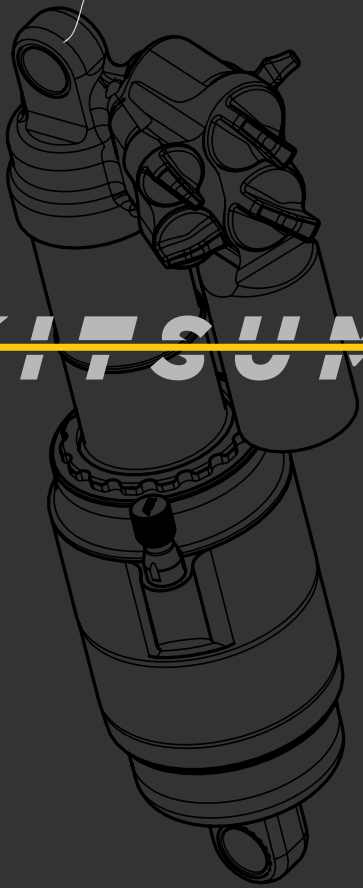
CANE CREEK®



KITSUMA

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Safety and Warnings

Installation and service of Cane Creek products requires specific bicycle tools, supplies, and knowledge. All Cane Creek products should be installed and serviced by a qualified bicycle service technician, in accordance with Cane Creek specifications. Improperly installed, serviced, and maintained products can fail, resulting in **SERIOUS INJURY OR DEATH.**

Setup and configurations vary greatly between bicycle manufacturers, carefully read this manual and your bicycle's owner's manual. Failure to follow items outlined in these manuals, including but not limited to installation procedures, warnings, Nm torque specifications, maintenance requirements, service intervals, and/or modifications could lead damage causing loss of control of the bicycle and result in **SERIOUS INJURY OR DEATH.**

DO NOT attempt to force parts to fit. Confirm compatibility before installation and use. **DO NOT** disassemble, modify, or use aftermarket parts with or to repair Cane Creek components. Doing so many cause damage to the component or bicycle which could lead to loss of control of the bicycle and result in **SERIOUS INJURY OR DEATH.**

Each time, before you ride, be sure all components are installed correctly, tightened to specification and you are familiar with how your bicycle and Cane Creek components operate. Components that are out of adjustment, improperly installed, or are not used properly, can cause loss of control of the bicycle and result in **SERIOUS INJURY OR DEATH.**

Safety and Warnings

All components on a bicycle, including Cane Creek components, should be inspected, and adjusted at periodic intervals and after a crash or fall. Inspect the exterior for wear or damage, inspect for correct torque settings and listen for unfamiliar noise. If any damage is noticed, stop use and contact your local dealer or Cane Creek directly.

A broken or malfunctioning shock may cause loss of vehicle control and result in **SERIOUS INJURY OR DEATH**. If the shock ever loses oil, air or makes unusual noises, stop riding and have the shock inspected by a Cane Creek Authorized Suspension Service Center or call the Cane Creek Customer Service Team.

Follow service maintenance recommendations. Shock service should be performed by Cane Creek Cycling Components or a Cane Creek Authorized Suspension Service Center. Visit **www.CaneCreek.com** or contact us at **828-641-9560** to locate a Cane Creek Authorized Suspension Service Center or for the most up to date revisions.

Cane Creek rear shocks contain a nitrogen charge in the reservoir. Opening a nitrogen pressurized shock is dangerous and can result in **SERIOUS INJURY OR DEATH**. The shock should only be opened by a Cane Creek Authorized Suspension Service Center.

Any improper servicing procedure with a Cane Creek shock with "stuck down" condition can lead to **SERIOUS INJURY OR DEATH**. Contact Cane Creek or an Authorized Suspension Service Center for repair.

KITSUMA

Congratulations on the purchase of your Cane Creek Kitsuma rear shock.

Cane Creek has been supplying revolutionary suspension technology to the bicycle market since 2005. Based on a foundation of precision quality and cutting-edge innovation, our rear shocks represent the pinnacle of high-performance bicycle suspension systems. Cane Creek technology offers the broadest adjustment range available giving you the control to tune your shock, your way, for your bike. This owner's manual is your reference guide to understanding and tuning your rear shock. It also provides important information about proper installation, set-up and maintenance of your shock.

For product registration or questions, visit **www.CaneCreek.com** or contact us. 828-641-9560.

