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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 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).

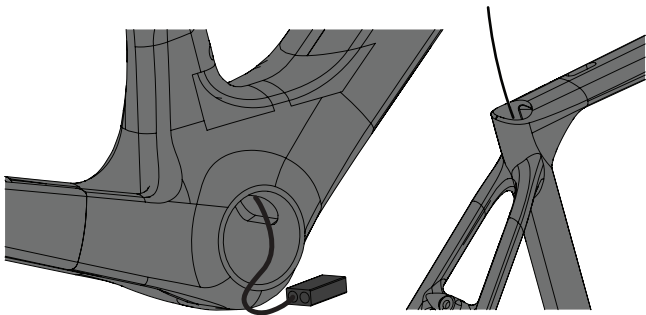
Necessary tools

- ✓ Torque wrench with 3, 4, 5 and 6mm hex and T-20 bits
- ✓ BRT-002 bearing press from Enduro Bearings
- ✓ Park Tool IR-1 or IR-1.2
- ✓ Park Tool IR-1
- ✓ Marker
- ✓ Hacksaw with carbon cutting saw blade
- ✓ Grease & Loctite 243 & 641
- ✓ Isopropyl alcohol
- ✓ Shimano TL-EW02 Di2 Cable Tool
- ✓ Cable and housing cutter

Instructions for Shimano Di2 assembly

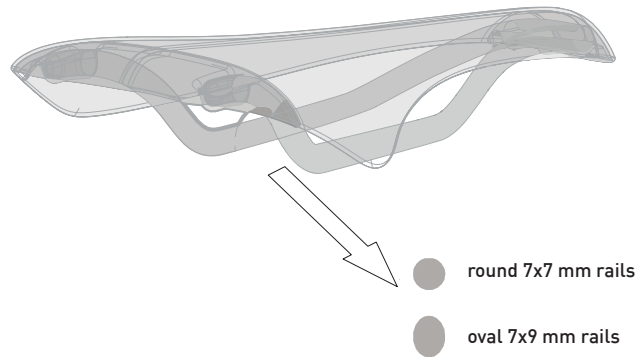
Similar to a Formula 1 car, your Factor O2 requires a bit of patience and mechanical skill to achieve a truly impressive result. We recommend that you have your bicycle assembled and maintained by an authorized Factor dealer. Make sure to let your mechanic know how much you appreciate their help building the bike of your dreams!

1-1 Seatpost



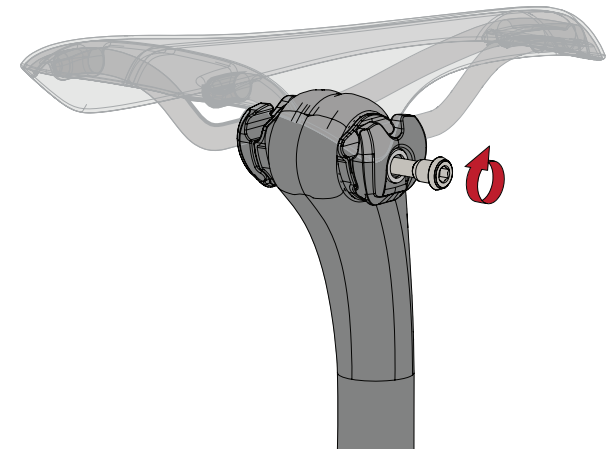
Route the Di2 seat post cable from seat tube to the bottom bracket (internal port). Connect to the Shimano Di2 Junction B according to Shimano's instructions.

1-2 Check which rails standard are on your saddle.

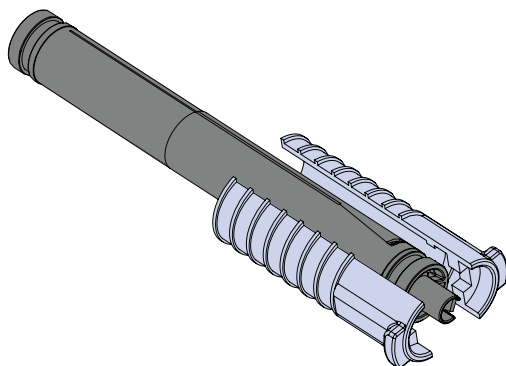


Note: Factor frame sets are shipped with 7x9 mm outer rail clamps for carbon rail saddles. 7x7 mm outer rail clamps for traditional saddle rails are available through your Factor dealer.

