



READ THIS MANUAL CAREFULLY!
It contains important safety information.
Keep it for future reference.

RIZE

Owner's Manual Supplement

122174.PDF

CONTENTS

SAFETY INFORMATION	1	FRAME SPECIFICATIONS	8
About This Supplement	2	Frame Data.....	8
Important Composites Message.....	3	Shock Data.....	8
Intended Use.....	3	Geometry.....	8
Building Up A Frameset.....	4	Replacement Parts	9
Bike Stands.....	4	Integrated Headtube.....	10
Extreme Temperatures.....	4	Frame Protection	10
Inspection and Crash Damage	5	BB30 Information.....	12
Repainting and Refinishing	5	SWINGARM, SHOCK LINK, SEATSTAY	14
Tire Size	6	Tightening Torques.....	14
Rear Shocks.....	6	Replacement Parts	14
Maximum Fork Length	7	MAINTENANCE	16

Please note that the specifications and information in this manual are subject to change for product improvement. For the latest product information, go to <http://www.cannondale.com/tech/>.

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/bikes/tech>.

- This manual is not a comprehensive safety or service manual for your bike.
- This manual does not include assembly instructions for your bike.
- All Cannondale bikes must be completely assembled and inspected for proper operation by a Cannondale Dealer before delivery to the owner.

WARNING

This supplement may include procedures beyond the scope of general mechanical aptitude.

Special tools, skills, and knowledge may be required. Improper mechanical work increases the risk of an accident. Any bicycle accident has risk of serious injury, paralysis or death. To minimize risk we strongly recommend that owners always have mechanical work done by an authorized Cannondale retailer.

Important Composites Message

Your bike 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.

WARNING

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

Intended Use

This model bike is intended for Condition 4 (All Mountain) riding. Condition 4 symbol shown in Figure 2.



Figure 2.

CONDITION 4

Condition 4 bikes are designed for riding Conditions 1, 2, and 3, plus rough technical areas, moderately sized obstacles, and small jumps.

For trail and uphill riding. All-Mountain bicycles are: (1) more heavy duty than cross country bikes, but less heavy duty than Freeride bikes, (2) lighter and more nimble than Freeride bikes, (3) heavier and have more suspension travel than a cross country bike, allowing them to be ridden in more difficult terrain, over larger obstacles and moderate jumps, (4) intermediate in suspension travel and use components that fit the intermediate intended use, (5) cover a fairly wide range of intended use, and within this range are models that are more or less heavy duty. Talk to your retailer about your needs and these models.

NOT INTENDED

For Hardcore Freeriding, Extreme Downhill, Dirt Jumping, Slopestyle, or very aggressive or extreme riding.

TRADE OFF

All-Mountain bikes are more rugged than cross country bikes, for riding more difficult terrain. All-Mountain bikes are heavier and harder to ride uphill than cross country bikes. All-Mountain bikes are lighter, more nimble and easier to ride uphill than Freeride bikes. All-Mountain bikes are not as rugged as Freeride bikes and must not be used for more extreme riding and terrain.

MAXIMUM WEIGHT LIMIT

RIDER lbs / kg	LUGGAGE * lbs / kg	TOTAL lbs / kg
300 / 136	5 / 2.3	305 / 138

* Seat Bag Only



WARNING

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

Industry usage Conditions 1 - 5 are generalized and evolving. Consult your Cannondale Dealer about how you intend to use your bike.

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

Building Up A Frameset

Before building up a frameset, consult with your Cannondale Dealer and the component manufacturers, and discuss your riding style, ability, weight, and interest in and patience for maintenance.

Make sure the components chosen are compatible with your bike and intended for your weight and riding style.

Generally speaking, lighter weight components have shorter lives. In selecting lightweight components, you are making a trade-off, favoring the higher performance that comes with less weight over longevity. If you choose more lightweight components, you must inspect them more frequently. If you are a heavier rider or have a rough, abusive or "go for it" riding style, buy heavy duty components.

Read and follow the component manufacturers warnings and instructions.

Bike Stands

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

CAUTION

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.

