

129975



➤ **SUPERMAX.**
OWNER'S MANUAL SUPPLEMENT.

cannondale



In this supplement, particularly important information is presented in the following ways:



WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

NOTICE

Indicates special precautions that must be taken to avoid damage.

TIP

A TIP provides helpful information.

This manual meets EN standards
14764, 14766, and 14781.

Vélo certifié conforme aux exigences du décret
N 95-937 du 24 août 1995 norme NFR030

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/bikes/tech.

- 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

Intended Use

SUPERMAX TRAVEL	INTENDED USE
130 mm	All Mountain, Overmountain, ASTM CONDITION 4

SUPERMAX 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 SUPERMAX 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.

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.

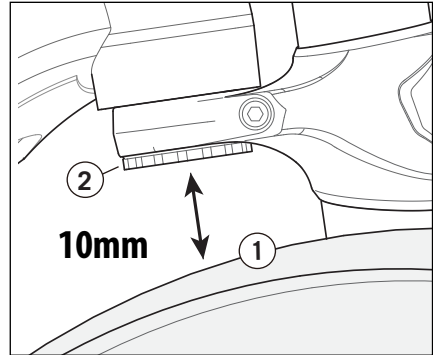
All other service and maintenance procedures must be completed through an Authorized Headshok Service Center. Contact your Authorized Cannondale Dealer for more information.

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

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).

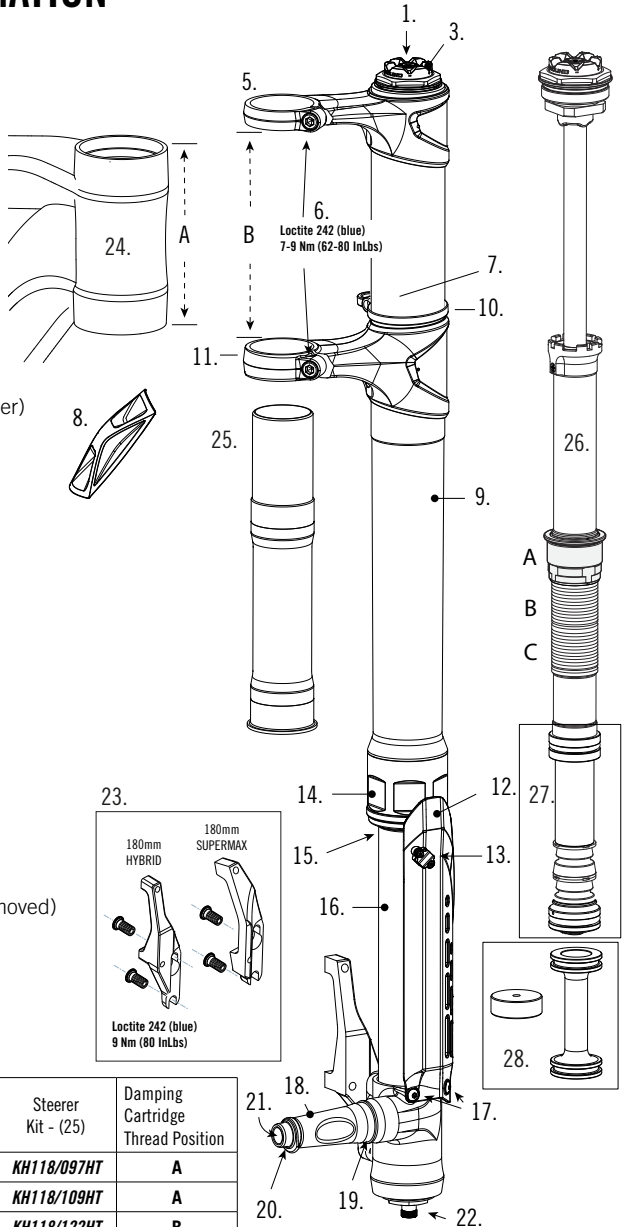
YOU CAN BE SEVERELY INJURED, PARALYZED OR KILLED IN AN ACCIDENT IF YOU IGNORE THIS WARNING.

