

MADONE SL/SLR GEN 8

SERVICE MANUAL

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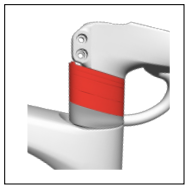
Headset

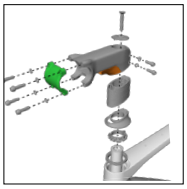

RCS Race

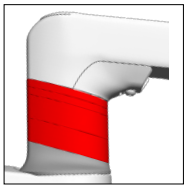

RCS Pro

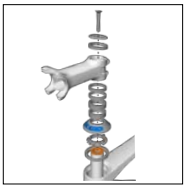

RCS Universal

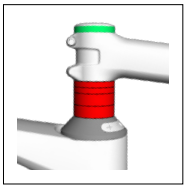

RCS Race headset

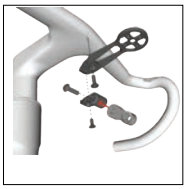

RCS Race spacers

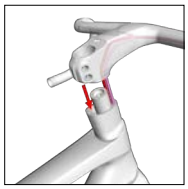

RCS Pro headset

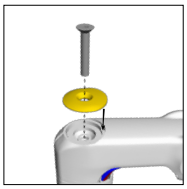

RCS Pro spacers

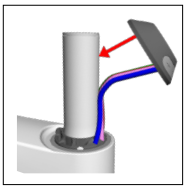

RCS Universal headset


RCS Universal spacers

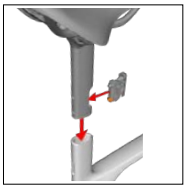

Blendr base

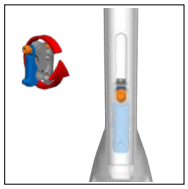

Install the RCS Race

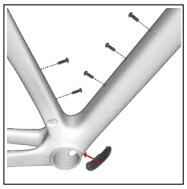

Install the RCS Pro

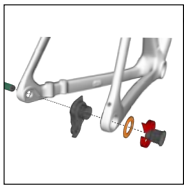

Install the RCS Universal

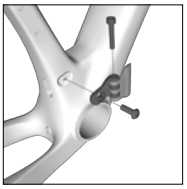
Frame

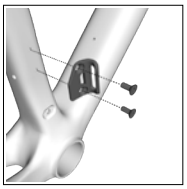

Seatpost

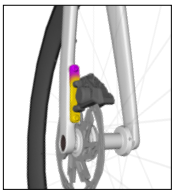

Adjust the seatpost height

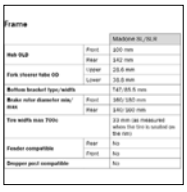

Frame parts


Universal derailleur hanger (UDH) and axles


Chainkeeper


Front derailleur hanger


Brake mount adapters


Specifications

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About this manual

Scope

This manual contains parts diagrams, specifications (such as grease and torque values), instructions, part numbers, and helpful tips. It does not contain instructions for all components (such as brake calipers). Refer to the original manufacturer for more information.

Replacement parts

Trek recommends using only Trek OEM (original manufacturer) replacement parts.

Additional info

The Owner's Manual is available at Trekbikes.com/manuals.

Inspect the bike

Please inspect the bicycle carefully after removal from the box and all packaging:

- Inspect all surfaces of the bicycle for damage, pay special attention to the fork legs and the seat stays (both inside and outside surfaces).
- If packaging damage is located near the front of the bicycle, remove the fork from the frame and inspect the steerer tube for damage.

Working on the Madone

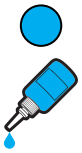
Trek recommends using a sprint stand instead of a standard repair stand when working on the Madone.



Legend

Cable (zip) tie

Nm Torque value



Apply appropriate threadlocker



Apply Bontrager grease

Safety

WARNING

Properly tighten hardware

Always tighten hardware to the specified torque. Over-tightening hardware could deform or break the hardware or components. Under-tightening or over-tightening hardware could cause hardware or components to become loose. Either situation could damage the bicycle and result in injury to the rider.

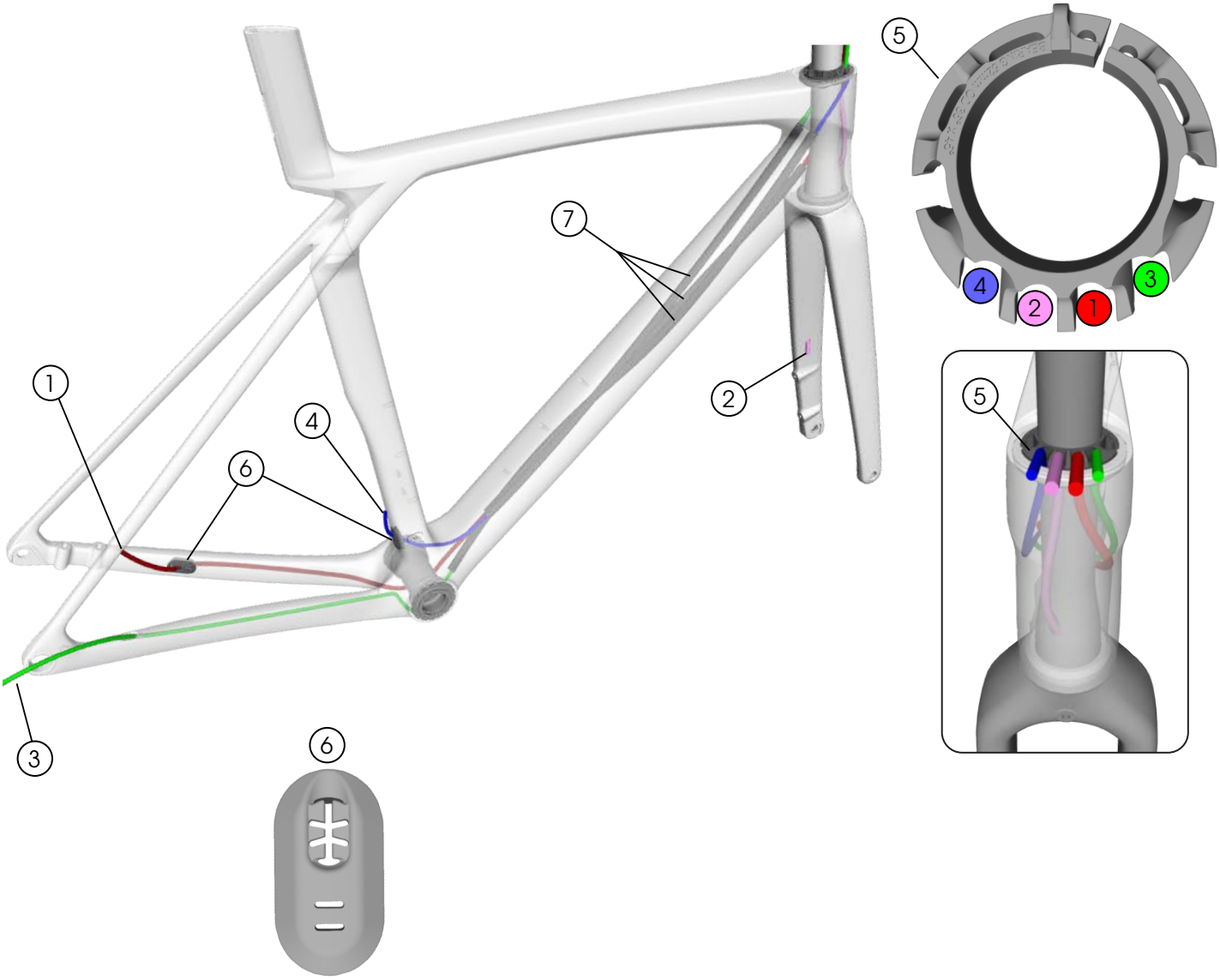
WARNING

Reapply threadlocker

All reused fasteners with pre-applied threadlocker must be cleaned with isopropyl alcohol and have new threadlocker applied before re-assembly. If threadlocker is not applied, the fasteners may loosen which could damage the bicycle and result in injury to the rider.

Routing — mechanical

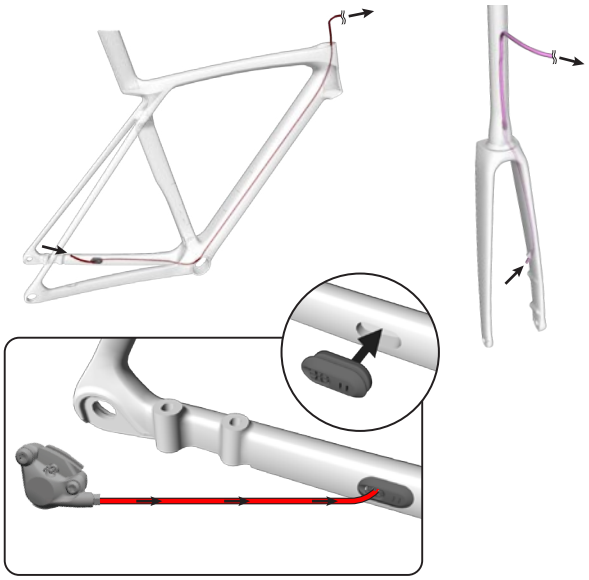
NOTE: The Madone SLR is only compatible with electronic shifting.



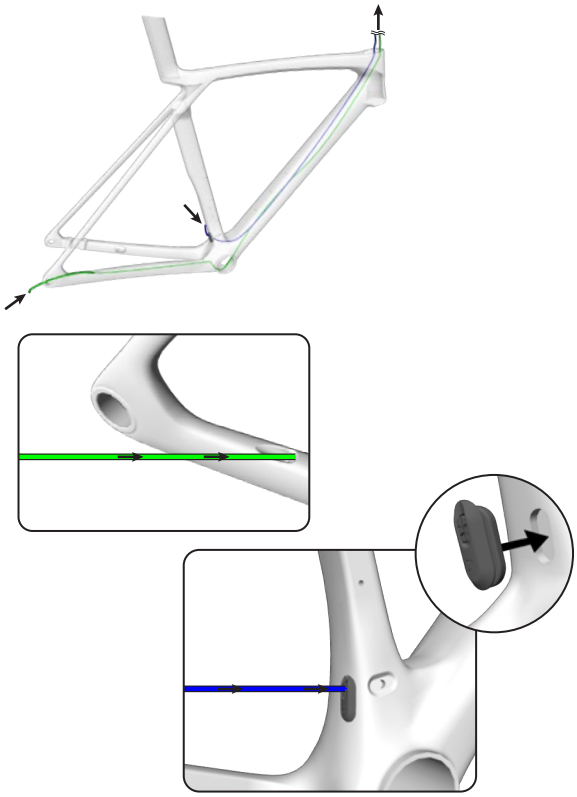
1. Rear brake hose
2. Front brake hose
3. Rear derailleur cable
4. Front derailleur cable
5. Split ring — *W5315339*
6. Housing grommets — *W330578*
7. Housing sleeves — *W528082*

Routing — mechanical: instructions

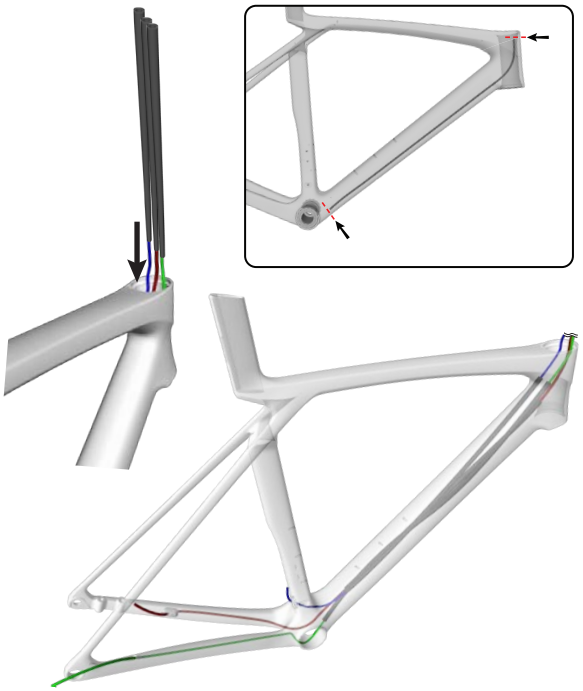
1. Route the rear brake hose through the frame. Route the front brake hose through the fork.



2. Route the cable housings through the frame.

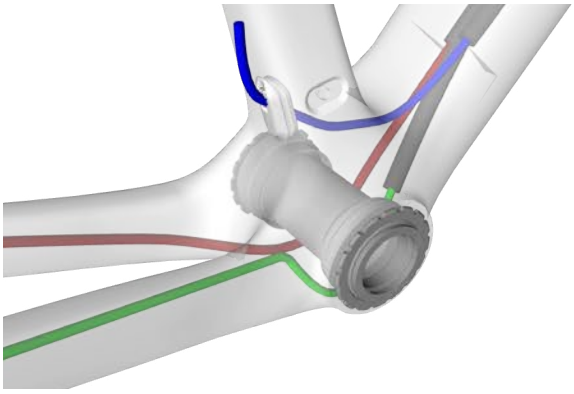


3. Route the housing sleeves over the housings in the frame until they are inside the head tube.



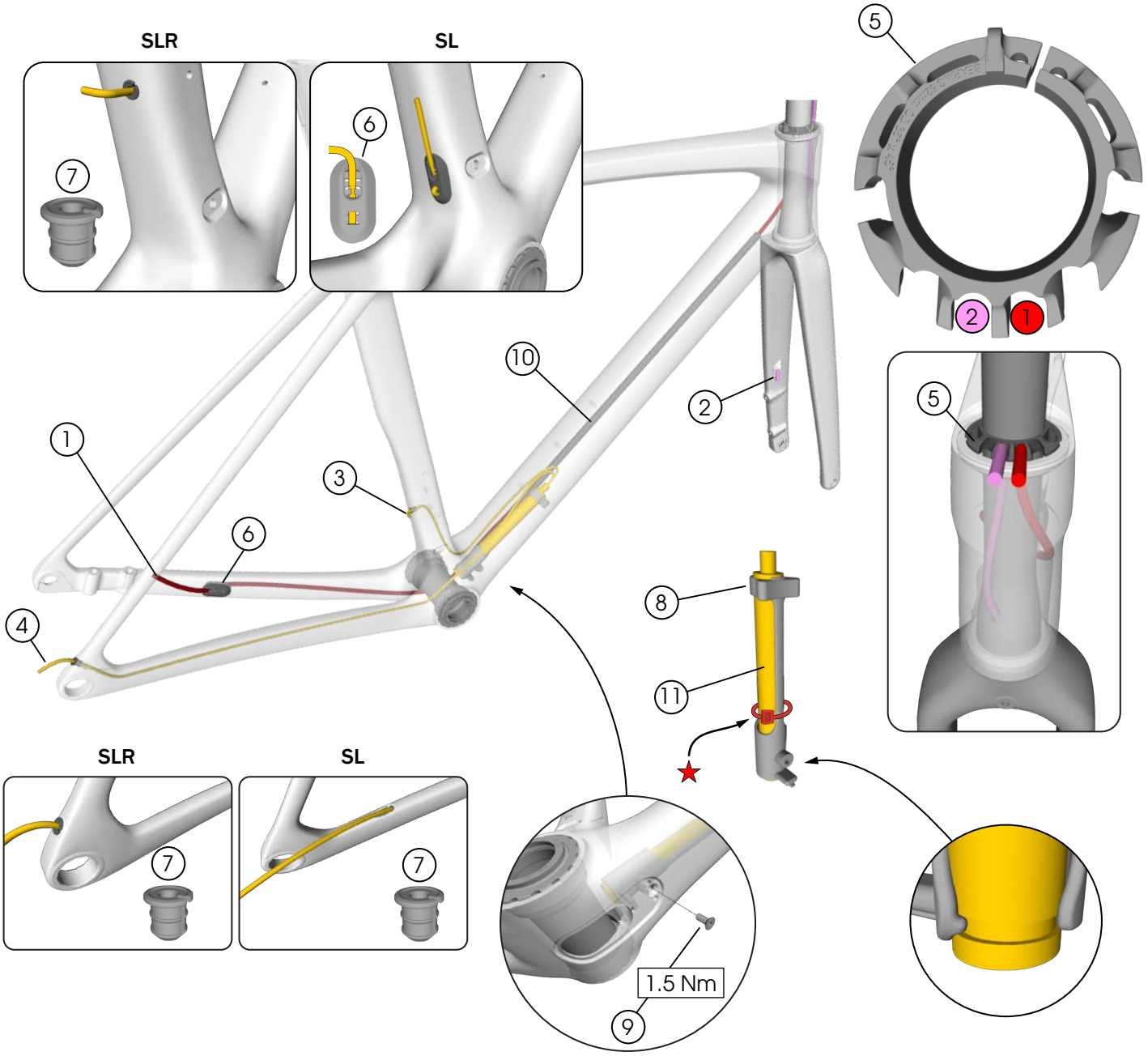
4. Install the bottom bracket above the rear cable housing and rear brake hose.