Its a good idea to remove your current seat post and use an old one when mounting your bike in a stand.

Protect From Extreme Temperatures

- Protect your carbon bike from extreme temperatures when storing or transporting it.
- Allow your bike to cool off or warm up before you ride
- Do not store your bike in places where the temperature will exceed 66.5C° (150°F). For example, do not leave your bike lying flat in a black pickup truck bed in the desert sun, or, under the glass of a hatchback auto.

Inspection & Crash Damage of Carbon Frames



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

You should not paint over the existing finish, refinish or repaint your bike. The carbon fiber composites making up the frame are held together by some extremely strong bonding chemicals. However, these bonds can be attacked or weakened by paint stripping or refinishing chemicals.



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.

Tire Size



OBSERVE THE “MAXIMUM TIRE 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 oversized tires, ones that rub or hit the fork or frame, ones that result in too little clearance, or ones that can hit the fork or frame when the suspension is fully compressed or when riding.

Take care that the tires you select are compatible with your bike’s fork or frame design. Also, be sure to follow the manufacturer’s recommendations of your front fork and rear shocks.

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 CANNONDALE DEALER 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.

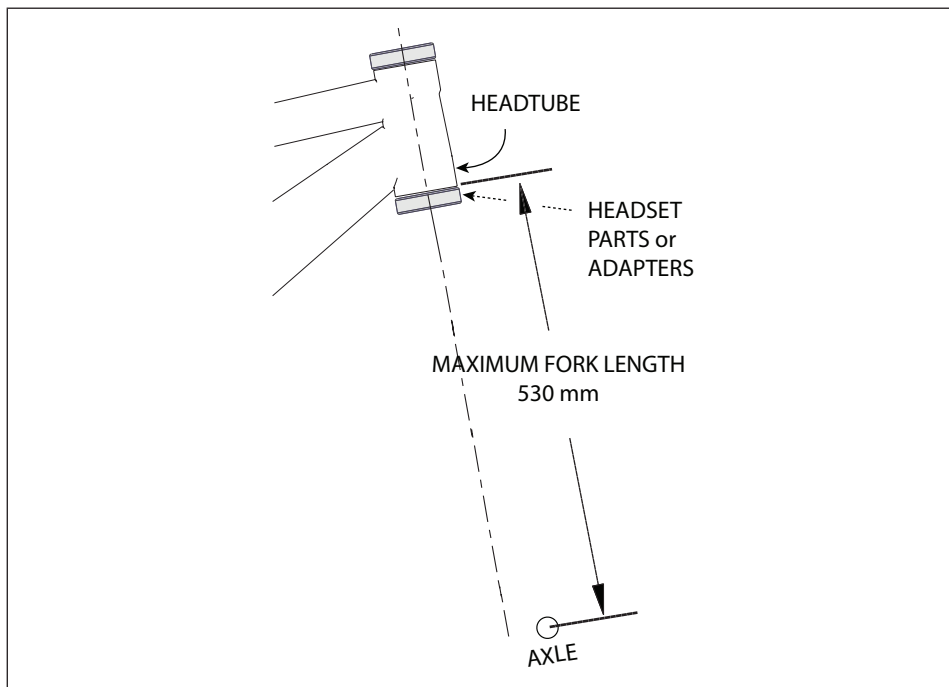
Rear Shocks



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.



Maximum Fork Length (530mm)

Maximum Fork Length is an important frame safety testing specification. You must observe the measurement when installing headset parts, headset adapters, installing and adjusting a fork, and selecting replacement forks. In this manual, the number is also listed in the specifications section.

HOW TO MEASURE: 1. Install headset and fork. 2. Extend fork and measure the distance from the bottom of the head tube to the center of the wheel axle. Do not measure from the bottom of headset bearing cups or head tube adapters. The measurement **MUST** be taken from the bottom of the head tube!!

WARNING

DO NOT EXCEED MAXIMUM FORK LENGTH Exceeding the MAXIMUM FORK LENGTH limit can overload the frame causing it to fail (break) while riding.

