

127838



➤ SCALPEL 29'ER.  
OWNER'S MANUAL SUPPLEMENT.

*cannondale*



# SAFETY INFORMATION

## 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: <http://www.cannondale.com/>.

- 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.

## 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 MESSAGE.**

## Intended Use



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

### WARNING

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

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

## 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.**

## Repainting Or Refinishing

### WARNING

Repainting, painting over, retouching, or refinishing your frame or fork can result in severe damage leading to an accident. You can be severely injured, paralyzed or killed.

Refinishing chemicals : Solvents, and strippers can attack, weaken, or destroy the important composite chemical bonds holding your frame together.

Using abrasives or sanding the frame/fork structure, original paint, decals, or coatings through the use of mechanical actions such as plastic or glass bead blasting or other abrasive methods such as sanding or scraping can remove frame material or weaken it.

## Bicycle Repair / Work Stands

The clamping jaws of a bike stand can generate a crushing force strong enough to seriously damage your frame.

### NOTICE

Never place your bike in a bike stand by clamping the frame.

Place your bike in a stand by extending the seat post and positioning the stand clamp on the extended seat post. Don't extend beyond the MINIMUM INSERT line marked on the seat post.

Since your carbon seat post can also be damaged by clamping force, adjust the stand clamp for the minimum clamping force needed to secure the bike.

Also, before clamping, clean the post and protect the seat post finish with a rag.

If you have an old unused seat post, use it instead of your regular post to mount your bike in a stand.

## 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.

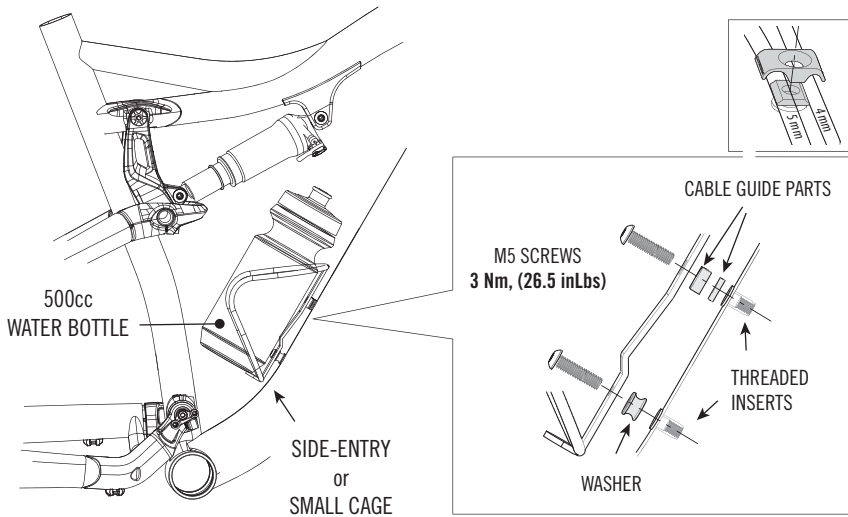
### Find Tightening Torque Information

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:

- Markings on the component. 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.

## WATER BOTTLE & CAGE



- Select a cage and bottle combination to prevent interference with suspension movement or difficulty in placing a bottle.
- Do not use a top-entry cage. Use a side entry bottle cage and a small volume water bottle (500cc). Large volume bottles are not recommend.
- The cables guides and the spacer must be positioned between the cage and the frame so the cables run underneath the cage. The cage screws must be long enough to ensure correct thread engagement with the frame insert. You may need to obtain longer screws .
- Side impacts to a water bottle or cage can result in damage threaded inserts due to the leverage on a very small area. When storing or transporting your bike, take steps to prevent situations where a water bottle may be hit or bumped by a strong force that would cause damage. Remove bottle and cage when you are packing your bike for travel.
- Periodically check the attachment of the bottle cage; tighten the cage bolts if necessary. Don't ride with a loose bottle cage. Riding with loose cage bolts can produce a rocking motion or vibration of the attached cage.

### NOTICE

Damage caused by an impact, crash, loose bottle cage, or improper installation is not covered by the Cannondale Limited Warranty.

## BOTTOM BRACKET - PRESSFIT BB30

### SCALPEL 29'ER CARBON

Carbon frames have a 46 mm I.D. bottom bracket bearing system press interface. The shell width is 73mm.

#### Maintenance

In general, you should inspect the condition of the bearings annually (at a minimum) or anytime the crankset assembly is disassembled, serviced, or if a problem is indicated.

To inspect, when the crankset is removed, rotate the inner bearing race of both bearings; rotation should be smooth, and quiet. Excessive play, roughness or corrosion indicates a damaged bearing.

#### Removal

To avoid serious damage to the frame, it is important to remove bearing systems very carefully using proper tools indicated by the manufacture's service instructions. Make sure the bearings (cup or adapter parts) are driven out squarely and evenly from inside the shell!!! Do not pry components from shell.

#### Replacement

PressFit BB30 bearings are not removable from the adapters or cup systems that are pressed into the frame bottom bracket shell. Therefore, damaged bearings must be removed and replaced as new entire sets. Before installing any new bearing units into the shell, thoroughly clean the inside surface of the bottom bracket shell with a clean dry shop towel. Also, make sure both bearing units and the BB shell surfaces are clean and dry. Do not apply grease to either.

Follow the manufacture's instruction for assembly and installation of the bearing system. Use a headset press such as Park Tool HHP-2. See [www.parktool.com/product/bearing-cup-press-HHP-2](http://www.parktool.com/product/bearing-cup-press-HHP-2) Select appropriate press and adapters to ensure that force is only applied to the cup and not the bearing inside. Press until the both cup flanges are mated to the BB shell edge.

#### NOTICE

Consult with your Cannondale Dealer on the quality and compatibility of any proposed replacement component.

Make sure the PRESSFIT BB30 30 system is intended for use with a 46 mm I.D. BB shell. Confirm actual part dimensions with a micrometer.