TECHNICAL INFORMATION

Supermax Structure

Identification

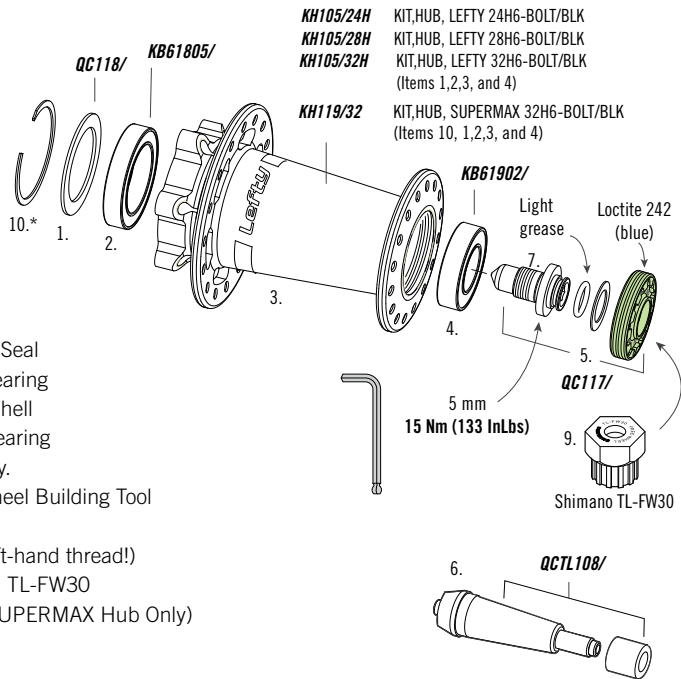
1. PBR Lockout Button
2. PBR Rebound Dial
3. XLR Rebound Dial
4. XLR/PBR Carbon Outer Collar
5. Bonded Upper Clamp
6. Clamp Bolt
7. Serial Number Location
8. Frame Bumper
9. Carbon Outer Tube (carbon fiber)
10. Brake Housing Guide
11. Bonded Lower Clamp
12. Guard
13. Guard Brake Housing Clamp
14. Lower Collar Assy.
15. Sag O-Ring
16. OPI Inner Tube
17. Guard Mounting Screws
18. Hub Spindle
19. Inner Bearing Land
20. Outer Bearing Land
21. Axle Bolt Threads
22. Schrader Valve
23. Brake Adapter
24. System Integration Headtube
25. Steerer (1.5 Stems Only)
26. Damping Cartridge (shown removed)
27. SOLO Air Assembly
28. Volume Reducer(s)



Frame Size	SI Headtube Length - (A)	Clamp Spacing - (B)	Steerer Kit - (25)	Damping Cartridge Thread Position
SMALL	97mm	100.2mm	KH118/097HT	A
MEDIUM	109.7mm	112.9mm	KH118/109HT	A
LARGE	122.4mm	125.6mm	KH118/122HT	B
X-LARGE	134.4mm	137.6mm	KH118/134HT	B

Wheel Hub

- Either a SUPERMAX or LEFTY HYBRID wheel hub may be used with the SUPERMAX. The wheel hub must be matched with its correct brake adapter. See item 23 on previous page.
- The hub cap is a left-hand thread. It retains the axle bolt assembly within the and should only be removed when replacing the bearings or axle bolts parts, not when removing the wheel.
- The axle bolt is a right hand (normal) thread. Insert a 5 mm allen key. Turn it clockwise to install a wheel. Turn it counter-clockwise to remove a wheel.



Identification

1. Hub Bearing Seal
2. Inner Hub Bearing
3. LEFTY Hub Shell
4. Outer Hub Bearing
5. Axle Bolt Assy.
6. Lefty Hub Wheel Building Tool
7. Axle Bolt
8. Hub Cap (Left-hand thread!)
9. Shimano Tool TL-FW30
10. Ring Clip (*SUPERMAX Hub Only)

	DIMENSIONS FOR WHEEL BUILDING	CENTERLINE OF WHEEL	
		SUPERMAX	LEFTY HYBRID
A	Disc Flange Diameter	68.0 mm	
B	Non Disc Flange Diameter	54.0 mm	
C	Disc Flange To Center	25.8mm	18.8 mm
D	Non Disc Flange To Center	34.6mm	31.6 mm

Setting Sag

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

Set Recommended Initial Air Pressure (Set before measuring sag)		
RIDER WT. (Lbs/Kg)	29ER	
	PSI	Bar
120 / 55	64	4.4
130 / 60	66	4.6
140 / 65	70	4.8
155 / 70	74	5.1
165 / 75	78	5.4
175 / 80	80	5.5
185 / 85	83	5.7
200 / 90	87	6.0
210 / 95	90	6.2
220 / 100	93	6.4
230 / 105	95	6.6

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

Fine Tune to 25% Recommended Sag (Adjust the air pressure +/- to set this sag)				
SUPERMAX TRAVEL (mm)	130	120	100	90
25% SAG (mm)	32	30	25	22
20% SAG - Minimum	26	24	20	18
30% SAG - Maximum	39	36	30	27

SUPERMAX AIR PRESSURE LIMITS

Minimum: 50 psi, 3.4 bar
Maximum: 225 psi, 15.5 bar

To set sag:

1. Remove the Schrader valve cap (1) at the bottom of the SUPERMAX 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 (**Figure 3**), the rider's weight is distributed equally front and rear.

