



***LS***

*Assembly Manual*



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## *Assembly Manual*

## INTRODUCTION

Congratulations on the purchase of your FACTOR product. Please review thoroughly the following instructions and only follow them for correct operation and use. Should you fail to follow the following instructions and warnings, this could result in damage of the product, damage to the bicycle and in severe situations cause possible injury and or death.

Since specific tools and bicycle service experience is required for proper assembly installation, it is

recommended that the product be assembled by a qualified bicycle mechanic. FACTOR BIKES assumes no responsibility for damages or injury due to improper assembly and installation of the product(s).

To qualify for FACTOR'S LIMITED LIFETIME WARRANTY please visit [www.factorbikes.com](http://www.factorbikes.com) and register your product(s) within 15-days of purchase.

## LIMITED LIFETIME WARRANTY ON BICYCLES AND FRAMESETS

Subject to the following limitations, terms and conditions, Factor warrants to the original owner for the lifetime of the original owner of each new Factor bicycle or frameset that the bicycle frame or frameset is free of defective materials and workmanship.

The lifetime limited warranty is conditioned upon the bicycle being operated under normal conditions and use, and properly maintained in accordance with the owner's handbook (as supplied with the Factor bicycle).

This lifetime limited warranty does not apply to paint/finish, any Factor components considered subject to normal wear and tear or any third-party components attached to the bicycle or frameset, such as wheels, drive train, brakes, or any suspension related parts or components.

Any Factor components considered subject to normal wear and tear are covered under a limited one (1) year warranty. The duration of this limited warranty shall be one (1) year, commencing from the date the customer takes possession of the bicycle.

Factor components considered subject to normal wear and tear will be listed in the Technical Supplement and/or User Manual provided with the bicycle. Any and all third party components included with or installed on Factor bicycles are subject to any manufacturers' guarantee applicable to those components, as specified by the manufacturer.

Additional Conditions: This lifetime limited warranty is made solely to the original owner of this new Factor bicycle or frameset, and shall remain in force only as long as the original owner retains

ownership of the Factor bicycle. This lifetime limited warranty is not transferable.

If the bicycle is purchased as a gift, the original recipient of the gift is considered to be the original owner for the purposes of this lifetime limited warranty.

In order to exercise your rights under this lifetime limited warranty, the bicycle or frameset must be presented to Factor or an authorized Factor dealer, together with a receipt, bill of sale, or other appropriate written proof of purchase which identifies the bicycle or frameset by serial number.

### Exclusions & Limitations:

The above warranty, or any implied warranty, does not cover:

Modifications from the original condition except such modifications which are necessary to comply with specific national legislative requirements that may apply in the country of use.

Normal wear and tear.

Use of the bicycle for abnormal and/or commercial activities, or for purposes other than those for which the bicycle was designed. Damage caused by failure to follow the instruction manual.

Paint finish and decal damage resulting from normal wear and tear, taking part in competition,

jumping, downhill and/or training for any such events or as a result of exposing the bicycle to, or riding the bicycle in, severe conditions or climates.

Labour and/or transport charges for full or part replacement, repair, return or changeover.

Accident, neglect, improper handling, abuse or wilful damage, misuse, improper assembly and use of devices or components not originally intended for, or not compatible with the bicycle.

Any alteration or repair by you or a third party who is not one of our authorised repairers.

Any specification provided by you. Remedy: Unless otherwise provided, the sole remedy under the above Factor warranty, or any implied warranty, is limited to repair or replacement of defective parts with those of equal or greater value at the sole discretion of Factor.

Except for this remedy Factor will not be responsible for any direct, incidental or consequential loss or damages, including, without limitation, loss or damages for personal injury, property damage or economic losses, whether based on contract, warranty, negligence, product liability or any other theory.

Nothing in this limited warranty will exclude or limit Factor's liability for death or personal injury caused by Factor's negligence or any other liability which cannot be excluded or limited by law. Unless you are a consumer, Factor makes no other warranties, express or implied and all implied warranties, including warranties of merchantability, reasonable care, and fitness for a particular purpose are hereby disclaimed.

#### Miscellaneous:

In the event that Factor prevails in any court action, you agree to reimburse Factor for the expenses, including attorney's fees and expenses of litigation incurred by Factor in defending against your claim.

Claims made outside the country of purchase may be subject to additional fees and restrictions.

Warranty detail and duration may differ by country. This warranty gives you specific legal rights, and you may also have other rights which may vary from place to place. This warranty does not affect your statutory rights.

To the extent that this warranty statement is inconsistent with local law, this warranty shall be deemed modified to be consistent with such law; under such law, certain disclaimers and limitations may apply to the customer.

Some states and countries do not allow the exclusion or limitation of incidental or consequential damages or warranties, so the above limitations or exclusions may not apply to you.

If it is determined by a court of competent jurisdiction that a certain provision of this limited warranty does not apply, such determination shall not affect any other provision of this limited warranty, and all other provisions shall remain in effect.

The English language version of this limited warranty will prevail.

This limited warranty is governed by the laws of European Union and United States and the courts of European Union and United States shall have the non-exclusive jurisdiction to settle any dispute or claim arising out of or in connection to this limited warranty or its subject matter or formation (including non-contractual disputes or claims).



