

130728



TRIGGER 27.5/29

OWNER'S MANUAL SUPPLEMENT

cannondale

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 inside cover of this supplement.

You can download Adobe Acrobat PDF versions of any Cannondale Owner's Manuals or Supplements from our website: <http://www.cannondale.com/>

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/>

EXPLICIT DEFINITIONS

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

WARNING

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

NOTICE

Indicates special precautions that must be taken to avoid damage.

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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.



The intended use of all models is ASTM CONDITION 4, OverMountain.

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 MESSAGE.

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.)

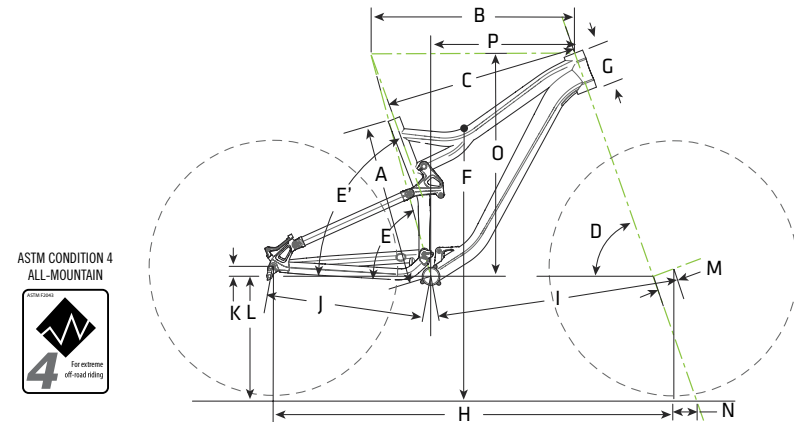
Do not ride your bike if you see any sign of damage, such as broken, splintered, or delaminated carbon fiber.

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.

