

TREK



2023 ÉMONDA ALR

SERVICE MANUAL

Contents



[Routing – mechanical](#)



[Routing – mechanical: instructions](#)



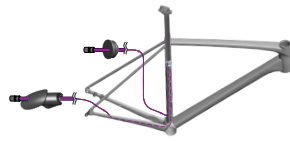
[Routing – eTap](#)



[Routing – eTap: instructions](#)



[Routing – Di2](#)



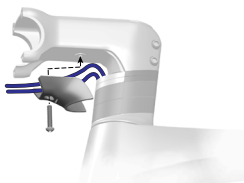
[Routing – Di2: instructions](#)



[Headset – integrated stem](#)



[Headset – integrated stem: max spacers](#)



[Headset – integrated stem: instructions](#)



[Headset – standard stem](#)

Frame

| | USA |
|--------------------------|--------------|
| Head tube I.D. | 34.0mm |
| Head tube O.D. | 35.0mm |
| Upper fork clamp I.D. | 28.0mm |
| Lower fork clamp I.D. | 28.0mm |
| Bottom bracket I.D. | 34.9 (5.5mm) |
| Bottom bracket O.D. | 35.4 (6.0mm) |
| BB shell I.D. | 30.0mm |
| BB shell O.D. | 30.5mm |
| BB shell I.D. (max) | 30.5mm |
| BB shell O.D. (max) | 31.0mm |
| Headset | Yes |
| Front compatible – rear | No |
| Front compatible – front | No |

Chainline / chainring

| Chainline | Max chainring width (L) | |
|-----------|-------------------------|-----------|
| | Small | Large (D) |
| 43.5mm | 105 | 107 |
| 45.0mm | 107 | 109 |
| 46.5mm | 109 | 111 |
| 48.0mm | 111 | 113 |

[Specifications](#)

Safety

WARNING

Properly tighten hardware

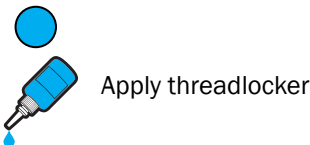
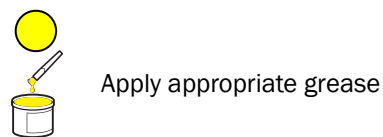
Always tighten hardware to the specified torque. Over-tightening hardware could deform or break the hardware or components. Under-tightening hardware could cause hardware or components to become loose. Either situation could damage the bicycle and result in injury to the rider.

WARNING

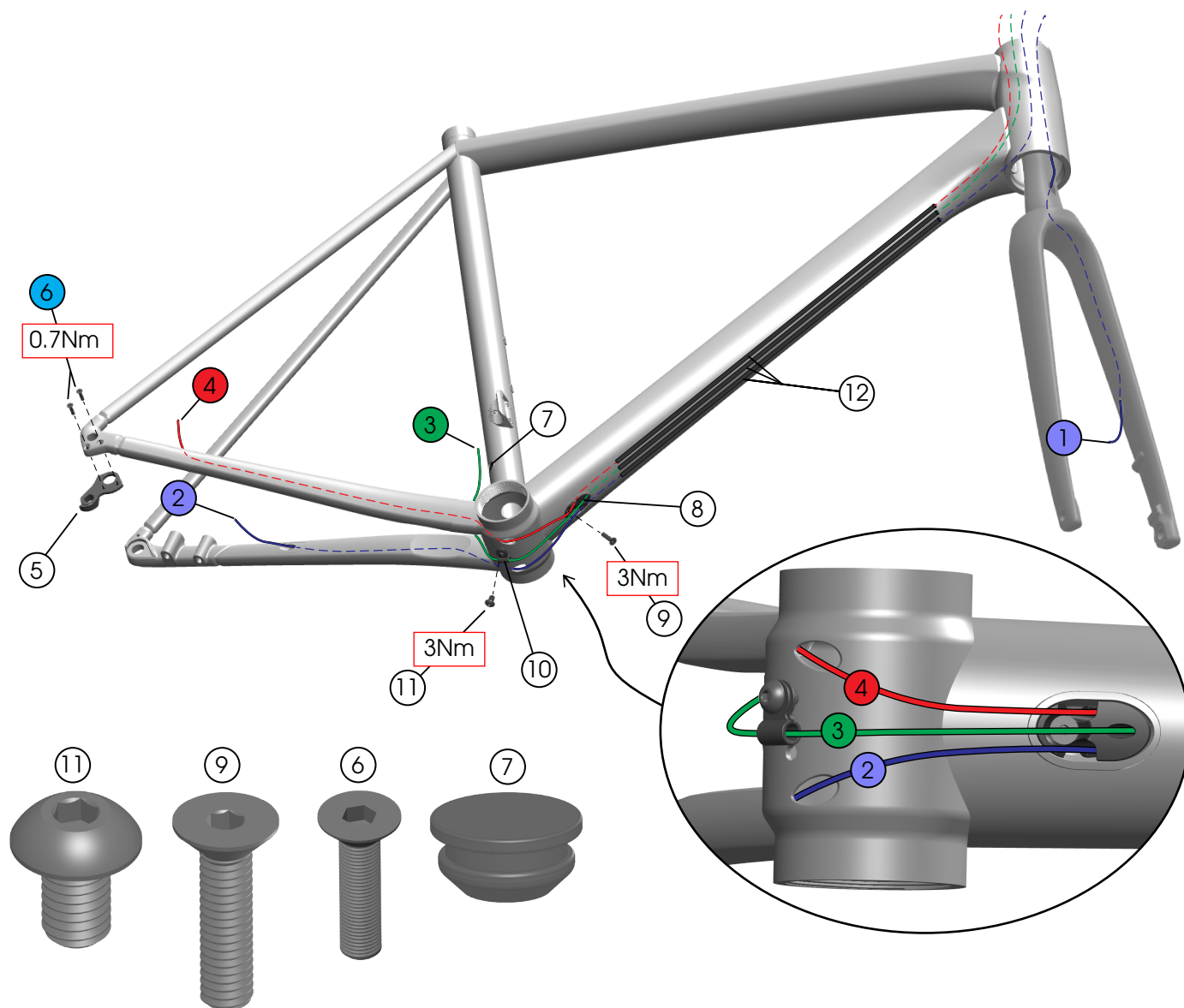
Reapply threadlocker

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.