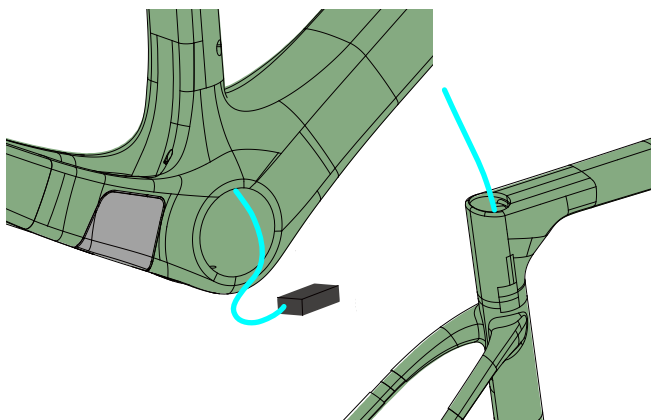
## Necessary tools

- ✓ Torque wrench with 2.5, 3, 4, 5, 6mm hex & Torx T20 bits
- ✓ BRT-002 bearing press from Enduro Bearings
- ✓ Loctite 243 & 641
- ✓ Hydraulic bleeding kit
- ✓ Marker
- ✓ Sand paper (120-180 grit)
- ✓ Park Tool IR-1.2 INTERNAL CABLE ROUTING KIT
- ✓ Hacksaw with carbon cutting saw blade
- ✓ Park Tool SG-6 THREADLESS SAW GUIDE
- ✓ Isopropyl alcohol
- ✓ High-quality grease
- ✓ Carbon assembly compound (carbon paste)

## Instructions

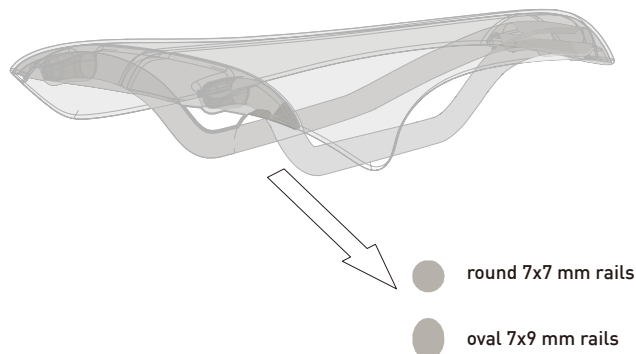
Similar to a Formula 1 car, your Factor LS requires a bit of patience and mechanical skill to achieve a truly impressive result. We recommend that you have your bicycle assembled and maintained by an authorized Factor dealer. Make sure to let your mechanic know how much you appreciate their help building the bike of your dreams!

### 1-1 Seatpost

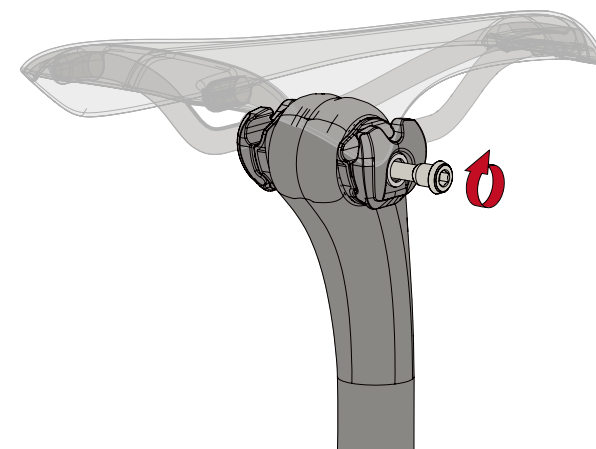


Route the Di2 seat post cable from seat tube to the bottom bracket (internal port). Connect to the Shimano Di2 Junction B according to Shimano's instructions.

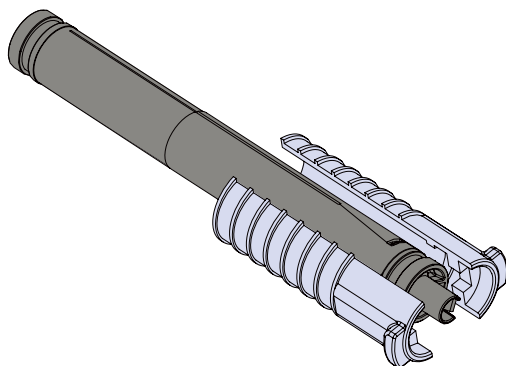
**1-2** Factor frame sets are shipped with 7X9 mm outer rail clamps for carbon rail saddles. 7x7 mm outer rail clamps for traditional saddle rails are available through your Factor dealer.



**1-3** Adjust the set back and saddle angle to the desired position. Tighten the M6 saddle clamp bolt to **12 Nm**.



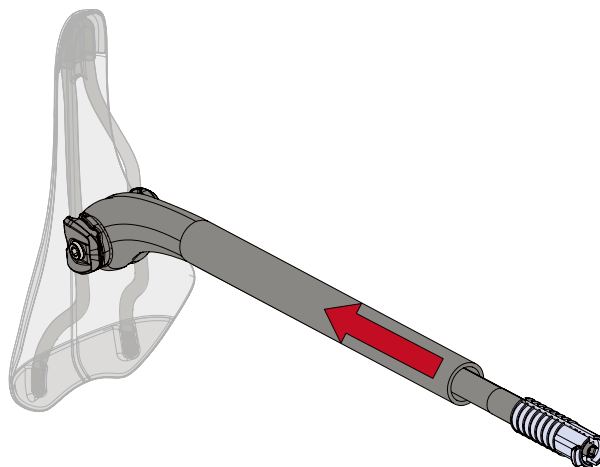
1-4



Place the battery holders around the Di2 battery. The male shell grooves must match with the female battery groove.

