

Scalpel HT

Owner's Manual Supplement



WARNING

**READ THIS SUPPLEMENT AND YOUR
CANNONDALE BICYCLE OWNER'S MANUAL.**

Both contain important safety information. Keep both for future reference.

Safety Messages

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

WARNING

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

NOTICE

Indicates special precautions that must be taken to avoid damage.

SYMBOLS:



= Apply NLGI-2 Synthetic grease or a high-quality bicycle bearing grease



= Apply Carbon Gel, Friction Paste for bicycle components



= Apply [Loctite® 242](#) or medium strength removable thread lock

N·m = Tightening torque in Newton meters.

Cannondale Supplements

This manual is a “supplement” to your [Cannondale Bicycle Owner’s Manual](#).

This supplement provides additional and important model specific safety, maintenance, and technical information. It may be one of several important manuals/supplements for your bike; obtain and read all of them.

Please contact your Authorized Cannondale Dealer immediately if you need a manual or supplement or have a question about your bike. You may also contact us using the appropriate country/region/location information.

You can download Adobe Acrobat PDF versions of any manual/supplement from our website: <http://www.cannondale.com>.

Contacting Cannondale

Cannondale USA

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International Distributors

Consult our website to identify the appropriate Cannondale Dealer for your region.

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Your Cannondale Dealer

To make sure your bike is serviced and maintained correctly, and that you protect applicable warranties, please coordinate all service and maintenance through your Authorized Cannondale Dealer.

NOTICE

Unauthorized service, maintenance, or repair parts can result in serious damage and void your warranty.

Safety Information

Important Composites Message

WARNING

Your bike (frame and components) is made from composite materials also known as “carbon fiber.”

All riders must understand a fundamental reality of composites. Composite materials constructed of carbon fibers are strong and light, but when crashed or overloaded, carbon fibers do not bend, they break.

For your safety, as you own and use the bike, you must follow proper service, maintenance, and inspection of all the composites (frame, stem, fork, handlebar, seat post, etc.) Ask your Cannondale Dealer for help.

We urge you to read PART II, Section D. “Inspect For Safety” in your [Cannondale Bicycle Owner’s Manual](#) BEFORE you ride.

You can be severely injured, paralyzed or killed in an accident if you ignore this warning.

Inspection & Crash Damage Of Carbon Frames/Forks

WARNING

After A Crash Or Impact:

Inspect frame carefully for damage. See PART II, Section D. Inspect For Safety in your [Cannondale Bicycle Owner’s Manual](#).

Do not ride your bike if you see any sign of damage, such as broken, splintered, or delaminated carbon fiber.

Any of the following may indicate a delamination or damage:

An unusual or strange feel to the frame

Carbon which has a soft feel or altered shape

·Creaking or other unexplained noises,

Visible cracks, a white or milky color present in carbon fiber section

Continuing to ride a damaged frame increases the chances of frame failure, with the possibility of injury or death of the rider.

Intended Use



The intended use of all models is ASTM CONDITION 3, Cross-Country.

WARNING

Please read your [Cannondale Bicycle Owner's Manual](#) for more information about Intended Use and Conditions 1-5.

Servicing

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 Dealer.

Tightening Torques

Correct tightening torque for the fasteners (bolts, screws, nuts) on your bicycle is very important to your safety. Correct tightening torque for the fasteners is also important for 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 torque fasteners yourself always use a torque wrench.

Find Tightening Torque Information :

The wide range of bicycle models and components used means that a listing of tightening torque would be out of date by the time it was published. Many fasteners should be installed with a thread locking adhesive such as Loctite®.

To determine correct tightening torque and any adhesive application for a fastener we ask you to check:

Many components are marked. On-product marking is becoming common.

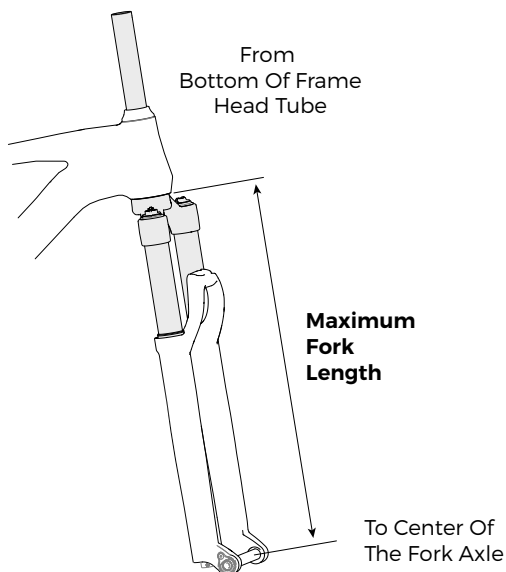
- Torque specs in the component manufacturers instructions shipped with your bicycle.

Torque specs listed on the websites of component manufacturers.

With your dealer. Dealers have access to current data and have experience with correct torque for most fasteners.