TECHNICAL INFORMATION

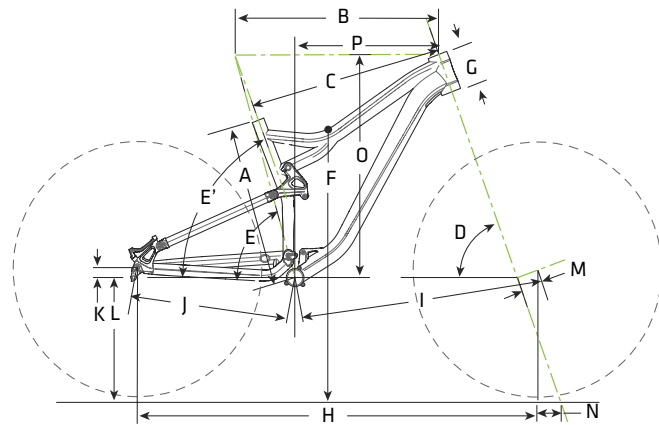


TRIGGER 29 130MM GEOMETRY

	Size		SM	MD	L	XL
A	Seat Tube Length (cm/in)	ALLOY:	41.9/16.5	45.9/18.1	47.2/18.6	49.6/19.5
		CARBON:	42.5/16.7	44.5/17.5	48.5/19.1	50.9/20.0
B	Top Tube Horizontal (cm/in)	ALLOY:	57.8/22.8	60.6/23.9	63.4/25.0	66.2/26.1
		CARBON:	57.8/22.8	60.6/23.9	63.4/25.0	66.2/26.1
C	Top Tube Actual (cm/in)	ALLOY:	53.6/21.1	56.0/22.0	58.4/23.0	60.9/24.0
		CARBON:	53.2/20.9	55.9/22.0	58.5/23.0	61.3/24.1
D	Head Tube Angle		69.0°	*	69.5°	*
E	Seat Tube Angle Effective		73.5°	*	*	*
E'	Seat Tube Angle Actual	ALLOY:	67.8°	68.5°	68.9°	69.2°
		CARBON:	67.5°	68.5°	*	69.0°
F	Standover (cm/in)	ALLOY:	73.4/28.9	75.4/29.7	76.8/30.2	78.3/30.8
		CARBON:	74.5/29.3	76.0/29.9	77.5/30.5	78.9/31.1
G	Head Tube Length (cm/in)		9.7/3.8	11.0/4.3	12.2/4.8	13.4/5.3
H	Wheelbase (cm/in)		112.4/44.3	115.3/45.4	117.6/46.3	120.5/47.4
I	Front Center (cm/in)		67.8/26.7	70.7/27.8	73.0/28.7	75.8/29.9
J	Chain Stay Length (cm/in)		44.8/17.6	*	*	*
K	Bottom Bracket Drop (cm/in)		2.8/1.1	*	*	*
L	Bottom Bracket Height (cm/in)		34.8/13.7	*	*	*
M	Fork Rake (cm/in)		5.3/2.1	*	*	*
N	Trail (cm/in)		8.8/3.4	*	8.4/3.3	*
O	Stack (cm/in)		60.4/23.8	61.6/24.2	63.0/24.8	64.1/25.2
P	Reach (cm/in)		39.9/15.7	42.4/16.7	44.7/17.6	47.2/18.6
	Head Tube Height (cm/in)		54.0/21.3	*	*	*
	Rear Travel (cm/in)		13.0/5.1	*	*	*
	Shock Eye-to-Eye (cm/in)		15.5/6.1	*	*	*
	Rear Stroke (cm/in)		5.0/2.0	*	*	*
	Recommended Sag %		35%	*	*	*

SPECIFICATIONS

Rear Travel Modes (remote DYAD ever selectable)	TRIGGER 29 - FLOW - 80 mm, ELEVATE - 130 mm TRIGGER 27.5 - FLOW - 85 mm, ELEVATE - 140 mm
-	Cannondale Si (see also Replacement Parts for conversion kits)
Chainline	50 mm
BB Shell/ Width	CRB - PF30/73mm ALLOY - BB30 73 mm
Seat Post Diameter	31.6mm
Front Derailleur	S3 Direct Mount, Bottom pull
Dropout Spacing	142mm (convertible to 135mm)
Rear Brake	Post Mount Adapters - 160/180/185/203



TRIGGER 27.5 140MM GEOMETRY

Size		SM	MD	L	XL
A	Seat Tube Length (cm/in)	ALLOY: 43.2/17.0	45.7/18.0	48.3/19.0	50.8/20.0
		CARBON: 43.2/17.0	45.7/18.0	48.3/19.0	50.8/20.0
B	Top Tube Horizontal (cm/in)	ALLOY: 56.6/22.3	59.8/23.5	62.4/24.6	65.2/25.7
		CARBON: 56.6/22.3	59.8/23.5	62.4/24.6	65.2/25.7
C	Top Tube Actual (cm/in)	ALLOY: 54.3/21.4	57.4/22.6	60.0/23.6	62.9/24.8
		CARBON: 53.0/20.9	56.1/22.1	58.7/23.1	61.6/24.3
D	Head Tube Angle	68.0°	*	*	*
E	Seat Tube Angle Effective	73.5°	*	*	*
E'	Seat Tube Angle Actual	73.1°	73.3°	73.8°	74.1°
F	Standover (cm/in)	74.4/29.3	74.5/29.3	75.1/29.6	75.5/29.7
G	Head Tube Length (cm/in)	9.7/3.8	11.0/4.3	12.2/4.8	13.4/5.3
H	Wheelbase (cm/in)	111.6/43.9	114.9/45.2	117.7/46.3	120.6/47.5
I	Front Center (cm/in)	68.0/26.8	71.3/28.1	74.1/29.2	77.0/30.3
J	Chain Stay Length (cm/in)	43.6/17.2	*	*	*
K	Bottom Bracket Drop (cm/in)	0.2/0.1	*	*	*
L	Bottom Bracket Height (cm/in)	35.1/13.8	*	*	*
M	Fork Rake (cm/in)	5.0/2.0	*	*	*
N	Trail (cm/in)	8.9/3.5	*	*	*
O	Stack (cm/in)	56.5/22.2	57.6/22.7	58.8/23.2	59.9/23.6
P	Reach (cm/in)	39.9/15.7	42.7/16.8	45.0/17.7	47.4/18.7
	Head Tube Height (cm/in)	53.0/20.9	*	*	*
	Rear Travel (cm/in)	14.0/5.5	*	*	*
	Shock Eye-to-Eye (cm/in)	15.5/6.1	*	*	*
	Rear Stroke (cm/in)	5.0/2.0	*	*	*
	Recommended Sag %	0.35	*	*	*