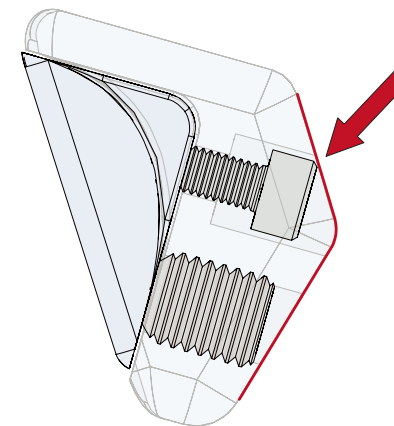
1-5

Insert battery in the seat post.

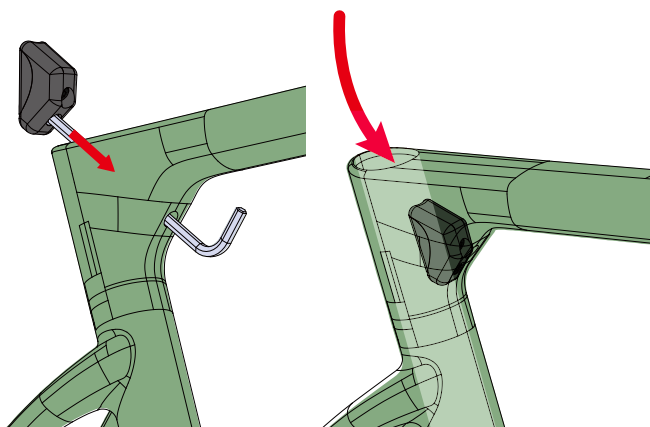


1-6

Before assembly, the wedge must be adjusted so that both bolts are flush with the outer surface of the wedge (red line of the picture). Keep in mind that the M4 bolt only holds the wedge pieces together and plays no part in tightening the seat post.



1-7

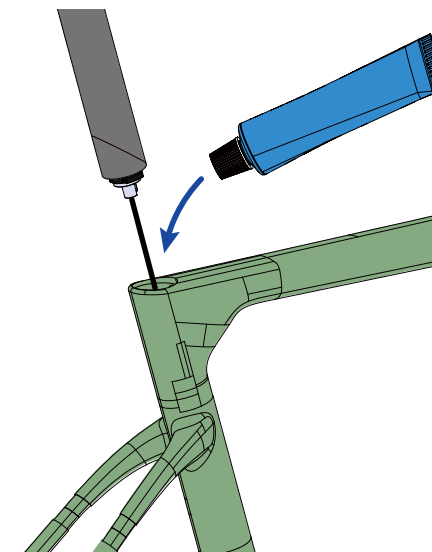


Slide 4 mm hex wrench through the hole under the top tube and use to guide the seat post wedge into position

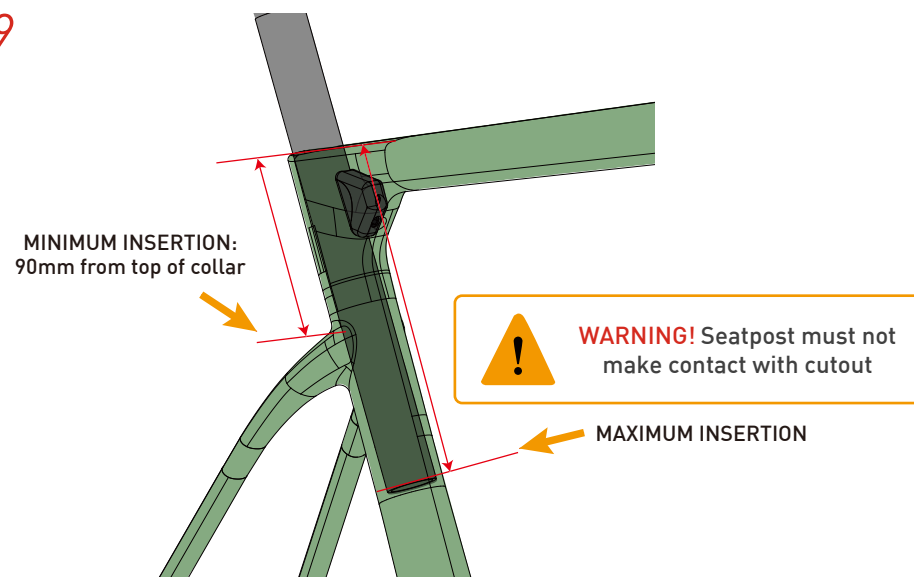
1-8

Apply Black Inc Installation Compound to the inside of the seat tube. Connect the Di2 cable to the battery. Insert seat post into the frame to the desired height.

**Note:** Your Factor frame set requires a minimum of 90 mm of seat post insertion. The minimum insertion is clearly marked on the seat post. Failure to achieve the minimum insertion could cause damage to the seat post or frame resulting in serious injury or death.



