



# 2016 LEFTY OLIVER

OWNER'S MANUAL SUPPLEMENT

cannondale

# About This Supplement

Cannondale Owner's Manual Supplements provide important model specific safety, maintenance, and technical information. They are not replacements for your **Cannondale Bicycle Owner's Manual**.

This supplement may be one of several for your bike. Be sure to obtain and read all of them.

If you need a manual or supplement, or have a question about your bike, please contact your Cannondale Dealer immediately, or call us at one of the telephone numbers listed on the back cover of this manual.

You can download Adobe Acrobat PDF versions of any Cannondale Owner's Manuals or Supplements from our website: [www.cannondale.com/manuals](http://www.cannondale.com/manuals).

- This manual is not a comprehensive safety or service manual for your bike.
- This manual does not include assembly instructions for your bike.
- All Cannondale bikes must be completely assembled and inspected for proper operation by a Cannondale Dealer before delivery to the owner.



## WARNING

This supplement may include procedures beyond the scope of general mechanical aptitude.

Special tools, skills, and knowledge may be required. Improper mechanical work increases the risk of an accident. Any bicycle accident has risk of serious injury, paralysis or death. To minimize risk we strongly recommend that owners always have mechanical work done by an authorized Cannondale retailer.


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# SAFETY INFORMATION

LEFTY MODEL	TRAVEL/WHEEL SIZE mm/in	INTENDED USE
OLIVER	30/650B	General Purpose Riding, ASTM CONDITION 2

For use in extreme forms of jumping/riding such as hardcore mountain, Freeriding, Downhill, North Shore, Dirt Jumping, Hucking etc.


 **WARNING**

**UNDERSTAND YOUR LEFTY AND ITS INTENDED USE. USING YOUR LEFTY THE WRONG WAY IS DANGEROUS.**

Industry usage Conditions 1 - 5 are generalized and evolving. Consult your Cannondale Dealer about how you intend to use your bike/fork. Please read your Cannondale Bicycle Owner's Manual for more information about Intended Use and Conditions 1-5.

**YOU CAN BE SEVERELY INJURED, PARALYZED OR KILLED IN AN ACCIDENT IF YOU IGNORE THIS WARNING.**

# Damage / Inspection

 **WARNING**

**RIDING WITH DAMAGE IS DANGEROUS. STOP RIDING IMMEDIATE IF DAMAGE IS PRESENT.**

The following conditions indicate that serious fork damage is present:


- Any unusual “klunking” or knocking noises.
- Change in travel.
- Changes in normal functions.
- Loss of adjustments features, oil leaks, or air leaks.
- Crash or impact damage (deep scratches, gouges, dents, or bending)
- Any small cracks under the bolt head of upper and lower clamp bolts. This inspection requires the removal of the bolts.
- Horizontal cracks above and below the intersection of the upper and lower clamps with the outer tube portion of the Lefty structure.
- Vertical cracks in the outer tube (where the races and needle bearings run). These may show as long, straight lines perhaps several lines parallel to each other.

Please read Inspect For Safety in PART II, Section D. of your Cannondale Bicycle Owner's Manual.

If your LEFTY is damaged, do not ride it. Contact your Cannondale Dealer to arrange service through an authorized service center.

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# Making Adjustment

 **WARNING**

Make any external adjustments only when stopped. Attempting to adjust while riding can result in a loss of control.

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## Disassembly or Modification

### **WARNING**

#### **DO NOT DISASSEMBLE OR MODIFY YOUR LEFTY IN ANY WAY.**

Improper service or modification can lead to serious fork damage or serious personal injury.

- Do not disassemble the fork.
- Do not attempt modification in any way.
- Do not drill, file, cut or remove material from any part.
- Do not attempt to repair damage.
- Do not weld, clamp, or bond anything to the fork.
- Do not attempt to remove the damping cartridge or other internal fork parts.

The **MAINTENANCE** section of this supplement includes information about regular owner maintenance practices that can keep your fork in good operating condition.

All other service and maintenance procedures must be completed through an Authorized Headshok Service Center. Contact your Authorized Cannondale Dealer for more information.

