

Carbon Rocker Frame

Assembly Instructions and Maintenance Manual



SPOT

Table of Contents

Warnings and Precautions	3
Rocker Geometry	4
Component Compatibility Chart	5
Tools Required for Assembly and Maintenance	6
Cable Routing:	
Internal Dropper Seatpost Routing	7
Rear Brake Hose Routing	9
Rear Derailleur Cable Routing	10
Bottom Bracket Installation	11
Dropout System Operation and Maintenance:	
Belt Installation/Removal	12
Belt Tension Adjustment	13
Rocker Frame Parts Reference	16

Warning

Like any sport, bicycling involves risk of injury and damage. By choosing to ride a bicycle, you assume the responsibility for that risk, so you need to know—and to practice—the rules of safe and responsible riding and of proper use and maintenance. Proper use and maintenance of your bicycle reduces the risk of injury or death.

All bicycles should be assembled and maintained by an authorized bicycle mechanic. If you are not qualified to assemble, inspect, and maintain your bicycle, please visit your favorite local bike shop or contact Spot for a referral to a qualified bicycle technician in your area.

This guide covers the details specific to your Rocker mountain bike frame. It does not address complete bicycle assembly, fitting, inspection, maintenance, or riding techniques. Please refer to the Spot Brand Bicycle Owner’s Manual for further details.

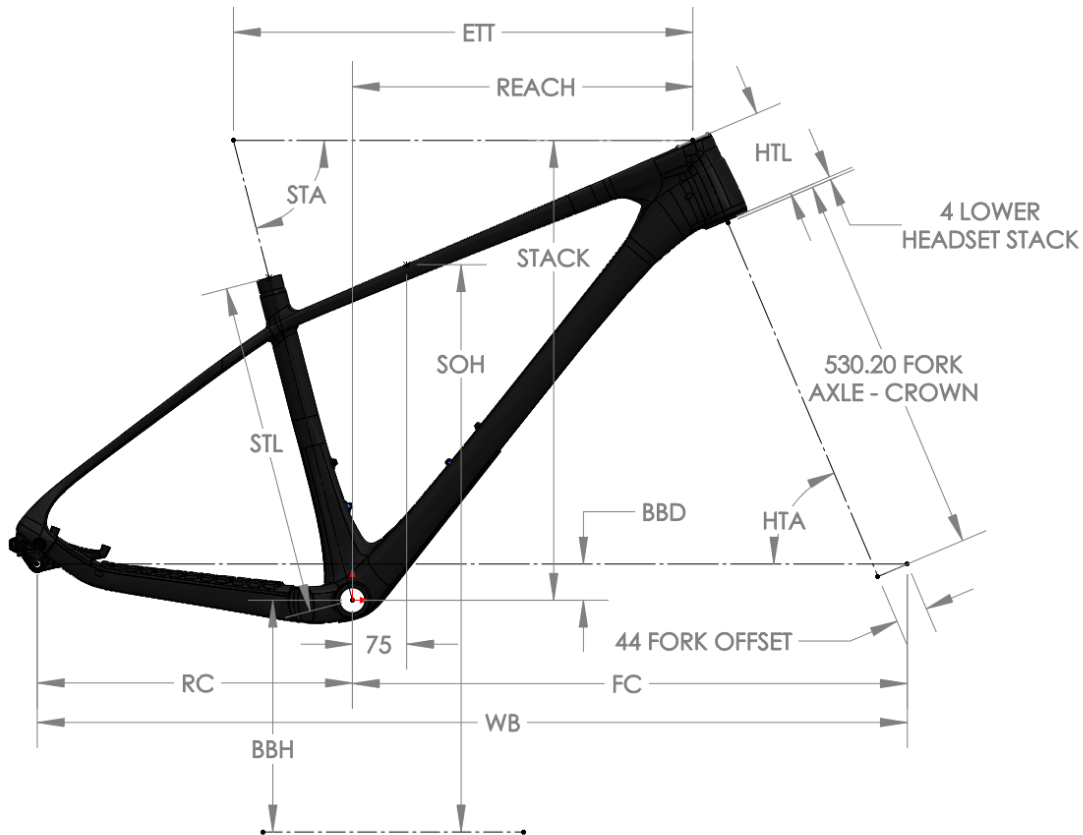
Under no circumstances shall Spot Brand LLC be held liable for direct, incidental, or consequential damages, including, without limitation, damages for personal injury property damage, or economic losses, whether based on contract, warranty, negligence, product liability, or and other theory.

A Note on Intended Use

The American Society for Testing and Materials (ASTM) has established a classification standard for bicycle use, outlined in document ASTM F2043. It is important to use any bicycle within its intended use classification to ensure rider safety, equipment longevity, and warranty coverage. The Spot Rocker mountain bikes are classified within Level 3 of this standard:

1	This is a set of conditions for the operation of a bicycle on a regular paved surface where the tires are intended to maintain ground contact.
2	This is a set of conditions for the operation of a bicycle that includes Condition 1 as well as unpaved and gravel roads and trails with moderate grades. In this set of conditions, contact with irregular terrain and loss of tire contact with the ground may occur. Drops are intended to be limited to 15cm (6") or less.
3	This is a set of conditions for operation of a bicycle that includes Condition 1 and Condition 2 as well as rough trails, rough unpaved roads, and rough terrain and unimproved trails that require technical skills. Jumps and drops are intended to be less than 61cm (24").
4	This is a set of conditions for operation of a bicycle that includes Conditions 1, 2, and 3, or downhill grades on rough trails at speeds less than 40 km/h (25 mph), or both. Jumps are intended to be less than 122cm (48").
5	This is a set of conditions for operation of a bicycle that includes Conditions 1, 2, 3, and 4; extreme jumping; or downhill grades on rough trails at speeds in excess of 40 km/h (25 mph); or a combination thereof.

