E-117 TRI+: ASSEMBLY GUIDE

ARGON 18

Valid for MY2016 E-117 Tri+
Revision 9.0 - 07-08-2016

E-117 TRI+: Table of Contents

My E-117 Tri+

Date of purchase: _____

Retailler: _____

Size: _____

Serial Number: _____

For the warranty to be valid, the bicycle must be fully assembled by an authorized Argon 18 dealer. High end components, particularly carbon parts, need extra care when assembled. These components must be installed using a calibered torque wrench to make sure every bolt is at the right torque setting to prevent damage.

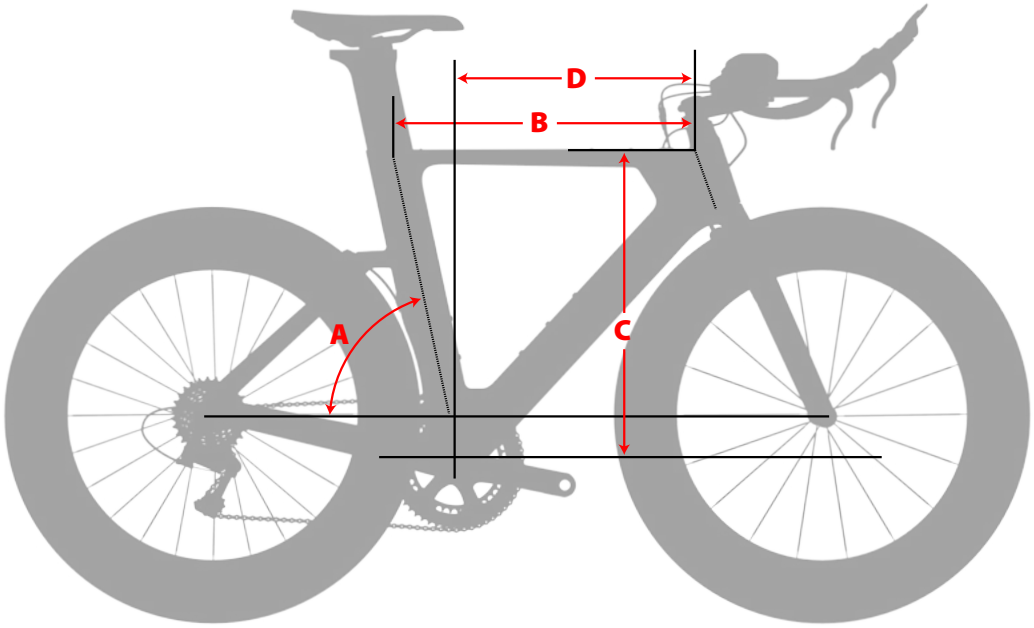
Tools needed for assembly

1: Bearing Cup Press (Park Tool HHP-2)
2: Allen Key Set
3: Grease
4: Utility Pick Set (Park Tool Item # UP-SET)
5: Clean Rags
6: Derailleur Hanger Alignment Gauge (Park Tool Item # DAG-2)
7: Cables and Housing Cutter
8: Carbon Paste
9: Loctite #242 or #243
10: Torque Wrench

First Aid Kit: Essential parts to always have on hand
IN CASE OF EMERGENCY...THIS MIGHT SAVE YOUR RIDE!

1: Spare rear dropout (SKU: 38883)
2: Spare brake pads corresponding to your wheel model (carbon or alloy)
3: Seat clamp (SKU: 80423, 80422)
IMPORTANT: the E-117 Tri+'s seat clamp (1.4) is not the same as the Nitrogen

RUNNING CHANGE

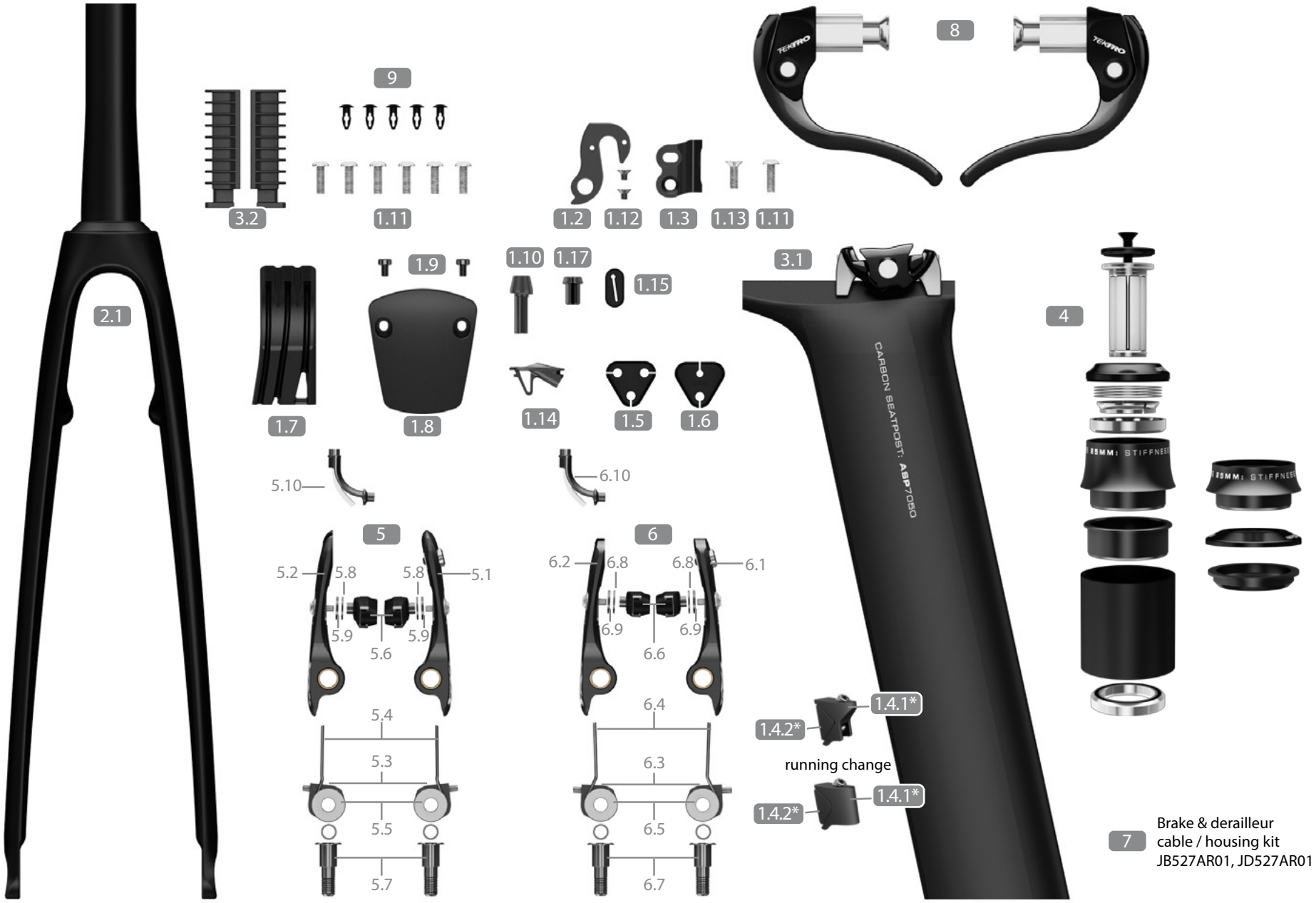


Sizing Chart: E-117 TRI+

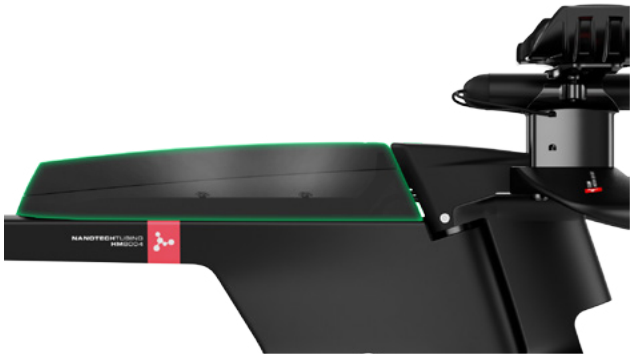
Saddle Height	Suggested Size	A Seat Tube Angle	B Top Tube	C 3D (0) Stack	C 3D (15) Stack	C 3D (25) Stack	D 3D (0) Reach	D 3D (15) Reach	D 3D (25) Reach
63	XS	78	48.9	491	505	514	385	380	377
64	XS	78	48.9	491	505	514	385	380	377
65	XS	78	48.9	491	505	514	385	380	377
66	XS	78	48.9	491	505	514	385	380	377
67	XS	78	48.9	491	505	514	385	380	377
68	XS	78	48.9	491	505	514	385	380	377
69	XS/S	78	48.9 / 50.1	491 / 501	505 / 515	514 / 525	385 / 395	380 / 390	377 / 387
70	XS/S	78	48.9 / 50.1	491 / 501	505 / 515	514 / 525	385 / 395	380 / 390	377 / 387
71	S	78	50.1	501	515	525	395	390	387
72	S	78	50.1	501	515	525	395	390	387
73	S	78	50.1	501	515	525	395	390	387
74	S/M	78	50.1 / 51.4	501 / 516	515 / 530	525 / 540	395 / 405	390 / 400	387 / 397
75	M	78	51.4	516	530	540	405	400	397
76	M	78	51.4	516	530	540	405	400	397
77	M	78	51.4	516	530	540	405	400	397
78	M	78	51.4	516	530	540	405	400	397
79	M/L	78	51.4 / 52.5	516 / 543	530 / 557	540 / 567	405 / 409	400 / 404	397 / 401
80	L	78	52.5	543	557	567	409	404	401
81	L	78	52.5	543	557	567	409	404	401
82	L	78	52.5	543	557	567	409	404	401
83	L	78	52.5	543	557	567	409	404	401
84	L	78	52.5	543	557	567	409	404	401
85	L	78	52.5	543	557	567	409	404	401
86	L	78	52.5	543	557	567	409	404	401

This chart indicates recommended values. Max and min drop values are calculated according to Canadian specifications.
Please consult one of our authorized dealers for further informations on your bike fit.

E-117 TRI+: 3. Frameset Parts



Images are for reference only. Proportions are not accurate.
Argon 18 reserves the right to modify/change parts of the frameset at any moment without prior notice.
*For more info please consult notice on Seatpost clamp dated 2016-06-09