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## Brakes

### **WARNING**

#### **DO NOT RIDE WITHOUT A PROPERLY MOUNTED, ADJUSTED, AND FUNCTIONING FRONT BRAKE SYSTEM.**

The (disc/caliper) acts as an integral secondary wheel retention system. If the system is missing or improperly installed, or if the wheel hub axle bolt should loosen, the front wheel could slide off the spindle end.

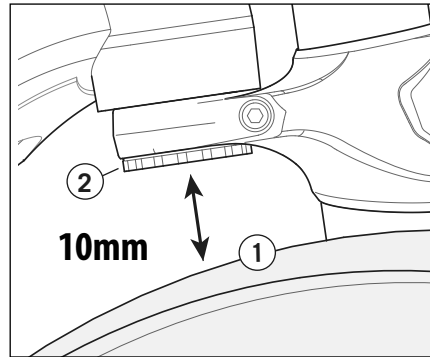
Follow brake manufacturer's instructions when mounting the brake caliper to the spindle brake bosses. Do not modify the fork in any way.

**PLEASE ASK YOUR CANNONDALE DEALER FOR HELP WHEN INSTALLING COMPATIBLE FRONT BRAKE SYSTEMS.**

## Tire-to-Crown Clearance

### **WARNING**

Modification or installation of damping cartridge/spacers other than specified; or installing over-sized tires can result in incorrect tire-to-crown clearance



If tire clearance is less than minimum specified, the rotating tire could come into contact with the frame causing the wheel to stop suddenly. This can throw a rider off the bicycle or result in a loss of control and crash.

**CHECK FOR MINIMUM TIRE FORK / FRAME CLEARANCE (10 mm) WITH ALL AIR RELEASED FROM LEFTY AND FULLY COMPRESSED.**

Measure between the top of the properly inflated tire (1) and the bottom of the fork steerer (2).

**YOU CAN BE SEVERELY INJURED, PARALYZED OR KILLED IN AN ACCIDENT IF YOU IGNORE THIS WARNING.**

# CANNONDALE LIMITED WARRANTY

Cannondale (HEADSHOK, LEFTY, FATTY, SOLO) suspension products are covered under the terms and conditions of the Cannondale Limited Warranty. It is available on the Policies page of our website at: [www.cannondale.com](http://www.cannondale.com) Be sure to read the exclusions listed in the limited warranty. For example, damage from accidents and improper maintenance are not covered.

## Definitions related to forks:

The fork structure is covered in the FRAMES section of the Cannondale Limited Warranty.

"Fork structure" means certain structural parts of the fork, specifically the fork legs, outer tube, the steerer tube, steerer tube clamps and the inner tubes with attached dropouts or spindle. Cable clamps, needle bearings, races, and bushings which are part of the telescopic assembly are normal wear and tear items and ARE NOT covered by the limited lifetime warranty.

The internal fork internal parts are covered by the 1 year (2 years in EU countries) warranty against defects in materials or workmanship described in the COMPONENTS section of the Cannondale Limited Warranty. "Internal fork parts" are defined as items such as damping cartridges and their internal parts, seals, o-rings, air cylinders, air pistons, springs, elastomers, bumpers, bushings, needle bearings, races, and oil. Normal wear and tear on these items is NOT covered by this 1 year (2 in EU) warranty. Like brake pads on a car, you should expect to have these items professionally replaced or renewed as you use the fork and they wear.

## Fork Warranty Claims

For any warranty claim to be considered, the bicycle/fork must be brought into an Authorized Cannondale Retailer on the continent on which the bicycle/fork was purchased. The bicycle/fork must be in assembled condition and accompanied by the original, dated sales receipt for the bicycle/fork. Dealer Locator at: [www.cannondale.com/Dealerlocator](http://www.cannondale.com/Dealerlocator)

# MAINTENANCE

## Cleaning

Clean using only a mild soap and water solution. Clean water and common liquid dish washing soap will work best. Be sure to cover the adjusters with a clean plastic bag secured with a rubber band or masking tape. Spray off heavy dirt before wiping. Spray indirectly.