Do not use chemical solvents to clean. Do not remove frame material or use surfacing tools on bottom bracket shell.

Frame damage, caused by improper components, component installation or removal is not covered by your warranty.

# BOTTOM BRACKET - BB30

## SCALPEL 29'ER ALLOY

The bottom bracket shell is compatible with the BB30 Standard. See [www.bb30standard.com](http://www.bb30standard.com).

### Maintenance

Inspect bearing condition annually (at a minimum) and anytime the crankset assembly is disassembled or serviced. With the crankset removed, rotate the inner bearing race of both bearings; rotation should be smooth. No play or movement inside the shell. If the bearing is damaged, replace both bearings with new ones.

### Bearing Removal

Remove the old bearings with the bearing removal tool *KT011/*.

### Bearing Installation

To install bearings, use a headset press and Cannondale tool *KT010/*. Clean inside of shell apply a high-quality bicycle bearing grease to the inside surface. Press bearing one at a time. Press each bearing until seated. Following installation, apply a light coating of a high-quality bicycle bearing grease to both sides of each bearing to help repel moisture.

Do not re-use removed bearings. Install both bearings as a new set.

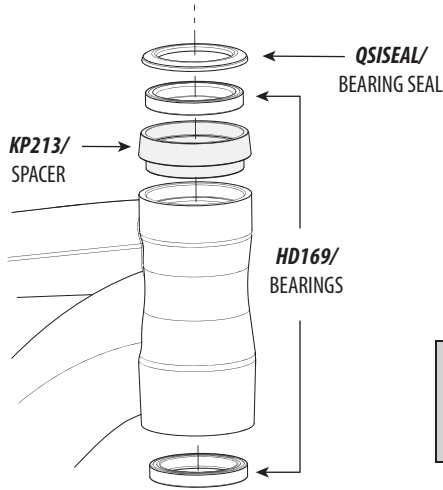
### NOTICE

**BEARINGS** - Frequent or routine renewal of undamaged bearings is not recommended. Repeated removal and reinstallation can damage the inside BB shell surfaces resulting in poor bearing fit. Do not face, mill or machine the bottom bracket shell for any reason. Doing so can result in serious damage and possibly a ruined bike frame.

**DO NOT CUT, FACE, OR USE ABRASIVES TO CLEAN THE INSIDE IF THE BB SHELL.**

We strongly recommend that these procedures be performed by an Authorized Cannondale Dealer. Damage caused by improper installation/removal is not covered under your warranty.

## HEADTUBE



**NOTICE**  
Do not face, surface, or cut the head tube.

## INTEGRATED HEADSHOK

Both frames (carbon and alloy) support a Cannondale Si System Integration headtube. Three different headset bearing systems are supported in the following Cannondale kits:

HEADSET TYPE	CANNONDALE KIT(S)
CANNONDALE HEADSHOK	<b>HD169/ QSISEAL/</b>
1.5"	<b>KP119/</b>
1 1/8"	<b>KP058/</b>
TAPERED	<b>KP205/</b>

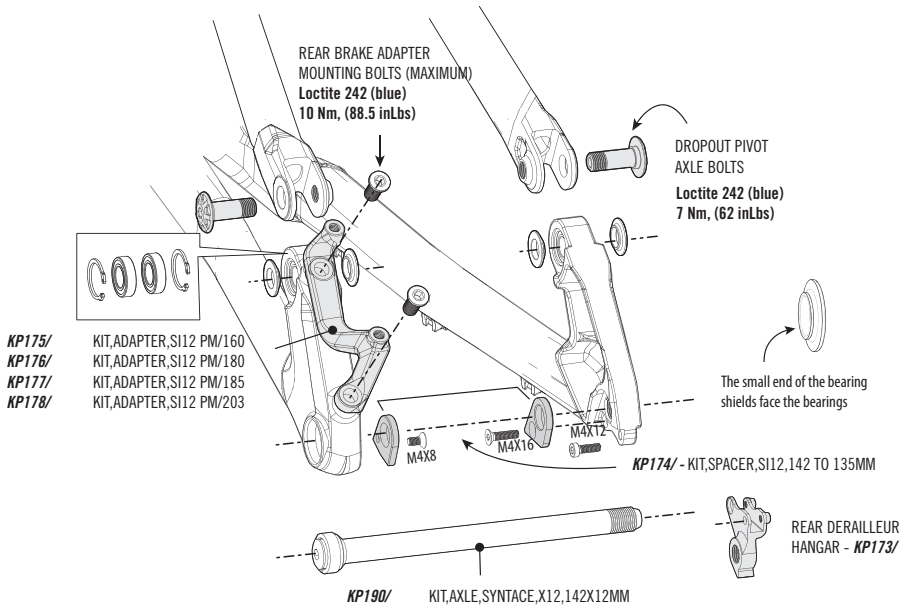
## INTEGRATED HEADSHOK SPACER - KP213/

HeadShok spacer (**KP213/**) is intended for use with Cannondale Leftys. It may be installed on top of the headtube. On top, the frame geometry (listed) would be unchanged. If the spacer is located at the bottom of the headtube, the bottom bracket height would be slightly lower and the headtube angle would be slackened.

**WARNING**

Do not use adapter (**KP213/**) with 1.5" , 1 1/8" or other headset types. It is intended for use only with Cannondale Leftys. **YOU CAN BE SEVERELY INJURED, PARALYZED, OR KILLED IN AN ACCIDENT IF YOU IGNORE THIS WARNING.**

# DROPOUT (SCALPEL 29'ER ALLOY)



Periodically - disconnect the seat stays and inspect the bearings to make sure they are in good condition. \

If the bearings are damaged, remove them and replace them with new ones. Remove and install bearings with **KP169/**. Bearings are a line fit and Loctite is not used.

Always insert small end of pivot spacers into the bearings. The flat side of the spacers face out.