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

FRAME SPECIFICATIONS

FRAME DATA	
BB SHELL WIDTH	68mm, BB30
MAX. FORK LENGTH	530mm
MAX. TIRE WIDTH	26 x 2.35in
SEAT POST DIA.	31.6mm
FRONT DERAILLEUR DIA.	34.9mm
CHAINLINE	50mm
DROPOUT SPACING	135mm
REAR HUB SPACING	135mm
REAR HUB AXLE	QR
REAR BRAKE MOUNT	INTERNATIONAL STANDARD
LEVERAGE RATIO	2.9-2.6

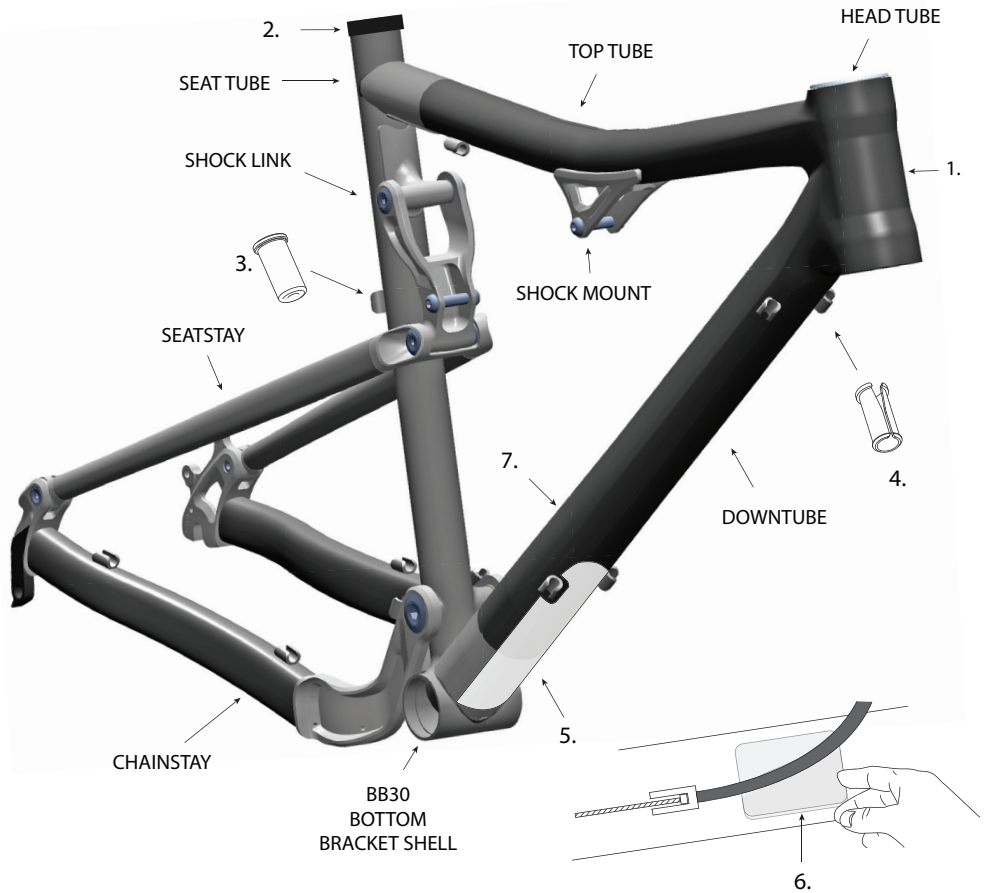
SHOCK DATA	
STROKE	50mm
EYE-TO EYE	200mm
UPPER BUSHING WIDTH	22.2 ± 0.05mm
LOWER BUSHING WIDTH	22.2 ± 0.05mm
BOLT HOLE DIA.	8.1 ± 0.05mm
SAG	25% 11-12mm