### NOTICE

- DO NOT USE A PRESSURE WASHER. Use a low pressure garden hose. Power washing will force contaminants into the fork promoting corrosion, immediately damaging, or result in accelerated wear.
- DON'T DRY WITH COMPRESSED AIR FOR THE SAME REASON.

## Tightening Torques

Correct tightening torque for the fasteners (bolts, screws, nuts) on your bicycle is very important to your safety, the durability and performance of your bicycle. We urge you to have your Dealer correctly torque all fasteners using a torque wrench. If you decide to tighten fasteners yourself always use a good torque wrench!

Description	Nm	In Lbs	Loctite™
Upper/Lower Clamp Bolts	9	62-80	242 (blue)
Guard Screws	1.0	9	242 (blue)
Wheel Axle Bolt	15	133	NLGI-2 grease
Brake Adapter Mounting Bolts	9	80	242 (blue)

## Schedule

This schedule is intended as a guide only. You must establish a schedule appropriate to your riding style and conditions.

SERVICE ITEM	USE		WHO?
	NORMAL	RACING	
Check for damage	Pre/Post ride	Before every ride	Bike owner
Please wipe excess lubrication from lower leg/slider to avoid brake contamination	Pre/Post ride		Bike owner
Check for Tightening Torques	First Ride / Every 4-5 rides	Before every ride	Bike owner
Replace Frame Bumper, Guard	As Needed		Bike owner
Manual Reset	50 hours	25 Hours	Bike owner
Telescope Lubrication	100 hours	50 Hours	Authorized Dealer
Damper Service: Air spring/Damping Cartridge Inspection	100 hour or every year	100 Hours	Authorized Dealer
Full Service (Telescope Rebuild + Damper service)	200 hours	100 Hours	Headshok Service Center

### SCHEDULE PROFESSIONAL FORK SERVICE ANNUALLY (Minimum)

Annually, or when problems are indicated you must have your LEFTY serviced through a Cannondale Dealer or an Authorized Headshok Service Center. Disassembly and inspection by a suspension professional is required to evaluate the internal and external parts, identify wear or damage. Damaged parts must be replaced with new ones and the work must also include any work described in any technical bulletins or product recalls.

### WARNING

**FREQUENT MAINTENANCE AND INSPECTION IS IMPORTANT TO YOUR SAFETY. YOU CAN BE SEVERELY INJURED, PARALYZED OR KILLED RIDING ON A BROKEN OR POORLY MAINTAINED FORK.** Ask your Cannondale Dealer to help you develop a complete maintenance program, one that suits where and how you ride.

## Brake Routing

The front brake control cable is routed down the outer tube to the brake caliper (4) by passing it through the brake line guides (2&3). The guide positions on the outer tube may be shifted up and down and rotated to fit and secure the brake line correctly.

Position the upper (2) and lower (3) brake line guides so that the brake line is free to move with suspension travel.

The position of the guides on the outer tube can be changed by loosening the clamp screw, rotating or moving the guides up and/or down. Ensure smooth cable/housing movement through the guide loop during fork travel.

- The secured brake line must not come into contact with any parts of the front wheel. Stop riding immediately if it does and have the routing corrected before continuing to ride.
- To further protect both the Lefty and bike frame by cable rub, apply abrasion protection KF103/ as needed to areas where control housing (brake, shifters) contact the Lefty or the bike frame (upper/lower clamps, outer tube, bike headtube).