1-9

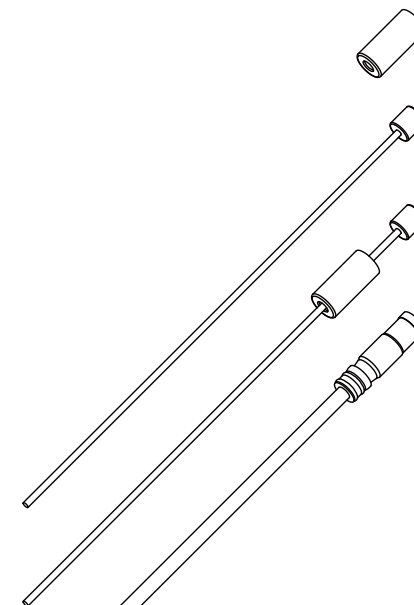


SIZE	MAXIMUM INSERTION
49	205 mm
52	230 mm
54	250 mm
56	275 mm
58	295 mm

## 2-1 Di2 Cable Routing

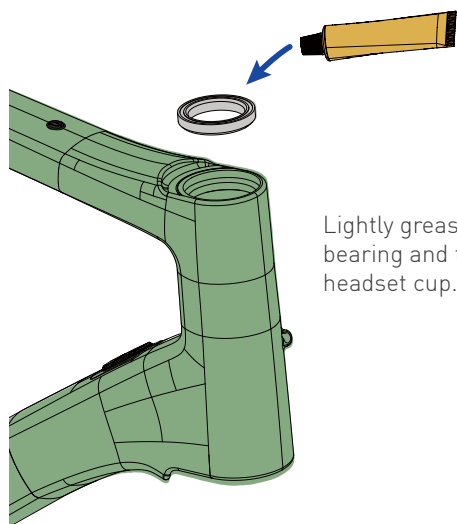
Di2 cable routing overall view

**Note:** Similar to a Formula 1 car your Factor LS requires a bit of patience and mechanical skill to achieve a truly impressive result. We recommend that you have your bicycle assembled and maintained by an authorized Factor dealer. Make sure to let your mechanic know how much you appreciate their help building the bike of your dreams!



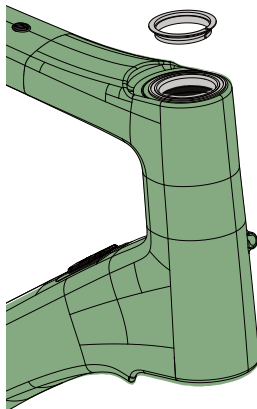
Park Tool offers an excellent internal cable routing kit (Park Tool IR-1) to help you easily route your cables. If you do not have access to this kit you can use a derailleur inner wire and a 5mm metal cable ferrule to route your wires.

### 3-1 Fork - Headset - Barstem



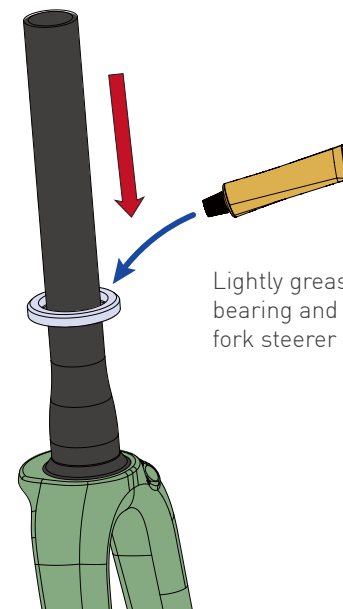
Lightly grease the upper headset bearing and then install in upper headset cup.

### 3-2



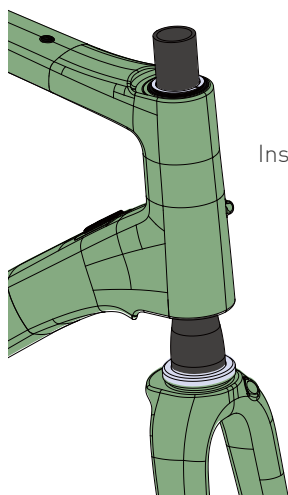
Lightly grease and install compression ring.

### 3-3



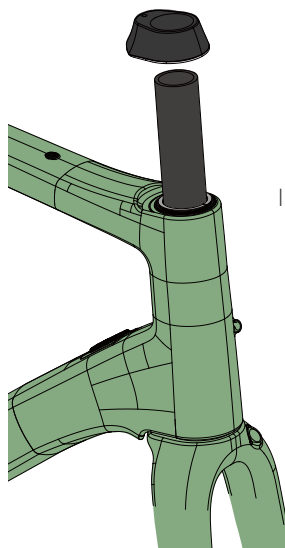
Lightly grease lower headset bearing and slide onto the fork steerer tube.

### 3-4



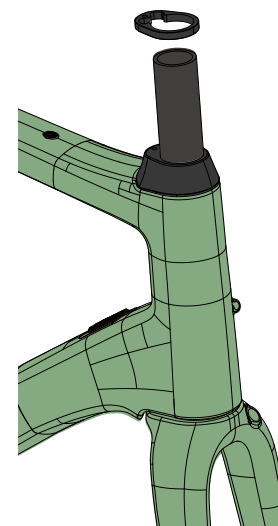
Install fork

### 3-5



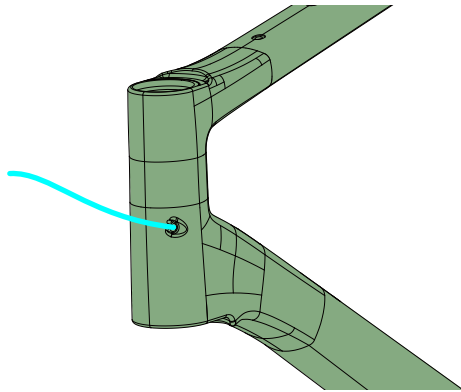
Install headset cone spacer

### 3-6



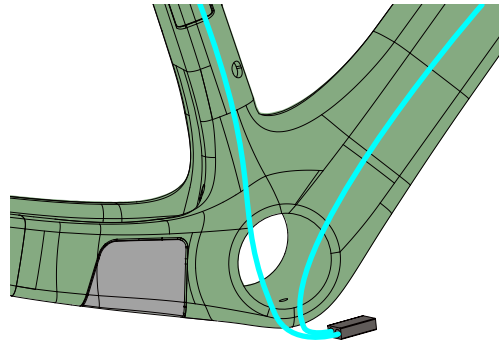
Select the desired amount of headset spacers.