Maximum Fork Length

Maximum Fork Length is an important frame safety testing specification for front suspension mountain bikes. You must observe the measurement when installing headset parts, headset adapters, installing and adjusting a fork, and selecting replacement forks.



WARNING

You must select a replacement fork not only based on head tube diameter but the critical factor of frame maximum fork length.

Do not exceed maximum fork length. Exceeding the MAXIMUM FORK LENGTH limit can overload the frame causing it to break while riding.

Your retailer MUST follow and observe this specification for your bike. For Maximum Fork Length specifications for Cannondale bicycles, see www.cannondale.com.

You can be severely injured, paralyzed or killed in an accident if you ignore this warning.

Tire Size x Maximum Width

WARNING

Observe the Tire Size x Maximum Width for your bike found in the “Specifications” page of this manual.

Mounting the wrong size tires can result in the tires hitting the fork or frame when riding. If this happens, you can lose control of your bike and you can be thrown off. A moving tire can be stopped because it touches the fork or frame.

Do not mount tires that are larger than the maximum recommended size. Such tires could contact the fork, frame, saddle, seatpost, or seatbinder when the suspension is fully compressed or while riding. Only select tires that are compatible with your bike’s fork and frame design. Also, be sure to follow the manufacturer’s recommendations of your front fork and rear shock.

When you are considering tires for your bike consider...

The actual measured size of a tire may be different than its sidewall marking. Each time you mount a new tire, take the time to inspect the actual clearance between the rotating tire and all parts of the frame. The U.S. Consumer Product Safety Commission (CPSC) requires at least 1/16” (1.6 mm) tire clearance from any part of the bike. Allowing for lateral rim flex and a wheel or rim that is out-of-true will likely mean choosing a rear tire that provides even more clearance than the CPSC recommends.

Ask your authorized brand retailer for the right tires for your bike and its particular components! You can be severely injured, paralyzed or killed in an accident if you ignore this warning.

Serial Number

The serial number is located on the bottom bracket. It is a 7-character barcode (1). Use this serial number to register your bike.

To register your bike: go to the **Product Registration** section of our website at www.cannondale.com



1. Serial Number
2. Product Codes

Minimum Seat Post Insert - Frame

 **WARNING**

Keep the frame's minimum seat post insertion length inserted into the frame at all times. The length is found in the "Specifications" table in this manual.

To mark the seat post with a frame minimum seat post insertion mark:

1. Remove the seat post.
2. Measure the length of the specification up from the bottom of the seat post.
3. Make a permanent ink line mark on the seat post.

If you have questions, about minimum seat post insert of the frame or a seat post minimum insert, please consult with your dealer or a professional bicycle mechanic.

Failure to insert and maintain either frame seat post minimum insert and also seat post minimum insert, can place very high stresses these parts causing failure while riding.

You can be severely injured, paralyzed or killed in an accident if you ignore this warning.

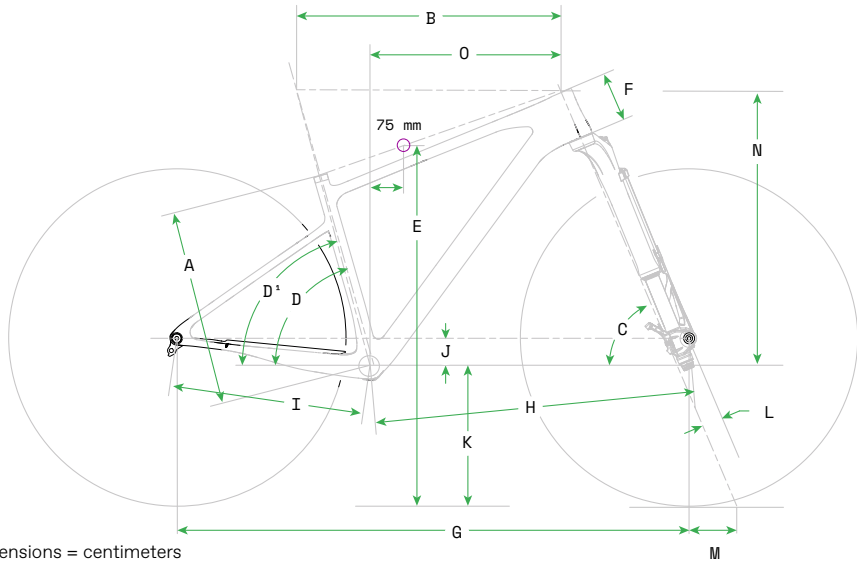
Technical Information

Specifications

Item	Specification
Head Tube	UPR: 1 1/8in LWR: 1 1/2in
Headset	Integrated 1 1/8in-1.5in FSA Orbit C-40 ACB
Bottom Bracket: Type/Width	83mm PF30
Front Derailleur	N/A
Seat Post: Dia./Binder	27.2mm/30.9mm
▲ Min. Seat Post Insert	100mm
▲ Tire Size x Max. Tire Width	29 × 2.35in
▲ Max. Fork Length	530mm
Chain Guide	K11271 only
Rear Brake: Mount Type / Min./Max. Rotor Dia.	Post Mount/160/180mm
Rear Axle: Type/Length	Speed Release UDH/148×12×1.0P 173.5mm Overall Length
▲ Intended Use	ASTM CONDITION 3: Cross-Country, Marathon, Hardtails
▲ Max. Weight Limit: Total (Rider+All Equipment)	305lbs/138kg
Additional Technical Features	SRAM UDH, K11271 Chain Guide

All Specifications subject to change without notice.

