

133095



2016 LEFTY

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.

- 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
LEFTY 2.0	100/29	XC - Cross-Country ASTM CONDITION 3
	100/27.5	
	120/27.5	
	130/27.5	AM -All Mountain ASTM CONDITION 4
130/27.5		
140/27.5		
SUPERMAX	160/27.5	
OLAF	100/26	XC - Cross-Country ASTM CONDITION 3

LEFTY 2.0 ARE NOT INTENDED - 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.

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

Making Adjustment

WARNING

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

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

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.

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

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.

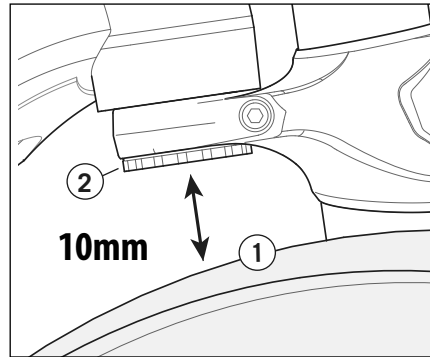
Follow brake manufacturer's instructions when mounting the brake caliper to the spindle brake bosses. Do not modify the fork in any way.

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
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

MAINTENANCE

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	50 hour or every year	50 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.

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)

Brake Adapter Usage

Use the table below to determine the correct LEFTY brake adapter to use with your model. Brake adapter kits (***bold italic***) are available through your Authorized Cannondale Dealer.

MODEL	SPINDLE OFFSET	WHEEL HUB			* MINIMUM BRAKE ROTOR DIA.
		"LEFTY 50" (a.k.a. "LEFTY SL")	"LEFTY 60" (a.k.a. "LEFTY SM")	"LEFTY 73"	
LEFTY 2.0	50 mm	--	<i>KH215/</i>	--	160 mm
	55 mm	<i>KH112/</i>	<i>KH111/</i>	--	
SUPERMAX	50 mm	<i>KH131/</i>	<i>KH130/</i>	--	180 mm
	55 mm	<i>KH112/</i>	<i>KH111/</i>	--	
OLAF	60 mm	--	--	<i>KH112/</i>	

* **Minimum Brake Rotor Diameter** is the smallest size brake rotor that can be used for a given model/wheel hub combination. For example, a LEFTY 2.0 adapter support a minimum 160mm rotor and a 140mm can not be used. A 180mm may be used with a compatible 180mm rotor adapter mounted to the LEFTY adapter.

Frame Bumper

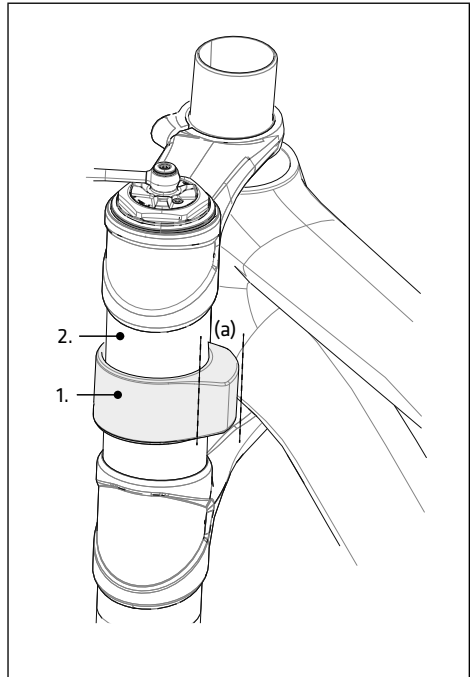
The bumper cushions the frame from contact with the LEFTY. Replace it with a new one if it ever becomes damaged, torn, or missing.

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

Damage to your frame or fork can result from using the wrong bumper or positioning a bumper incorrectly. Ask your Cannondale Dealer for help.

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



Guard

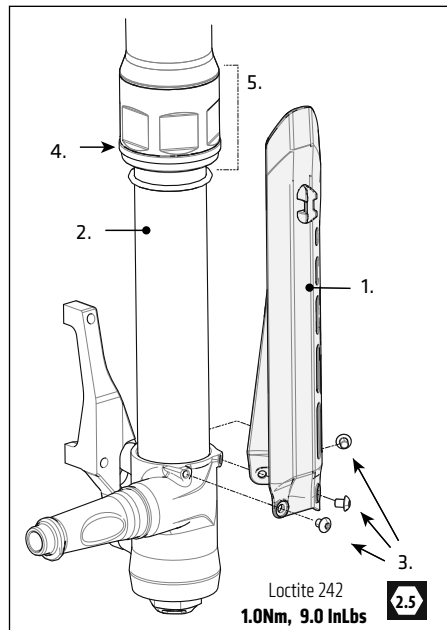
The guard (1) protects the inner tube (2) from damage and supports the brake line. See **Brake Routing**.