## 4-1 Di2 Cable Routing



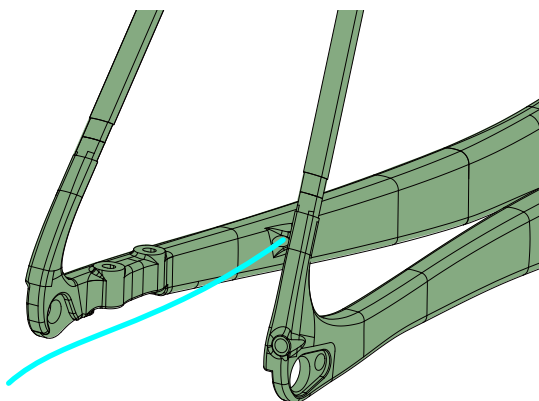
Route the downtube Di2 cable through slot in the headtube.

## 4-2



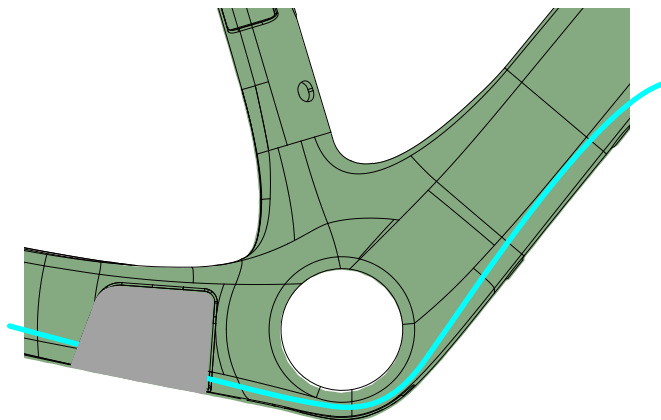
Slide compression ring into place.

5-1

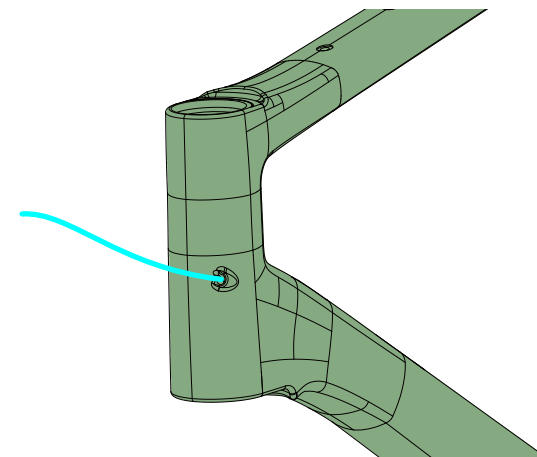


Route the rear derailleur Di2 through the chainstay

5-2

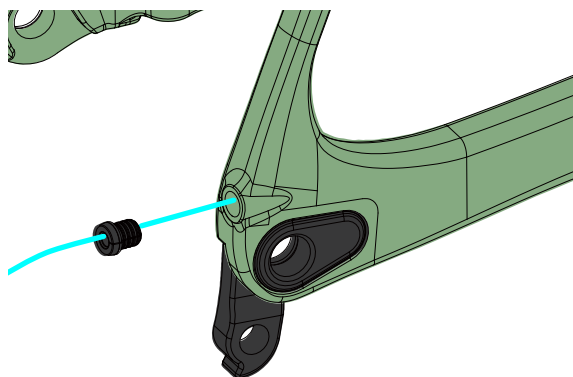


5-3



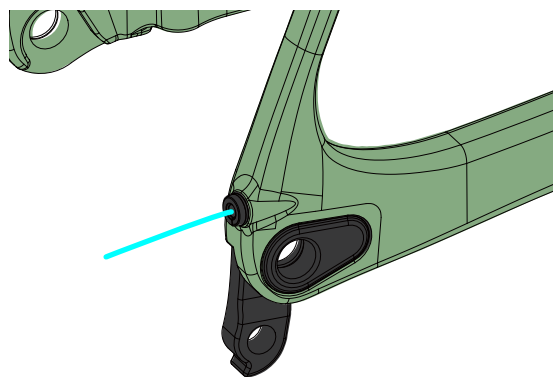
Exit the hydraulic hose through slot in the headtube

5-4



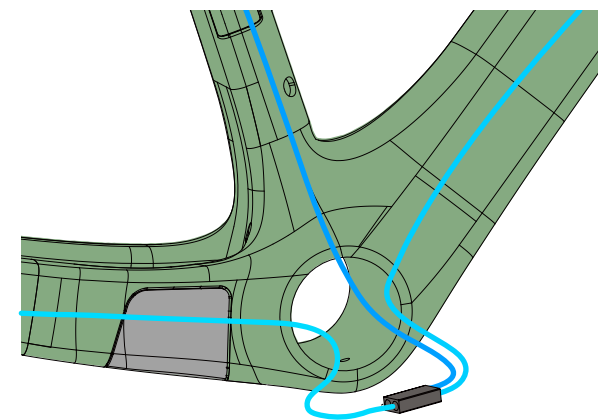
Route the rear derailleur Di2 cable through the chainstay

