

2019 S3 DISC RETAILER ASSEMBLY MANUAL

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IMPORTANT INFORMATION

This manual is intended to assist Cervélo retailers in setting up and customizing the 2019 S3 Disc bicycle. This manual is not intended for consumer use, and requires the use of the specified tools to ensure proper assembly.

Failure to use the specified parts and to follow the supplied assembly instructions may result in a loss of control while riding and serious injury. This manual is an overview of the steps required to assemble this bicycle and to make any desired modifications as set forth in this manual. This manual assumes that the retailer has the minimum required background and skill level required of all professional bicycle mechanics. See <https://www.probma.org/>

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NOTE: Cervélo strongly recommends that all assembly and adjustment procedures be performed by an authorized Cervélo retailer. If you are a Cervélo S3 Disc consumer/purchaser reading this manual we suggest that before attempting to undertake any of the procedures in this manual that you consult your authorized Cervélo retailer, or visit us at www.cervelo.com/support

LIST OF TOOLS & SUPPLIES

This manual outlines a number of procedures for making optional adjustments to the S3 Disc which differ from the way the bicycle is originally sold by Cervélo. The following tools and parts listed are required for these adjustments. These parts are only available for purchase through Cervélo retailers. Cervélo strongly recommends that all assembly and adjustment procedures be performed by an authorized Cervélo retailer.

All parts available for separate purchase are noted in this manual with Cervélo part numbers listed in ALL-CAPS FORMAT, with a full listing provided on page 3.

NOTE: All non-proprietary components such as those from Shimano or SRAM are available from your local distributor.

NOTE: This manual was developed to compliment the Cervélo General User Manual, and is intended as a supplement to the assembly and installation instructions supplied by the component manufacturers (provided with this bicycle).

Tools	
	Bicycle workstand (types which secure bike by the seatpost, or pro-type stand with fork mount)
	Torque wrench(es) with 2.5Nm to 15Nm range and adaptors:
	Allen (Hex) head inserts: 2mm, 2.5mm, 3mm, 4mm, 5mm, 6mm, 8mm, 10mm
	Open ended wrenches: 7mm, 8mm, 10mm, 17mm
	Cable cutters
	Pliers

Tools	
	Philips-head screwdriver
	Slot-head screwdriver
	Pedal wrench
	Brake rotor lockring tools
	Hydraulic bleed kit
	Di2 wire tool – Shimano
	Good quality bicycle grease

2019 S3 DISC PARTS LIST

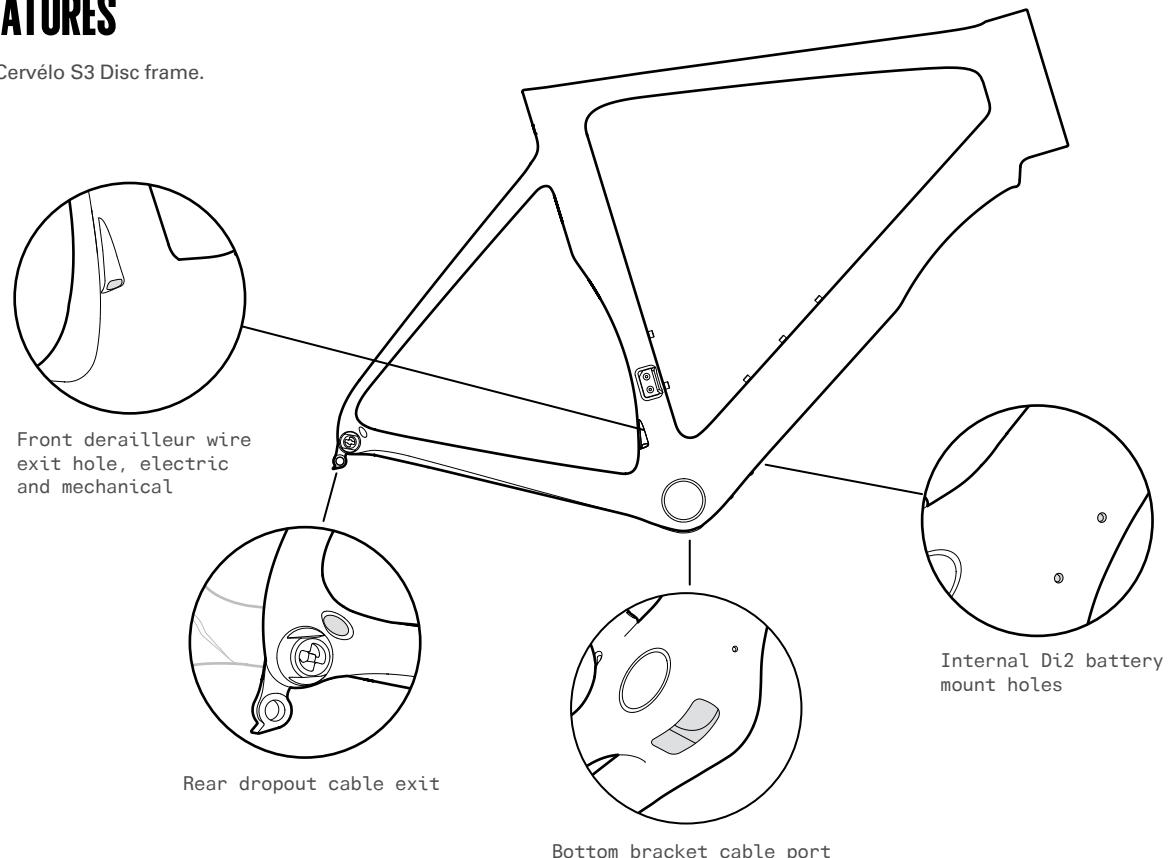
Item Description	Cervélo Part No.
Fork Clamp Wedge Kit	FKI-0E0S3
Front Derailleur Mount w/Bolts	FDM-0E0
Disc Brake Hose Guide	CBG-DBH
ST029 Stem 80mm w/ Top Cap	ST-A029-80
ST029 Stem 90mm w/ Top Cap	ST-A029-90
ST029 Stem 100mm w/ Top Cap	ST-A029-100
ST029 Stem 110mm w/ Top Cap	ST-A029-110
ST029 Stem 120mm w/ Top Cap	ST-A029-120

Item Description	Cervélo Part No.
ST029 Stem 130mm w/Top Cap	ST-A029-130
ST029 Stem Top Cap	STC-A029
AB09 Carbon Handlebar 380mm	HB-AB09-38
AB09 Carbon Handlebar 400mm	HB-AB09-40
AB09 Carbon Handlebar 420mm	HB-AB09-42
AB09 Carbon Handlebar 440mm	HB-AB09-44
ST029 Stem Spacer Kit 40mm	SS-A029-KIT
ST029 Headset Bearing Cap	BC-A029

Item Description	Cervélo Part No.
ST029 Headset 1-1/4 - 1-3/8	HS-A029
SP20 Carbon Seatpost 0mm Offset w/Head	SP-SP20-ZERO
SP20 Carbon Seatpost 25mm Offset w/Head	SP-SP20-25MM
Seatpost Clamp Assembly S2/S3	SPC-0E0S2S3
BB Cable Guide/Cover	BBG-0E0
Internal Battery Mount Assembly	MT-BINT

FRAME FEATURES

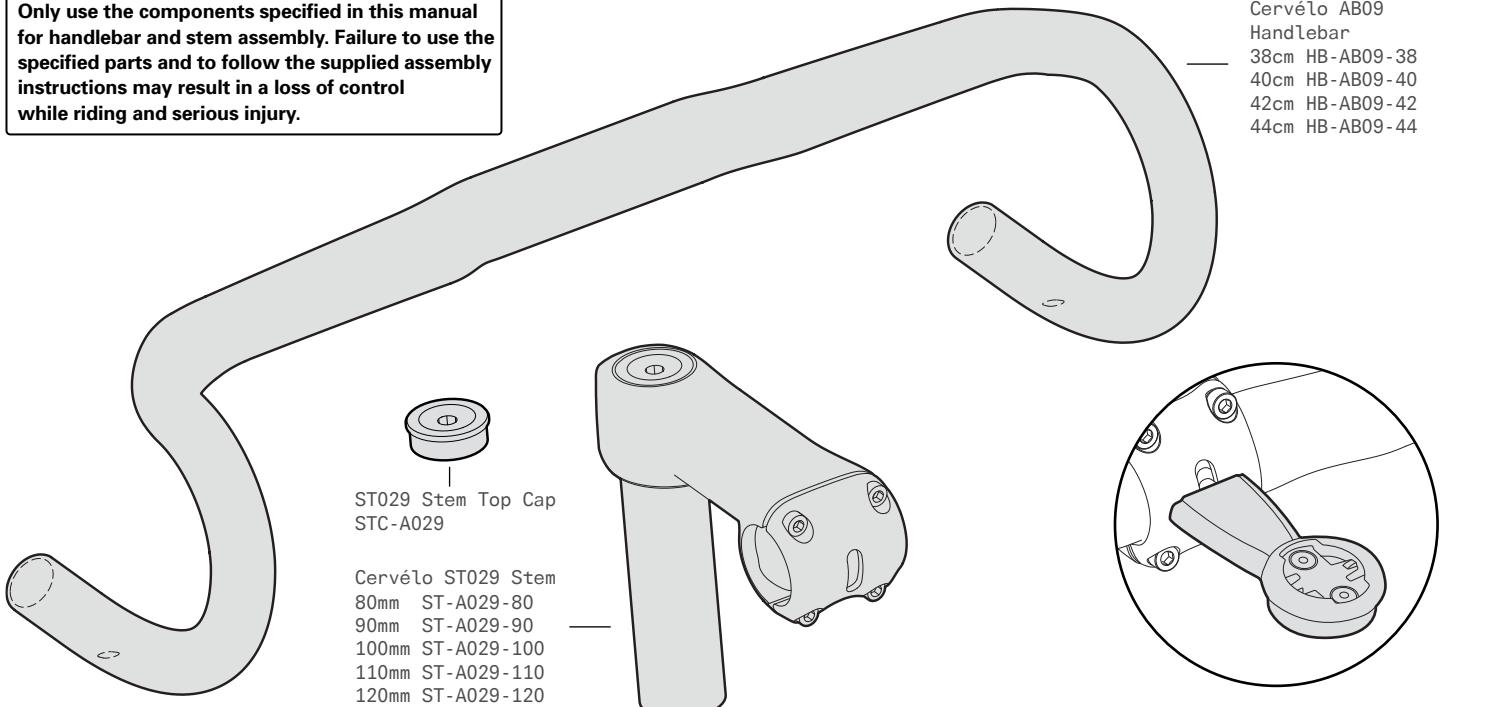
A guide to the Cervélo S3 Disc frame.



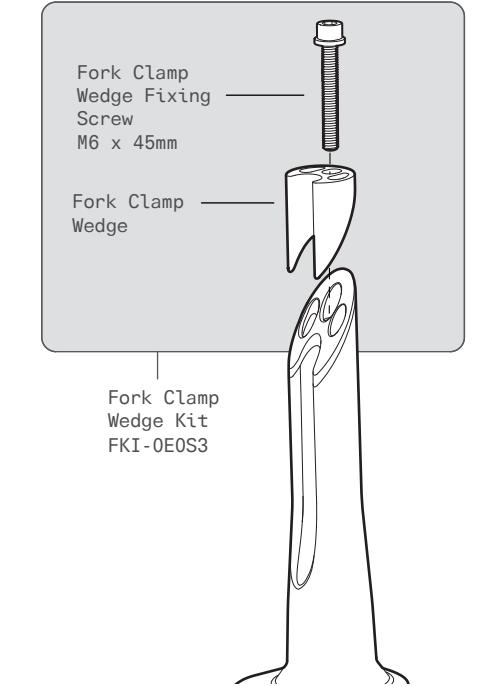
HANDLEBAR & STEM COMPONENTS

⚠️ WARNING

Only use the components specified in this manual for handlebar and stem assembly. Failure to use the specified parts and to follow the supplied assembly instructions may result in a loss of control while riding and serious injury.