Periodically, check the guard to make sure it is in good condition and attached properly with the mounting screws (3).

The wear ring (4) located on the lower collar assembly (5) prevents the guard from rubbing the fork during travel. The wear ring is not removable. However, if it is excessively worn or missing, the lower collar assembly must be replaced by a service center.

NOTICE

Replace the guard with a new one if damaged or missing. Do not ride without the guard in place.



Brake Routing

Observe when routing the brake line:

1. Apply abrasion protection in areas (outer tube, clamps) where routing can contact LEFTY. Persistent contact can result in serious damage .
2. **Route the brake line vertically through the guides as shown.** This is the best way to ensure smooth cable/housing movement during fork travel.

Make sure the brake line is saddled in the guide and is securely fixed with the 3mm zip tie to prevent slippage. Position zip tie head against guide as shown.

NOTICE

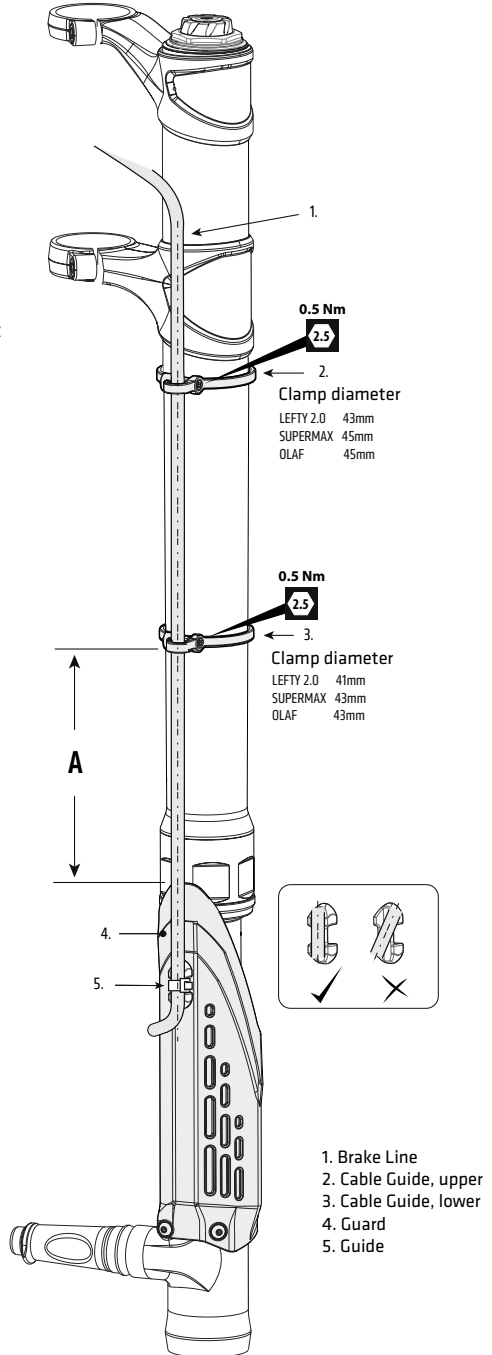
Tighten with a zip tie tool. Insufficient zip tie tension (fingers only) can permit line movement in the guide.

3. Route the brake line to the caliper as shown. Follow the brake manufacturer's instructions when adjusting and re-tightening the brake line to the caliper (banjo bolt).

Lower Cable Guide Height - (A)

To prevent the guard from contact with the brake line clamp during movement, position the lower clamp according to the table below.

LEFTY	TRAVEL/WHEEL mm/in	(A) TRAVEL + 30mm
LEFTY 2.0	100 / 29	130
	100 / 27.5	130
	120 / 27.5	150
SUPERMAX	130 / 27.5	160
	140 / 27.5	170
	160 / 27.5	190
OLAF	100 / 26	130



Manual Reset

NOTICE:

Do not disassemble or open for the following procedure.

