2000 HEADSHOK™ SUSPENSION FORK OWNER'S MANUAL

Congratulations and thanks for your purchase of a HeadShok suspension fork. You have invested in a suspension system that offers light weight, maximum adjustability, and absolute steering precision. This owner's manual contains important and useful information regarding the proper operation, care, and maintenance of your HeadShok fork. Please read it carefully and follow its instructions for miles of safe, high performance riding. If you have any questions about your fork or the contents of this manual, don't hesitate to contact us. See the back page for phone numbers and E-mail contacts.

Your HeadShok equipped Cannondale bicycle should have included both a standard owner's manual and this front suspension specific manual. If you did not receive both of these documents, please download and print one from the Cannondale website Tech Center or call our customer service line at 1-800-BIKE-USA in the U.S. or Canada to have one sent to you.

Please note that this manual is meant to supplement, not replace, the Cannondale Bicycle Owner's Manual. The owner's manual contains valuable information regarding safe operation, adjustment, and maintenance of your bicycle, as well as more complete warranty information. Please read the bicycle owner's manual thoroughly before riding your bicycle, and keep it and this booklet for future reference.

STEM SELECTION

All HeadShok equipped bicycles come with a CODA™ HeadShok stem that is designed to work specifically with the unique head tube arrangement of the HeadShok front suspension system. These stems are supplied in sizes proportional to the different bicycle frame sizes. There are a total of 12 different stem sizes available for mountain type bars (25.4mm clamp diameter), and all of these stems can be inverted, for a total of 24 possible unique rider positions. There are also 8 different stems for drop type handlebars (26.0mm clamp, for road or cyclocross use), each of which can also be inverted. This allows any rider to customize the fit of his or her bicycle. Each stem is engraved with an eight digit number representing stem length, stem rise angle, and clamp diameter. For example, a stem marked '13020254' is 130mm long, has a 20 degree rise, and a 25.4mm handlebar clamp diameter. See your Authorized Cannondale Retailer for replacement CODA stems. Framesets and aftermarket forks do not include a stem.

FORK PRE-RIDE CHECKLIST

Before each ride, check the following items:

Stem bolt(s): make sure that the stem bolt(s) which clamp the stem to the fork are tight. There are currently two different styles of HeadShok stems; one of which has one clamp bolt to attach the stem to the top of the fork, and a new lightweight version which uses two clamp bolts. The single bolt type should be tightened to 10-12 Ft-Lbs. (13.5-16 Nm.) Double bolts should each be tightened to 77-94 In-Lbs (8.7-10.5 Nm.) You can check that the stem bolts are tight enough by standing in front of your bicycle, holding the front wheel between your knees, and trying to twist the handlebars from side to side. The bars should not move.

Brakes: are your brakes functioning properly? With cantilever brakes (older mountain, hybrids, tandems, and touring bikes), the straddle cable must be attached. With linear pull (V-type) brakes (newer mountain, hybrids, tandems, and touring bikes), the cable "noodle" must be attached through the left brake arm. With caliper brakes (road bikes), the quick-release must be closed. With disc brakes, the brake pads must be properly installed and free from grease or oil contamination. In all cases, the brake pads must contact the braking surface firmly without the brake lever hitting the handlebar.

Wheel Quick-Release Levers: Are your wheels' quick-release skewers properly fastened? Be sure to read the Section 6 of the Cannondale Owner's Manual on proper operation of quick release skewers.

IF YOU HAVE ANY REASON TO SUSPECT THAT YOUR BICYCLE IS NOT FUNCTIONING PROPERLY, DO NOT RIDE IT. INSTEAD, HAVE IT INSPECTED BY YOUR AUTHORIZED CANNONDALE RETAILER.

HEADSHOK SCHEDULED MAINTENANCE

It is recommended that you take your mountain or cyclocross HeadShok fork to your Authorized HeadShok Service Center for a regular tune up every two months or 40 hours of riding. It is recommended that you take your Silk Road fork to your Authorized HeadShok Service Center for a regular tune up every three months or 60 hours of riding. Your fork is a high performance suspension system and needs regular inspection, lubrication, and maintenance. Your mechanic will check the following items and service the fork as necessary. Between these tune ups, you will also want to occasionally check your HeadShok as outlined below.

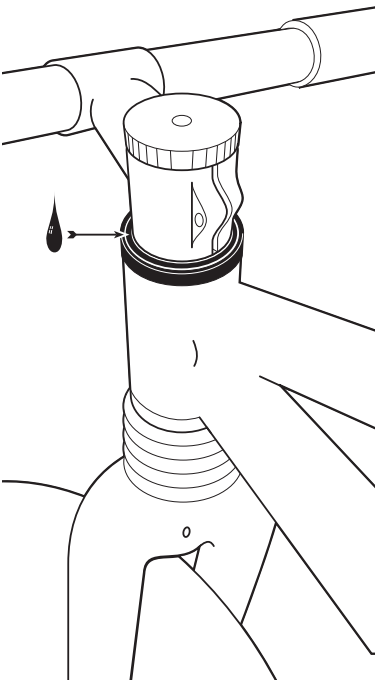
FRAME AND FORK:

Once a month, or every few rides, clean and inspect the entire frame and fork for any dents, cracks, or other damage. If any damage to the frame or fork is found, do not ride the bicycle. Have the damage inspected and assessed by a Cannondale or HeadShok dealer.