   NOTE: This frame was designed to route the housings below the bottom bracket. When servicing, you can remove the bottom bracket and route the housings above the bottom bracket to get more slack at the handlebar.



5. Install the headset and stem following one of the procedures below:
   - RCS Pro headset
   - RCS Universal headset

Routing — Di2



1. Rear brake hose
2. Front brake hose
3. Front derailleur Di2 wire (500 mm)
4. Rear derailleur Di2 wire (750 mm)

*EW-SD300-I

5. Split ring — *W5315339*
6. Housing grommets — *W330578*
7. Di2 wire grommets — *W600208*
8. Battery holder
9. Fastener (M4 x 10 mm)

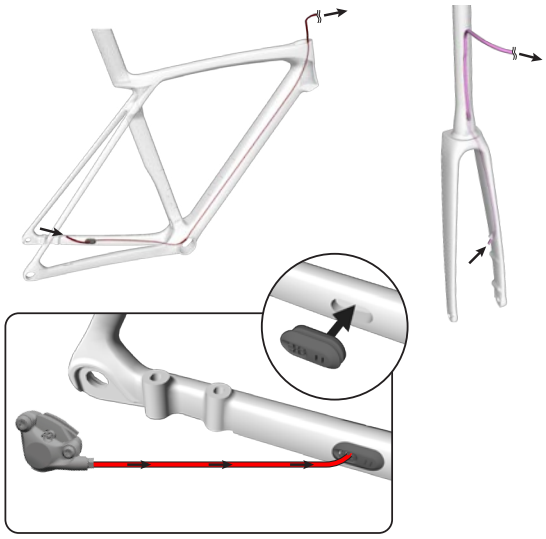
5320583

10. Housing sleeve — *W528082*
11. Battery — **BTDN300*

**Shimano part number*

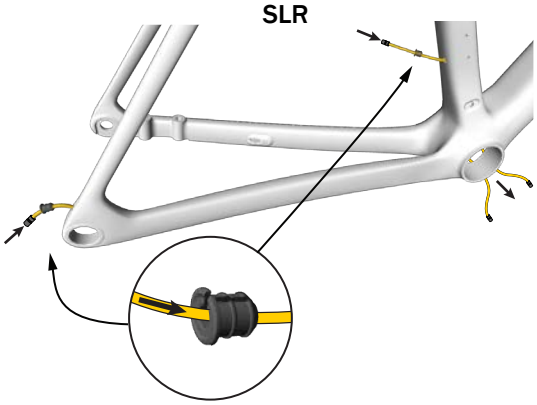
Routing — Di2: instructions

1. Route the rear brake hose through the frame. Route the front brake hose through the fork.

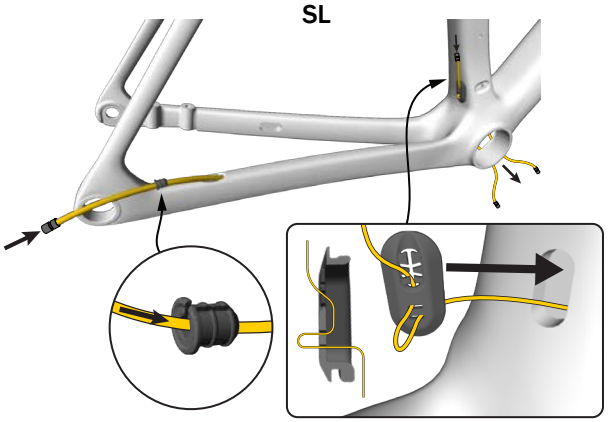


2. Route the Di2 wires through the frame to opening under the bottom bracket shell.

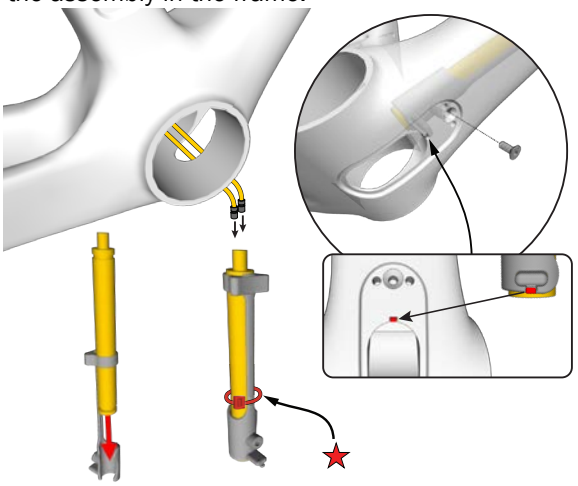
SLR



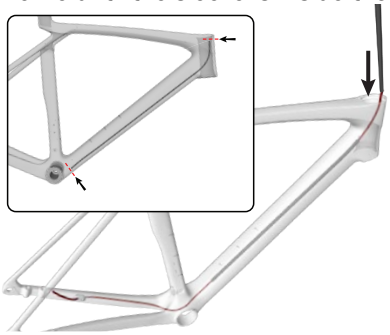
SL



3. Connect the Di2 wires to the Di2 battery and install the assembly in the frame.

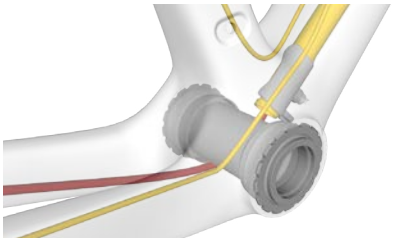


4. Route the housing sleeve over the rear brake housing in the frame until the sleeve is inside the head tube.



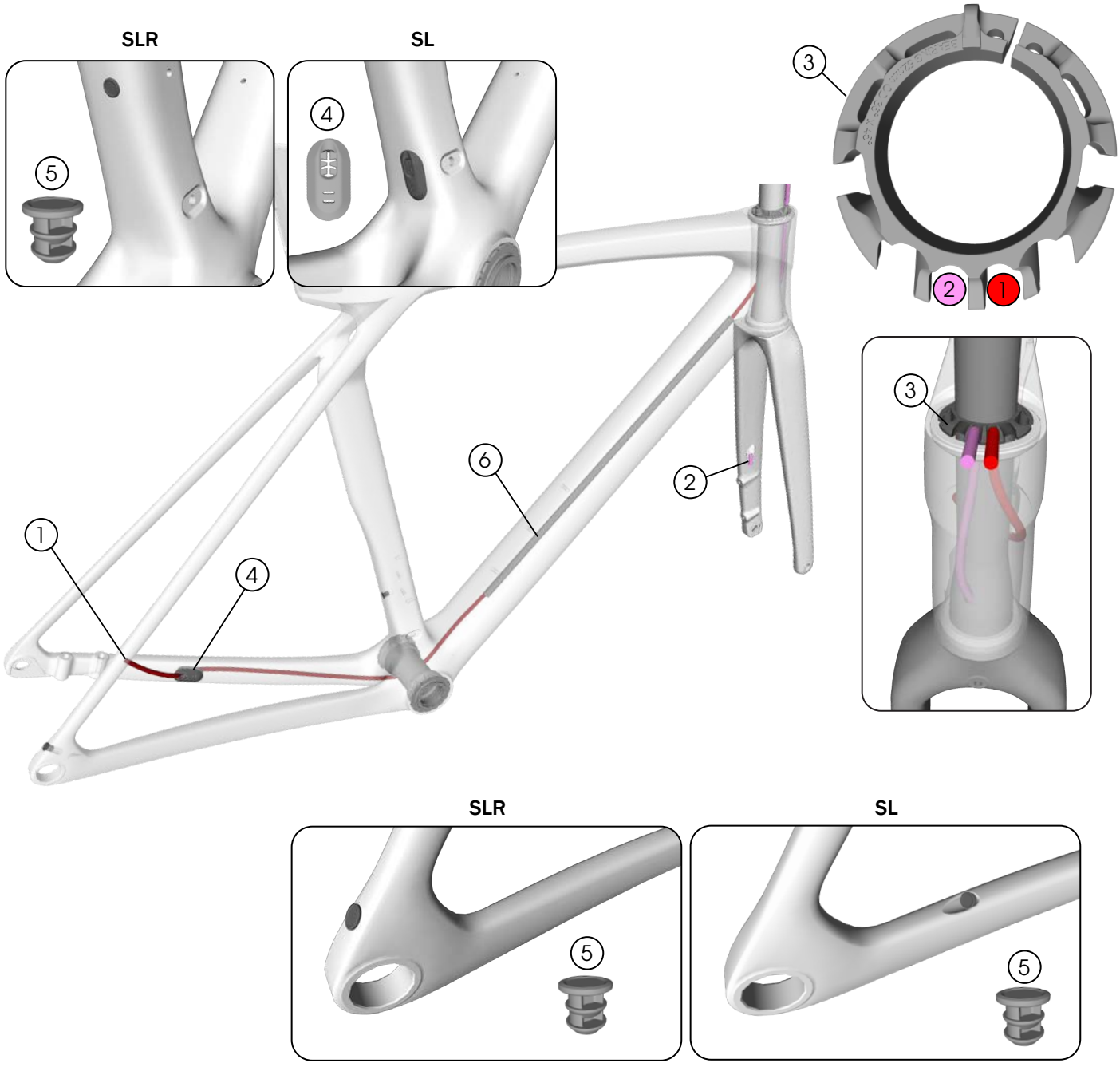
5. Install the bottom bracket above the rear brake hose and below the Di2 wires.

   NOTE: This frame was designed to route the housings below the bottom bracket. When servicing, you can remove the bottom bracket and route the housings above the bottom bracket to get more slack at the handlebar.



6. Install the headset following one of the procedures below:
   - RCS Race headset
   - RCS Pro headset
   - RCS Universal headset

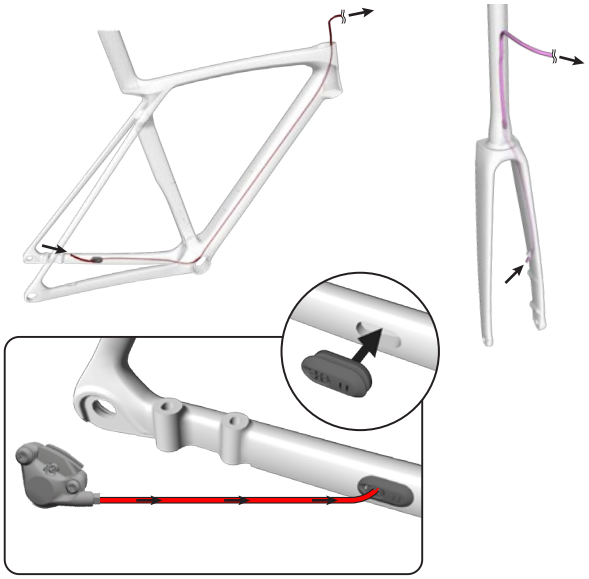
Routing — AXS



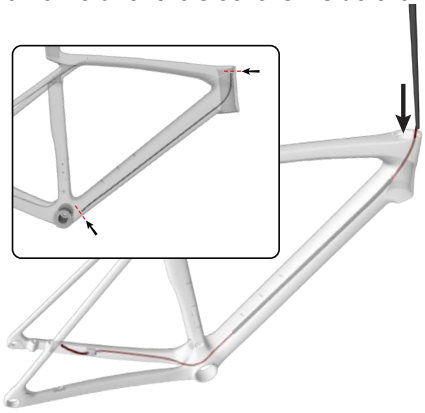
1. Rear brake hose
2. Front brake hose
3. Split ring — *W5315339*
4. Housing grommets — *W330578*
5. Hole plug — *W600209*
6. Housing sleeve — *W528082*

Routing — AXS: instructions

1. Route the rear brake hose through the frame. Route the front brake hose through the fork.



2. Route the housing sleeve over the rear brake housing in the frame until the sleeve is inside the head tube.



3. Install the bottom bracket above the rear brake hose.

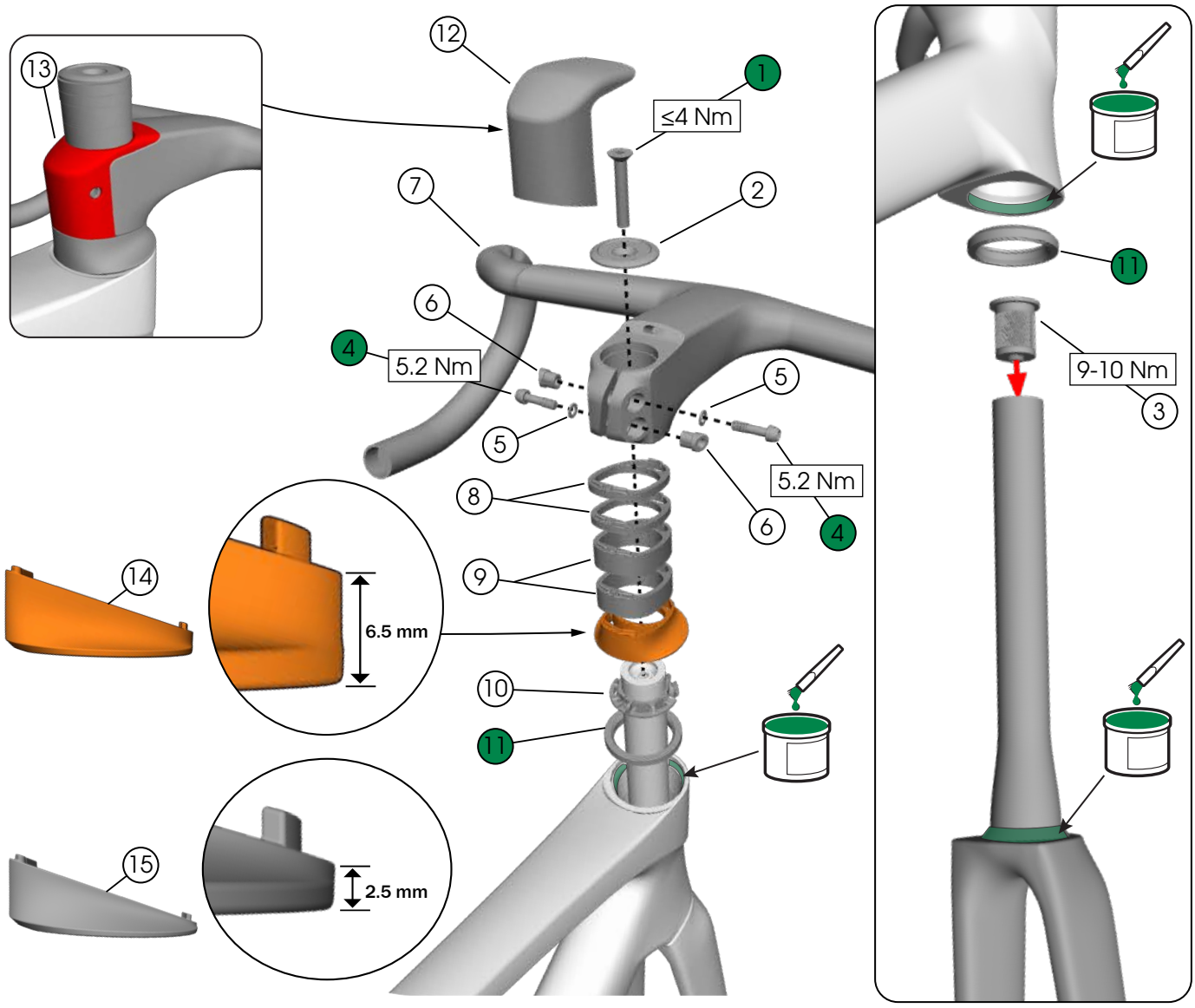
   NOTE: This frame was designed to route the housings below the bottom bracket. When servicing, you can remove the bottom bracket and route the housings above the bottom bracket to get more slack at the handlebar.