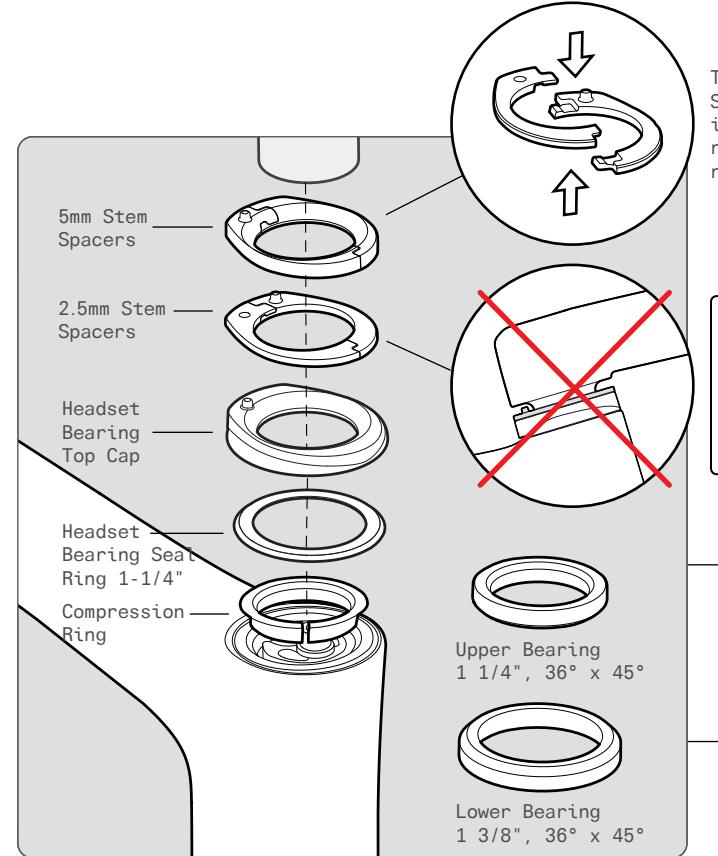


FORK & HEADSET COMPONENTS



⚠️ WARNING

Your Cervélo frame & fork have been designed to work together. Do not attempt to install an alternative fork.



Two-piece Stem Spacers allow for installation or removal without re-cabling.

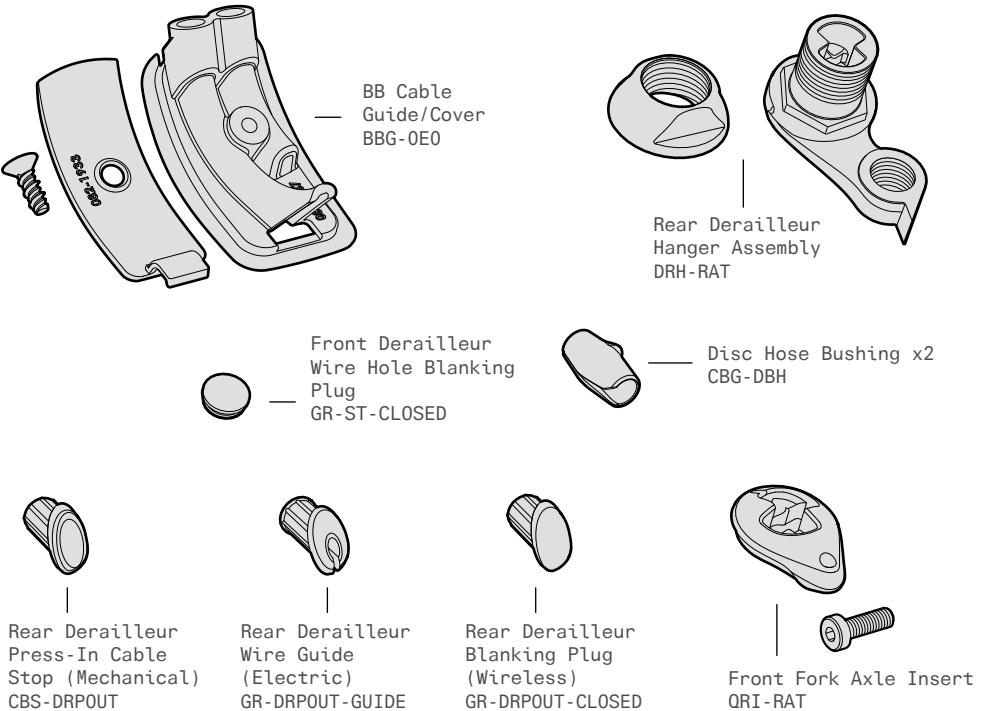
⚠️ WARNING
Do not use a 2.5mm spacer directly under the stem as it will not fit properly.

Stem Spacer Kit (40mm)
HS-A029
5mm Spacer x7
2.5mm Spacer x2

Headset
HS-A029
1 1/4" Bearing
1 3/8" Bearing
Top Cap
Seal Ring
Compression Ring

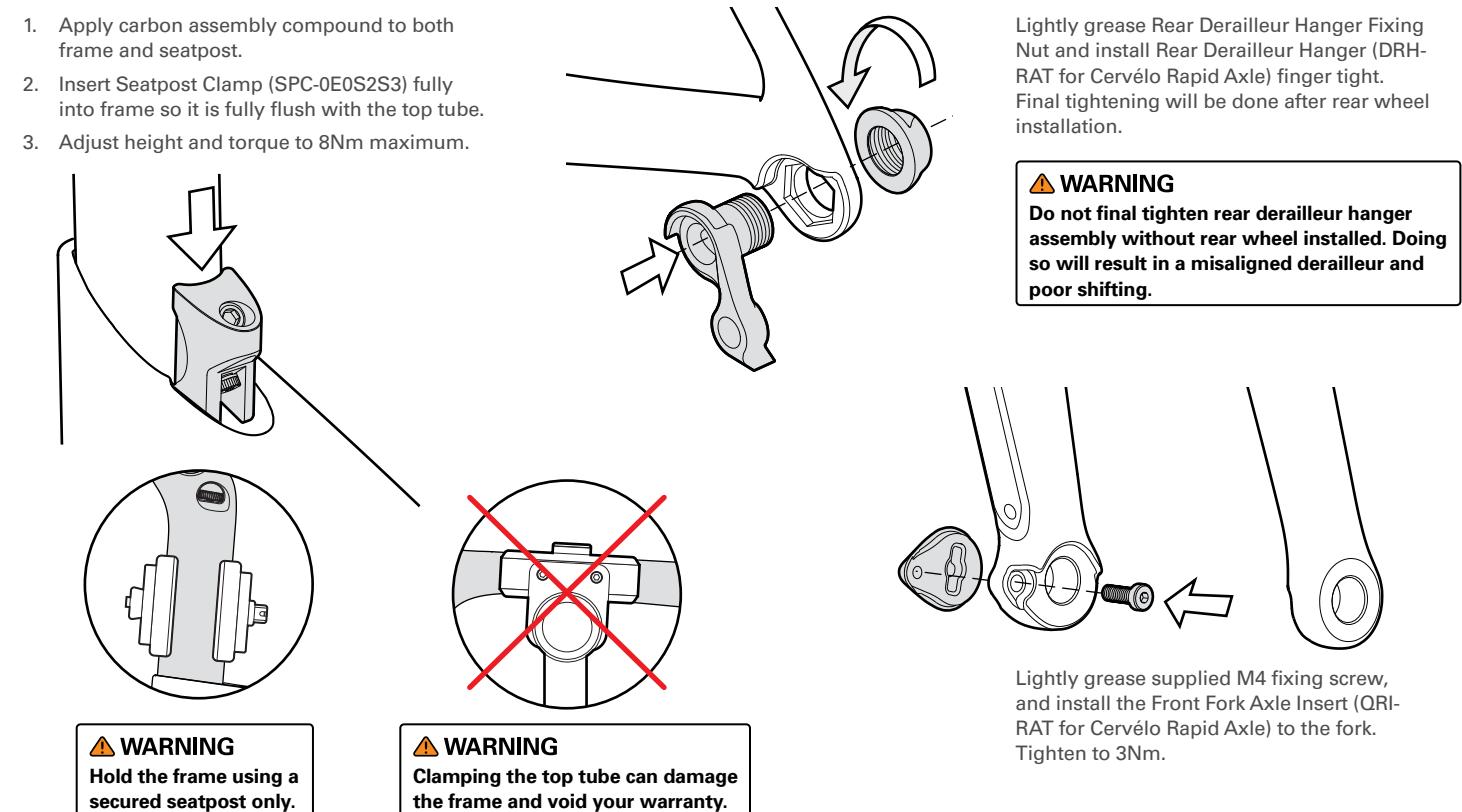
SMALL PARTS

Designed to accommodate electronic, mechanical and hydraulic controls, the S3 Disc frame is engineered to provide seamless integration of all shifting systems, regardless of method or brand. In order to do so, you will require the parts shown below:



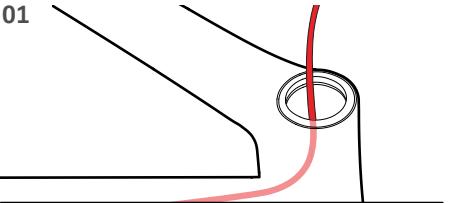
FRAME PREPARATION

1. Apply carbon assembly compound to both frame and seatpost.
2. Insert Seatpost Clamp (SPC-0E0S2S3) fully into frame so it is fully flush with the top tube.
3. Adjust height and torque to 8Nm maximum.

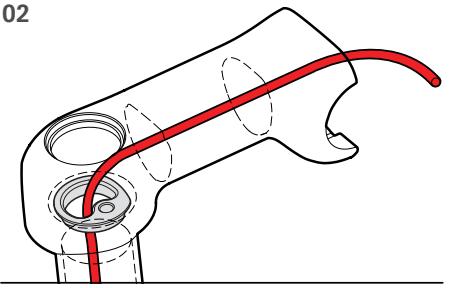


S3 DISC ASSEMBLY OVERVIEW*

NOTE: See the following pages for more detailed assembly instructions.

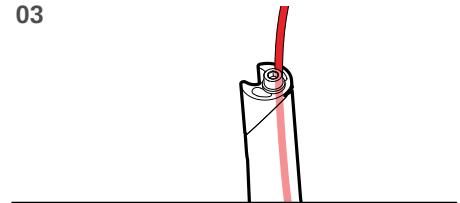


01
Install lightly greased upper headset bearing. Route uncut rear brake hose from the chainstay, exiting the frame through the top of the headtube.

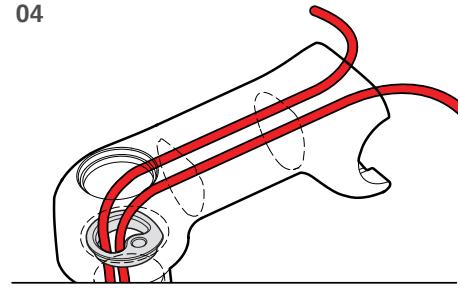


02
Place desired stem spacers, headset top cap, seal ring and compression ring on stem steerer for later installation. Slide the rear hose through the stem, so that it exits through stem mouth.

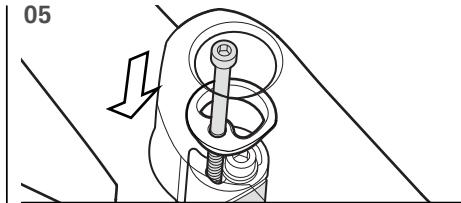
*Mechanical cabling shown



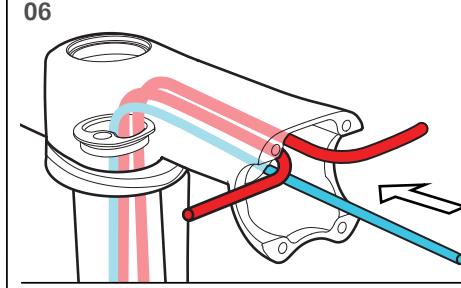
03
Route front brake hose through the fork, exiting the Fork Clamp Wedge on the non-drive side. Apply carbon assembly compound to outside of the fork steerer and to inside of the stem steerer where they will contact prior to installation.



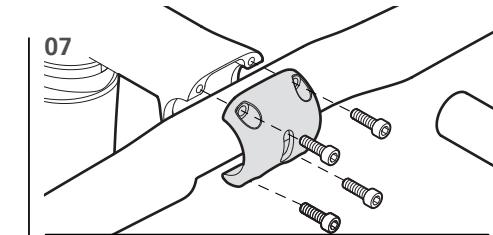
04
With lightly greased lower bearing in place, install the fork into the frame and stem steerer, routing the front brake hose, so that it follows the same path as the rear through the stem.



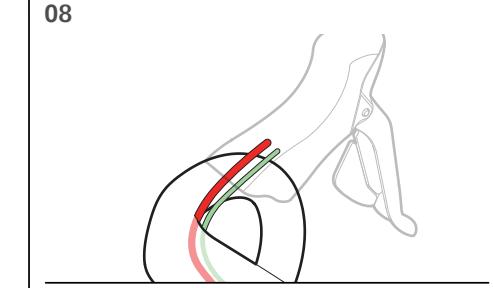
05
Install the lightly greased M5 x 100mm preload screw. Tighten to remove any play in the bearings.



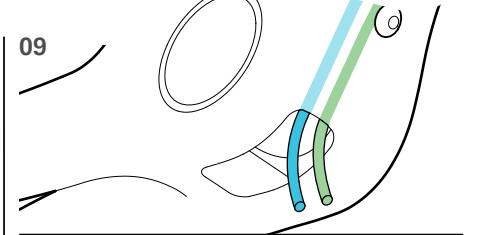
06
Starting at the stem mouth, slide enough shifter housing through the stem, so that it reaches from the shifter to the BB Cable Port. Repeat this for 2nd shifter housing, identifying which housing is front and rear.