GEOMETRY (cm/ in)	SMALL	MEDIUM	LARGE	X-LARGE
SEAT TUBE LENGTH	43.2/17.0	45.7/18.0	48.3/19.0	50.8/20.0
SEAT TUBE ANGLE	72.5 °	*	*	*
TOP TUBE HORIZONTAL	57.2/22.5	59.7/23.5	62.2/24.5	64.8/25.5
TOP TUBE ACTUAL	53.3/21.0	56.0/22.0	58.9/23.2	61.4/24.2
STANDOVER	75.6/29.8	77.4/30.5	77.8/30.6	77.2/30.4
HEAD TUBE ANGLE	68.5 °	*	*	*
WHEEL BASE	107.7/42.4	110.5/43.5	113.2/44.6	115.9/45.6
FRONT CENTER DISTANCE	65.2/25.7	68.0/26.8	70.7/27.8	73.4/28.9
CHAINSTAY LENGTH	42.5/16.7	*	*	*
BOTTOM BRACKET DROP	0.0/0.0	*	*	*
BOTTOM BRACKET HEIGHT	33.0/13.0	*	*	*
FORK RAKE	4.5/1.8	*	*	*
FORK TRAIL	8.2/3.2	*	*	*
REAR TRAVEL	13.0/5.1	*	*	*

REAR SHOCK SAG
Adjust air pressure to achieve 11-12mm sag.

11-12mm

REPLACEMENT FRAME PARTS		
NO.(QTY)	ORDER NO.	KIT DESCRIPTION
	KP069/	KIT,SHOCK,FOX RP23,RIZE
	KP071/	KIT,HWARE,SHOCK MOUNTING,RIZE



REPLACEMENT FRAME PARTS

NO.(QTY)	ORDER NO.	KIT DESCRIPTION
1.	KP002/	KIT,BADGE,HEADSHOK
2.	QC843/BBQ	KIT,SEATBINDER,MTN QR,34.9,BLK
2.	QC842/BBQ	KIT,SEATBINDER,MTN,34.9,BLK
3.(2)	KF014/	KIT,CABLE STOP INSERTS-2
4.(10)	KF086/	KIT,GUIDES, HYDR.BRAKE,10PCS
5.	KP054/	KIT,GUARD,SCUFFGUARD,DOWNTUBE
6.	KF103/	KIT,GUARD,SCUFFGUARD-8PK
7.	KF012/	KIT,RIVNUTS, BAG OF 5

For update-to-date kit information, please visit www.cannondale.com/tech.

Integrated Head Tube

Both models, carbon and alloy feature integrated Cannondale SI bearing cups. In alloy frames, the cups are machined in the head tube. In carbon models, the bearing cups are permanently bonded into the head tube. Cannondale Headshok System Integration bearings are accepted directly into both type. An adapter cup kit (KP058/) for 1 1/8" steering tubes and headsets is available for either frame type.

CAUTION

1. Do not face, surface, or cut the head tube bearing cups.
2. Please note that when removing bearings from bonded cups, extra care must be used so that the tool used to drive out the bearing is NOT located on any part of the bonded cup.

Applying Frame Protection

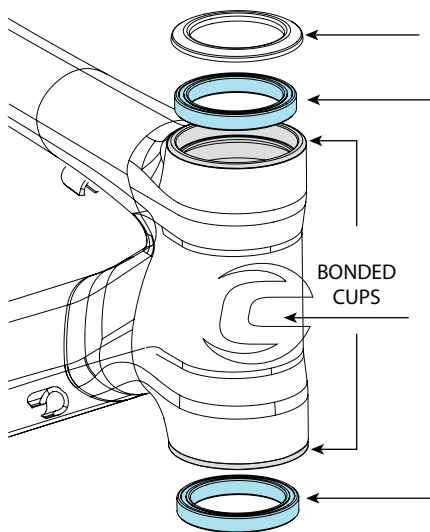
Downtube - A clear protective material is applied to carbon version of this bike (see NO. 5 on previous page). The material protects the downtube from damage caused by small debris. If this protector becomes damaged, please contact your Cannondale dealer for replacement information.

Housing and Cables - Your bike has been supplied with adhesive frame protectors (see NO. 6 on previous page). These are small patches of guarding material that you must place on the frame where cables and housing rub due to movement. Overtime, cable rubbing can wear into the frame itself causing very serious frame damage.

