

TREK



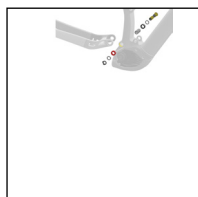
2023 Powerfly FS

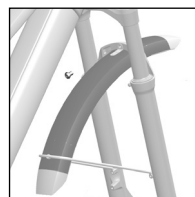
Gen 3 FS 9 EQ, FS 7, FS 4 EQ, and FS 4

SERVICE MANUAL

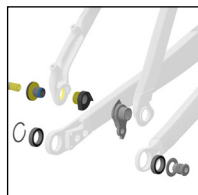
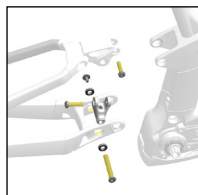
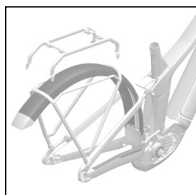
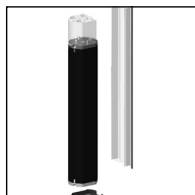
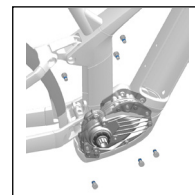
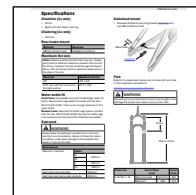
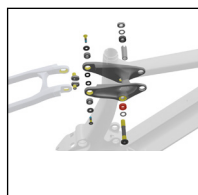
Rev 1 October 2023

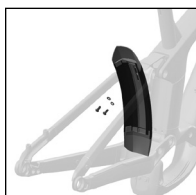
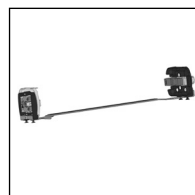
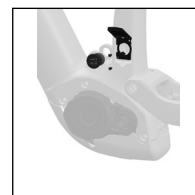
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Safety



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



Apply grease



Do not apply grease



Apply threadlocker

Nm

Torque



Hex tool size



Torx tool

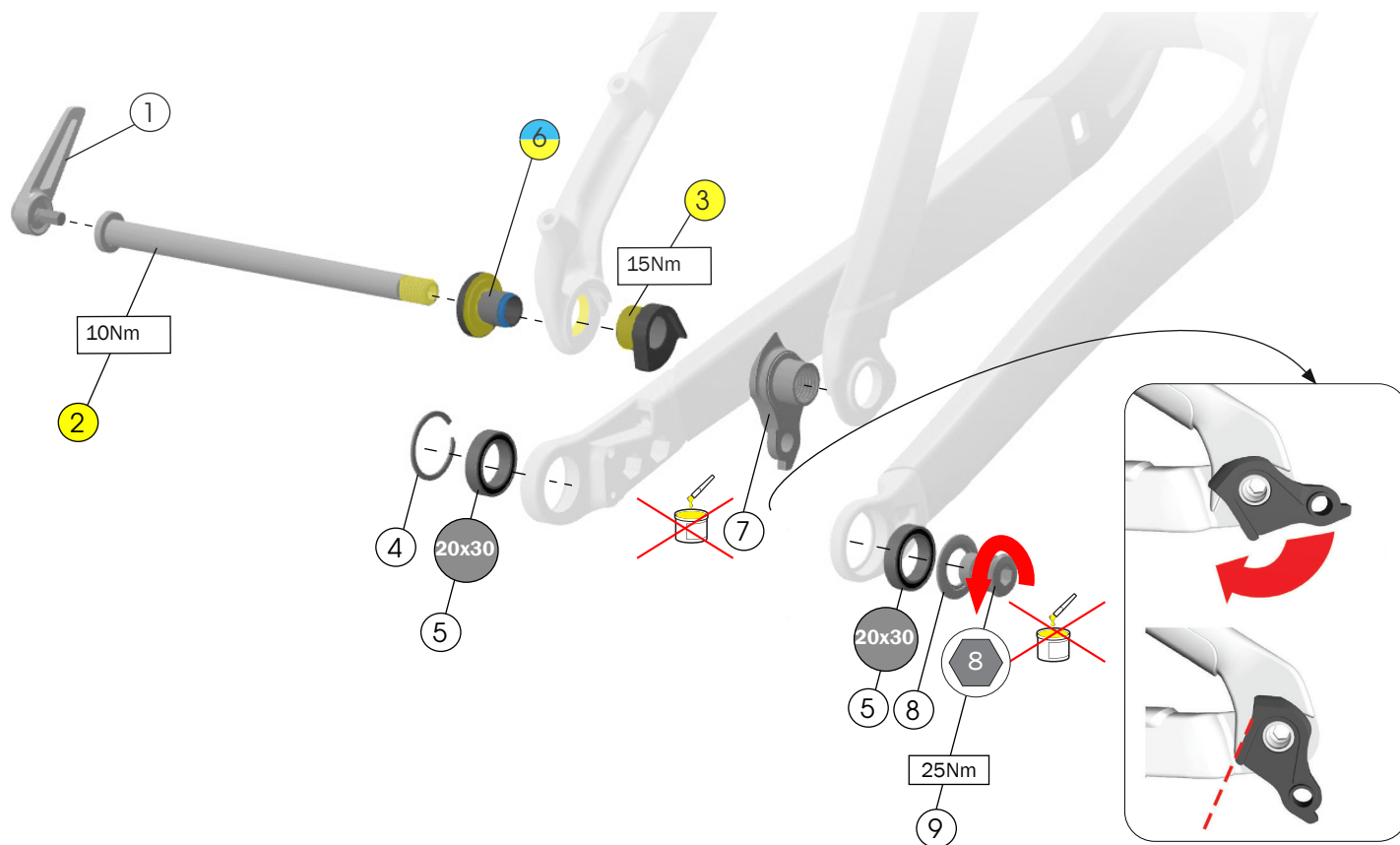


Drift size



Zip tie

Active Braking Pivot (ABP)



- ① Switch lever — [W573860](#)
- ② Thru axle, 184mm — [W583469](#)
- ③ Non-driveside ABP dropout nut — [W5269707](#)
- ④ Retaining ring — [W5251279](#) — [W5272776](#)
- ⑤ Bearings — [W5256340](#)
- ⑥ Non-driveside ABP bolt — [W5251141](#)
- ⑦ Derailleur hanger
- ⑧ Washer — [W5271425](#)
- ⑨ Bolt (left-hand thread)

Tools

- Bearing press, 20x30 drift
- Cassette lockring tool
- Grease
- 8mm hex tool
- Torque wrench (left-hand thread) with 8mm hex bit

This bicycle frame is designed to use a Universal Derailleur Hanger (UDH).