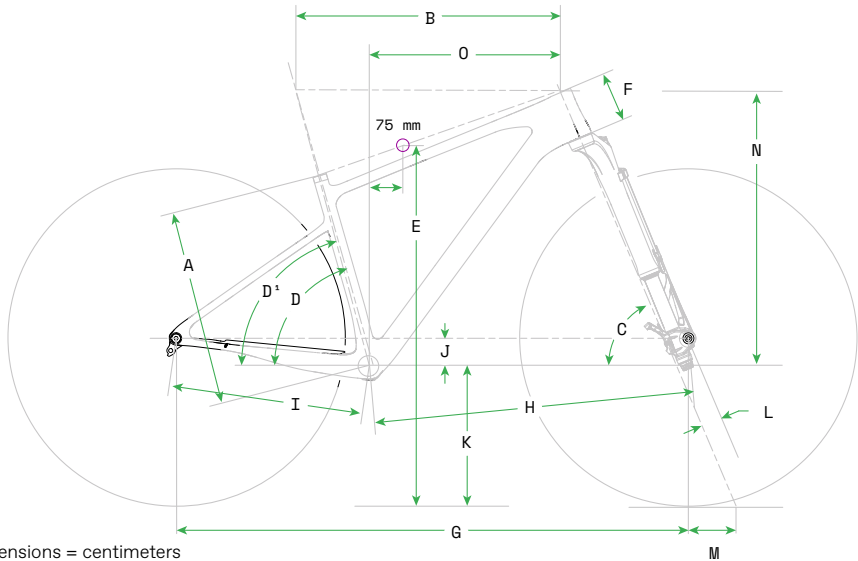
Geometry - Scalpel HT 100 (Lefty Ocho)



Item	Size	SM	MD	LG	XL
	Wheel Size	29	29	29	29
A	Seat Tube Length	39.0	44.0	48.0	53.0
B	Top Tube Horizontal	57.1	59.4	61.7	64.0
C	Head Tube Angle	67.0	67.0	67.0	67.0
D	Seat Tube Angle Effective	75.0	75.0	75.0	75.0
D'	Seat Tube Angle Actual	73.2	74.0	74.6	75.0
E	Standover	74.8	78.5	81.4	85.0
F	Head Tube Length	9.9	11.0	12.2	13.5
G	Wheelbase	112.4	115.4	118.3	121.4
H	Front Center	70.2	72.6	75.0	77.6
I	Chain Stay Length	43.0	43.5	44.0	44.5
J	Bottom Bracket Drop	6.2	6.2	6.2	6.2
K	Bottom Bracket Height	28.0	31.5	31.5	31.5
L	Fork Rake	5.5	5.5	5.5	5.5
M	Trail	10.0	10.0	10.0	10.0
N	Stack	60.2	61.2	62.3	63.5
O	Reach	41.0	43.0	45.0	47.0
	Head Tube Height	51.1	51.1	51.1	51.1

Specifications subject to change without notice.

Geometry - Scalpel HT 110 (Lefty Ocho 120)



Item	Size	SM	MD	LG	XL
	Wheel Size	29	29	29	29
A	Seat Tube Length	39.0	44.0	48.0	53.0
B	Top Tube Horizontal	57.2	59.4	61.7	64.2
C	Head Tube Angle	66.5	66.5	66.6	66.6
D	Seat Tube Angle Effective	74.5	74.5	74.6	74.6
D'	Seat Tube Angle Actual	72.7	73.5	74.1	74.6
E	Standover	75.4	79.0	81.9	85.5
F	Head Tube Length	9.9	11.0	12.2	13.5
G	Wheelbase	112.3	115.1	118.1	121.2
H	Front Center	69.9	72.3	74.8	77.4
I	Chain Stay Length	43.0	43.5	44.0	44.5
J	Bottom Bracket Drop	5.9	5.9	5.9	5.9
K	Bottom Bracket Height	28.0	31.8	31.8	31.8
L	Fork Rake	5.0	5.0	5.0	5.0
M	Trail	10.9	10.9	10.9	10.9
N	Stack	60.7	61.7	62.9	64.1
O	Reach	40.4	42.3	44.4	46.5
	Head Tube Height	52.1	52.1	52.1	52.1

Specifications subject to change without notice.