Carbon Rocker Frame Geometry



STL: SEAT TUBE LENGTH
 ETT: EFFECTIVE TOP TUBE
 HTL: HEAD TUBE LENGTH
 HTA: HEAD TUBE ANGLE
 STA: SEAT TUBE ANGLE
 WB: WHEEL BASE
 SOH: STAND OVER HEIGHT
 BBD: BOTTOM BRACKET DROP
 BBH: BOTTOM BRACKET HEIGHT
 RC: REAR CENTER LENGTH
 FC: FRONT CENTER LENGTH
 REACH: HORIZONTAL FROM BB TO HEAD TUBE
 STACK: VERTICAL FROM BB TO HEAD TUBE

* THE SLIDING DROPOUT SYSTEM ON THE ROCKER CAN BE ADJUSTED FROM RC 438mm (17.2in) TO 453mm (17.8in)

COMPLETE SINGLE SPEED ROCKERS WILL SHIP WITH THE BELT TENSIONED AT THE STOCK GEARING, 46 X 28, RC OF 445mm (17.5in)

COMPLETE GEARED ROCKERS WILL SHIP WITH THE DROPOUTS IN THE RC MIN POSITION AT 438mm (17.2in)

GEOMETRY - HIGH MODE														
SIZE	STL (mm)	STL (in)	ETT (mm)	ETT (in)	HTA	HTL (mm)	HTL (in)	STA	WB (mm)	WB (in)	SOH (mm)	SOH (in)	BBD (mm)	BBD (in)
S	380	15.0	567	22.3	67.0	90	3.5	75.5	1141	44.9	741	29.2	50	2.0
M	410	16.1	601	23.7	67.0	105	4.1	75.5	1177	46.3	741	29.2	50	2.0
L	460	18.1	634	25.0	67.0	120	4.7	75.5	1213	47.8	782	30.8	50	2.0
XL	510	20.1	667	26.3	67.0	130	5.1	75.5	1247	49.1	782	30.8	50	2.0

SIZE	BBH	BBH (in)	RC min	RC min	RC max	RC max	FC	FC (in)	REACH	REACH	STACK	STACK
S	320	12.6	438	17.2	453	17.8	696	27.4	410	16.1	607	23.9
M	320	12.6	438	17.2	453	17.8	732	28.8	440	17.3	621	24.4
L	320	12.6	438	17.2	453	17.8	768	30.2	470	18.5	635	25.0
XL	320	12.6	438	17.2	453	17.8	802	31.6	500	19.7	644	25.4

Rocker Frame Component Compatibility

Your Rocker frame was designed to work with the following components. Other components may be compatible, but fitment is not guaranteed. For questions regarding component compatibility of parts not listed below please contact Spot.

COMPONENT	FIT, STANDARD
HEADSET	UPPER: ZS44, LOWER: ZS56
BOTTOM BRACKET	BSA THREADED, 73mm SHELL WIDTH
SEATPOST	31.6, INTERNAL DROPPER ROUTING
CHAINRING	>51mm CHAINLINE, 30-34t RING
BELT DRIVE	GATES CARBON DRIVE CDX CENTER TRACK ONLY, >58mm BELTLINE, 39-46t FRONT SPROCKET
REAR BRAKE	160mm STANDARD POST MOUNT, 180mm MAX ROTOR DIAMETER,
REAR TIRE 29"	29 X 2.4" / 61mm MAX WIDTH. ACTUAL TIRE WIDTHS CAN VARY FROM PRINTED SIZES
REAR TIRE 27.5"	27.5 X 2.8" / 71mm MAX WIDTH. ACTUAL TIRE WIDTHS CAN VARY FROM PRINTED SIZES
REAR HUB	12 X 148, SRAM (NON UDH) MAXLE INCLUDED
FORK TRAVEL	100-130mm
WATER BOTTLE	2X BOTTLE MOUNTS, ONE ON SEAT TUBE AND ONE ON DOWNTUBE
SEATPOST COLLAR	35.0mm INNER DIAMETER

Tools Required for Assembling a Frame into a Bicycle:

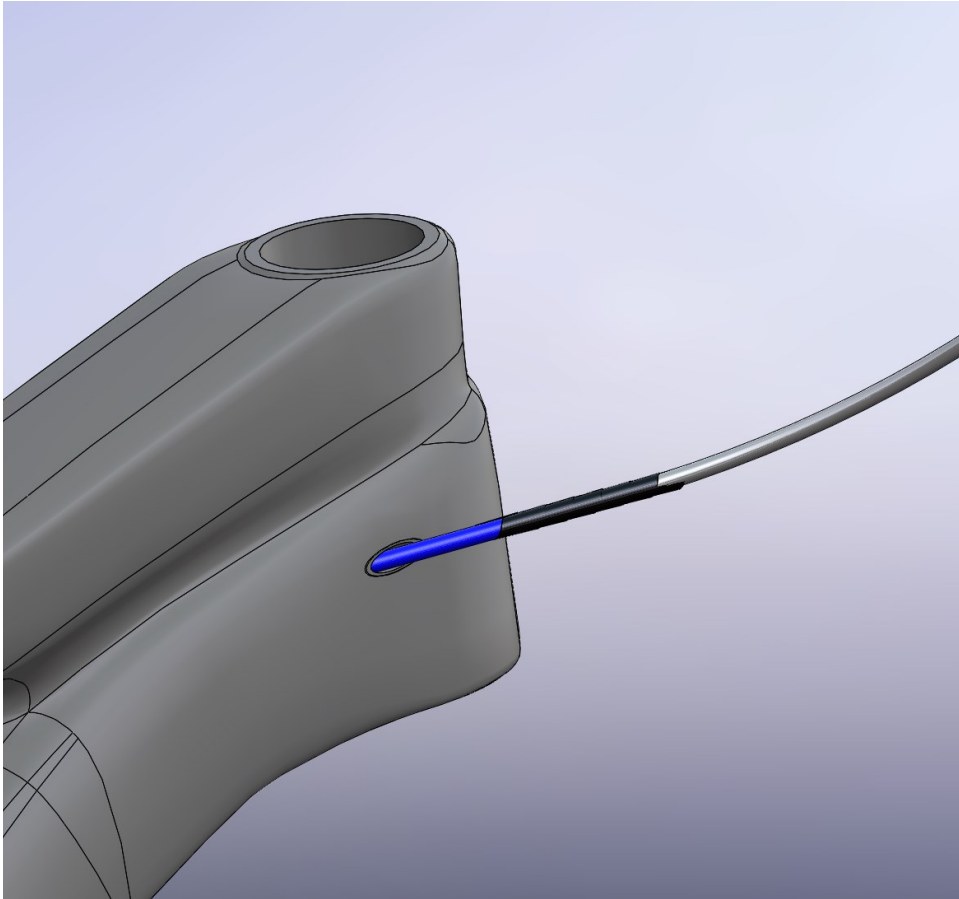
(Complete bikes delivered from Spot will not require these steps.)

- Hex wrenches / bits: 4mm, 5mm, 6mm
- Torx wrenches / bits: T25
- Torque wrench, 4Nm (35in-lb) to 14Nm (124in-lb) range
- Headset Press
- Bottom Bracket Installation Tools—may vary by BB brand and model
- Isopropyl or denatured alcohol—90% or higher concentration
- Strong, thin adhesive tape—electrical tape, packaging tape, etc.

Internal Dropper Seatpost Routing

IMPORTANT:

Your Rocker frame is supplied with a guide tube installed in place of the dropper seatpost cable to ease installation. Please do not remove the guide tube until the dropper seatpost cable is installed.



1. Make sure your seatpost collar is installed on the frame. The seatpost cable housing is easiest to install by feeding from the head tube to the seat tube, but can be fed starting at the seat tube if necessary. Tape the seatpost cable housing to the guide tube at the head tube end. Make sure to clean the end of the cable housing and the guide tube with alcohol before taping. Tape the two together in line, and wrap the tape several times around the junction for sufficient contact.
2. While feeding the seatpost cable housing into the frame, gently pull the guide tube out of the seat tube. If excessive resistance is met, the tape joint may be too bulky and should be reduced. The cable housing must curve around a relatively small radius between the seat tube and the down tube.

3. Continue to feed the seatpost cable housing while gently pulling the guide tube from the seat tube. When the seatpost cable housing emerges from the port, remove the tape and store the guide tube in a safe place.



4. Proceed to install your dropper seatpost per the seatpost manufacturer's instructions. *You may wish to install other components on the frame before completing the dropper post installation.*

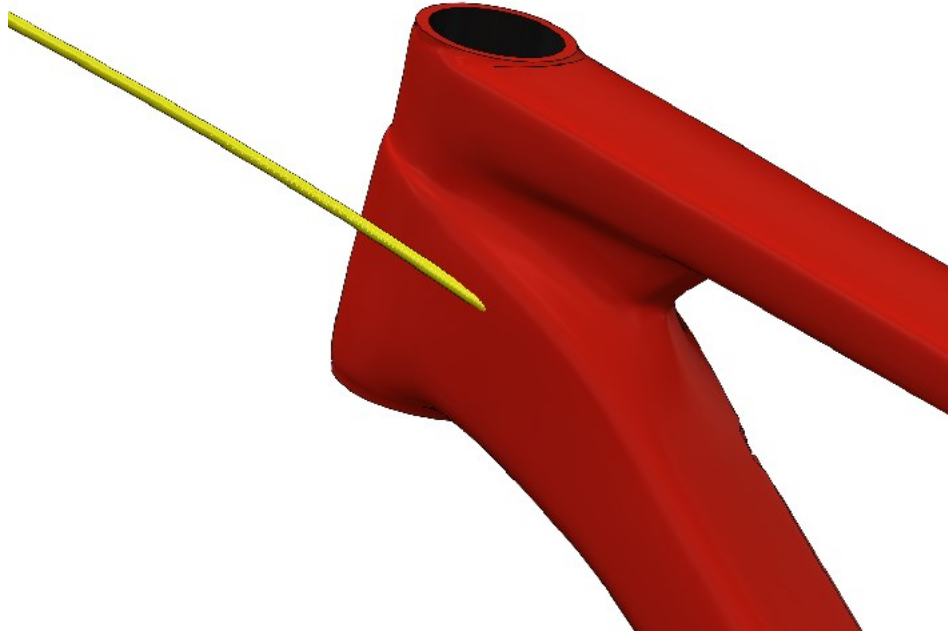
Rear Brake Hose Routing

1. Begin by installing the rear brake caliper and any applicable adapter if using a rotor larger than 160mm on the dropout slider. Please note the Rocker frame is not compatible with rotors larger than 180mm in the rear. Also, some 4-piston brake options may interfere with the frame in rearward dropout positions.
2. Route the rear brake line starting from the caliper, attaching it to the frame using the supplied zip ties and p-clips as shown.
3. Make any changes to brake line length according to the brake manufacturer's instructions.