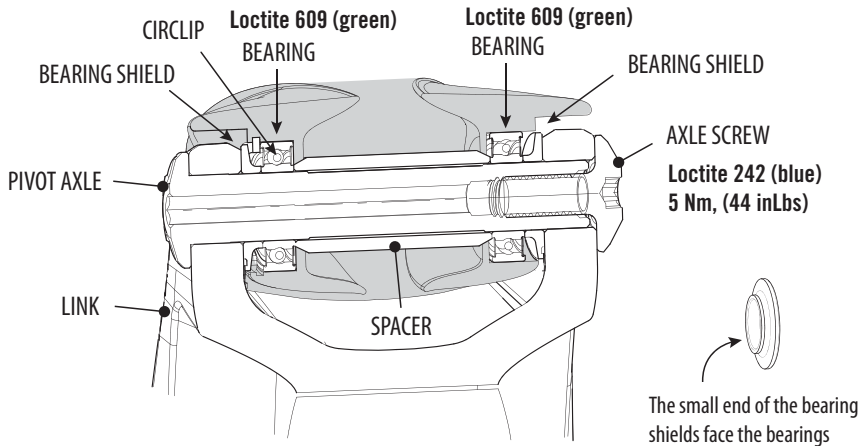
Always insert a 5mm hex key completely into the axle bolts to prevent damage when turning the bolt.

Always tighten with a torque wrench to the specified torque.

Install the hub spacers for 135mm spacing, remove for 142mm hub spacing.



## TOP TUBE PIVOT



### BEARING INSTALLATION - CARBON FRAMES:

1. Clean the bearings and frame bearing bores with an alcohol dampened towel. Apply Loctite Primer 7649 carefully inside the bearing bores. Use a swab. Allow this activator to dry.
2. Carefully apply Loctite 609 to the outer race of the bearings and inside the bore. Use a swab.
3. Install the right side bearing into the frame first. Install the circlip to hold the bearing in place.
4. Locate the spacer between the bearings and install the left side bearing. in the same manner (no circlip).
5. Assemble the bearing shields, link, link pivot axle, and axle nut. Tighten the nut to 5 Nm, (44 inLbs). This will correctly position the bearings while the Loctite cures. You should wait 24 hours for the bond to cure completely before riding the bike.

### BEARING INSTALLATION - ALLOY FRAMES:

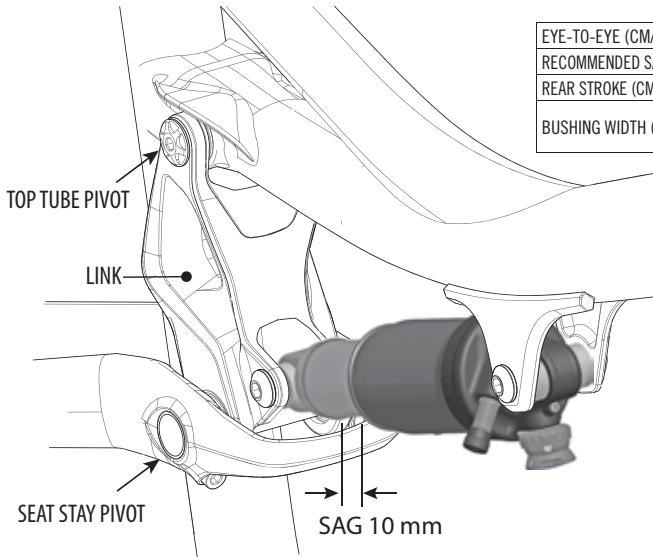
The top tube bearings of alloy frames are pressed in place and seated in the frame without the use of the Loctite bonding agent. The bearing spacer is positioned between the top tube bearings of alloy frames.

### PIVOT INSTALLATION - BOTH FRAMES

Clean the pivot and lightly grease before installation.  
Apply Loctite 242 to the screw threads.

\*\* Cannondale kit KP218/ includes Loctite Primer 7649 and Loctite 609. \*\*

# SHOCK



EYE-TO-EYE (CM/IN)	16.5/6.50
RECOMMENDED SAG %25	10 mm
REAR STROKE (CM/IN)	3.8/1.50
BUSHING WIDTH (MM)	FRONT (25.2) REAR (21.8)

SHOCK MOUNTING BOLTS  
**Loctite 242 (blue)**  
**8 Nm, (70 inLbs)**

## SET-UP

1. Set the air pressure according to for you body weight. Follow the shock manufacturer's instruction for pressurizing the shock.
2. Slide the O-ring against the shock wiper seal.
3. Sit on the bike in a normal riding position with your hands on the handlebar and feet on the pedals so that your weight compresses the rear shock.
4. Measure the SAG. Adjust the air pressure in the shock to achieve the correct SAG measurement.  
 Add air to decrease sag.  
 Release air to increase sag.

**RECOMMENDED SAG 25%**

**10 mm**

### WARNING

**SELECT ONLY COMPATIBLE SHOCKS AND FORKS FOR YOUR BIKE. DO NOT MODIFY YOUR BIKE IN ANY WAY TO MOUNT ONE. HAVE YOUR SHOCK OR FORK INSTALLED BY A PROFESSIONAL BIKE MECHANIC**

