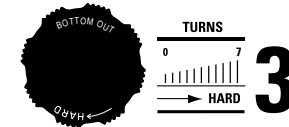
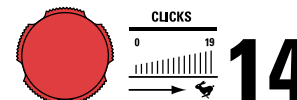
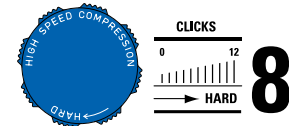
**Trail:** Fast, rocky terrain with sweeping corners

**Control:** Maximize bump absorption



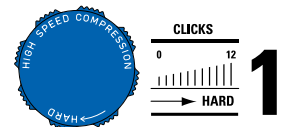
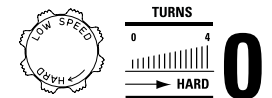
**Trail:** Launched drop to flat landing

**Control:** Maximize landing control and handling

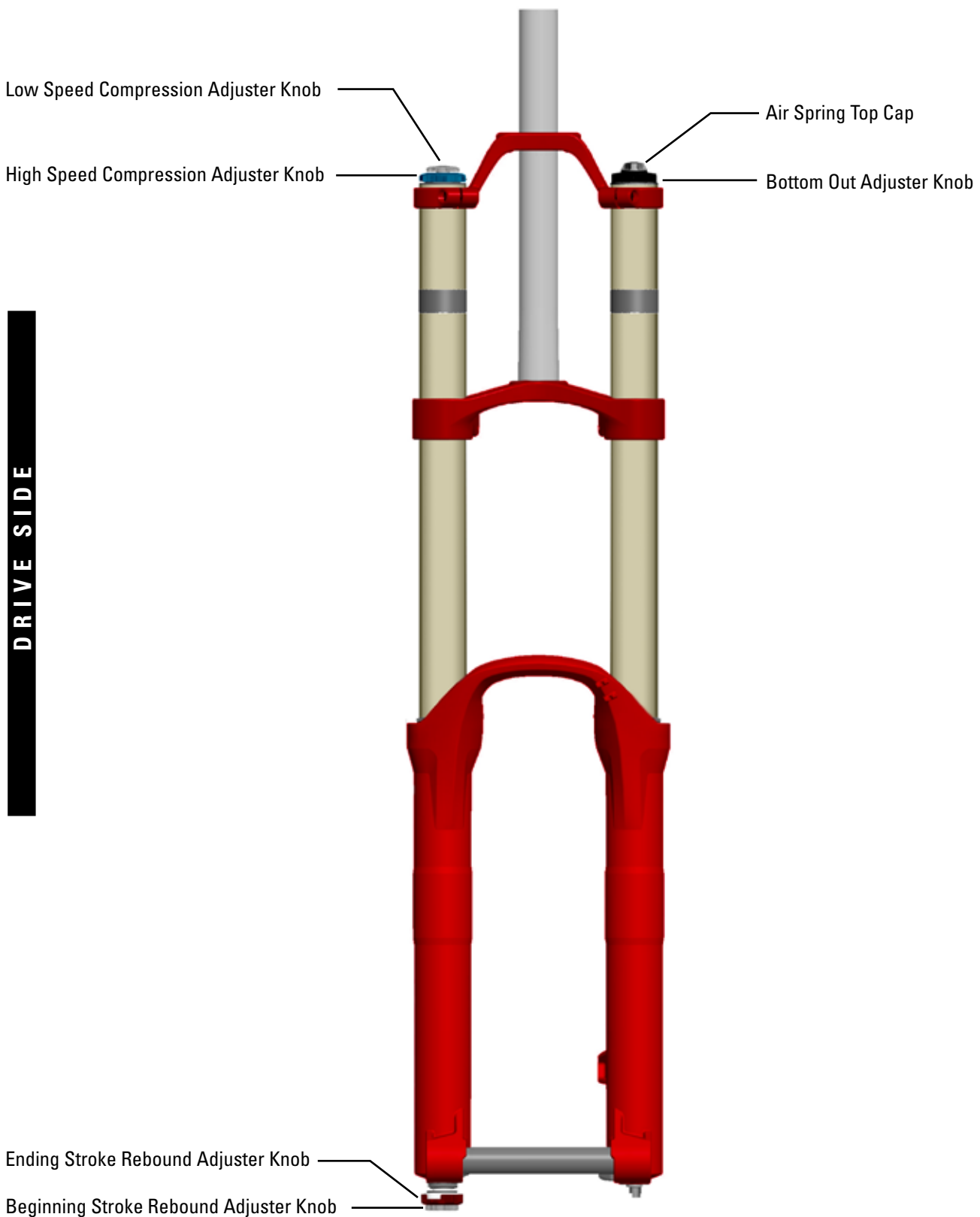


**Trail:** Loose, flat corners

**Control:** Maximize bump absorption



# BOXXER WORLD CUP



# BOXXER WORLD CUP TUNING GUIDE

## INTRODUCTION

There are three primary settings you can tune on your front suspension (fork). Keep in mind when tuning your fork to always tune these settings in the following order:

1. Sag - Spring Tuning
2. Rebound Damping
3. Compression Damping

## THINGS YOU WILL NEED FOR TUNING

Safety glasses	High pressure bicycle suspension pump
Riding gear	2.5 mm hex wrench
A friend	

## SAG - SPRING TUNING

Sag is the amount the fork compresses when you are sitting on your bike while wearing your normal riding gear. 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. Sag on your BoXXer fork should measure between 20 and 30 percent of maximum travel and is indicated by the gradient marks on the drive side upper tube.