WARNING

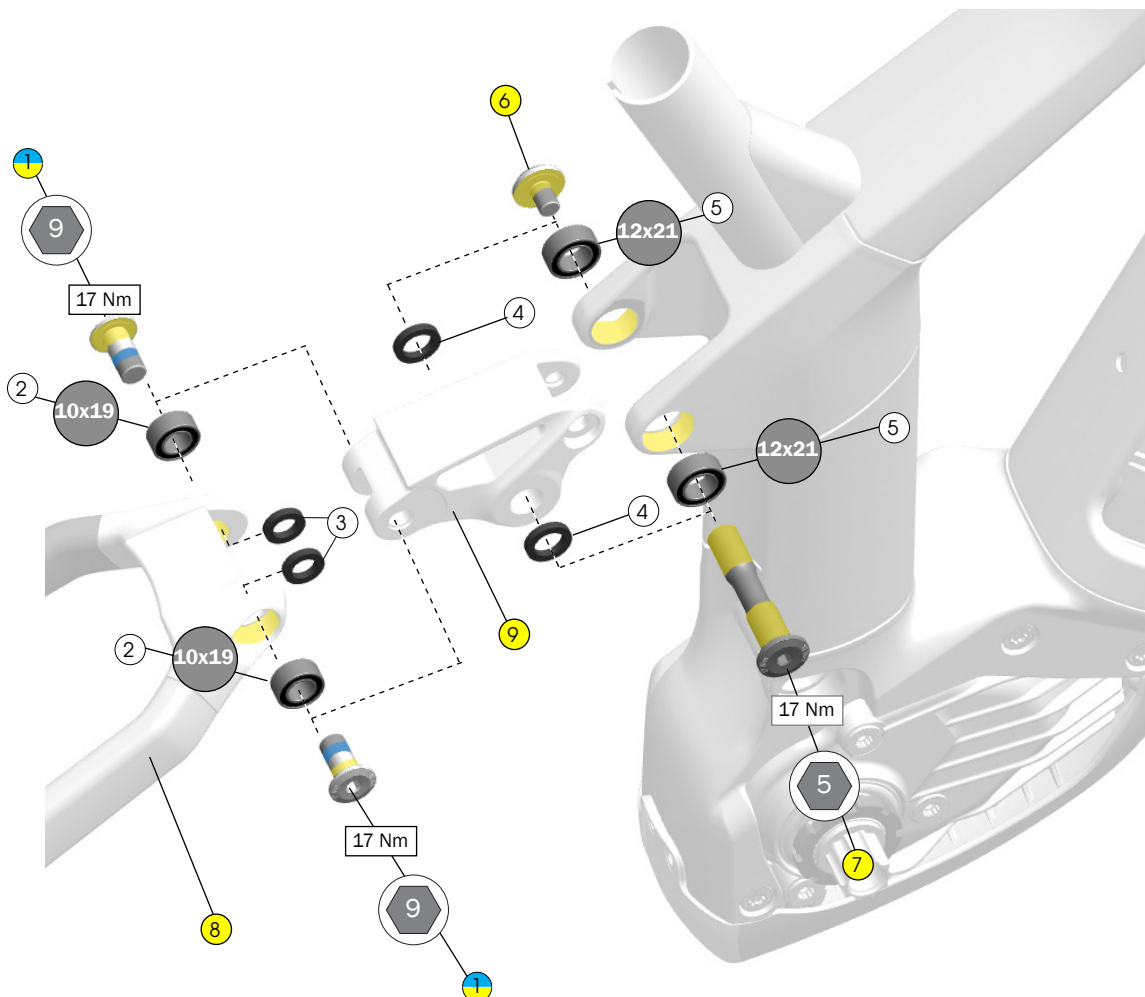
Do not apply grease to the derailleur hanger or bolt. Apply grease to only the thru axle.

NOTICE: The washer ⑧ is frame-specific. Install only the washer compatible with your frame.

NOTICE: Do not over-tighten ⑨. Over-tightening the bolt could cause the hanger to break.

For additional information about the UDH, refer to the SRAM user manual at www.sram.com.