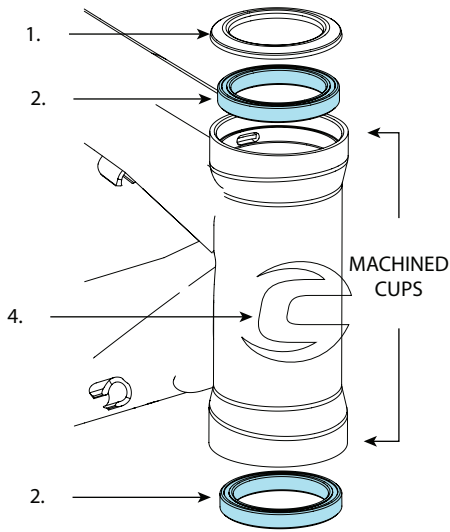
PLEASE NOTE: *Damage to your bike caused by cable rubbing is not a condition covered under your warranty. Also, adhesive frame guards are not a fix for incorrectly installed or routed cables or lines. If you find that applied guards are wearing out very quickly, consult with your Cannondale Dealer about the routing on your bike.*

Swingarm - A clear adhesive chain slap protector has been placed on the right chainstay of the swingarm (see NO. 18 on page 15). Replace this protector if it becomes damaged.

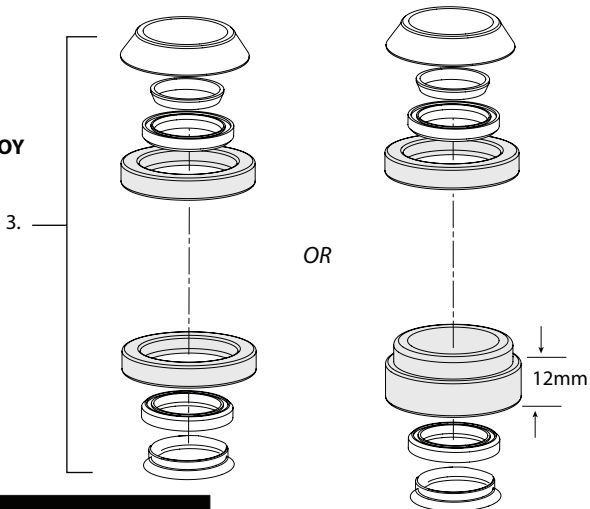
CARBON HEADTUBE



ALLOY HEADTUBE



**1 1/8" ADAPTER
CARBON OR ALLOY
HEADTUBE**



REPLACEMENT PARTS		
NO.	ORDER NO.	KIT DESCRIPTION
1.	QSISEAL/	KIT,SEAL,UPPER BEARING,58MM OD
2.	HD169/	KIT,BEARINGS, HEADSET- 2
3.	KP058/	KIT,HEADSET,INT HEADSHOK TO 1 1/8"
4.	KP002/	KIT,BADGE,HEADSHOK

SI BB30 Crankset Compatability

The BB shell is compatible with the BB30 Standard. See <http://www.bb30standard.com/> For information on Cannondale Hollowgram SL *Cranksets*, see <http://www.cannondale.com/tech/>.

Bearing Maintenance

Shell bearings (KB6180/) are sealed cartridge type and do not require lubrication. Inspect bearing condition annually (at a minimum) and anytime the crankset assembly is disassembled or serviced. The bearings are a press fit within the shell. Old bearings should not be reinstalled if removed. Replace both bearings at the same time.

Replacements circlips (QC616/) are available if the circlips become damaged. The circlips can be lifted from the BB groove by lifting the hooked end with a thin blade screwdriver.

CAUTION

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.