Seat Post

Installation & Adjustment

Before installing:

- To ensure good clamping and avoid creaking, remove all residual carbon paste with a clean cloth dampened with rubbing alcohol. Wipe the inside of the seat tube and seat post. Wipe again using a clean area of the cloth and repeat until the cloth comes away clean.
- Apply fresh carbon friction paste to the seat post and place a little bit inside the seat tube.
- Lightly grease the seat tube under the seat post clamp.

To adjust:

1. Insert the prepared seat post into the frame.
2. Set the saddle height. Maintain the specified minimum insert.
3. Tighten the binder screw to the specified torque.

NOTICE

Do not exceed the specified torque. If you over-tighten the binder bolt, you will damage the binder, seat post, or frame.

Minimum Insert

The minimum insert depth the seat post must be inserted into the frame is 100mm.

Maximum Insert

The total length of seat post that may be inserted will vary with the frame size and should be checked in each frame.

To check, carefully slide a seat post into the frame until it stops; then lift it up 5mm.

NOTICE

A seat post should not be bottomed out inside the frame at any time. If necessary, have your Cannondale dealer cut the seat post appropriately.



WARNING

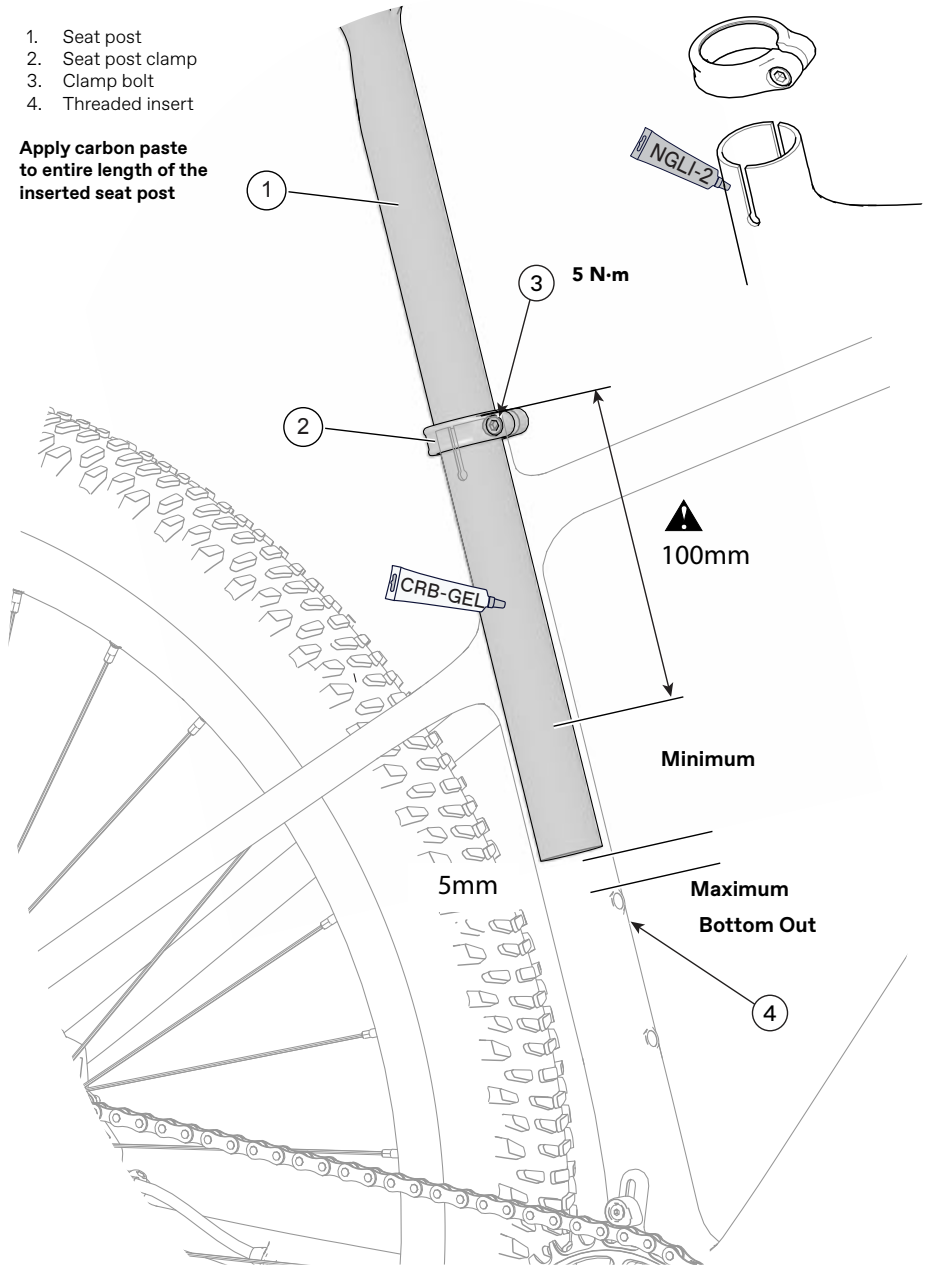
THE SEAT POST MUST ONLY BE CUT BY A PROFESSIONAL BIKE MECHANIC. Incorrectly cutting the seat post can result in damage leading to an accident.