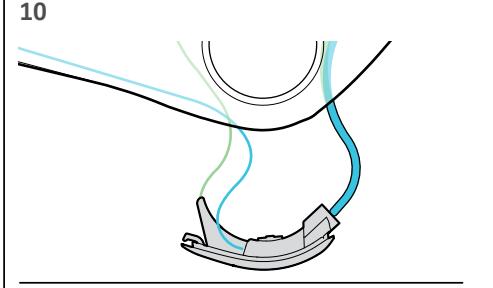
07
With shifters installed on bar, attach the bar to the stem ensuring that hose and shifter housing are on the appropriate side of the faceplate. Apply carbon assembly compound to contact area between the handlebar and the stem faceplate.



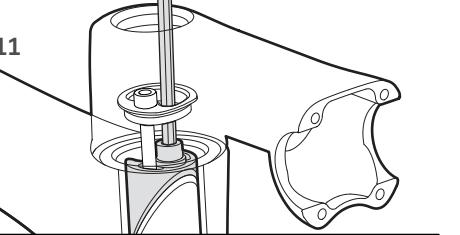
08
Locate cable and hose ends at shifters. Pull and/or push gently, so the hose and housing travel through the system.



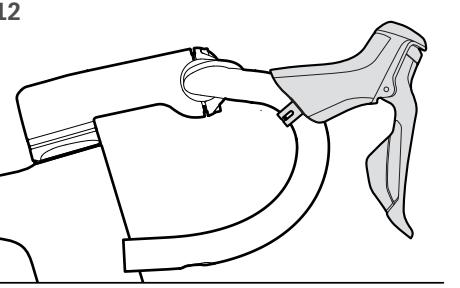
09
Trim the shifter housing at the leading edge of the BB Cable Port and install cables as per manufacturers instructions.



10
Install housing with ferrules into the BB Cable Guide and route shifter cables accordingly through the frame.



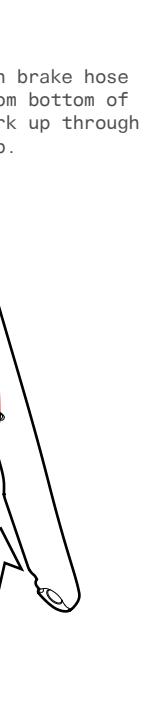
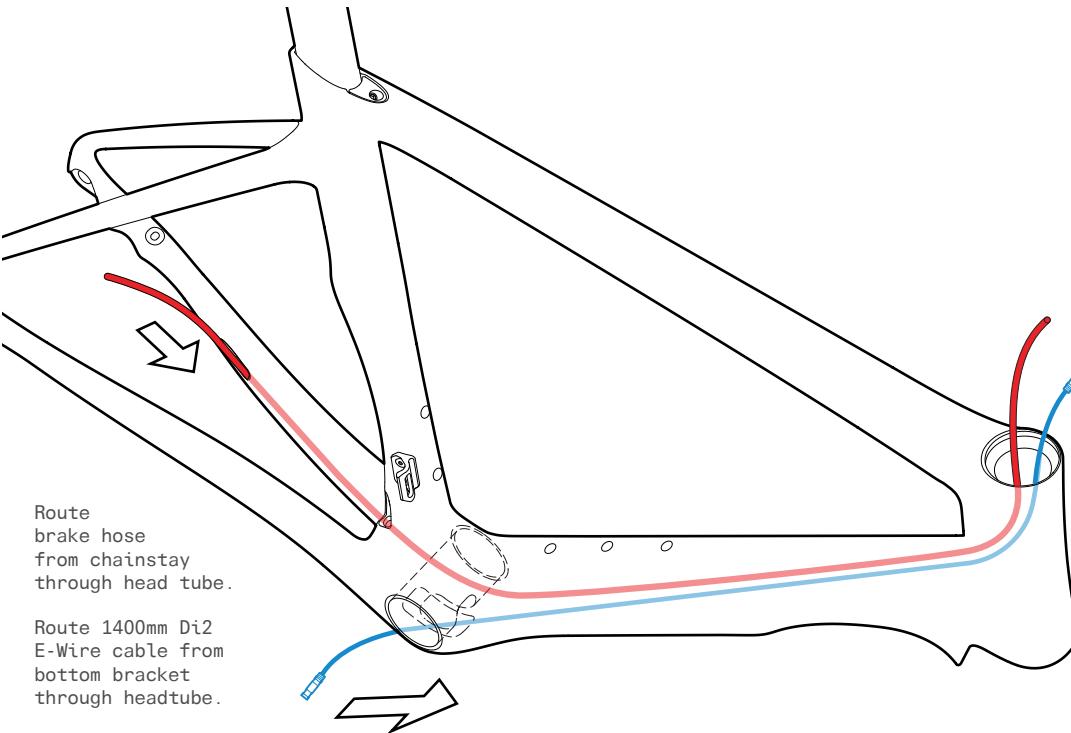
11
Straighten stem and fix into place by tightening the Fork Clamp Wedge.



12
Connect the remaining controls and complete assembly.

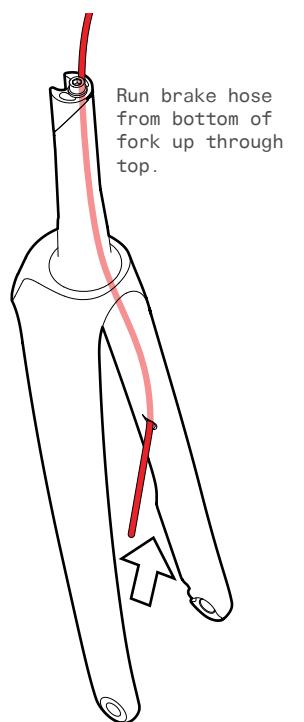
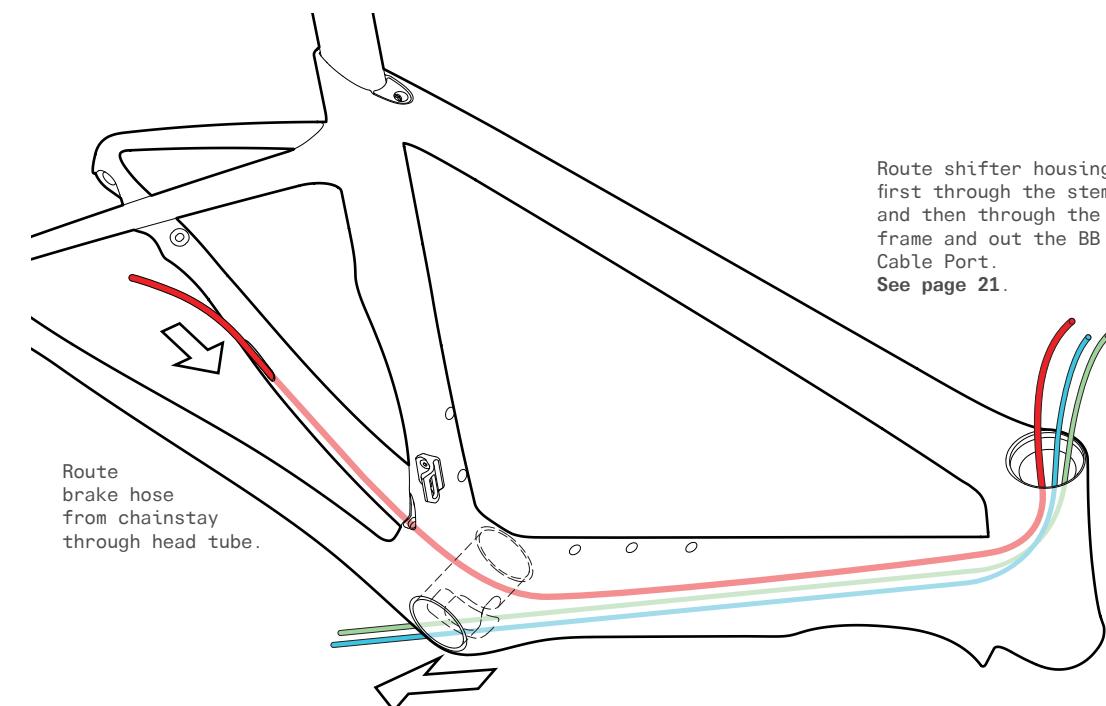
ELECTRIC CABLE OVERVIEW

Brake E-Wire



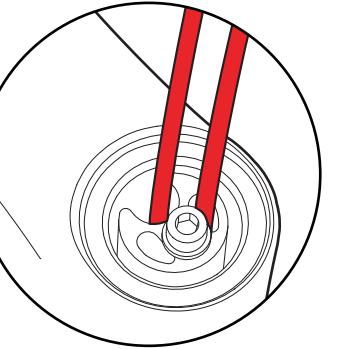
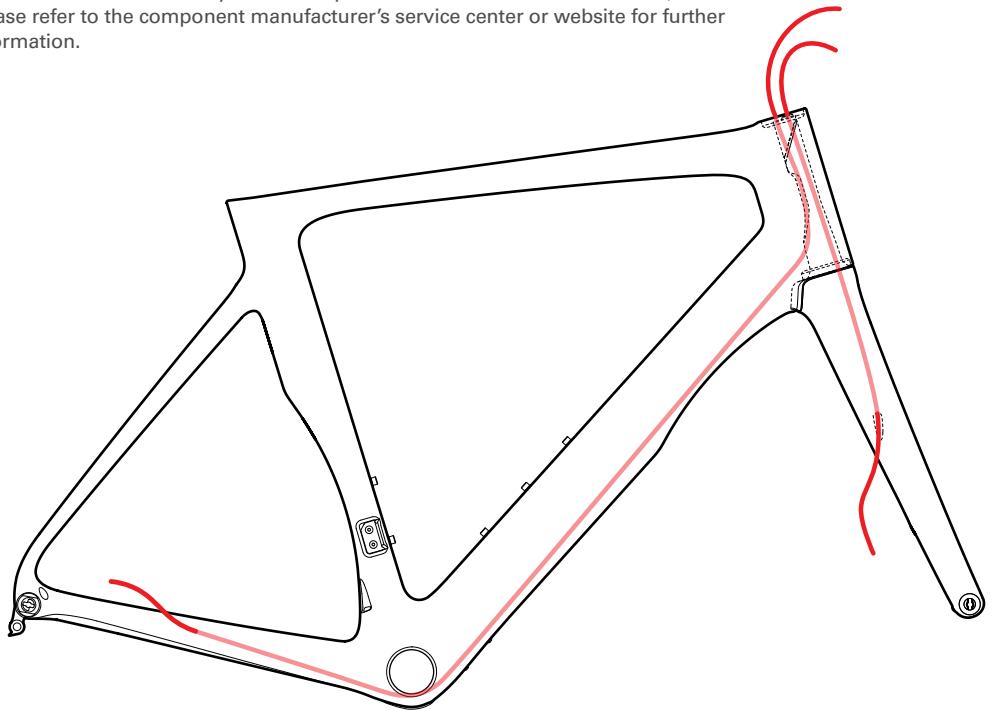
MECHANICAL CABLE OVERVIEW

Brake Rear Shifter Front Shifter



BRAKE HOUSING ROUTING

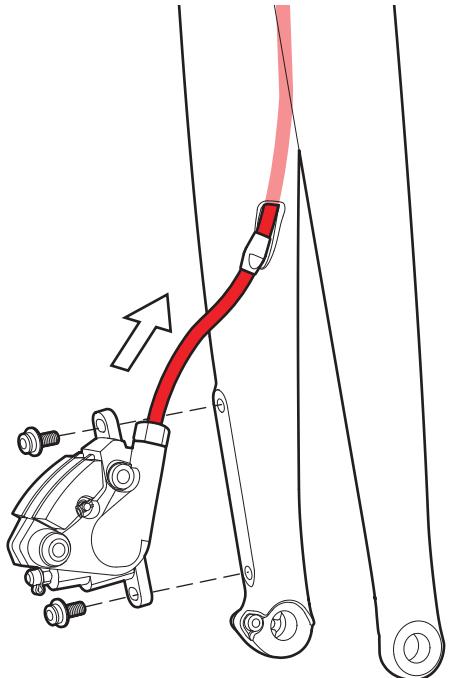
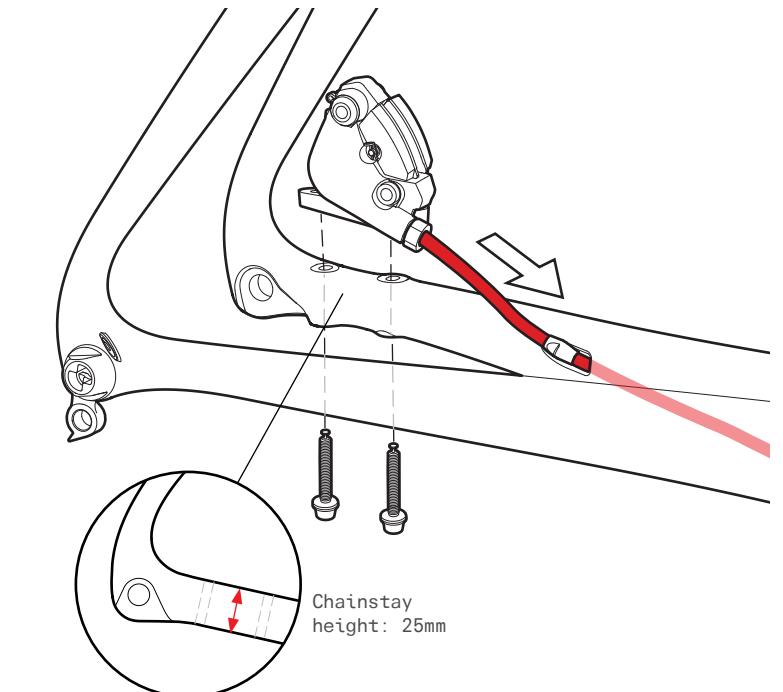
It is recommended that the hydraulic brake hoses or brake cable housing is installed first. These routing illustrations are intended as a supplement to the manufacturer's installation instructions only. For both hydraulic and mechanical disc brakes, please refer to the component manufacturer's service center or website for further information.