Legend



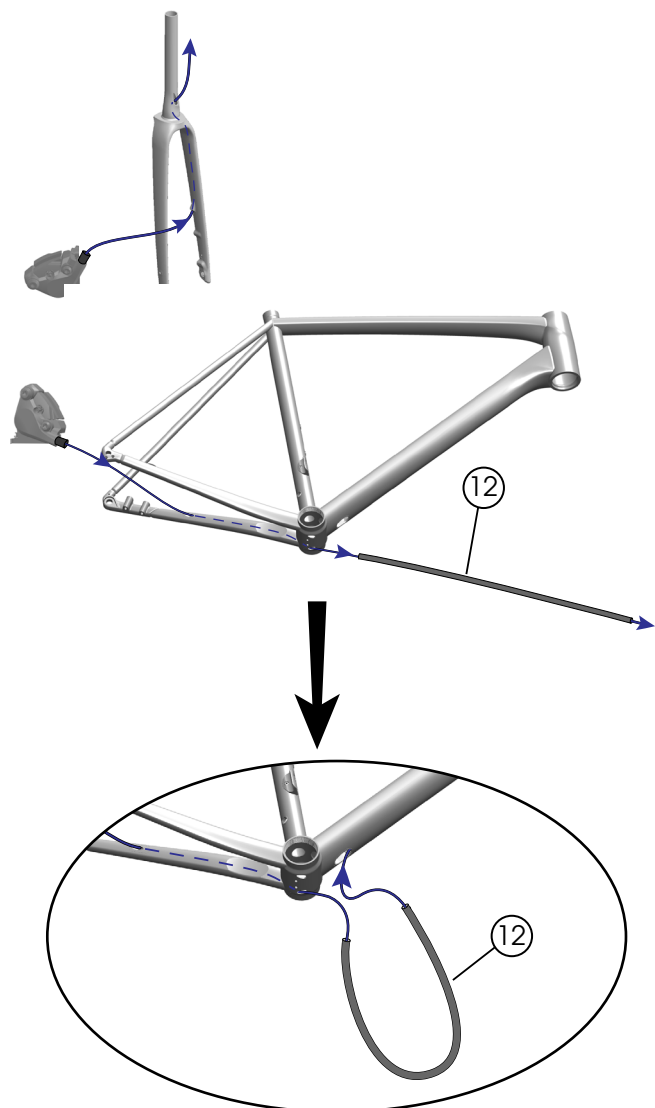
Routing — mechanical



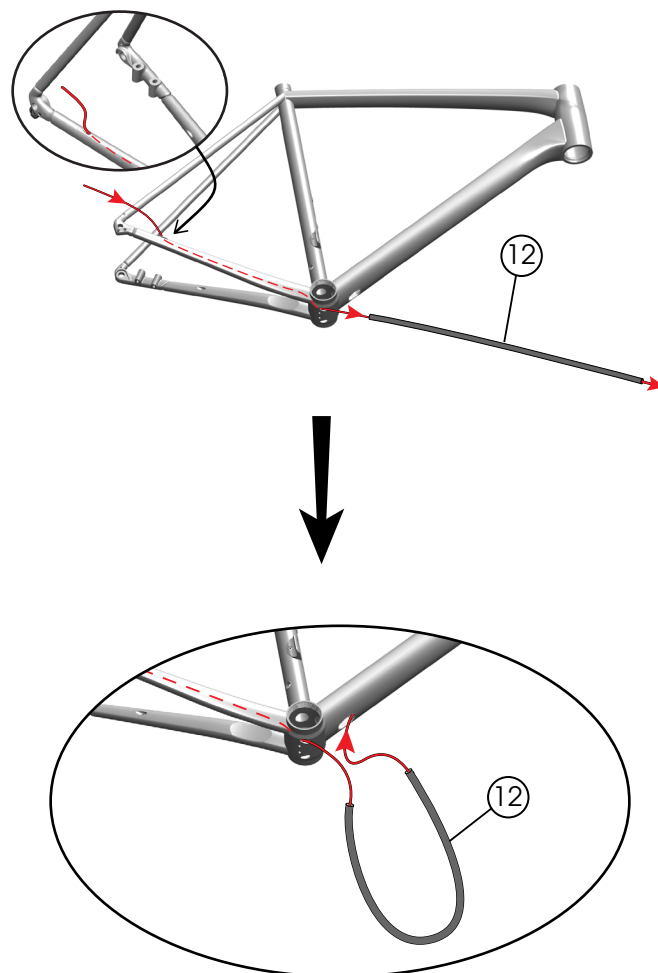
- ① Front brake hose
- ② Rear brake hose
- ③ Front derailleur cable
- ④ Rear derailleur cable
- ⑤ Rear derailleur hanger — [W524188](#)
- ⑥ Rear derailleur hanger bolts (M3x12mm) — [W524884](#)
- ⑦ Hole plug — [W440699](#)
- ⑧ Control freak cable guide — [W5257896](#)
- ⑨ Cable guide bolt (M4x16mm) — [W532763](#)
- ⑩ Cable clip — [W316706](#)
- ⑪ Cable clip bolt (M5x8mm) — [W549307](#)
- ⑫ Foam sleeves — [W528082](#)