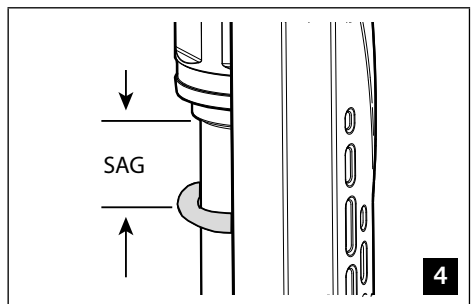
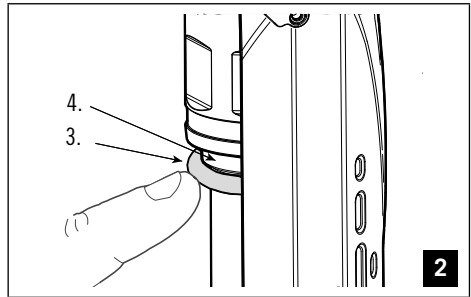
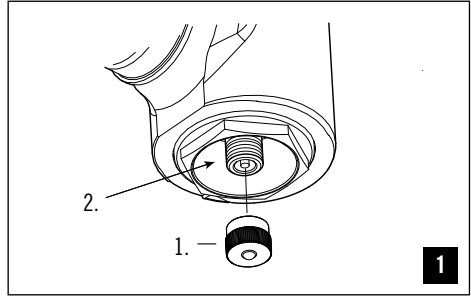
4. Measure the sag distance. **See Figure 4.**

Sag Trouble Shooting

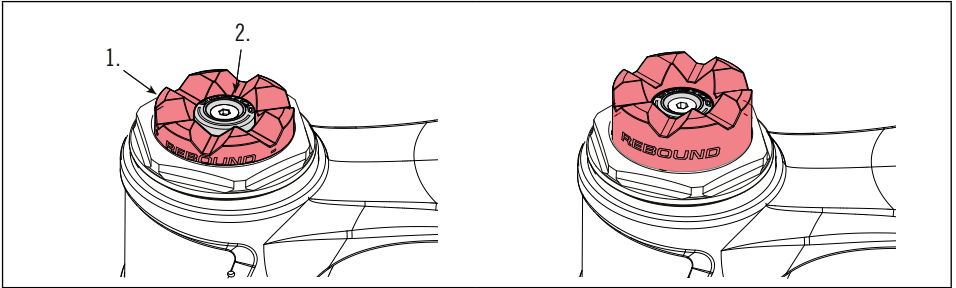
Too much sag	add air in small increments
Too little sag	reduce air in small increments
Excessive bottom out	increasing air pressure
harsh ride or limited travel	reduce air pressure

NOTICE

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



PBR Lockout



OPEN POSITION

In the open position, LEFTY travel is active. The red rebound dial (1) is in the down position. To go to the locked position, press the blue button (2).

LOCKED POSITION

In the locked position, LEFTY travel is locked. The red rebound dial is up. To go back to the open position, press the red rebound dial down until it clicks.

PBR Rebound Dial



Rotate dial in the “-” direction (counter-clockwise) to increase rebound speed (faster).

Rotate dial in the “+” direction (clockwise) to decrease rebound speed (slower).

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

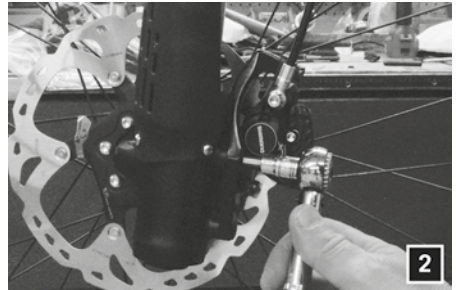
1. Wipe the spindle clean with a dry shop towel. Apply a high-quality bike grease to I.D. of the bearings inside the hub.

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.

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.