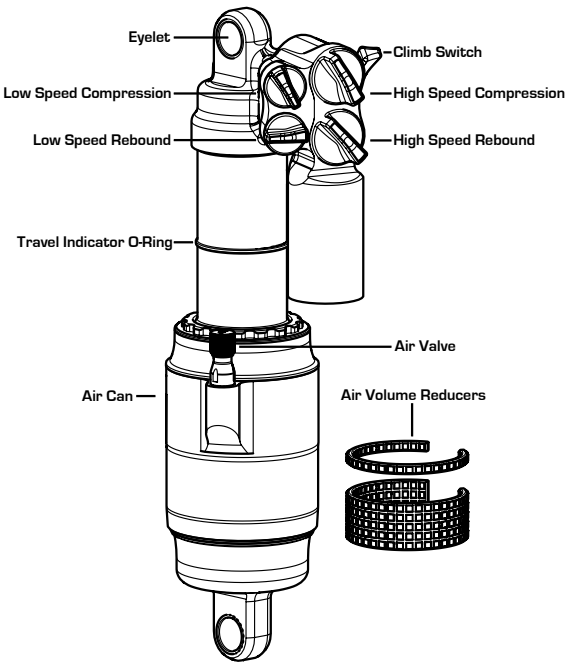
Features Overview

END EYE	Open ID	ID w/Bushing	Trunnion
Air & Coil	15.02	12.7mm	54mm Width / M10 Threads
Damper Adjustments	Adjuster	Abbreviation	Positions
Air & Coil	Low Speed Compression	LSC	11
	Low Speed Rebound	LSR	11
	High Speed Compression	HSC	11
	High Speed Rebound	HSR	11
	Climb Switch	CS	3
Spring Rates	Minimum	Maximum	Sag
Air Pressure	50psi	300psi	Recommended 25% - 35%
Coil Preload	1 turn	6 turns	

Count of adjuster positions may vary slightly with some shock builds. The range of adjustment will remain the same.

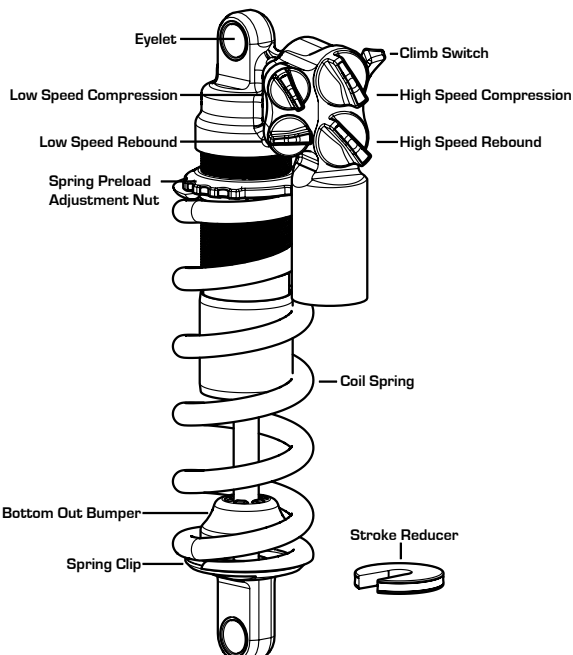
Product Anatomy

AIR



Product Anatomy

COIL



Adjuster Basics

Kitsuma features tool free adjustments with all adjusters clearly labeled on the shock. Turning an adjuster counter clockwise will open the circuit which allows more oil flow. (open compression = soft compression / open rebound = fast return speed) Turning an adjuster clockwise will close the circuit and restrict oil flow. (closed compression = firm compression / closed rebound = slow return speed).

Compression and Rebound are settings used to control the speed at which the shock is compressed and uncompressed during suspension events.
A Cane Creek shock has the following settings.

Low Speed Compression (LSC) - Shaft compression during most compression events. (i.e. Most bumps in a trail or pedal "bob")

High Speed Compression (HSC) - Shaft compression during quick and large compression events. (i.e. Hard landing or deep compression)

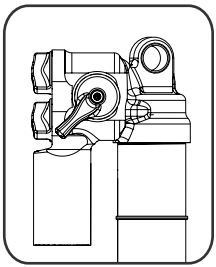
Low Speed Rebound (LSR) - Shaft rebound speed during most rebound events (i.e. Recovering from compression cycles caused by pedaling or bumps.

