

OWNER'S MANUAL

MOUNTAIN BIKE SERIES



Elka[®] 
suspension

Welcome to Elka Suspension

Thank you for choosing Elka Suspension. This owner's manual is your reference guide to using and fine-tuning your shock absorber for optimum suspension performance and comfort. It also provides important information about the proper maintenance of your shock. Carefully read this manual before installing your shocks. If you need further assistance, our experienced team is able to advise and assist you to find the exact set-up to meet your personal needs.

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*Pour obtenir une copie en français de ce manuel, veuillez communiquer avec notre service à la clientèle par téléphone au (450) 655-4855 ou au 1-800-557-0552 (Amérique du Nord seul.) ou encore par email à info@elkasuspension.com
Ce manuel en français est également disponible en téléchargement à l'adresse:
<http://www.elkasuspension.com/files/Manuals/MTB-ManuelUtilisateur.pdf>*

Read First For Your Safety

The shock absorber is an important part of your mountain bike, and this owner's manual explains how to install and use it properly. If you are uncomfortable installing your shock absorber or are unsure of the method, have a qualified mechanic install it for you. Improperly installed shocks might cause serious harm to you and may severely damage your mountain bike. Never take any chances with your safety.

Before installing and using your new shock absorber, carefully read this owner's manual to learn the correct installation and adjustment procedures and avoid the consequences of an incorrect installation or improper adjustment.

Riding a mountain bike can be dangerous. Always wear appropriate protective equipment and follow your region's safety regulations.

Elka Suspension is constantly introducing new products and improving existing ones. For this reason, Elka Suspension reserves the rights to modify products and add accessories or features with no obligations to make such changes to earlier models.

When your shock absorbers require an oil change or other internal maintenance, your Elka Suspension Authorized Service Centre is best qualified to provide the necessary service or repairs. Contact us for information about your nearest center.

Elka Suspension shock absorbers are manufactured exclusively for the bike model that they were ordered for. Switching units between different bikes may not only decrease performance but might also cause damage to the bike and seriously harm the rider. Always call Elka Suspension to verify compatibility before switching units from one bike to another.

Warranty & Return Procedures

All Elka Suspension products are guaranteed against any manufacturing defects for a period of one (1) year from the purchase date. This warranty does not cover damages resulting from any of the following situations:

- Abuse of the product
- Racing accidents
- Improper installation
- Disassembly or modifications
- Unauthorized oil changes
- Damage occurring during transportation
(the purchase of full insurance coverage for shipping is recommended)

All Elka Suspension shock absorbers are ready for installation. Fine-tuning might be necessary for optimal performance. Always keep your invoice as proof of purchase. A copy of the original invoice is necessary for any claim or service shipment or warranty return. Elka Suspension Inc. reserves the right to make the final decision in all matters pertaining to its warranty.

DISCLAIMER: Because Elka Suspension products are designed for use in racing and extreme riding conditions, Elka Suspension cannot guarantee any of its suspension products, other than from manufacturing defects, because we have no control over how the products are used after installation. In addition, the purchaser assumes full responsibility to the extent legally permitted for the risks of personal injury and/or damage to the purchaser's bike or to any third party that may be involved in an incident with the purchaser.

RETURN PROCEDURES

- 1) Call our service department at (450) 655-4855 or 1-800-557-0552 (North America) to get a Returned Goods Authorization Number (RGA). Our customer service representatives will assist you for further steps.
- 2) Download and fill out the Service Work Order Form available at: www.elkasuspension.com/downloads/forms.html
- 3) Carefully package your shock(s) to avoid damage during transportation. Include a copy of your invoice, a brief description of the problem and a return address for shipping and/or invoicing. Provide a phone number to reach you in case our technicians have questions about the problem. Place your completed Service Work Order form on top in your package. Ship your shock(s).
- 4) Wait for a confirmation call that will let you know an approximate turnaround time after we receive your package.

Installation

THE SHIPPING BOX SHOULD CONTAIN THE FOLLOWING:

- Shock absorber(s) and spring(s)
- Owner's Manual
- Bike-specific installation notice (if required)

If anything is missing, please contact our Customer Service at 1 800 557-0552 or (450) 655-4855.