4. Install the headset following one of the procedures below:
   - RCS Race headset
   - RCS Pro headset
   - RCS Universal headset

RCS Race headset

NOTE: The RCS Race headset is only compatible with electronic shifting.



- 1 Fastener (M6 x 35 mm)
- 2 Top cap
- 3 Expander plug

— *W547432*

- 4 Fasteners (M5 x 18.5 mm)
- 5 Washers (M5)
- 6 D-nuts (M5)

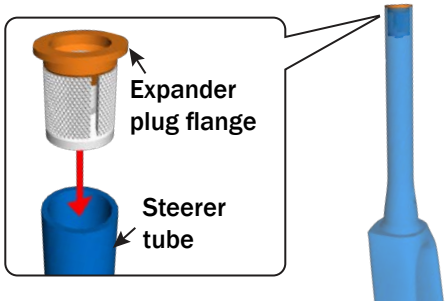
— *5276082*

- 7 Aero RSL barstem (42 mm x 120 mm, -7°) — **W5316693*
- 8 Spacers (5 mm) — *W5316079*
- 9 Spacers (15 mm) — *W5316080*
- 10 Split ring — *W5315339*
- 11 Headset bearings — *W5322818*
- 12 Barstem cover — *W5316077*
- 13 Exposed barstem cover — *W5316078*
- 14 Bearing top cover — *W5316081*
- 15 Bearing top cover, low — *5325626*

**see Trekbikes.com for full product list*

RCS Race spacers

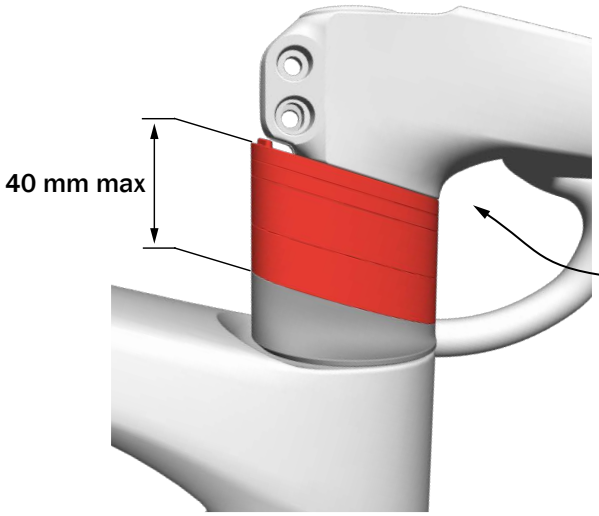
NOTE: If you remove spacers below the stem, you must add the same height of spacers above the stem or cut the steerer tube.



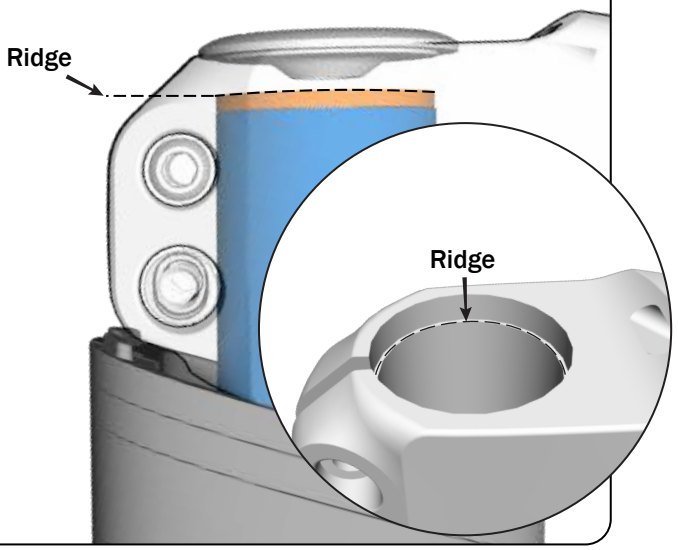
WARNING

Do not exceed 40 mm of headset spacers above or below the stem. If there are more than 40 mm of spacers, the steerer tube could become damaged and break, causing a crash resulting in injury.

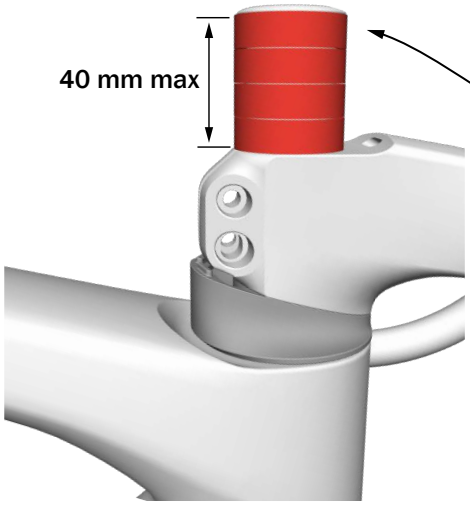
Below stem



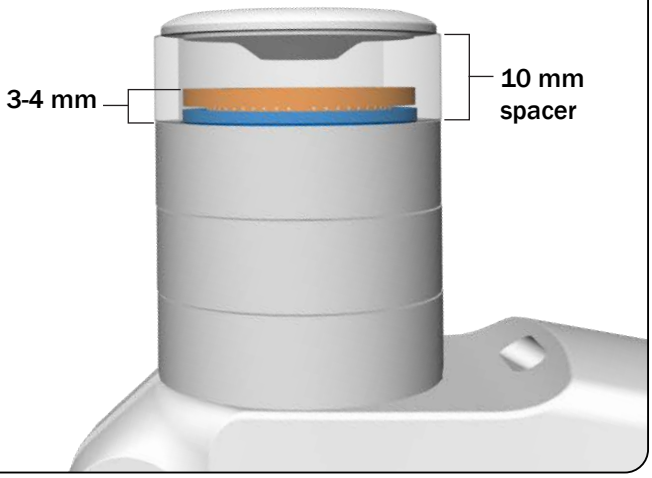
The expander plug flange must sit flush or slightly above (0-2 mm) the ridge inside the barstem.



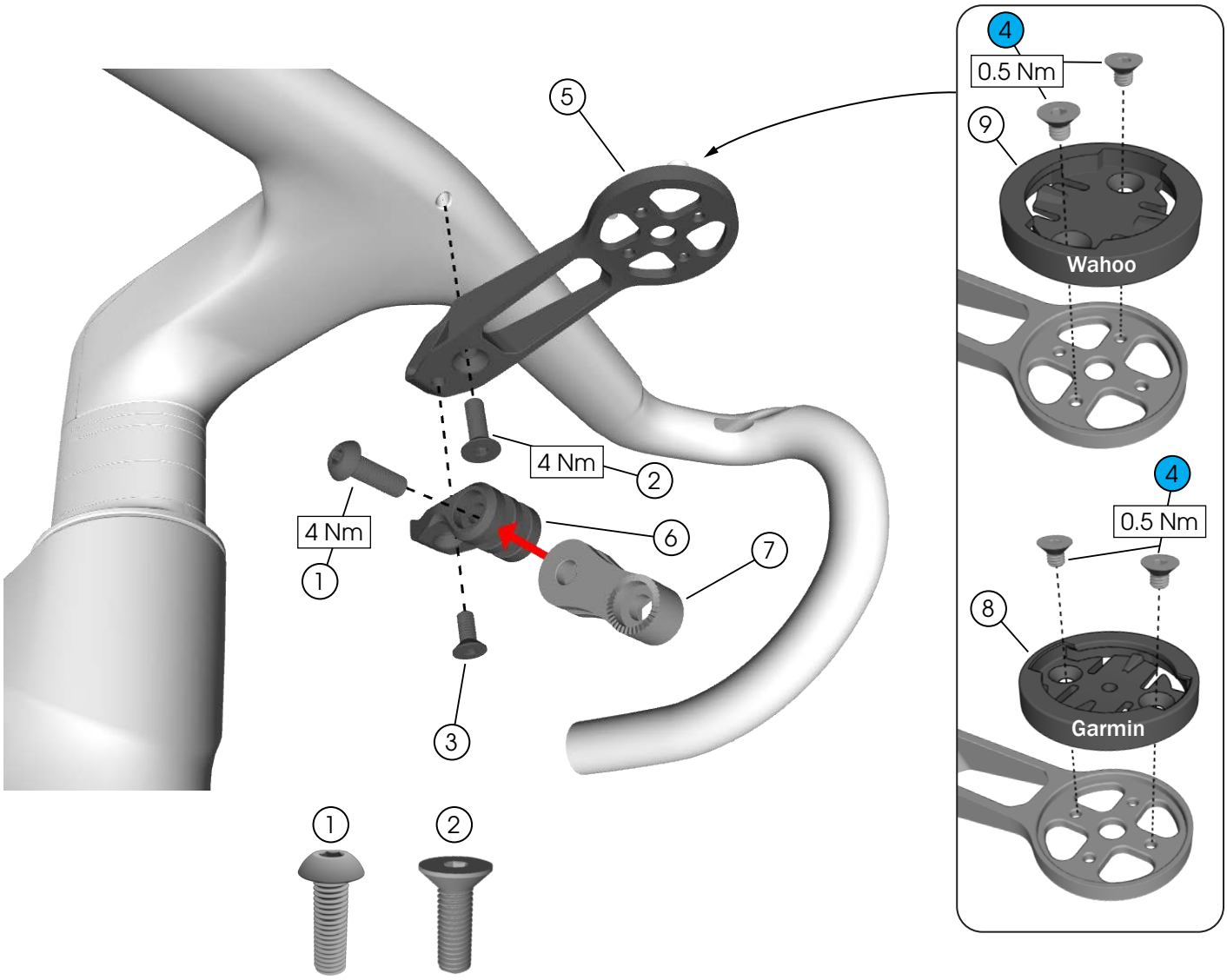
Above stem



If there are any spacers above the stem, the expander nut flange must extend 3-4 mm into the top spacer.



Blendr base



1. Fastener (M5 x 16 mm)
2. Fastener (M5 x 16 mm)
3. Fastener (M4 x 10 mm)
4. Fasteners (M3 x 2 mm)
5. Base
6. Knuckle

5325346

7. Reflector mount
8. Garmin mount — *5266373*
9. Wahoo mount — *5266374*

Install the RCS Race

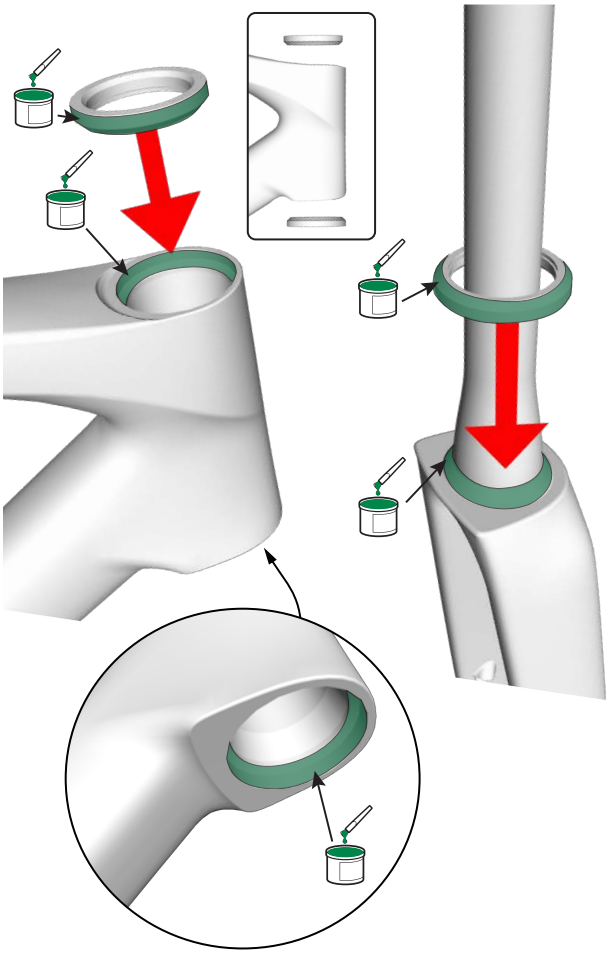
Before you begin:

- Install derailleur(s) and brake calipers.
- Route all housings through the frame/fork and connect them to the derailleurs/calipers.
- Make sure the steerer tube is the correct length for the stack/spacer height (see RCS Race spacers).

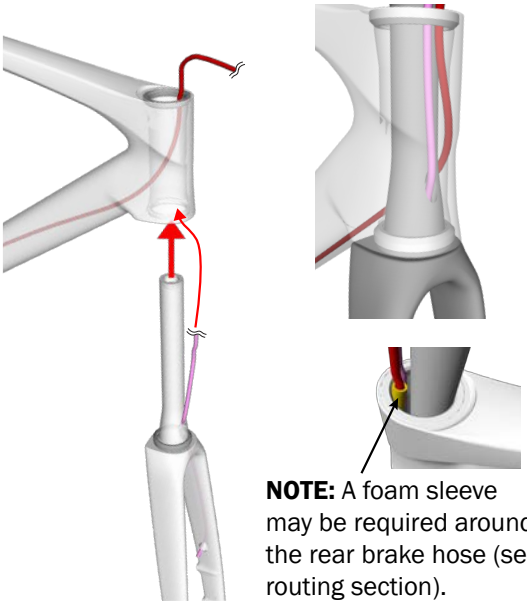
1. Install the expander plug into the fork.