Routing — mechanical: instructions

Brakes

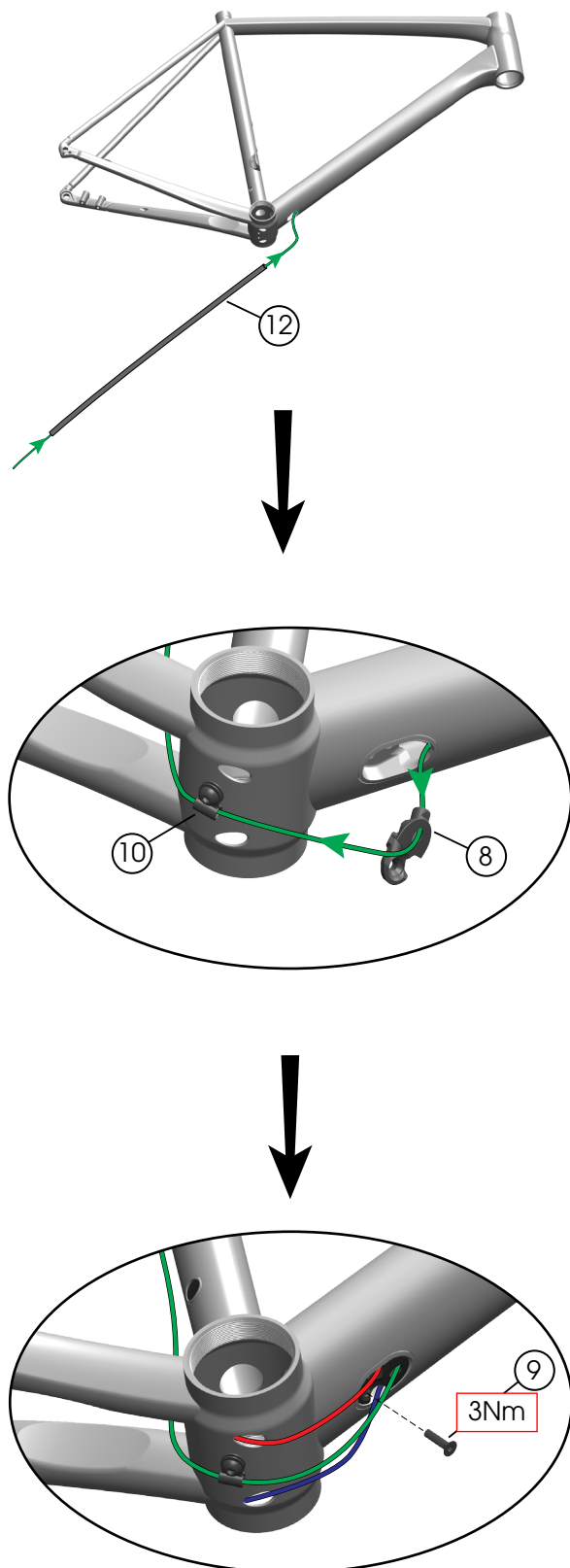


Rear derailleur

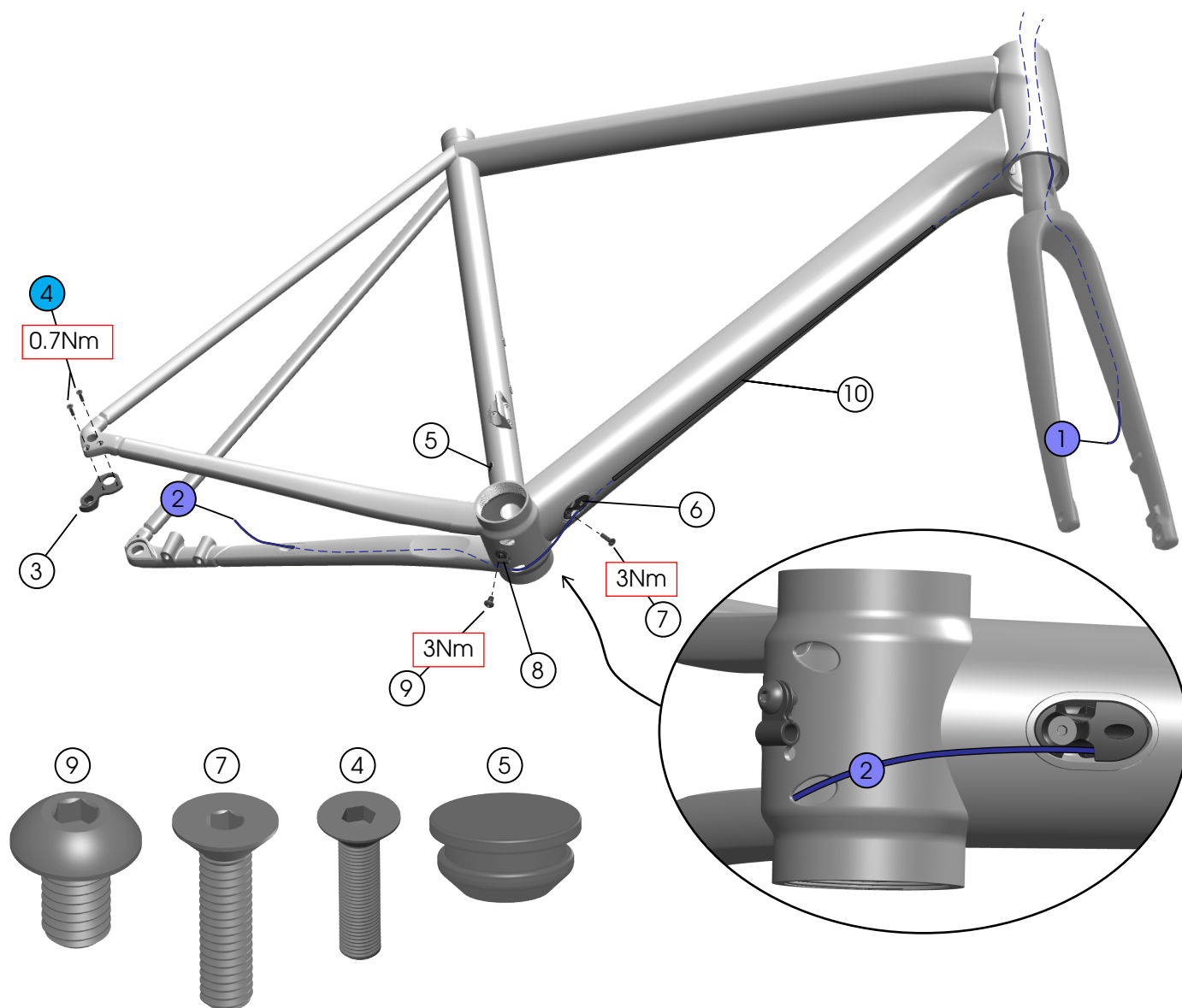


Routing — mechanical: instructions (continued)