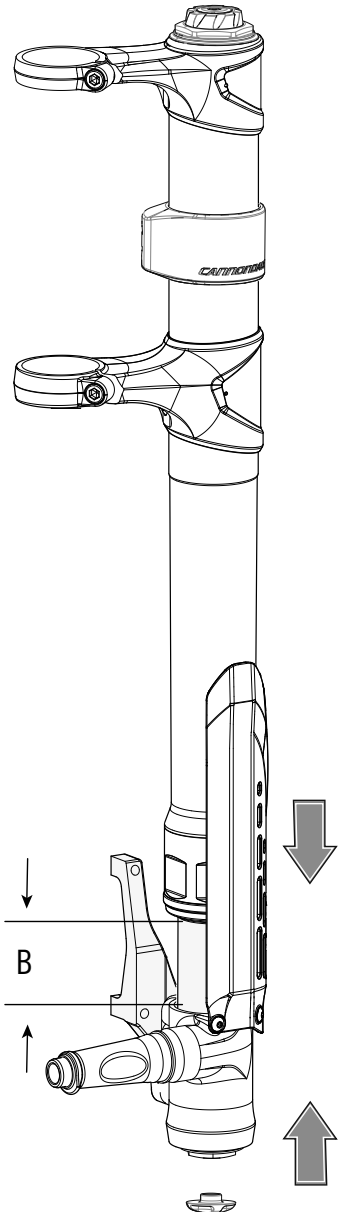
1. With your bike on the floor.
2. Cover the brake rotor with a clean shop towel. Remove the Schrader valve cap and hold the valve to release all air pressure. It is normal for a small amount of oil to be expelled with the escaping air.

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.

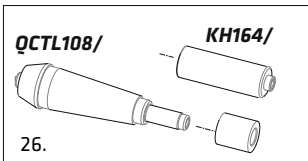
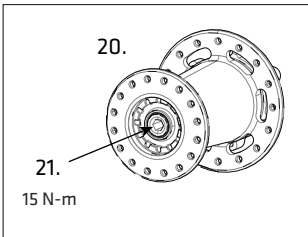
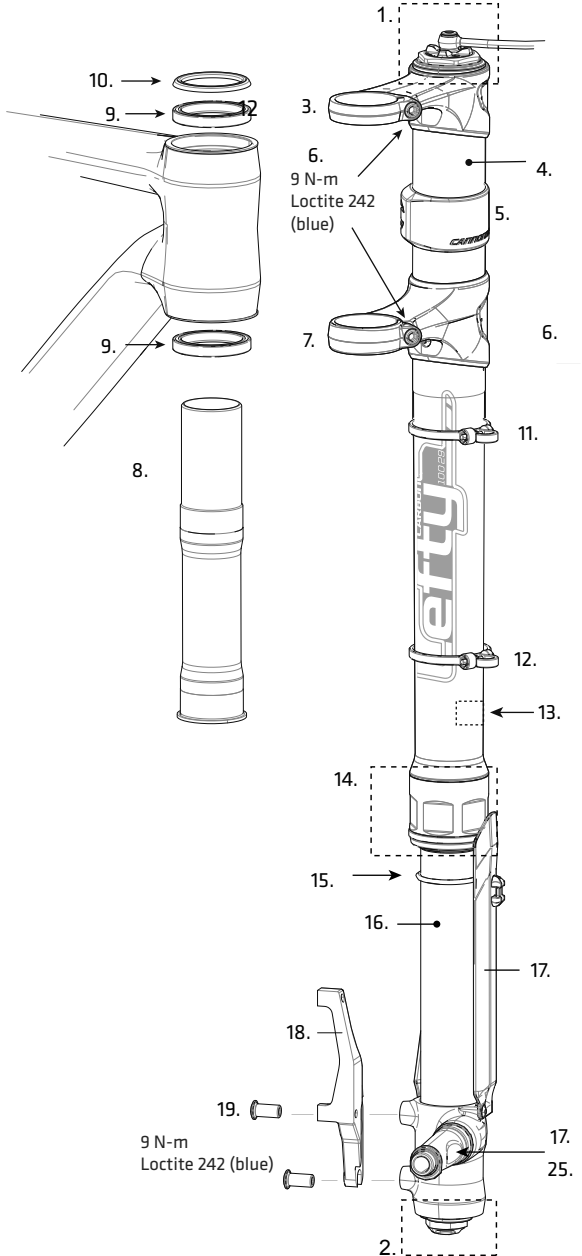
LEFTY	TRAVEL/WHEEL mm/in	(B) MANUAL RESET LENGTH mm +/- 3
LEFTY 2.0	100 / 29	35
	100 / 27.5	
	120 / 27.5	
	130 / 27.5	
SUPERMAX	130 / 27.5	20
	140 / 27.5	
	160 / 27.5	
OLAF	100 / 26	35