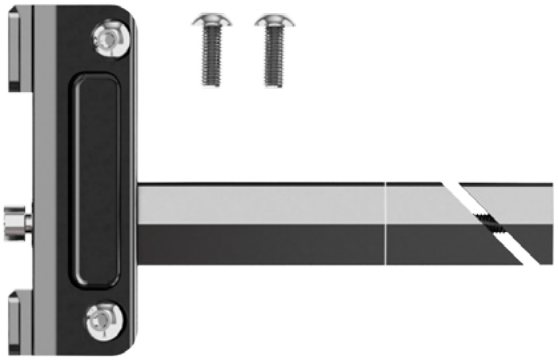


9.1

10.1

10.2

10.3



10.4

10.5

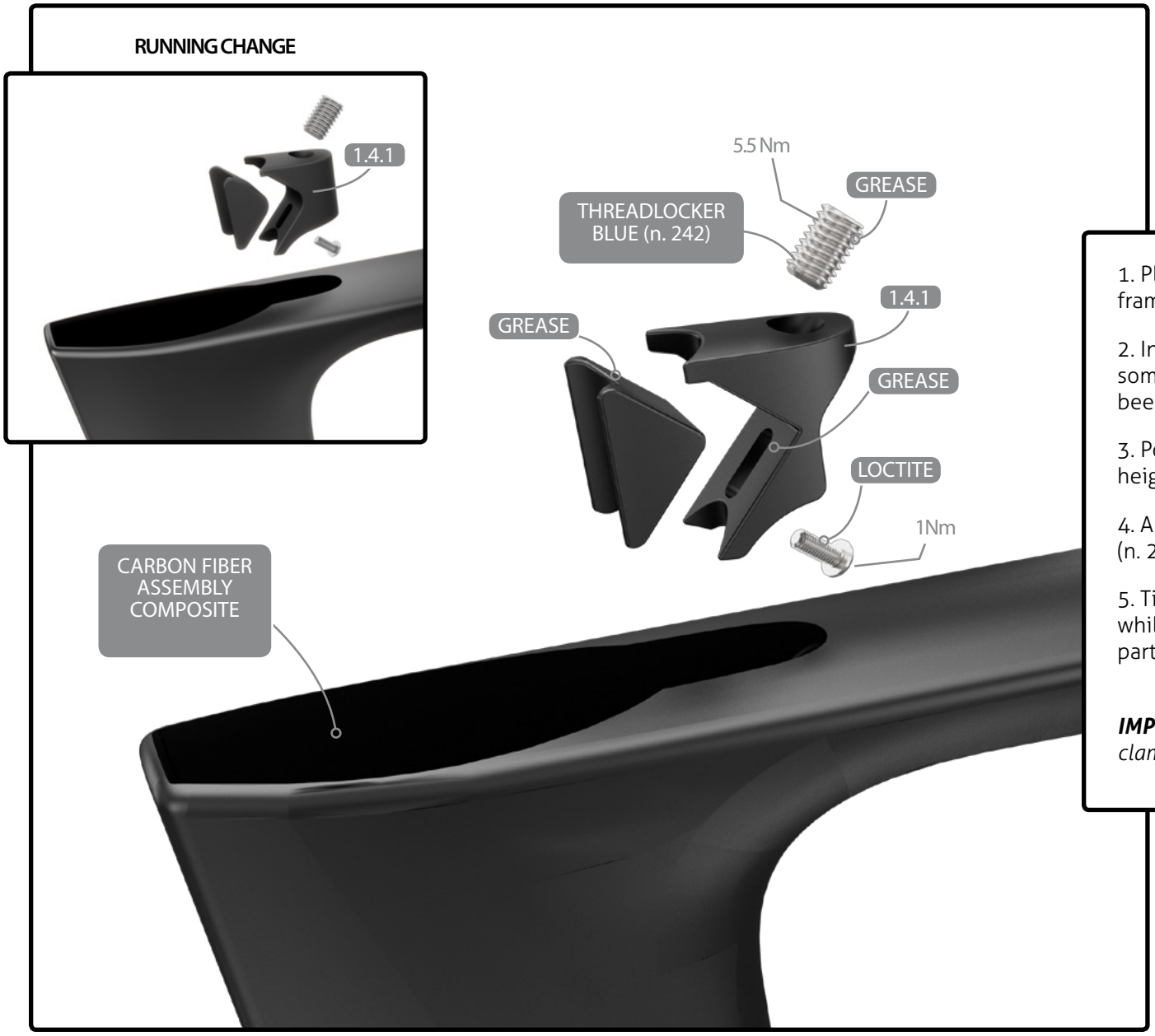
SKU: 80009

10.6

Images are for reference only. Proportions are not accurate.
Argon 18 reserves the right to modify/change parts of the frameset at any moment without prior notice.

E-117 TRI+: 4. Seat Post Clamp Installation

ARGON 18



1. Place the seat post collar inside the frame.

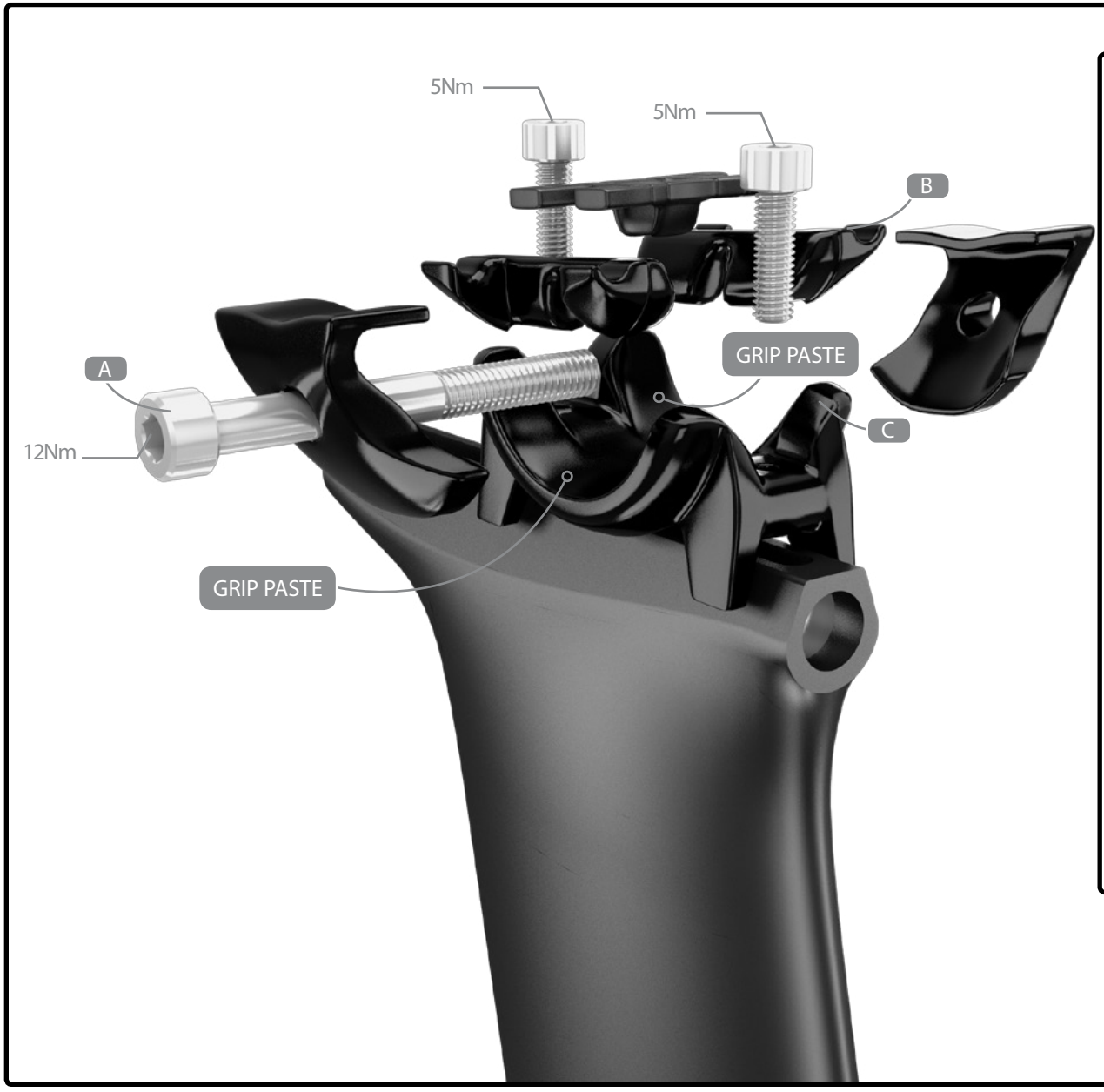
2. Insert the seatpost (3.1) on which some carbon fiber assembly paste has been applied.

3. Position the seatpost to the desired height.

4. Apply a drop of blue Threadlocker (n. 242) on the bolt's thread

5. Tighten the set screw at max. 5.5Nm while leaving a space between the two parts allowing them to slide.

IMPORTANT : *The E-117 Tri+'s seat clamp is not the same as the Nitrogen*



1. Unscrew main bolt (A) as far as possible without fully removing from the lock nut.

2. Install the saddle rails into the seatpost clamp (B).

3. Slide saddle clamp (B) onto rocker (C).

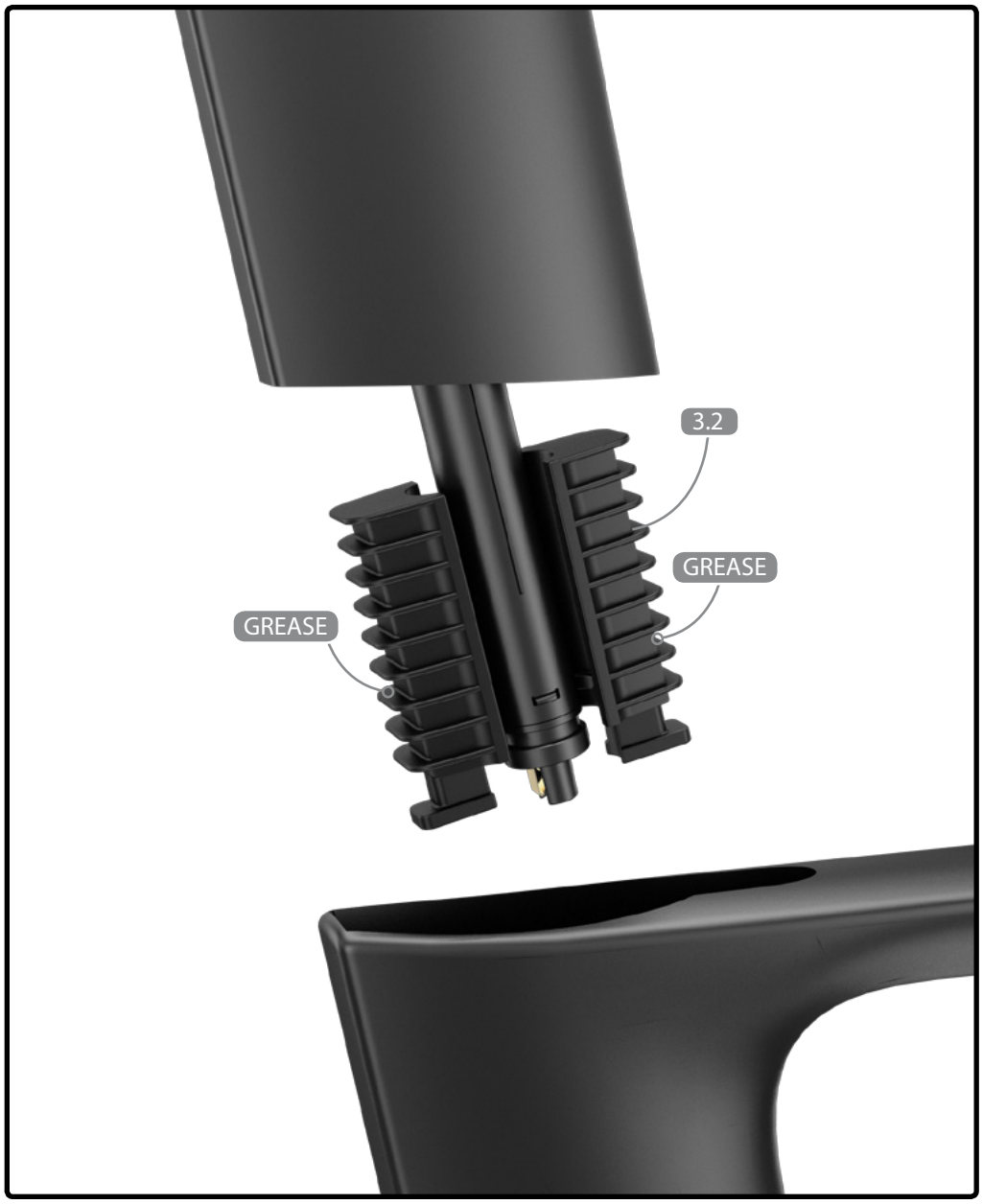
4. Tighten the bolt up at 12Nm.

See p.26 for saddle adjustment.

IMPORTANT:

The E-117 Tri+'s saddle rail clamp is made for aluminum and round-shaped saddle rails (For part numbers contact Ritchey).

For other types of saddle rails, please refer to the Tips and Troubleshooting section of this Assembly Guide (p.33).