Route rear brake hose out the frame by the channel on the back of the fork. Front brake hose runs through the fork exiting the Fork Clamp Wedge on the left.

BRAKE HOUSING ROUTING

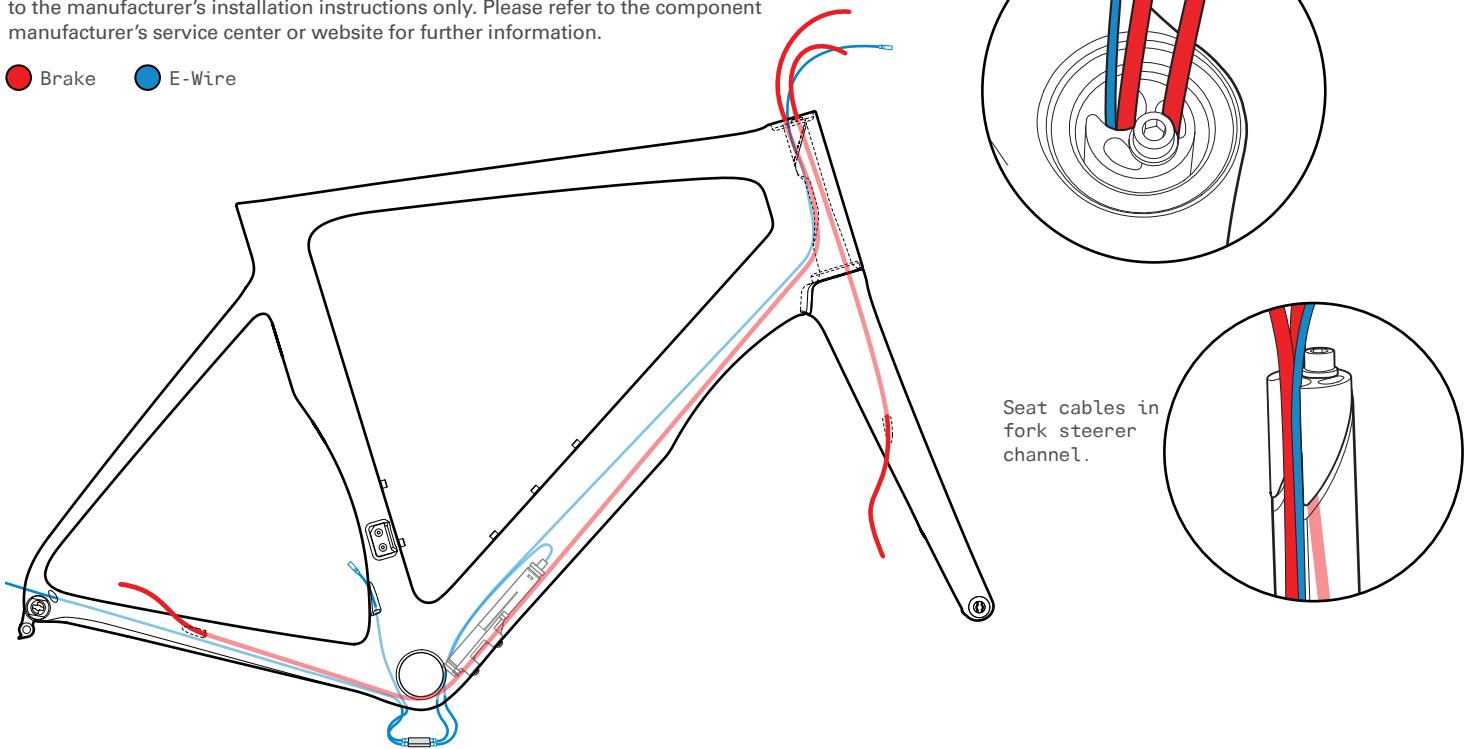
Route hydraulic brake hose or mechanical brake housing through the frame and fork with the Disc Hose Bushings (CBG-DBH). Install and adjust calipers as per manufacturer's instructions.



ELECTRIC CABLE ROUTING

It is recommended that electric cabling and junction points be installed after the brake hose has been installed. These routing illustrations are intended as a supplement to the manufacturer's installation instructions only. Please refer to the component manufacturer's service center or website for further information.

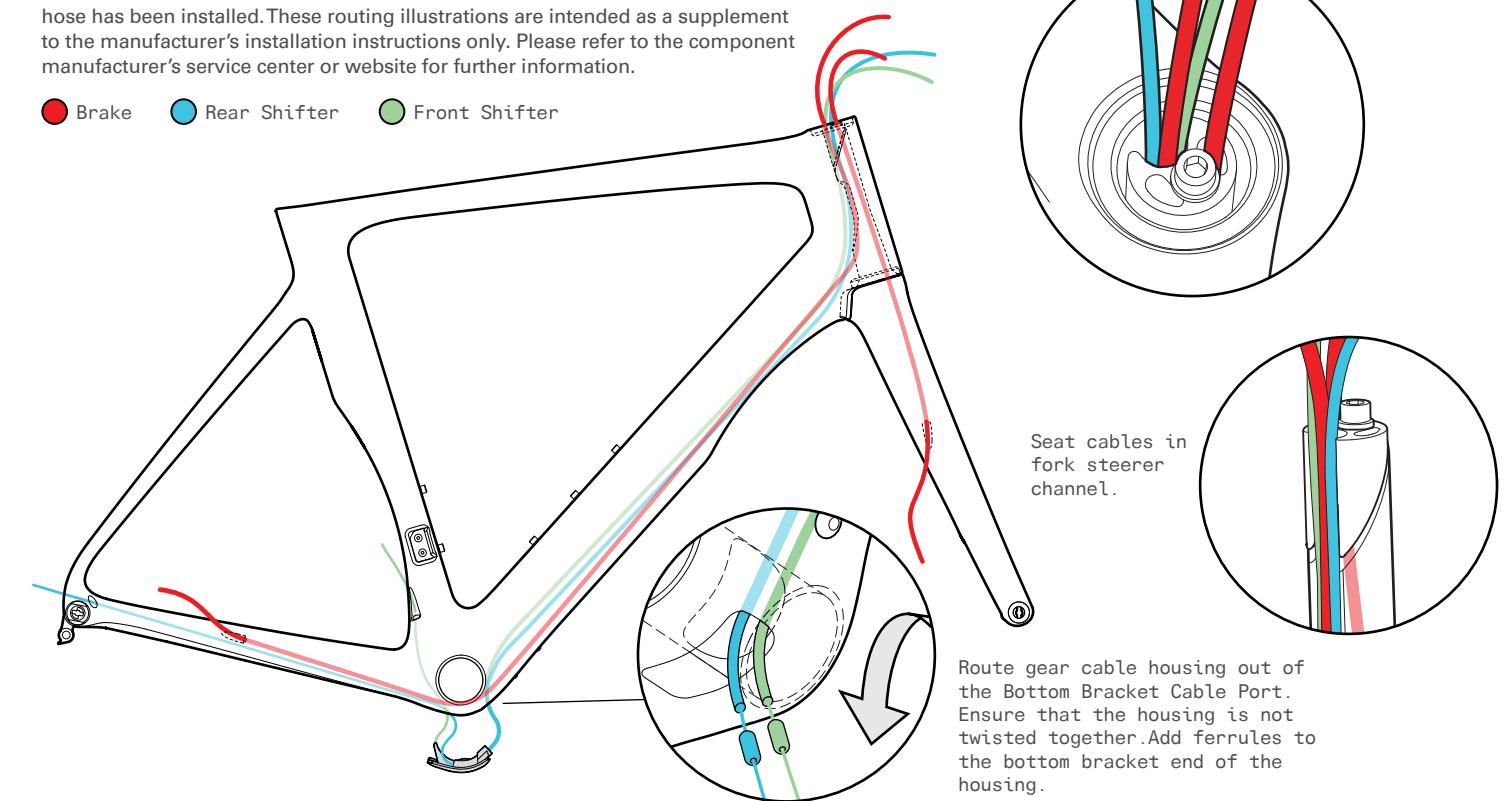
● Brake ● E-Wire



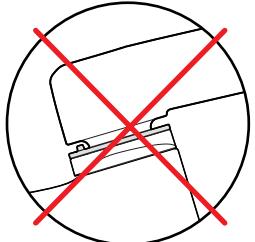
MECHANICAL CABLE ROUTING

It is recommended that front and rear derailleur cables be installed after the brake hose has been installed. These routing illustrations are intended as a supplement to the manufacturer's installation instructions only. Please refer to the component manufacturer's service center or website for further information.

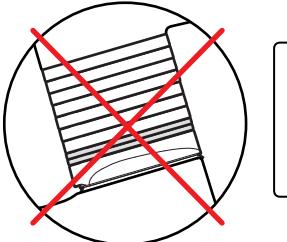
● Brake ● Rear Shifter ● Front Shifter



ST029 STEM STACK

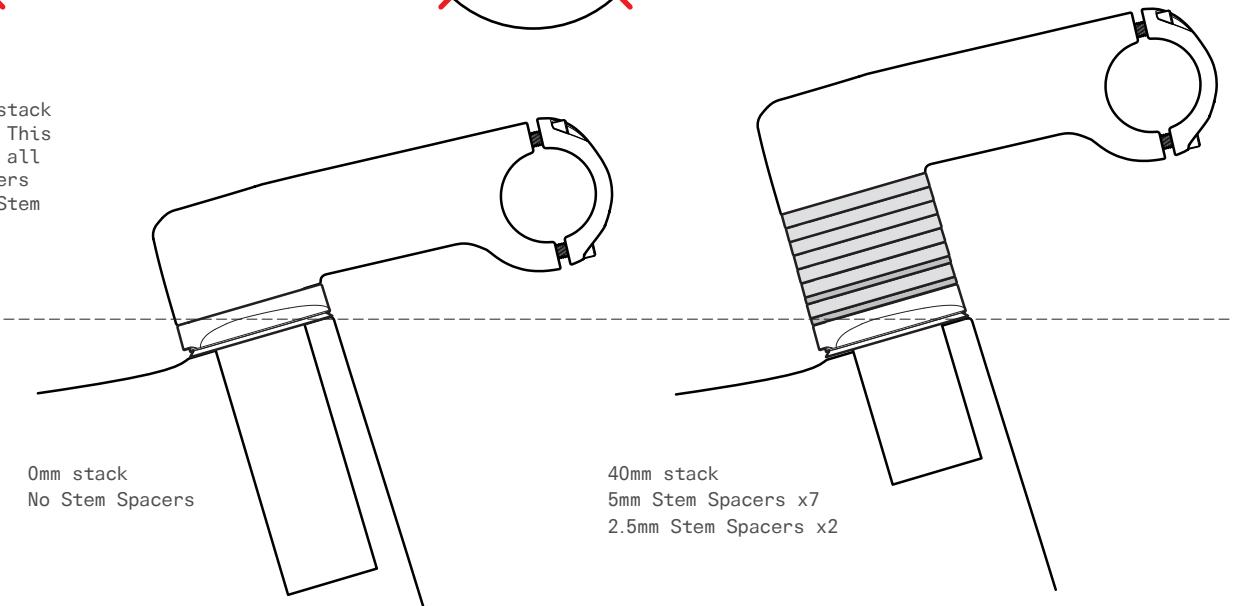


WARNING
Do not place 2.5mm spacers directly under the stem as it will interfere with headset adjustment.



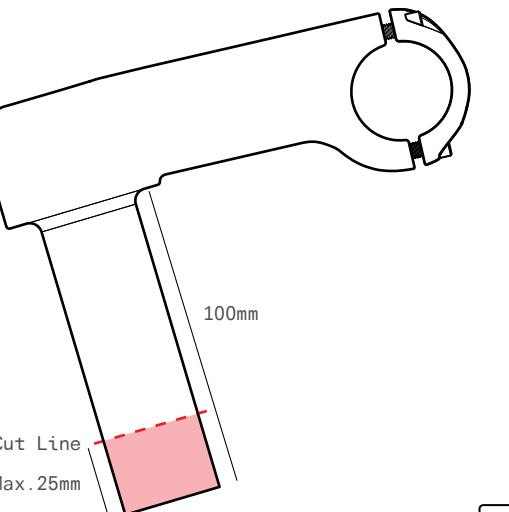
WARNING
Do not stack 2.5mm spacers directly on top of each other as it will interfere with headset adjustment.