MOUNTING HARDWARE

Elka Suspension uses 1/2" (12.7mm) DU bushings on both ends, which is compatible with the original mounting hardware found on most recent mountain bikes. Contact us to check if you can use the original mounting hardware that came with your bike.

SPRING REMOVAL & INSTALLATION

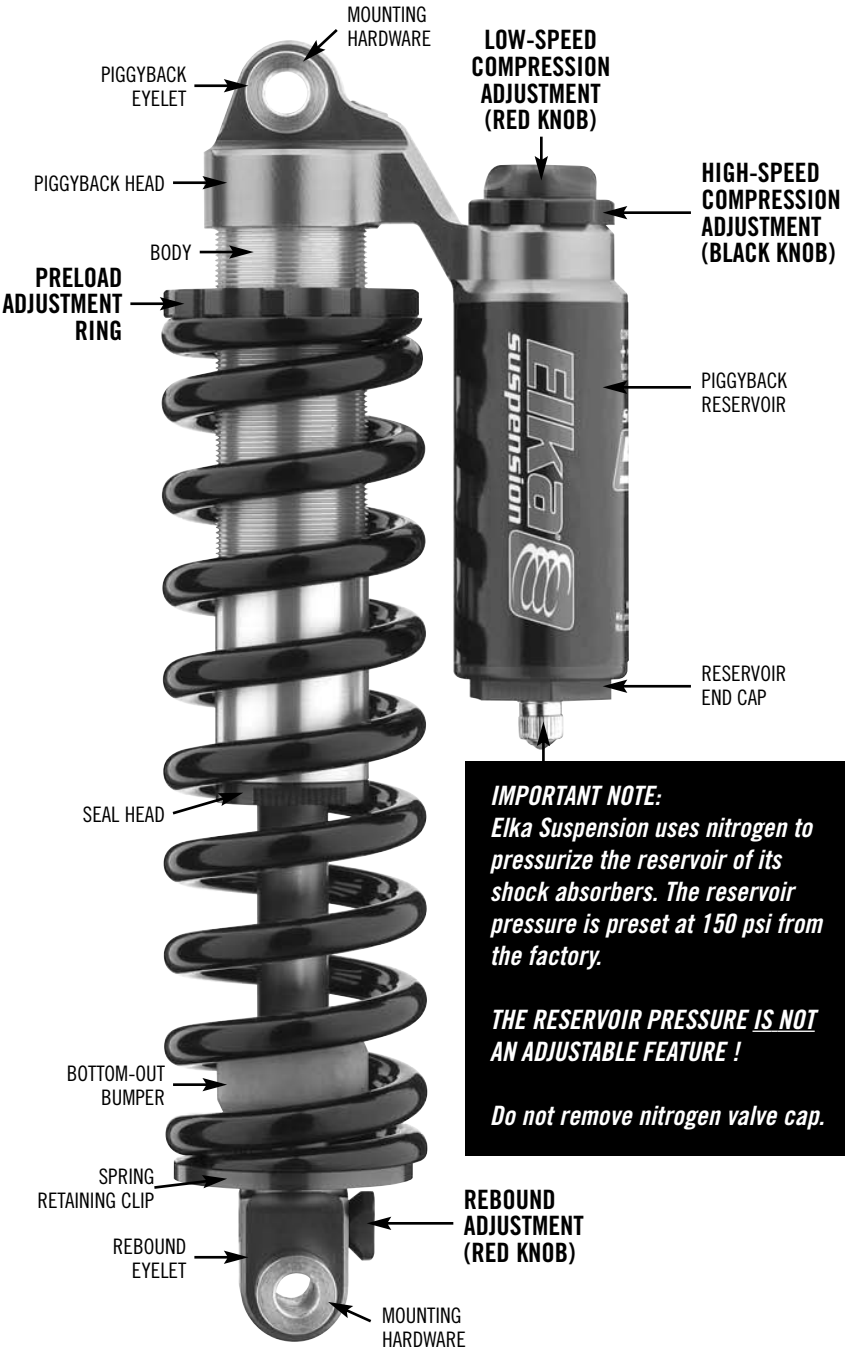
To remove the spring, start by turning the preload adjuster ring counterclockwise to remove all preload until the spring become loose. Push down on the spring retainer clip then slide it off the shock, being careful not to damage the shaft with the sharp sides of the spring clip. Once the clip is removed, you can slide the spring off the shock.