Front derailleur



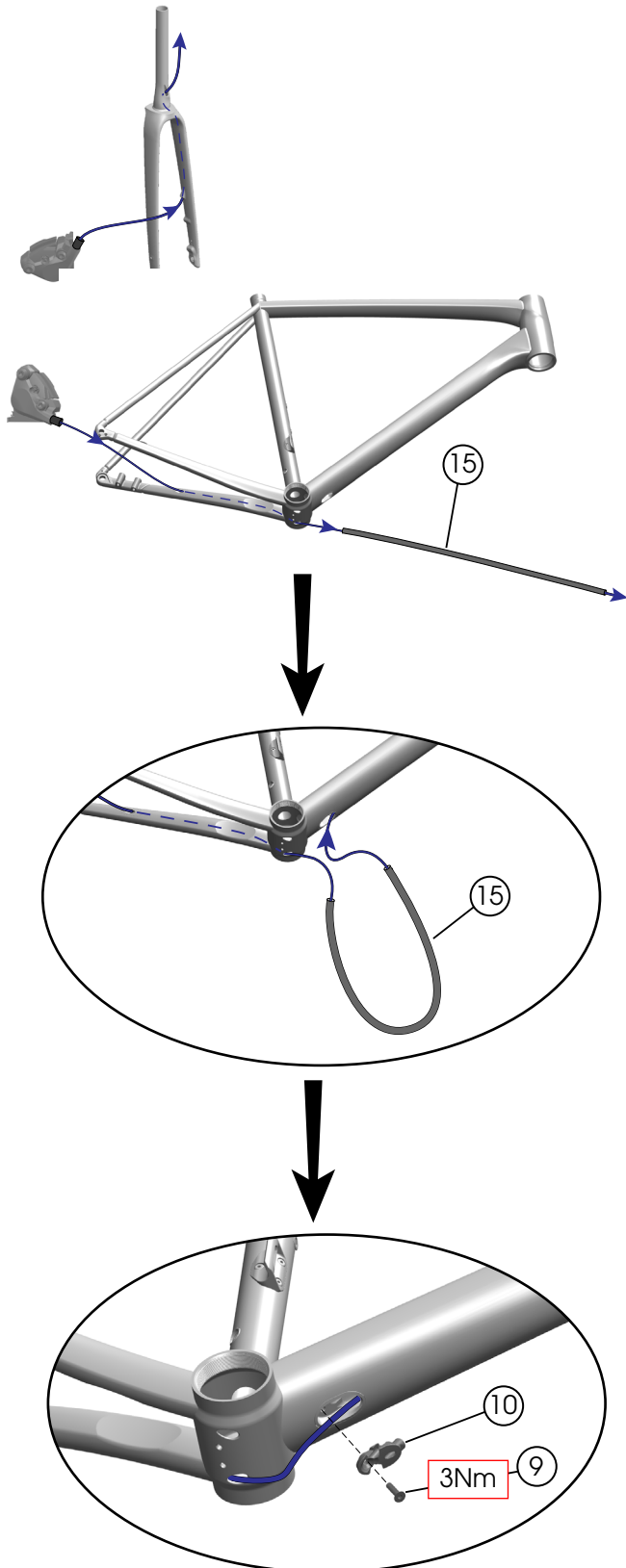
Routing — eTap



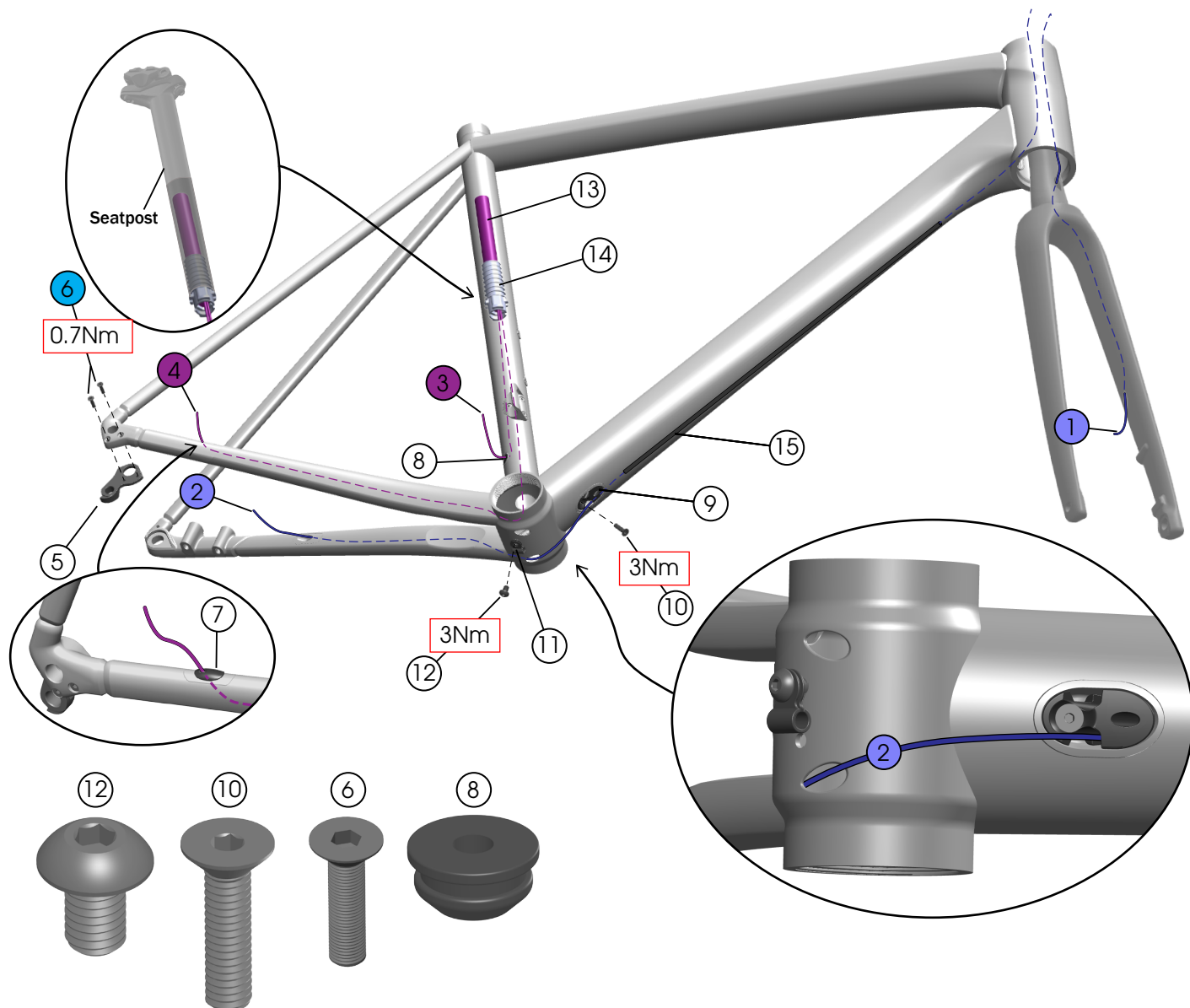
- ① Front brake hose
- ② Rear brake hose
- ③ Rear derailleur hanger — [W524188](#)
- ④ Rear derailleur hanger bolts (M3x12mm) — [W524884](#)
- ⑤ Hole plug — [W440699](#)
- ⑥ Control freak cable guide — [W5257896](#)
- ⑦ Cable guide bolt (M4x16mm) — [W532763](#)
- ⑧ Cable clip — [W316706](#)
- ⑨ Cable clip bolt (M5x8mm) — [W549307](#)
- ⑩ Foam sleeve — [W528082](#)