For more information about carbon fiber seat posts, see also “Care and Maintenance of Carbon Fiber Seat Posts” in your [Cannondale Bicycle Owner’s Manual](#).

Identification

1. Seat post
2. Seat post clamp
3. Clamp bolt
4. Threaded insert

Apply carbon paste to entire length of the inserted seat post



Chain Guide Setup

To install the chain guide:

1. Clean the guide and the frame mounting location.
2. Attach the guide arm to the frame with the mounting screw. Tighten to 1-2 Nm with a torque wrench/



WARNING

Do not ride the bike with the chain guide removed, or in a damaged condition. Replace it with a new one.

to derail the chain, while pedaling it forward (by hand) in the work stand. The chain should not come off of the guide. If the chain does come off of the guide, slightly lower the guide until it does not.



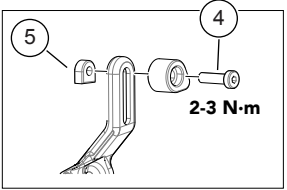
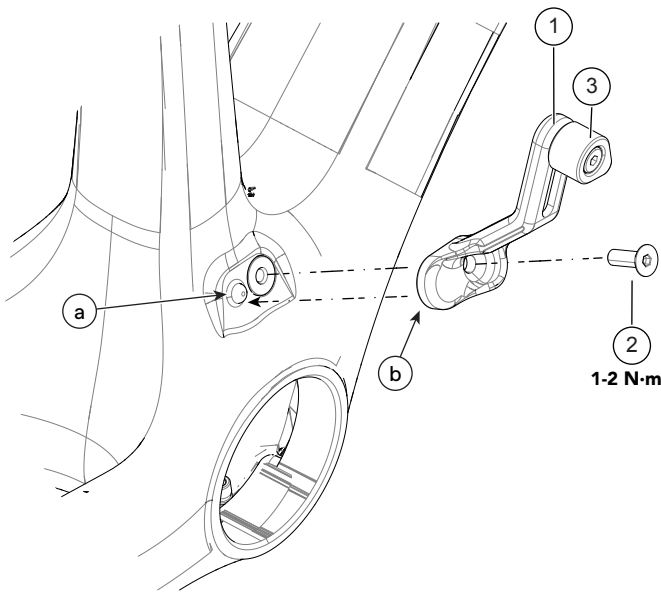
WARNING

Keep fingers away from chain ring.

5. Confirm the chain guide does not rub while the rider is pedaling the bike in the largest cassette cog.

To set the position of the chain guide:

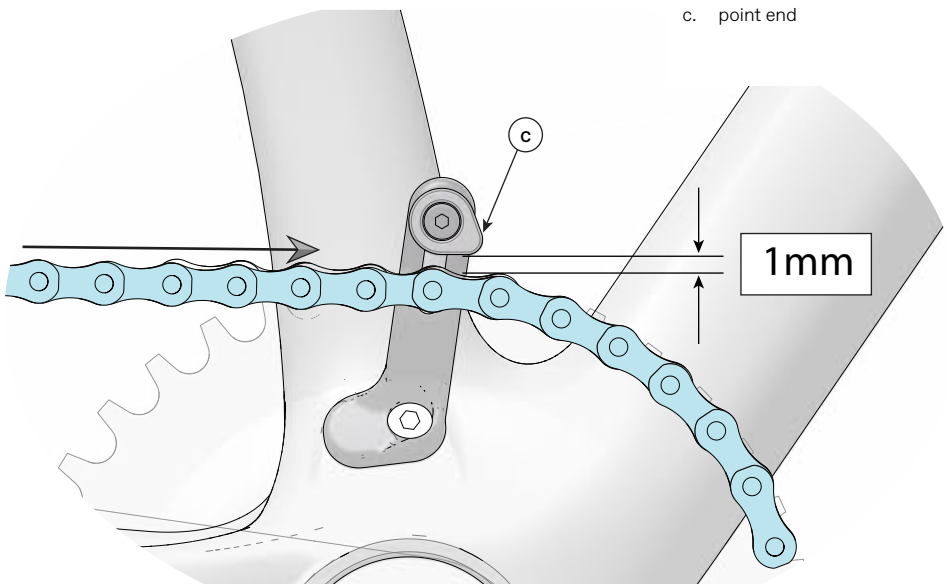
1. Shift the chain onto the largest cog on the rear cassette.
2. Position the flat surface of the chain guide head 1mm above the chain as shown next figure. The pointed end faces forward on the bike.
3. Place a 1mm allen key flat on top of the chain so its flat side contact the chain and the guide lower surface and lower the chain guide into the allen key, then tighten to 2-3 Nm.
4. Test to confirm the chain guide is operating properly by pulling the chain towards the outside of a slowly rotating chain, attempting