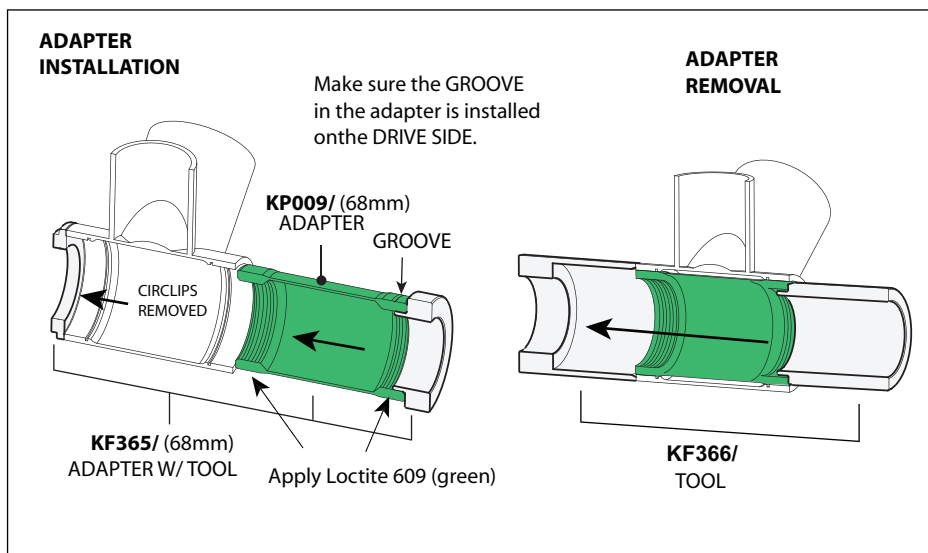
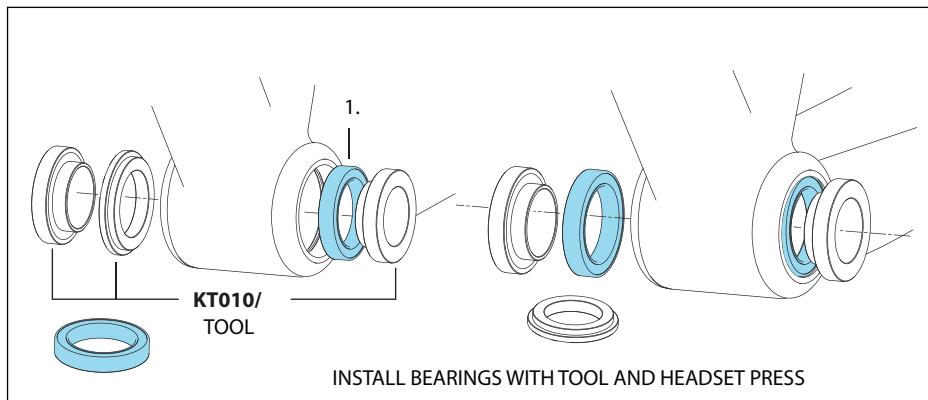
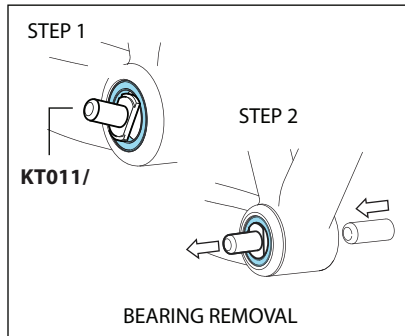
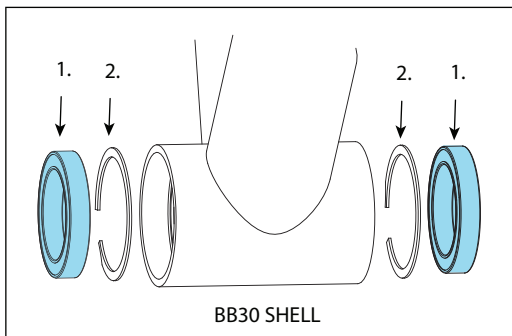
Cannondale SI BB30 Tools

KT011/ is a bearing removal tool. KT010/ is a set of bearing installation tools to be used with a standard headset press. KT013/ a two piece tool set required for removing SI Hollowgram alloy cranksets. For information see *SI Cranksets Owner's Manual Supplement*. See <http://www.cannondale.com/tech/>.

SI BB30-to-68mm Standard Adapter

The adapter (Cannondale kit KF365/) converts the BB30 bottom bracket cranksets for use with 68mm bottom brackets. The adapter IS NOT a repair part and will only work in undamaged frames in good condition. Improper installation or removal can result in damage and void applicable frame warranty.