NOTE: Maximum stem stack adjustment is 40mm. This requires the use of all seven 5mm Stem Spacers plus the two 2.5mm Stem Spacers.



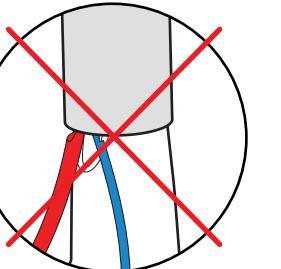
ST029 STEM CUTTING INSTRUCTIONS

With 48cm and 51cm S3 Disc frames, the stem steerer will need to be cut to place the stem in the lowest stack position. Stems for size 54cm to 61cm frames do not require cutting.

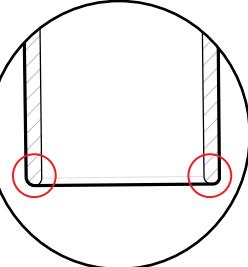


WARNING
If the stem steerer is cut to achieve a lower position, the minimum insert line on the stem steerer must be moved up by the same amount to ensure proper clamping.

1. Use a light coloured grease pencil to accurately mark the cut-off location on the stem steerer from 5mm to 25mm off the bottom edge. See table on page 19 for the exact number based on the combination of frame size and desired spacer stack.
2. Insert the ST029 in the Park Tool SG-6 Saw Guide (or equivalent) so that the cut-off line can be seen clearly through the blade guide in the tool.
3. Using a blade designed specifically for cutting metal; proceed with cutting the stem steerer (as per Park Tool's instructions).
4. Carefully file the cut end removing any burrs, adding a radius to both the inside and outside of the cut edge.



WARNING
The stem steerer must not bottom out/contact the tapered portion of the fork steerer. Damage to the fork or the brake hose caused by the stem steerer could result in a loss of control while riding and potentially serious injury.



WARNING
Ensure inside and outside of cut edge is smooth and free of fork damaging burrs. Damage to the fork or the brake hose caused by the stem steerer could result in a loss of control while riding and potentially serious injury.

ST029 STEM CUT CALCULATOR

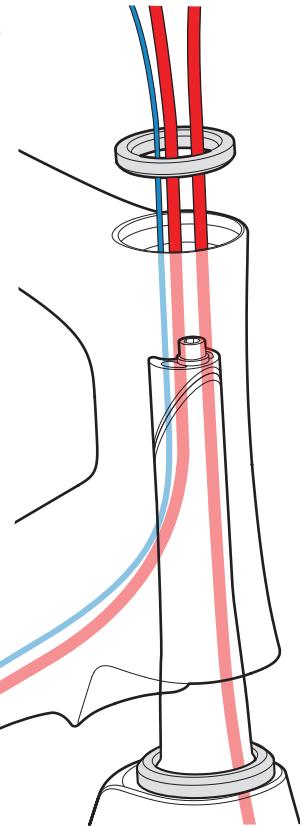
Frame Size*	48cm		51cm	
Spacer Stack (mm)	Removed Length of Stem Steerer	Resulting Max Spacer Stack Possible	Removed Length of Stem Steerer	Resulting Max Spacer Stack Possible
0mm (slammed)	25mm	15mm	5mm	35mm
5mm	20mm	20mm	0mm	40mm
10mm	15mm	25mm	0mm	40mm
15mm	10mm	30mm	0mm	40mm
20mm	5mm	35mm	0mm	40mm
25mm	0mm	40mm	0mm	40mm
30mm	0mm	40mm	0mm	40mm
35mm	0mm	40mm	0mm	40mm
40mm (max allowable)	0mm	40mm	0mm	40mm

*Size 54cm frames & above required no Stem Steerer cutting.

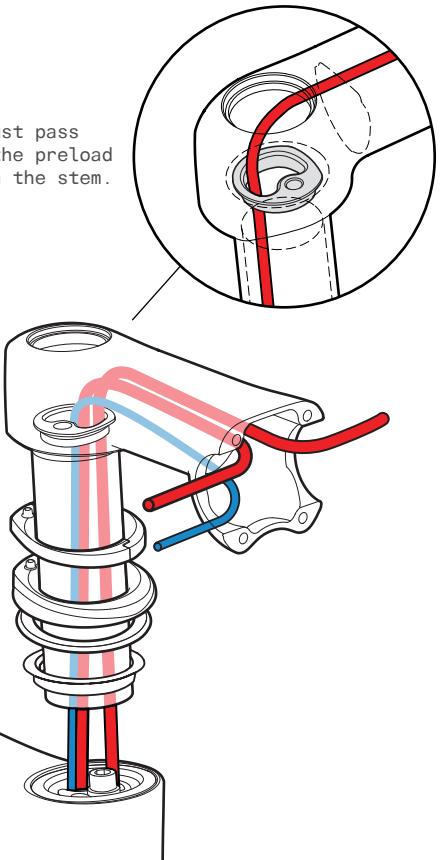
FORK & STEM INSTALLATION - ELECTRIC

Note: It is recommended that you familiarize yourself with the steering system before complete installation, by performing a trial assembly without hoses or control cables present.

1. Install lightly greased lower bearing onto fork.
2. Feed brake hoses and 1400mm Di2 E-Wire through lightly greased upper bearing.
3. Press upper bearing into frame.
4. Slide desired stem spacers followed by bearing top cap, seal ring and compression ring onto the stem. **Do not place a 2.5mm stem spacer directly under the stem.**
5. Feed rear brake hose and E-Wire cable through the stem steerer, up through the preload insert and out the mouth of the stem.
6. Apply carbon assembly compound to the outside of the fork steerer and to the inside of the stem steerer where they will be in contact.
7. Install the fork into the stem steerer and route the front brake hose, so that it follows the same path as the rear through the stem.
8. Install preload screw (see page 22). Tighten to remove any play in the bearings.



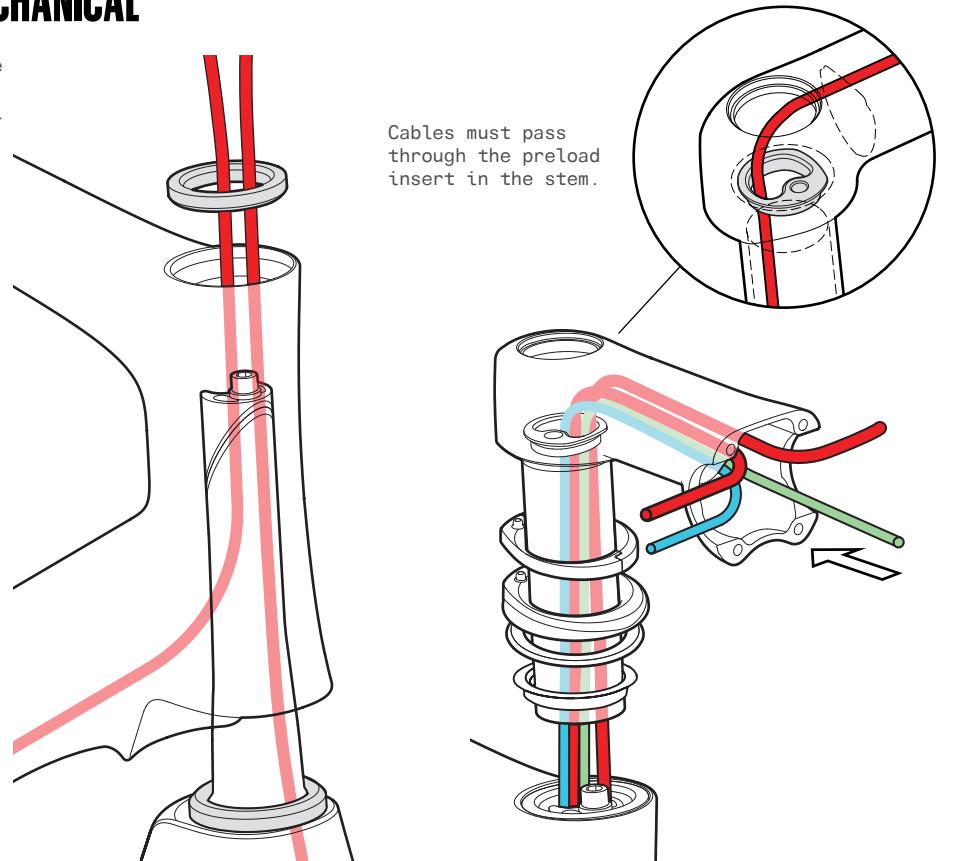
Cables must pass through the preload insert in the stem.



FORK & STEM INSTALLATION - MECHANICAL

Note: It is recommended that you familiarize yourself with the steering system before complete installation, by performing a trial assembly without hoses or control cables present.

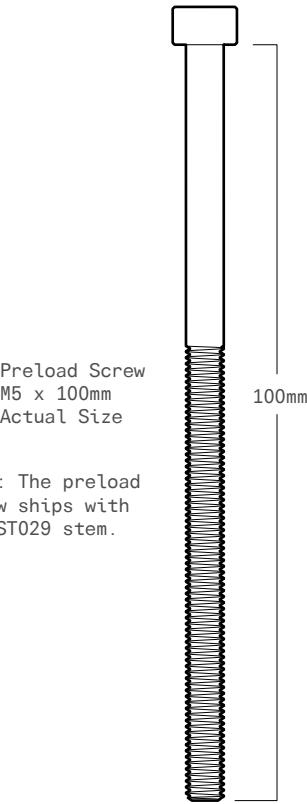
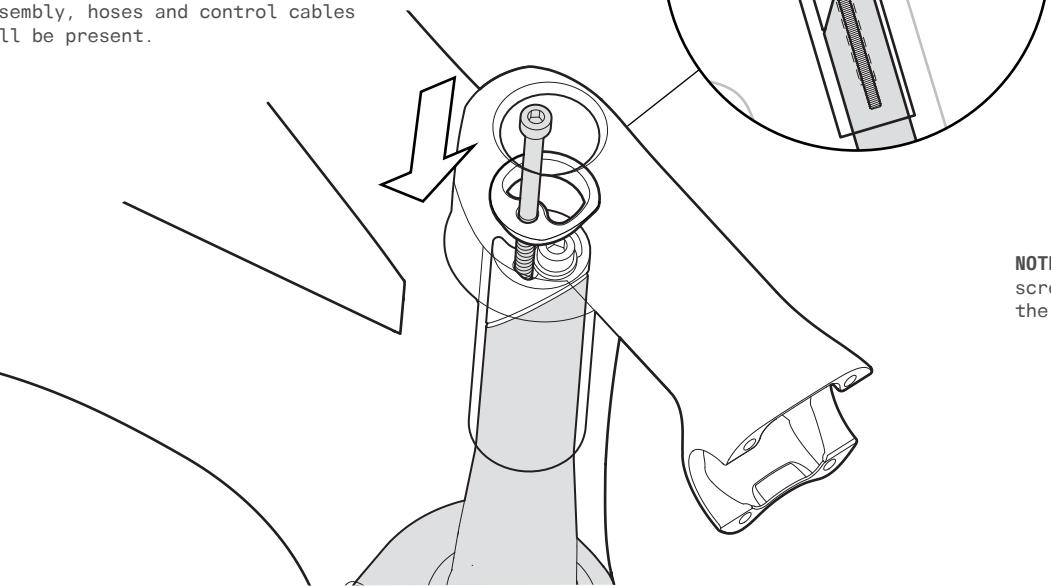
1. Install lightly greased lower bearing onto fork.
2. Feed brake hoses through lightly greased upper bearing.
3. Press upper bearing into frame.
4. Slide desired stem spacers followed by bearing top cap, seal ring and compression ring onto the stem. **Do not place a 2.5mm stem spacer directly under the stem.**
5. Feed rear brake hose through the stem steerer, up through the preload insert and out the mouth of the stem.
6. Apply carbon assembly compound to the outside of the fork steerer and to the inside of the stem steerer where they will be in contact.
7. Install the fork into the stem steerer and route the front brake hose, so that it follows the same path as the rear through the stem.
8. Install preload screw (see page 22). Tighten to remove any play in the bearings.
9. Starting at the mouth of the stem, feed shifter housing, one at a time, through the stem, so that it reaches from the shifter to the BB Cable Port.



HEADSET ADJUSTMENT

1. Insert lightly greased M5 x 100mm preload screw through the preload insert and thread into the fork ramp hole on the drive side.
2. Tighten preload screw to remove any play in the bearings.