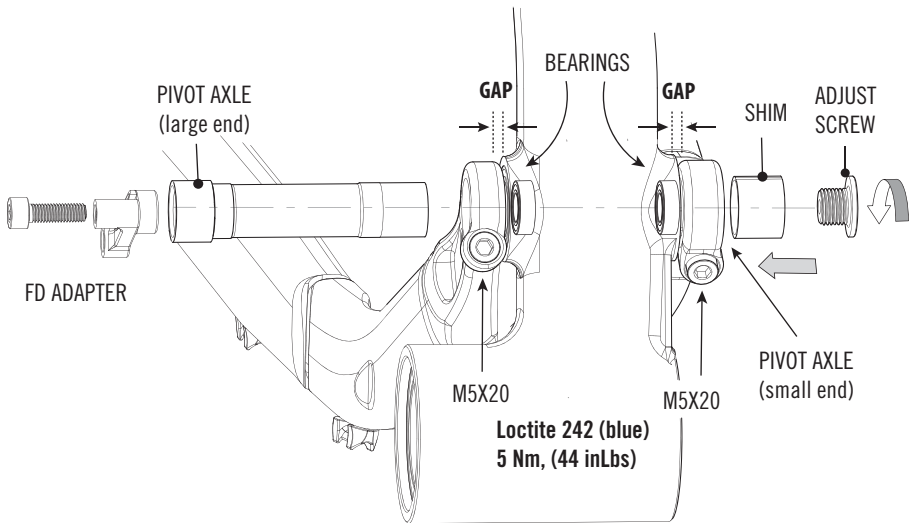
- Riding with the wrong rear shock can damage the frame. You could have a serious accident. Make sure the total travel, eye-to-eye length, and stroke length of the rear shock you select meet the **SPECIFICATIONS** listed in this manual.
- When selecting different shocks or forks for your bike, make sure that the shock or fork you select is compatible with your bike's design and how you will use your bike.

### NOTICE

Mount shock the orientation shown above.

**\*\* Turn off any platform mode on the shock to measure sag \*\***

## MAIN PIVOT



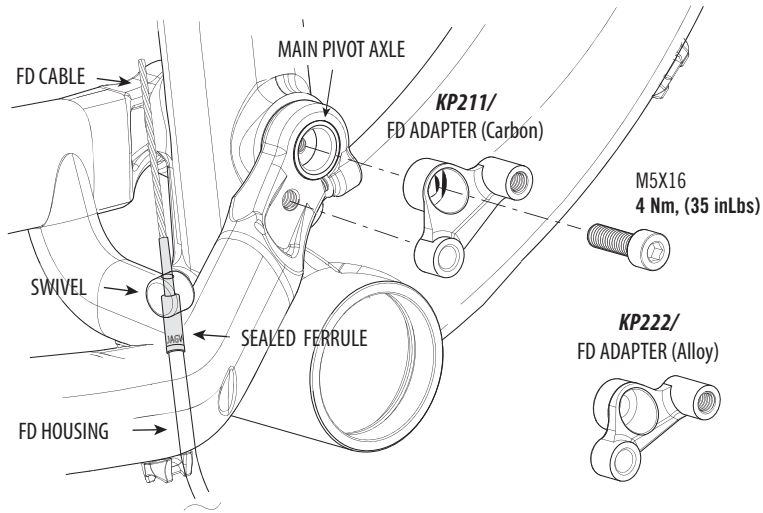
## REMOVAL

1. Remove the FD adapter from the pivot axle.
2. Remove the adjust screw and loosen both swingarm clamp bolts.
3. Insert **KP169**/driver tool into the shim side of the pivot axle. Carefully drive the pivot out of both bearings using a rubber mallet.

## INSTALLATION

1. Insert the pivot axle into the bearings with the large end on the drive side of bike. Tap the mallet through until the large end contact the inner race of the right bearing.
2. Insert the shim onto the small end of the pivot.
3. Install and insert the adjust screw. Turn it until both the shim and large end of pivot axle are seated against the bearing.
4. Center the swingarm on the pivot by sliding it to establish equal spacing on both sides.
5. Apply Loctite 242 (blue) to the threads and install the clamp bolts. Tighten to 5Nm, (44 inLbs).
6. Tighten to adjust screw to 3 Nm, (26.5 inLbs).

## DIRECT MOUNT FD ADAPTERS



### COMPATABILITY

Both frames (carbon and alloy) utilize a direct mount adapter (i.e. SRAM S3 or Shimano E-Type without a BB plate). The front derailer mount adapter installs into the main pivot axle and is specific to a carbon or alloy frame. You can see the slight difference in the adapters as shown in the above illustration. Notice that the front derailer mounting positions of the carbon adapter are about 2.85 mm lower than the alloy version. This is due to the difference in pivot location between the two different frames. These adapters are not interchangeable between frame types.

### SWIVEL & SEALED FERRULE

Notice the small swivel in the illustration. The swivel locaes into the swingarm of both frame types and its purpose is to accept the FD cable housing end and permit the end to “swivel” although very slightly. The illustration depicts the use of a sealed ferrule which can prevent water or debris from entering the housing. Using a sealed ferrule is recommended. The swivel is parts of the FD adapter kit and the sealed ferrule is a common part you can obtain through your local bike shop.

## SEAT STAY PIVOT (SCALPEL 29'ER CARBON)

### REMOVAL

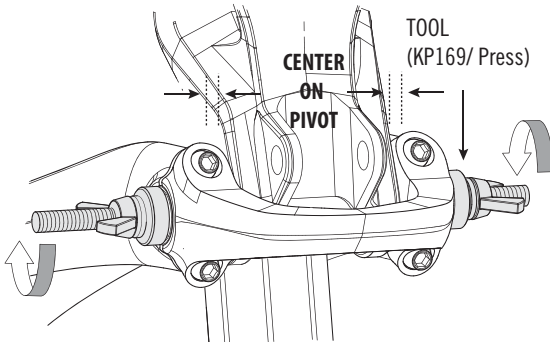
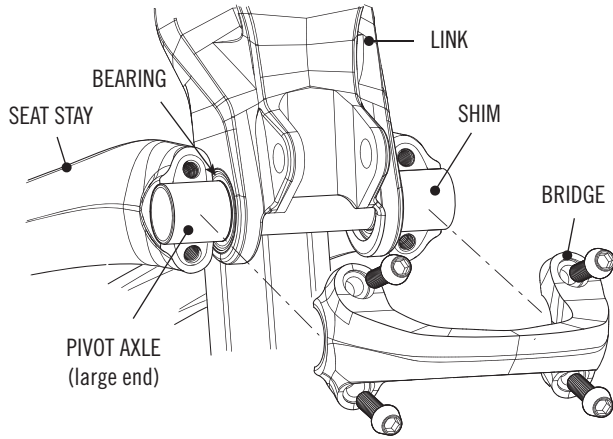
1. Remove the rear shock.
2. Loosen the seats stay pivot clamp bolts. It is not necessary to remove them.
3. Insert **KP169**/driver tool into the shim side of the pivot axle. Carefully drive pivot out of through both link bearings using a rubber mallet.