Rear Derailleur Cable Routing

1. Begin by feeding the rear derailleur cable housing into the port on the non-drive side of the head tube as shown:



2. The housing will emerge from the port on the drive side chainstay:



Bottom Bracket Installation

1. Observe the bottom bracket manufacturer's requirements for cup position, any required spacers, and take care to observe the left/right orientation of each cup.
2. Tighten each bottom bracket cup into its respective side of the frame and torque to the bottom bracket manufacturer's specification.

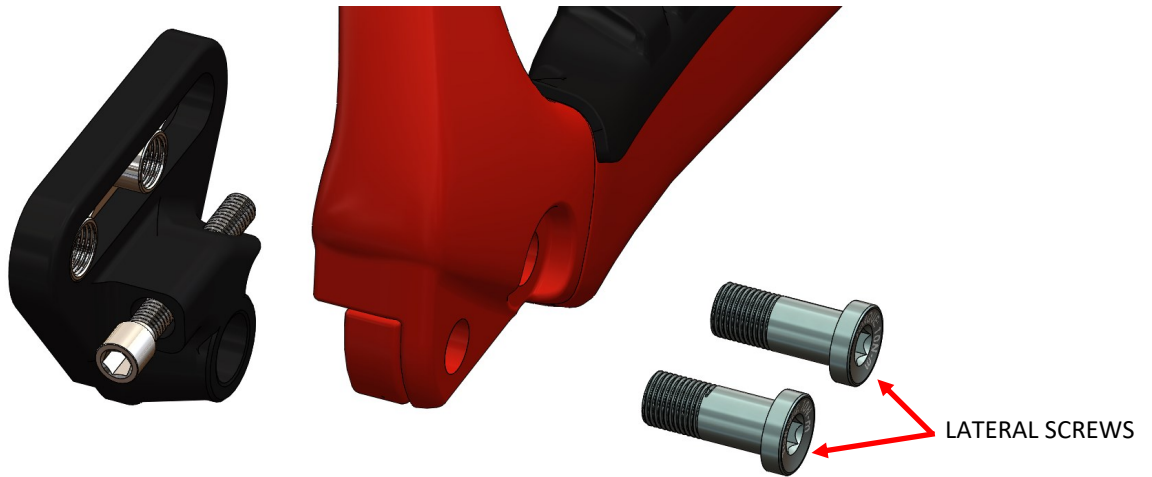
Belt Installation/Removal

Since the Gates Carbon Drive belt cannot be separated like a chain, a split must be incorporated into a belt compatible frame in order to install/remove the belt. Here's how to use the belt split system on the Rocker frame:

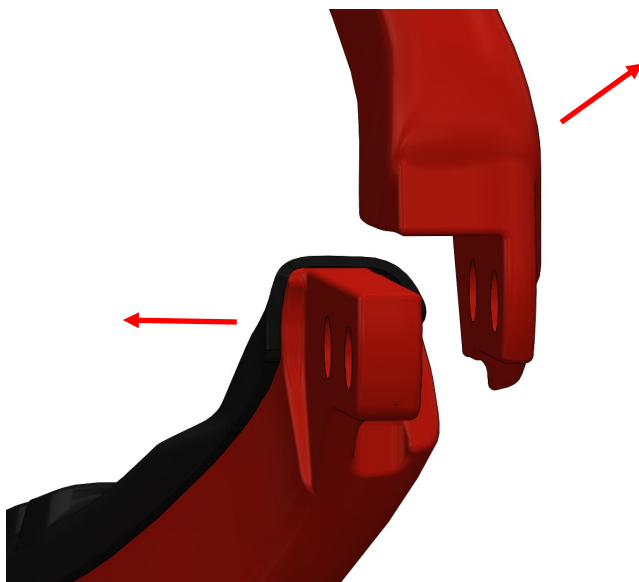
Tools Required:

- 5mm hex tool
- Torque wrench with 5mm hex bit

1. Using a 5mm hex tool, remove the 2 lateral clamping screws on the drive side dropout system to free the slider assembly from the frame:



2. Flex the chainstay inward and the seat stay upward and outward to allow the belt to pass through. **IMPORTANT:** Only separate the belt split the minimal amount required to pass the belt. Flexing the frame beyond this opening could damage the frame.



3. Once the belt is installed, reassemble the dropout slider into the frame. Apply fresh medium thread locker to the lateral screws at this time. As the belt will require tensioning, it is not necessary to torque the lateral screws yet.

Belt Tension Adjustment

Gates Carbon Drive belt drive systems are dependent on proper tension for correct operation and longevity. Our patented sliding dropout system allows for the rear wheel to be removed and replaced without affecting belt tension.