Rocker pivot and seatstay

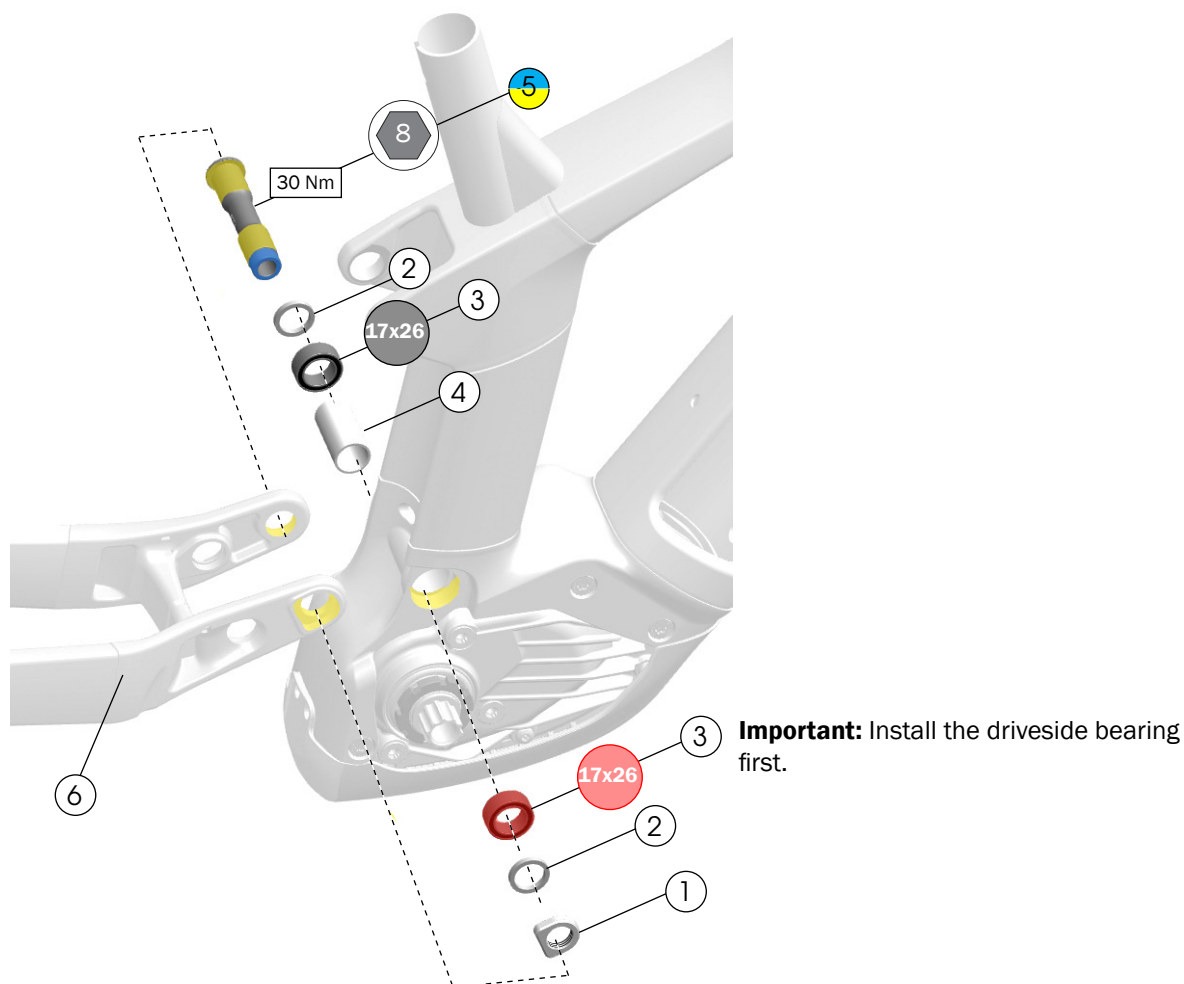


- ① Seatstay bolts, M10 x 21mm — [W1051358](#)
 - ② Seatstay bearings, 10 x 19 x 8mm — [W5256339](#)
 - ③ Spacers, 16 x 10 x 3mm — [W529969](#)
 - ④ Spacers, 18 x 12 x 3mm — [W574411](#)
 - ⑤ Rocker pivot bearings, 12 x 21 x 8mm — [W5256341](#)
 - ⑥ Rocker pivot axle nut, M8 x 11mm
 - ⑦ Rocker pivot axle, M16 x 83mm
- [5256640](#)
- ⑧ Seatstay — [44376](#)
Search trekbikes.com to find the color-matched part for your bike.
 - ⑨ Rocker link — [33983](#)
Search trekbikes.com to find the color-matched part for your bike.

Tools

- Bearing press, 10 x 19 and 12 x 21 drifts
- 5mm and 9mm hex wrenches
- Torque wrench with 5mm and 9mm hex bits