REPLACEMENT PARTS		
NO.	ORDER NO.	KIT DESCRIPTION
1.	QC616/	Kit, Circlip,BB-SI
2.	KB6180/	Kit, Bearings-BB-SI; contains 2 bearings for the bottom bracket SKF#6806-2RS /SRI2 /90% fill
2.	KP018/	KIT,BEARING,BB-SI,CERAMIC,2PCS
	KT010/	BEARING INSTALLATION TOOLS
	KT011/	BEARING REMOVAL TOOL
	KP009/	68mm ADAPTER
	KF365/	ADAPTER W/ INSTALL TOOL
	KF366/	ADAPTER REMOVAL TOOL



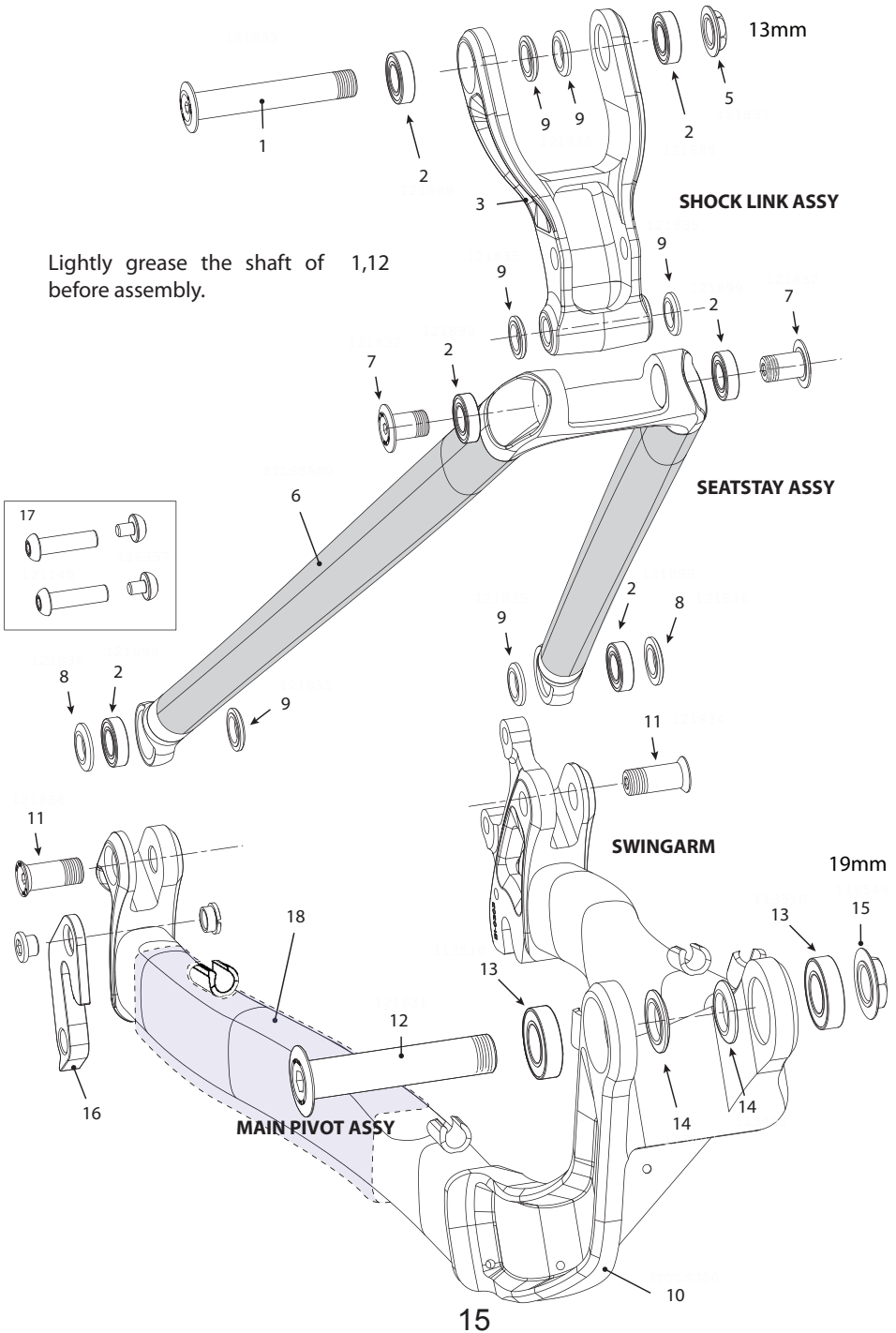
Swingarm, Shock Link, Seatstay

TIGHTENING TORQUES			
NO.	Nm	InLbs	Loctite No.
1,7,11	5	44	242
12,17	12	106	242
18	13	115	242
2			638

REPLACEMENT PARTS		
NO.	ORDER NO.	KIT DESCRIPTION
	KP069/	KIT,SHOCK,FOX RP23,RIZE
1,5,7(2),8(2),9(6),11(2)	KP072/	KIT,LINK,HWARE,RIZE
13	KB61902/	KIT,BEARING,1 #6902-2RS(ID-15, OD-28, THICK-7)
12,14(2),15	KP070/	KIT,PIVOT SWINGARM, RIZE
2(6)	KP073/	KIT,BEARING,6 #6800-2RS(ID-10, OD-19, THICK-5)
4	KP074/	KIT,LOCTITE 638,10 ML
3,2(2)	KP075/	KIT,LINK,RIZE --NEED LOCTITE 638
6,2(4)	KP076/RED/BLK	KIT,SEATSTAY,RIZE,RED/BLK --NEED LOCTITE 638
6,2(4)	KP076/WHT/BLU	KIT,SEATSTAY,RIZE,WHT/BLU --NEED LOCTITE 638
6,2(4)	KP076/WHT/RED	KIT,SEATSTAY,RIZE,WHT/SLV --NEED LOCTITE 638
6,2(4)	KP076/WHT/SLV	KIT,SEATSTAY,RIZE,WHT/SLV --NEED LOCTITE 638
16	KF051/	KIT,DER HANGER:SINGLE SIDED 2
18	KP077/	Kit,CH.STAY PROTECT-RIZE

NO.	DESCRIPTION
1	PIVOT AXLE-TOP TUBE