ALWAYS MAKE SURE THAT THE END OF THE SPRING'S COILS IS ALIGNED ON THE OPPOSITE SIDE OF THE SLOT IN THE SPRING RETAINING CLIP. THIS WILL PREVENT THE SPRING FROM BENDING THE CLIP.

IMPORTANT NOTE:

You should always install your Elka Suspension shock absorber in the same orientation as your original shock absorbers unless otherwise noticed. In such case, a bike-specific installation notice is provided along this manual.

Location Of The Adjustments



IMPORTANT NOTE:
Elka Suspension uses nitrogen to pressurize the reservoir of its shock absorbers. The reservoir pressure is preset at 150 psi from the factory.

THE RESERVOIR PRESSURE IS NOT AN ADJUSTABLE FEATURE !

Do not remove nitrogen valve cap.

Preload Adjustment



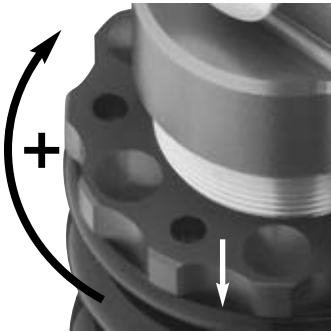
PRELOAD

Spring preload is the compression applied to the shock's spring when at rest, using the preload adjuster ring. The preload adjustment is used to achieve the optimal amount of sag and proper ride height.

INCREASING THE PRELOAD

To **increase the preload** on your spring, **turn the preload ring clockwise**.

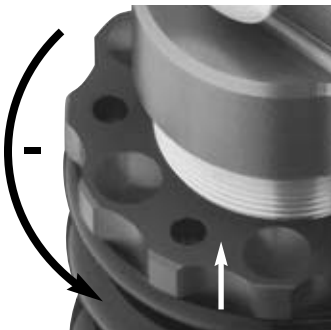
Increasing the preload will increase the ride height, thus **reducing the sag**. This will result in a more responsive ride. Be careful not to apply too much preload. This can cause "coil binding", which is when the coils of the spring rub against each other under compression. This can damage the spring, the shock and can be dangerous for the rider.



REDUCING THE PRELOAD

To **reduce the preload** on your spring, turn the preload ring **counterclockwise**.

Reducing the preload will decrease the ride height, thus **increasing the sag**. This will result in a more comfortable ride. Make sure to apply enough preload so the spring is firmly held in place and doesn't spin freely on the shock.



IMPORTANT NOTE:

If more than 5 mm of preload (5 turns) is needed to achieve proper sag, it is recommended to change to a higher spring rate. If sag is not enough without any preload applied to the spring, it is recommended to change to a lighter spring rate.

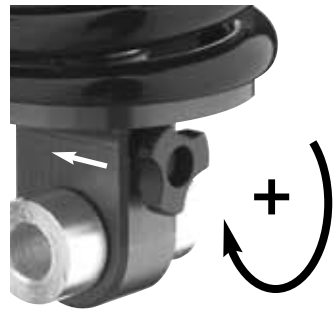
If the preload ring is hard to turn by hand, you can use a 2mm spanner wrench in the holes on top of the preload ring. Carefully washing the threads on the shock's body after each ride will make the preload ring easier to turn.

Rebound Adjustment

REBOUND

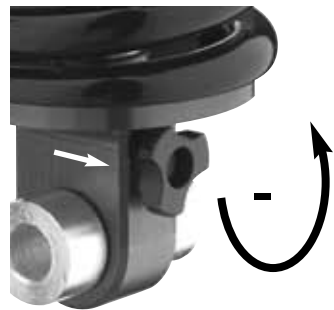
The rebound adjustment controls the speed the shock will return to its initial extended state after being compressed upon an impact. If the rebound adjustment is set properly, the rear wheel should keep maximum traction by tracking the ground without catapulting the rider off the bike.