Main pivot and chainstay

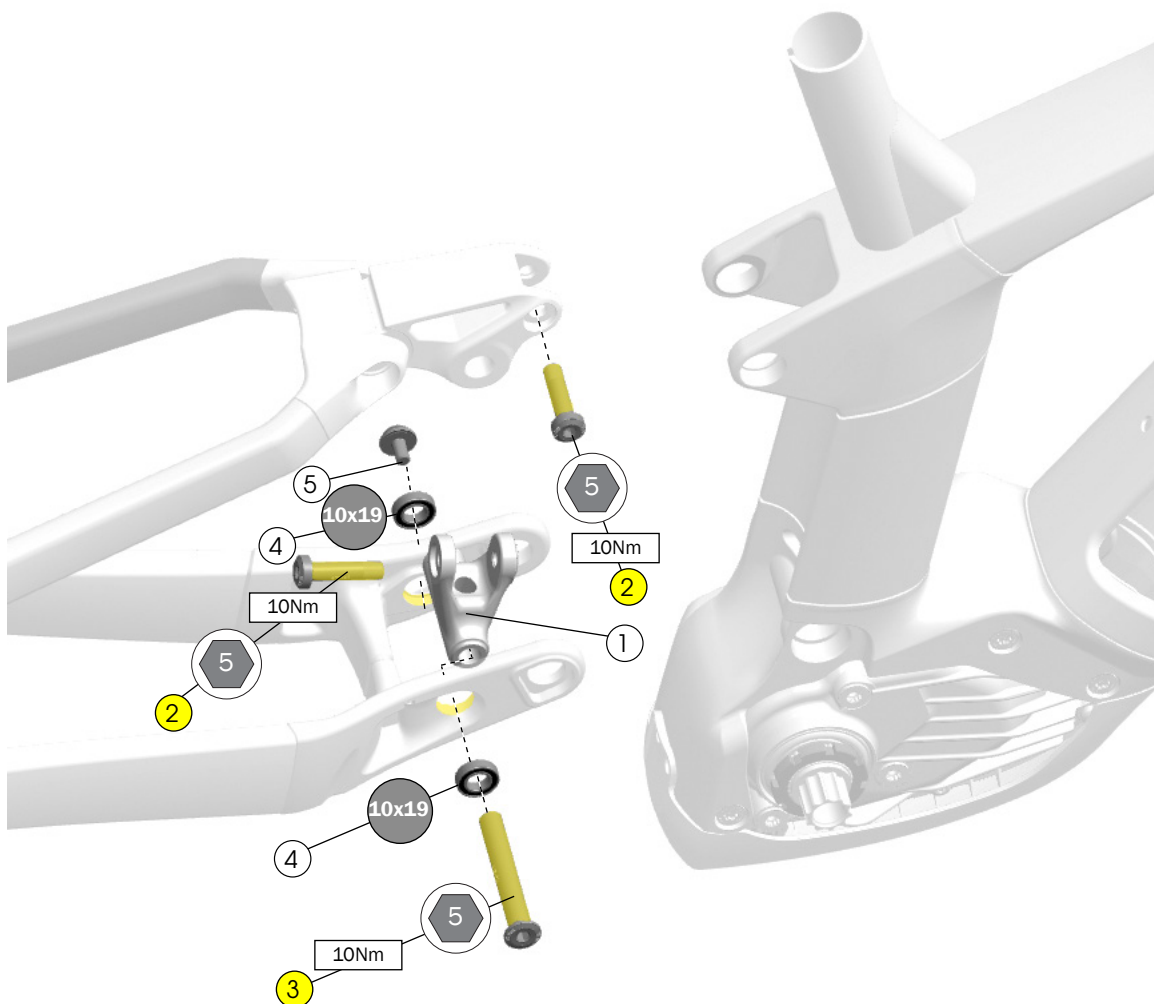


- ① Nut, M16 x 1.5mm — [W584134](#)
- ② Spacers, 22 x 17 x 3mm — [W440921](#)
- ③ Bearings, 17 x 26 x 10mm — [W5256338](#) — [5256639](#)
- ④ Main pivot sleeve — [W500592](#)
- ⑤ Main pivot axle, M8 x 62.5mm — [W601376](#)
- ⑥ Chainstay — [44377](#)
Search [trekbikes.com](#) to find the color-matched part for your bike.

Tools

- Bearing press, 17 x 26 drift
- 8mm hex tool
- Torque wrench with 8mm hex bit
- Grease

Shock mounts



Tools

- Bearing press, 10 x 19 drift
- 5mm hex tool
- Torque wrench with 5mm hex bit
- Grease

- ① Shock linkage — [5256637](#)
- ② Upper shock bolt, M8 x 33mm — [W600364](#)
- ③ Lower shock axle, M6 x 69mm — [5256638](#)
- ④ Bearings, 10 x 19 x 5mm — [W5256337](#)
- ⑤ Lower shock bolt, M6 x 11mm — [5256638](#)