HEADSET BEARINGS:

All Lefty™ forks and all other forks which come with the new lightweight HeadShok stem (which can be identified by its two clamp bolts) use a secondary black rubber seal on top of the top headset bearing. For the Lefty fork this seal goes below the top clamp, against the headset bearing. Single crown forks use the seal below the stem, against the bearing. This seal will keep water and dirt out of the headset bearing.

Fig.1 ▼



Bikes which use the standard one bolt stem do not have this seal. Every few rides, or every time that the bicycle is exposed to water (rain, mud, or washing) a few drops of lightweight oil (such as Pedro's SynLube) should be smeared around the upper headset bearing (located just below the stem) on these bikes. The rubber seal in the top of the bearing must be kept lubricated, as it protects the headset cartridge bearings from contamination by water and dirt. Failure to keep the headset bearing lubricated will result in premature bearing wear. See Fig. 1.

SUSPENSION FORK BOOT:

Frequently inspect the rubber boot at the base of the head tube (or on the leg of the Lefty fork) for tears, cuts, or broken zip ties that could allow contamination. The fork boot protects the needle bearings and bearing races from water, dirt, and other contaminants. Make sure that the shifting and brake cables have not rubbed a hole in the boot. If the cables are rubbing on the boot, you should reroute them to eliminate the contact. Your local Cannondale retailer can help you with this procedure.

If the boot is damaged in any way, it must be replaced immediately. Since boot replacement requires the suspension fork be removed from the frame using special HeadShok tools (except on the Lefty), only an experienced bicycle mechanic at an Authorized HeadShok Service Center should perform this job. Damage to the HeadShok due to contamination by water or dirt will not be covered under warranty.

On the Lefty fork, it is possible to loosen the leg clamps using a 5mm Allen wrench, drop the fork leg out of the clamps, and replace the boot. To reinstall the leg, see the "Head Tube Angle Adjustment" section of the Lefty DLR instructions below.

INNER STEERER TUBE:

Several times a year, or if the suspension boot has been damaged, or if the fork has taken a large or unexpected impact, you should inspect the inner steerer tube beneath the boot. Before proceeding, make sure that you have two replacement zip ties to reaffix the HeadShok boot. These should be available from your local Cannondale or HeadShok Authorized Retailer. Cut both old zip ties off of the boot and pull the boot up off of the lower mount and down off of the lower collar. Clean this area inside the boot of any dirt and old grease. Inspect the inner races and the steerer tube for corrosion, cracks, or a bent steerer tube. On all except Lefty models (which don't have one), be sure to slide the large O-ring bottom-out bumper up off of the crown and carefully check this area.

If there are any cracks on the steerer assembly or if it is bent at all, the fork must be replaced immediately. DO NOT CONTINUE TO RIDE THE FORK! See your local Cannondale or HeadShok dealer.

If rust, pitting, or corrosion is present on the steerer tube, you should take the fork to your Cannondale Authorized Retailer for inspection. They will assess the condition of the fork and evaluate the amount of structural damage that may have resulted.

WARNING:

Serious, structural corrosion on the inner steerer tube of a Headshok fork will decrease the useful life of the fork. Corrosion or cracks on the steerer tube, or a bent steerer tube, may lead to the failure of the fork, which could cause an accident with attendant risk of injury or death to the rider. Headshok forks that show signs of such structural damage in the telescoping assembly must be replaced immediately.

After completing the inspection of the HeadShok steerer tube assembly lightly coat the exposed length of the inner steerer tube and bearing races with a good quality light bicycle grease, such as CODA Extreme Grease, Finish Line White Teflon grease, Slick 50 One Grease, or Royal Purple grease. On all except Lefty models (which don't have one), be sure to slide the large O-ring bottom-out bumper up from the crown and thoroughly grease under the O-ring at the junction between the bottom of the inner steerer tube and the fork crown.

Replace the boot onto the lower collar of the HeadShok telescoping assembly and to the top of the fork crown. Reattach the boot with two zip ties. Make sure that the zip ties are secured tightly.

HYDRAULIC CARTRIDGE OIL OR SEAL REPLACEMENT:

The oil in HeadShok hydraulic damping cartridges should be replaced every 80 hours of riding, or at least once a year. The seals in the cartridge require less frequent attention, and should be replaced as needed or at least every two years. These procedures require unique tools and substantial expertise and training with hydraulic suspension systems. Only an experienced mechanic at an Authorized HeadShok Service Center should perform them.

NEEDLE BEARING LUBRICATION:

The needle bearings (which provide the smooth travel of the HeadShok suspension system) inside all mountain and cyclocross HeadShok forks should be lubricated every two months or 40 hours of riding. The needle bearings in Silk Road HeadShok forks should be lubricated every three months or 60 hours of riding. This procedure requires partial disassembly of the suspension fork, and therefore must be performed only by an experienced bicycle mechanic at an Authorized HeadShok Service Center.

CUSTOM TUNING:

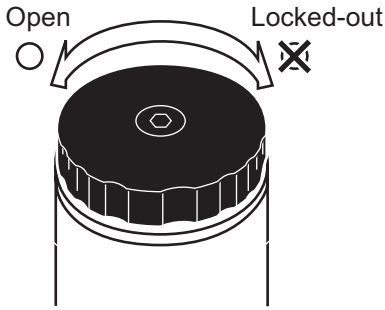
The HeadShok system is incredibly versatile and can be easily adjusted or upgraded. Depending upon the model of fork, HeadShok Service Centers can advise you about changing spring preload, spring rate, compression damping, rebound damping, and on-the-fly lockout. See your dealer for more information regarding the fine tuning of your HeadShok fork.