2. Grease the bearings and all mating surfaces.

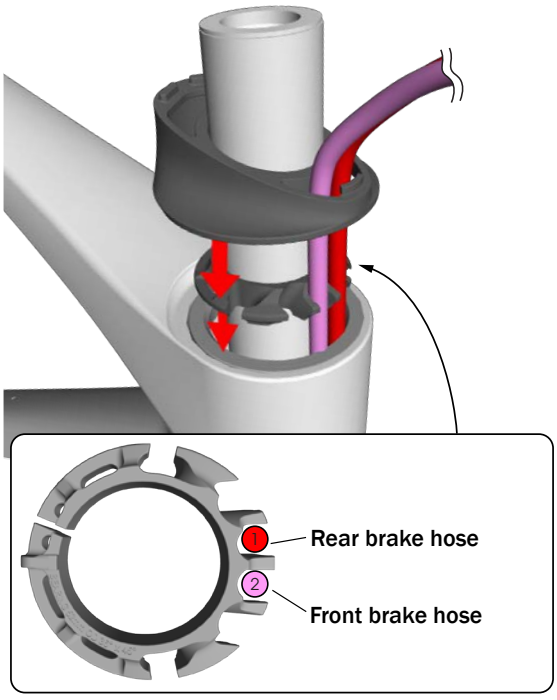


3. Insert the fork and front brake hose into the head tube.



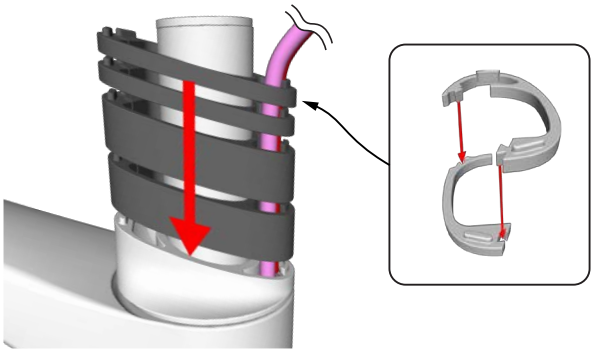
NOTE: A foam sleeve may be required around the rear brake hose (see routing section).

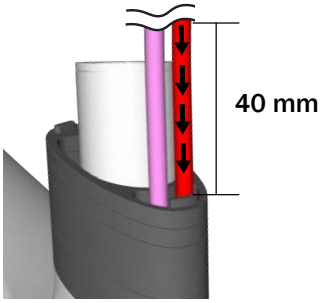
4. Slide the split ring and bearing top cover down the steerer tube.



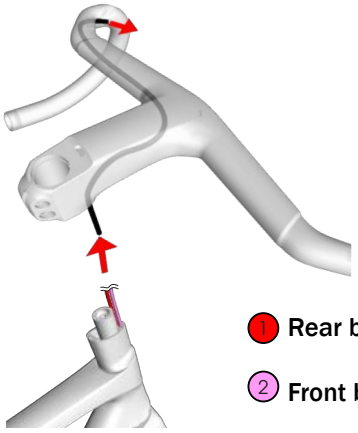
Install the RCS Race (continued)

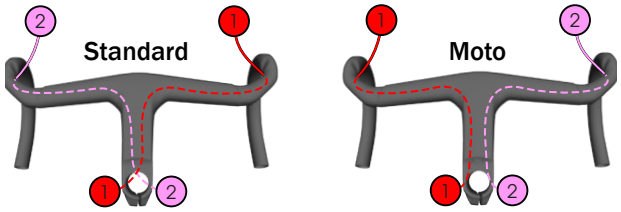
5. Slide the spacers down the steerer tube. Then feed about 40 mm of the rear brake hose into the frame so the handlebar can turn freely.



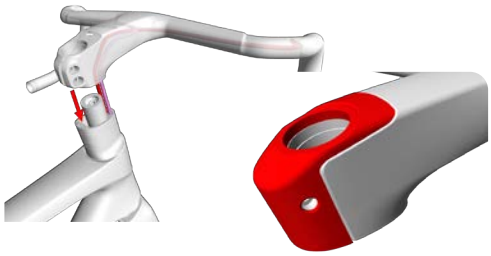


6. Route the brake hoses through the barstem using the pre-routed housing guides or an internal cable routing tool (such as Park Tool IR-1.3).



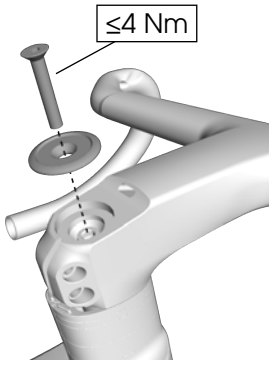


7. Slide the barstem down the steerer tube.



Attach the exposed cover to the barstem if you plan to use it.

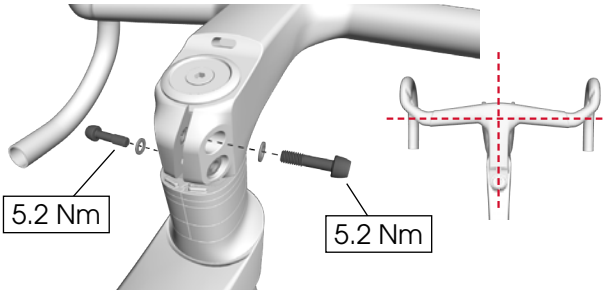
8. Install the top cap and top cap fastener.



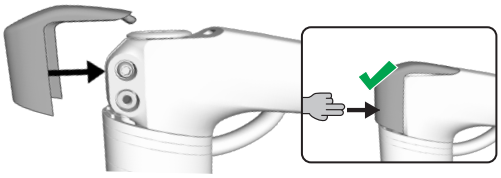


You may have spacers above the stem.

9. Tighten both stem fasteners — switching between them — until they are fully torqued.

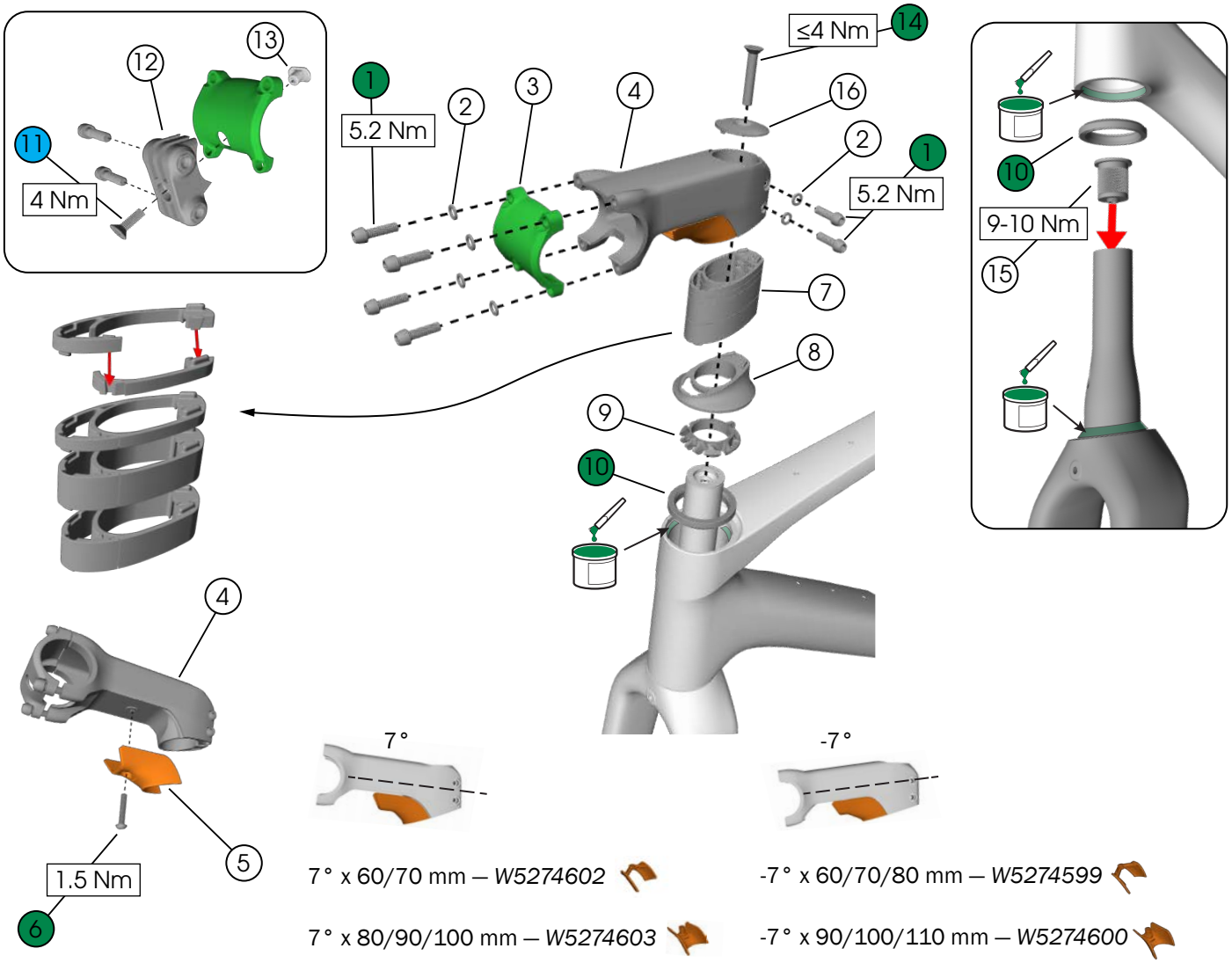


10. Install the barstem cover.





RCS Pro headset



7° x 60/70 mm — *W5274602*

7° x 80/90/100 mm — *W5274603*

-7° x 60/70/80 mm — *W5274599*

-7° x 90/100/110 mm — *W5274600*

-7° x 120/130/140 mm — *W5274601*

1. Fasteners (M5 x 15 mm)
2. Washers (M5)
3. Faceplate
4. RCS Race stem (-7° x 100 mm)
5. Routing cover
6. Fastener (M4 x 25 mm)

**5274584*

7. Spacers
   - 5 mm — *5296906*
   - 15 mm — *5296905*
8. Bearing top cover — *W5317347*
9. Split ring — *W5315339*
10. Bearings — *W5322818*
11. Fastener (M5 x 12 mm)
12. Duo Blendr base
13. Nut

W5274964

14. Fastener (M6 x 35 mm)
15. Expander plug

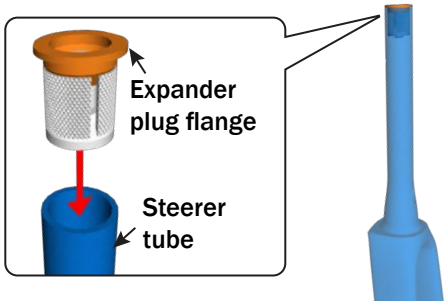
W547432

16. RCS Pro top cap — *W5274966*

**see Trekbikes.com for full product list*

RCS Pro spacers

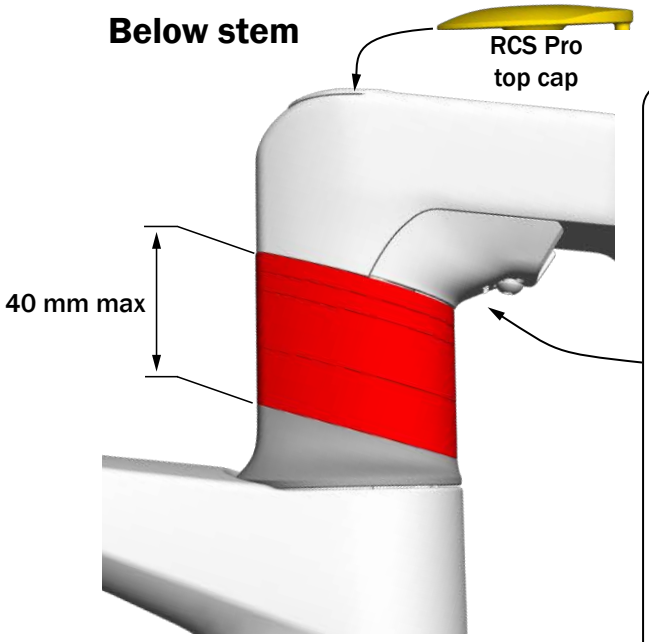
NOTE: If you remove spacers below the stem, you must add the same height of spacers above the stem or cut the steerer tube.



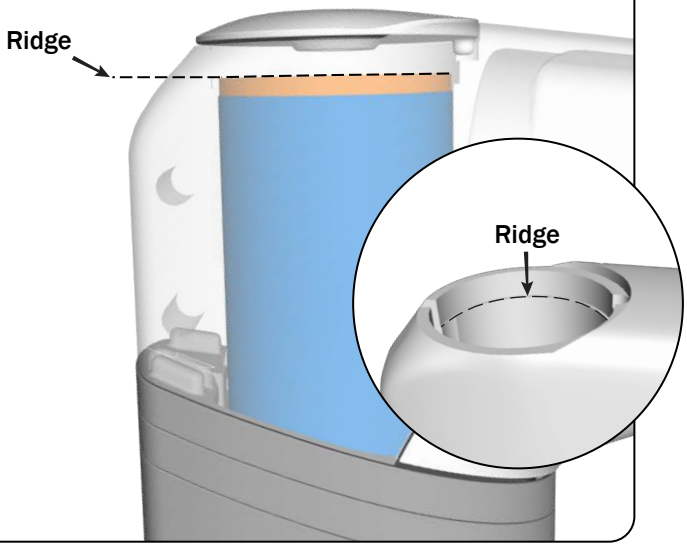
WARNING

Do not exceed 40 mm of headset spacers above or below the stem. If there are more than 40 mm of spacers, the steerer tube could become damaged and break, causing a crash resulting in injury.

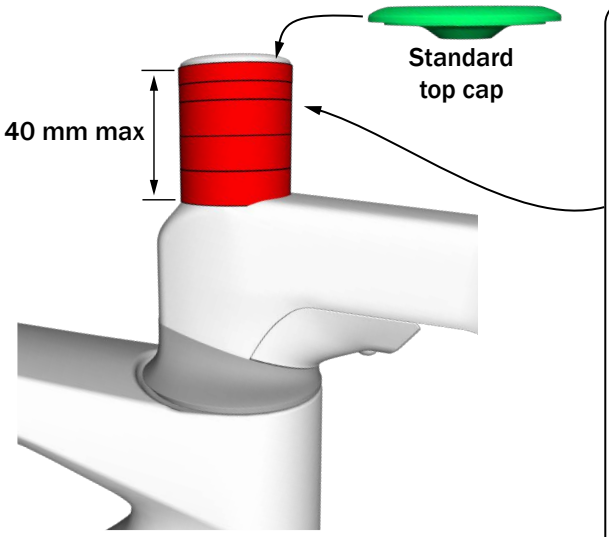
Below stem



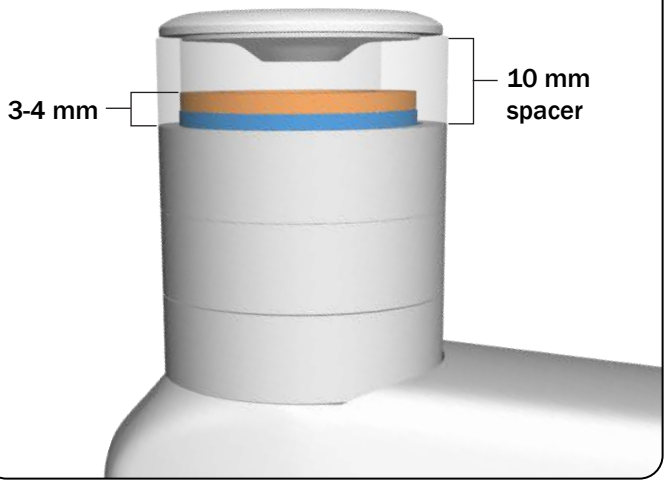
The expander plug flange must sit flush or slightly above (0-2 mm) the ridge inside the barstem.