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

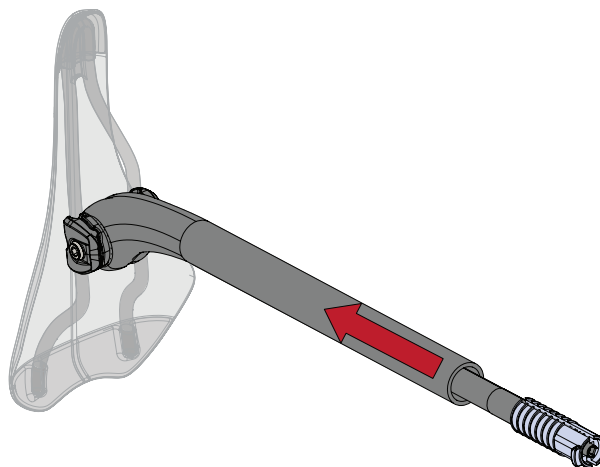


1-4

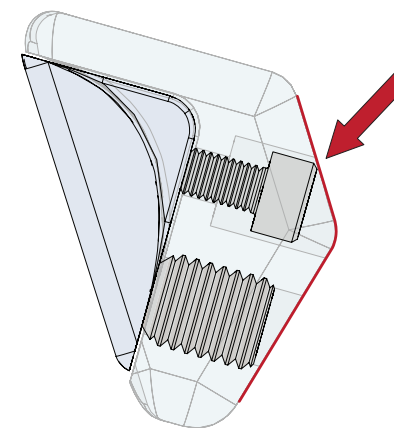


Place the battery holders around the Di2 battery. The male shell grooves must match with the female battery groove.

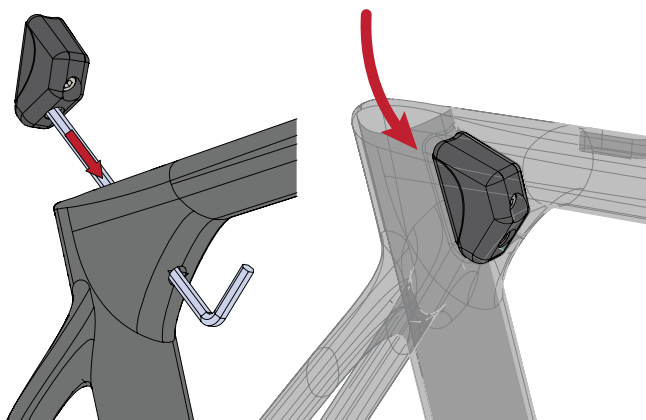
1-5 Insert battery in the seat post.



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.



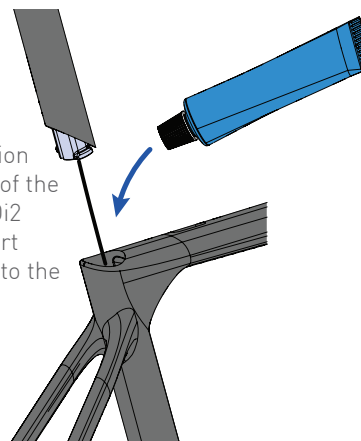
1-7



Slide a 4mm hex wrench through the hole under the top tube, and use it to guide the seatpost wedge into position

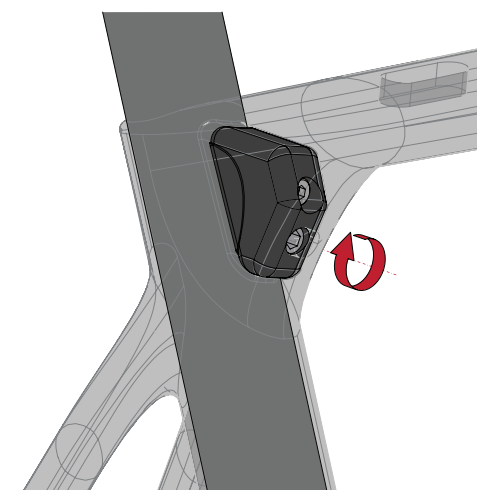
1-8

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 Secure the seatpost by tightening the screw with a 4mm hex torque wrench to **6 Nm**. Do not overtighten.



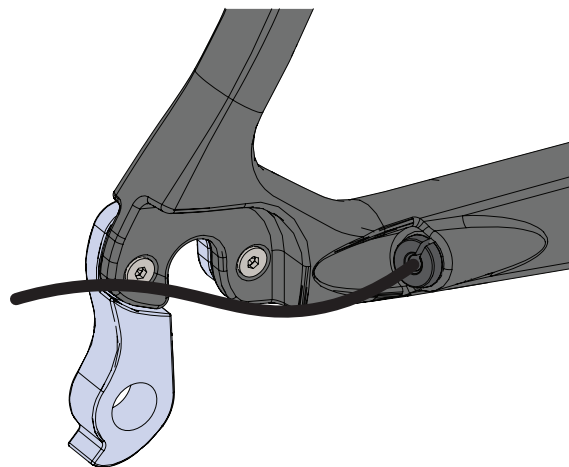
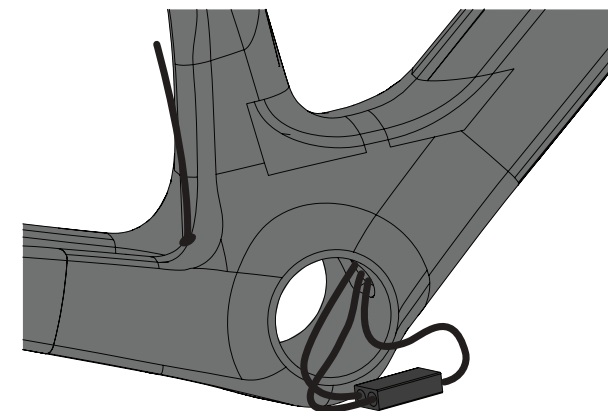
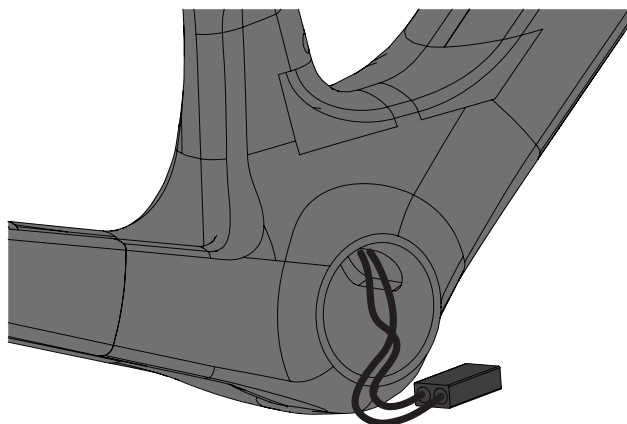
2-1 Di2 Cable Routing