Routing — eTap: instructions

Brakes



Routing — Di2

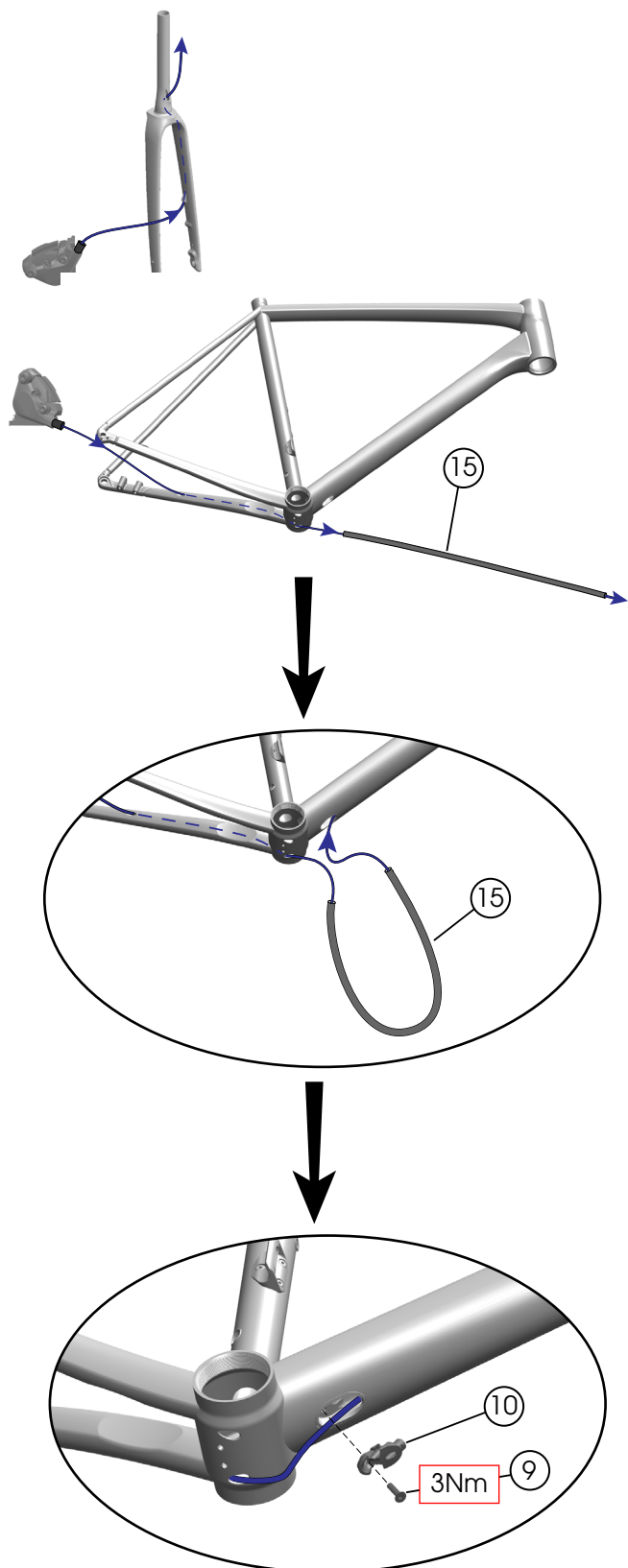


- | | | | | |
|---|--|---------------|---|--|
| ① | Front brake hose | | ⑨ | Control freak cable guide — W5257896 |
| ② | Rear brake hose | | ⑩ | Cable guide bolt (M4x16mm) — W532763 |
| ③ | Front Di2 wire | } *EW-SD300-I | ⑪ | Cable clip — W316706 |
| ④ | Rear Di2 wire | | ⑫ | Cable clip bolt (M5x8mm) — W549307 |
| ⑤ | Rear derailleur hanger — W524188 | | ⑬ | Di2 battery — *BTDN300 |
| ⑥ | Rear derailleur hanger bolts (M3x12mm) — W524884 | | ⑭ | Battery holder — *PRAC0094 |
| ⑦ | Rear Di2 wire grommet — W5286091 | | ⑮ | Foam sleeve — W528082 |
| ⑧ | Front Di2 wire grommet — W440697 | | | |

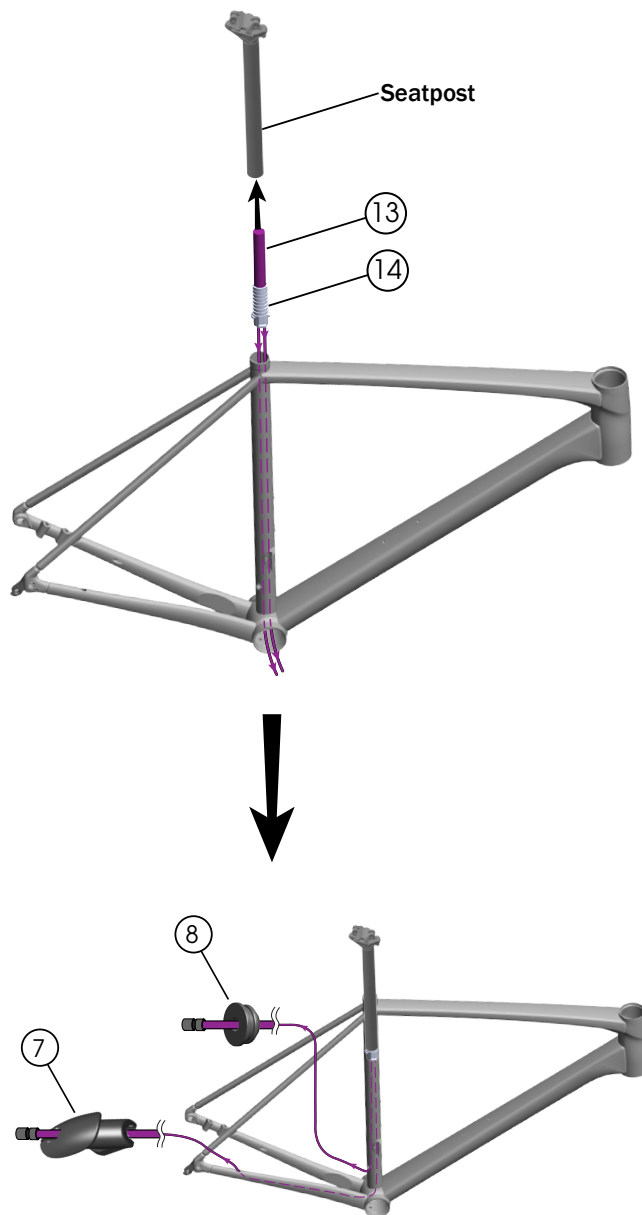
* Shimano part numbers (not available on [Trek bikes.com](#))