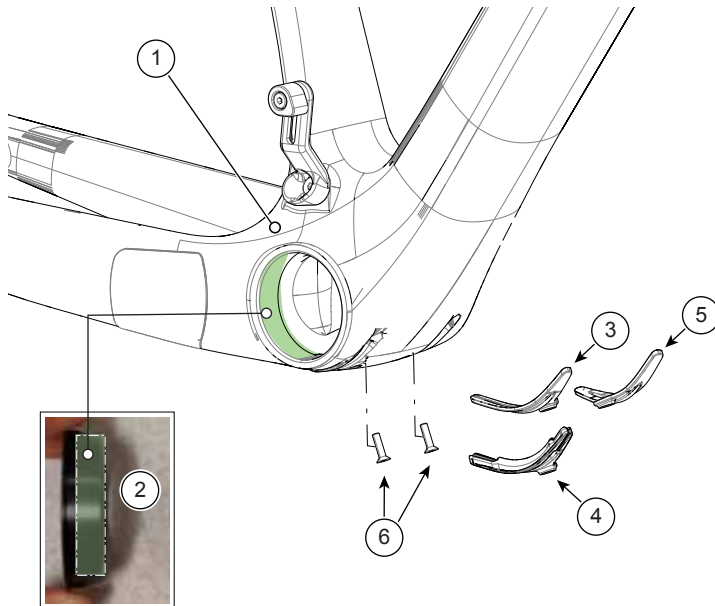
Identification

1. Guide arm
2. Mounting screw
3. Guide head
4. Guide screw
5. Threaded plate

- a. bump
- b. recess
- c. point end



Bottom Bracket - PF30 / 83 mm MTB



Clean surface and apply Loctite® 680 retaining compound, ensure that both mating surfaces of the cup are completely covered before pressing in the PF30 cups. Allow time to cure according to Loctite instruction prior to proceeding with bearing installation. below:

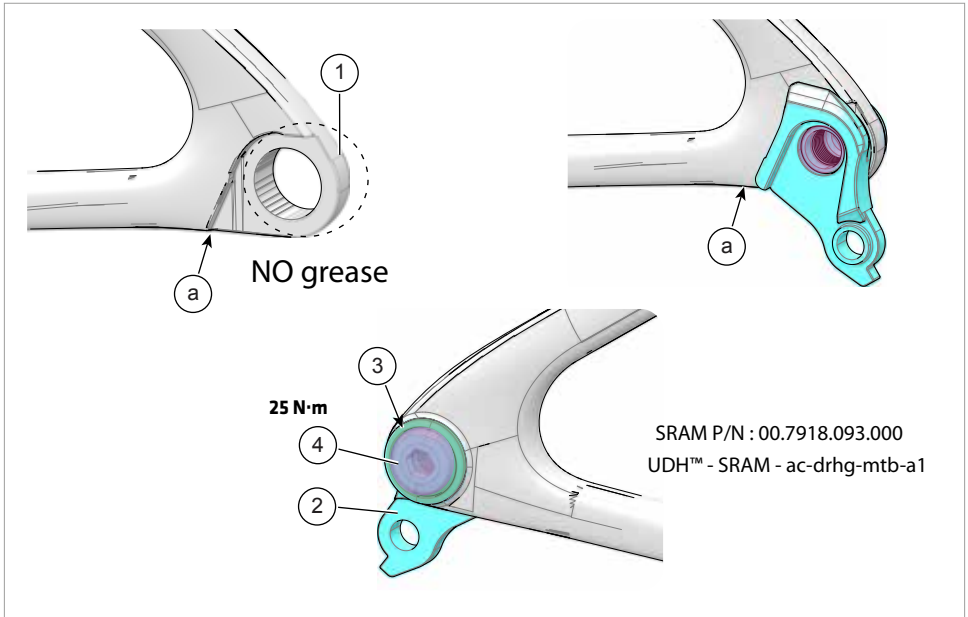
Identification

- | | | |
|------------------------------|--|---|
| 1. Frame BB Shell | 4. Mechanical cable guide,
drive side | 5. Brake housing cover,
non-drive side |
| 2. Bearing Cup | | |
| 3. Housing cover, drive side | | |

NOTICE

To avoid serious damage to the frame, follow the manufacturer's instructions for assembly and installation of the bearing system. Use the specified bottom bracket tools when servicing. Consult with your Cannondale Dealer on the quality and compatibility of any proposed replacement component. Do not use chemical solvents to clean. Do not remove frame material or use surfacing tools on the bottom bracket shell. Frame damage, caused by improper components, component installation, or removal is not covered by your warranty.