Above stem



If there are any spacers above the stem, the expander nut flange must extend 3-4 mm into the top spacer.

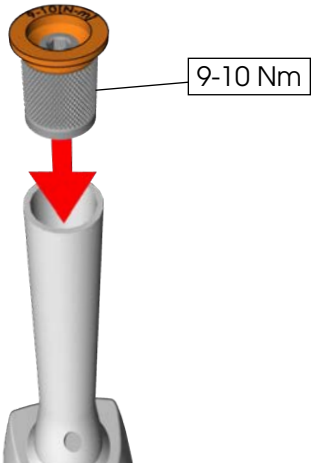


Install the RCS Pro

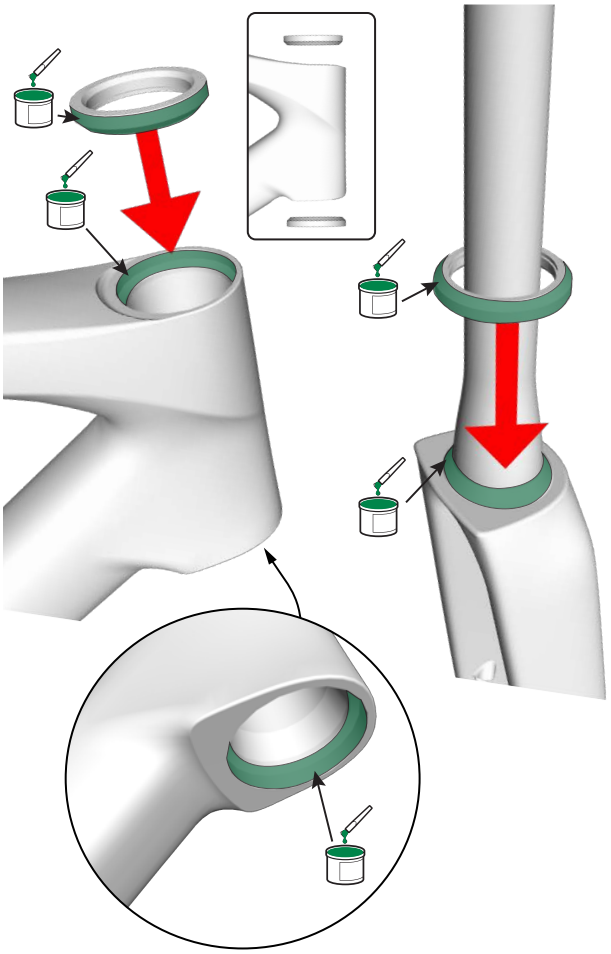
Before you begin:

- Install derailleur(s) and brake calipers.
- Route all cables/hoses through the frame/fork and connect them to the derailleurs/calipers.
- Make sure the steerer tube is the correct length for the stack/spacer height (see RCS Pro spacers).

1. Install the expander plug into the fork.

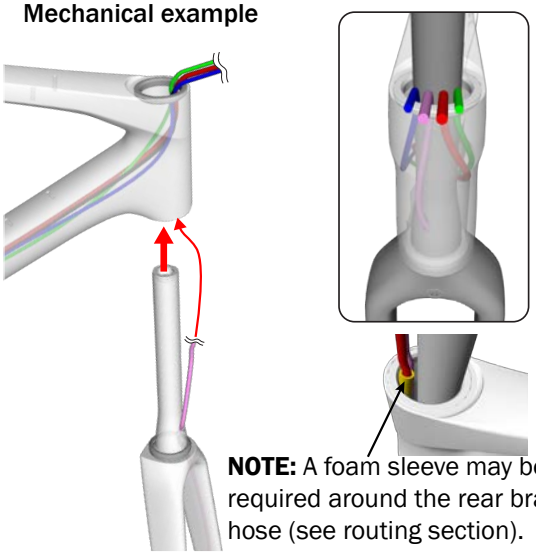


2. Grease the bearings and all mating surfaces.



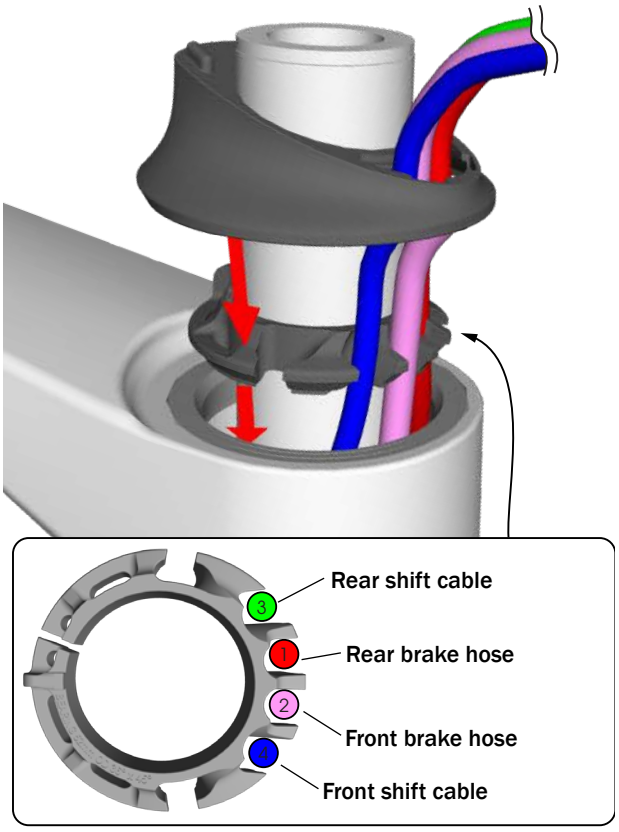
3. Insert the fork and front brake hose into the head tube.

Mechanical example



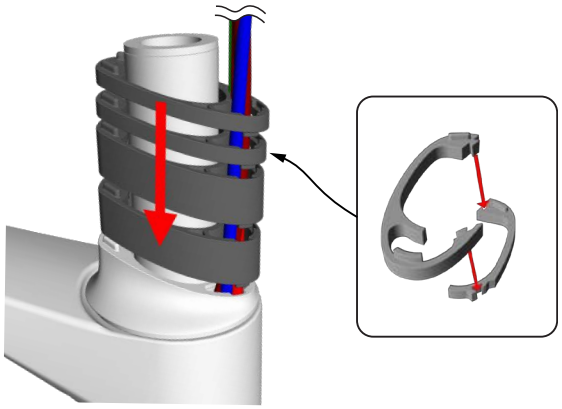
NOTE: A foam sleeve may be required around the rear brake hose (see routing section).

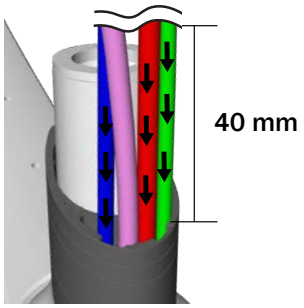
4. Slide the split ring and bearing top cover down the steerer tube.



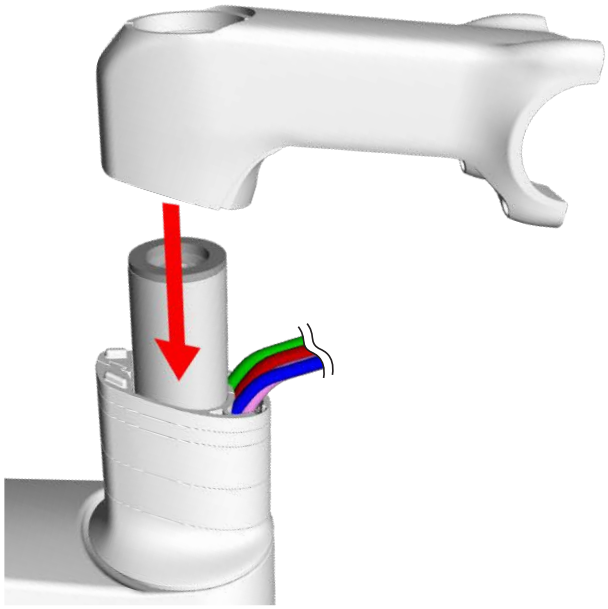
Install the RCS Pro (continued)

5. Slide the spacers down the steerer tube. Then feed about 40 mm of the rear brake hose and the front/ rear derailleur cable housings into the frame so the handlebar can turn freely.

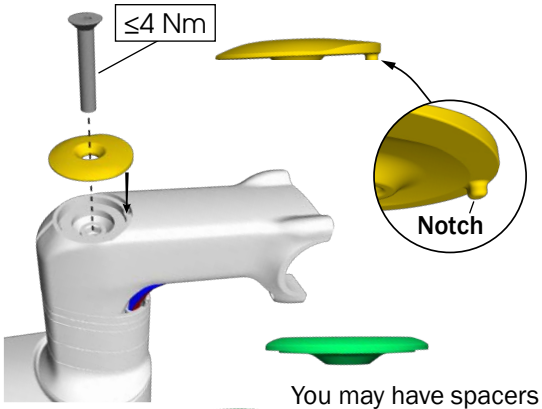




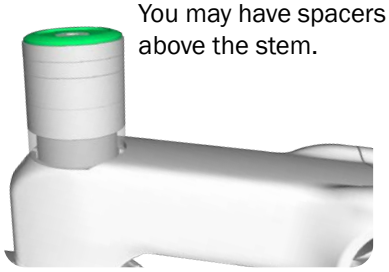
6. Slide the stem down the steerer tube.



7. Install the top cap and top cap fastener.

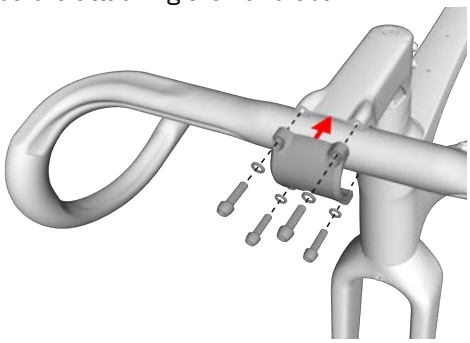


You may have spacers above the stem.

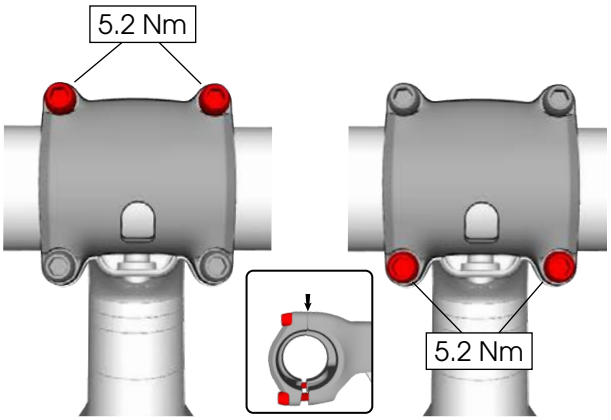


8. Loosely tighten the faceplate fasteners to secure the handlebar.

OPTIONAL: Attach the Blendr base to the faceplate before attaching the handlebar.

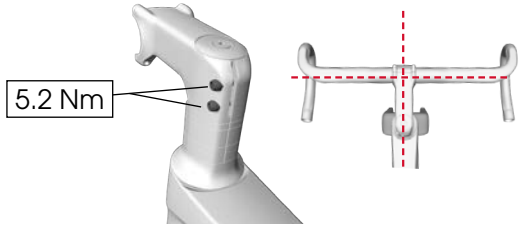


9. Fully tighten the top fasteners — switching between them — until they are fully torqued. Repeat for the bottom two fasteners.

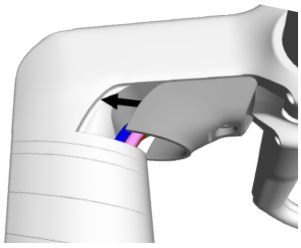


Install the RCS Pro (continued)

10. Tighten both stem fasteners — switching between them — until they are fully torqued.

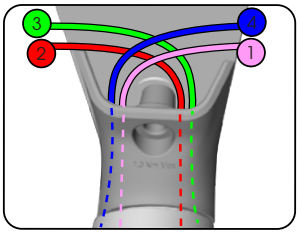


11. Insert the routing cover.

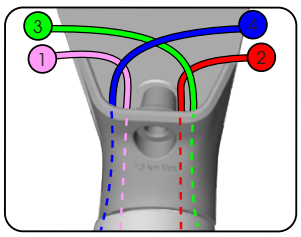


1. **Front brake hose**
2. **Rear brake hose**
3. **Rear shift housing**
4. **Front shift housing**