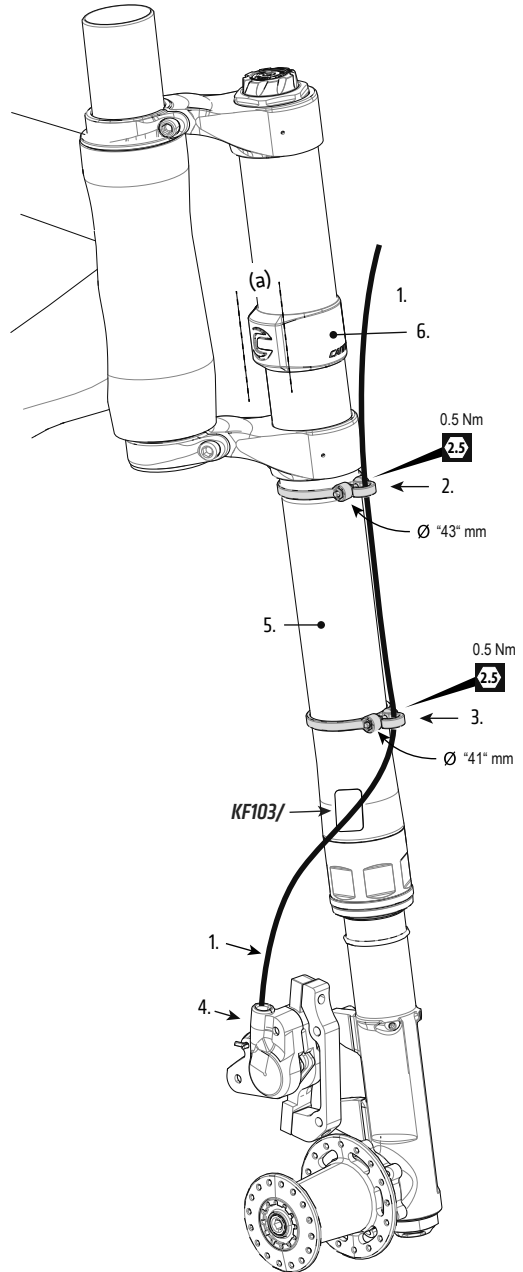
## Frame Bumper

Periodically, check the bumper (6) position on the outer tube (5). The bumper cushions contact with the bike frame. The bumper thickest part (a) must touch the frame first when the handlebars are turned left. Bumper size can vary with a specific bike model. The bumper can be rotated by hand to position it best.

### NOTICE

Frame damage can result from using the wrong bumper or positioning a bumper incorrectly. Ask your Authorized Cannondale Dealer for help.

**REPLACEMENT:** Inspect during the 100 hour service. If cracks are present, have it replaced with a new one.



## Manual Reset

### NOTICE:

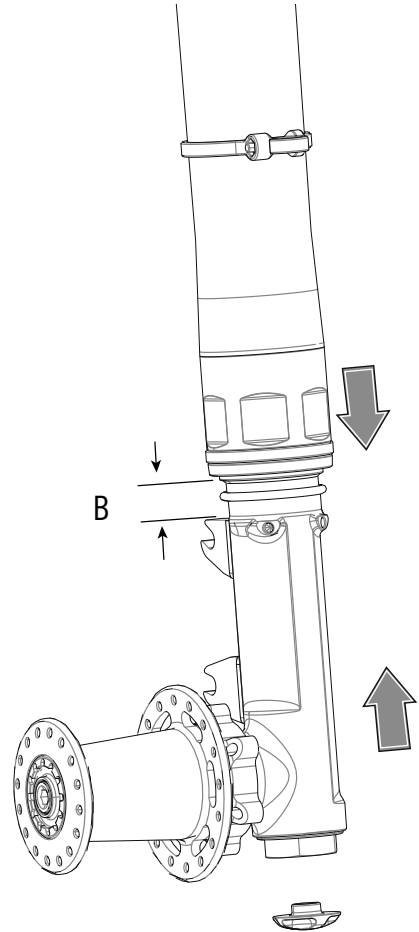
Do not disassemble or open for the following procedure.

1. With your bike on the floor.
2. Cover the brake rotor with a clean shop towel. Remove the Schrader valve cap and hold the valve to release all air pressure. It is normal for a small amount of oil to be expelled with the escaping air.

### WARNING

Contamination can result in reduced or lost braking performance.

3. Hold the valve open while fully compressing the LEFTY with the the handlebar until it bottoms out. With the air out, using moderate force, bottom out the LEFTY firmly several times.
4. Now, measure length of exposed inner tube as shown (B). Repeat step three until the correct measurement for your LEFTY is reached.
5. When you are finished, reset sag.