Measure Fully Compressed

LEFTY IDENTIFICATION

1. Adjustment, Travel/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. Guard
18. Brake Adapter
19. Brake Adapter Bolts
20. Wheel Hub Assy.
21. Wheel Axle Bolt
22. Serial Number Location
23. Wheel Truing Tools



Wheel Removal

1. If needed, loosen the brake line clamp on the front of the moto guard so the line can move freely. This will make handling the brake caliper and attached adapter easier.
2. **See Figure 1.** Use a 5 mm Allen key to loosen and back out both brake adapter mounting bolts enough so that the adapter and attached caliper can slide up and be removed from the spindle together. It is not necessary to completely remove the adapter bolts.



Carefully move the brake caliper out of the way and protect it from damage.

2. **See Figure 3.** Insert a 5 mm Allen key into the axle hub bolt and turn it counter-clockwise.



Continue turning the extraction bolt until the wheel is disengaged and can be removed easily from the spindle end.

See Figure 4.



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. 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.

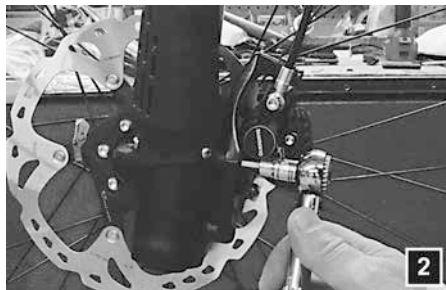
2. Slide the wheel straight onto the spindle. Turn the axle bolt clockwise to engage the spindle threads. Make sure the wheel and spindle are supported while tightening the hub bolt.
3. Once the hub has been drawn onto the hub completely, use torque wrench to tighten to final 15.0 Nm (133.0 InLbs). **See 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.



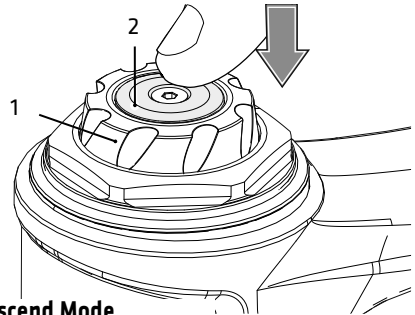
EXTERNAL ADJUSTMENT

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

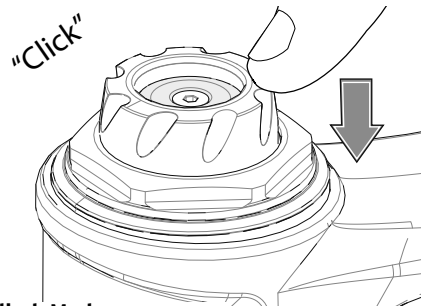
In descend mode, LEFTY travel suspension is active, meaning it absorbs changes in terrain by compressing and extending. In this mode, the rebound dial (1) is down as shown. To change to climb mode, press center button (2) and allow the rebound dial (1) to pop up.



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.

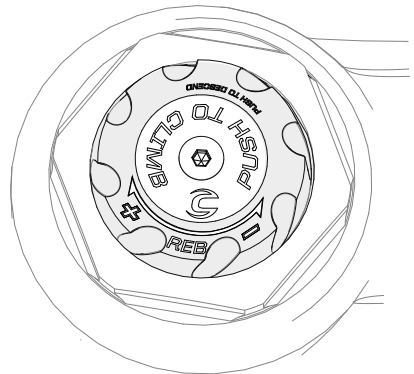


Climb Mode

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.



XLOC w/Rebound - (XLR)

The XLR system, uses the RockShox XLoc remote to change between descend and climb modes. The modes are switched using a handlebar mounted button (2). The rebound dial (1) is located at the top of the fork.

Descend

In descend mode, LEFTY travel suspension is active, meaning it absorbs changes in terrain by compressing and extending. To set descend mode, press in the lever button (2) until it latches.

Climb

In climb mode, LEFTY travel is restricted; responding only when a large bumps are encountered. Climb mode results in a firmer more efficient pedaling platform. To set to the CLIMB mode, press in and release the lever button (2) so it is out.