WARNING

Please read your **Cannondale Bicycle Owner's Manual** for more information on the following specifications:

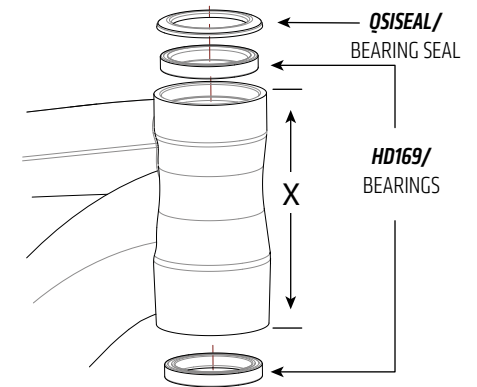
Intended Use	ASTM Condition 4, All-Mountain, OverMountain		
Maximum Tire Width	TRIGGER 29 29 X 2.35 in TRIGGER 27.5 - 27.5 X 2.5 In		
Maximum Fork Length	TRIGGER 29 - 575mm TRIGGER 27.5 - 545 mm		
Minimum Seat Post Insert	100 mm		
Maximum Weight Limit (Lbs/Kg)	RIDER	LUGGAGE*	TOTAL
*(Seat Bag Only)	300 / 136	5 / 2.3	305 / 138

INTEGRATED HEADTUBE

Both frame types feature integrated Si bearing cups. In alloy frames, the cups are machined within the head tube. In carbon models, cups are bonded within the head tube. Cannondale Headshok System Integration bearings are accepted directly into both type. For 1.5" and 1 1/8" adapter headsets, see Replacement Parts.