FORK USE

Fork Suspension Lockout

HeadShok forks with 'D', 'DD', 'DL', or 'DLR' type cartridges feature suspension lockout, allowing the rider to turn the shock absorber on or off as desired 'On-the-fly.' The Damping Dial ™ located atop the fork is turned clockwise to lockout the suspension action of the fork, or turned counter-clockwise to activate the suspension. See Fig. 2.

Fig.2 ▼



DAMPING ADJUSTMENT

Damping controls the speed at which the suspension moves. Compression and rebound damping on 'D', 'DD', 'DL', and 'DLR' type forks can be adjusted by changing the viscosity of the hydraulic oil within the cartridge. Since this procedure requires several unique tools and expertise with hydraulic suspension, only an experienced bicycle mechanic at an Authorized HeadShok Service Center should perform it.

'DLR' cartridges allow 'On-the-fly' adjustment of the low speed (small bump) damping by means of the red knob located in the center of the larger Damping Dial. Turning the small red knob all the way counter-clockwise adjusts the damping to its most open, compliant setting (minimum damping.) Conversely, turning the knob clockwise will increase the damping. The red slow speed damping knob is only for adjustment, it does not lock out the suspension action (the larger Damping Dial controls the lockout.)

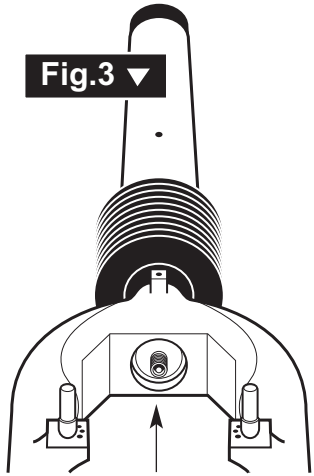
Additionally, 'DLR' type cartridges have high speed (big impact) compression and rebound damping which are independently adjustable by changing valve shims within the hydraulic cartridge. Since this procedure also requires several unique tools and expertise with hydraulic suspension, only an experienced bicycle mechanic at an Authorized HeadShok Service Center should perform it.

PRELOAD ADJUSTMENT

Before the bike is ridden, the spring preload must be adjusted to suit the weight of the rider. If too much preload is applied, the suspension will be stiff and unresponsive; too little preload and the rider may feel 'bouncingÓ while climbing or sprinting, and may tend to bottom out the shock (compress it to the limit of its travel) on large bumps. HeadShok forks use either an air spring or the Advanced Spring System's coil spring and Micro-Cellular Urethane (MCU) combination. See the sections below on each type of fork if you need to determine which kind of spring your fork uses. The following procedures are for initial setup only. We encourage riders to experiment with different preloads to achieve their optimal setting.

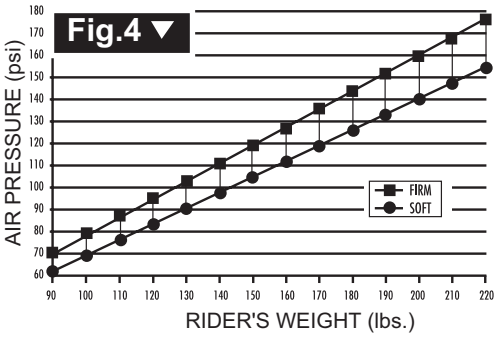
AIR SPRING PRELOAD ADJUSTMENT

HeadShok forks which use compressed air for a spring allow a wide range of adjustability of the preload by varying the air pressure within the cartridge. Air preload adjustment requires a precision suspension air pump with gauge that is capable of delivering at least 150 psi through a Schrader valve. A check valve, quick-disconnect, or valve extension may also be helpful in preventing air loss from the valve as the pump is removed. The maximum preload pressure for the air cartridge is 200 psi.



1. Remove the front wheel (on Lefty forks, this is not necessary.) Thoroughly clean the area around the Schrader valve, then remove the Schrader valve cap. On Lefty forks, the Schrader valve is at the bottom of the leg. On all other air sprung forks, the Schrader valve is underneath the fork crown (See Fig. 3.)

2. Refer to Fig. 4 to determine the recommended air pressure range based upon the rider's weight. Using your suspension pump, add air to the fork according to the chart. Many people will run the longer travel Super Fatty and Lefty forks in the soft end of the adjustment range to allow more shock sag for full suspension use.



3. Replace the fork's Schrader valve cap and front wheel, if you had to remove it to access the Schrader valve on your fork. Remember to reattach the front brake if using rim-type brakes.

For a more customized setup, follow the steps detailed below.

4. With the rider off of the bike, measure from the floor to the center of one end of the handlebar with the bicycle standing perfectly upright. Then position the rider on the bike in a seated, natural riding position. With only the rear brake applied and the Damping Dial turned fully counter-clockwise (unlocked), again measure the distance from the floor to the center of the end of the handlebar.

5. The difference in these two measurements is the preload sag. Most riders find the best suspension performance with the following preload sag compressions. Add or remove air from the fork through the Schrader valve until the desired measurement is achieved. Note this pressure setting for future reference.