Belt tension should be checked every 4-5 rides using the free Gates Carbon Drive smartphone app available here:

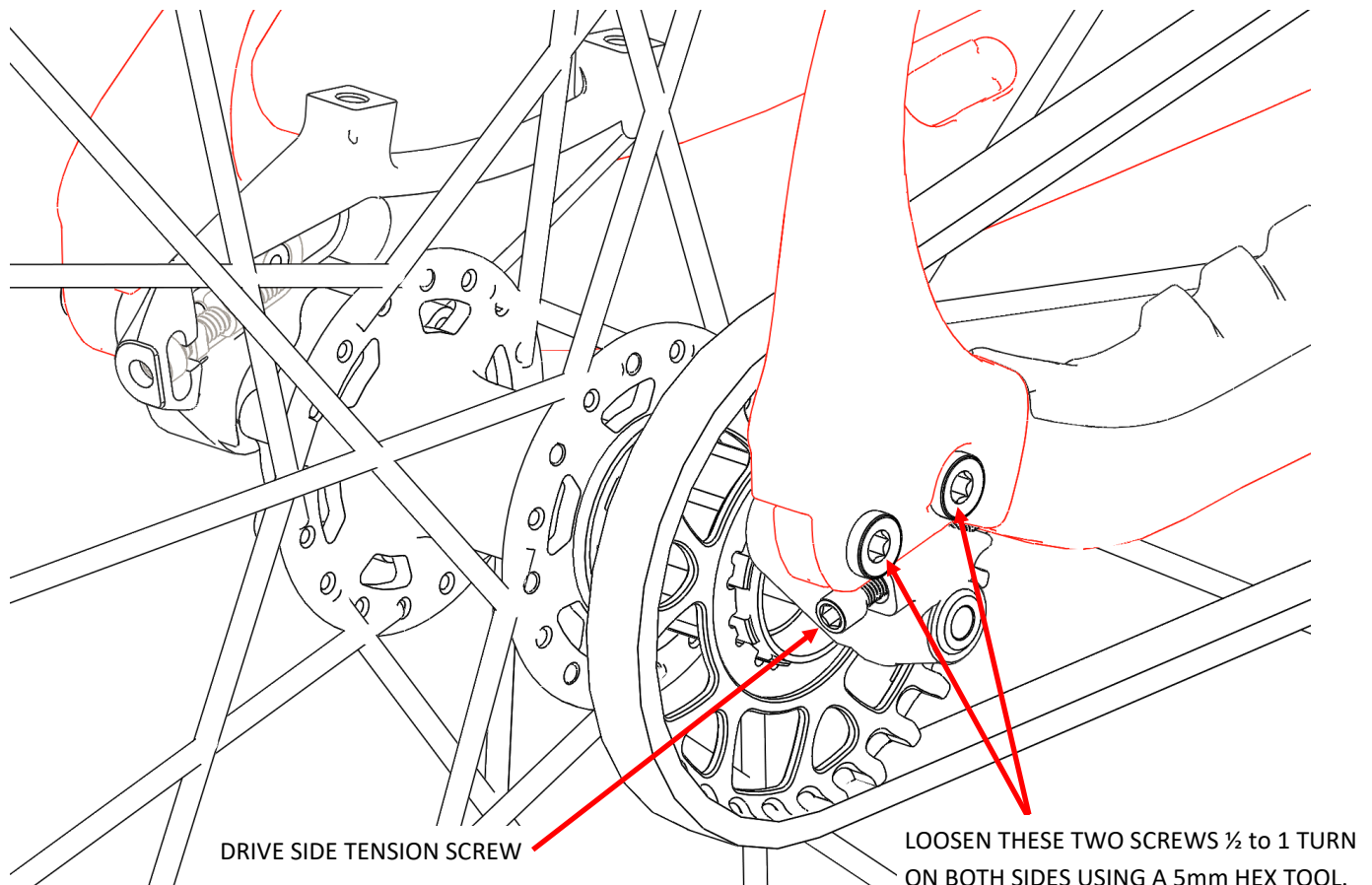
<https://www.gatescarbondrive.com/products/tools>

If you are setting up your drivetrain for the first time, or if you find that your system is not set to the correct tension range, follow these steps to adjust it:

Tools Required:

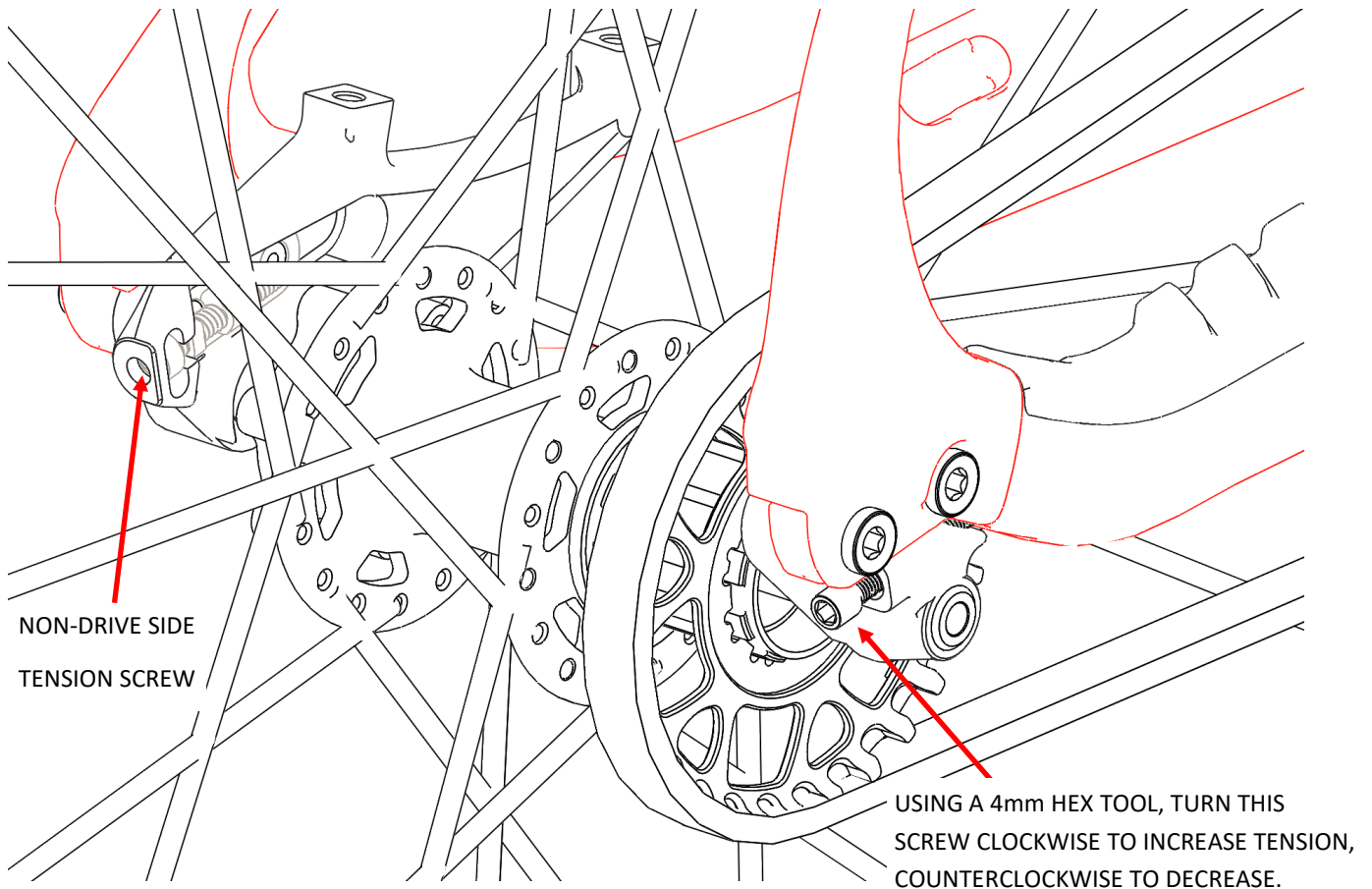
- 5mm hex tool
- 4mm hex tool
- Torque wrench with 5mm hex bit

1. Loosen the 4 lateral dropout clamping screws by $\frac{1}{2}$ to 1 full turn. The goal is to just loosen the screws enough so that the sliders can move back and forth, but without any excessive play. If the tension is adjusted with the sliders too loose, the tension value may change after the screws are tightened.