5-5



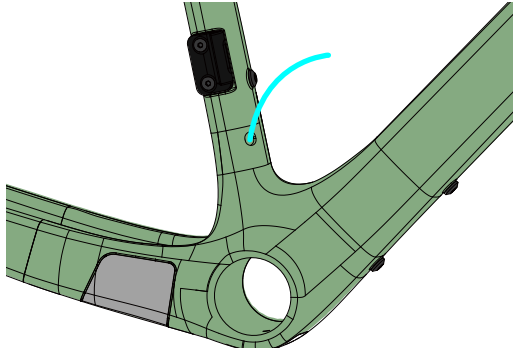
Install Di2 cable grommet

5-6

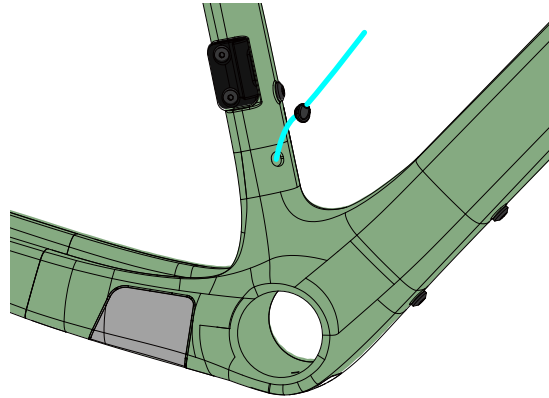


Connect the the Di2 Junction B

**5-7** Preload the headset to remove excess play.

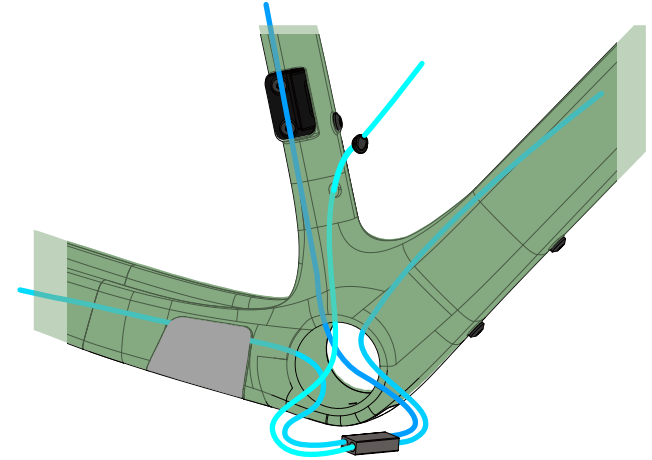


**5-8**

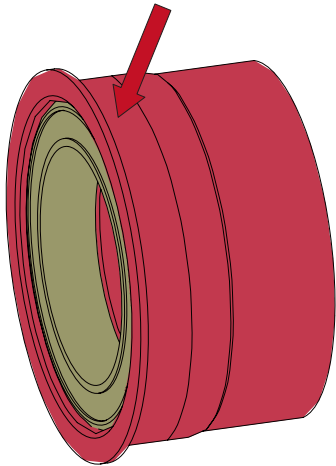


Torque the barstem to **5.2Nm**

**5-9**

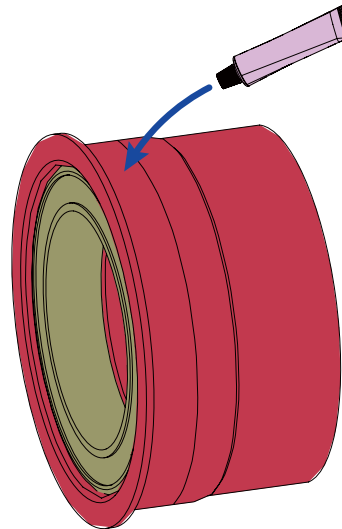


**6-1** *Bottom Bracket*



Clean the inside of the frame bottom bracket & the bottom bracket cups with an isopropyl alcohol.

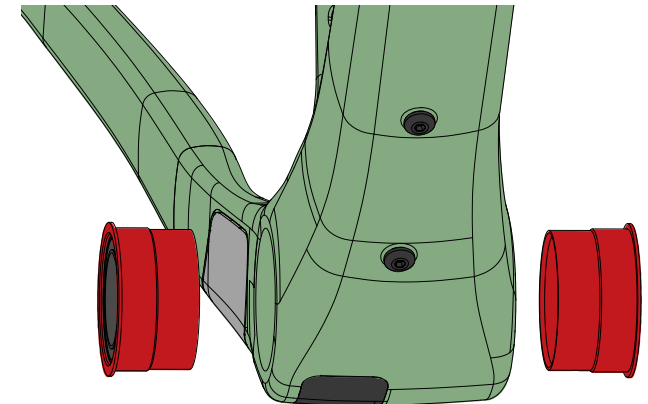
**6-2**



Apply Loctite 641 on the grooves of the both bottom bracket cups.

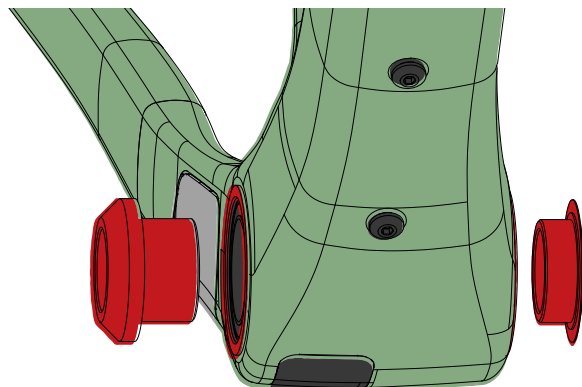
**6-3**

Install the cups into the frame with BRT-002 bearing press from Enduro Bearings.