Di2 cable internal routing schematic

Note: Park Tool offers an excellent internal routing cable kit (Park Tool IR-1 or IR-1.2) that makes the job much easier. If you do not have access to this kit, you can use a derailleur shifting cable and a 5mm metal housing ferrule to do a similar job, if you put them together as in the graphic on the right side.

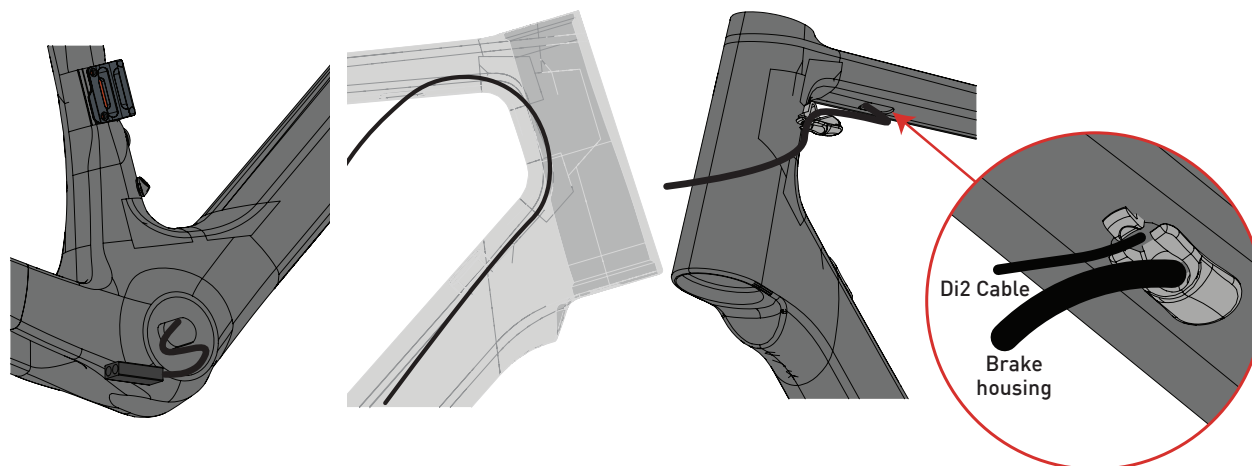


- 2-2** Route the rear derailleur Di2 cable through the chainstay, and secure it in the exit hole by using the rubber grommet. Connect the Di2 cable to the Junction B at the Bottom Bracket.

**2-3**

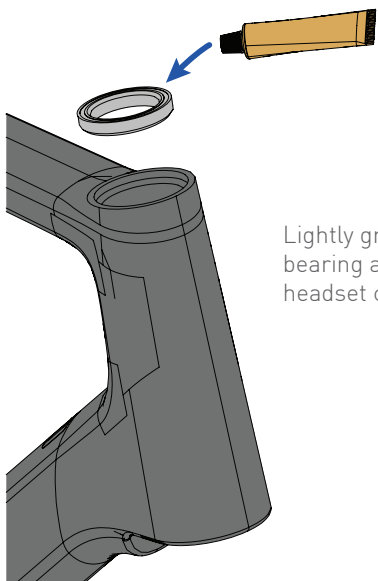
Route the front derailleur Di2 cable through the hole in the back of the seat tube, and secure it with the rubber grommet. Connect the cable to the Di2 junction B box.

- 2-4** Route the Di2 cable from the Junction A to the Junction B through the down tube (as pictured) to the bottom bracket shell exit window.

2-5

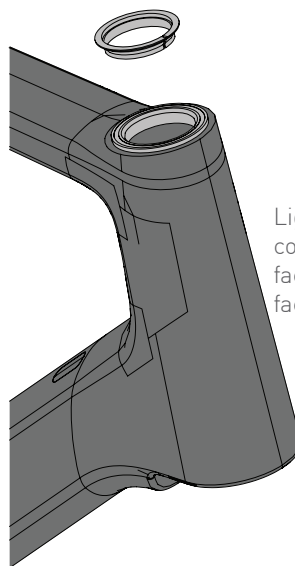
Carefully insert Junction B and all cables through the bottom bracket shell window.