MAINTENANCE

Schedule

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

SERVICE ITEM	FREQUENCY (NORMAL RIDING)	WHO?
Check for damage	Pre/Post ride	Bike owner
Check for Tightening Torques	First Ride / Every 4-5 rides	Bike owner
Replace Frame Bumper, Guard	As Needed	Bike owner
Manual Reset	50 hours	Bike owner
Telescope Lubrification	100 hours	Dealer
Damper Service: Air spring/Damping Cartridge Inspection	100 hour or every year	Dealer
Full Service (Telescope Rebuild + Damper service)	200 hours	Headshok Service Center
RACING - If you race with your SUPERMAX, you will have to perform the items listed twice as often. (i.e. 50hrs becomes 25hrs)		

SCHEDULE PROFESSIONAL FORK SERVICE ANNUALLY (Minimum)

Annually, or when problems are indicated you must have your SUPERMAX 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!

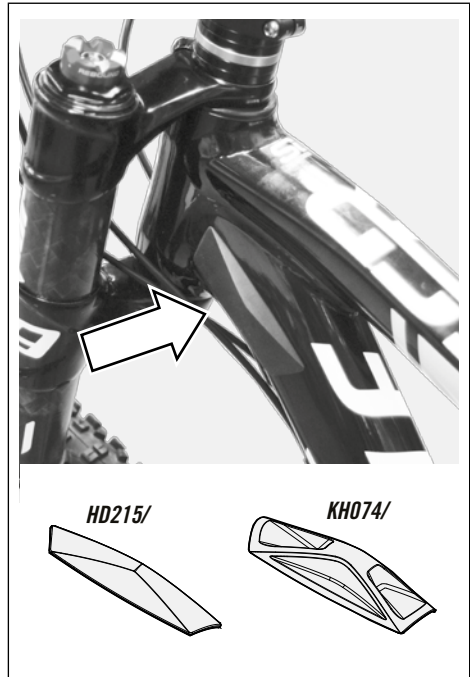
Description	Nm	In Lbs	Loctite™
Upper/Lower Clamp Bolts	7-9	62-80	242 (blue)
Guard Screws	1.0	9	242 (blue)
Wheel Axle Bolt	15	133	
Brake Adapter Mounting Bolts	9	80	242 (blue)

Frame Bumper

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

REPLACEMENT: Clean surfaces well. Remove the backing from the new bumper, position and affix by pressing firmly against the outer tube.

IMPORTANT: Be sure to position the bumper so that when the handlebar is rotated to the left, the bumper prevents fork contact with the the frame. Frame damage can result from using the wrong bumper or positioning a bumper incorrectly. Ask your Cannondale Dealer for help.



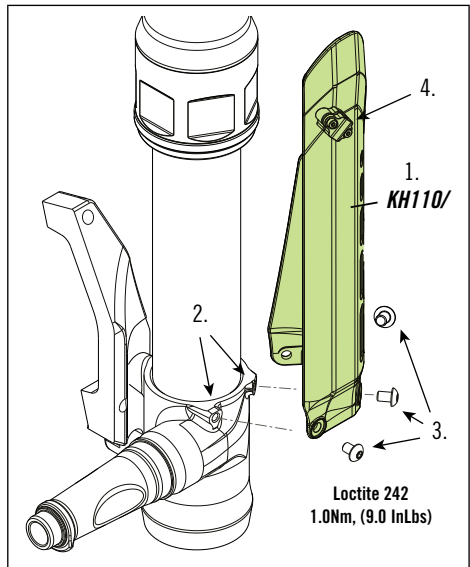
Moto Guard

The moto guard protects the inner tube surface from damage. It also supports the brake line. Check it periodically. Make sure it is in good condition and attached properly.

NOTICE

Replace guard with a new one if it becomes damaged. It is a normal wear item.

1. Guard
2. Mounting points
3. Mounting screws



Manual Reset

NOTICE:

Do not disassemble or open for the following procedure.

Perform every 50 hours.