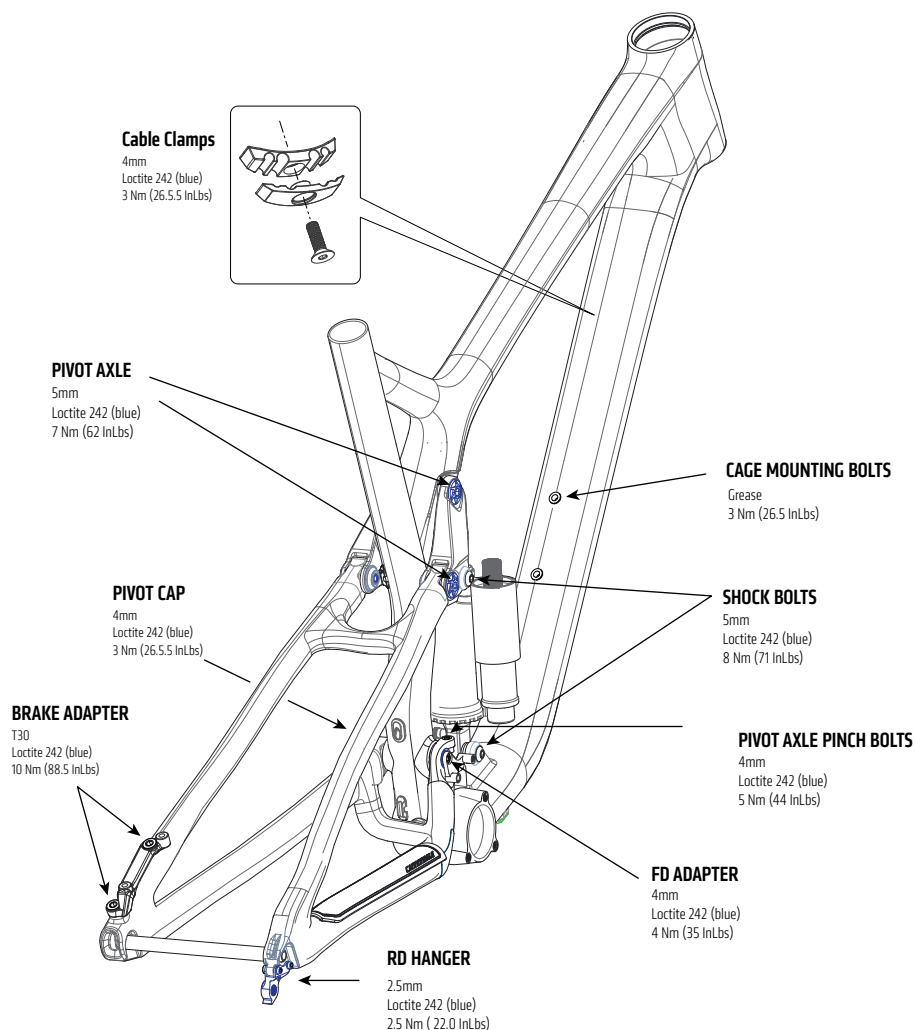
NOTICE

Do not face, surface, or cut the head tube bearing cups. When removing adapters, bearings, or cup from, extra care must be used so that the tool used to drive out the bearing is not located on any part a bonded cup.



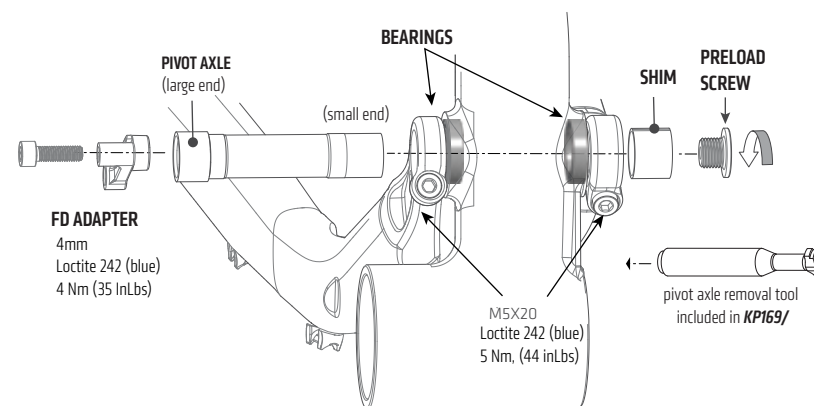
FRAME SIZE	HEADTUBE LENGTH (X)
SM	97mm
MD	109mm
LARGE	122mm
X-LARGE	134mm

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!

MAIN PIVOT



ASSEMBLY STEPS

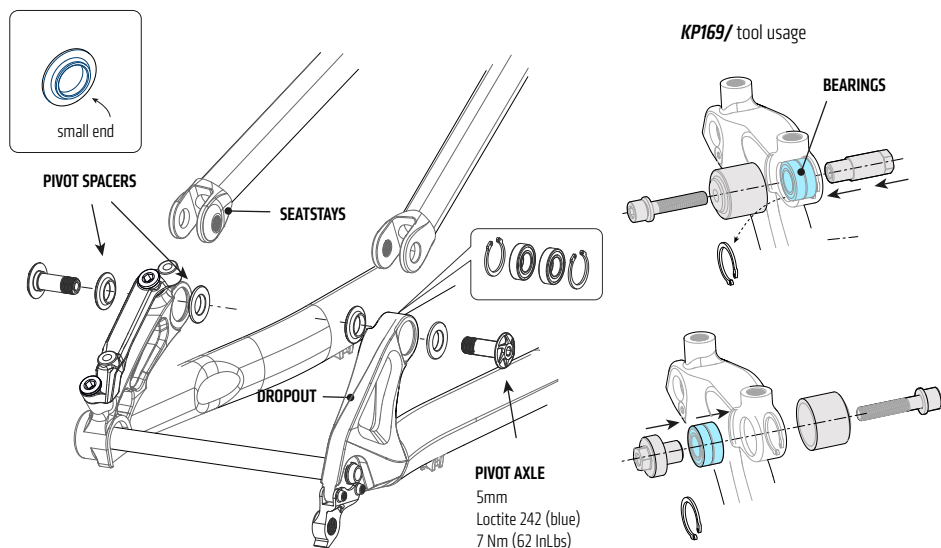
Follow these steps to properly install the main pivot axle:

1. On drive side: tap axle in until in contact with the frame bearing.
2. Install the shim on non-drive side of the pivot axle.
3. Position swingarm flush to drive end of axle.
4. Temporarily tighten non-drive pivot clamp bolt.
5. Install the FD adapter and mounting bolt and tighten it. This will cause the pivot assembly to align properly.
6. Loosen left pivot clamp.
7. Use preload screw to preload the bearings.
8. Tighten right pivot clamp, 5Nm, (44 inLbs).
9. Tighten left pivot clamp, 5Nm, (44 inLbs).
10. Tighten preload screw, 3 Nm, (26.5 inLbs).

REMOVAL

1. Remove the FD adapter from the pivot axle.
2. Remove the preload 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.

DROPOUT



MAINTENANCE

The condition of the bearings, pivot axles, and spacers should be inspected periodically. These are normal wear parts so plan to have them renewed as they wear-out.

Inspection frequency should be based upon how and where you ride. Evidence of damage would be excessive play, visible wear, or perhaps corrosion of bearings.

If you find any damage to the parts, discontinue riding until all the parts (bearings, pivot axles, spacers) can be renewed. This will help prevent damage elsewhere.

See the kits list in the back of this supplement for renewal kits.

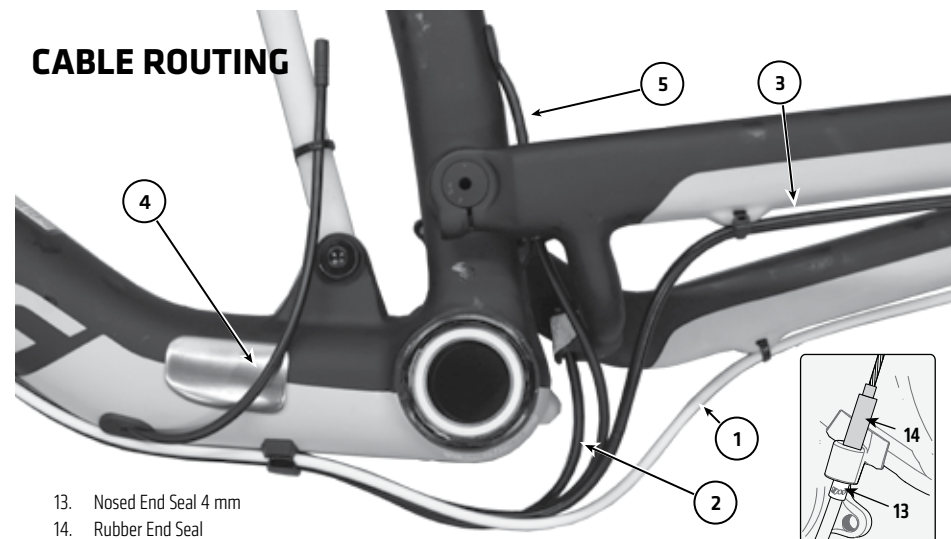
KEY INFORMATION

A special service tool **KP169/** contains parts necessary to service the assembly. The parts of this tool are shown shaded above.

When connecting the seatstays to the dropouts, always insert the small end of pivot spacers into the dropout bearings. The flat side of the spacers should face out, as shown.