FORK	***TRAVEL***	***RECOMMENDED SAG***
Fatty or Ultra	70mm	1/8" (3.5mm)
Super Fatty	80mm	1/4-3/8" (6.0-9.5mm)
Lefty	100mm	1/2-5/8" (12.5-16mm)

COIL SPRING / MCU PRELOAD ADJUSTMENT

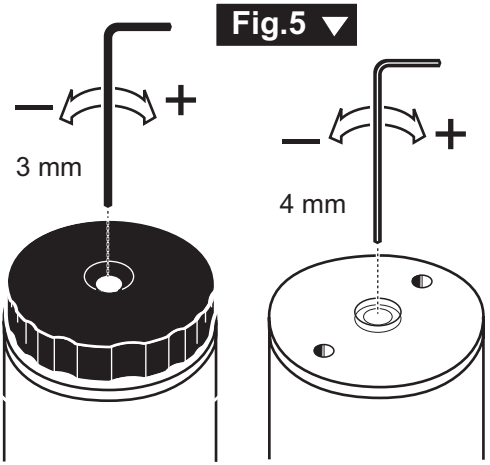
There are three different weights of coils available for the forks that use the Advanced Spring System, to allow the fork to be customized to suit riders of different weights and riding styles. These springs are available in different lengths for different models of forks. See the section on your individual fork for a listing of which spring your fork uses. Beyond changing the coil spring in the fork, the spring preload can be fine tuned to suit rider weight and riding style.

1. On 'M' type forks, use a 4mm Allen wrench to remove the small bolt from the center of the mud cap.

2. On 'D' or 'DD' type forks, make sure that the Damping Dial is in the 'Open' position by turning it counter-clockwise. Using a 4mm Allen wrench, remove the small bolt from the center of the Damping Dial.

3. With the rider off of the bike, measure from the floor to the center of one end of the handlebar with the bicycle standing perfectly upright. Then position the rider on the bike in a seated, natural riding position. With only the rear brake applied, again measure the distance from the floor to the center of one end of the handlebar.

4. The difference in these two measurements is the preload sag. Most riders find the best suspension performance with the preload sag compressions listed below. To change the amount of sag, insert the correct size metric Allen wrench into the hole in the top of the fork. Turn the preload adjustment screw clockwise for greater preload (less sag compression) or counter-clockwise for less preload (more sag compression.) See Fig. 5. Note that Cannondale recommends running the Super Fatty M in the soft end of the adjustment range to allow more shock sag for full suspension use.



FORK	*TRAVEL*	*RECOMMENDED SAG*
Fatty M	70mm	1/8" (3.5mm)
Super Fatty M	80mm	1/4-3/8" (6.0-9.5mm)
Silk Road	15mm	1/16" (1.5mm)
Silk Path D, Silk Path M	25mm	1/16" (1.5mm)
Fatty X	25mm	1/16" (1.5mm)
Silk Tour D, Silk Tour M	25mm	1/16" (1.5mm)

5. When desired preload is set, replace the mud cap or Damping Dial.

LEFTY™ DLR FORK

The Lefty fork is an all new front wheel suspension device, unlike any other fork on the market. Using an integrated axle and a single leg, the Lefty is at least as strong and stiff as any standard two legged long travel fork while being lighter weight.

> **CAUTION:** Take care not to drop the fork's axle spindle on the ground when the wheel is removed. If the spindle is dented, the axle bolt may not engage the axle spindle and the fork will not be usable.

The Lefty DLR fork uses the DLR/100 cartridge which offers 100mm of plush travel using a lightweight compressed air spring system. The DLR hydraulic cartridge also has damping which is adjustable in several ways. The low speed (small bump) damping is adjustable by means of the red knob located in the center of the larger Damping Dial.

Turning the small red knob all the way counter-clockwise adjusts the damping to its most open, compliant setting (minimum damping.) Conversely, turning the knob clockwise will increase the damping. Do not force the red damping knob past its stops. The suspension cartridge can be locked out "On-the-fly" by turning the larger Damping Dial clockwise.

Additionally, the damping in DLR/100 cartridges can be adjusted by changing the weight of the hydraulic fluid. Also, the DLR/100 has high speed (big impact) compression and rebound damping which are individually adjustable by changing valve shims within the hydraulic cartridge. Since these two procedures require several unique tools and expertise with hydraulic suspension, only an experienced bicycle mechanic at an Authorized HeadShok Service Center should perform them.

See the "Air spring preload adjustment" section above for instructions on setting the suspension preload before riding the fork. Note that unlike other HeadShok forks, the Schrader valve for pressurizing the Lefty air spring is at the end of the fork leg, so front wheel removal is not necessary.

The disc brake mount on the left side dropout of the fork is designed to fit a CODA Disc Brake caliper. Other disc brake systems which are compatible with the Lefty hub rotor bolt pattern and the fork's caliper mount may also work.

NOTE: The thinner disc brake mount on the Lefty fork may require shorter caliper mounting bolts. See your local Cannondale dealer for assistance if you need shorter caliper bolts.

WARNING:

The Lefty fork must be used with a CODA or other compatabile disc brake, as the disc brake acts as a secondary wheel retention device. Failure to have a properly installed disc brake rotor on the Lefty hub and a properly installed disc brake caliper on the Lefty fork could allow the front wheel to come off of the axle spindle if the hub axle bolts is loose. A rider would be at risk of injury or death if the front wheel were to come off of the axle spindle while the bicycle was being ridden.