Routing — Di2: instructions

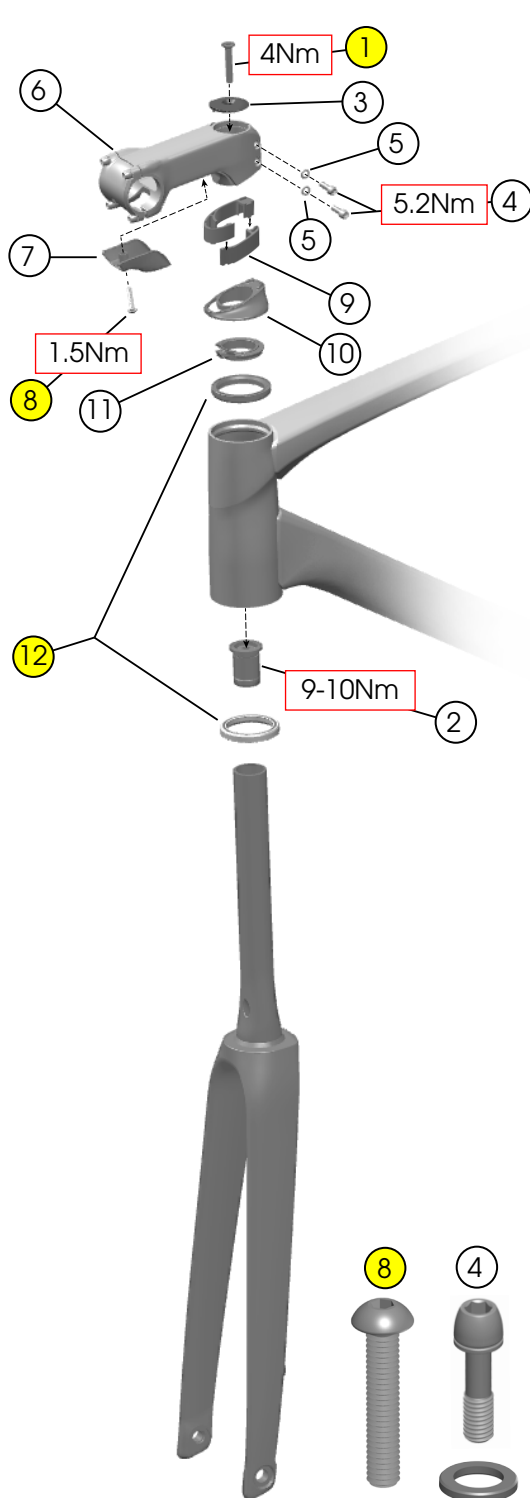
Brakes



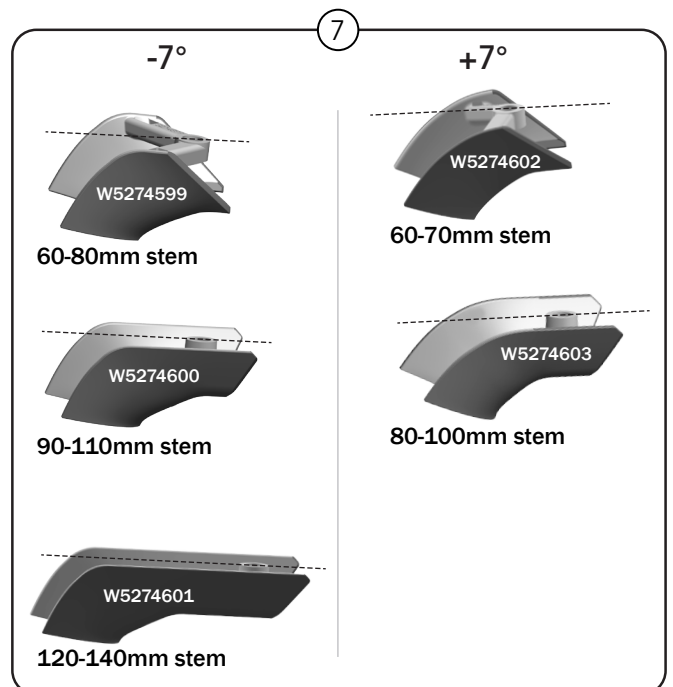
Battery and wires



Headset — integrated stem



- ① Top cap bolt (M6x35mm) — [W547432](#)
- ② Compression plug
- ③ Top cap — [W5274966](#)
- ④ Stem bolts (M5x15mm) — [5305331](#)
- ⑤ Washers (M5)
- ⑥ Stem (-7°, 100mm) — [5274584](#)
- ⑦ Routing cover — [W5274600](#)
- ⑧ Bolt (M4x25mm) — [W5274963](#)
- ⑨ Spacers — [5mm — 5296906](#)
[15mm — 5296905](#)
- ⑩ Bearing cover — [W5274267](#)
- ⑪ Split ring — [W5274269](#)
- ⑫ Headset bearings — [W540243](#)

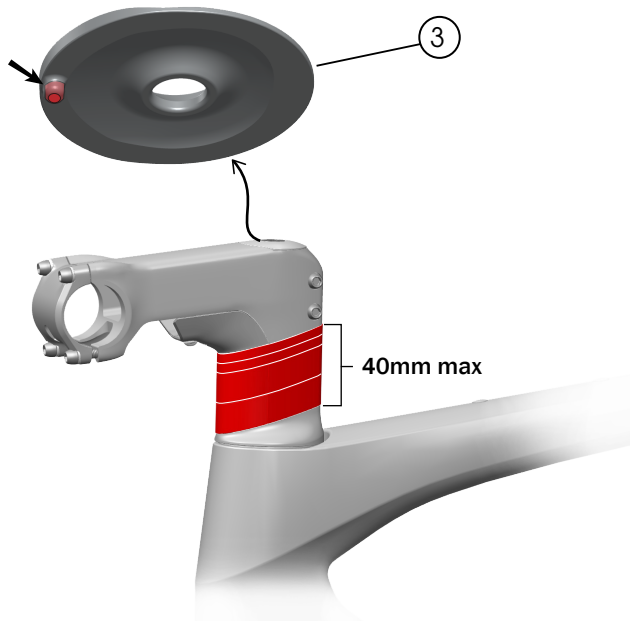


Headset — integrated stem: max spacers

WARNING

Below the stem

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

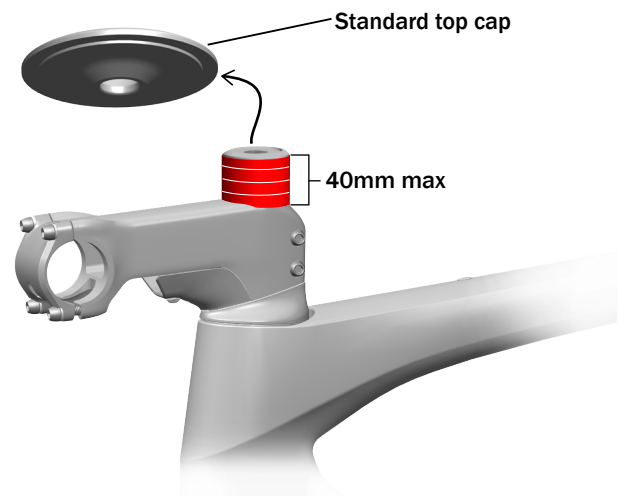


WARNING

Above the stem

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

NOTE: If you add spacers above the stem, you must use a standard top cap (without the indent).