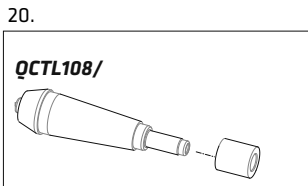
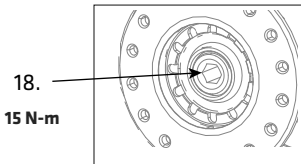
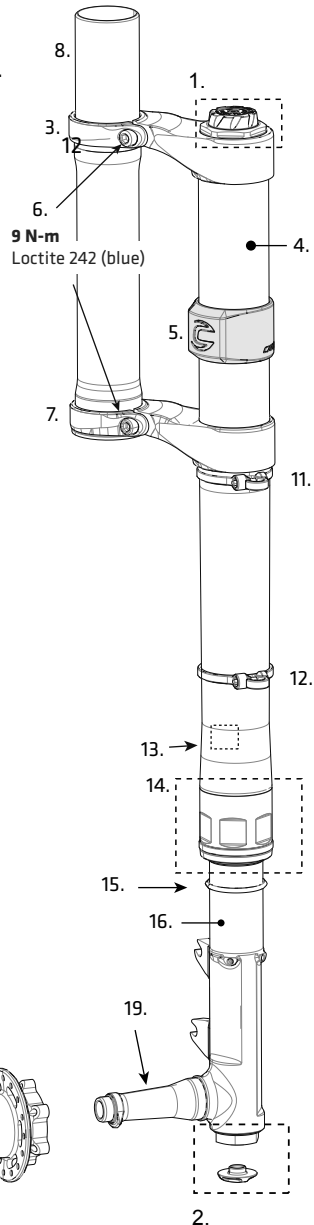
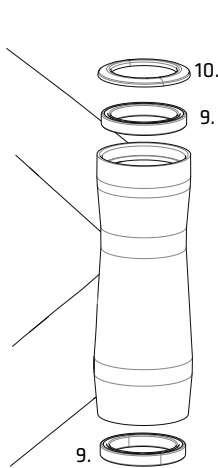
LEFTY	TRAVEL/WHEEL mm/in	(B) MANUAL RESET LENGTH mm +/- 3
OLIVER	30 /650B	3

**Measure Fully Compressed**



# LEFTY IDENTIFICATION

1. Adjustment, Platform/Rebound
2. Adjustment, Air Pressure,
3. Upper Clamp
4. Outer Tube
5. Frame Bumper
6. Clamp Bolt
7. Lower Clamp
8. Steerer
9. Headtube Bearing
10. Headset Bearing Seal
11. Cable Guide, upper
12. Cable Guide, lower
13. Warning Label
14. Lower Collar Assy.
15. Sag O-Ring
16. Inner Tube
17. Wheel Hub Assy.
18. Wheel Axle Bolt
19. Serial Number Location
20. Wheel Truing Tools



# WHEEL/HUB

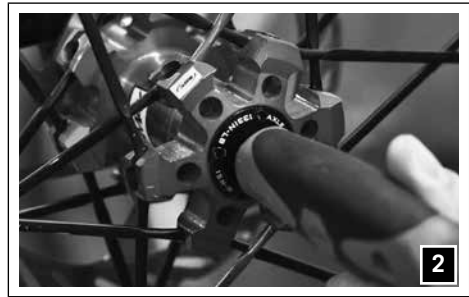
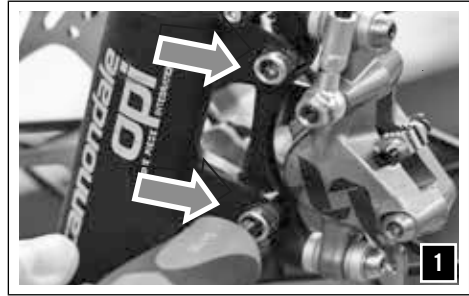
## Wheel Removal

1. **See Figure 1.** Use a 5 mm Allen key to loosen the brake caliper mounting bolts enough to remove the brake caliper from the mounting tabs.

Note brake alignment shims between brake bosses and the caliper. Replace correctly during reinstallation.