## MEASURING SAG

- 1** To measure sag, first adjust the compression damping features, located at the top of the drive side fork leg, to their lightest settings. To do this, turn each knob counter-clockwise (opposite the arrow that reads "Hard") until it stops.

**1**



- 2** Have a friend securely hold your bike upright while you sit on the bike, wearing your normal riding gear.

**2**



## BOXXER WORLD CUP TUNING GUIDE

- 3** Stand on the pedals and rock your body weight forward and rearward on the bike, activating the suspension, then stand still on the pedals. We suggest you engage the brakes during this process so you don't accidentally roll over or head-butt your friend.

**3**



- 4** Continue to stand still on the pedals and have your friend slide the indicator o-ring down against the wiper seal. This can be tricky, tell your friend to be quick!

**4**



- 5** Carefully step off the bike and compare the location of the travel indicator o-ring against the sag value gradients marked on the upper tube. This is your sag.

**5**



If you are unable to tune your fork to sag within the indicated range, you may need to change the fork's air pressure (air spring tuning). Use the specific tuning information that follows to achieve proper sag.

# BOXXER WORLD CUP TUNING GUIDE

## AIR SPRING TUNING

BoXXer air spring forks use RockShox's Solo Air design. Solo Air uses a single Schrader air valve to simultaneously fill both positive and negative air spring chambers.

**Important:** When changing your air spring pressure we recommend you wear safety glasses.

**1** To adjust the air spring pressure, remove the cap from the air valve located on the top of the non-drive side fork leg. Thread a high pressure bicycle suspension pump onto the air valve. Use the chart below as a guideline and pressurize the air spring chamber to the desired setting.

**Important:** Never use an air compressor to adjust the air spring pressure on your fork.

RIDER WEIGHT	SUGGESTED PRESSURE	YOUR PRESSURE
<140 lb (63 kg)	<40 psi (2.8 bar)	
140-160 lb (63-72 kg)	40-55 psi (2.8-3.8 bar)	
160-180 lb (72-81 kg)	55-70 psi (3.8-4.8 bar)	
180-200 lb (81-90 kg)	70-85 psi (4.8-5.8 bar)	
200-220 lb (90-99 kg)	85-100 psi (5.8-6.9 bar)	
>220 lb (99 kg)*	100+ psi* (6.9+ bar)	
* Do not exceed 200 psi (13.8 bar)		

**Note:** When adding air to a Solo Air fork, you may see a sudden drop in the air spring pressure reading on the pump. This is normal, and indicates an equalization of pressure between the positive and negative chambers. Continue to add air to the fork until you reach the desired air spring pressure.

**2** Once you have adjusted the air spring pressure, re-measure your sag according to the previous instructions. If your sag is within the indicated range, record your air spring pressure setting for future reference. Otherwise, continue to adjust air spring pressure until you achieve the proper sag.



**You have completed the air spring tuning of your BoXXer World Cup front suspension. You are now ready to move on to Rebound Damping.**

# BOXXER WORLD CUP TUNING GUIDE

## REBOUND DAMPING

Rebound damping controls the speed at which the fork returns to full extension following compression. To adjust rebound damping, use the rebound adjuster knobs, located on the bottom of the drive side fork leg. When tuning rebound, remember that real world trail inputs vary significantly from parking lot riding. The best way to fine tune rebound is to compare adjustments on a familiar section of trail.

We suggest you begin your tuning session by setting 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. Make small adjustments from there until you find a setting that works for your riding style. Keep in mind, if rebound damping is set too slowly the fork will “pack up” over successive bumps; essentially reducing travel and causing the fork to bottom out.

To adjust your rebound damping, refer to the guidelines that follow.

### REBOUND ADJUSTMENT

BoXXer World Cup features Dual Flow™ Adjust Rebound, which allows for the independent adjustment of both Beginning Stroke Rebound and Ending Stroke Rebound.

**1 Beginning Stroke Rebound** - Controls the speed at which the fork returns to full travel from smaller bumps experienced within the first 25% of fork's range of travel. It can be tuned to control how fast the fork returns after receiving a small input or to increase pedaling efficiency.