3-1 Fork - Headset - Barstem



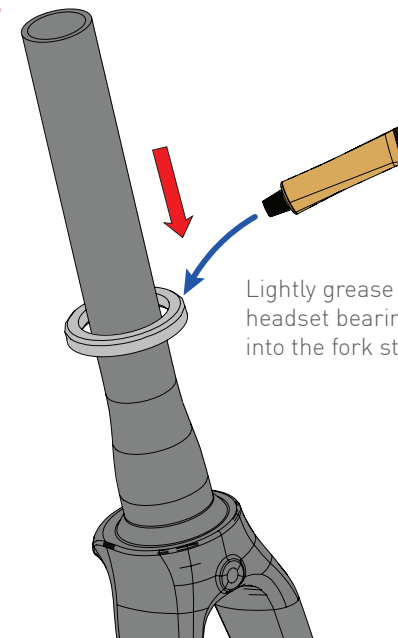
Lightly grease the upper headset bearing and then install in upper headset cup.

3-2



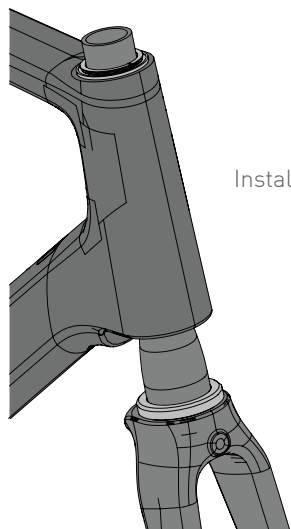
Lightly grease and install the compression ring, with the split facing either left or right (not facing forward or backwards)

3-3



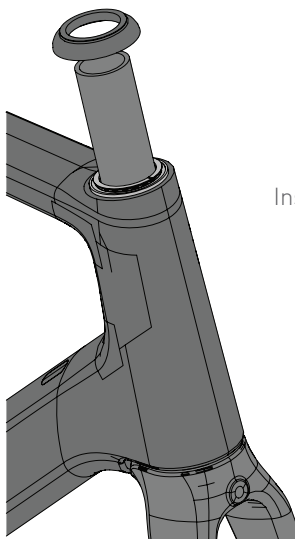
Lightly grease the lower headset bearing and slide it into the fork steerer tube.

3-4



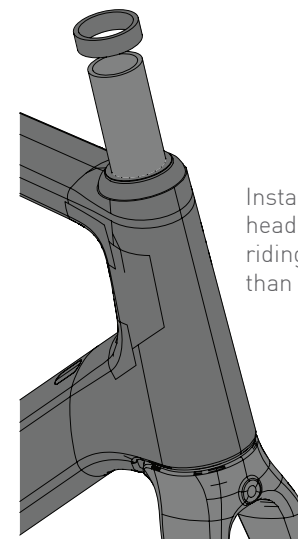
Install fork

3-5



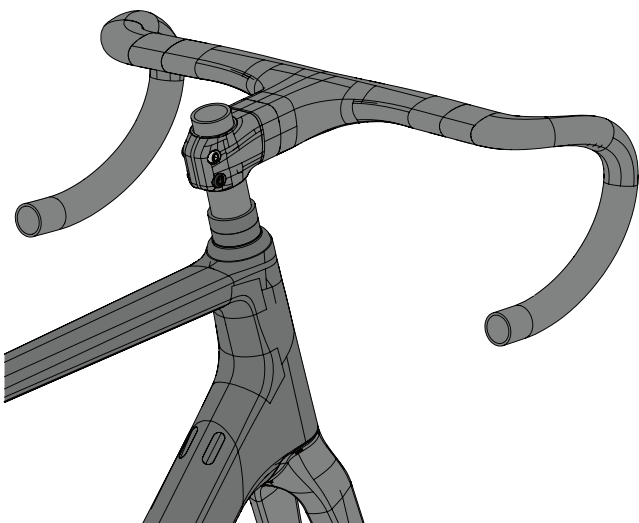
Install headset top cover

3-6



Install the desired number of headset spacers according to your riding position. Do not install more than 40mm of spacers.

3-7 Install the barstem into the fork



4-1 Cutting the fork

Note: Carefully consider all possibilities before cutting your fork. Do not cut if you can foresee any reason to raise your stem position in the future. When you are 100% sure, carefully proceed as any error in cutting too short will require replacing the fork. The fork must be removed from the bicycle before cutting.

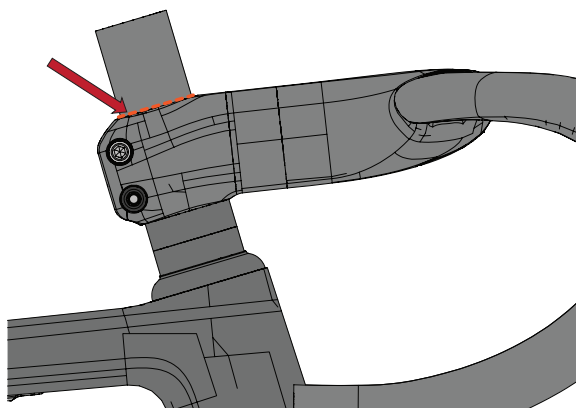
With a marker, draw a line on the steerer tube just above the stem you intend to use. Then, after removing the fork from the frame, draw another line 5mm below the first line.