Universal Derailleur Hanger (UDH)



Identification

- | | |
|----------------|----------------------|
| 1. UDH dropout | 4. UDH Bolt |
| 2. UDH hanger | a. UDH rotation stop |
| 3. UDH washer | |

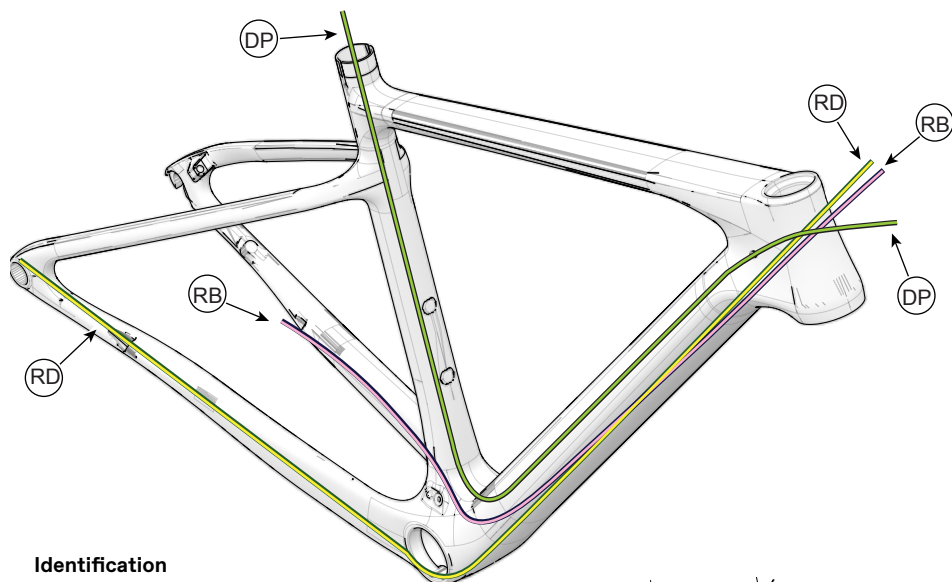
Replacement

Before installing a new /replacement hanger, be sure to clean any dirt or debris on the dropout with a nylon brush (e.g., old toothbrush). Inspect the area for any damage especially after a crash or impact. Take corrective action when required. Use a good-quality torque wrench and tighten to the specified torque.

NOTICE

Follow SRAM's instructions when mounting the UDH hanger to the frame.
- <https://www.sram.com/en/sram/models/ac-drhg-mtb-a1>

Cable Routing



Identification

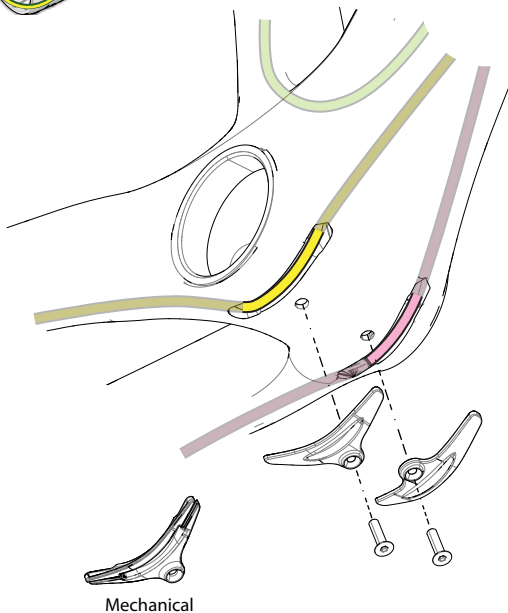
- RD - Rear derailleur housing, or cable
- RB - Rear brake housing
- DP - Dropper post housing

Route cables inside the frame from the headtube to the bottom bracket shell and enter the chainstays.

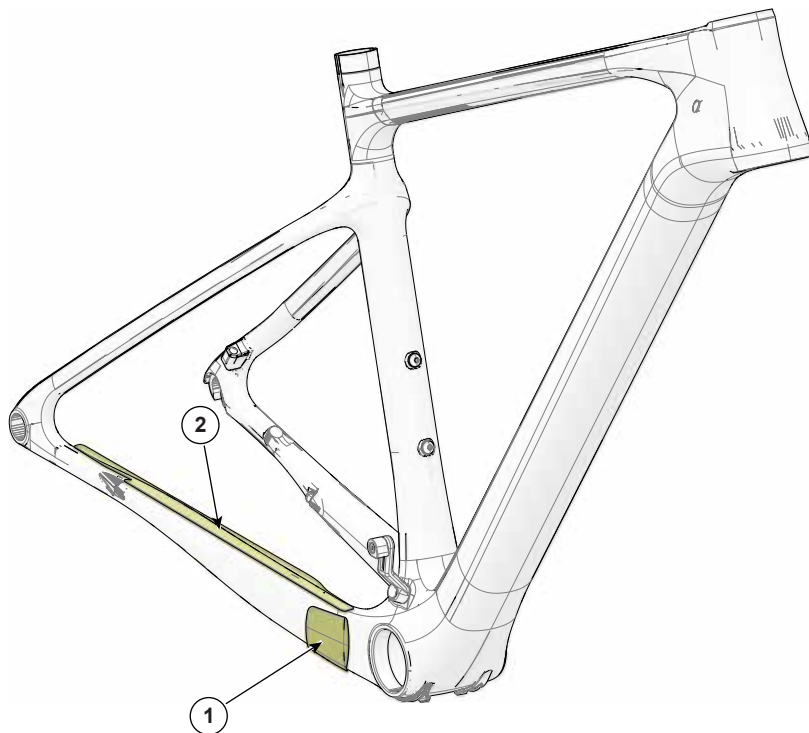
Cables and wire, in case of electronic shift, fit into the channels.