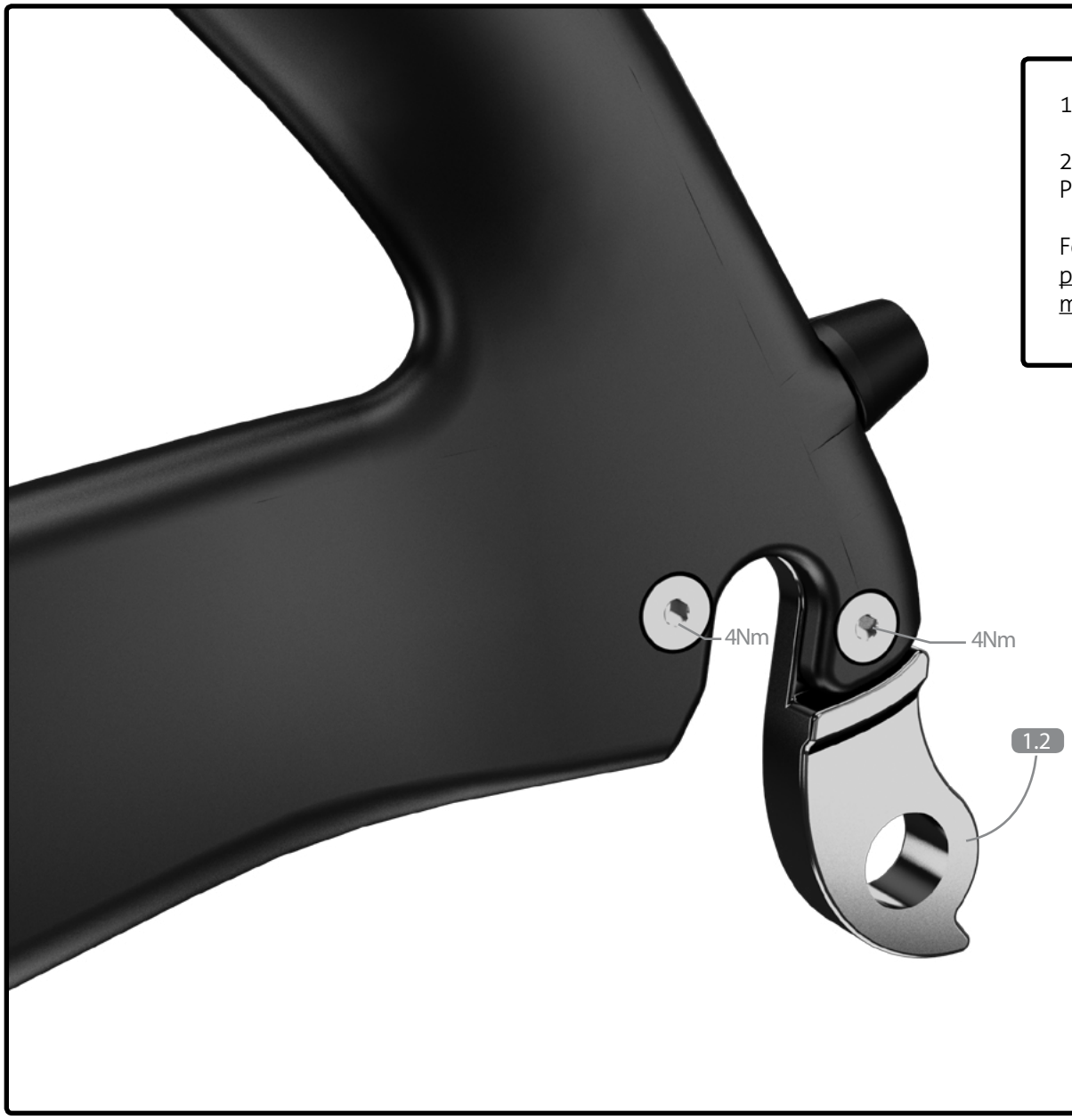
The Di2 battery is hidden in the seatpost; use the Di2 battery holder (3.2) to fix the battery correctly. Apply a slight amount of grease on both parts.

BEFORE ASSEMBLING YOUR NEW E-117 TRI+, MAKE SURE THAT YOU HAVE ALL THE FOLLOWING:

1. Brakes and gears cables and housing set
2: Frameset parts checklist (see p.27)
3: Inspect the frame for cosmetic aspect (scratches, bumps, cracks, paint defect, etc.)
4: For reference, check serial number and write it on p.1
5: All the necessary bolts (refer to Frameset Parts, p.4)
6: For optimal shifting performance, use a dropout alignment gauge to make sure that the drive-side dropout is straight.

IMPORTANT:
The following parts are assembled on the frame. When assembling the bike, you will need to adjust these parts according to their torque specifications.

	Parts installed on the frame	Description	Screw type	Torque Nm	Detail
1	Front derailleur hanger	Screw (2)	5mm	4Nm	Loctite
2	Rear derailleur hanger	Screw (2)	3mm	4Nm	Loctite
3	Bottle cage	Screw (7)	4mm	3Nm	Grease
4	Bottom bracket cover	Screw (2)	4mm	2.5Nm	Grease



1. Ensure that the dropout is aligned.

2. Use Derailleur Hanger Alignment Gauge like Park Tool Item # DAG-2.

For any assistance, visit Park Tool's website: parktool.com/product/derailleur-hanger-alignment-gauge-dag-2

E-117 TRI+: 7. Derailleur Hanger Adjustment

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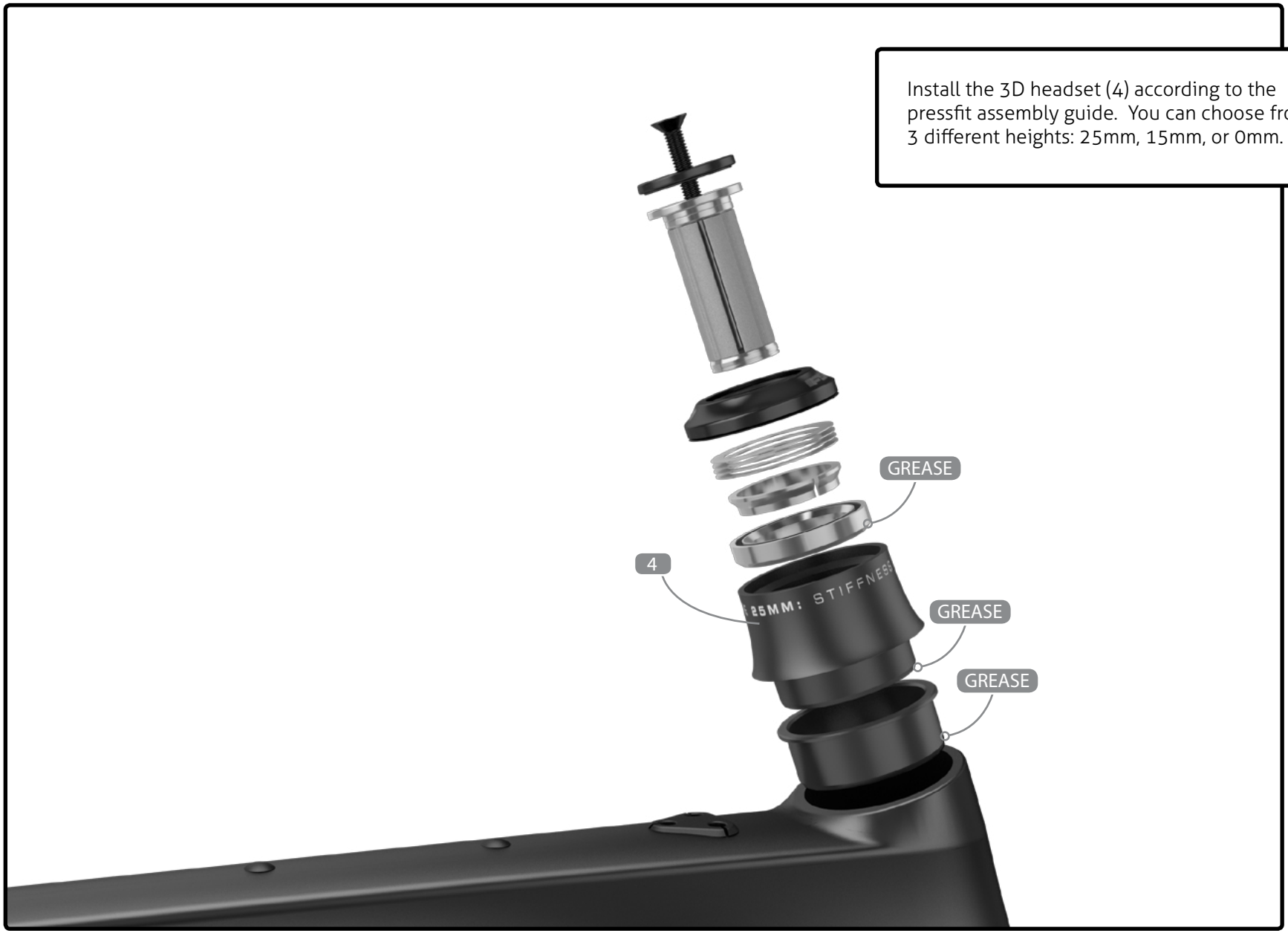
The front derailleur hanger can be adjusted according to the front derailleur angle in order to get an equal curve between the derailleur and the big chain ring. Once at the right angle, use blue 242 Loctite and screw in at 4Nm.

Install the 3D headset (4) according to the pressfit assembly guide. You can choose from 3 different heights: 25mm, 15mm, or 0mm.



STEP 1

First, you must assess which setup suits your needs: **25mm, 15mm or 0mm.**

STEP 2

Inspect the bike's head tube for any sharp edges and apply a small amount of grease.

STEP 3

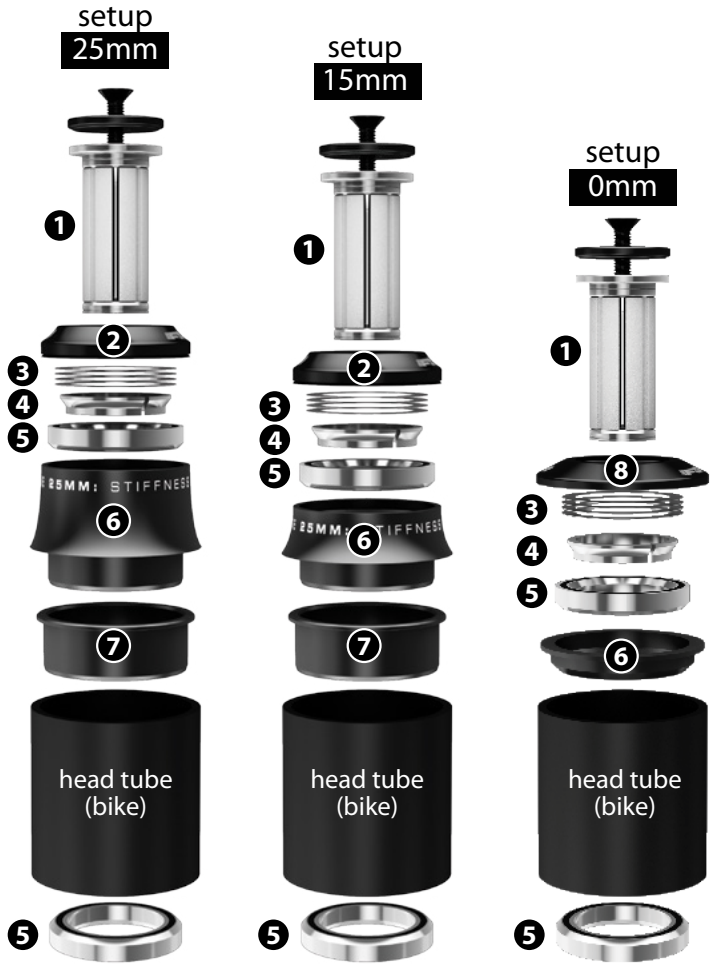
For the **25mm and 15mm** setups, lightly grease the bottom section of the 3D bearing holder (6) and insert the plastic sleeve (7).