If intending to use the Black Inc barstem supplied with your O2 frameset, align the fork cutting guide to the 2nd marked line (that 5mm below the first one). This will result in a flush headset top cap (when using the supplied Factor compression plug and Factor top cap).

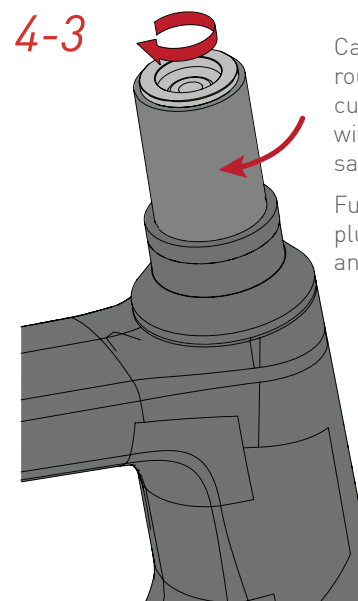
If intending to use a standard stem instead, align the fork cutting guide with the 1st marked line. After installing the compression plug, we recommend using a 5mm spacer on top of the stem. This ensures that the whole height of the stem clamp is touching the fork steerer.

4-2

Always remove the fork from the frame to cut the steerer tube. Use a workshop vise to secure the fork cutting guide in place and produce a straight, clean cut.



4-3

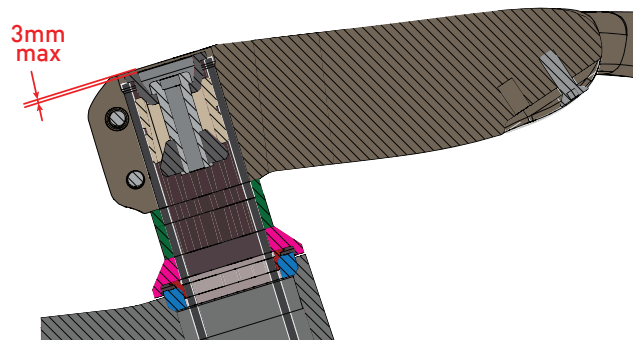


Carefully remove any sharp or rough edges from the newly cut surface of the steerer tube with a thin flat file and fine sandpaper.

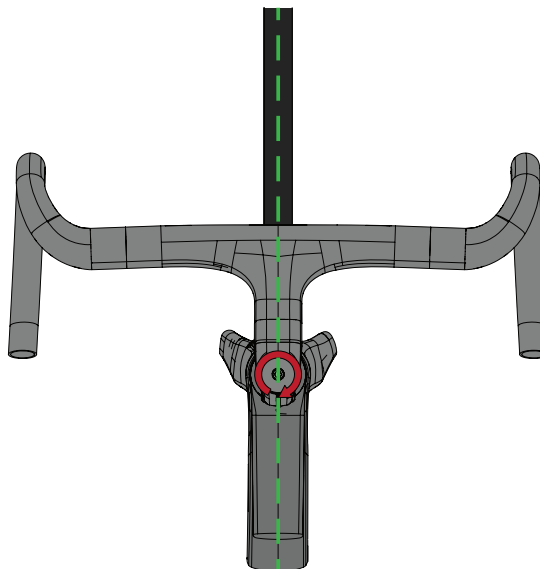
Fully insert the compression plug into the steerer fork tube and tighten to **8 Nm**.

Note: Repeat steps 3-1 to 3-7 of installing the headset

- 4-4** When using the supplied Black Inc barstem, during reassembly after cutting the steerer tube, ensure that the top of the Factor headset compression plug is no more than **3mm** below the top edge of the stem. If using a standard stem, ensure the edge of the fork steerer is flush with the stem or above it. In this case we recommend using a 5mm spacer on top of the stem