In case of a mechanical rear derailleur, use the slotted cover shown.

Do not remove the covers except to service cables.



Guards/Protectors - Placement



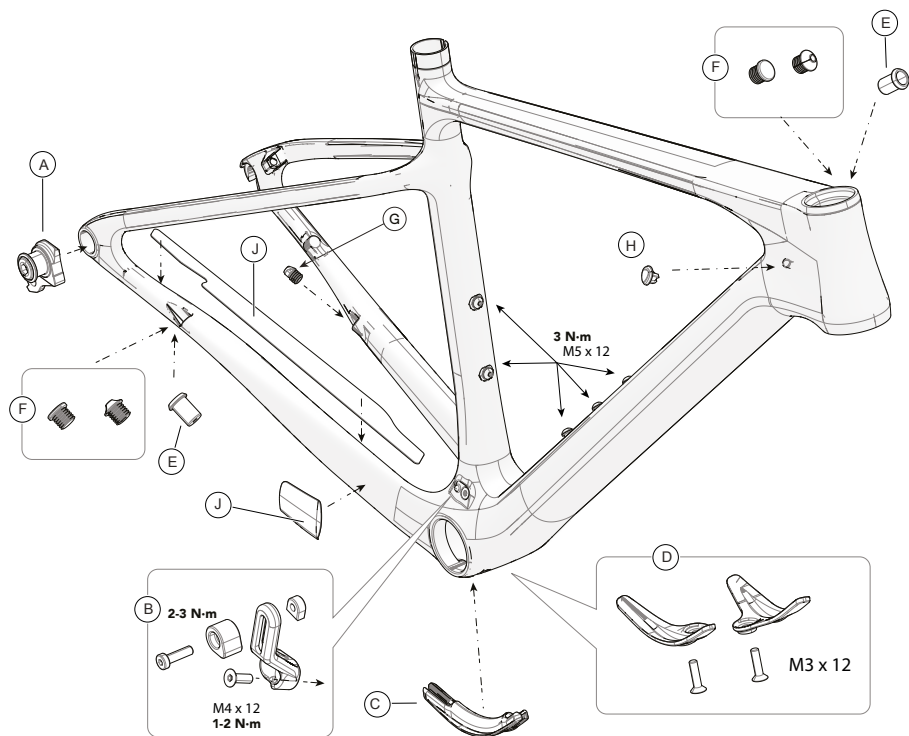
Identification

1. Chain plate
2. Chainstay, protector

NOTICE

Damaged, loose, missing, or incorrectly-positioned protectors can lead to frame damage not covered by the Cannondale Limited Warranty. Make sure all frame protectors and guards are present, in good condition, and installed correctly.

Replacement Parts



ID	Part Number	Description
A		SRAM Universal Derailleur Hanger (UDH) SRAM P/N 00.7918.093.000
B	K11271	Scalpel HT Chain Guide
C	K32161	BB Guide Covers
D	K32150	Cable Guides
E	K32330	Dropout Cable Stop Mech QTY = 1
F	K32048	Shift And Brake Grommets

ID	Part Number	Description
G	KP449/	Rubber Brake Housing Grommets
H	K32241	Cable Entry Grommet
I	K34591	Scalpel HT CS Protector
J	K34601	Scalpel HT Chainring Clear Frame Protection
-	K83081	UDH Speed Rel TA 148x12 173.5mm M12x1.0P

Maintenance

The following table lists only supplemental maintenance items. Please consult your [Cannondale Bicycle Owner's Manual](#) for more information on basic bike maintenance.

Developing an Schedule

Item	Frequency
Cable Routing - Make sure control cables are in place, undamaged and attached securely. Frame Protection - Check the various frame protectors on your bike. Make sure they are in place and in good condition.	Before first ride
Damage Inspection - Clean and visually inspect the entire bike for cracks or damage.	Before and after each ride
Check Tightening Torques - In addition to other component-specific tightening torques for your bike, tighten according to the "Tightening Torques" information listed in this supplement.	Every few rides
Components - Consult the manufacturer's owner's manual for maintenance requirements.	

WARNING

Any part of a poorly maintained bike can break or malfunction leading to an accident where you can be killed, severely injured or paralyzed.

Frequent checks are necessary to identify the problems that can lead to an accident. See "Inspect For Safety" in your [Cannondale Bicycle Owners Manual](#).

www.cannondale.com

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Scalpel HT OMS

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