STEP 4

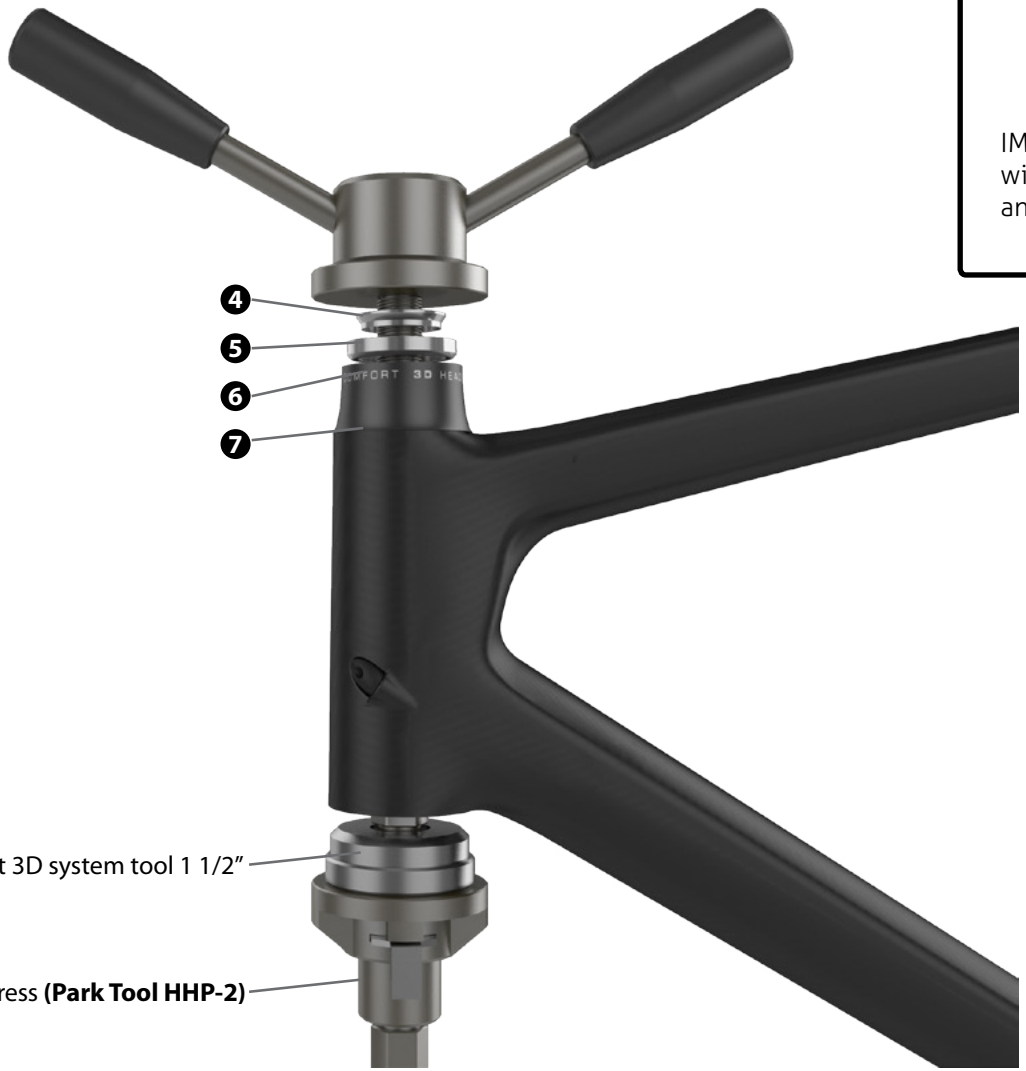
Position the headset inside the head tube. Place the top 3D assembly with the headset bearing inside (this will prevent the sleeve from getting damaged). Add the compression ring (4) on top of the bearing, then add the press fit 3D system tool and softly press down the assembly until it bottoms out using a Bearing Cup Press **(Park Tool HHP-2).** Then, insert the bottom bearing (5), micro spacers (3) and top cap (2), slide the fork and stem and measure the steerer length needed.

For the **0mm setup** , do not use the plastic sleeve. Install the 3D bearing holder (6) with grease applied directly inside the frame.

To remove the 3D bearing holder, insert the **Park Tool RT-1** and then tap it carefully until the spacer comes out.

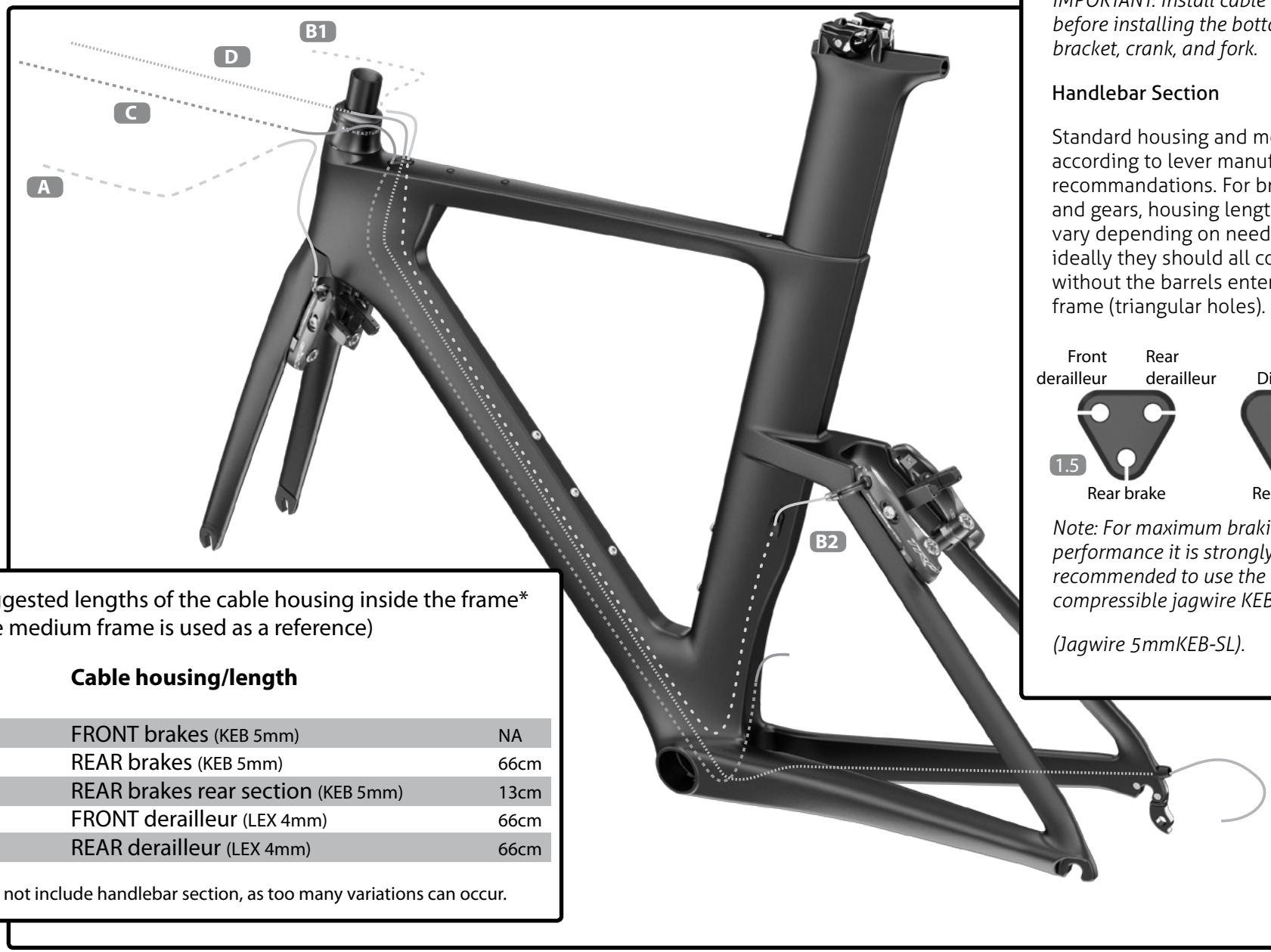


1. Compressor
2. Top cap
3. Micro spacers
4. Compression ring
5. Bearing
6. 3D bearing holder
7. Plastic sleeve (no need for **0mm** setup)
8. Top cap for **0mm** setup



IMPORTANT : Use the Press Fit 3D system tool 1 1/2" with the Bearing Cup Press (ParkTool HHP-2) to avoid any damage on the bike frame.

1. Compressor
2. Top cap
3. Micro spacers
4. Compression ring
5. Bearing
6. 3D bearing holder
7. Plastic sleeve (no need for **0mm** setup)
8. Top cap for **0mm** setup



IMPORTANT: Install cable housing before installing the bottom bracket, crank, and fork.

Handlebar Section

Standard housing and metal cap according to lever manufacturer's recommandations. For brakes and gears, housing lengths may vary depending on needs but ideally they should all connect without the barrels entering the frame (triangular holes).

Note: For maximum braking performance it is strongly recommended to use the non-compressible jagwire KEB housing

(Jagwire 5mmKEB-SL).

Suggested lengths of the cable housing inside the frame* (the medium frame is used as a reference)

Cable housing/length

A	FRONT brakes (KEB 5mm)	NA
B1	REAR brakes (KEB 5mm)	66cm
B2	REAR brakes rear section (KEB 5mm)	13cm
C	FRONT derailleur (LEX 4mm)	66cm
D	REAR derailleur (LEX 4mm)	66cm

* Does not include handlebar section, as too many variations can occur.

Bottom Bracket Section

1. Measure approximately 660mm length (for a medium-sized frame) of one unit of KEB brake housing (non compression housing) and two units of LEX 4mm gear housing (mechanical).

2. Install plastic caps at each tip of the gears' housings.

3. Install classic metal cap on the bottom bracket guide's section of the brake's housing and the supplied POP metal cap on the front tip of the brake's housing in order to connect with the barrel.

4. Remove the cable guide (1.7) under the bottom bracket.

5. Connect the 3 housing length to the bottom bracket's guide according to inscriptions (RD: Rear Derailleur, FD: Front Derailleur, RB: Rear Brake).

6. Pass the cable housings inside the downtube until they come out the top tube.

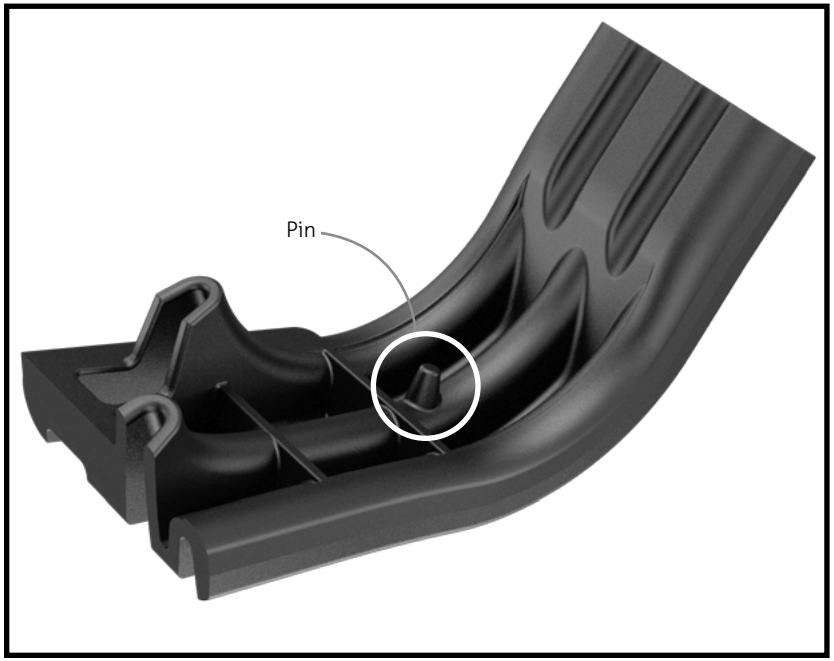
7. Be sure that the guide's pin is inside the frame's hole.