### INSTALLATION (SEE ILLUSTRATIONS NEXT PAGE)

1. Insert the pivot axle through the link bearings and slide the shim onto the small end of the pivot axle. Hold the seat stay and bridge together firmly. Apply Loctite 242 (blue) to the threads and install the clamp bolts. Finger tighten them evenly.
2. Insert the link press tool through the pivot axle and compressing until both the shim and the large end of the pivot axle are located against the inner race of the link bearings. Center the bridge by hand ensuring that an equal gap exists between the link and bridge on both side of the link. When centered, tighten the four bridge clamp bolts evenly and progressively to 5 Nm (44 inLbs). Remove the link press tool when finished.

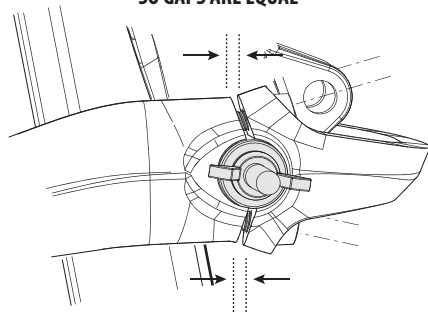
#### NOTICE

Failure to center bridge and tighten bolts evenly can result in binding or damage.



CLAMP BOLTS (4X)  
Loctite 242 (blue)  
5 Nm, (44 inLbs)

**TIGHTEN BOLTS EVENLY  
SO GAPS ARE EQUAL**



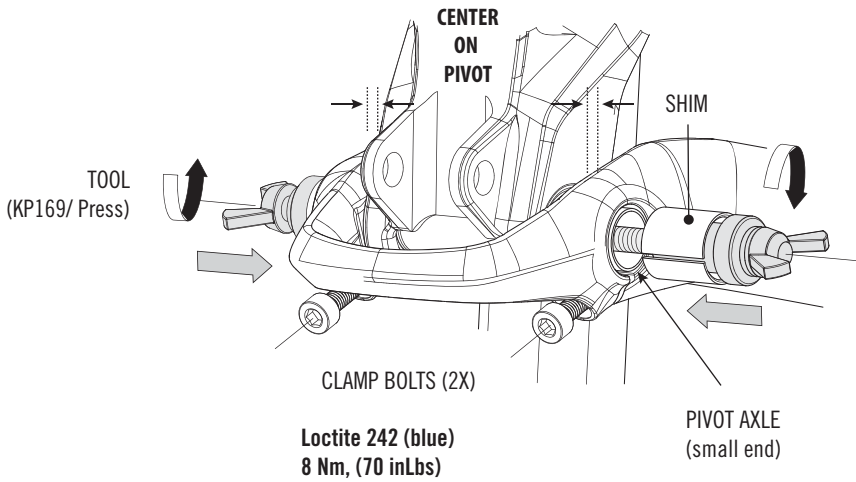
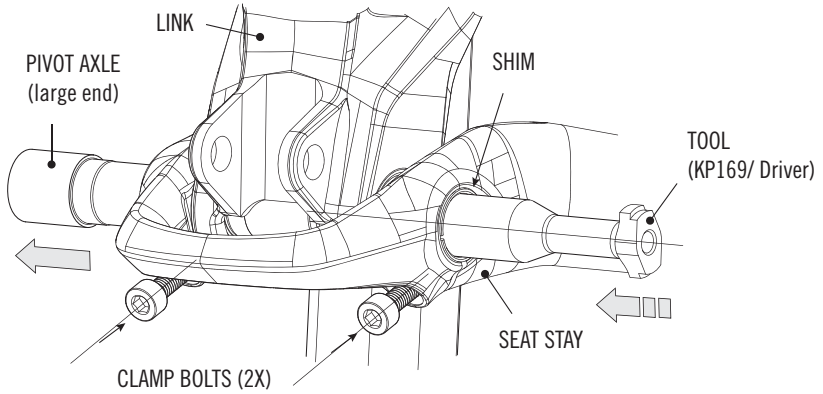
## SEAT STAY PIVOT (SCALPEL 29'ER ALLOY)

### REMOVAL

1. Remove the rear shock.
2. See above left. Loosen the seats stay pivot clamp bolts. It is not necessary to remove them.
3. Insert the link driver of Cannondale tool **KP169/** into the shim side of the pivot axle. Carefully drive pivot out of through both link bearings using a rubber mallet.

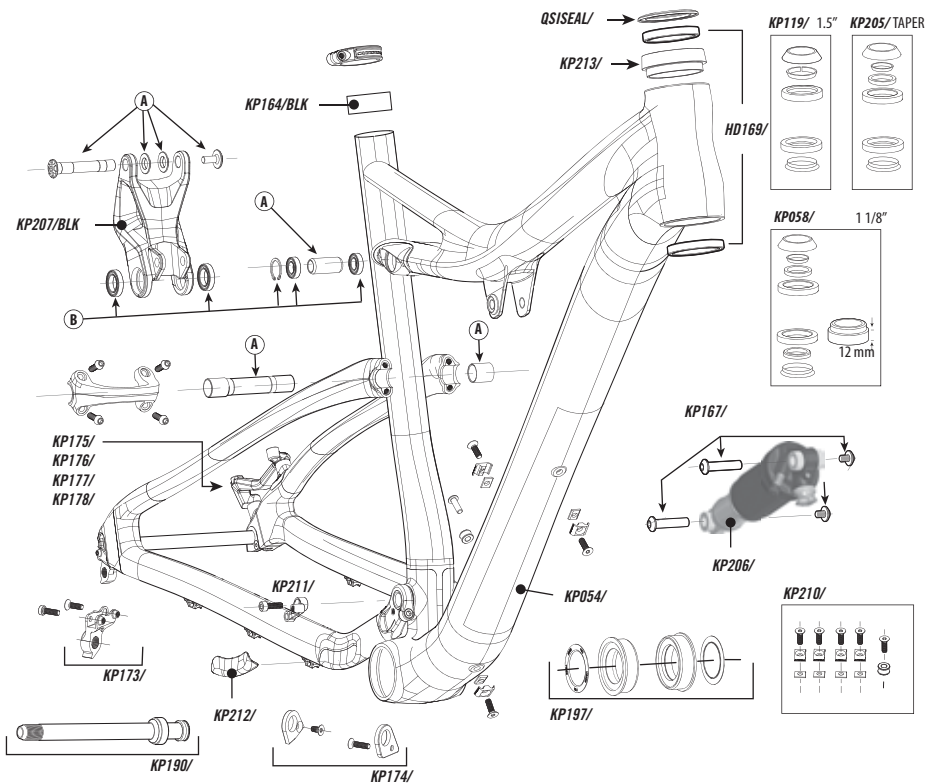
### INSTALLATION (SEE ILLUSTRATIONS NEXT PAGE)