Dimensions



Shock Dimensions

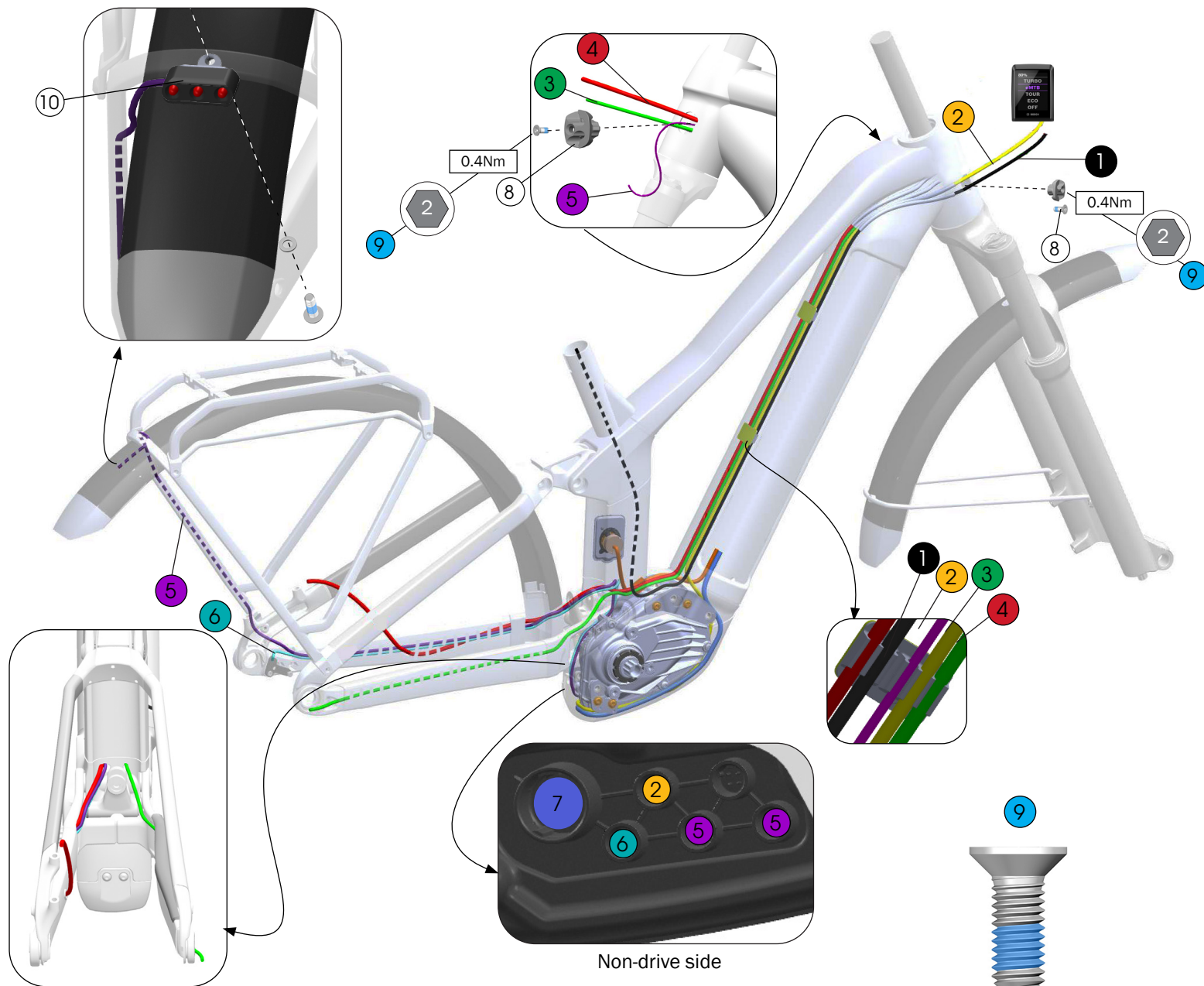
Eye-to Eye-length: 190mm

Stroke length: 45mm

Upper width: 20mm

Lower width: 20mm

Cable routing



1 Dropper post cable

2 Display cable — EB12.120.005*

3 Derailleur housing

4 Rear brake hose

5 Light cables (Lights included only on Powerfly Equipped models)

6 Speed sensor cable

7 Battery power cable — EB12.120.00T*

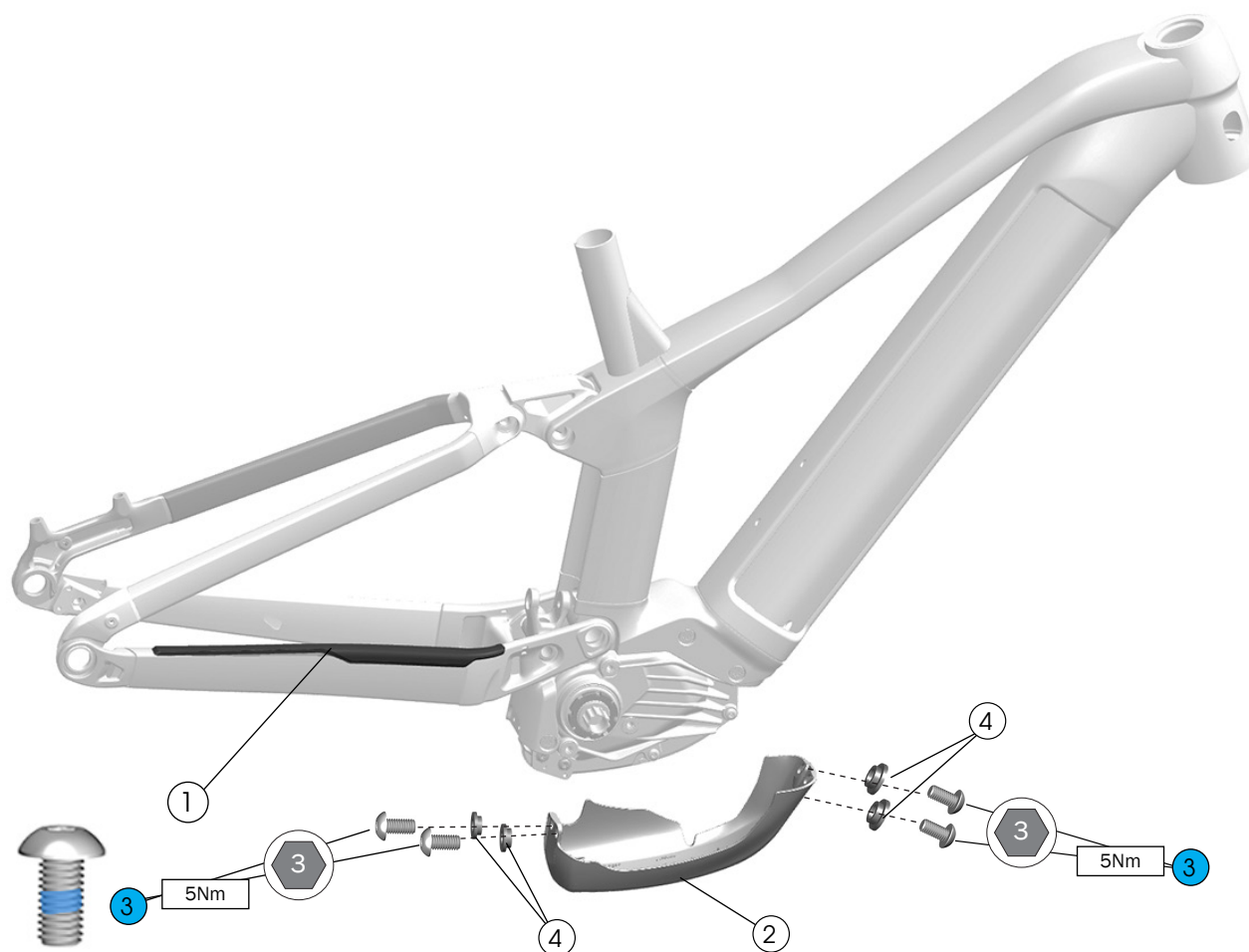
8 Housing guides — [W594006](#)

9 Bolts, M3 x 10mm — [W285213](#)

10 Supernova Powerfly Cargo Rack E3 Tail Light 2 — [W1047565](#)

*Bosch part number. Not available on [trekbikes.com](#).