You should start in the middle of the adjustment range. To adjust properly, turn the adjuster one click at a time and take a test ride. The adjustment is more sensitive towards the fully in position (slowest). When the rebound setting gets too slow, the shock absorber will not have time to resume to its initial position when a series of close bumps is encountered. In this case, the bike will run out of travel (packing), possibly bottoming out, and may give the impression of a too soft compression adjustment. When the rebound adjustment is too fast, the rear end of the bike will kick and move from side to side after hitting a series of close bumps and the rider will feel catapulted by the bike.



INCREASING THE REBOUND DAMPING (SLOWER RETURN)

To **increase the rebound damping**, thus making the shock **return slower** upon an impact, **turn the rebound adjuster knob clockwise (screw in)**. There is about 16 clicks of rebound adjustment.



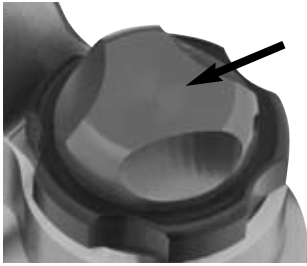
REDUCING THE REBOUND DAMPING (FASTER RETURN)

To **reduce the rebound damping**, thus making the shock **return faster** upon an impact, **turn the rebound adjuster knob counterclockwise (unscrew)**.

IMPORTANT NOTE:

Elka Suspension's rebound valving is tuned in such a way that it provides more damping (slower return) when deep within the stroke to prevent the rider from being catapulted off the bike upon major impacts.

Low-Speed Compression Adjustment



LOW-SPEED COMPRESSION

The low-speed compression adjustment controls the damping level (resistance) for slow movement of the shock's shaft (low velocity), such as under pedaling, when cornering and when preloading the suspension for jumping. The low-speed compression damping level provides the overall stiffness feeling of the bike's suspension, making it either plush and comfortable or firm and fast-rolling.

You should start in the middle of the adjustment range. To adjust properly, turn the adjuster one click at a time and take a test ride. The adjustment is more sensitive towards the fully in position (slowest). When the low-speed setting gets too hard, the shock absorber will not be able to absorb low-velocity impacts and weight transfers, thus making the ride harsher. When the low-speed setting gets too soft, the shock absorber will be too active, will wallow more under pedaling and will become more prone to bottoming out.



INCREASING THE LOW-SPEED COMPRESSION DAMPING (STIFFER SUSPENSION)

To **increase the low-speed compression damping**, thus making the suspension **stiffer**, turn the **red low-speed compression adjuster knob clockwise (screw in)**. There is about 22 clicks of low-speed compression adjustment.



REDUCING THE LOW-SPEED COMPRESSION DAMPING (SOFTER SUSPENSION)

To **reduce the low-speed compression damping**, thus making the suspension **softer**, turn the **red low-speed compression adjuster knob counterclockwise (unscrew)**.

IMPORTANT NOTE:

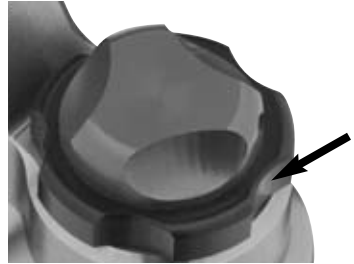
When turning the HIGH-SPEED compression adjustment knob, the LOW-SPEED compression adjustment knob will follow along without affecting its setting.

High-Speed Compression Adjustment

HIGH-SPEED COMPRESSION

The Elka Suspension high-speed compression circuit is an adjustable blow-off valve that momentarily relieves the pressure building up inside the shock upon a harsh impact, instantly providing additional plushness then increased resistance as needed. The adjustment controls the level of force (threshold) required to open the blow-off valve upon fast movement of the shock's shaft (high velocity) which can be caused by square-edged impacts, roots, rocks, potholes, vibration or brake bumps. When set properly, the high-speed compression circuit allows the wheel to effectively absorb all impacts without bottoming out or using too much travel.