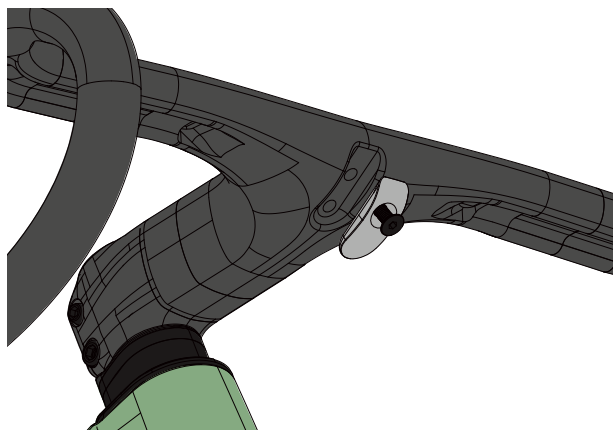




- 6-4** For 24 or 22 mm cranks install the included Wheels MFG BBright reducers/adapters.

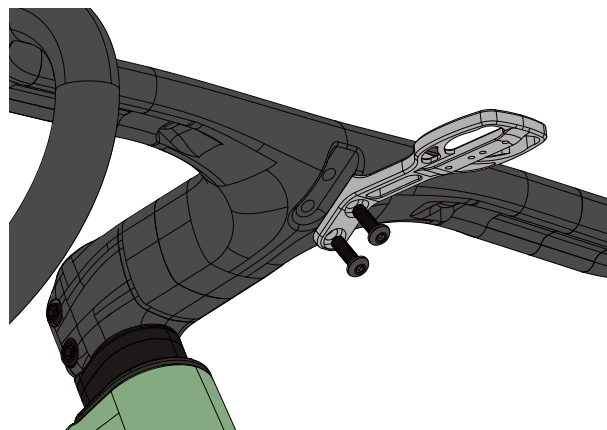


- 7-1** *Computer mount*



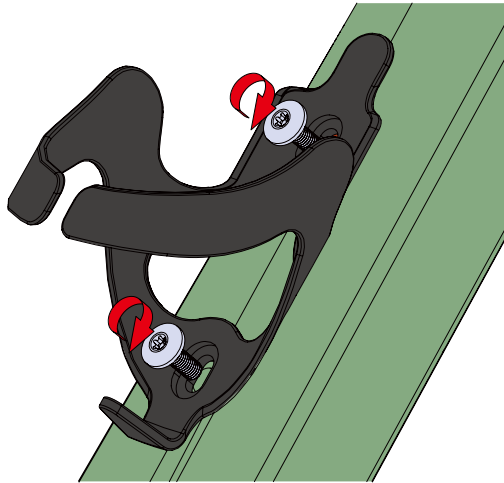
Release the bolt and remove the cover.

- 7-2**



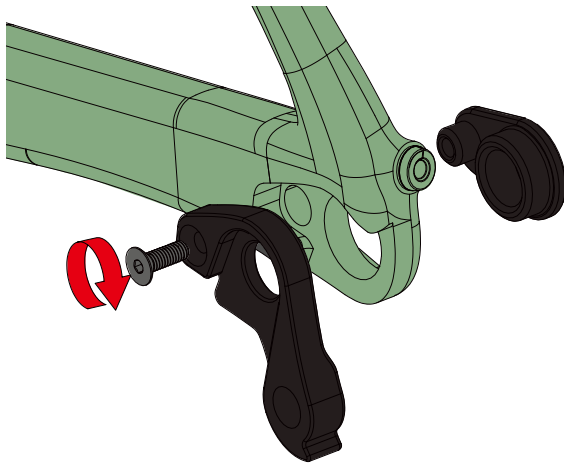
Install the computer mount and tighten the 2 bolts to **2 Nm**.

### 8-1 Bottle cage



Install cages and tighten M5 bolts with T20 Torx to **2 Nm**.

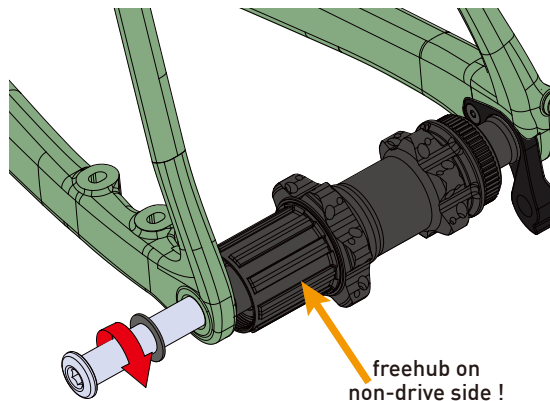
### 9-1 Thru-Axle Installation



Apply Loctite 243 on bolt threads. Thread the bolt in but do not tighten, this will allow the insert to align when installing the axle

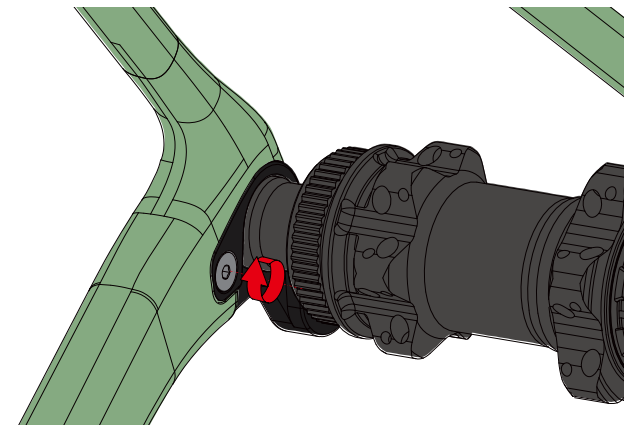
### 9-2

Install a rear hub in the dropout with the free hub on non-drive side. This will allow better access for the next step. Install the thru-axle with the nylon washer and tighten to **12Nm**.