High Speed Rebound (HSR) - Shaft rebound speed during quick and large rebound events, typically deep in the shock's travel. (i.e. Recovering from a hard landing or taking off from a jump lip)

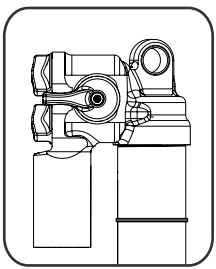
For more detailed instruction on how and when to use Kitsuma's four damper adjusters, visit:
canecreek.com/rear-shock-tuning/

CS Mode - Climb Switch

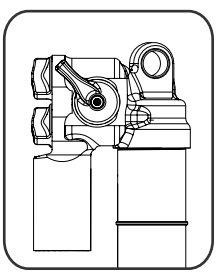
Climb Switch-



1 - **"Open"** setting.
The lever does not add any additional damping to the shock - only the adjusters on the front face of the shock are influencing the shock's movement in this setting.



2 - **"Climb"** setting
The lever closes the Low Speed circuit of the shock in this setting, creating a firmer feel and stops the shock from bobbing in pedaling scenarios. This setting is designed for on-trail climbing support where the shock is still active during fast impacts (i.e.. fallen log, roots, rocks) but removes the rider influenced soft bump absorption.



3 - **"Firm"** setting
The lever closes both Low Speed and High Speed circuits of the shock in this setting, effectively stopping the flow of oil through the shock. This setting is designed for long pavement or gravel climbs where the uphill lasts hours and you don't want the shock taking away pedaling efficiencies.

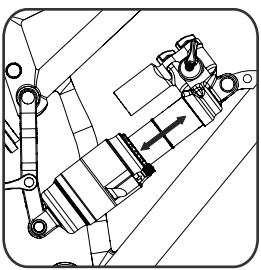
Frame Clearance

It is critical to check for clearance between your frame and shock at all points of travel during installation of the shock. The eye to eye and stroke measurements of the shock must match what is specified and approved by the frame manufacturer.

Follow the steps below carefully to ensure proper clearances and avoid damage.

AIR - These steps must be followed when installing a new shock to ensure proper clearance between your frame and the shock at all points of travel.

1. Install the shock to your frame using the appropriate hardware as specified by your frame manufacturer. Refer to installation section (pg.13).
2. With a shock pump attached to the air valve, slowly release the air pressure in the shock. Up to 50psi may be left in the shock if desired. Ensure that the Climb Switch is in the off position.
3. Slowly compress the suspension fully through its travel while ensuring there is no interference between the shock and the frame. If needed, the air can is rotatable by hand for best alignment of the air valve.

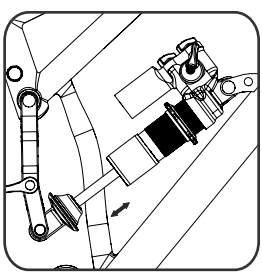


Frame Clearance

4. If there is sufficient clearance, add air pressure back to the shock. A suggested starting point for PSI is 75% - 100% of rider's weight (lbs) in psi. Cycle the shock 10-20 times through at least 30% of its travel to equalize the positive and negative pressure. Check and adjust the air pressure again after equalizing as some pressure will have transferred to the negative chamber.

COIL - These steps must be followed when installing a new shock to your frame to ensure proper clearance between your frame and the shock at all points of travel.

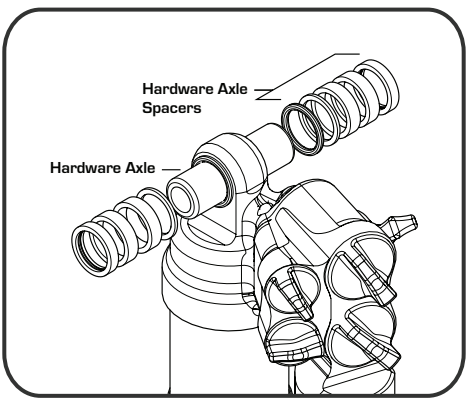
1. Remove the spring from the shock and install only the spring clip. Refer to coil installation section (pg.21).
2. Install the shock to your frame using the appropriate hardware as specified by your frame manufacturer. Ensure that the Climb Switch is in the off position.
3. Slowly compress the suspension fully through its travel while ensuring there is no interference between the shock and the frame.
4. If there is sufficient clearance, remove the shock to install the coil.
5. Reinstall the complete shock to the frame to set sag.