WARNING:

An approved disc brake system is very important to the safety of the Lefty Fork and Cannondale strongly recommends that any work to the brakes be performed by an authorized Cannondale Dealer.
When installing disc brakes to a Lefty fork, please consult the disc brake fitting instructions which are included with the brakes. Those instructions are provided for persons who have a good knowledge of bicycle specific mechanical procedures and who are equipped with the proper tools and equipment. Incorrect installation or service may reduce braking performance, and could lead to injury or death. If you have any doubts about your ability to perform any necessary procedures, contact your local authorized Cannondale Dealer.

NOTE: There is a seal which is held against the disc side of the Lefty hub by the disc brake rotor. Whenever you bolt the brake rotor onto the hub, be sure that the seal rests against the large cartridge bearing and that the seal is held there by the rotor. The seal keeps out water and dirt contamination, and a missing seal will result in premature bearing wear.

LEFTY DLR NEGATIVE SPRINGS:

Lefty DLR fork cartridges come with three different weights of negative springs for riders of different weights and riding styles. The coil negative spring should not be confused with the main air spring, which acts to set the stiffness of the fork. The negative spring acts to control the "initial plushness" of the fork by overcoming the resistance of the main air spring. It also acts as a top-out spring, to prevent a harsh stop at the full extension of the Lefty fork. Heavier riders or those using more air pressure in the main air spring (for a stiffer ride) will want a heavier negative spring. See the following chart for negative spring information. Your local dealer can advise you about changing springs.

BIKE SIZE	*COMES WITH THIS SPRING*	*KIT CODE*
Small	Green	HD212/GRN
Medium	Blue	HD212/BLU
Large	Blue	HD212/BLU
Extra Large	Red	HD212/RED
Jumbo	Red	HD212/RED

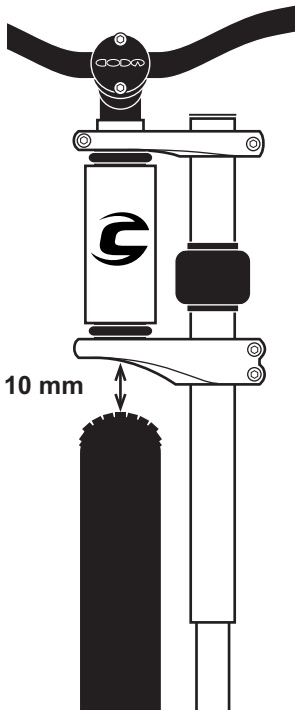
HEAD TUBE ANGLE ADJUSTMENT:

The Lefty fork is designed to be set up so that the top of the leg is positioned flush with the top of the upper double crown. However, it is possible to slightly decrease the height of the front of the bike while simultaneously increasing the head tube angle of the bike. Note that a steeper head tube angle will change the steering and handling of the bike.

1. Remove all air from the air spring Schrader valve at the bottom of the fork leg. While keeping the Schrader valve depressed, fully compress the Lefty to the bottom of its travel.

2. Loosen the crown bolts and slide the leg up in the clamps until the bottom crown is 10mm from the tire (Fig. 6.) Mark the fork leg at this point with a marker or tape. This is the lowest safe adjustment for the fork crowns.

Fig.6 ▼



3. Adjust the fork leg in the double crowns within the range defined by the top of the leg and the mark which you made indicating the lowest safe position for the crowns.

4. Apply grease to the threads of all 4 crown clamp bolts and using a 5mm Allen wrench tighten the bolts to 55-65 In-Lbs (6.25-7.25 Nm.)

FRONT WHEEL REMOVAL:

The Lefty front hub uses a self-extracting bolt to attach the wheel to the Lefty's axle spindle. The bolt is held into the hub by a cap which is screwed into the non-disc side of the hub using a pin spanner tool. The self-extracting bolt and cap combination is very similar to that used on CODA Tarantula Competition or Shimano XTR, Dura Ace, and Ultegra cranks, except that the Lefty hub cap has left hand threads. The cap should not be removed, it is there to hold the axle bolt into the hub. If you do need to remove the cap to replace the bolt, be sure to reinstall the cap with a drop of Loctite 242 (blue) on the cap threads. Remember that the cap will need to be turned counter-clockwise to be screwed in.

NOTE: It is not necessary to remove the front wheel from the Lefty fork to change an inner tube or tire. Simply remove the tire from the wheel as you normally would using a tire lever, making sure to pull the tire off of the non-disc side of the wheel.

1. Using a 5mm Allen wrench, remove both disc brake caliper bolts from the fork. Take care not to drop any of the brake spacing shims which go between the fork's disc brake mount and the brake caliper. The wheel cannot be removed without first removing the brake from the fork.

2. Using a 6mm Allen wrench, unscrew the axle bolt which attaches the wheel to the fork's axle spindle in a counter-clockwise direction. Note that the bolt is held in the hub by the self-extracting cap, and will stay attached to the hub even when the wheel is removed from the axle spindle. There is no need to remove the cap from the hub.

3. Pull the wheel off of the axle spindle.

FRONT WHEEL INSTALLATION:

1. Make sure that the CODA front disc brake is not attached to the Lefty disc brake mount. It is not possible to install the wheel with the brake installed on the fork. If necessary, remove both disc brake caliper bolts from the fork using a 5mm Allen wrench. Take care not to drop any of the brake spacing shims which go between the fork's disc brake mount and the brake caliper.