2. **See Figure 2.** Insert a 5 mm Allen key into the axle hub bolt and turn the hub extraction bolt counter-clockwise.

Continue turning the extraction bolt until the wheel can be removed easily from the spindle end. **See Figure 3.**



### NOTICE

- Make sure the axle bolt is completely disengaged before attempting to remove the wheel. Never try to pull the wheel off forcefully.
- When the wheel is off, to keep dirt out, cover the hub opening.
- Protect spindle from damage when wheel is removed.

# Wheel Installation

1. Inspect inside the wheel hub (1) for contamination and the condition of the hub seal. Take corrective action if necessary. Wipe the spindle clean with a dry shop towel. Apply a high-quality bike grease to I.D. of the bearings inside the hub.



## WARNING

**DO NOT CONTAMINATE BRAKE CALIPER, PADS, OR ROTOR WITH GREASE.**

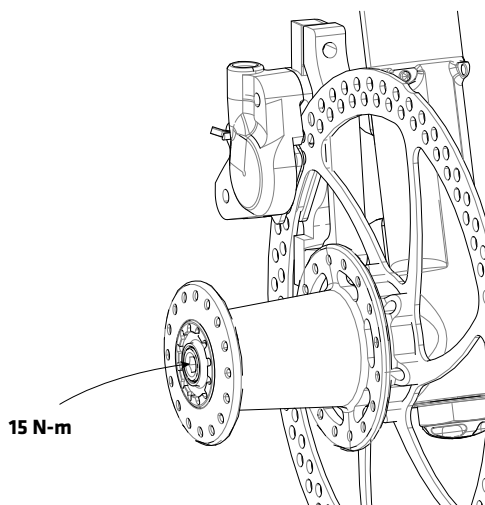
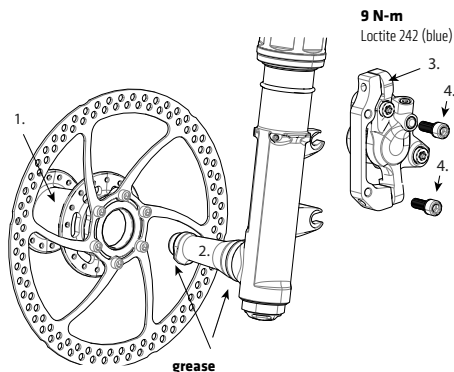
2. Slide the wheel straight onto the spindle. Turn the axle bolt clockwise to engage the spindle threads. Make sure the wheel and spindle are supported while tightening the hub bolt.
3. Once the hub has been drawn onto the hub completely, use torque wrench to tighten to final 15.0 Nm (133.0 InLbs). **See Figure 1.**
4. Reinstall the brake adapter onto the spindle bosses making sure that the brake disc locates properly between the pads.

## NOTICE

- LOCATE BRAKE ROTOR BETWEEN THE PADS.

Apply Loctite 242 (blue) to the threads and tighten the adapter mounting bolts to 9 Nm, (78 IN Lbs). **See Figure 2.**

5. Spin the wheel to make sure it moves freely. Be sure to test the brakes for proper operation before riding.



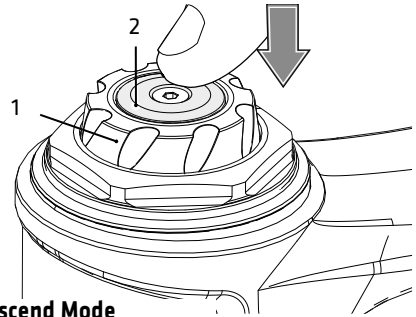
# EXTERNAL ADJUSTMENT

## Push Button Rebound - PBR

The PBR external controls are located at the top of the LEFTY. You can change the function of the LEFTY in the following ways:

### Descend

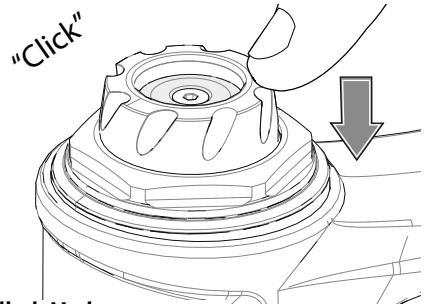
In descend mode, LEFTY travel suspension is active, meaning it absorbs changes in terrain by compressing and extending. In this mode, the rebound dial (1) is down as shown. To change to climb mode, press center button (2) and allow the rebound dial (1) to pop up.