Installation

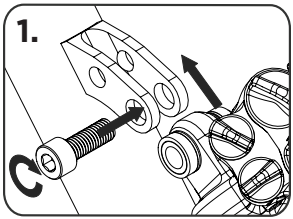
Installation of the shock requires the use of the appropriate hardware for your specific frame. The mounting points of the shock are a standardized size and additional hardware is typically needed to fit the shock to each frame. Shock hardware may be needed to properly take up the width and thickness of the frame's mounting points and bolts. The size and type of shock hardware required should be listed by the manufacturer or can be determined by measuring the existing hardware used in the frame.

For eyelet bushing and hardware installation information, please visit **www.CaneCreek.com.**



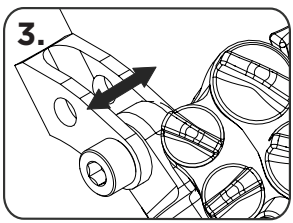
Installation

1. With the appropriate hardware installed to the shock eyelets, mount the shock to the frame by first inserting the mounting bolts. Do not force the shock in place if there is any fitment interference with the frame.



2. Torque all mounting bolts to the frame manufacturer's specifications.

3. Ensure all hardware is secure and there is no side to side movement allowed at either mounting point.



Setting Sag

Sag is the point at which your shock is compressed under neutral riding weight. This is the most important setting of your shock and will have the greatest impact on the shock's effectiveness. Typical recommended sag for shocks is between 25% and 35% of the shock's stroke. The best setting for you will be determined by your specific ride feel and suspension kinematics. We recommend a starting point of 30% of shock stroke but this may need to be adjusted to your needs.

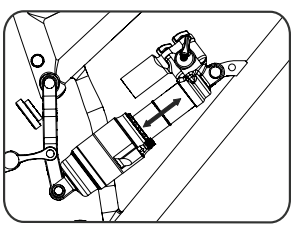
For updated tutorials and suggestions, visit
www.CaneCreek.com.

Air

Starting point of air pressure - recommended starting point is 75% - 100% of rider's weight (lbs) in psi.

Example = 180lbs rider = 135psi. - 180psi

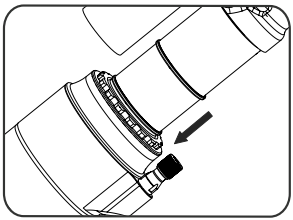
*This will vary between shock sizes and suspension kinematics.

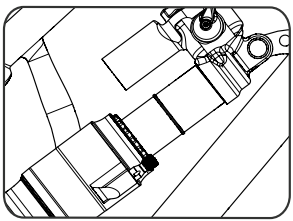


1. With starting air pressure in the shock and the Climb Switch in the Open position, ensure the positive and negative air chambers are equalized by cycling the shock 10-20 times through at least 30% of its stroke.

Setting Sag

2. Mount the bike in your normal riding gear. Ensure the bike is on a level surface and your weight is centered over the bottom bracket as it would be during normal riding. Cycle the suspension several times (bounce) to ensure to shock is moving freely. Come to a resting position and have a partner slide the travel indicator o-ring firmly against the air can wiper seal.Carefully dismount the bike without further compressing the suspension and measure the distance the O-ring has moved.





3. This distance is your sag amount and can be converted to a percentage with the following formula. (Sag / Shock Stroke) X 100 = Sag Percentage (E.g. (16.5mm / 55mm stroke) X 100 = 30%)

4. Add or remove air pressure as needed and repeat the process until desired sag amount is achieved.

Setting Sag

Coil

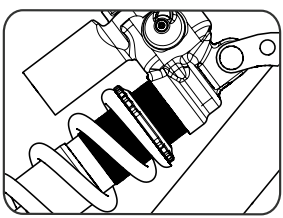
For a recommended starting coil spring rate, visit **www.CaneCreek.com** or contact the Cane Creek Customer Service Team ready to help you at 828-641-9560.

IMPORTANT

If using less than 1 full, 360* turn of preload engagement past the point where the spring is secure on the damper (no play), you may want to change to a lower spring rate. If more than 3 full, 360* turns of preload are needed to achieve proper sag, we suggest changing to a higher spring rate (stiffer spring).