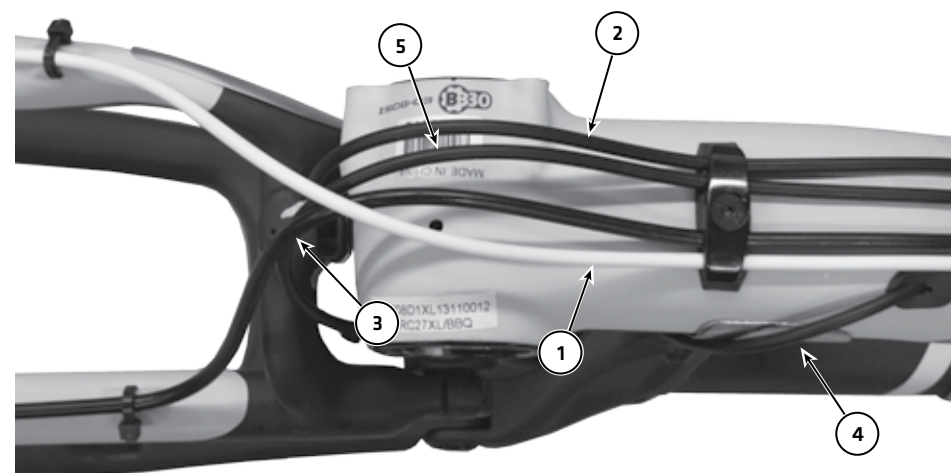
When tightening the axles, insert the 5mm hex key completely into the axle to prevent damage when turning the bolt. Always tighten with a torque wrench to the specified torque.

CABLE ROUTING



- 13. Nose End Seal 4 mm
- 14. Rubber End Seal

Check for sufficient housing cable loop. Its about 35mm as shown above. Inadequate loop can result in ghost shifting or housing ends pulling out of down tube when the bike is at full travel. Its best to determine housing lengths with the shock out of the bike. That way you can move the swing arm through the travel and actually see what the cable housing is doing. It always looks like there is too much cable housing when set up properly. Photo shows crossing housing to prevent the rear derailleur housing contacting the chainring. Or a cable tie can be used. Be sure to install nose end seals and rubber seal at the housing ends as shown.



- 1. Rear Derailleur
- 2. Front Derailleur
- 3. Rear Brake
- 4. Shock Remote
- 5. Seat Post Remote

BOTTOM BRACKET - PF30

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 manufacturer'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 manufacturer's instruction for assembly and installation of the bearing system. Use a headset press such as Park Tool HHP-2. See <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 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

The bottom bracket shell is compatible with the BB30 Standard. See <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.

REAR SHOCK

SETTING PRESSURE

1. Set the shock in full travel mode.
2. Release negative air pressure.
3. Set positive pressure based on chart.
4. Set negative pressure based on chart.
5. Set FLOW and ELEVATE rebound adjusters based on chart.
6. Check sag. If you want more sag (softer), drop one weight range on the chart. If you want more sag (firmer), go up one weight range on the chart. and repeat steps 1-5.

SETTING SAG

1. Slide the small O-ring up against the stop.
2. Sit on the bike in a riding position.
3. Dismount and inspect the O-ring position on the sag indicator. The center marking between is the 35% sag area.