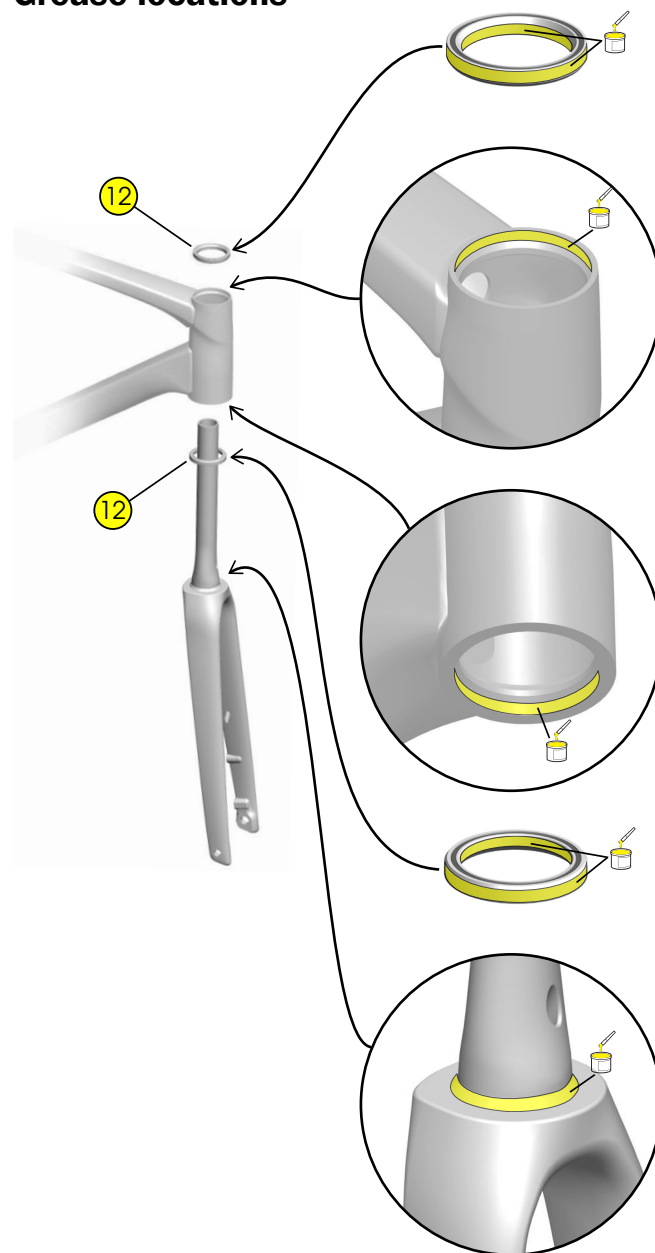


Headset — integrated stem: instructions

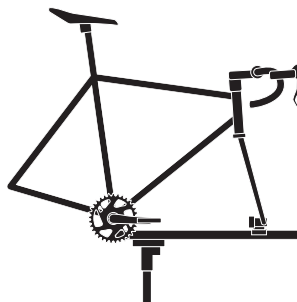
Fork and compression plug



Grease locations



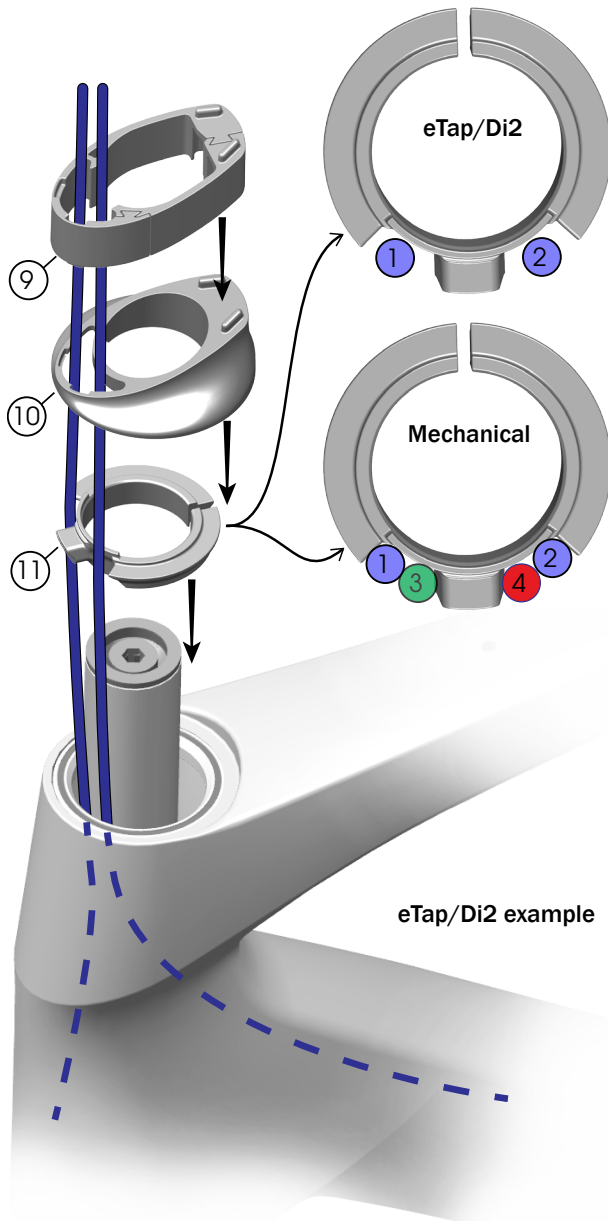
TIP: Use a sprint stand to hold the fork in place.



Headset — integrated stem: instructions (continued)

Headset parts

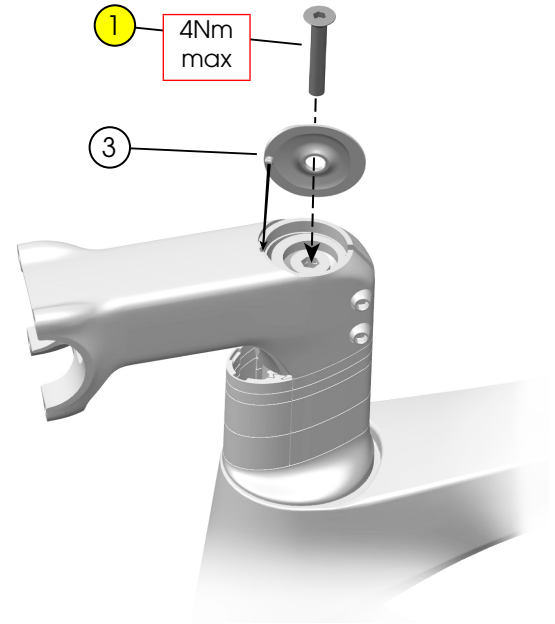
1. Route the headset parts down the housings.



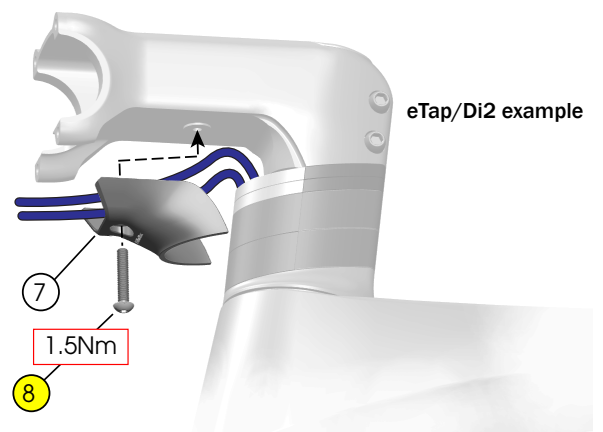
eTap/Di2 example

- ① Front brake hose
- ② Rear brake hose
- ③ Front derailleur cable
- ④ Rear derailleur cable

2. Loosely attach the stem (6).
3. Install the top cap (3) and tighten the top cap bolt (1).



4. Tighten the stem bolts (4) — alternating between them — until both are torqued to 5.2Nm.
5. Install the routing cover (7).