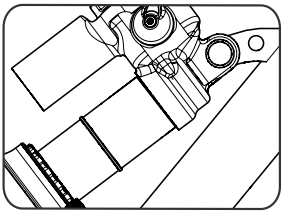
Increasing Spring Preload

Increasing the preload will increase the ride height and reduce sag. To increase the preload on your spring, turn the Spring Adjustment Nut clockwise (no more than six turns MAX!).

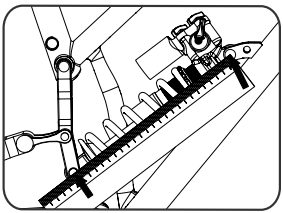


Setting Sag

Reducing Spring Preload



Reducing the preload will decrease the ride height and increase sag. To reduce the preload on your spring, turn the Spring Adjustment Nut counter-clockwise (Make sure the spring still has 1 full turn of preload engagement when reducing preload).



1. With the shock uncompressed, measure the length of your shock from eye to eye.
2. Mount the bike in your normal riding gear. Ensure the Climb Switch is in the Open position, the bike is on a level surface, and your weight is centered over the bottom bracket as you are in a normal riding position.
3. Measure the shock from eye to eye in this position. The difference between the two measurements is your sag amount (uncompressed length - compressed length = sag) and can be converted to a percentage with the following formula. (Sag / Shock Stroke) X 100 = Sag Percentage (E.g. (16.5mm / 55mm stroke) X 100 = 30%)
4. Add or remove spring pre-load as needed and repeat the process until desired sag amount is achieved.

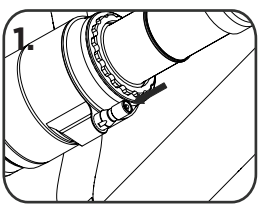
Air Volume Adjustment

Air volume can be adjusted by adding volume reducing spacers inside of the air can. This adjustment causes the air spring to ramp up at the end of the shock's stroke which will further increase the resistance to bottom out.

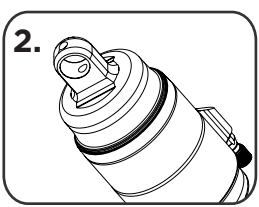
Air pressure should be only used to achieve the correct sag value. If the sag measurement of your air shock is correct (between 25-35% of the shock's stroke is compressed with the rider weight positioned properly on the bike) but the bike uses all of the shock's travel too easily or too frequently, consider adding a volume reduction spacer to the shock.

To install volume reduction spacers:

1. Slowly release air from the shock. **WARNING** Failure to remove air pressure before opening the shock body can result in serious injury.

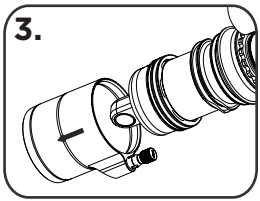


2. Remove the retaining O-ring from the outer air canister

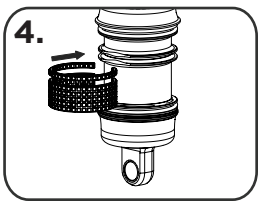


Air Volume Adjustment

3. Pull the outer air canister down until it separates from the shock

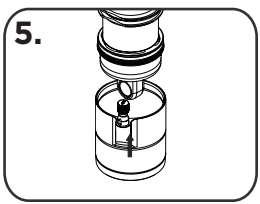


4. Install the desired amount of volume reduction spacers
   * Large volume reducer bands can be cut to smaller sections if needed.



5. Reinstall the outer air can

6. Reinstall the retaining O-ring ensuring that it is fully seated in the grove



7. Using a shock pump, inflate the shock and set sag

Max volume reducer amounts for 185, 210, 205, 230 shocks : 9 single-width strips

Max volume reducer amount for 225, 250 shocks: 11 single-width strips

**Volume reducer band included with shock = 5 single-width strip

Coil Installation

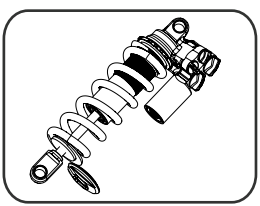
Selecting the appropriate spring rate is an important variable in achieving optimal set-up of a coil shock. Your ideal spring rate will be based on rider weight, frame design, and riding style. (For spring rate calculation help, visit www.CaneCreek.com or call the Cane Creek Service Team).