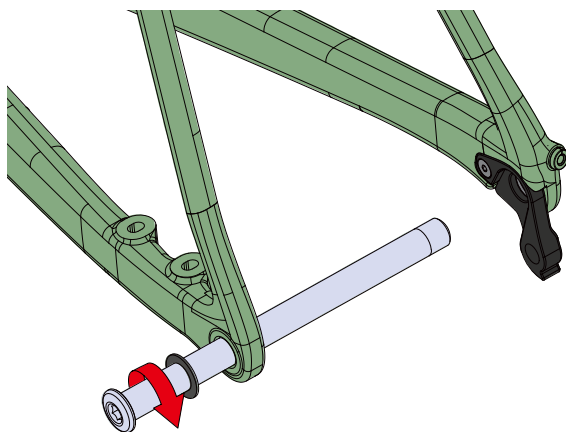


### 9-3

After ensuring the dropout insert is correctly aligned, tighten the dropout bolt to **1 Nm**.

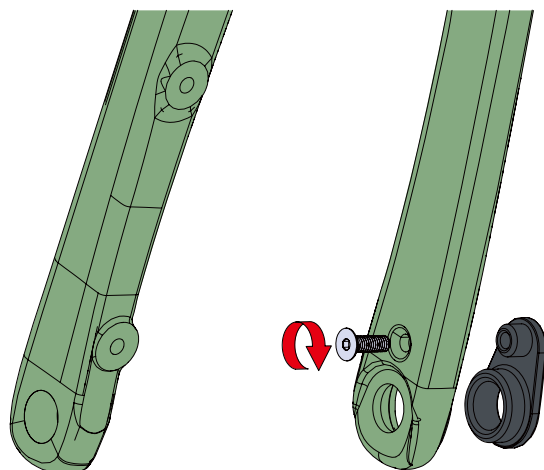


9-4



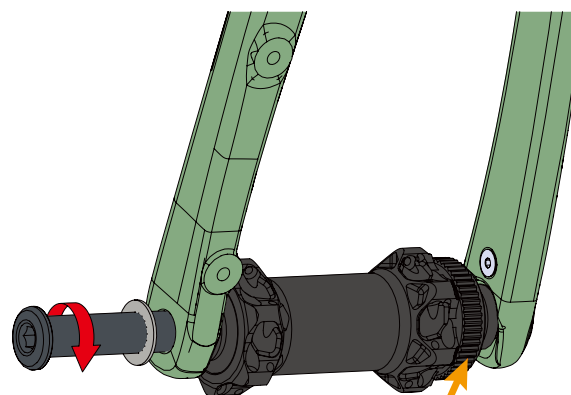
Remove the thru-axle and remove the hub. Install the rear wheel and tighten the thru-axle (with the nylon washer) to **12Nm**.

### 10-1 Fork nut adjustment



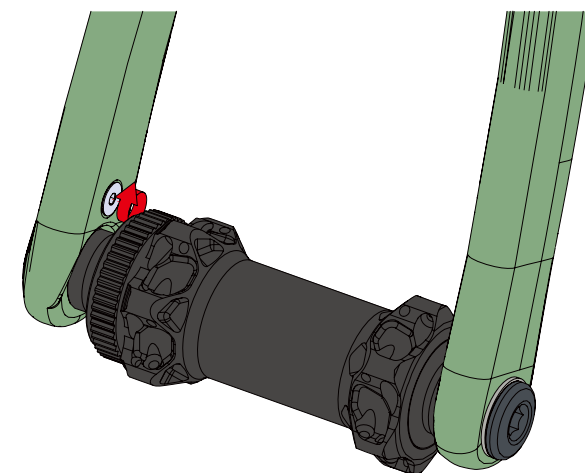
Apply Loctite 243 on bolt threads. Thread the bolt in but do not tighten, this will allow the insert to align when installing the axle

**10-2** Install a front hub in the dropout with the free hub on non-drive side. This will allow better access for the next step. Install the thru-axle with the nylon washer and tighten to **12Nm**



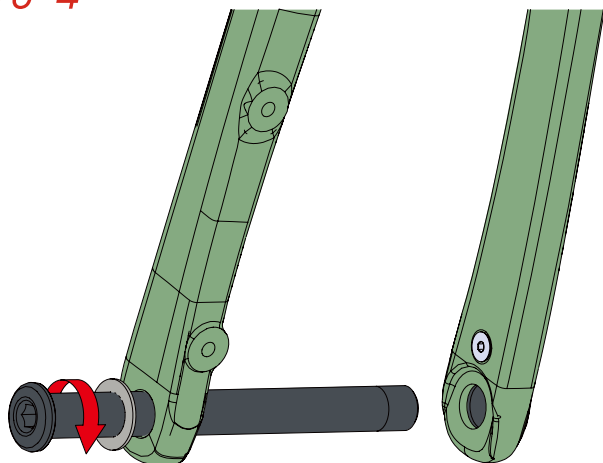
rotor-mount  
on drive side !

### 10-3



After ensuring the dropout insert is correctly aligned, tighten the dropout bolt to **1 Nm**.

10-4



Remove the thru-axle and remove the hub. Install front wheel and tighten the thru axle (with the nylon washer) to **12Nm**.