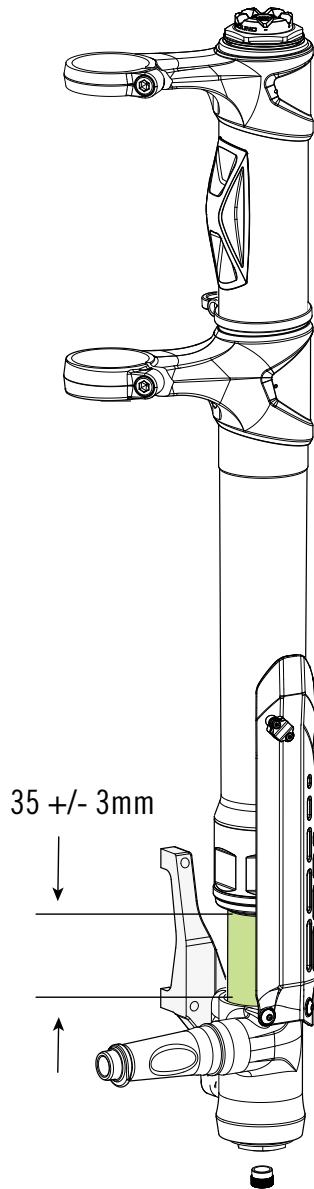
1. With your bike on the floor.
2. Cover the brake rotor with a clean shop towel. Remove the Schrader valve cap and hold the valve to release all air pressure. It is normal for a small amount of oil to be expelled with the escaping air.



WARNING

Contamination can result in reduced or lost braking performance.

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



Measure Fully Compressed

CANNONDALE LIMITED WARRANTY

Cannondale Headshok (SUPERMAX, 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.

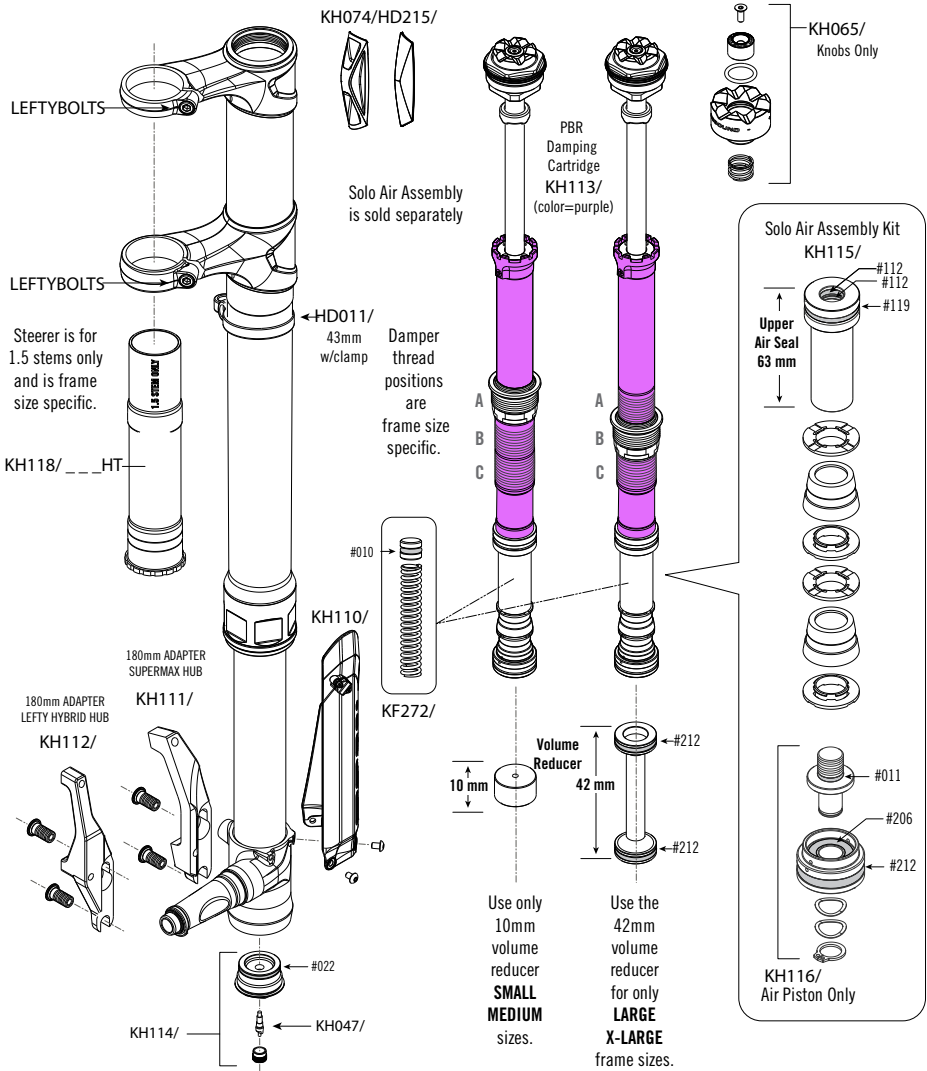
Fork Warranty Claims

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

REPLACEMENT PARTS

The following replacement part kits are available through a Cannondale Dealer:





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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