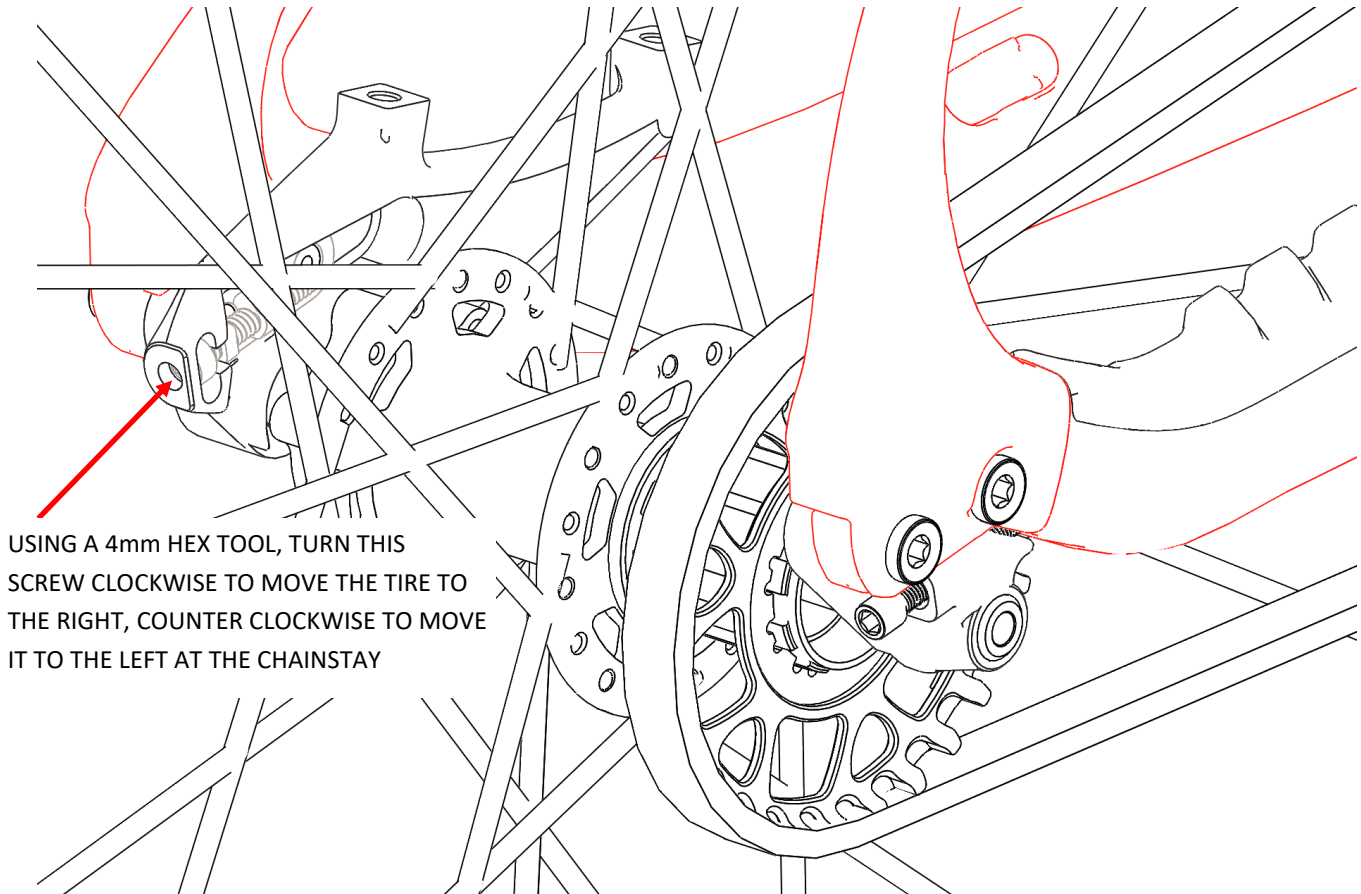


- Turning the tension screw on each dropout slider will move the slider forward or backward relative to the bottom bracket.

To increase belt tension, turn the screw on the drive side dropout slider clockwise. Measure the tension frequently using the Gates Carbon Drive smartphone app. When you near the target tension range, small changes at the tension screw can make significant differences to the belt tension. While adjusting/measuring, turn the crank arm to 12:00, 3:00, 6:00, 9:00 and measure the tension at each position, ensuring the that position that produces the highest tension does not exceed 75Hz. To decrease tension, turn the tension screw on the drive side slider counter clockwise.

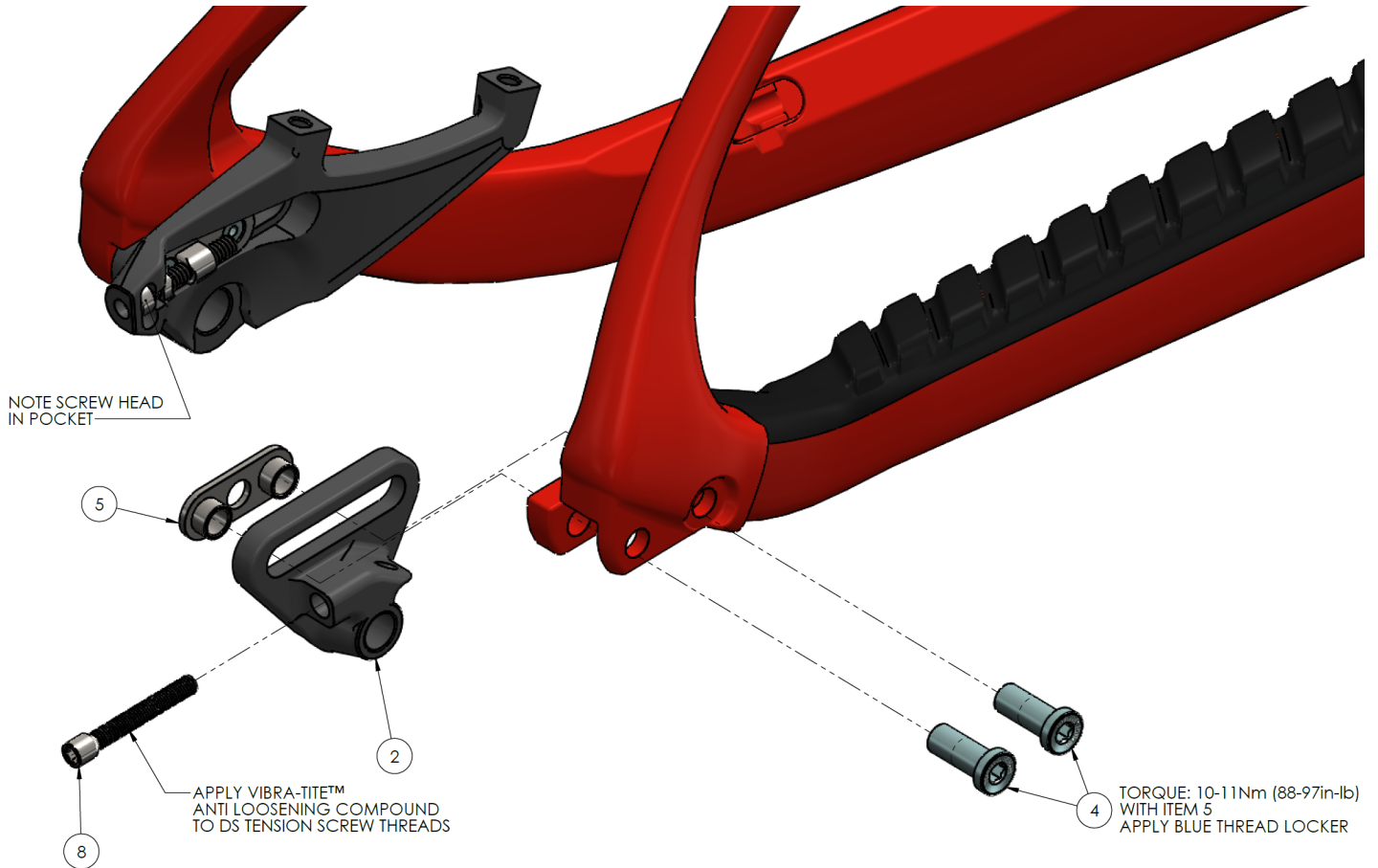


2. Once the prescribed tension (60-75Hz for mountain bikes) has been achieved, the rear wheel may need to be straightened relative to the frame. Check the lateral gap between the tire and the chainstay on each side. If the gap varies by more than 1-2mm, the wheel alignment must be adjusted. This is performed by turning the tension screw on the non drive side dropout slider. Turning this screw clockwise will move the front of the tire to the right, counterclockwise will move it to the left. Adjust this screw until the gap between the tire and the chainstay matches on both sides.