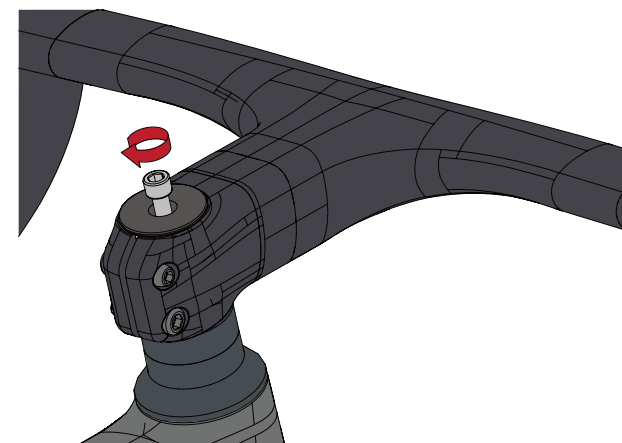


4-5

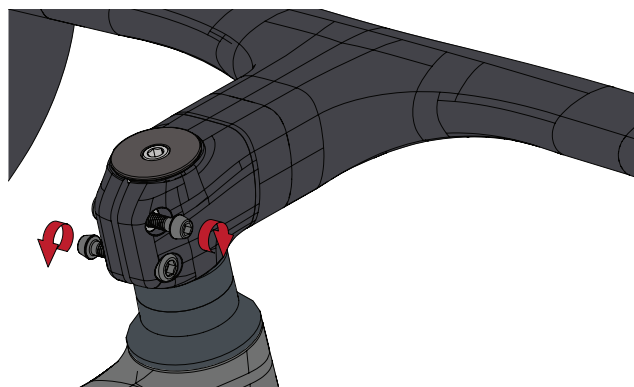


Install the top cap using a M5 bolt and align the barstem or the stem with the front wheel.

- 4-6** Tighten the headset top cap bolt until there is no bearing play but the headset still spins freely.



4-7

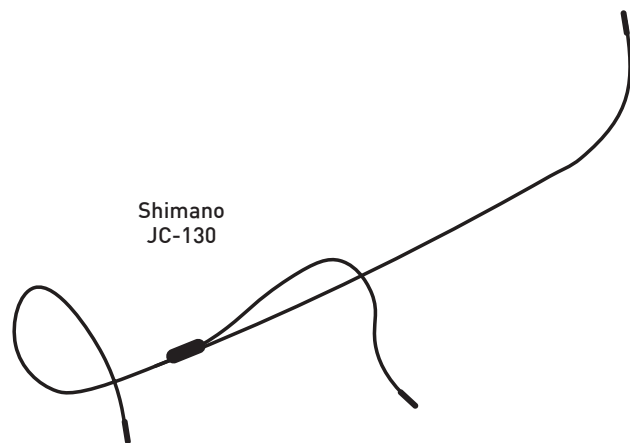


Evenly and alternatively tighten the barstem bolts up to **5.2 Nm**. Ensure there is an even gap from top to bottom of the stem clamp.

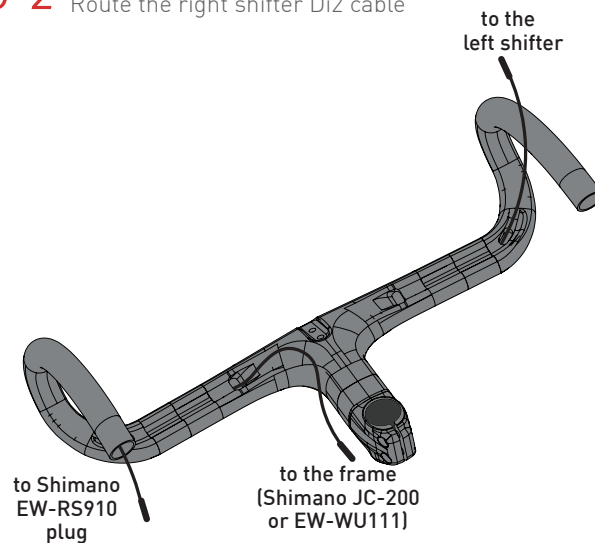
DO NOT completely tighten one bolt first, and then the other bolt.
DO NOT overtighten.
Not following these instructions can result in an accident resulting in injuries or death.

5-1 Barstem Di2 routing

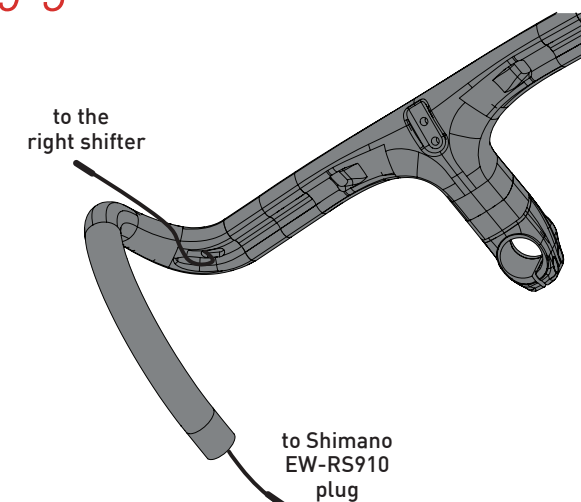
Route the JC-130 through the handlebar portion of the Black Inc barstem. Note that the cables to both the front shifter and the JC-200 need to be pulled through at the same time.