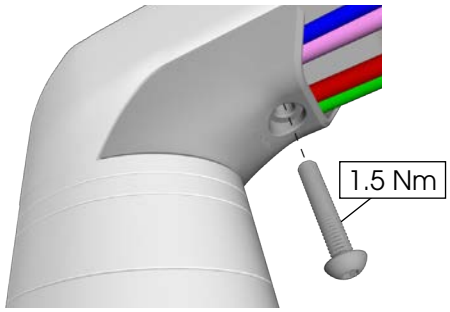
Standard



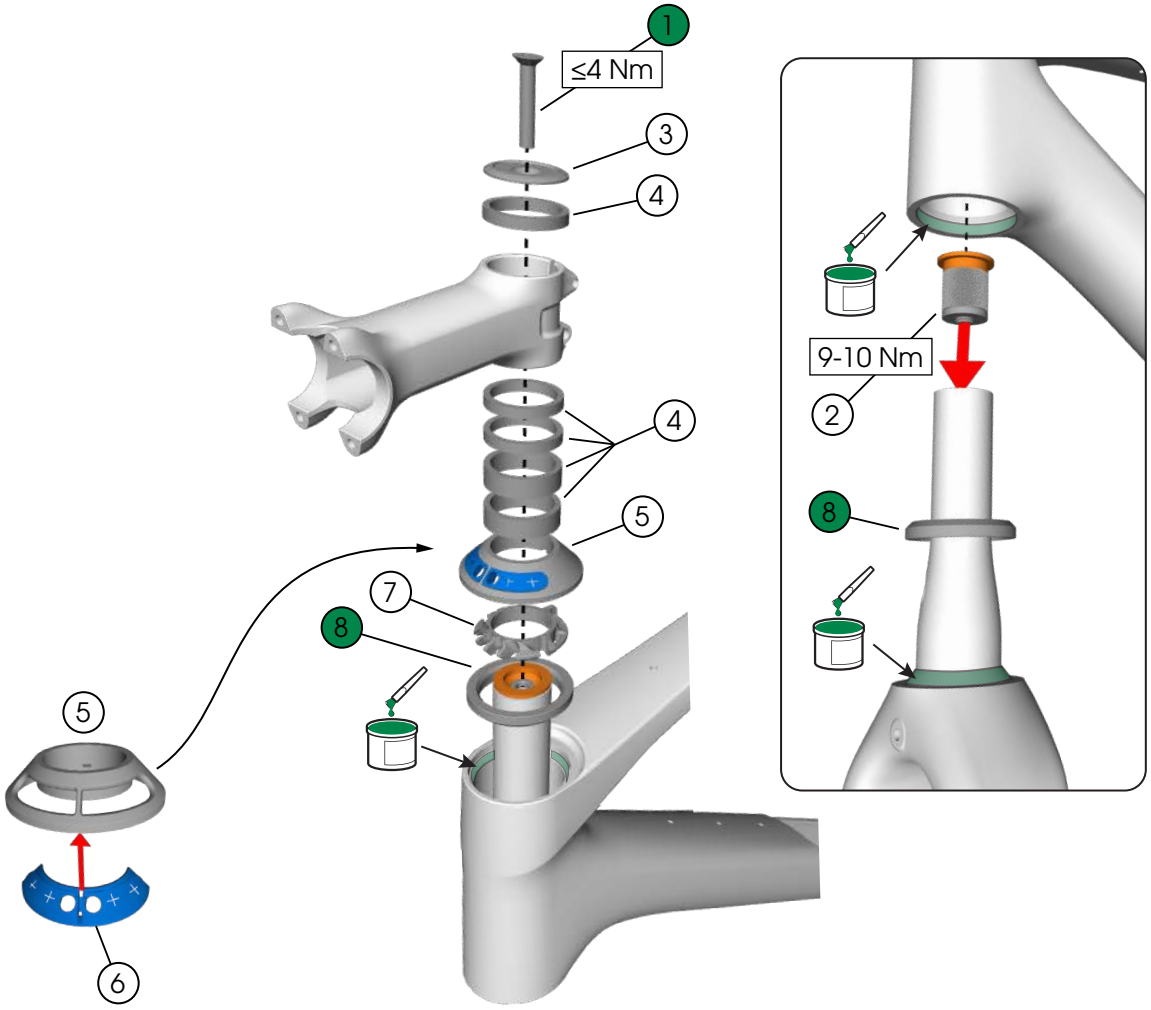
Moto



12. Install the routing cover.



RCS Universal headset



1. Fastener (M6 x 35 mm)
2. Expander plug
3. Top cap

W547432

4. Spacers (1-1/8" / 28.6 mm)

5 mm — *5253930*
10 mm — *5253931*

5. Bearing top cover
6. Bearing top cover grommet

5328901

7. Split ring — *W5315339*
8. Bearings — *W5322818*
9. Split bearing top cover

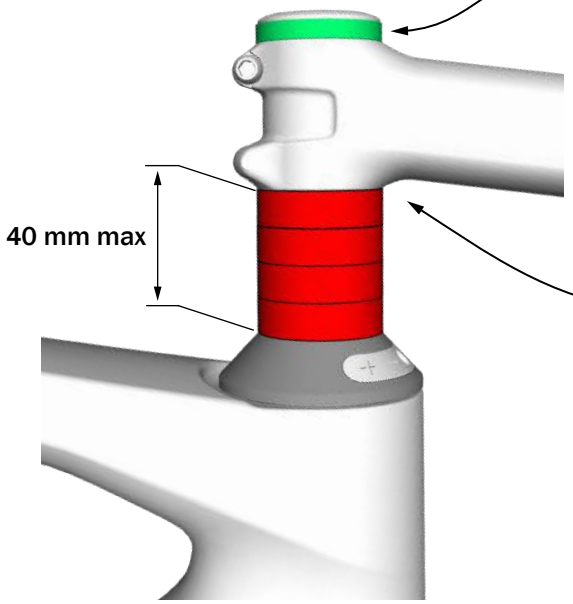
RCS Universal spacers

NOTE: If you remove spacers below the stem, you must add the same height of spacers above the stem or cut the steerer tube.

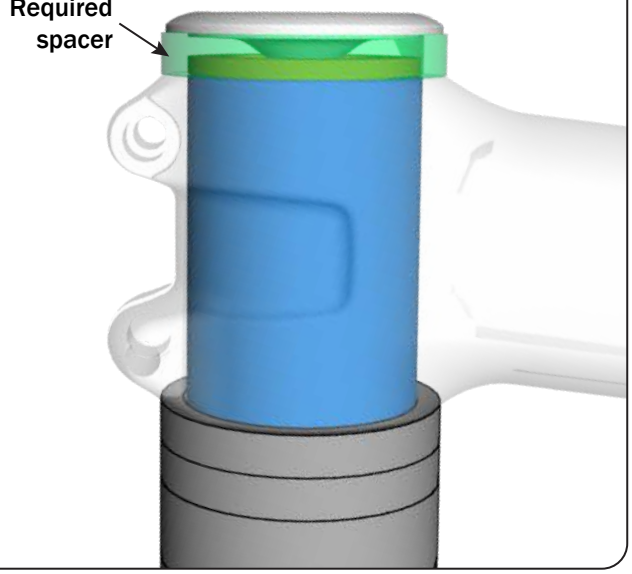
> **WARNING**
>
> Do not exceed 40 mm of headset spacers above or below the stem. If there are more than the maximum height of spacers, the steerer tube could become damaged and break, causing a crash resulting in injury.

NOTE: Other stem types are compatible with this headset system. A spacer above the stem may not be required.

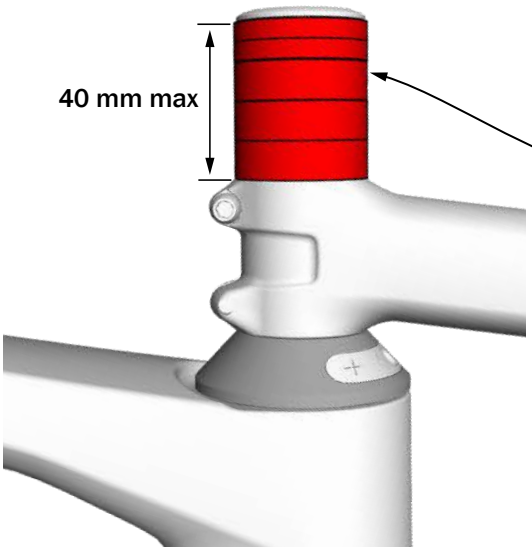
Below stem



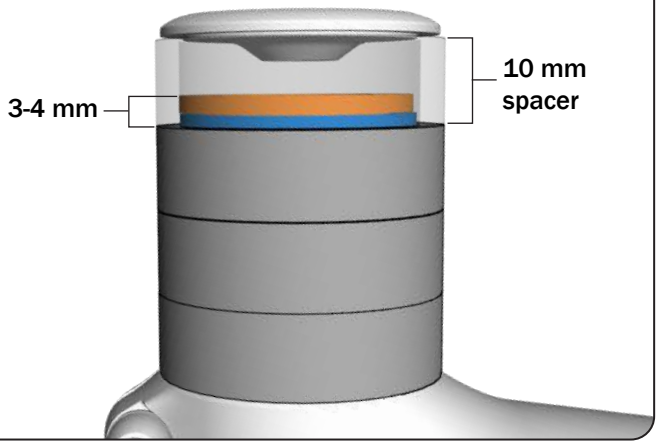
The steerer tube must sit flush or slightly below the top of the stem (0-2 mm).



Above stem



If there are any spacers above the stem, the expander nut flange must extend 3-4 mm into the top spacer.



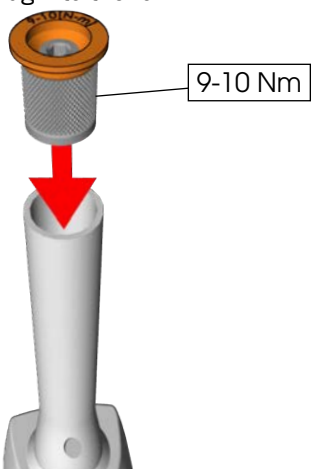
Install the RCS Universal

NOTE: This procedure shows a Trek stem without an integrated spacer. Steps 6-7 may vary depending on what stem you are installing.

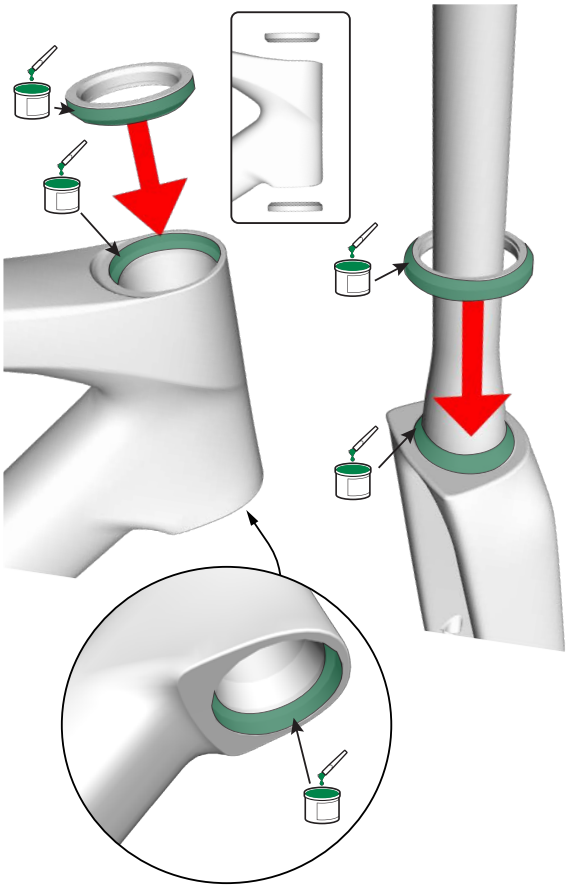
Before you begin:

- Install derailleur(s) and brake calipers.
- Route all cables/hoses through the frame/fork and connect them to the derailleurs/calipers.
- Make sure the steerer tube is the correct length for the stack/spacer height (see RCS Universal spacers).

1. Install the expander plug into the fork.

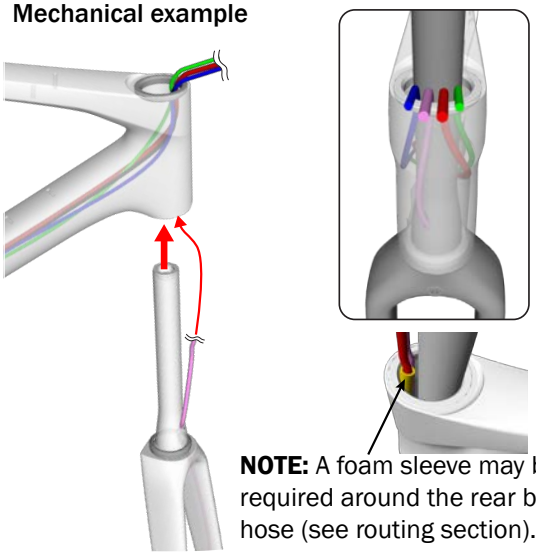


2. Grease the bearings and all mating surfaces.



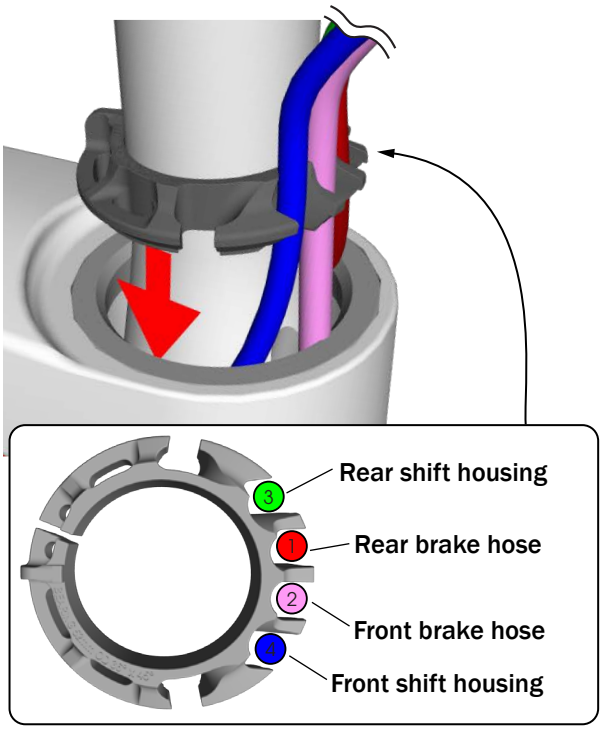
3. Insert the fork and front brake hose into the head tube.

Mechanical example



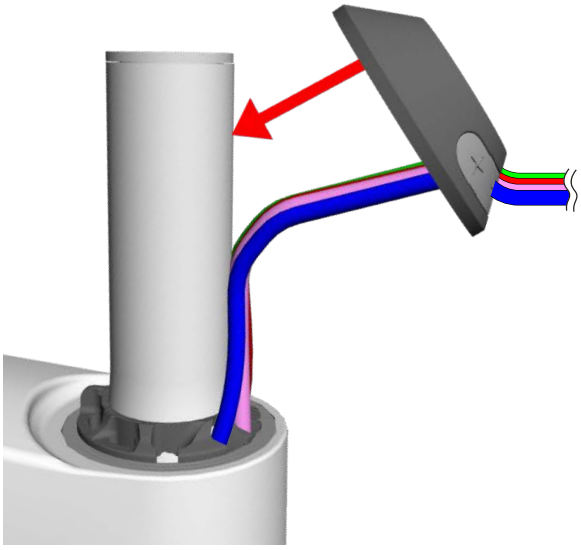
NOTE: A foam sleeve may be required around the rear brake hose (see routing section).

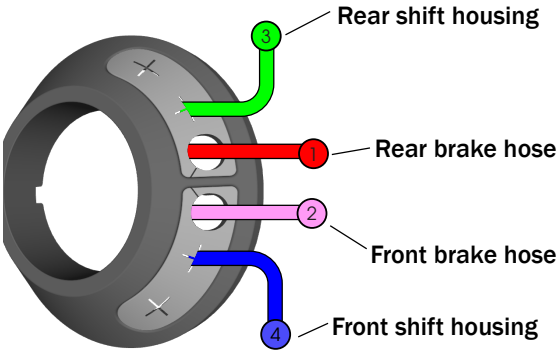
4. Slide the split ring down the steerer tube.



Install the RCS Universal (continued)

5. Route the brake hoses/cable housings through the bearing top cover. Then slide the bearing top cover down the steerer tube.

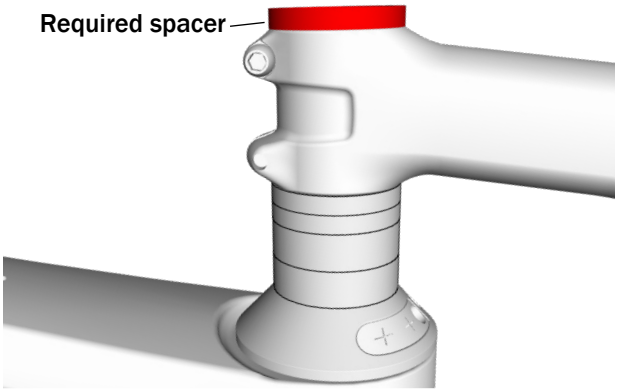




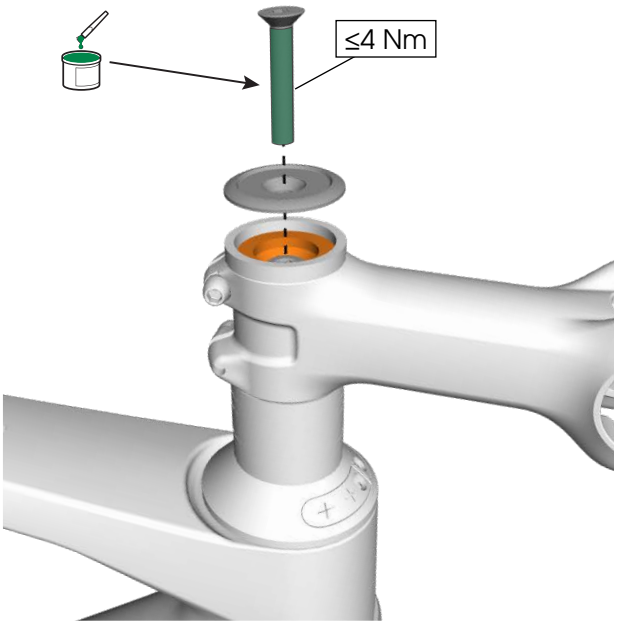
6. Slide the spacers and stem down the steerer tube.