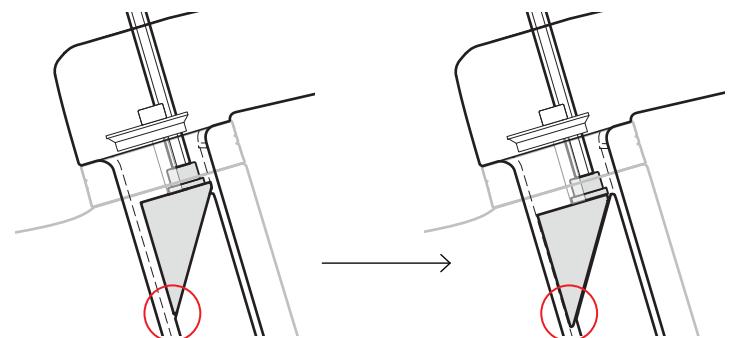
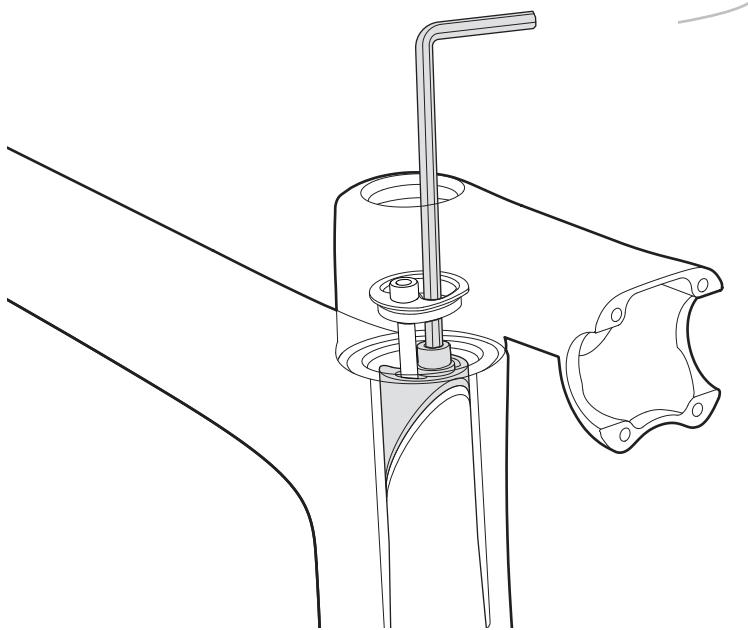
NOTE: This diagram is for assembly reference only. During complete assembly, hoses and control cables will be present.



STEM TIGHTENING

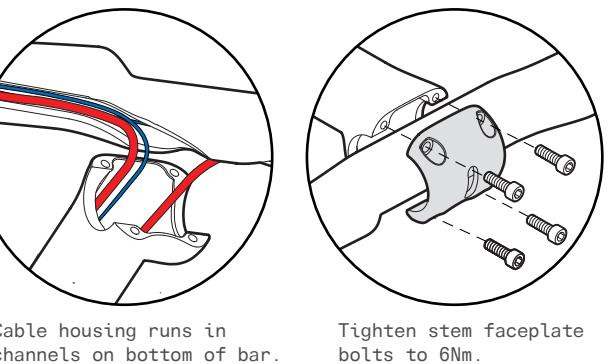
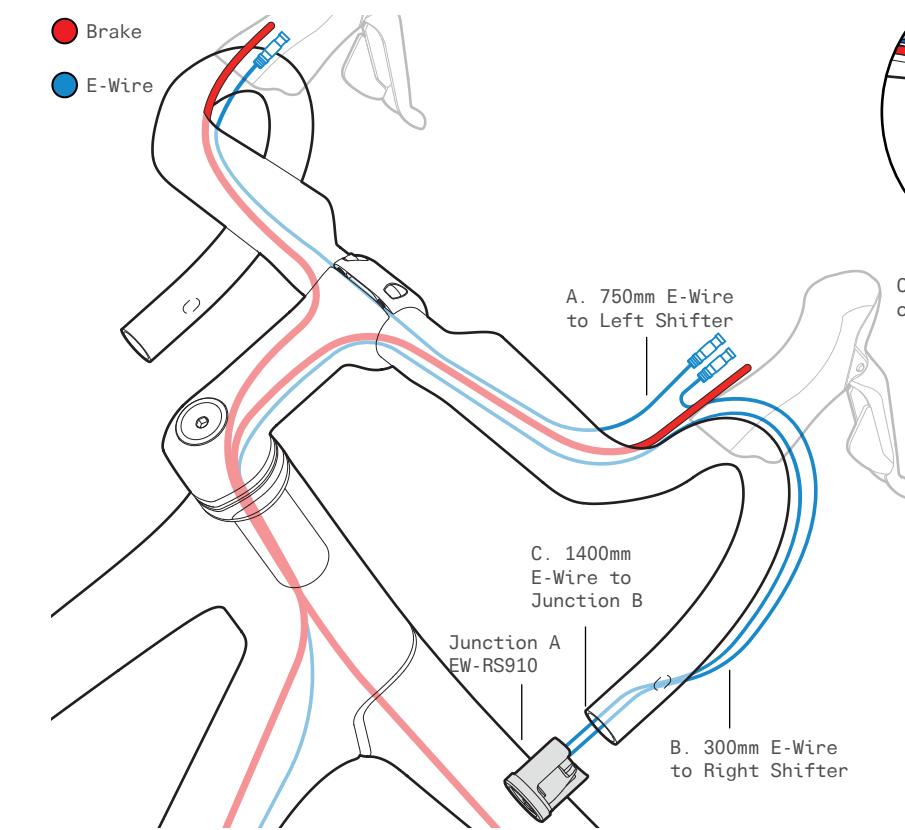
Align stem with the front wheel and tighten Fork Wedge Clamp. Tighten the lightly greased Fork Wedge Fixing Screw to 12Nm.

NOTE: This diagram is for assembly reference only. During complete assembly, hoses and control cables will be present.



HANDLEBAR CABLE ROUTING - ELECTRIC

- Brake
- E-Wire



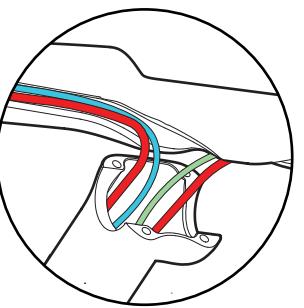
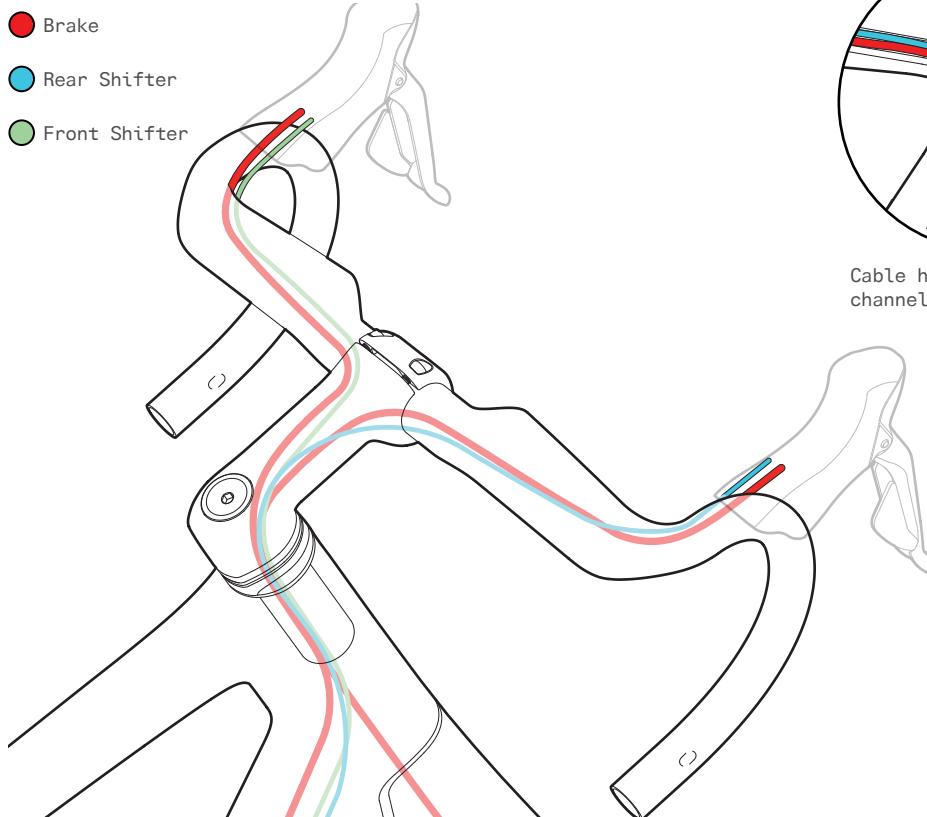
1. Install shifters on handlebar and connect Left and Right using the 750mm E-Wire A.
2. Install 300mm E-Wire B connecting Junction A (EW-RS910) to Right shifter.
3. Thread 1400mm E-Wire C from frame, through stem, connecting it to Junction A.
4. Place brake hoses and E-Wires in the appropriate channels of the handlebar.
5. Apply carbon assembly compound to the contact area between the handlebar and the stem faceplate.
6. Attach handlebar to stem, and attach brake and shifting controls as per manufacturer's instructions.

HANDLEBAR CABLE ROUTING - MECHANICAL

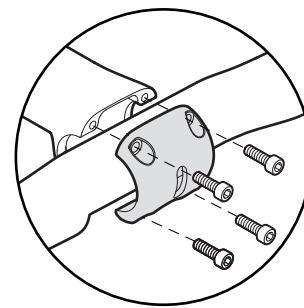
Brake

Rear Shifter

Front Shifter



Cable housing runs in channels on bottom of bar.

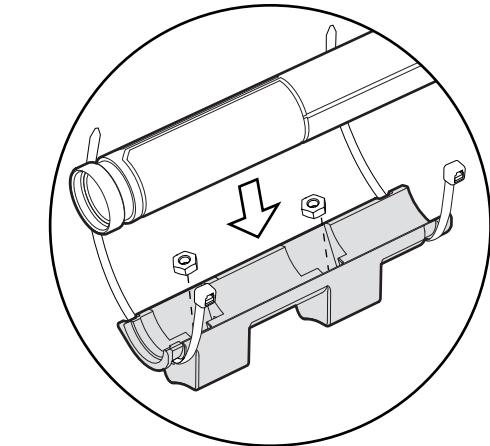


Tighten stem faceplate bolts to 6Nm.

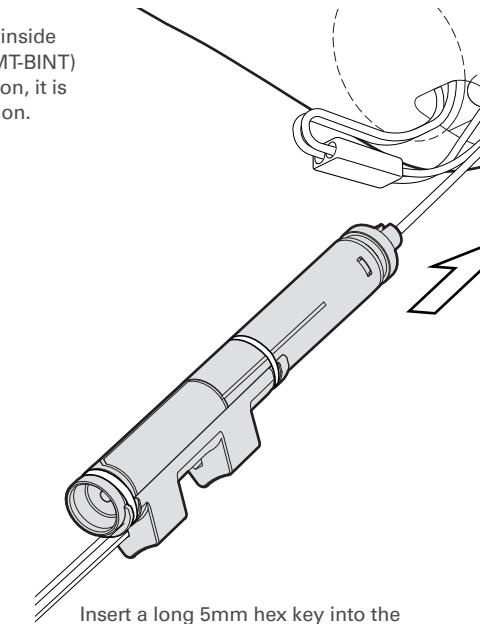
1. Install shifters on handlebar.
2. Place brake hoses and shifter housing in the appropriate channels of the handlebar.
3. Apply carbon assembly compound to the contact area between the handlebar and the stem faceplate.
4. Attach handlebar to stem, and attach brake and shifting controls as per manufacturer's instructions.

DI2 BATTERY INSTALLATION

The battery for your Shimano Di2 system mounts inside the down tube using the Internal Battery Mount (MT-BINT) designed to fit this frame. As this is a sealed location, it is important to test the system prior to final installation.

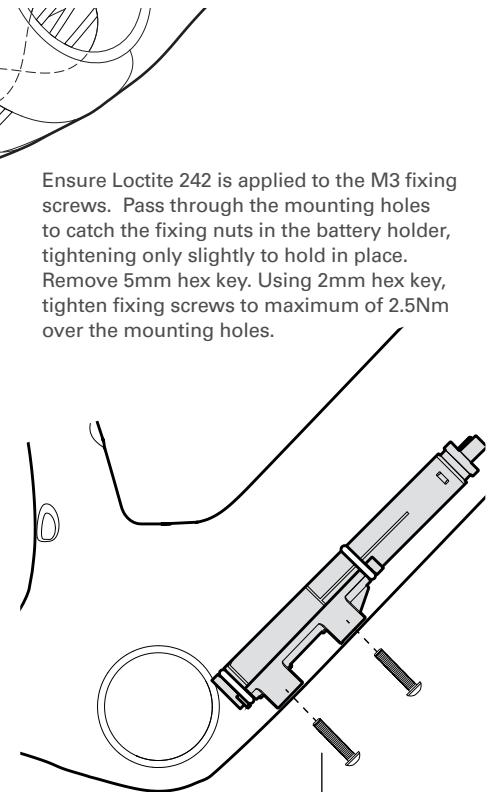


Press the two M3 fixing nuts into the holder through the upper holes. Attach battery to mount using two zip ties, and install.