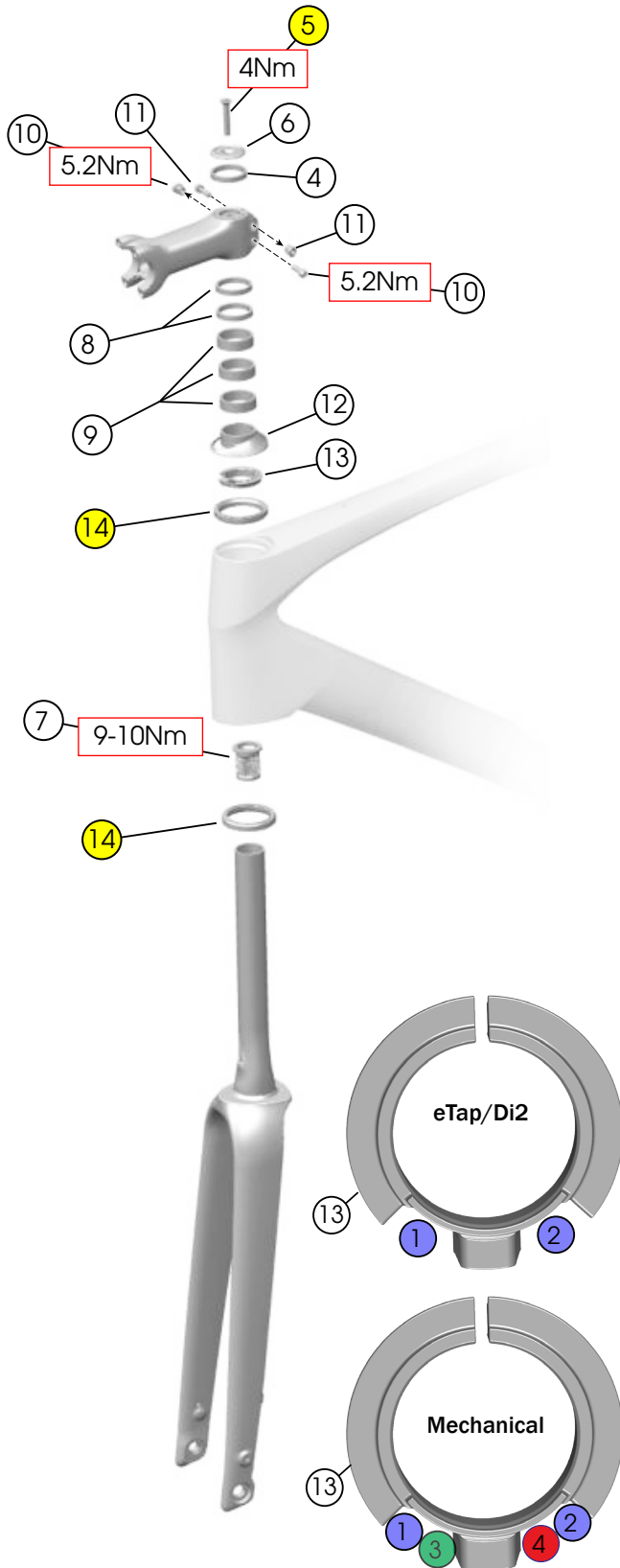
eTap/Di2 example

⑦

1.5Nm

⑧

Headset — standard stem



- ① Front brake hose
- ② Rear brake hose
- ③ Front derailleur cable
- ④ Rear derailleur cable
- ⑤ Top cap bolt
- ⑥ Top cap
- ⑦ Compression plug
- ⑧ Spacers (5mm) — [5253930](#)
- ⑨ Spacers (10mm) — [5253931](#)
- ⑩ Stem bolts (M5x18.5mm)
- ⑪ D-nuts (M5)
- ⑫ Bearing cover (standard stem) — [W5274615](#)
- ⑬ Split ring — [W5274269](#)
- ⑭ Headset bearings — [W540243](#)

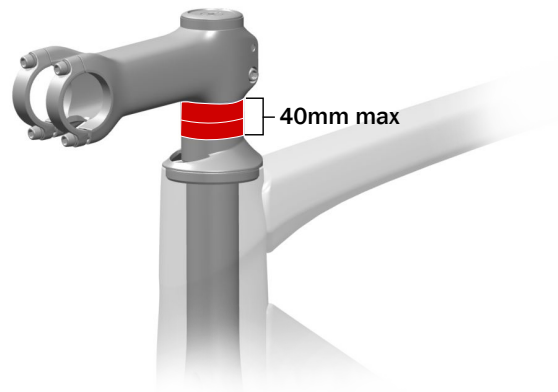
[W547432](#)

[5276082](#)

Max headset spacers

WARNING

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



Specifications

Frame

| | ALR |
|------------------------------|------------|
| Rear hub OLD | 142mm |
| Front hub OLD | 100mm |
| Upper fork steerer tube OD | 28.6mm |
| Lower fork steerer tube OD | 38.8mm |
| Bottom bracket type/width | T47/85.5mm |
| Brake rotor diameter min/max | 140/160mm |
| Tire width max 700c | 28mm |
| Fender compatible – rear | No |
| Fender compatible – front | No |

Chainline/chainring

| | Chainline | Max chainring teeth (T) | | |
|----------------|-----------|-------------------------|-------|-------------|
| | | Small | Large | Single (1x) |
| Shimano | 45mm | – | – | 48T |
| | 45mm | 32T | 53T | – |
| SRAM | 45mm | – | – | 48T |
| | 45mm | 36T | 53T | – |

Brake hose lengths (caliper to lever)

NOTE: The lengths below are based on a 100mm stem with 40mm of headset spacers below the stem.

| Frame size | Rear brake | Front brake |
|-------------|------------|-------------|
| 47cm | 1,350mm | 700mm |
| 50cm | 1,400mm | 750mm |
| 52cm | 1,450mm | 800mm |
| 54cm | 1,500mm | 850mm |
| 56cm | 1,500mm | 850mm |
| 58cm | 1,550mm | 850mm |
| 60cm | 1,600mm | 900mm |
| 62cm | 1,600mm | 950mm |

Wire lengths – Di2 (derailleur to battery)

| Frame size | Rear derailleur | Front derailleur |
|-------------|-----------------|------------------|
| 47cm | 1,200mm | 800mm |
| 50cm | 1,200mm | 800mm |
| 52cm | 1,200mm | 800mm |
| 54cm | 1,200mm | 800mm |
| 56cm | 1,200mm | 800mm |
| 58cm | 1,200mm | 800mm |
| 60cm | 1,200mm | 800mm |
| 62cm | 1,200mm | 800mm |

Housing lengths – mechanical (derailleur to lever)

| Frame size | Rear derailleur | Front derailleur |
|-------------|-----------------|------------------|
| 47cm | 1,450mm | 1,000mm |
| 50cm | 1,500mm | 1,050mm |
| 52cm | 1,550mm | 1,100mm |
| 54cm | 1,600mm | 1,150mm |
| 56cm | 1,600mm | 1,150mm |
| 58cm | 1,650mm | 1,200mm |
| 60cm | 1,700mm | 1,250mm |
| 62cm | 1,700mm | 1,250mm |