Descend Mode

### Climb

In climb mode, LEFTY travel is restricted; responding only when a large bumps are encountered. This is not a complete "lockout." Climb mode results a firmer more efficient pedaling platform. To change to the descend mode, press rebound dial (1) down until it clicks into place.

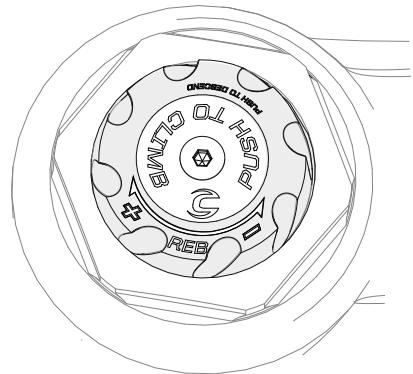


Climb Mode

### Rebound

Rebound speed is how fast the LEFTY extends or "rebounds" following compression. This control permits you to change the speed to meet riding conditions.

Faster	Slower
Rotate rebound adjuster (1) counter-clockwise, towards the "-" direction to decrease the rebound damping and increase the speed at which the fork returns.	Rotate rebound adjuster (1) clockwise, towards the "+" direction to increase the rebound damping and decrease the speed at which the fork returns.

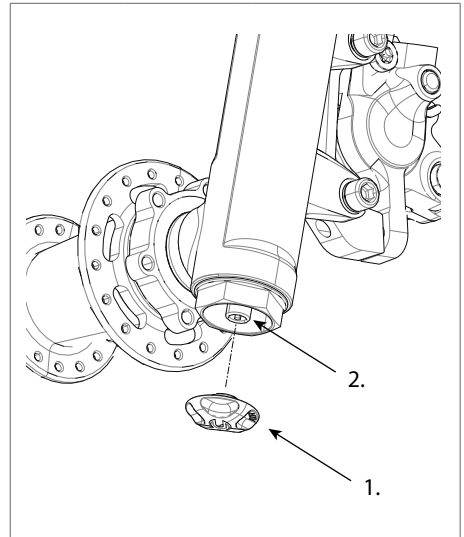


# Recommended Air Pressure

Before riding, pressurize the LEFTY with a bicycle suspension pump. Set the initial air pressure according to your weight (including the weight of riding gear) based upon the following table. Then, adjust air pressure in small amounts to achieve recommended sag. .

Sag is the distance the LEFTY compresses when the bike is statically loaded with your body weight in your riding position. Set it according to the LEFTY travel. Sag is set by changing the air pressure through the Schrader valve at the bottom of the LEFTY.

Be aware that conventional pump gages have variations. Therefore, we recommend you to fine tune your set up with the Recommended Sag.



### To set sag:

1. Remove the Schrader valve cap (1) at the bottom of the Lefty . Attach a bicycle suspension pump to the Schrader valve (2).
2. Set the recommended intial starting air pressure according to your weight.
3. Sit on bike in riding position and dismount.

### Sag Trouble Shooting

Too much sag	add air in small increments
Too little sag	reduce air in small increments
Excessive bottom out	increasing air pressure
harsh ride or limited travel	reduce air pressure

**Note:** Your riding position affects weight distribution and therefore sag. For example, in the "Attack" position the rider's weight is distributed equally front and rear.

RIDER WT.		AIR PRESSURE
LB	KG	
MINIMUM (PSI)		50
<120	<54	< 110
120	54	110
130	59	120
140	64	130
150	68	140
160	73	150
170	77	160
180	82	170
190	86	180
200	91	190
210	95	200
220	100	210
230	104	220
>230	>104	>220
MAXIMUM (PSI)		250

### NOTICE

A dirty pump or valve end can result in contamination, damage, and air loss. Make sure pump and valve are clean before attachment.