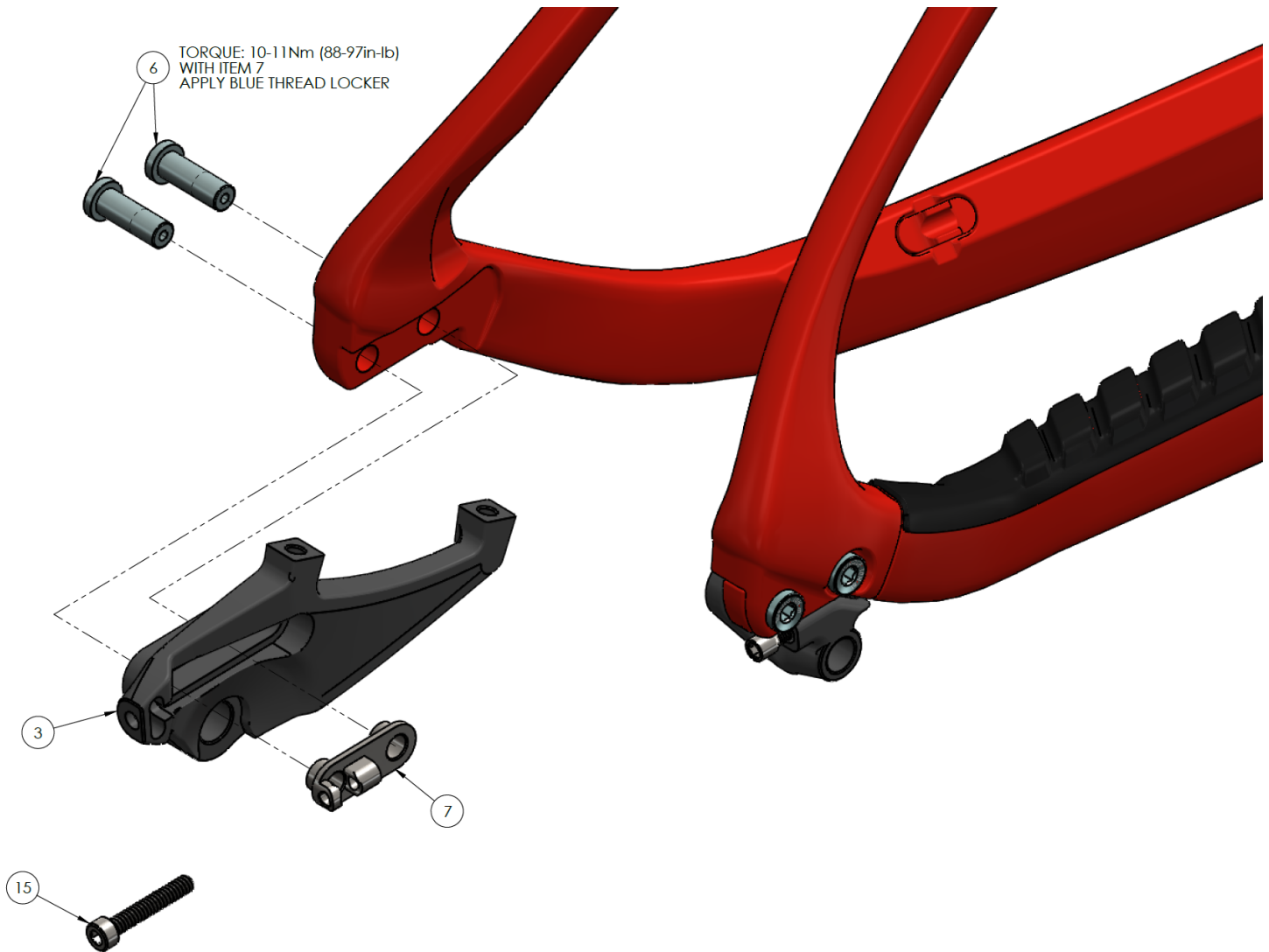
3. Once the belt tension is correct and the wheel is straight in the frame, tighten the 4 lateral dropout clamping screws using a 5mm hex tool. Torque to 10-11Nm (88-97in-lb).
4. **IMPORTANT:** The last step is to snug the tension screws against their stops to prevent any loosening or movement in the system. Tighten the tension screw on each dropout until some resistance is met, but not so far to affect wheel position or belt tension.

Rocker Carbon Frame Parts Reference



ITEM NO.	PARTNO.	DESCRIPTION	QTY.
2	FS90187	ROCKER C SLIDER, DS, SS	1
3	FS90186	ROCKER C SLIDER, NDS	2
4	FS90190	ROCKER C SLIDER SCREW, DS 19.5mm	2
5	FS90189	ROCKER C SLIDER BACKPLATE, DS	1
6	FS90200	ROCKER C SLIDER SCREW, NDS 23mm	2
7	FS90201	ROCKER C SLIDER BACKPLATE, NDS	1
8	FS90191	ROCKER C TENSION SCREW, DS	1
15	FS90226	ROCKER C TENSION SCREW, NDS	1

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7	FS90201	ROCKER C SLIDER BACKPLATE, NDS	1
8	FS90191	ROCKER C TENSION SCREW, DS	1
15	FS90226	ROCKER C TENSION SCREW, NDS	1