1. Align the seat stay with the link bearings and slide the pivot axle through the bearings with the large end of the pivot axle on the right side.
2. Insert the link press of Cannondale tool **KP169/** through the axle. Install the shim on the tool left side of the link.
3. Compress the press tool to insert the shim. Continue compressing until both the shim and the large end of the pivot axle are located against the inner race of the link bearings.
4. While the link tool is compressed, center the bridge by hand ensuring that an equal gap exists between the link and bridge on both side of the link. When centered, tighten the four bridge clamp bolts evenly and progressively to 8 Nm (70 inLbs). Remove the link press tool when finished.





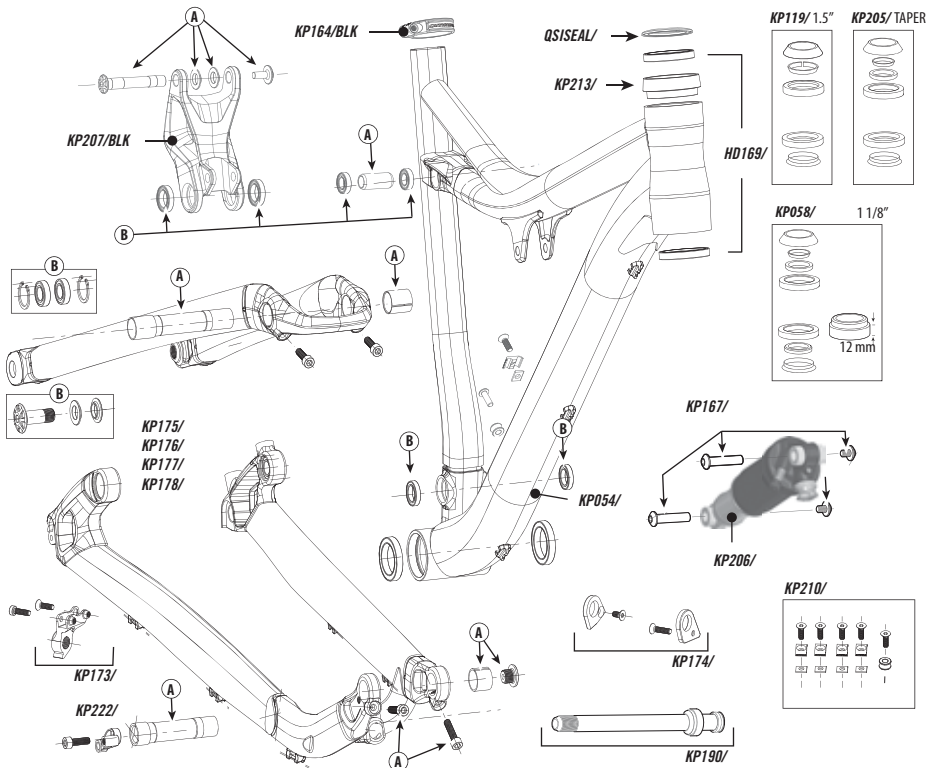
## REPLACEMENT PARTS (SCALPEL 29'ER CARBON)



CODE	DESCRIPTION
KP164/BLK	KIT,SEATBINDER,31.6
KF115/	KIT,GEL,DYNAMIC,CARBON SEATPOST
KP197/	KIT,BB,PRESSFIT 30, 68/73MM
KP210/	KIT,GUIDE,HOUSING,BOLT-ON 6
KP211/	KIT,SPACER,F.DER,SCALPEL 29'ER
KP212/	KIT,CH.STAY PROTECT-SCALPEL 29R
KP054/	KIT,GUARD,SCUFFGUARD,DOWNTUBE
KF103/	KIT,GUARD,SCUFFGUARD-8PK
KP167/	KIT, HWARE, SHOCK MOUNTING, SCALPEL
KP173/	KIT,DER.HANGER,SI12
KP174/	KIT,SPACER,SI12,142 TO 135MM
KP175/	KIT,ADAPTER,SI12 PM/160
KP176/	KIT,ADAPTER,SI12 PM/180
KP177/	KIT,ADAPTER,SI12 PM/185
KP178/	KIT,ADAPTER,SI12 PM/203
KP190/	KIT,AXLE,SYNTACE,X12,142X12MM