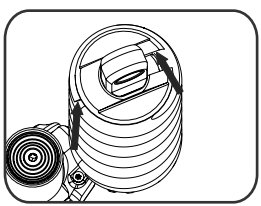
⚠ Warning

Riding on a spring that is not appropriate for your body weight can cause **SERIOUS INJURY OR DEATH** and damage to the bike and shock.

Spring Removal and Installation

To remove the spring, turn the spring adjustment nut until it touches the cylinder head. Remove spring clip from shock. Once the clip is removed, slide the spring off the shock. On frames with long axles, it may be necessary to remove the hardware axle before the spring can be removed.





⚠ Warning

Always make sure the end of the spring's coil is aligned on the opposite side of the slot in the spring clip.

Service and Maintenance

Extreme usage like downhill racing or ebikes may shorten service intervals.

Service and Maintenance	Every Ride	15 Hours	100 Hours or annually
Check sag - Reset if necessary	**X**		
Clean and inspect shock exterior	**X**		
Clean with mild soap and water		**X**	
(AIR) Inspect external air sealing surfaces for scratches or damage.		**X**	
(AIR) Inspect and clean air valve threads to prevent dirt from entering air spring during inflation.		**X**	
(COIL) Clean around spring adjustment nut to prevent damage to the threads on shock body.		**X**	
Inspect mounting hardware and bushings.		**X**	
Service damper and air spring performed by a Cane Creek Authorized Service Center.			**X**

Warranty Information

LIMITED ONE (2) YEAR WARRANTY ON SUSPENSION PRODUCTS

Subject to the limitations, terms and conditions here of, Cane Creek warrants, to the original retail owner of each new Cane Creek suspension product, that the Cane Creek suspension product, when new, is free from defects in materials and workmanship. This warranty expires two (2) year from the date of the original Cane Creek suspension product retail purchase from an authorized Cane Creek dealer or from a Cane Creek authorized original equipment manufacturer where Cane Creek suspension is included as original equipment on a purchased bike, unless otherwise dictated by requirement of law.

TERMS OF WARRANTY

This warranty is conditioned on the Cane Creek suspension product being operated under normal conditions and properly maintained as specified by Cane Creek. This warranty is only applicable to Cane Creek suspension purchased new from an authorized Cane Creek source and is made only to the original retail owner of the new Cane Creek suspension product and is not transferable to subsequent owners. This warranty is void if the Cane Creek suspension product is subjected to abuse, neglect, improper or unauthorized repair, improper or unauthorized service or maintenance, alteration, modification, accident or other abnormal, excessive, or improper use. Should it be determined, by Cane Creek in its sole and final discretion, that a Cane Creek suspension product is covered by this warranty, it will be repaired or replaced, by a comparable model, at Cane Creek's sole option, which will be conclusive and binding.

THIS IS THE EXCLUSIVE REMEDY UNDER THIS WARRANTY.

Warranty Information

ANY AND ALL OTHER REMEDIES AND DAMAGES THAT MAY OTHERWISE BE APPLICABLE ARE EXCLUDED, INCLUDING, BUT NOT LIMITED TO, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR PUNITIVE DAMAGES.

This limited warranty does not apply to normal wear and tear, malfunctions or failures that result from abuse, improper assembly, neglect, alteration, improper maintenance, crash, misuse or collision. Subject to the terms and conditions of this warranty, leaking seals will be replaced within 90 days from the original date of purchase. Such replacement notwithstanding, seals are subject to relative movement between parts and are normal wear and-tear items not subject to warranty coverage. This limited warranty gives the consumer specific legal rights. The consumer may also have other legal rights which vary from state to state or country to country. Some states and countries do not allow the exclusion or limitation of incidental or consequential damages or warranties, so the above limitations or exclusions may not apply to you. If it is determined by a court of competent jurisdiction that a certain provision of this limited warranty does not apply, such determination shall not affect any other provision of this limited warranty and all other provisions shall remain in effect.

THIS IS THE ONLY WARRANTY MADE BY CANE CREEK ON ITS SUSPENSION PRODUCTS AND COMPONENTS, AND THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION HEREIN. ANY WARRANTIES THAT MAY OTHERWISE BE IMPLIED BY LAW INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED.



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