2. Apply a light coat of good quality bicycle grease to the flat bearing seats on the tapered axle spindle of the fork. Also smear a little grease on the axle bolt threads inside the end of the axle spindle. Take care not to get any grease on the disc brake or brake rotor attached to the hub.

3. Slide the front wheel onto the axle spindle with the disc side of the hub closest to the fork leg. Make sure to press the wheel straight onto the axle spindle so that the bolt threads will correctly engage with the threads in the spindle. Using a 6mm Allen wrench, tighten the axle bolt to 80 In-Lbs (9 Nm.) See Fig. 7.

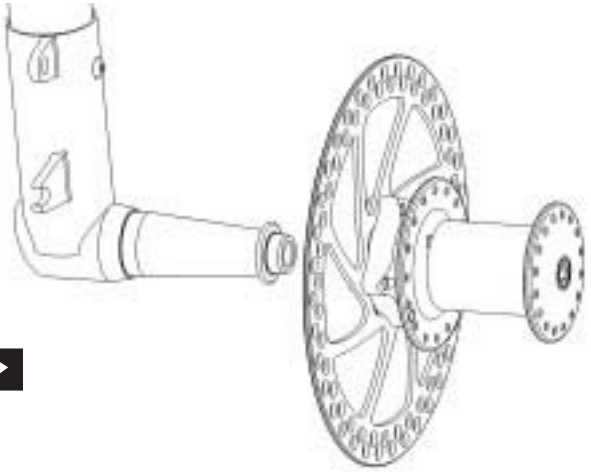


Fig.7 ▶

4. Reinstall the brake caliper to Lefty's disc brake mount. You will need to first slip the caliper over the brake rotor so that rotor runs between the brake pads. Check to be sure that both brake pads are in the caliper. Remember to include the correct number of shims between the disc mount and the brake caliper to center the caliper over the brake rotor. Be sure that the shims are on the inside of the fork's disc brake mount, not directly under the head of the caliper bolts. Using a 5mm Allen wrench, tighten both brake caliper bolts to 69-78 In-Lbs (8-9 Nm.)

FATTY® DL AND FATTY® ULTRA DL FORKS

The Fatty and Fatty Ultra forks both feature the patented HeadShok telescoping steerer tube assembly which uses 88 needle bearings for smooth, responsive suspension action. Both forks use TIG-welded 6061-T6 aluminum fork blades which have been swaged and tapered to increase strength and reduce weight. For additional weight savings of nearly a half pound, the Ultra Fork uses an aluminum inner steerer tube assembly.

The disc brake mount on the left side dropout of the fork is designed to fit a CODA Disc Brake caliper. Other brands of disc brakes that conform to the international mounting standard may fit as well.

The Fatty Ultra DL and Fatty DL forks include the DL/70 cartridge that offers 70mm of travel using the lightweight air spring system. The cartridge also features a hydraulic damping cartridge that reacts to various size impacts with varying amounts of damping. Finally the suspension cartridge can be locked out "On-the-fly" by turning the Damping Dial clockwise.

See the "Air spring preload adjustment" section above for instructions on setting the suspension preload before riding the fork.

FATTY M FORK

The Fatty fork features the patented HeadShok telescoping steerer tube assembly that uses 88 needle bearings for smooth, responsive suspension action. The fork uses TIG-welded 6061-T6 aluminum fork blades that have been swaged and tapered to increase strength and reduce weight.

The disc brake mount on the left side dropout of the fork is designed to fit a CODA Disc Brake caliper. Other brands of disc brakes that conform to the international mounting standard may fit as well.

The Fatty M fork includes the MC70 cartridge that offers 70mm of travel using the Advanced Spring System's coil / MCU combination. The cartridge also features a mechanical air damper that controls the compression and rebound speed of the spring.

See the "Coil spring / MCU preload adjustment" section above for instructions on fine tuning the suspension preload before riding the fork. Fatty M coil springs come in the following configurations.

RIDER WEIGHT RANGE	*RECOMMENDED SPRING*	*SPRING KIT CODE*
150 lbs. or less	Black	HD177/BLK
140 Ð 200 lbs.	Grey	HD177/GRY
180 lbs. or more	White	HD177/WHT

BIKE SIZE	*COMES WITH THIS SPRING*
Small	Black
Medium	Grey
Large	Grey
Extra Large	White
Jumbo	White

The Fatty M fork can be upgraded to Fatty DL performance with kit # HDUPDL/70. This kit includes the air spring cylinder and 70mm hydraulic damping cartridge with "On-the-fly" lockout.

SUPER FATTY DL FORK

The Super Fatty fork features the patented HeadShok telescoping steerer tube assembly that uses 88 needle bearings for smooth, responsive suspension action. The fork uses TIG-welded 6061-T6 aluminum fork blades that have been swaged and tapered to increase strength and reduce weight.

The Super Fatty DL fork includes the DL/80 cartridge that offers 80mm of travel using the lightweight air spring system. The cartridge also features a hydraulic damping cartridge that reacts to various size impacts with varying amounts of damping. Finally the suspension cartridge can be locked out "On-the-fly" by turning the Damping Dial clockwise.

See the "Air spring preload adjustment" section above for instructions on setting the suspension preload before riding the fork.