NO. (QTY)	CODE	DESCRIPTION
	KP206/	KIT,SHOCK,FOX RP23,SCALPEL29R
	KP207/BLK	KIT,LINK,SCALPEL 29R
(A)	KP208/BLK, RED	KIT,LINK,HWARE,SCALPEL 29'ER --- BEARINGS SOLD SEPERATELY---
(B)	KP209/	KIT,BEARINGS,PIVOT,SCALPEL 29'ER W/CIR-CLIPS
	KP213/	KIT,SPACER,HEADTBE SCALPEL 29R
	QSISEAL/	KIT,SEAL,UPPER BEARING,58MM OD
	HD169/	KIT,BEARINGS, HEADSET- 2
	KP058/	KIT,HEADSET,INT HEADSHOK TO 1 1/8"
	KP119/	KIT,HEADSET,INT H-SHOK TO 1.5
	KP205/	KIT,HEADSET,INT H-SHOK TO TAPERED
	KP169/	KIT,TOOL,JEKYLL PIVOT
	KP218/	KIT,LOCTITE 609 W/ACTIVATOR

# REPLACEMENT PARTS (SCALPEL 29'ER ALLOY)



CODE	DESCRIPTION
KP164/BLK	KIT,SEATBINDER,31.6
KF115/	KIT,GEL,DYNAMIC,CARBON SEATPOST
KP210/	KIT,GUIDE,HOUSING,BOLT-ON 6
KP222/	KIT,SPACER,F.DER.SCALPEL 29'ER AL
KP054/	KIT,GUARD,SCUFFGUARD,DOWNTUBE
KF103/	KIT,GUARD,SCUFFGUARD-8PK
KP167/	KIT, HWARE, SHOCK MOUNTING, SCALPEL
KP173/	KIT,DER.HANGER,S12
KP174/	KIT,SPACER,S12,142 TO 135MM
KP175/	KIT,ADAPTER,S12 PM/160
KP176/	KIT,ADAPTER,S12 PM/180
KP177/	KIT,ADAPTER,S12 PM/185
KP178/	KIT,ADAPTER,S12 PM/203
KP190/	KIT,AXLE,SYNTACE,X12,142X12MM

NO. (QTY)	CODE	DESCRIPTION
	KP206/	KIT,SHOCK,FOX RP23,SCALPEL29R
	KP207/BLK	KIT,LINK,SCALPEL 29R
(A)	KP208/BLK, RED, GRN	KIT,LINK,HWARE,SCALPEL 29'ER --- BEARINGS SOLD SEPARATELY---
(B)	KP221/	KIT,BEARINGS,PIVOT,SCALPEL 29'ER AL W/CIR-CLIPS
	KP213/	KIT,SPACER,HEADTBE SCALPEL 29R
	QSISEAL/	KIT,SEAL,UPPER BEARING,58MM OD
	HD169/	KIT,BEARINGS, HEADSET- 2
	KP058/	KIT,HEADSET,INT HEADSHOK TO 1 1/8\"
	KP119/	KIT,HEADSET,INT H-SHOK TO 1.5
	KP205/	KIT,HEADSET,INT H-SHOK TO TAPERED
	KP169/	KIT,TOOL,JEKYLL PIVOT
	KP183/	KIT,ZIP TIES, CABLEGUIDE /25
	KP218/	KIT,LOCTITE 609 W/ACTIVATOR

## MAINTENANCE

The following table lists only supplemental maintenance items. Please consult your Cannondale Bicycle Owner's Manual for more information on basic bike maintenance. Consult with your Cannondale Dealer to create a complete maintenance program for your riding style, components, and conditions of use. Follow the maintenance recommendations given by the component manufacturers for the various non-Cannondale parts of your bike.

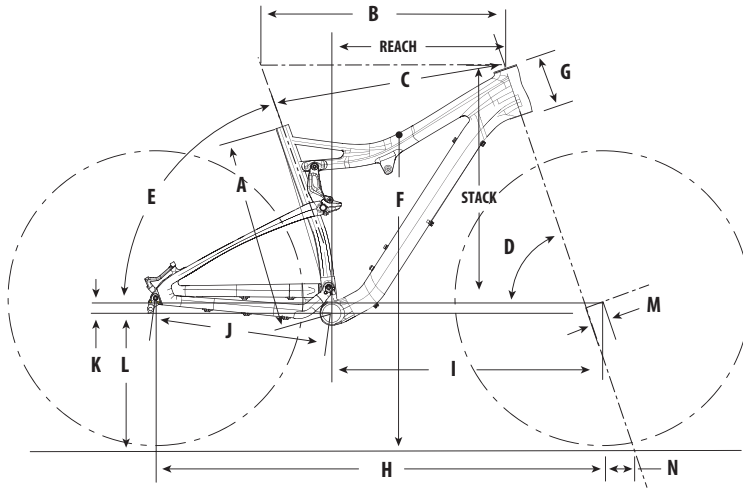
ITEM	FREQUENCY
<p><b>HOUSING AND CABLES</b> - Your bike has been supplied with small adhesive frame protectors. Place this material on the the frame between where cables and housing rub due to movement. Overtime, cable rubbing can wear into the frame itself causing very serious frame damage.</p> <p><i>NOTE: Damage to your bike caused by cable rubbing is not a condition covered under your warranty. Also, adhesive frame guards are not a fix for incorrectly installed or routed cables or lines. If you find that applied guards are wearing out very quickly, consult with your Cannondale Dealer about the routing on your bike.</i></p>	<p><b>BEFORE FIRST RIDE</b></p>
<p><b>DAMAGE INSPECTION</b> Clean and visually inspect entire bike frame/ swingarm/linkage assembly for cracks or damage. See "Inspect For Safety" in your Cannondale Bicycle Owner's Manual.</p>	<p><b>BEFORE AND AFTER EACH RIDE</b></p>
<p><b>CHECK TIGHTENING TORQUES</b> - In addition to other component specific tightening torques for your bike. Tighten according to the TIGHTENING TORQUES information listed in this supplement.</p>	<p><b>EVERY FEW RIDES</b></p>
<p><b>INSPECT BEARINGS, REPLACE WORN OR DAMAGED PARTS :</b></p> <ul style="list-style-type: none"> <li>• SHOCK LINK ASSEMBLY      • SEAT STAY                      • DROPOUT PIVOTS</li> <li>• CHAIN STAY                      • FRAME</li> </ul>	<p><b>IN WET, MUDDY, SANDY CONDITIONS EVERY 25 HRS.</b></p> <p><b>IN DRY, CONDITIONS EVERY 50 HRS.</b></p>
<p><b>FORK</b> - Please consult the manufacturer's owner's manual for maintenance information for your fork .</p>	



### 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.** Please ask your Cannondale Dealer to help you develop a complete maintenance program, a program which includes a list of the parts on your bike for YOU to check regularly. Frequent checks are necessary to identify the problems that can lead to an accident.