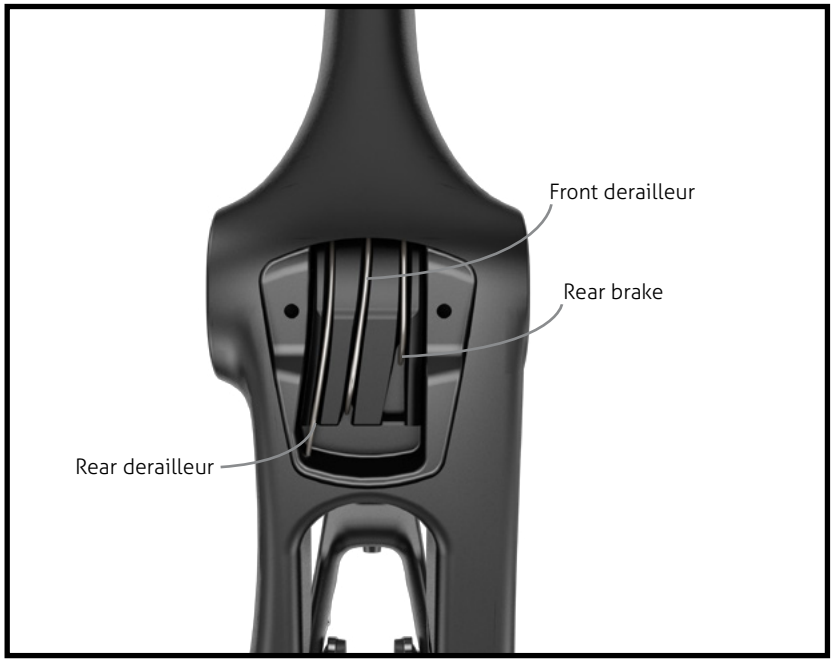
8. With a hook take the housings out of the frame by the top tube's triangular hole.

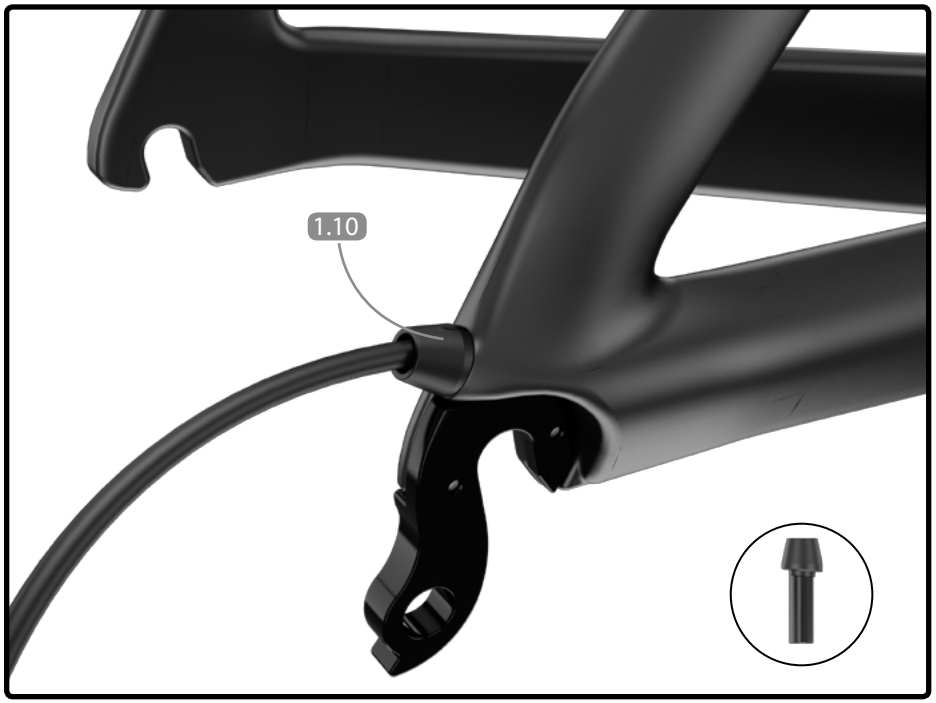
9. Install 4mm barrel on gear housing.

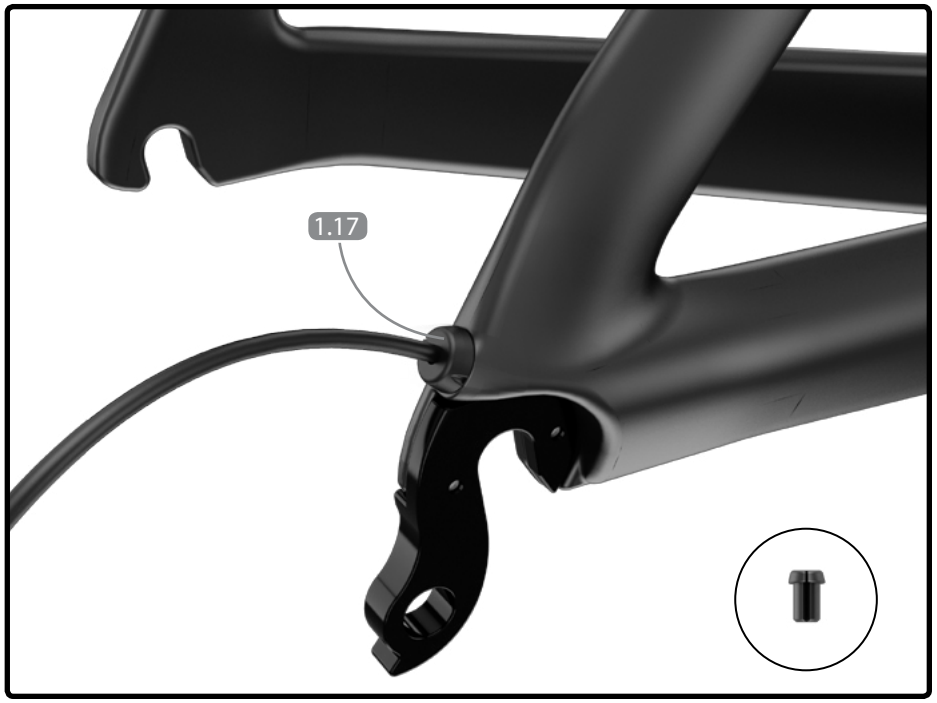
10. Install 5mm barrel on KEB break housing with POP metal cap.

IMPORTANT: There is a preinstalled tube guide inside the drive-side chainstay. Insert the gear cable in the tube guide down to the rear derailleur.





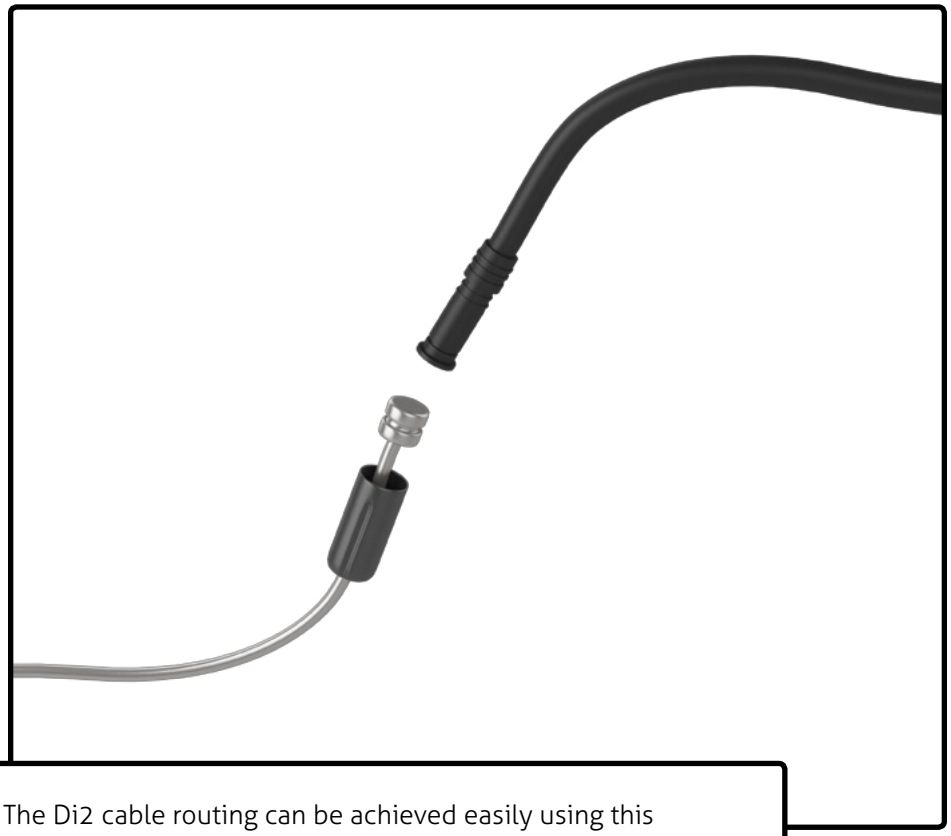




IMPORTANT:

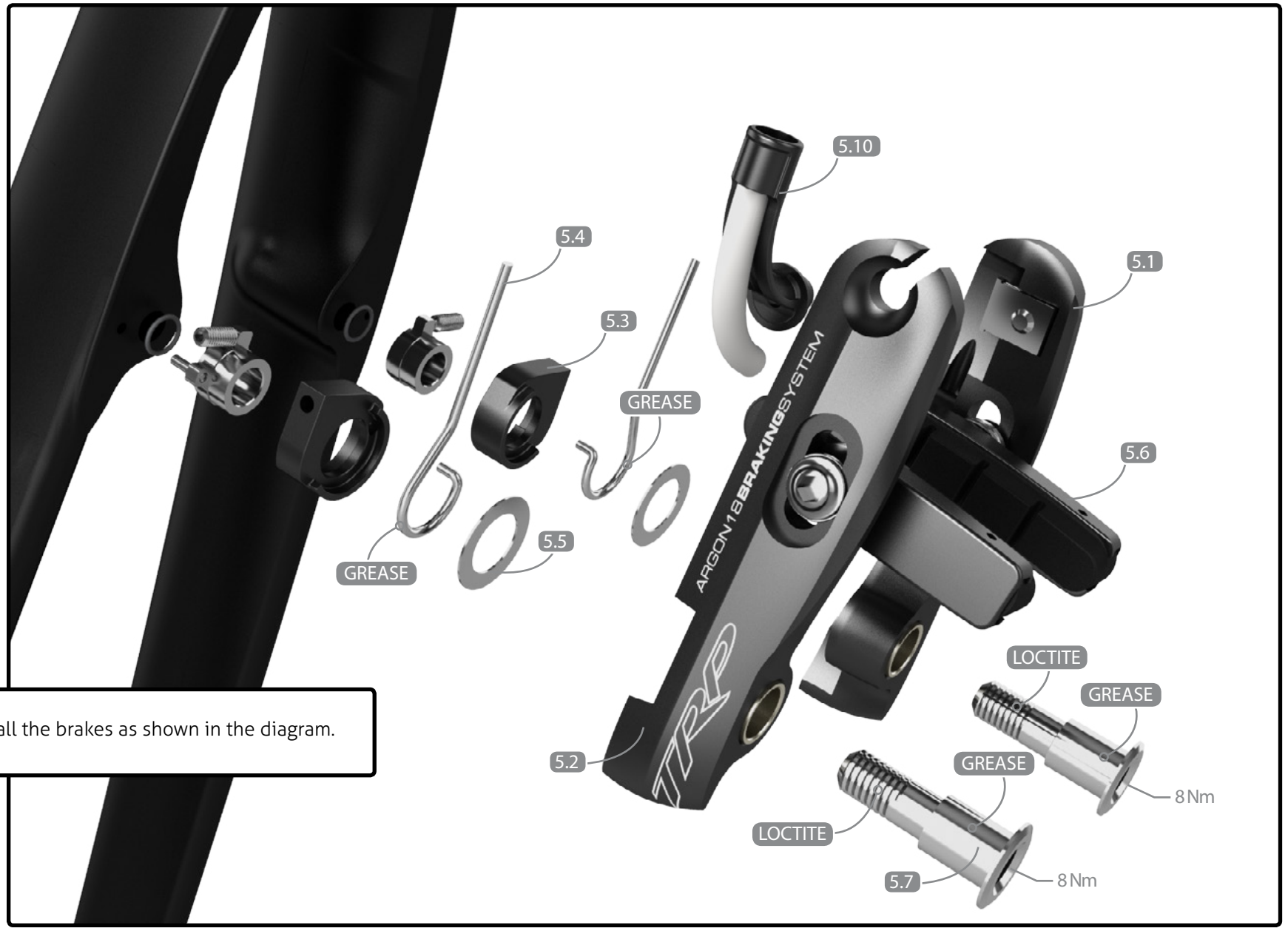
For the Di2 cable section that runs through the drive side chainstay, use the preinstalled tube guide that is supplied with the frame.