2	BEARING
3	LINK
4	LOCTITE 638
5	PIVOT NUT-TOP TUBE
6	SEATSTAY
7	PIVOT BOLT
8	SHIELD-LG
9	SHIELD-SM
10	SWINGARM
11	PIVOT BOLT
12	PIVOT AXLE-MAIN
13	BEARING
14	SHIELD-MAIN
15	PIVOT NUT-MAIN
16	DERAILLUEUR HGR
17	SHOCK BOLTS
18	CHAINSTAY PROTECTOR

Lightly grease the shaft of 1,12 before assembly.



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.

WHAT TO DO	HOW OFTEN
CHECK FOR CABLE RUB, INSTALL PROTECTIVE GUARDS	AFTER FIRST RIDE
FRAME INSPECTION - Clean and visually inspect entire bike frame/swingarm/linkage assembly for cracks or damage. See "Inspect For Safety" in your <i>Cannondale Bicycle Owner's Manual</i> .	BEFORE AND AFTER EACH RIDE
CHECK TIGHTENING TORQUES - In addition to other component specific tightening torques for your bike, check tightening torques listed in this manual. See table on page 11.	BEFORE EVERY RIDE
DISASSEMBLE, CLEAN, INSPECT, RE-GREASE, REPLACE WORN OR DAMAGED PARTS IN THE FOLLOWING ASSEMBLIES: <ul style="list-style-type: none"> • SHOCK LINK ASSY • MAIN PIVOT ASSY • SEATSTAY ASSY 	IN WET, MUDDY, SANDY CONDITIONS EVERY 25 HRS. IN DRY, CONDITIONS EVERY 50 HRS.
FORK AND SHOCK - Please consult the manufacturer's owner's manual for maintenance information for your fork or rear shock.	



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.