Turn the grey adjuster knob in the direction of the “rabbit” indicated on the rebound speed decal to make the fork return to full extension faster. Turn the grey adjuster knob in the direction of the “turtle” to make the fork return to full extension slower. A total of 24 clicks of adjustment are available.

**Important:** Do not allow the red Ending Stroke Rebound adjuster knob to rotate while you turn the grey Beginning Stroke Rebound knob. Hold the red adjuster knob in place if necessary.

**2 Ending Stroke Rebound** - Controls the speed at which the fork returns to full travel from larger bumps experienced within 25-100% of fork's range of travel. It can be tuned to control how fast the fork returns after receiving a large input or to reduce “bucking” experienced from a large bump.

Turn the red Ending Stroke Rebound adjuster knob in the direction of the “rabbit” indicated on the rebound speed decal to make the fork return to full extension faster. Turn the red adjuster knob in the direction of the “turtle” to make the fork return to full extension slower. A total of 19 clicks of adjustment are available.

**Note:** The grey Beginning Stroke Rebound adjuster knob may rotate while you turn the red Ending Stroke Rebound knob. This is OK.

1

2



**You have completed the rebound tuning of your BoXXer World Cup front suspension. You are now ready to move on to Compression Damping.**



# BOXXER WORLD CUP TUNING GUIDE

## COMPRESSION DAMPING

Compression damping controls the speed at which the fork compresses. The more compression damping the fork has, the slower it will respond and the more resistance it will have to trail inputs, making the fork feel “hard”. The less compression damping the fork has, the faster it will respond and the less resistance it will have to trail inputs, making the fork feel “soft”. The compression damping adjustment can be used to help combat the effects of hard braking (brake dive) or hard g-force cornering (squatting).

### COMPRESSION ADJUSTMENT - MISSION CONTROL DH

BoXXer World Cup features Mission Control DH compression damping which allows independent adjustment of both “low speed” and “high speed” compression damping.

**1 Low Speed Compression Damping** – Controls the speed at which the fork compresses when the shaft speed of the fork is slow. It can be tuned to provide maximum sensitivity to small bump input and reduce movement from the rider shifting body weight on the bike. Turn the small silver adjuster knob, located on the top of the drive side of the fork leg, clockwise add more low speed compression damping. A total of 4 full turns of adjustment are available.

**Note:** If the blue High Speed Compression adjuster knob begins to turn, you have reached the maximum range of the Low Speed Compression adjuster knob.

**2 High Speed Compression Damping** - Controls the speed at which the fork compresses when the shaft speed of the fork fast. It can be tuned to provided increased control when riding over square edged obstacles or a hard jump landing. Turn the large blue adjuster knob, located on top of the drive side fork leg, clockwise to add more high speed compression damping. A total of 12 clicks of adjustment are available.

**Note:** The silver low speed adjuster knob will turn with the blue high speed adjuster knob. This is normal and does not affect the low speed compression damping setting.

**1**

**2**



**Important:** When storing a bicycle or fork upside-down or on its side, oil sealed in the upper tube can collect above the compression damper assembly. Upon returning the bicycle/fork to a normal riding position, initial performance of the compression damper system may be less than optimal. To return optimal performance simply compress your fork 10-20 times.

**You have completed the compression tuning of your BoXXer World Cup suspension fork. You are now ready to move on to the Special Features.**

# BOXXER WORLD CUP TUNING GUIDE

## SPECIAL FEATURES

### END OF STROKE - AIR SPRING VOLUME ADJUST

**1** In addition to air spring rate tuning, BoXXer World Cup offers the End of Stroke air spring volume adjust system. This system allows you to tune how hard or soft the fork feels as it compresses through the final 20% of total travel and bottoms out. Turn the black bottom out adjuster knob, located on the top of the non-drive side fork leg, clockwise to reduce the end of stroke air spring volume and make the End of Stroke air spring feel harder and progressively increase resistance to bottom out. Turn the black bottom out adjuster knob counter-clockwise to increase the end of stroke air spring volume and make the End of Stroke air spring feel softer and maintain a consistent resistance to bottom out. A total of 7 full turns of adjustment are available.

**Note:** To turn the black bottom out adjuster knob, insert a 2.5 mm hex into one of the holes along the edge of the knob and use it as leverage to rotate the knob. If the knob will not turn, it may be necessary to release all air pressure from the fork. First, record your air pressure setting, then release all the pressure in the system. Turn the black adjuster knob to the desired setting. Finally, add air back into the fork until you reach your recorded air pressure setting.

**Note:** The End of Stroke air spring volume adjust should only be tuned after the desired Sag, Rebound Damping and Compression Damping settings have been achieved.

**1**



You have completed the tuning of your BoXXer World Cup front suspension. Congratulations, it's time to 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 BoXXer front suspension and opened your world to greater performance possibilities; so **you** can have a better, more controlled ride.

Please check back to [www.rockshox.com](http://www.rockshox.com) frequently for more quick tips, tuning, and service information.