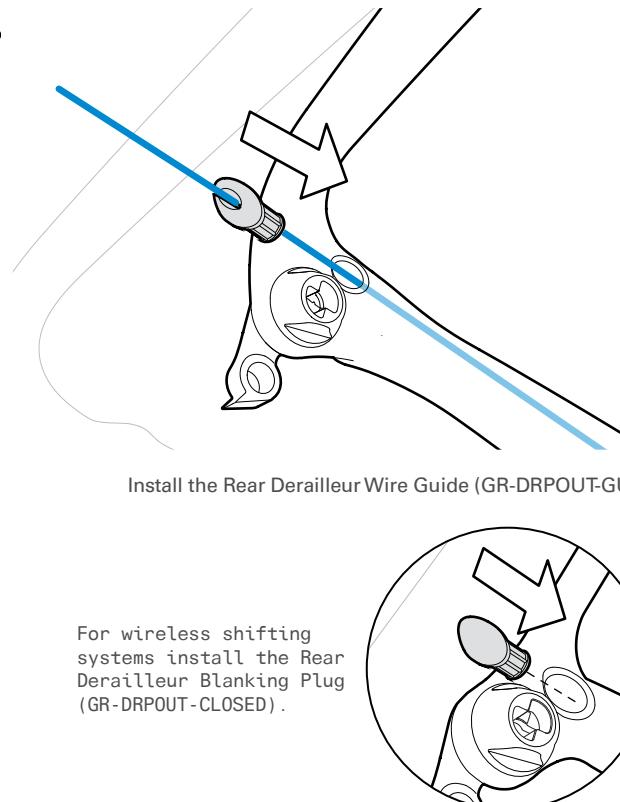
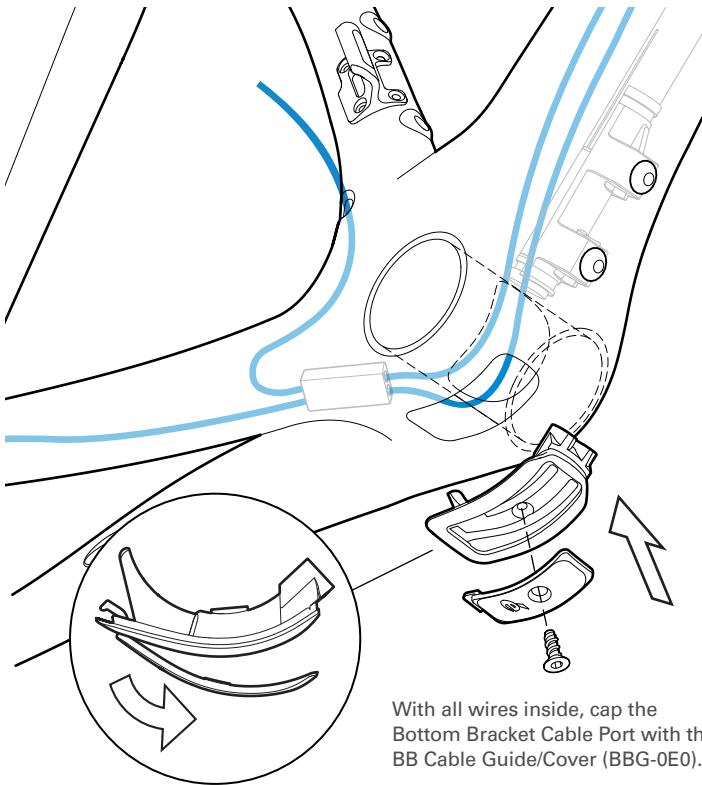
Insert a long 5mm hex key into the lower end of the holder to work as an insertion tool.

Pass the battery and holder assembly through the opening in the bottom bracket shell and position it in the down tube, so that the fixing nuts are located over the mounting holes.



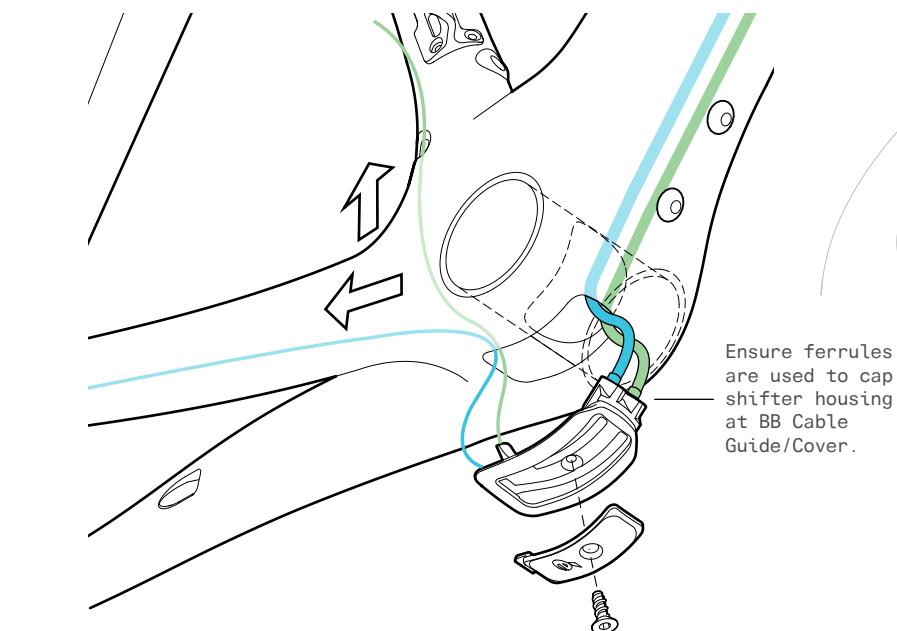
M3 x 16mm screws

ELECTRIC CABLE INSTALLATION

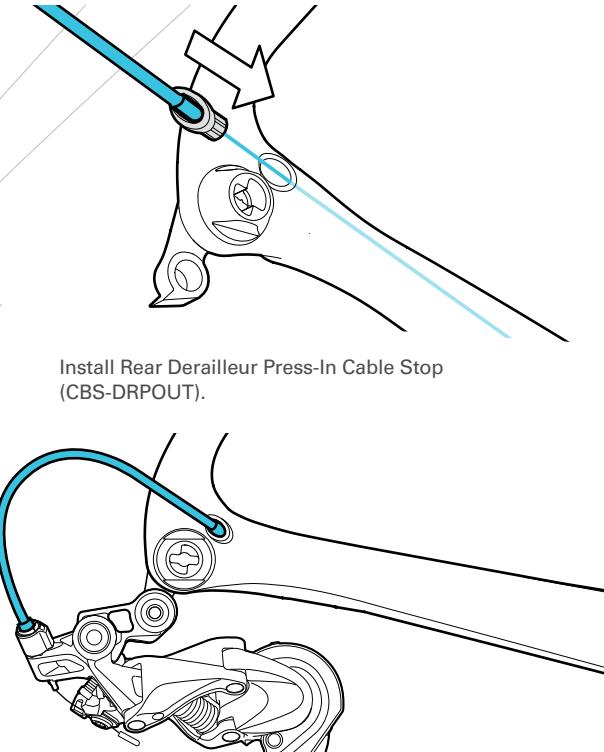


For wireless shifting systems install the Rear Derailleur Blanking Plug (GR-DRPOUT-CLOSED).

MECHANICAL CABLE INSTALLATION



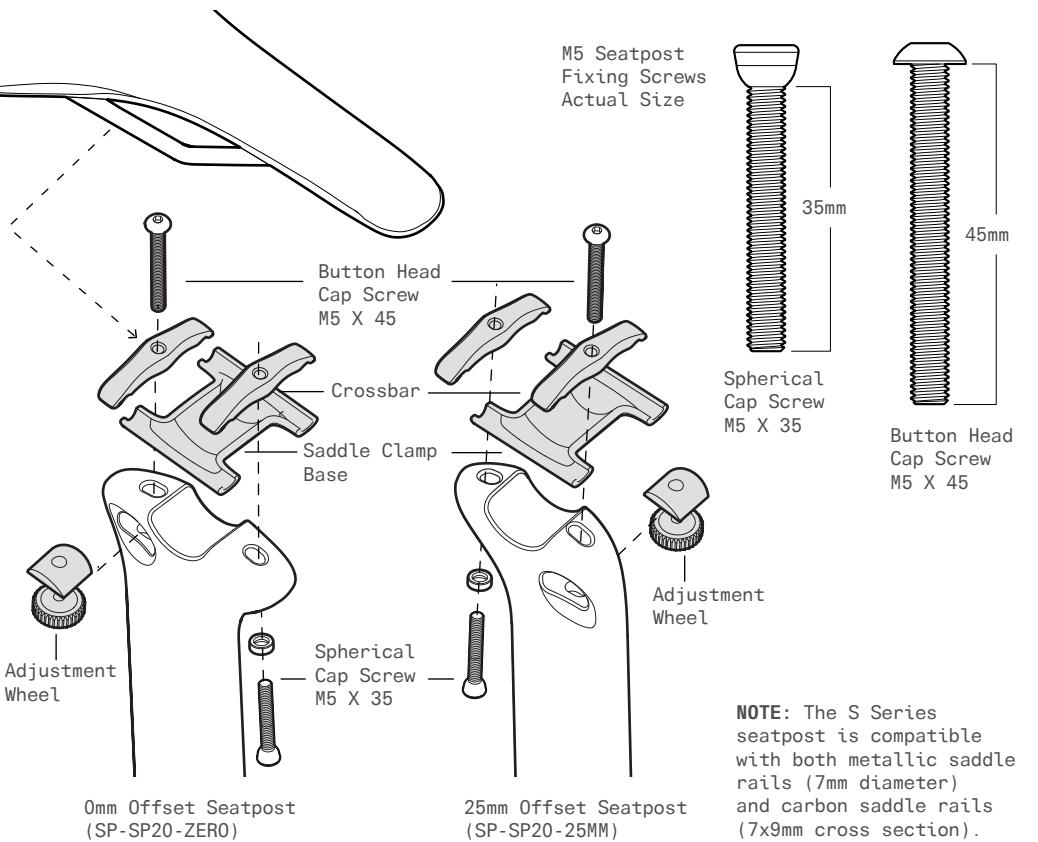
The front cable travels across the non-drive side slot, and in the direction of the seat tube. The rear cable travels along the drive side slot, and along the chainstay. When complete, fix the BB Cable Guide/Cover (BBG-0E0) into place.



As per manufacturer's instructions, install rear derailleur on rear derailleur hanger, cut appropriate housing length, and attach cable.

SEATPOST ASSEMBLY

1. Ensure Loctite 242 is applied to threads below the head of the 45mm button head cap screw. Install cross bar on 45mm button head cap screw and torque to 3Nm.
2. Ensure Loctite 242 is applied to both fixing screw threads.
3. Install the curved washer and adjustment dial in the seatpost cutout.
4. Install the button head cap screw with crossbar installed, and turn the dial until threads are engaged.
5. Install the spherical washer on the 35mm spherical cap screw, so that the concave face, mates with the convex surface of the screw.
6. Install cross bar.
7. Apply light coat of carbon assembly compound to the radius on the upper face of the seatpost.
8. Install the lower saddle clamp base, as per the diagram.
9. Locate saddle rails between upper and lower clamping surfaces.
10. Establish desired saddle angle by first using adjustment wheel.
11. Tighten opposing angle adjusting screw to secure saddle at 8-9Nm.



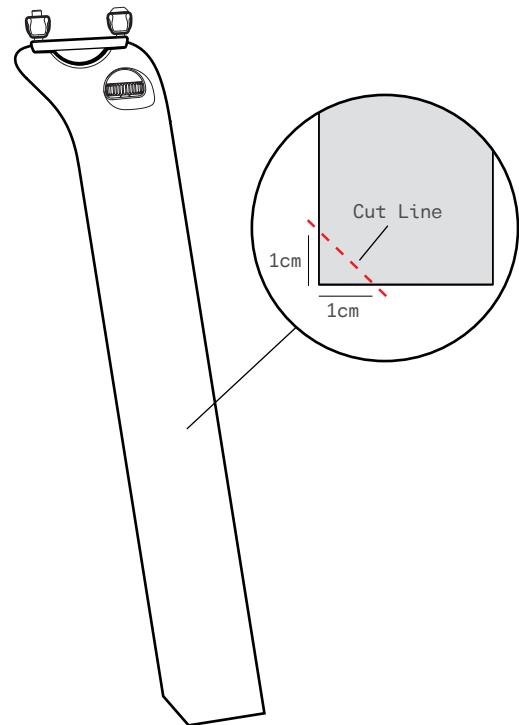
SEATPOST CUTTING INSTRUCTIONS

Note: It is essential that all Cervélo Aero Seatposts, have a 45 degree chamfer cut on the rear trailing edge of the post. If trimming is required after fitting, the following method is recommended.