Use the proper cable stopper or grommet to fix the rear derailler cable correctly depending if you use mechanical drive-train (1.10) or electronic shifting (1.17).



The Di2 cable routing can be achieved easily using this simple trick: use a gear cable and a metal cable end to fix the Di2 cable. For more information on Shimano Di2 electronic system installation, go to: si.shimano.com.

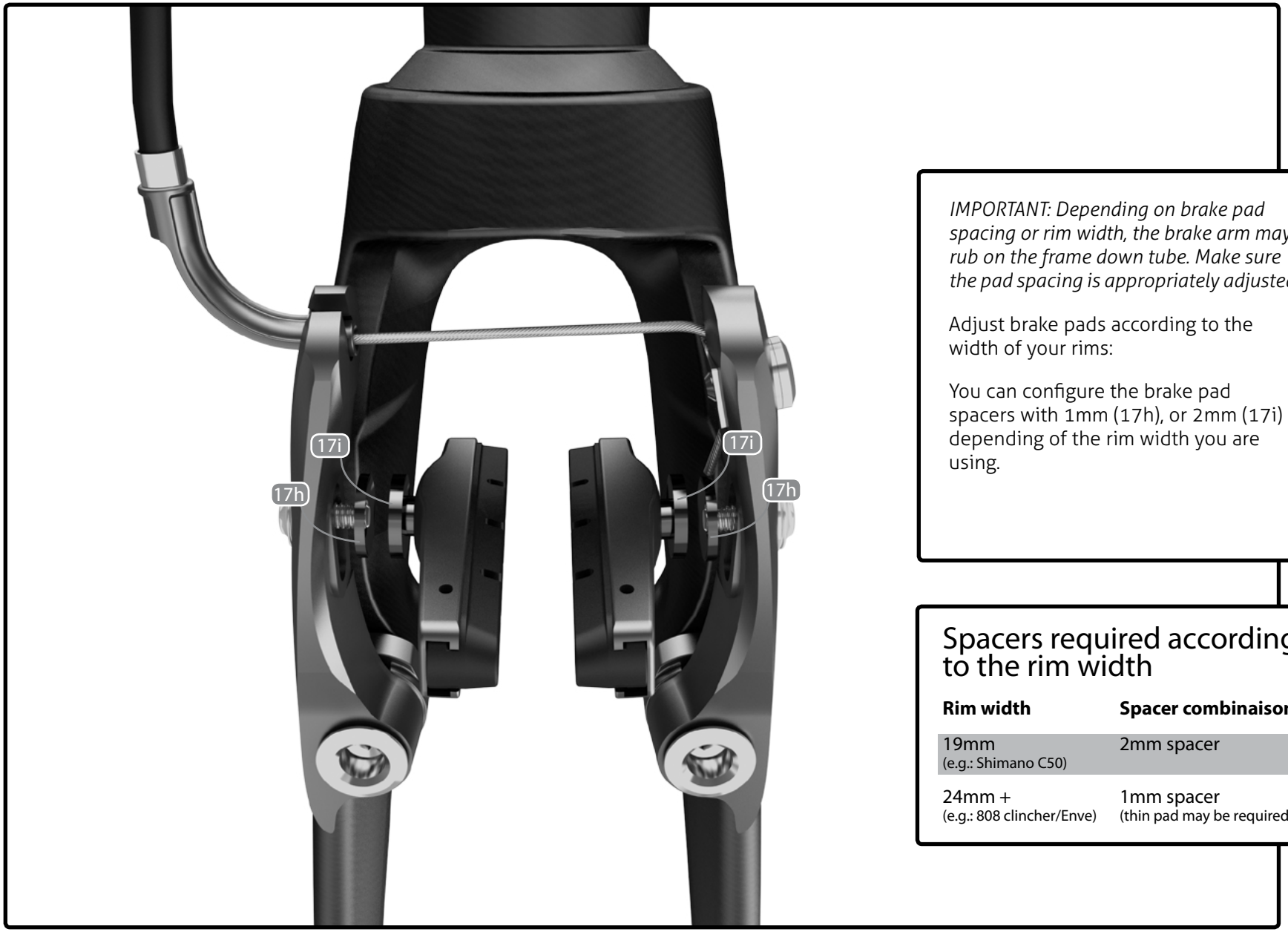
Use the proper grommet on the top tube to fix the cable correctly, depending if you use mechanical drive-train (1.5) or electronic shifting (1.6).



Install the brakes as shown in the diagram.

Pass the cable through the curved straw and then in the appropriate guide.

Fix the cable to the caliper with the 6mm screw and tighten it to 6Nm.



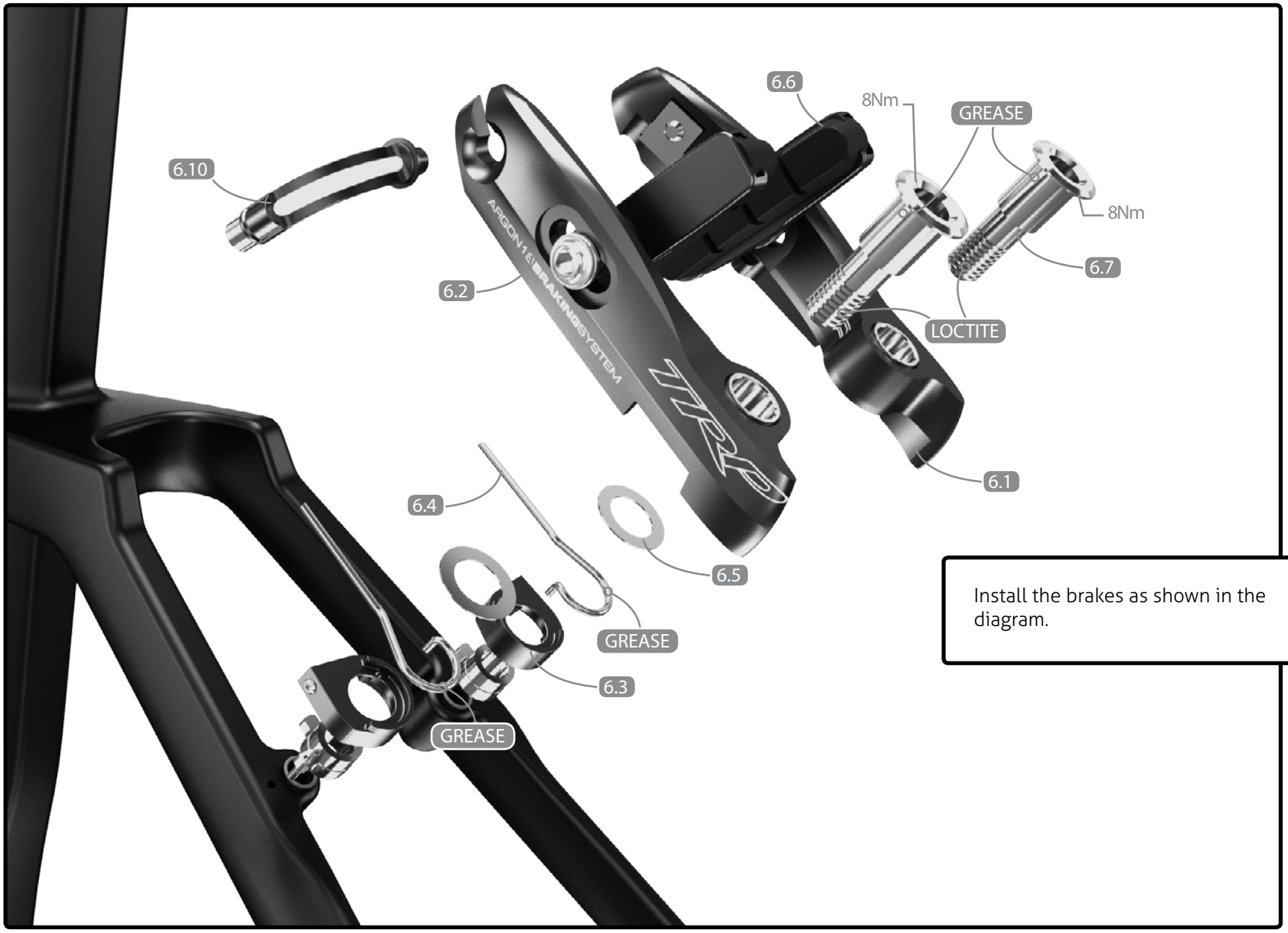
IMPORTANT: Depending on brake pad spacing or rim width, the brake arm may rub on the frame down tube. Make sure the pad spacing is appropriately adjusted.

Adjust brake pads according to the width of your rims:

You can configure the brake pad spacers with 1mm (17h), or 2mm (17i) depending of the rim width you are using.

Spacers required according to the rim width

Rim width	Spacer combinaison
19mm (e.g.: Shimano C50)	2mm spacer
24mm + (e.g.: 808 clincher/Enve)	1mm spacer (thin pad may be required)



Install the brakes as shown in the diagram.

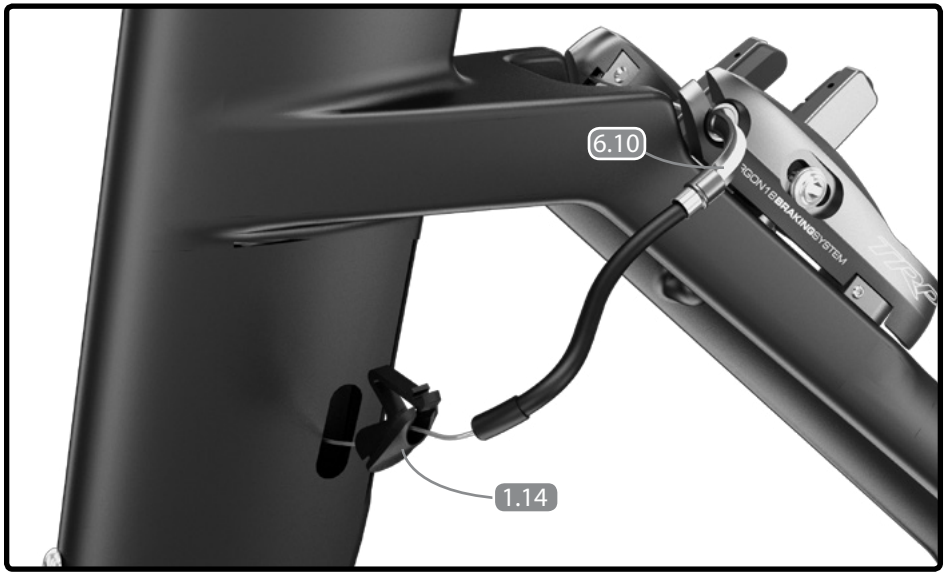
1. Take the cable stopper out of the seat tube.

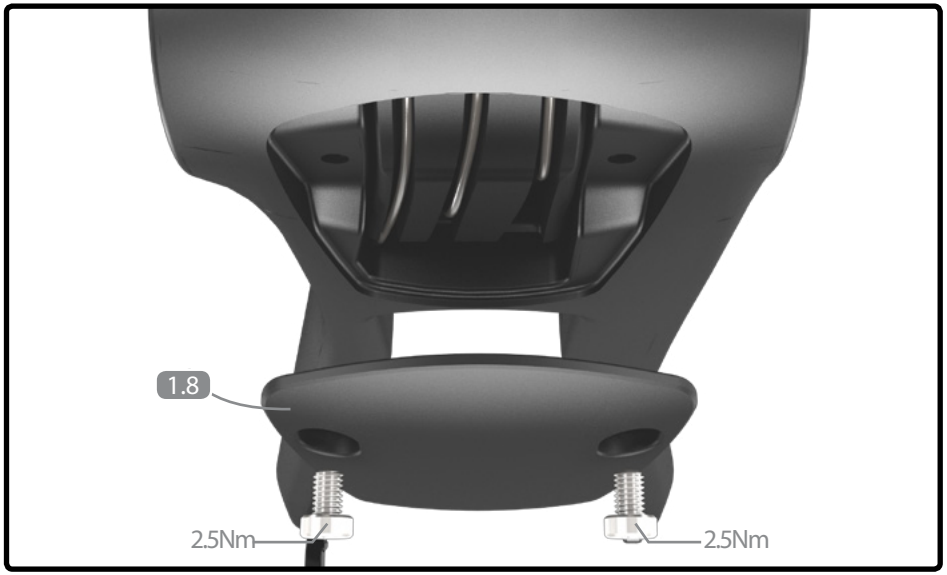
2. From the bottom bracket guide, route the cable up and out of the outlet.