   IMPORTANT: Make sure at least one spacer is above the stem.

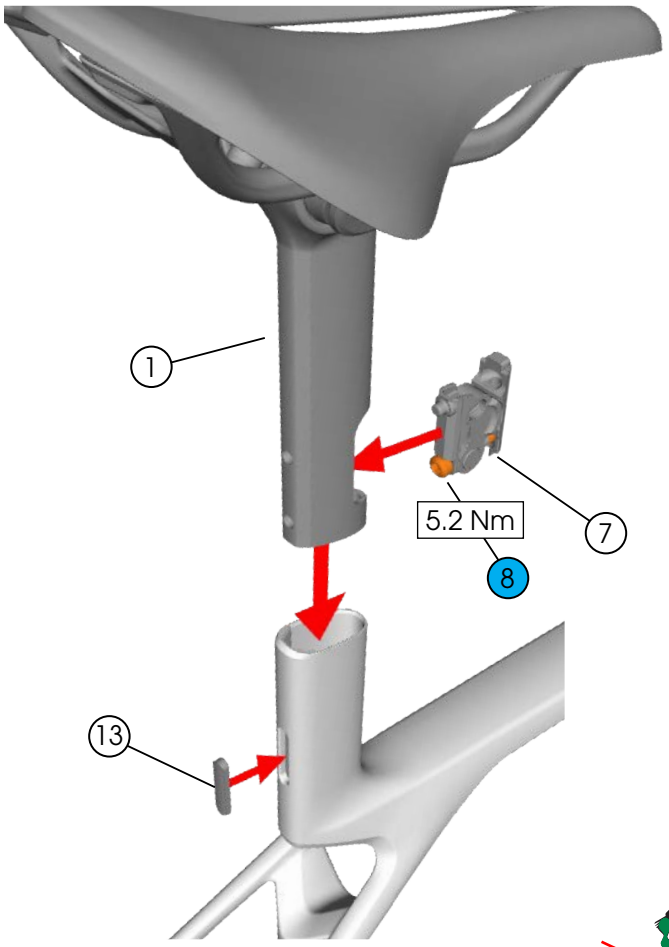
   NOTE: Other stem types are compatible with this headset system. A spacer above the stem may not be required.

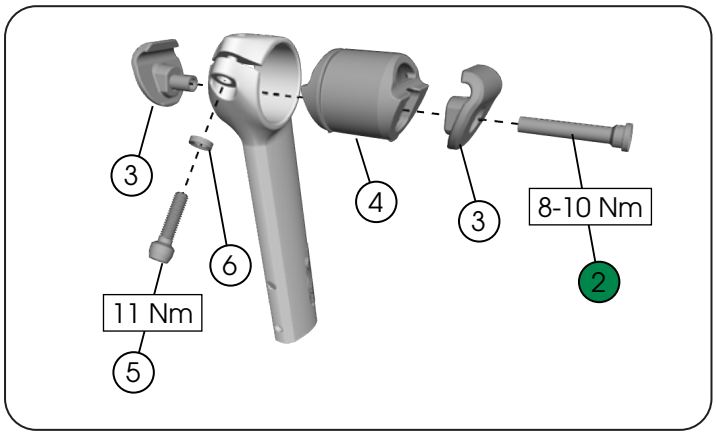


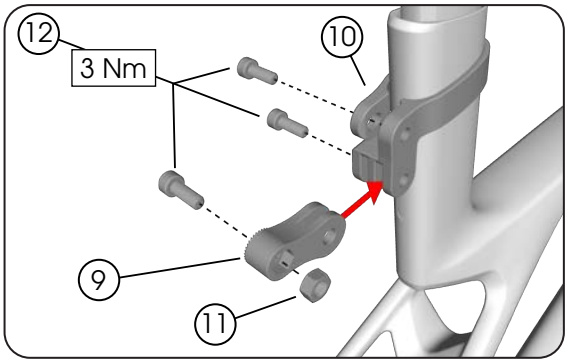
7. Install the top cap and top cap fastener.

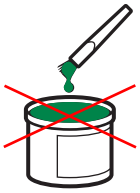


Seatpost









NOTICE: Do not apply carbon friction paste to any part of the seatpost or seat tube.

1. Seatpost, black (280 mm x 0 mm) — **W5316714*
2. Fastener (M6 x 16 mm)
3. Saddle clamp ears
   - (7 mm x 7 mm) — *W524900*
   - (7 mm x 9 mm) — *W5256105*
   - (7 mm x 10 mm) — *W524901*
4. Barrel
5. Titanium fastener (M6 x 20 mm)
6. Washer (M6)

   W5280097
7. Wedge
8. Wedge fastener (M5 x 25mm)

   W5316725
9. Reflector bracket
10. Reflector mount
11. Nut (M5)
12. Fasteners (M5 x 14 mm)
13. Grommet — *W5317465*

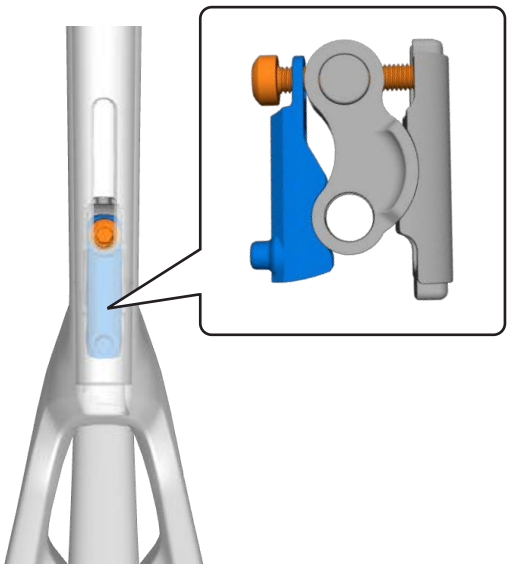
**color-matched part — see Trekbikes.com for full list*

Adjust the seatpost height

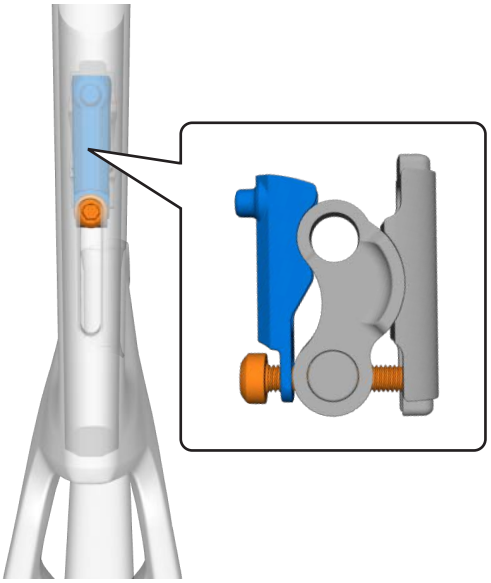


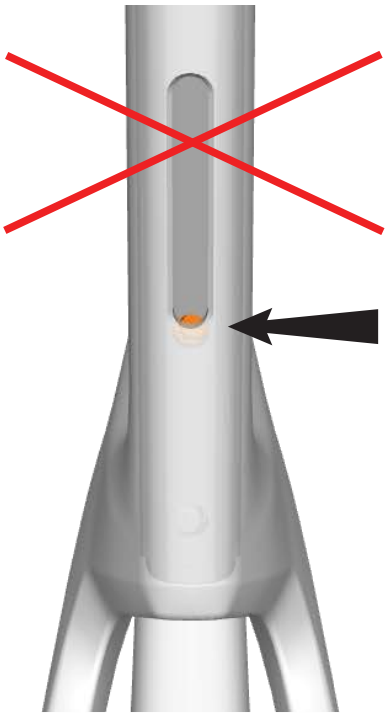
Flip the seatpost wedge around to reach the maximum and minimum seatpost limits.

Minimum height



Maximum height





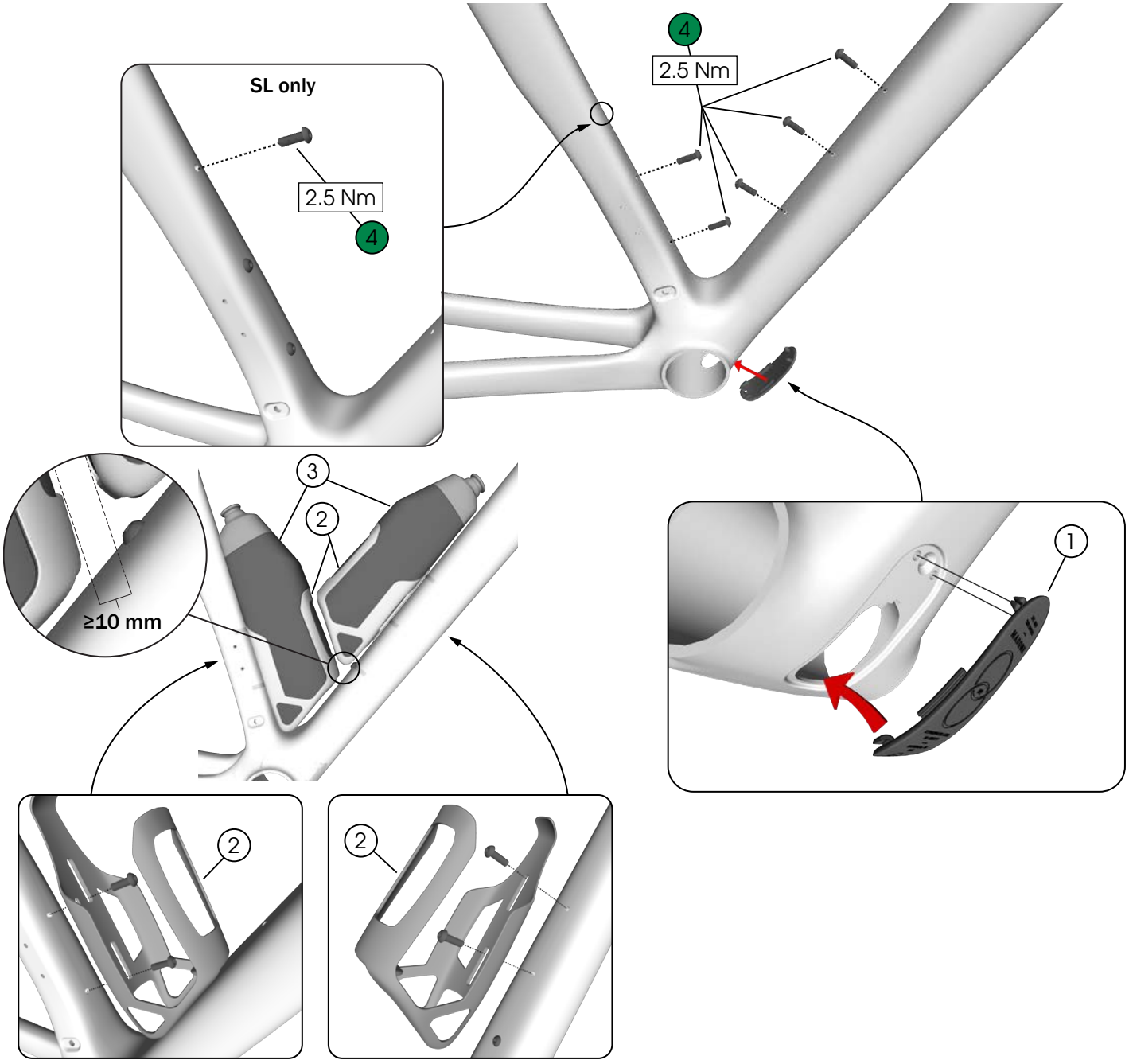
NOTICE: Always fully tighten the seatpost fastener to 5.2 Nm before riding or applying downward pressure to the seatpost. If the wedge fastener is not fully tightened, downward pressure can cause the seatpost to slip to where you cannot reach the fastener.

Before adjusting the seatpost height, fully loosen the seatpost wedge fastener — do not force the seatpost up or down if there is any friction on the wedge.

Wedge fastener

Frame parts

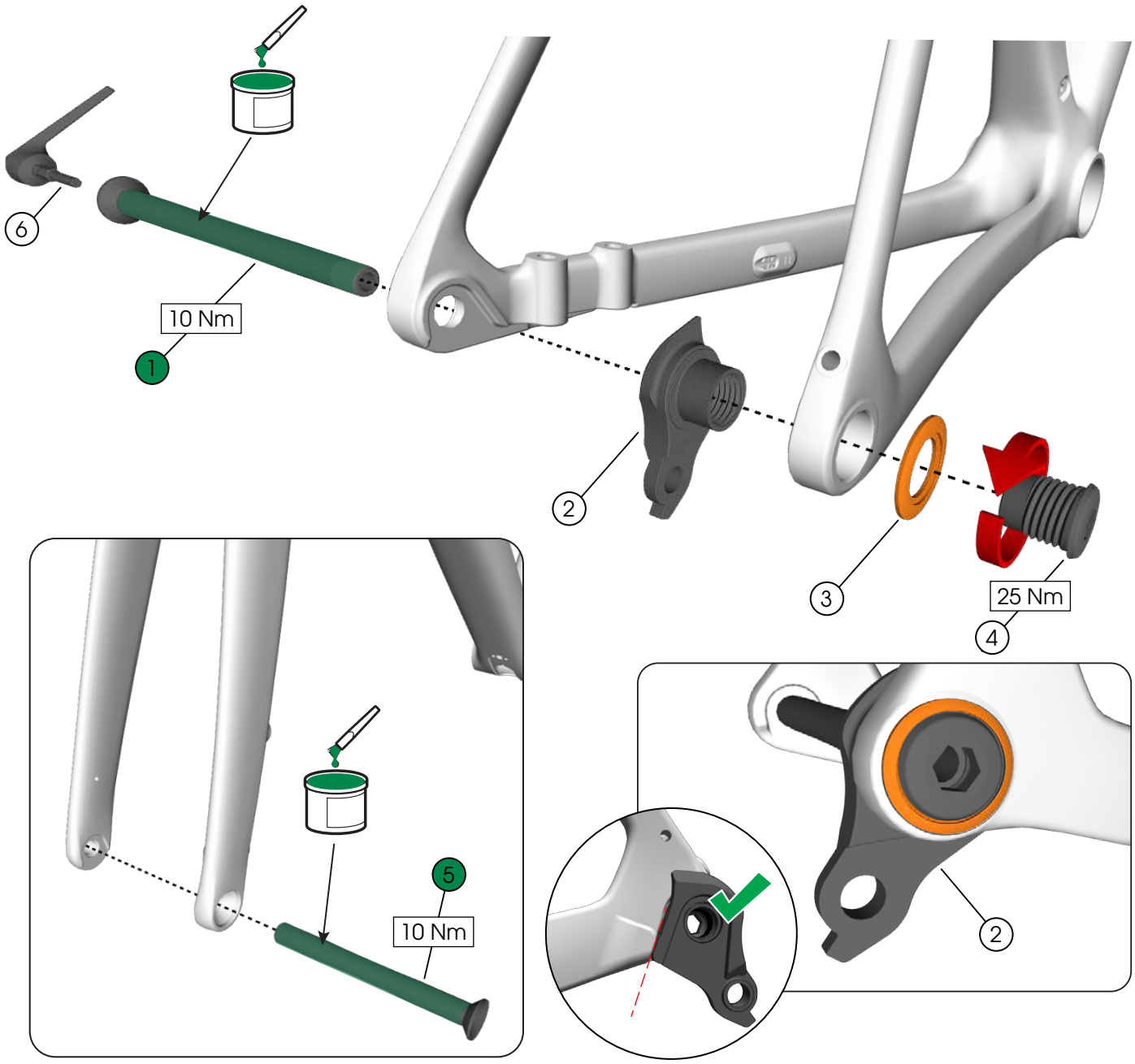
NOTE: The RSL Aero bottle cages and bottles are included with the Madone SLR.