Frame guards



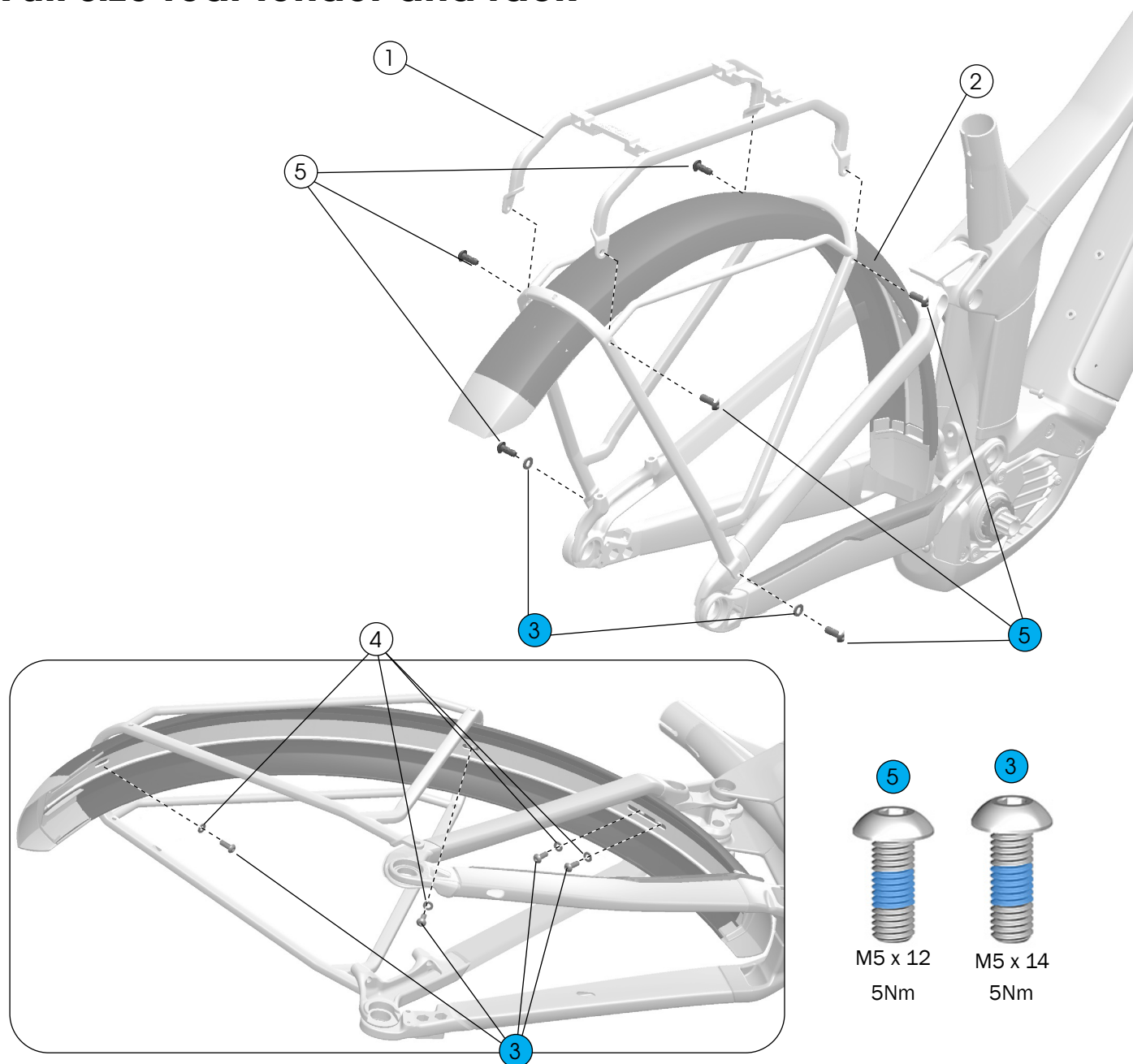
- ① Chainstay guard — [W587594](#)
- ② Drive unit guard — [W5269899](#)
- ③ Screws, stainless steel, M5x10 — [W549305](#)
- ④ Top hat spacers — [W5272256](#)

Adhesive guards ①

Use isopropyl alcohol to clean the frame surface where the guard attaches. Wait for the alcohol to dry before applying the guard.

Notice: Do not clean the entire frame with isopropyl alcohol. Isopropyl alcohol could damage the paint.

Full-size rear fender and rack



① Rear rack — [W5289962](#)

② Rear fender — [W600725](#)

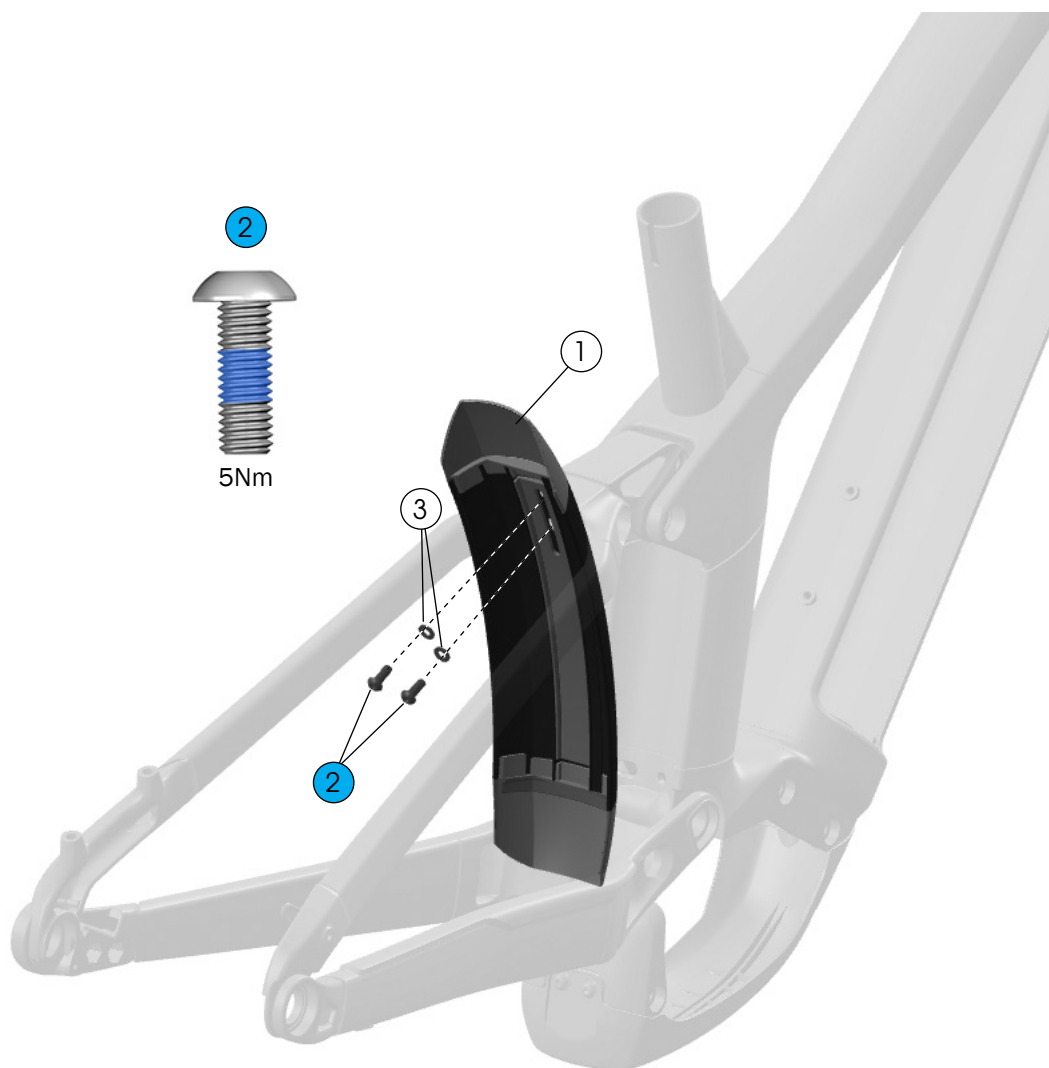
③ Bolts, stainless steel , M5 x 14mm

④ Washers, stainless steel, M5 x 1mm

— [5251710](#)