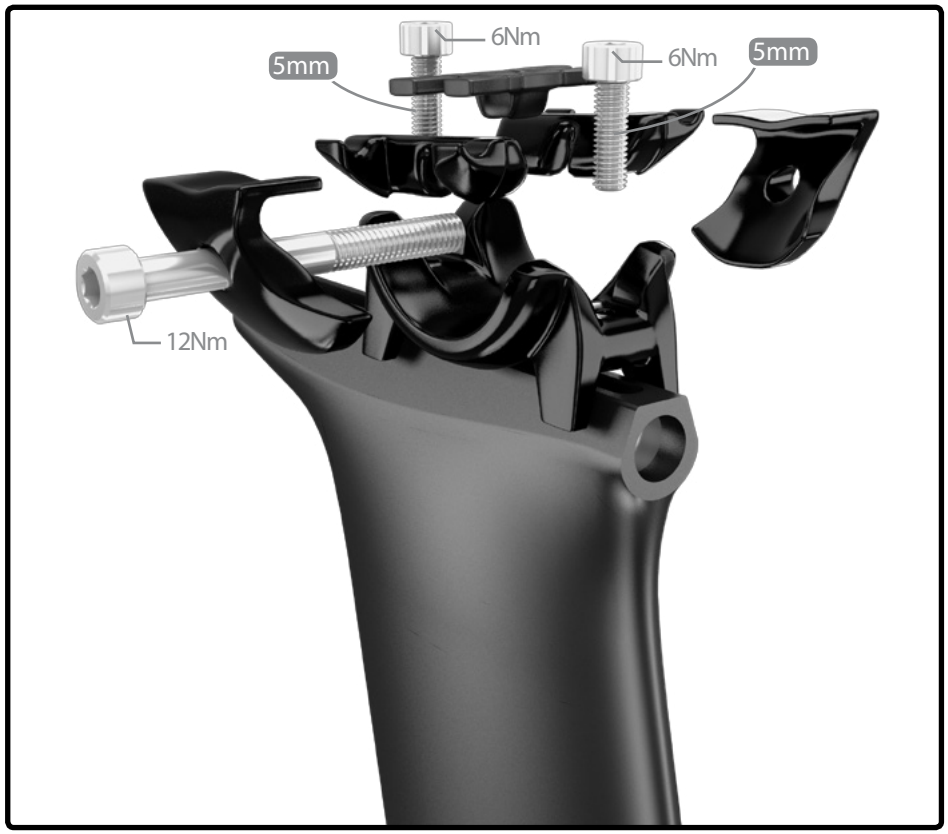
3. Put the cable stopper back on and insert housing (suggested length 130mm for medium-sized frame) with a metal cap. Slide it in the cable guide (6.10).

4. Slide the break cable in the brake's retainer nut and fix it to the caliper at 6Nm.

5. Install plastic cap (1.8) over the bottom bracket, tighten the 2 screws at 2.5Nm.







For horiziontal adjustement:

1. Loosen 5mm bolts.
2. Unscrew main bolt.
3. Install saddle rails into the rocker in the middle position.
4. Find desired setback.
5. Tighten the 5mm bolt up at 6Nm.
6. Adjust seat horizontally.
7. Tighten the 6mm bolt up at 12Nm.

If you are unable to find the desired setback, push the saddle up to the distance recommended by the manufacturer.

Tools needed

- Allen Key Set .....

- Torque Wrench + Hex Bit.....

(C)

M3 Counter sunk screw
Installed on frame

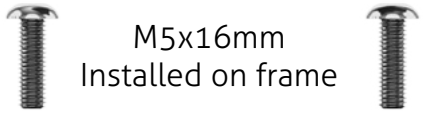
(B)

SKU#: 80432 (E-119 Tri+)
- Top Tube Box
- Tall Stem Cap*
- Bolts

***Only available with the E-119 Tri+**

Note: If you wish to purchase one or many of these components, you can do so by ordering them as spare parts.

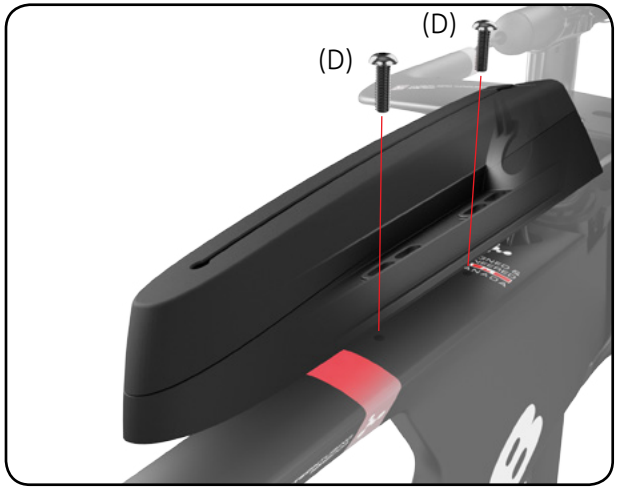
(D)



M5x16mm
Installed on frame

(A)

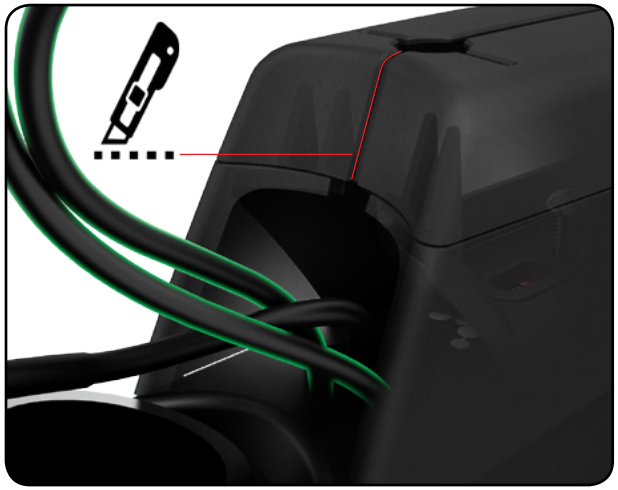
SKU#: 80025 (E-117 Tri+ & E-119 Tri+)
Assembled Top Tube Box



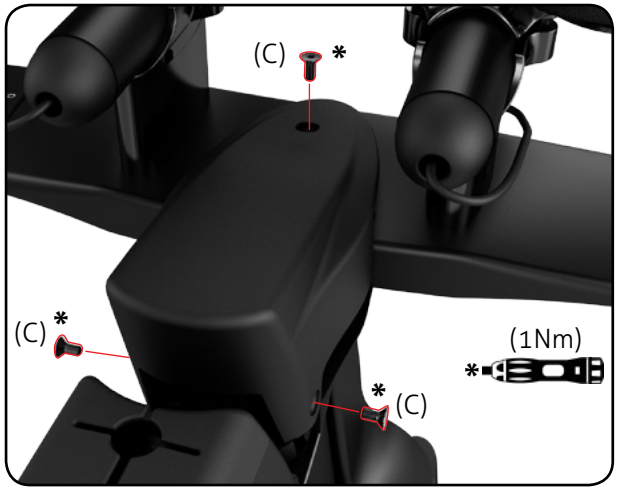
1. Attach Top Tube Box (TTB) to frame using fastening screws (D). Do not tighten.

2. Ensure Di2 cables are routed the same way as brake cables. (See Assembly Guide, p.20)

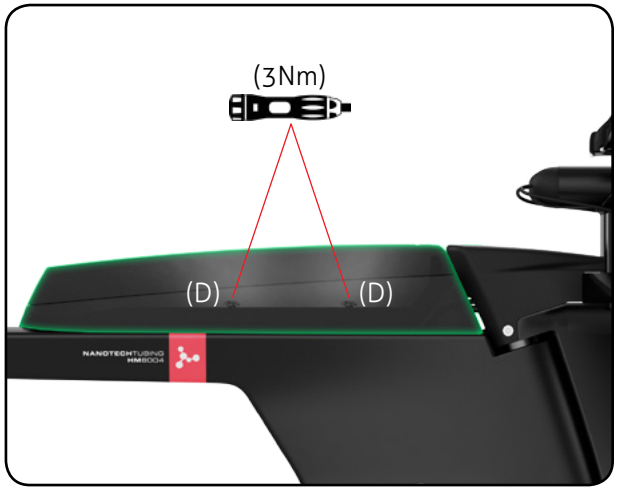
3. Ensure mechanical drivetrain cables are routed through the TTB's top and into the frame.



4. If cables are already installed, make a small incision (indicated above) to insert cables into the TTB and avoid rerouting bike's cables.



5. Once cables are routed, install stem cap (B) using the screws (C). Tighten screws to 1Nm.



6. Line up TTB with stem cap to desired fit and tighten fastening screws (D) to 3Nm.

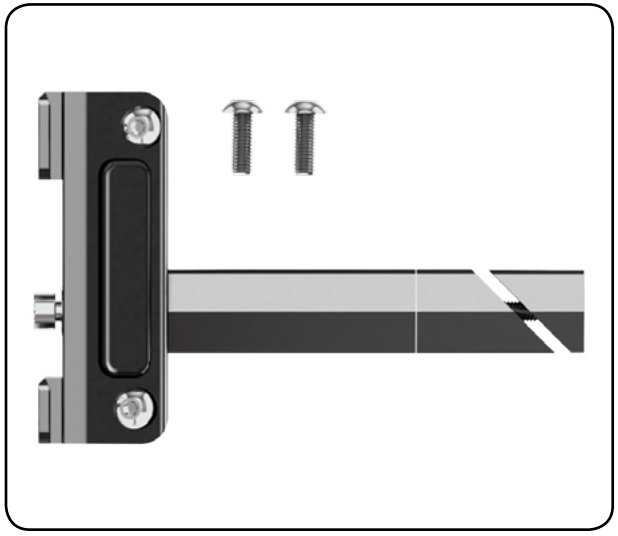

CARBON SEATPOST

SKU #: SP.E-117T+.234A
Complete Tailwind Assembly

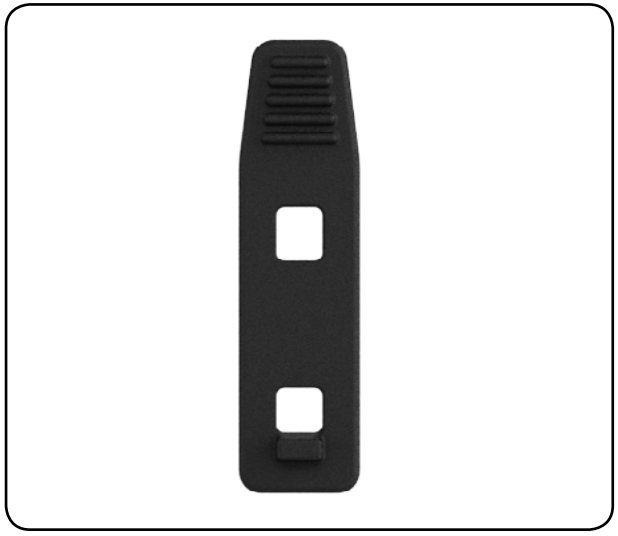
SKU #: 80428
Tailwind Specific Seat Post

SKU #: 80402
Tailwind Box

SKU #: 80009
Bottle Cages



SKU #: 80401
Tailwind Hub & Slide



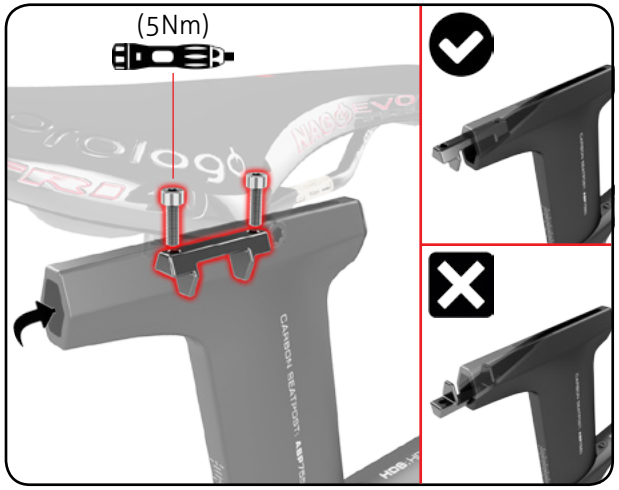
SKU #: 80429
Replacement Tailwind Box closing strap

Tools needed

- Allen Key Set .....