The disc brake mount on the left side dropout of the fork is designed to fit a CODA Disc Brake caliper. Other brands of disc brakes that conform to the international mounting standard may fit as well.

SUPER FATTY M FORK

The Super Fatty fork features the patented HeadShok telescoping steerer tube assembly that uses 88 needle bearings for smooth, responsive suspension action. The fork uses TIG-welded 6061-T6 aluminum fork blades that have been swaged and tapered to increase strength and reduce weight.

The disc brake mount on the left side dropout of the fork is designed to fit a CODA Disc Brake caliper. Other brands of disc brakes that conform to the international mounting standard may fit as well.

The Super Fatty M fork includes the MC80 cartridge that offers 80mm of travel using the Advanced Spring System's coil / MCU combination. The cartridge also features a mechanical air damper that controls the compression and rebound speed on the spring.

See the "Coil spring / MCU preload adjustment" section above for instructions on fine tuning the suspension preload before riding the fork. Super Fatty M coil springs come in the following configurations.

RIDER WEIGHT RANGE	*RECOMMENDED SPRING*	*SPRING KIT CODE*
150 lbs. or less	Green	HD155/GRE
140 Ð 200 lbs.	Blue	HD155/BLU
180 lbs. or more	Red	HD155/RED

BIKE SIZE	*COMES WITH THIS SPRING*
Small	Green
Medium	Blue
Large	Blue
Extra Large	Red
Jumbo	Red

The Super Fatty M fork can be upgraded to Super Fatty DL performance with kit # HDUPDL/80. This kit includes the air spring cylinder and 80mm hydraulic damping cartridge with "On-the-fly" lockout.

P-BONE™ FORKS

The P-Bone fork features the patented HeadShok telescoping steerer tube assembly that uses 88 needle bearings for smooth, responsive suspension action. The fork blades are TIG-welded 6061-T6 aluminum for a lightweight but stiff fork structure which provides absolutely precise steering. P-Bone forks are not disc brake compatible. Do not attempt to fit disc brakes with any clamps and/or adapters.

The P-Bone D fork includes the DD60 cartridge that offers 60mm of travel using the Advanced Spring System's coil / MCU combination. The cartridge also features a hydraulic damping cartridge that reacts to various size impacts with varying amounts of damping. Finally the suspension cartridge can be locked out "On-the-fly" by turning the Damping Dial clockwise.

The P-Bone M fork includes the MC60 cartridge that offers 60mm of travel using the Advanced Spring System's coil / MCU combination. The cartridge also features a mechanical air damper that controls the compression and rebound speed of the spring.

See the "Coil spring / MCU preload adjustment" section above for instructions on fine tuning the suspension preload before riding the fork. P-Bone coil springs come in the following configurations.

RIDER WEIGHT RANGE	*RECOMMENDED SPRING*	*SPRING KIT CODE*
150 lbs. or less	Green	HD110/GRE
140 Ð 200 lbs.	Blue	HD110/BLU
180 lbs. or more	Red	HD110/RED

BIKE SIZE	*COMES WITH THIS SPRING*
Small	Green
Medium	Blue
Large	Blue
Extra Large	Red
Jumbo	Red

The P-Bone M or D forks can be upgraded to air-sprung DL performance with kit # HDUPDL/70. This kit includes the lighter air spring cylinder and hydraulic damping cartridge with "On-the-fly" lockout. However, the travel of the fork is still limited to 60mm.

You can also upgrade the P-Bone M fork to a P-Bone D fork, using your existing coil spring / MCU combination. The new hydraulic cartridge with dial lockout is part # HDUPDD60/.

SILK ROAD FORK

The Silk Road fork is a HeadShok suspension fork for compatible road bikes which provides 15mm of travel. Like all other HeadShok forks, the Silk Road uses the patented telescoping assembly with 88 needle bearings for smooth, responsive riding over rough pavement. Not only do Silk Road forks make for a more comfortable ride, but by absorbing minor impacts which actually slow the forward momentum of the bicycle the fork allows faster cornering and more speed over bumpy pavement.

The Silk Road fork uses a shim-valved DD15 hydraulic damper cartridge which controls the rebound speed of the spring and can be locked out "On-The-Fly" by turning the Damping Dial, located atop the handlebar stem. This manual lockout is ideal for more efficient sprinting or climbing. The Silk Road fork also uses the Advanced Spring System coil and MCU combination spring, which combines with the needle bearings telescoping action to be sensitive to both high frequency road buzz and to minor front wheel road impacts.

See the "Coil spring / MCU preload adjustment" section above for instructions on setting the suspension preload before riding the fork. Note that there is only one spring and MCU unit available for the Silk Road fork.

WARNING:

The HeadShok Silk Road fork is designed to be ridden on paved surfaces only. This fork is NOT designed for off-road use. Use of the HeadShok Silk Road fork off-road, for cyclocross, or in otherwise abnormal, excessive, or improper conditions will void the fork's warranty. Such misuse also places the rider in danger of physical injury or death.

Also, the HeadShok Silk Road fork must be ridden with a front caliper brake installed through the fork crown. Riding this fork without a front brake will void the fork's warranty. Such misuse places the rider in danger of physical injury or death.

SILK PATH AND SILK TOUR™ FORKS:

The Silk Path and Silk Tour forks feature the patented HeadShok telescoping steerer tube assembly that uses 88 needle bearings for smooth, responsive suspension action. The fork blades are TIG-welded 6061-T6 aluminum for a lightweight but stiff fork structure which provides absolutely precise steering. Silk Path and Silk Tour forks are not disc brake compatible. Do not attempt to fit disc brakes with any clamps and/or adapters.