⑤ Bolts, stainless steel , M5 x 12mm — [W584855](#)

Mini rear fender



① Mini fender — [W1040072](#)

② Bolts, stainless steel, M5 x 14mm,

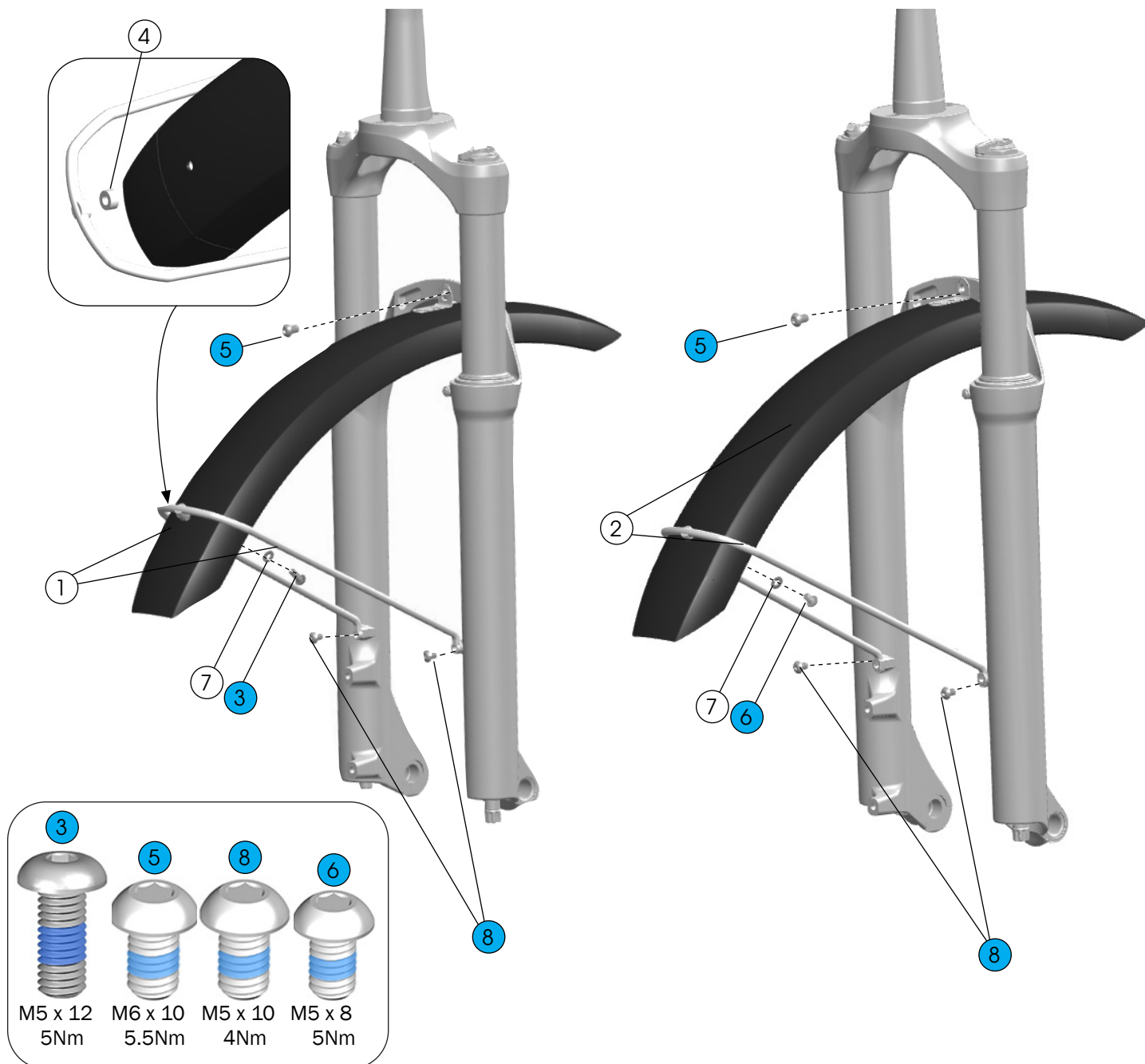
③ Washers, flat, stainless steel, M5 x 1mm

— [5251710](#)