35% Sag - Trail

40% Sag - Enduro

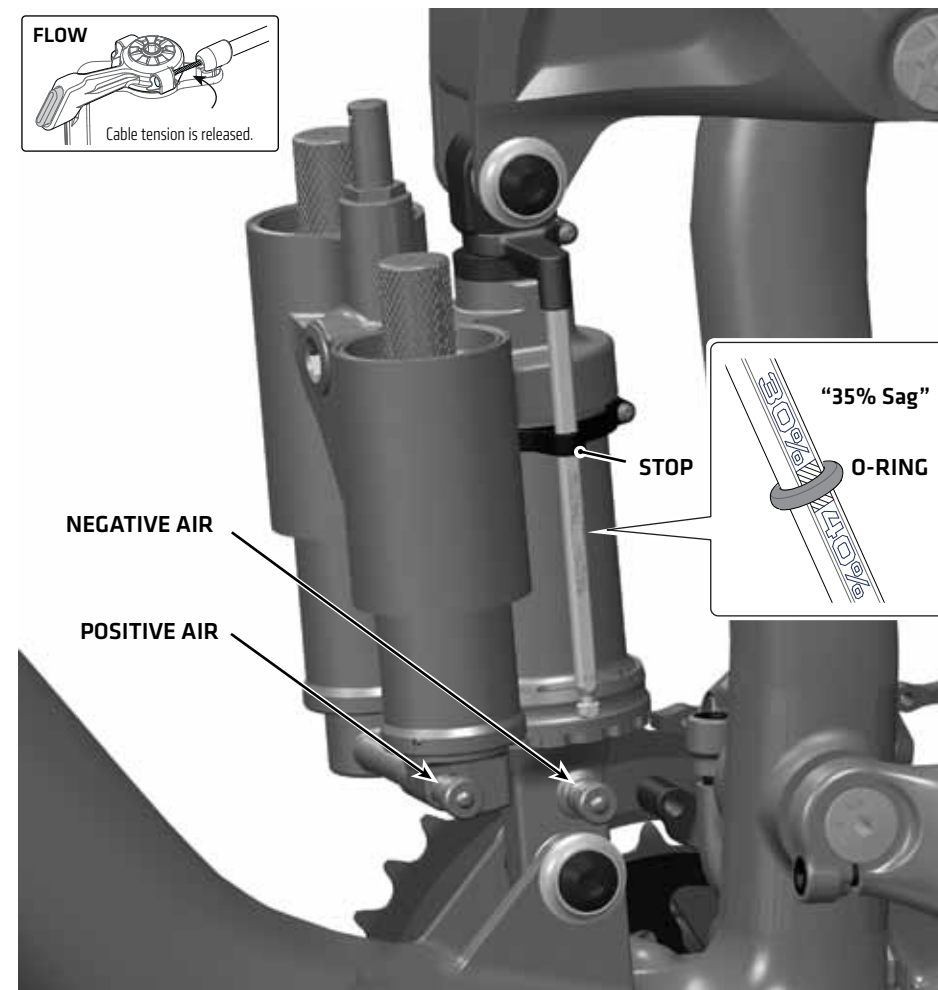
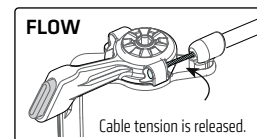
RIDER WEIGHT		TRIGGER 27.5					TRIGGER 29				
Lbs	Kg	POSITIVE AIR		NEGATIVE AIR		REBOUND	POSITIVE AIR		NEGATIVE AIR		REBOUND
		CRB	ALLOY	CRB	ALLOY		CRB	ALLOY	CRB	ALLOY	
100-109	45-49	175	175	180	150	12	160	135	12		
110-119	50-54	195	195	195	165	12	180	150	12		
120-129	54-59	210	210	210	180	11	195	165	12		
130-139	59-63	230	225	225	190	11	215	180	11		
140-149	64-68	250	245	240	205	10	230	190	10		
150-159	68-72	265	260	255	220	10	245	205	9		
160-169	73-77	280	280	265	235	9	260	220	8		
170-179	77-81	295	295	280	250	8	275	235	7		
180-189	82-86	315	315	295	265	7	295	250	6		
190-199	86-90	335	335	315	285	6	310	260	5		
200-209	91-95	350	350	325	300	5	325	275	4		
210-219	95-99	370	370	340	310	4	340	290	3		
220-229	100-104	385	385	355	325	3	360	300	2		
230-239	104-108	405	405	370	340	2	375	315	1		
240-249	109-113	420	420	385	355	1	390	330	0		

Air pressure listed in (psi).

REBOUND Counter-clockwise clicks out from closed.