5-2 Route the right shifter Di2 cable

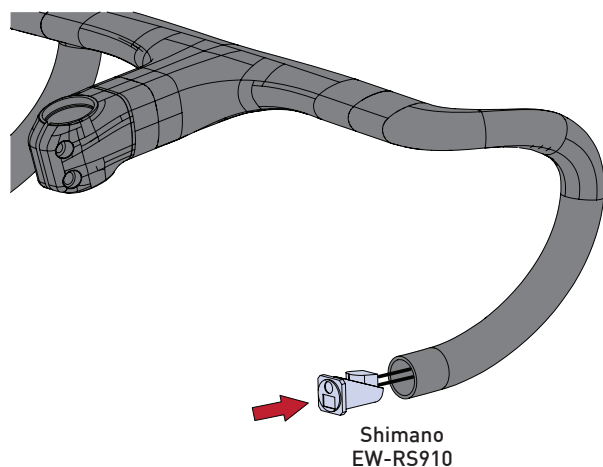


5-3



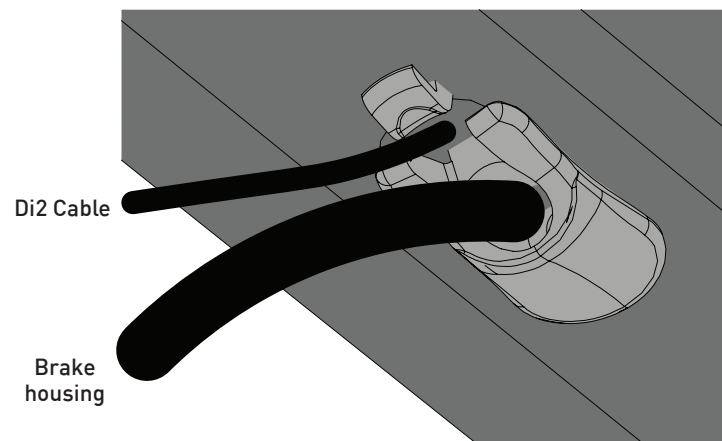
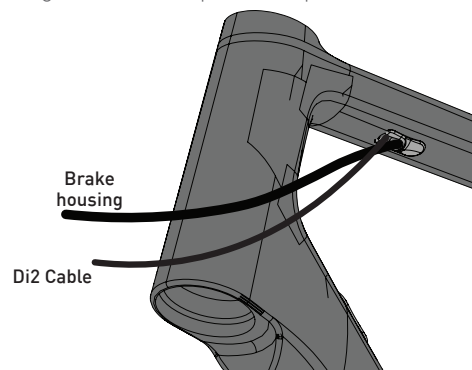
Connect the JC-130 and rear shifter cable to the Shimano RS910.

5-4 Install RS910 into the barstem

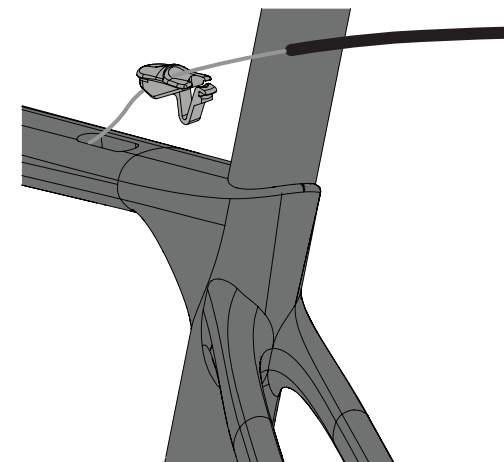


6-1 Rear brake cable routing

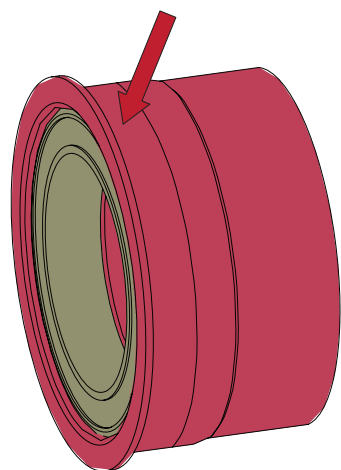
Cut the cable housing to the correct length, ensuring that handlebars can be rotated freely in both directions. Use brake housing ferrules on all ends of the housing. Route rear brake inner wire through the top tube, exiting near the seatpost clamp.



Route the brake cable through the second cable stop, then through the second cable housing portion. Attach brake cable to the brake caliper following the brake manufacturer's instructions.

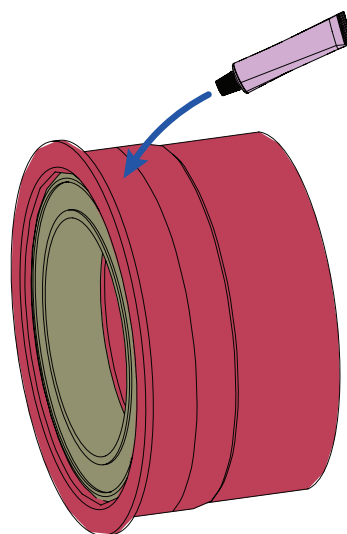


7-1 Bottom Bracket



Clean the inside of the frame bottom bracket shell and the bearing cups with isopropyl alcohol.