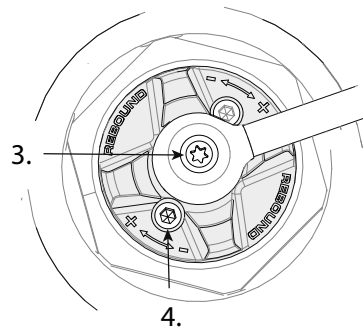
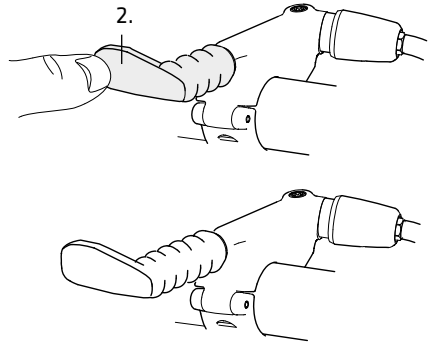
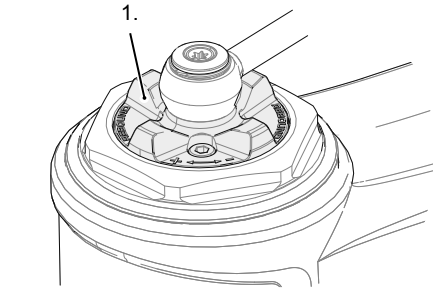
Rebound

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

Faster	Slower
Rotate rebound dial (1) in the “-” direction with your fingers.	Rotate rebound dial (1) in the “+” direction.

NOTICE

Do not loosen/remove the bleed screw (3) or the rebound dial set screws (4).



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

RIDER WEIGHT		LEFTY 2.0				SUPERMAX		OLAF	
		TRAVEL/WHEEL mm/in							
		100/29	100/27.5	120/27.5	130/27.5	140/27.5	160/27.5	100/26	
LB	KG	PSI				PSI		PSI	
<120	<54	<71	<71	65	65	<56	<56	50	
120	54	71	71	71	71	56	56	55	
130	59	79	79	77	77	60	60	60	
140	64	87	87	83	83	62	62	64	
150	68	94	94	90	90	68	68	68	
160	73	102	102	96	96	70	70	73	
170	77	109	109	102	102	72	72	78	
180	82	117	117	109	109	82	82	82	
190	86	125	125	115	115	84	84	87	
200	91	132	132	121	121	90	90	91	
210	95	140	140	128	128	96	96	96	
220	100	147	147	134	134	100	100	100	
230	104	155	155	140	140	105	105	105	
240	109	162	162	147	147	110	110	110	
>240	>109	>162	>162	>147	>147	>110	>110	114	
RECOMMENDED SAG (mm)		25-30		30-35		40-45		30-35	
PRESSURE LIMITS (PSI)		MIN. 50 MAX. 225							

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). **See Figure 1.**
2. Set the recommended initial starting air pressure according to your weight.
3. Slide the sag O-ring (3) against the wiper seal (4). **See Figure 2.**
3. Sit on bike in riding position and dismount.

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.

4. Measure the sag distance. **See Figure 3.**

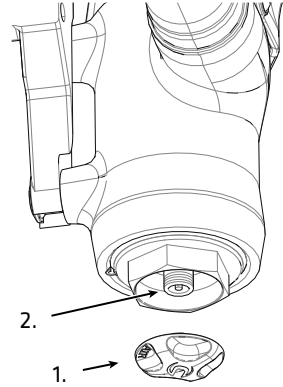
Sag Trouble Shooting

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

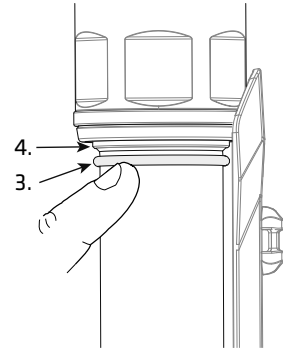
NOTICE

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

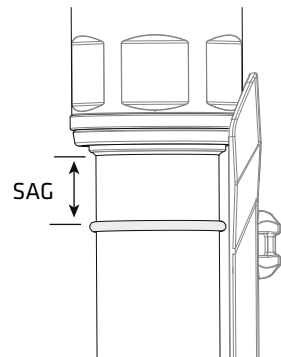
1



2



3





Warning! Read this supplement and your Cannondale bicycle owner's manual.
Both contain important safety information. Keep both for future reference.

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