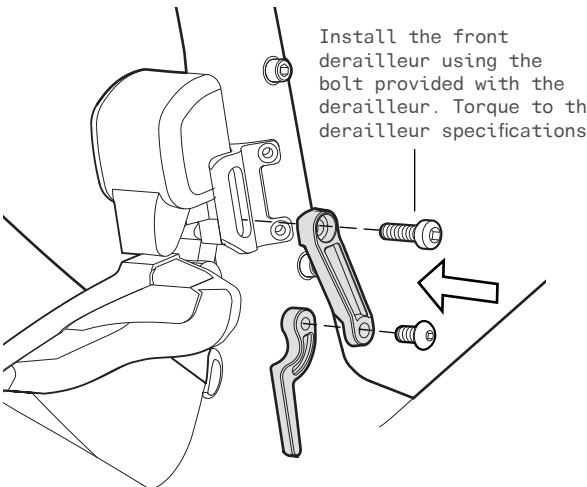
1. Taking care to maintain the minimum required seatpost insertion of 6.5cm and maximum of 8.5cm, carefully measure and use a light coloured grease pencil to accurately mark the cut-off location on the seatpost.
2. Insert the S Series Seatpost in the Park Tool SG-7.2 Saw Guide (or equivalent) so that the cut-off line can be seen clearly through the blade guide in the tool.
3. Using a blade designed specifically for cutting carbon composite materials (or a fine tooth blade with greater than 32 teeth per inch); proceed with cutting the Seatpost (as per Park Tool's instructions).
4. Use fine grit sandpaper to carefully remove any fraying or burring from the cut end. Reposition clamp approximately 10cm from the cut end.
5. With a grease pencil, mark a point 1cm from the cut end on the trailing edge of the Seatpost, and another 1cm from the back, on the bottom edge. Draw a line connecting them, forming a 45 degree guideline.
6. Placing the blade of your saw on the grease pencil mark, very carefully proceed to cut, resulting in a 45 degree chamfer being cut onto the trailing edge of the Seatpost.
7. Carefully sand the end and after applying carbon assembly compound, return to the frame.

WARNING

If trimming is required, final length should allow for a minimum 6.5cm of seatpost remaining in the frame. Failure to meet this requirement, may result in damage to the frame not covered by warranty policy, or serious injury to rider.

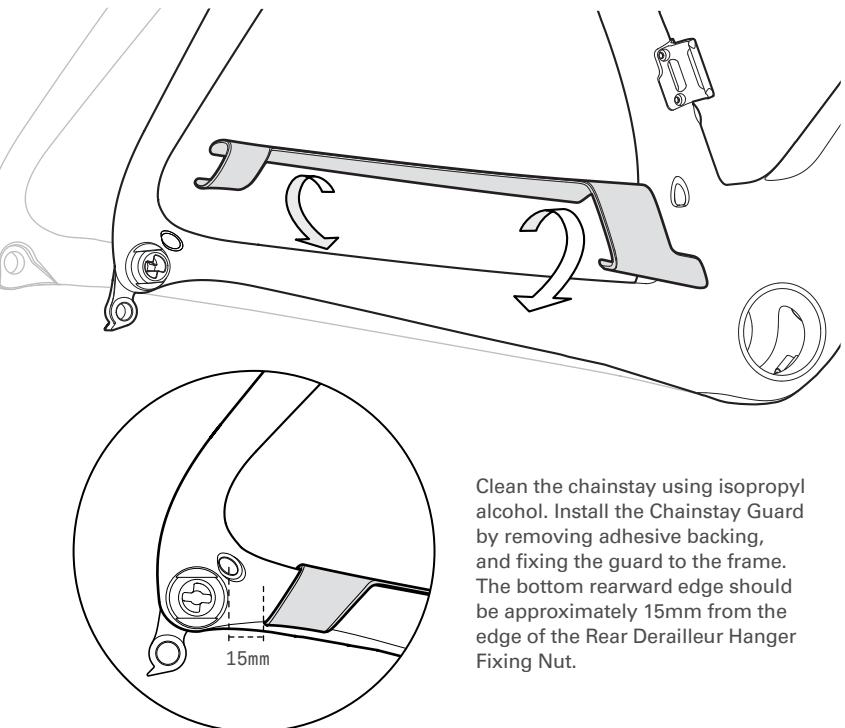


FRAME PROTECTION INSTALLATION



Install chain catcher when installing the front derailleur. Complete final adjustment with the chain in the small chainring and largest cassette cog. Tighten the connecting bolt to 4Nm.

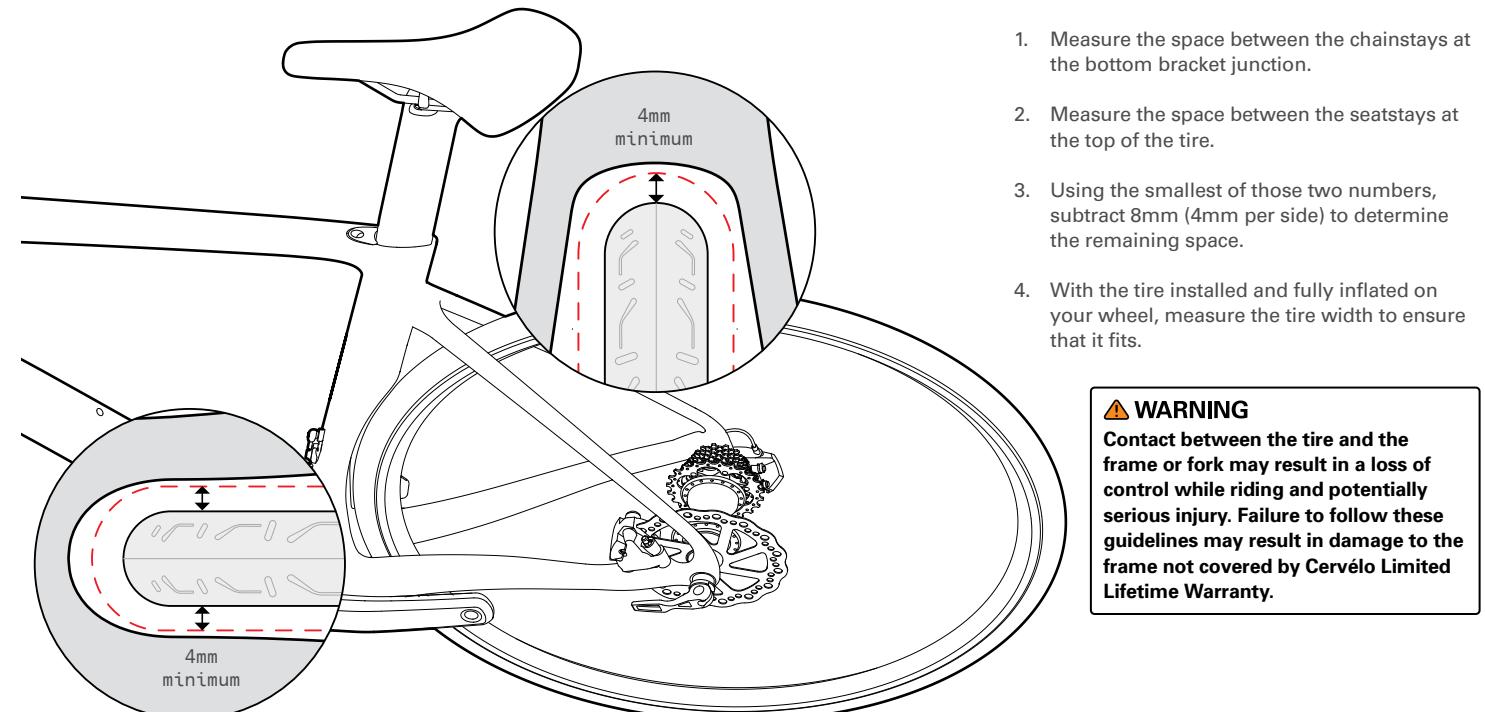
NOTE: Installation of the chain catcher is recommended as it will prevent damage to the frame in the case that the chain is dropped inside the chainrings.



Clean the chainstay using isopropyl alcohol. Install the Chainstay Guard by removing adhesive backing, and fixing the guard to the frame. The bottom rearward edge should be approximately 15mm from the edge of the Rear Derailleur Hanger Fixing Nut.

TIRE CLEARANCE

Your Cervélo bicycle complies with the ISO 4210-2:4.10.2 standard for tire clearance. In order to comply with these safety standards and maintain your Limited Lifetime Warranty, a minimum of 4mm of clearance must remain between the tire and any frame element. Due to the growing complexity of tire and rim interfaces, Cervélo recommends identifying the available space before choosing a tire.

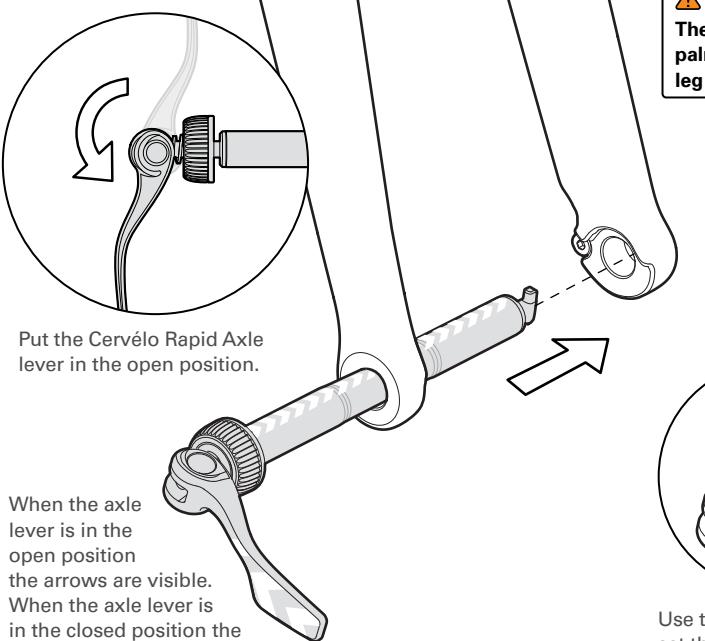


WARNING
Contact between the tire and the frame or fork may result in a loss of control while riding and potentially serious injury. Failure to follow these guidelines may result in damage to the frame not covered by Cervélo Limited Lifetime Warranty.

RAPID AXLE WHEEL INSTALLATION

WARNING

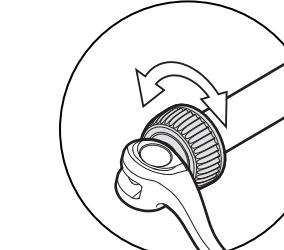
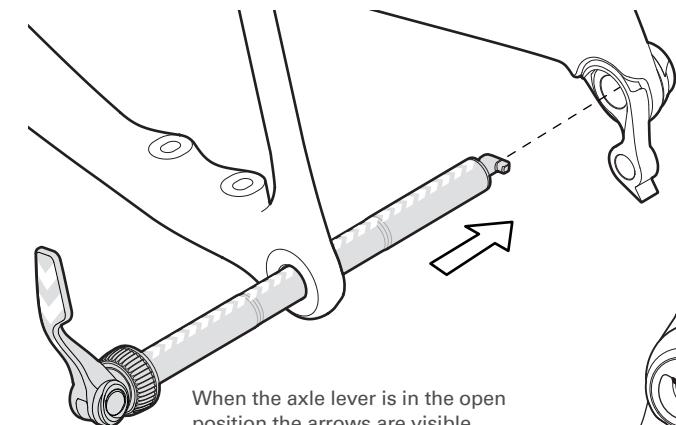
To ensure rider safety, it is critical to install the Cervélo Rapid Axle correctly. Failure to do so may result in a crash, with potential for serious injury to the rider.



To secure the front wheel, install the greased axle, through the drive side drop out, through the wheel hub, aligning the T-End of the axle with the insert. Rotate the axle 90° clockwise until the T-End is stopped by the insert. If the lever is clamping too much/less adjust the preload nut until the lever is clamping securely.

WARNING

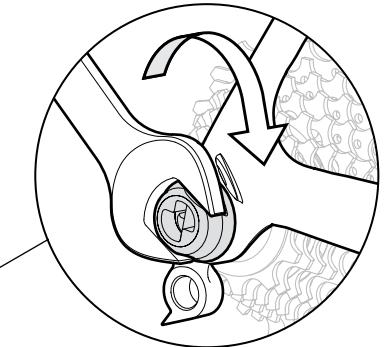
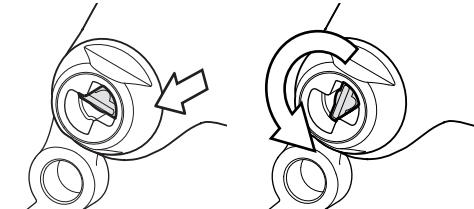
The force required to close the lever should leave a clear imprint in the palm of your hand, or require wrapping your fingers around the fork leg for leverage while closing.



To secure the rear wheel, install the greased axle, through the non-drive side drop out, through the wheel hub, aligning the T-End of the axle with the derailleur hanger insert. Rotate the axle 90° clockwise until the T-End is stopped by the insert. If the lever is clamping too much/less adjust the preload nut until the lever is clamping securely.

WARNING

The force required to close the lever should leave a clear imprint in the palm of your hand, or require wrapping your fingers around the chainstay for leverage while closing.



WARNING

Adjust brakes as per manufacturer's instructions.
Adjust shifting as per manufacturer's instructions.

2019 S3 DISC RETAILER ASSEMBLY MANUAL

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