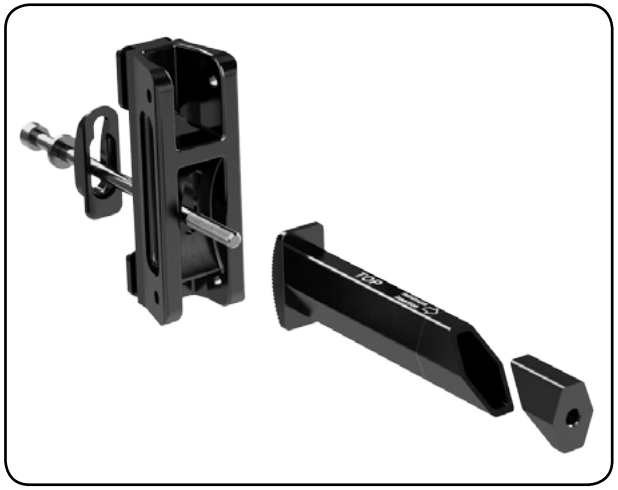
- Torque Wrench + Hex Bit.....

Note: If you wish to purchase one or many of these components, you can do so by ordering them as spare parts.



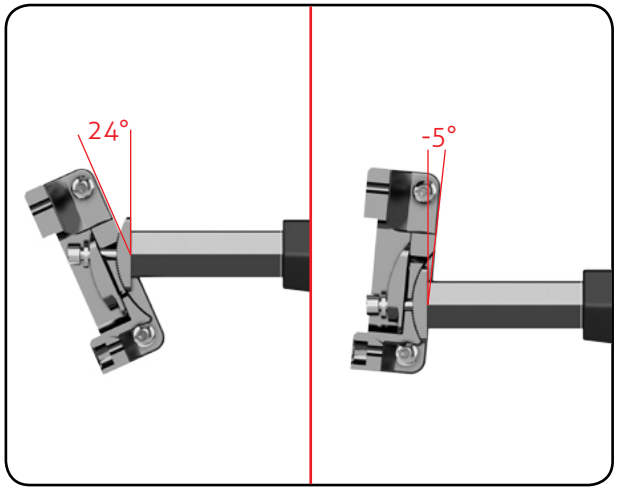
1. Saddle clamp
Slide carrier into seat post as desired saddle position. Tighten saddle into carrier with M5 bolts (provided with Ritchey's saddle clamp) at 5 Nm. **Note correct carrier orientation.**

2. Tailwind (TW) slide post
Ensure slide post's top is facing up (see above). Ensure slide post does not extend further than minimum insertion mark.

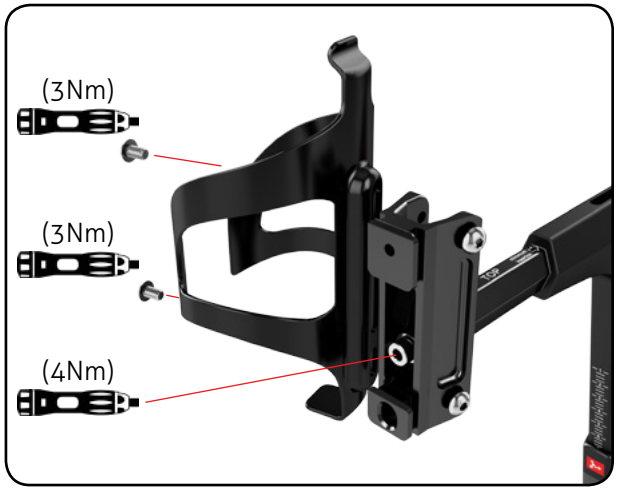


2.1. TW slide post
With TW box removed from hub, slightly tighten M5x110mm screw. Ensure all components are sandwiched as shown above.

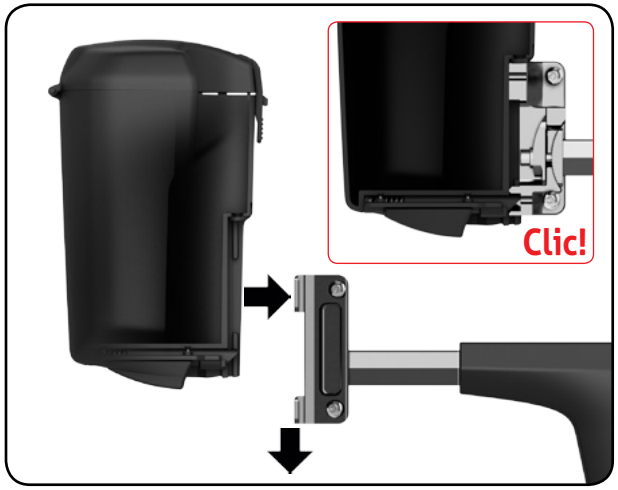
2.2. TW orientation



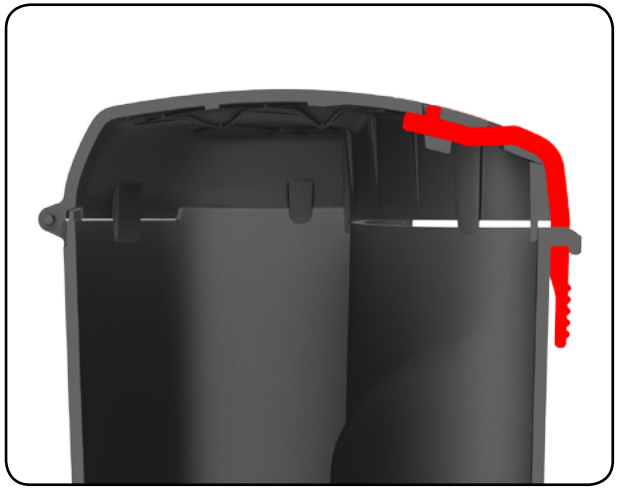
2.3. TW slide post
Range of adjustment: 24°/-5°



2.4. TW slide post
Without the M5 bolt being torqued, position TW as wanted. Torque bolt to 4Nm.



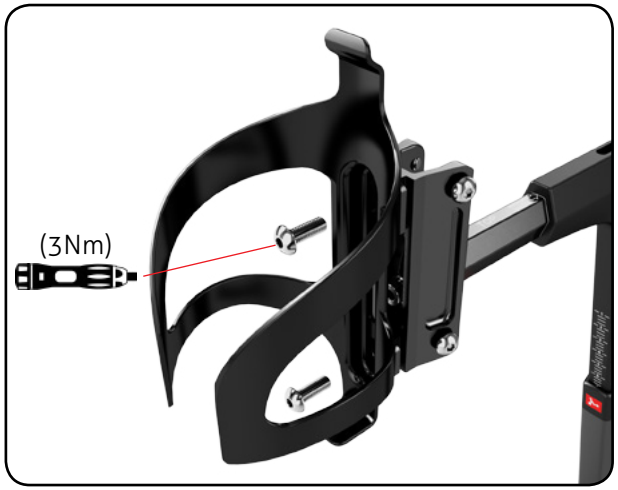
3.1 TW Box
Box to hub insertion.



3.2. TW box
Closing box's lid
To replace the closing strap, simply thread new one as shown above.

3.3. TW box
Box capacity: 1.5L (1500 cm^3)
Content examples:
A. Repair kit: tubular tire, CO^2 cartridge, "Pitstop" tire repair bottle.
B. Other: food, cell, light jacket, etc.
Pad box's content with rag or foam to avoid rattle if necessary.

4.1. Hub
Possible configurations.



4.2. Hub
To mount rear bottle cage onto hub, use 2xBHCS M5x14 screws provided.
All bottle cage's screw torque requirement: 3Nm.

1. Wheel/brake compatibility:
If the brake pads do not clear the rim, remove the spacers (1mm or 2mm).
see p.22-23

2: Front brake arm touching the downtube:
Inadequate spacing behind brake pads causing a wide angle. Changing the spacers behind the brake pads will straighten the brake arms.
see p.22-23

3: 3D pressfit headset rubing:
Because some parts have a tight tolerance it might be necessary to put a slight amount of grease under the top cap.

4. Saddle rails:
If your saddle rails are not round and made of aluminum, please refer to Ritchey's part numbers. These parts are not sold by Argon 18 but available on Ritchey's website (ritcheylogic.com).

If lack of brake power on the E-119, E-117 Tri and Tri+, Nitrogen and Nitrogen Pro, this might be caused by the failure to have likely used KEB housing. ALWAYS use brake pad compound compatible with wheel model suggested by the wheel manufacturer.

Compatibilities of standard tires with our bikes: 700x 25C – Any tire/rim combination compatible.

Please contact custumer service for any further inquiries.

No.	Name	A18 SKU#	Qty
#	**Frameset Parts**		
1.1	E-117 MY2016 Frame		1
2.1	E-117 MY2016 Fork	FK.E117T+.234A	1
3.1	ASP-7050 Aero Seatpost Assembly	SP.E117T+.234A	1
#	**Parts Installed on the Frame**		
1.2	Rear Derailleur Hanger	38883	1
1.3	Front Derailleur Hanger	38882	1
1.4.1	Seat collar base with screw M8x12mm	80373, 80423	1
1.4.2	Seat collar wedge with screw M3x8mmB	80372, 80422	1
1.7	Bottom Bracket Cable Guide	80158, 80492	1
1.8	Bottom Bracket Cover	80159	1
1.9	Bottom Bracket Cover Screws M4x6mm	*Included with 80159*	2
1.11	Front Derailleur Hanger / Bottle Cage Screws M5x16mm	*Included with 38882*	7
1.12	Rear Derailleur Hanger Screw M3x8mm	*Included with 38883*	2
1.13	Front Derailleur Hanger Screw M5x16mm	*Included with 38882*	1
1.14	Plastic Cable Stopper	38879	1
1.15	Front Derailleur Cable Grommet	80164	1

No.	Name	A18 SKU#	Qty
#	**Mechanical / Di2 Configuration Parts**		
1.5	Top Tube Grommet for Mechanical Drivetrain	36656	1
1.6	Top Tube Grommet for Electronic Drivetrain	36670	1
1.10	Rear Derailleur Cable Stopper for Mechanical Drivetrain	80160	1
1.17	Rear Derailleur Grommet for Electronic Drivetrain	80165	1
3.2	Di2 battery holder	80167	2
#	**Also Included with Frameset**		
4	Headset 3D Headtube No37E	80096	1
5	Tektro Rear Brake Assembly TKB138-1	80016	1
5.1	Brake bolt (TKB 137/138/138-1)	8016	1
5.10	Brake noodle for TKB 137/138-1	80424	1
6	Tektro Front Brake Assembly TKB137	38719	1
7	Jagwire housing kit	39014	1
8	Tektro Brake Levers TL-720	36580	2
9	Plastic Cable Stopper	38879	1
9.1	Assembled Top Tube Box	80025	1
10.1	Complete Tailwind Assembly	SP.E-117T+.234A	1
10.2	Tailwind Specific Seat Post	80428	1
10.3	Tailwind Box	80402	1
10.4	Tailwind Hub & Slide Post	80401	1
10.5	Replacement Tailwind Box closing strap	80429	1
10.6	Bottle cage	80009	2*
	Note: Argon 18 triathlon accessories (nutrition, hydration, and survivability) are compatible with the E-117 Tri+.		

*Bottle cage sold by the unit as a spare part