WARNING

USE ONLY HIGH-PRESSURE AIR PUMP - CANNONDALE - 1MP01/SLV TO SET OR READ PRESSURE. Use of an incompatible pump (one not designed for the high pressure range of the shock) , can result serious personal injury or result in an improper pressure setting or reading which can contribute to a loss of rider control and accident.



	POSITIVE AIR	NEGATIVE AIR
LOW LIMIT	100 psi	0 psi
HIGH LIMIT	450 psi	400 psi

NOTICE

Observe limits. Clean suspension pump and valves before attachment.

Disconnecting the pump results in very small pressure loss. To determine actual loss for your pump, set pressure, disconnect and reconnect. You can compensate by adding the loss to the table values.

SETTING REBOUND

Rebound controls the rate at which your rear wheel returns after it has been compressed. The proper rebound setting is of personal preference, and varies with rider weight, riding style and conditions. A basic rule of thumb is to set rebound to be as quick as possible, without kicking back and pushing you off the saddle.

To set rebound :

1. The rebound circuits work independently. Make sure the remote travel lever is set to the travel mode you're setting. See Setting Travel.
2. Turn the selected rebound knob clockwise until it stops. Turn it counter-clockwise; counting each click. A good starting point to begin adjustments is 7 clicks out from closed. Each rebound dial has about 13 clicks of adjustment range.

TRIGGER 29 ELEVATE = 80mm
TRIGGER 27.5 ELEVATE = 85mm



TRIGGER 29 FLOW = 130mm
TRIGGER 27.5 FLOW = 140mm



NOTICE

Do not force rebound dial past stop point.

⚠ WARNING

KEEP HANDS AND FINGERS AWAY FROM MOVING LINKAGE. Make adjustments when you are off the saddle, not riding or sitting on bike. Attempting to adjust rebound while sitting or riding in motion on your bicycle can lead to a serious hand/finger injury or a loss of rider control, which can result in serious injury or death.

SETTING TRAVEL

The DYAD RT2 has two travel modes, activated by the remote handlebar-mounted lever. Switching between the modes changes the bike's sag and BB height, offering a higher BB and steeper angles for climbing, or a lower BB and slacker angles for descending, keeping the rider in the proper position for the terrain. It is fundamentally like having two different bikes available to you at the flick of a switch.

To operate remote lever :

Push the lever forward until it clicks into place in the ELEVATE position.

Press the lever button to release the lever and allow cable tension to return the lever to the FLOW position.

TRIGGER 29 ELEVATE = 80mm
TRIGGER 27.5 ELEVATE = 85mm



TRIGGER 29 FLOW = 130mm
TRIGGER 27.5 FLOW = 140mm



A (short travel) mode with low volume air shock for providing a firm, progressive spring rate, XC type damping circuits for trail riding, rolling terrain, and climbing performance.

Spring Rate is Steeper

Sag is cut to 60%

BB is higher / Steep Geometry

DYAD RT2's L.A.S. (linear airspring technology) provides a spring rate that is virtually identical to a coil spring and mates it with speed sensitive DH style damping circuits tuned for maximum descending performance.

Spring rate is softer.

Sag is 100%

BB is lower / Stable Geometry

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>HOUSING AND CABLES - Your bike has been supplied with small adhesive frame protectors - <i>KF103/</i>. Place this material on 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>BEFORE FIRST RIDE</p>
<p>DAMAGE INSPECTION - 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>BEFORE AND AFTER EACH RIDE</p>
<p>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.</p>	<p>EVERY FEW RIDES</p>
<p>INSPECT BEARINGS, REPLACE WORN OR DAMAGED PARTS :</p> <ul style="list-style-type: none"> • SHOCK LINK • SEAT STAY • MAIN PIVOT 	<p>IN WET, MUDDY, SANDY CONDITIONS EVERY 25 HRS.</p> <p>IN DRY, CONDITIONS EVERY 50 HRS.</p>
<p>FORK & SHOCK - 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.



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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