1. Bottom bracket cover — *W5317348*
2. RSL Aero bottle cages, blue — **5324022*
3. RSL Aero bottles, navy — **5324022*
4. Fasteners (M5 x 10 mm) — *5332051*

**color-matched part — see Trekbikes.com for full list*

Universal derailleur hanger (UDH) and axles

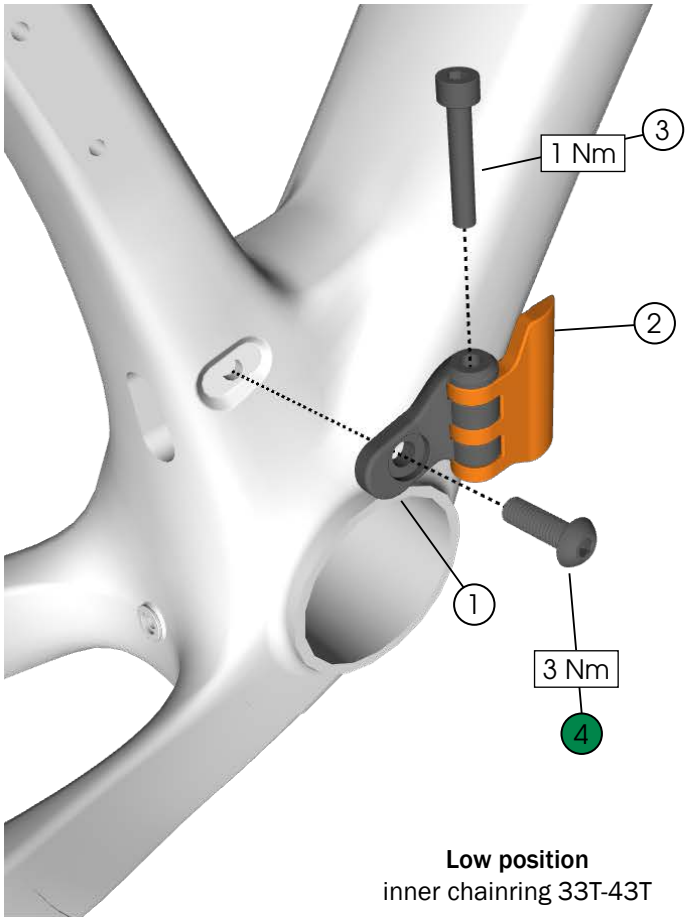


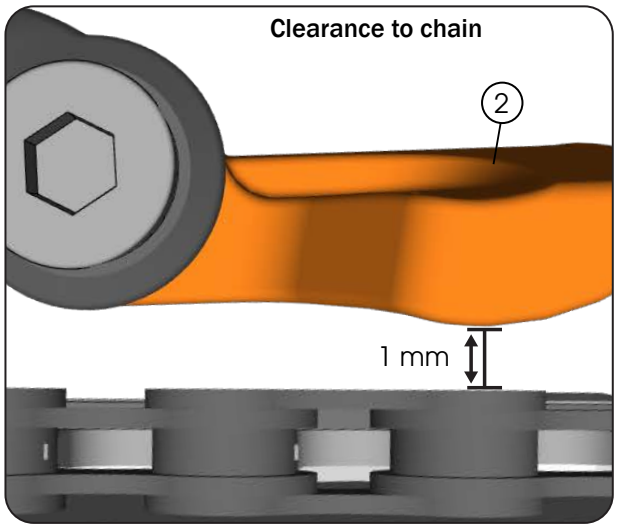
1. Rear axle (M12 x 166 mm) — **W5312169*
2. Derailleur hanger
3. Washer (25 mm)
4. Fastener (M12 x 16 mm)

   — *W5271424*
5. Front axle (M12 x 119.5 mm) — **W5312168*
6. Switch lever (black) — **W5312899*

**color-matched part — see Trekbikes.com for full list*

Chainkeeper

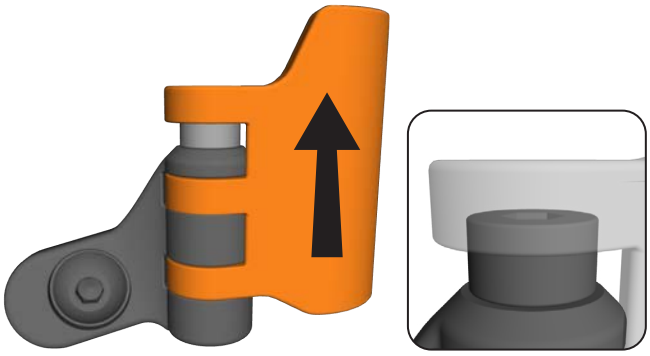




Low position
inner chainring 33T-43T



High position
inner chainring 37T-47T

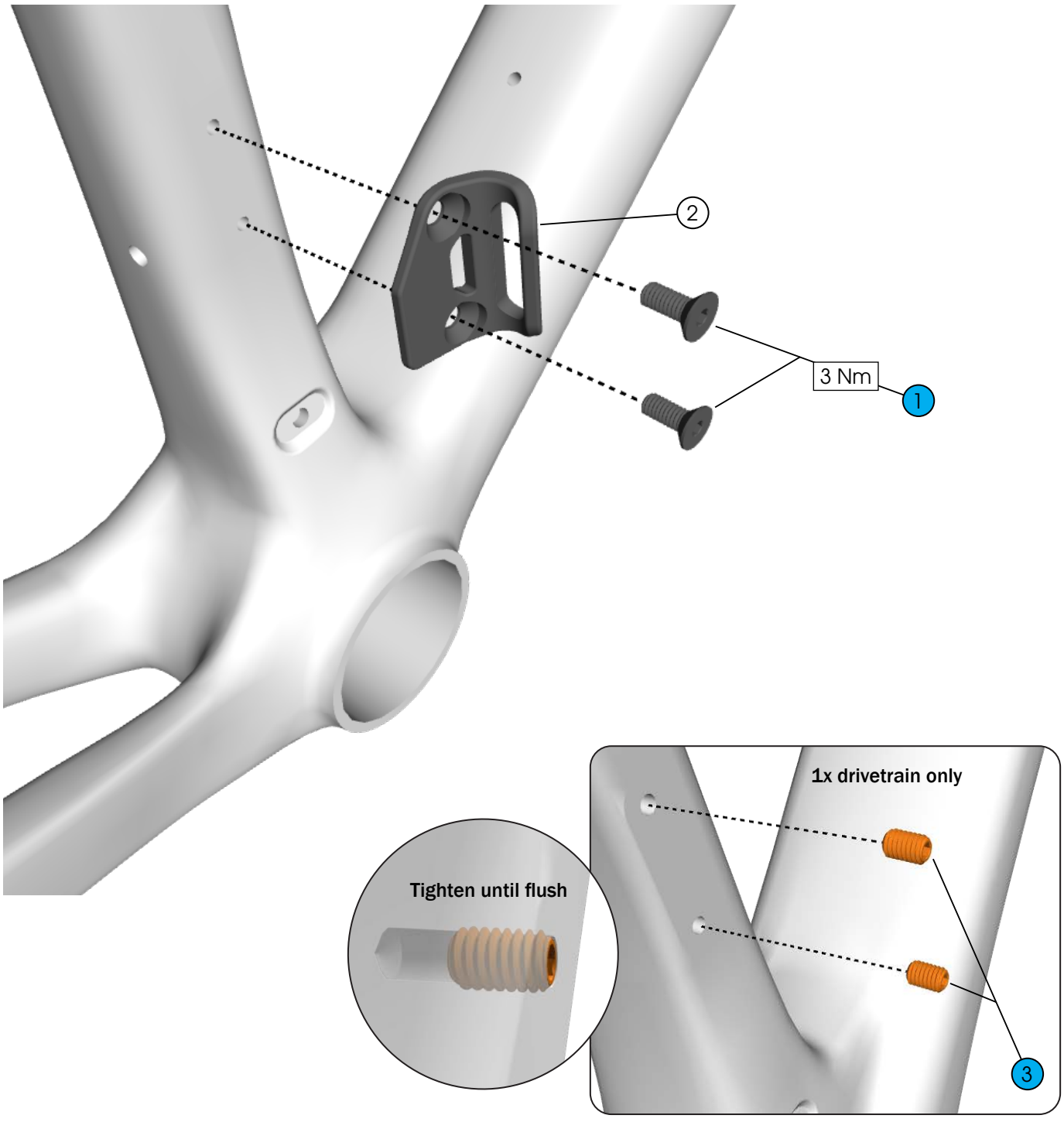


1. Base
2. Tab
3. Fastener (M4 x 22 mm)

5320962

4. Fastener (M5 x 16 mm) — *5328801*

Front derailleur hanger



1. Fasteners (M4 x 10 mm)
2. Front derailleur hanger

5320961

3. Set screws (M4 x 8 mm) — *5320962*

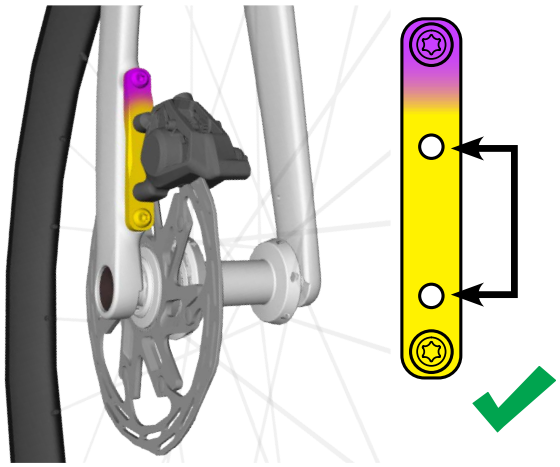
Brake mount adapters

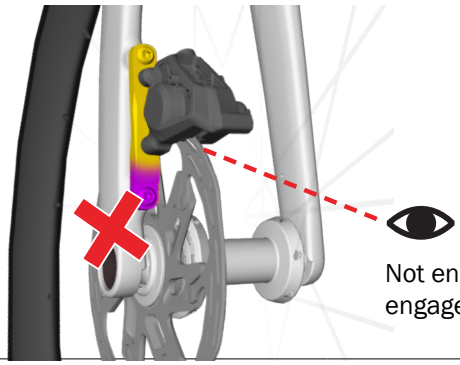
WARNING

Risk of injury or death due to incorrect brake mounting

Correctly orient the brake mount adapter so that the brake pads align fully with rotor. Improper installation of brake mount adapter can result in brake failure, loss of control, and injury or death.

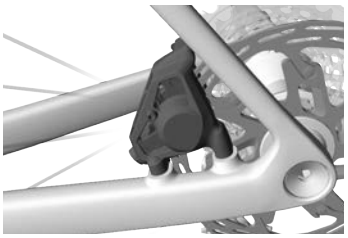
Front	160 mm rotor	180 mm rotor



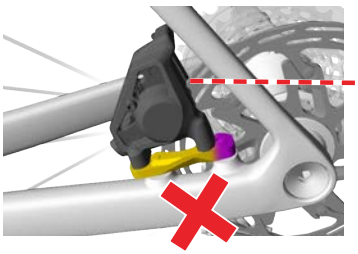


Not enough brake pad engagement

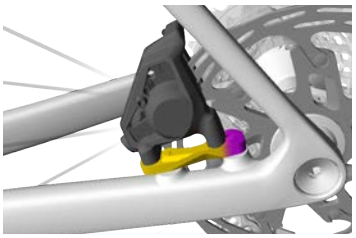
Rear	140 mm rotor	160 mm rotor

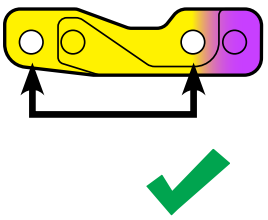


Do not use rear brake mount adapter.



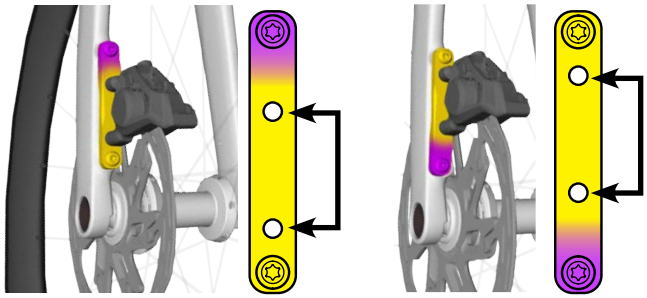
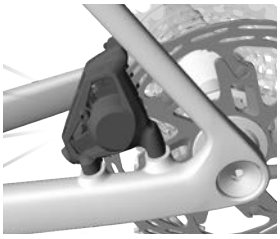
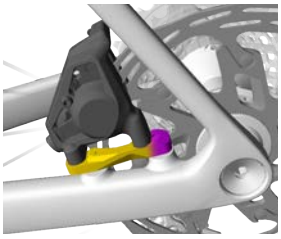
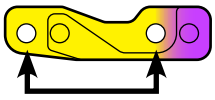
Not enough brake pad engagement





Specifications

Frame

		Madone SL/SLR
Hub OLD	Front	100 mm
	Rear	142 mm
Fork steerer tube OD	Upper	28.6 mm
	Lower	38.8 mm
Bottom bracket type/width		T47/85.5 mm
Brake rotor diameter min/max	Front	160/180 mm
 **160 mm** **180 mm**		
Brake rotor diameter min/max	Rear	140/160 mm
 **No brake mount adapter** **140 mm**   **160 mm**		
Tire width max 700c		32 mm (as measured when the tire is seated on the rim)
Fender compatible	Rear	No
	Front	No
Dropper post compatible		No

Chainline/chainring

	Chainline	Max chainring teeth (T)		
		Small	Large	Single (1x)
Shimano	43.5 mm	–	–	54T
		43T	56T	–
SRAM	43.5 mm	–	–	54T
		43T	56T	–

Brake hose lengths

NOTE: The lengths below are based on a 42 cm x 120 mm barstem with 40 mm of headset spacers.

Frame size	Rear brake	Front brake
ALL	1,500 - 1,700 mm	800–1,000 mm

Shift housing lengths (SL only)

NOTE: The lengths below are based on a 42 cm x 120 mm barstem with 40 mm of headset spacers.

Frame size	Rear derailleur	Front derailleur
All	1,700	1,000