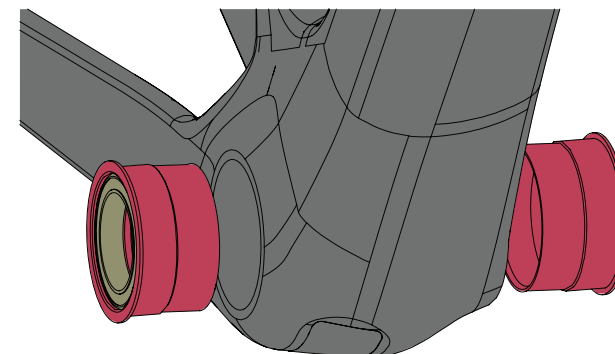
7-2



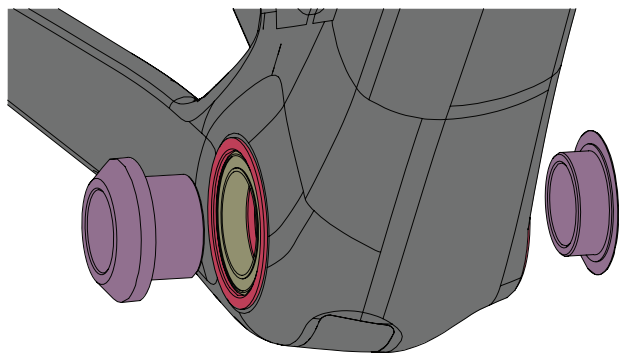
Apply Loctite 641 on the surfaces of the bearing cups that will contact with the frame bottom bracket shell.

7-3

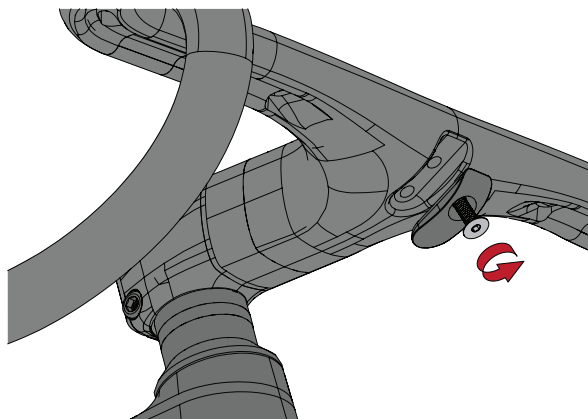
Apply Loctite 641 on the surfaces of the bearing cups that will contact with the frame bottom bracket shell.



- 7-4** Apply Loctite 641 on the surfaces of the bearing cups that will contact with the frame bottom bracket shell.

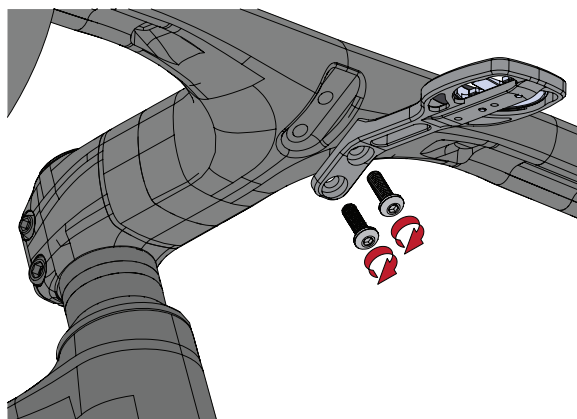


8-1 Computer mount



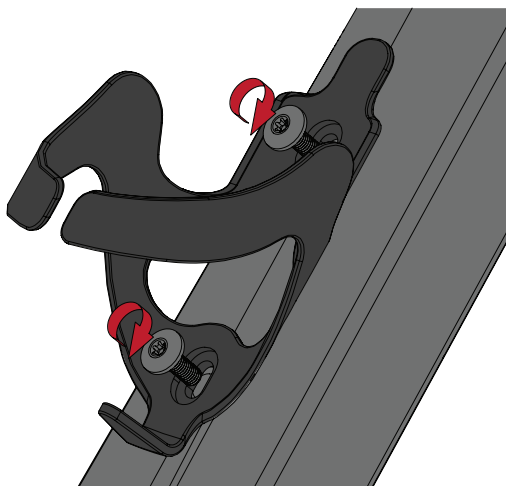
Release the bolt and remove the cover.

8-2



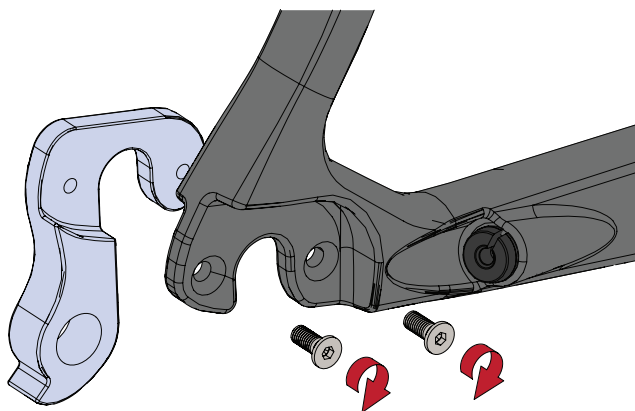
Install the computer mount and tighten the 2 bolts to **2 Nm**.

9-1 Bottle cage



Install the cages and tighten the M5 bolts with a T20 wrench to **2 Nm**.

10-1 Rear derailleur hanger



In case of needing a rear derailleur hanger replacement, apply Loctite 243 on the screw threads and tighten to **1 Nm**.