# GEOMETRY & SPECIFICATIONS



## GEOMETRY

	SIZES	SCALPEL 29'ER CARBON				SCALPEL 29'ER ALLOY			
		SMALL	MEDIUM	LARGE	X-LARGE	SMALL	MEDIUM	LARGE	X-LARGE
A	SEAT TUBE LENGTH (CM/IN)	42.0/16.5	44.5/17.5	48.5/19.1	53.5/21.1	41.1/16.2	44.5/17.5	48.5/19.1	53.5/21.1
B	TOP TUBE HORIZONTAL (CM/IN)	56.9/22.4	59.3/23.3	61.7/24.3	64.1/25.2	56.9/22.4	59.3/23.3	61.7/24.3	64.1/25.2
C	TOP TUBE ACTUAL (CM/IN)	53.5/21.1	55.5/21.9	57.8/22.8	60.5/23.8	53.7/21.1	55.5/21.9	57.7/22.7	60.4/23.8
D	HEAD TUBE ANGLE	70.5°	71.0°	71.2°	71.4°	70.5°	71.0°	71.2°	71.4°
E	SEAT TUBE ANGLE EFFECTIVE	73.5°	★	★	★	73.9°	★	★	★
E'	SEAT TUBE ANGLE ACTUAL	70.5°	★	★	★	-	-	-	-
F	STANDOVER (CM/IN)	73.6/29.0	74.7/29.4	75.6/29.8	77.2/30.4	73.4/28.9	74.3/29.2	75.3/29.6	75.5/29.7
G	HEAD TUBE LENGTH (CM/IN)	12.2/4.8	★	★	★	12.2/4.8	★	★	★
H	WHEELBASE (CM/IN)	108.2/42.6	110.0/43.3	112.2/44.2	114.3/45.0	108.2/42.6	110.0/43.3	112.2/44.2	114.3/45.0
I	FRONT CENTER (CM/IN)	64.0/25.2	65.9/25.9	68.0/26.8	70.2/27.6	64.0/25.2	65.9/25.9	68.0/26.8	70.2/27.6
J	CHAIN STAY LENGTH (CM/IN)	44.4/17.5	★	★	★	44.4/17.5	★	★	★
K	BOTTOM BRACKET DROP (CM/IN)	3.8/1.5	★	★	★	3.8/1.5	★	★	★
L	BOTTOM BRACKET HEIGHT (CM/IN)	33.2/13.1	★	★	★	33.2/13.1	★	★	★
M	FORK RAKE (CM/IN)	4.5/1.8	★	★	★	4.5/1.8	★	★	★
N	TRAIL (CM/IN)	8.3/3.3	8.0/3.1	7.8/3.1	7.7/3.0	8.3/3.3	8.0/3.1	7.8/3.1	7.7/3.0
	HEAD TUBE HEIGHT (CM/IN)	50.0/19.7	★	★	★	50.0/19.7	★	★	★
	REAR TRAVEL (CM/IN)	10.0/3.9	★	★	★	10.0/3.9	★	★	★
	LEVERAGE RATIO	2.6:1	★	★	★	2.6:1	★	★	★

# cannondale

SPECIFICATIONS	SCALPEL 29'ER CARBON	SCALPEL 29'ER ALLOY
FRAME MATERIAL	Ballistec Carbon	Smartformed Alloy
HEADUBE	Integrated HeadShok	
CHAINLINE	50 mm	
BB SHELL TYPE, WIDTH	PRESSFIT BB30, 73 mm	BB30, 73 mm
SEAT POST DIAMETER	Use a seat post with a 31.6 mm diameter only. Do not use other size seatposts. Do not use a seat post with a shim or adapter. Use carbon gel <b>KF115</b> /when installing a seat post.	
FRONT DERAILLEUR	S3 Direct Mount, Bottom Pull	
DROPOUT SPACING	X-12 142mm (Convertible to 135 mm)	
REAR BRAKE	Cannondale x-12 Post Mount Adapters (mm) - 160/180/185/203 See Replacement Parts for adapter kits.	
SHOCK	EYE-TO-EYE (CM/IN)	16.5/6.50
	RECOMMENDED SAG %25	10 mm
	REAR STROKE (CM/IN)	3.8/1.50
	BUSHING WIDTH (MM)	FRONT (25.2), REAR (21.8 )
<div style="display: flex; align-items: center;"> <div style="background-color: #cccccc; padding: 5px; display: inline-block;"><b>WARNING</b></div> <div style="margin-left: 20px;">Please read your <i>Cannondale Bicycle Owner's Manual</i> for more information on the following specifications:</div> </div>		
INTENDED USE	ASTM CONDITION 3, Cross-Country, Marathon, Hardtails.	
MAXIMUM TIRE WIDTH	2.25"	
MAXIMUM FORK LENGTH	500 mm	
MINIMUM SEAT POST INSERT	90 mm	

## 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™
Rear Brake Adapter Mounting Bolts (Maximum)	10.0	88.5	242 (blue)
Shock Mounting Bolts	8.0	70.0	
Dropout Pivot Axle Bolts - ALLOY	7.0	62.0	
Seat Stay Pivot Clamp Bolts - Carbon	5.0	44.0	
Seat Stay Pivot Clamp Bolts - Alloy	8.0	70.0	
Main Pivot Pinch Bolts	5.0	44.0	
Main Pivot Adjust Screw	3.0	35	242 (blue)
Rear Derailleur Hangar Screws	2.5	22.0	
Housing Guides (Maximum)	3.0	26.5	



**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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