Start with the adjustment in the fully open position (completely turned counterclockwise) and take a test ride. If you tend to bottom out often or use too much travel upon impacts or repetitive bumps, add more resistance by turning the adjuster one click at a time until you bottom out only once in a while upon major impacts.



INCREASING THE HIGH-SPEED COMPRESSION (MORE RESISTANCE BEFORE BLOWING OFF)

To **increase the high-speed compression threshold**, thus increasing the level of force required to activate the blow-off valve, **turn the black high-speed compression adjuster knob clockwise (screw in)**. There is about 22 clicks of high-speed compression adjustment. When the high-speed setting gets too hard, the shock absorber will not be able to effectively absorb impacts, thus making the ride harsh.



REDUCING THE HIGH-SPEED COMPRESSION (LESS RESISTANCE BEFORE BLOWING OFF)

To **reduce the high-speed compression threshold**, thus decreasing the level of force required to activate the blow-off valve, **turn the black high-speed compression adjuster knob counterclockwise (unscrew)**. When the high-speed setting gets too soft, the suspension will use more travel upon impacts and become more prone to bottoming out.



The goal is to run as little high-speed compression as possible to have a plush and comfortable ride without bottoming out.

Adjustment Procedures

- 1) MEASURE YOUR SAG and use the preload adjustment to achieve the desired sag.

APPLICATION	RECOMMENDED SAG
Downhill	30%
Extreme Freeride	27%
All-Mountain Riding	25%
- 2) ADJUST THE REBOUND so that when you push down on the seat then quickly pull it up, the rear wheel stays on the ground without pushing back too fast.
- 3) ADJUST THE LOW-SPEED COMPRESSION to achieve the desired level of plushness or firmness. Remember you can run a stiff setting without affecting bump compliance.
- 4) ADJUST THE HIGH-SPEED COMPRESSION to its softest setting (fully turned counter-clockwise).
- 5) Take a test ride to assess the settings, then fine-tune the adjustments using the Troubleshooting Guide

IMPORTANT NOTE:

When turning the HIGH-SPEED compression adjustment knob, the LOW-SPEED compression adjustment knob will follow along without affecting its setting.

ADDITIONAL INFORMATION ABOUT SPEED-SENSITIVE COMPRESSION

To achieve optimal settings, it's important to understand the difference between high-speed and low-speed compression so you can use the appropriate adjustment to adapt the suspension to your needs.

LOW-SPEED movement is when the suspended mass (your body's weight and center of gravity) is moving relatively to the ground surface. For example:

- When pedaling or preloading the suspension intentionally (bunnyhop)
- When cornering (berms and flat turns) or riding over smooth undulation and long g-outs
- When landing jumps or drops on a smooth downward slope (transition landing)

HIGH-SPEED movement is when the unsuspended mass (the wheels) is moving relatively to the suspended mass faster than the suspended mass is moving relatively to the ground. For example:

- When hitting square-edged obstacles such as rocks, big roots, branches or potholes
- Vibration caused by braking bumps, loose gravel and small roots
- Upon harsh landing of jumps and drops
- Small bumps hit at high riding speed