The Silk Path D and Silk Tour D forks include the DD25 cartridge that offers 25mm of travel using the Advanced Spring System's coil / MCU combination. The cartridge also features a hydraulic damping cartridge that reacts to various size impacts with varying amounts of damping. Finally the suspension cartridge can be locked out "On-the-fly" by turning the Damping Dial clockwise.

The Silk Path M and Silk Tour M forks include the MC25 cartridge that offers 25mm of travel using the Advanced Spring System's coil / MCU combination. The cartridge also features a mechanical air damper that controls the compression and rebound speed of the spring.

See the "Coil spring / MCU preload adjustment" section above for instructions on fine tuning the suspension preload before riding the fork. Silk Path and Silk Tour coil springs come in the following configurations.

RIDER WEIGHT RANGE	*RECOMMENDED SPRING*	*SPRING KIT CODE*
150 lbs. or less	Green	HD110/GRE
140 Ð 200 lbs.	Blue	HD110/BLU
180 lbs. or more	Red	HD110/RED

BIKE SIZE	*COMES WITH THIS SPRING*
Small	Green
Medium	Blue
Large	Blue
Extra Large	Red
Jumbo	Red

You can upgrade the Silk Tour M and Silk Path M forks to a Silk Tour D or Silk Path D fork, using your existing coil spring / MCU combination. The new hydraulic cartridge with dial lockout is part # HDUPDD25/.

FATTY X FORK:

The Fatty X fork features the patented HeadShok telescoping steerer tube assembly that uses 88 needle bearings for smooth, responsive suspension action. The fork is built with TIG-welded 6061-T6 aluminum fork blades that have been swaged and tapered to increase strength and reduce weight. This fork is similar to the mountain bike Fatty forks, but is not disc brake compatible and is designed for 700c cyclocross wheels.

The Fatty X suspension fork provides 25mm of plush suspension action, using the Silk Road spring and MCU combination tuned for optimal cyclo-cross use. It also features the shim-valved DD25 hydraulic damper cartridge which can be locked out "On-The-Fly" by turning the Damping Dial located atop the handlebar stem.

See the "Coil spring / MCU preload adjustment" section above for instructions on setting the suspension preload before riding the fork. Note that there is only one spring and MCU unit available for the Fatty X fork.

WARNING:

WARNINGS FOR ALL HEADSHOK FORKS:

Use great care and pay close attention the road or trail in front of you while turning the Damping Dial. Adjusting the fork can be distracting, and it is possible to lose control of the bicycle if your eyes wander from the surface directly in your path. Also remember that your balance and steering control change as soon as your remove one hand from the handlebars, and that your hand is further from the brake lever. Losing control of the bicycle could result in serious injury or death. If you are at all unsure of your ability to control the bike while adjusting the suspension fork, or if you are on a rough surface or a busy road, please stop before attempting to adjust the fork.

If the suspension fork ever begins to make "knocking" or "klunking" noises, or if it ever shows an unexplained increase in travel, or looks like it is extended farther than it was originally, or if the fork loses its ability to lock-out ('D', 'DD', 'DL', and 'DLR' type cartridges only), stop riding the bike and bring it to a HeadShok dealer for inspection. Possible indications of a problem are:

- *An increase in the fork's extension or travel.*
- *A stretched-out fork boot.*
- *A stretched or strained front brake cable.*
- *"Knocking" or "klunking" noises coming from fork.*
- *A sudden loss of lock-out ability on cartridges which feature Damping Dial lock-out.*

If any of the above symptoms are ignored, the result could be a separation of the fork from the bicycle frame. Separation of the fork could lead to an accident, with risk of serious injury or death.

If your bike has suspension, the increased speed you may develop also increases your risk. When braking, the front of a suspended bike dips. You could have a bad accident if your skill is not up to handling this system. Get to know how to handle your suspension system well before trying any downhill or very fast biking.

Likewise, suspension will increase handling capabilities and comfort of your bicycle. This enhanced capability may allow you to ride faster. But do not confuse the enhanced capabilities of a suspension bike with your own capabilities. Increasing your skill will take time and practice. Proceed carefully until you are sure you are competent to handle the full capabilities of your bike. (continued)

(Continued)

Only use brakes designed to be mounted to existing cantilever bosses or disc brake mount on the fork. Do not attempt to add any brake mount or use any brake device that requires adapting the fork's existing brake mounts. Altering or adapting existing brake mounts or installing new brake mounts will void the fork's warranty and may result in structural failure of the fork. Structural failure of the fork will result in loss of control of the bicycle, placing the rider in danger of serious injury or death.

HEADSHOK WARRANTY

All HeadShok forks and their internal assemblies are warrantied against manufacturing defects in materials and/or workmanship for a period of one year from the date of original retail purchase.

Not covered under warranty is damage resulting from improper adjustment or maintenance, lack of maintenance, crashes, or use judged by HeadShok to be excessive or abusive.

Please see your Cannondale Bicycle Owner's Manual for more complete warranty information.

GETTING IN TOUCH WITH HEADSHOK

For warranty related questions or for more information on this or any HeadShok product, please feel free to contact us.

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Japan:	(81) 722-99-9399
Australia:	(612) 9979-5851

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