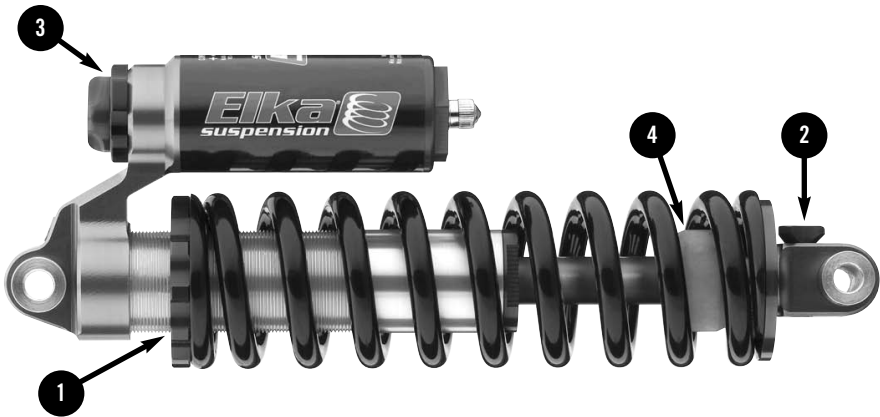
Cleaning Procedures

A well-maintained shock absorber will last longer and perform better. For cleaning, use a gentle detergent and pay particular attention to areas where debris can become lodged. Do not use any abrasive cleaning products.

Elka Suspension recommends sending your shock absorber exclusively to an Authorized Elka Suspension Service Center for all your maintenance, repairs or oil changes requirements. Servicing done by any other unauthorized service center will automatically void your warranty.

CLEANING PROCEDURES

1. Clean the threads under the preload ring using a soft brush.
2. Clean around the rebound adjustment knob so that no foreign particles damage the adjustment mechanism.
3. Clean around the compression adjustment knobs delicately, be careful not to force water within the mechanism.
4. Use compressed air to clean beneath the bottom out bumper.



IMPORTANT NOTE:

Do not use compressed air when cleaning the seal head as this could possibly damage the seals.

Maintenance Schedule

Maintenance frequency may vary depending on the number of hours the shock is ridden and the conditions under which it is ridden. Heat, violent impacts, dust, mud and adjustment settings are all factors that need to be taken into consideration in determining the frequency of basic maintenance and oil changes.

RECOMMENDED MAINTENANCE SCHEDULE

	AFTER EACH USE	END OF EACH SEASON	ANNUALLY
Clean under the bottom-out bumper	Yes	Yes	Yes
Clean shock absorber exterior	Yes	Yes	Yes
Check shaft for damage or rust	Inspect	Inspect	Inspect
Check seal head for leaks or loosening	Inspect	Inspect/Replace	Replace
Check nuts for loosening	Inspect	Inspect	Inspect
Check DU bushings	Inspect	Inspect	Inspect
Check spring	Inspect	Inspect	Inspect
Change oil, piston and wearband, clean interior parts, check nitrogen pressure		Recommended	

MAINTENANCE LOG

MAINTENANCE OPERATION	DATE	NEXT DUE

Troubleshooting

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Shock is bottoming out upon harsh impacts	Not enough high-speed damping	Increase high-speed compression
Bike wallows under pedaling, overall ride is too soft and shock is over-active and uses too much travel upon impacts	Not enough low-speed damping Spring rate is too soft	Increase low-speed compression Change for a higher spring rate
Overall ride is harsh and stiff, shock is not using enough travel upon impacts	Too much low-speed damping Spring rate is too stiff	Reduce low-speed compression Change for a lower spring rate
Rear wheel doesn't provide enough traction when cornering and breaks loose	Too much rebound damping Too much high-speed damping	Reduce rebound damping (faster return) Reduce high-speed compression
Shock is harsh over chatter bumps and brake bumps, a lot of vibration gets through the handlebar	Too much high-speed damping Too much low-speed damping	Reduce high-speed compression Reduce low-speed compression
Overall feeling is good but shock bottoms-out when landing drops and jumps	Not enough damping in the transition from high to low-speed	Slightly increase low-speed AND high-speed compression, one click at-a-time for each until resolved
Rear wheel pushes at corner exit, rear end is bucking upon impacts, bike is severely nose-diving when jumping	Not enough rebound damping	Increase rebound damping (slower return)
Rebound is overly slow, shock won't return to its extended state even with the spring removed	Reservoir has lost pressure	Temporarily use a shock pump to refill reservoir at 150 psi, then have it refilled with nitrogen as soon as possible

IMPORTANT NOTE:

If you notice any oil leaking from the shock or if the shock behaves or sounds unlike usual, stop riding and have the shock inspected by an Elka Authorized Service Center. A defective shock can result in loss of control and possible serious or fatal injuries.



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