Front fender

27.5" wheel

29" wheel

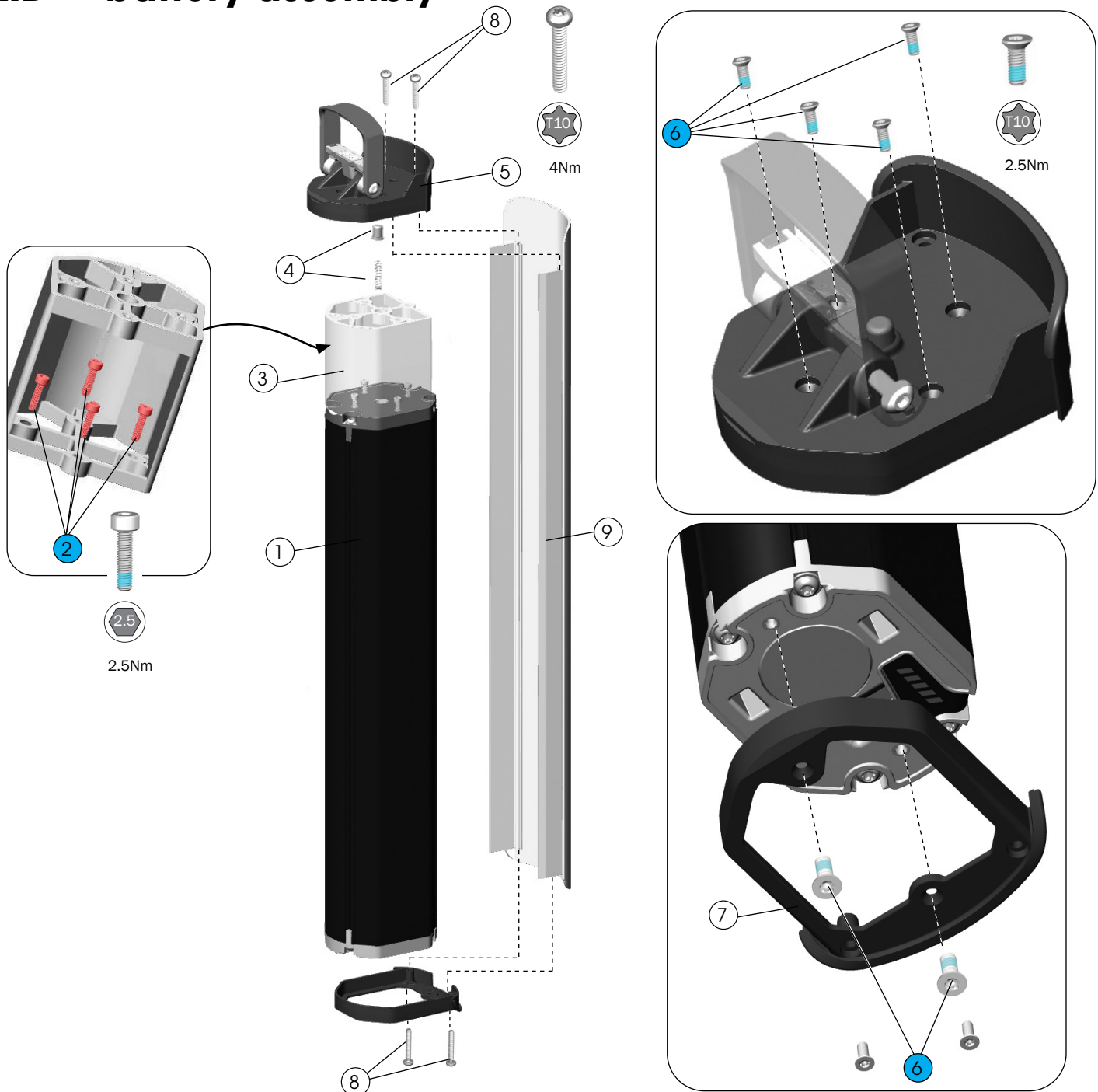


- ① Front fender and strut, 27.5" — [601256](#)
- ② Front fender and strut, 29" — [601257](#)
- ③ Screw, M5 x 12mm, stainless steel — [W584855](#)
- ④ Washer — [5319894](#)

- ⑤ Bolt, M6 x 10mm, stainless steel (Longer bolt may be required if using a light mounting bracket)
- ⑥ Bolt, M5 x 8mm, stainless steel
- ⑦ Washer, M5 x 1mm, stainless steel
- ⑧ Bolts, M5 x 10mm, stainless steel — [W549305](#)

*Fender parts for 29 wheel are compatible with only the originally equipped SR SUNTOUR fork.

RIB — battery assembly



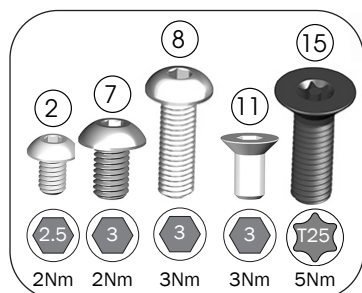
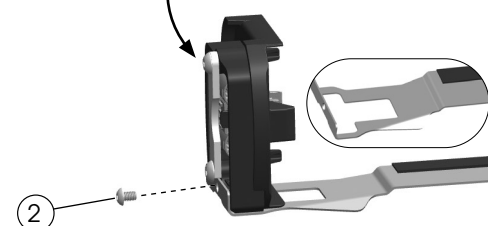
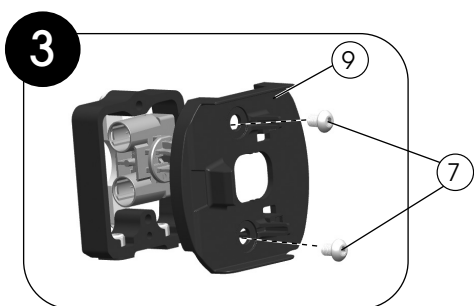
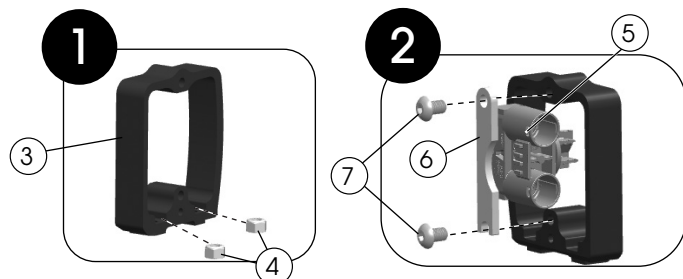
- ① Battery, Vertical, Smart System,
500Wh — EB12.100.018*
625Wh — EB12.100.012*
- ② Socket head screws, M3 x 12mm — [W5257054](#)
- ③ Spacer (for use with 500Wh battery) — [W5252256](#)
- ④ Push pin and spring — [5312675](#)
- ⑤ Battery handle assembly — [W5252236](#)

- ⑥ Bolts, M3 x 8mm — [W5269016](#)
- ⑦ Docking bracket — [W5252240](#)
- ⑧ Bolts, M3 x 20mm — [W5254060](#)
- ⑨ Cover — [44370](#)
Search trekbikes.com to find the color-matched part
for your bike.

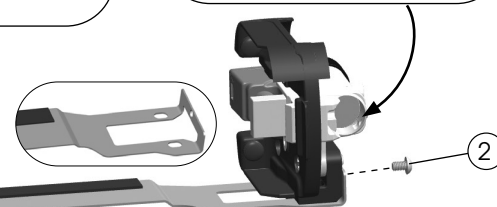
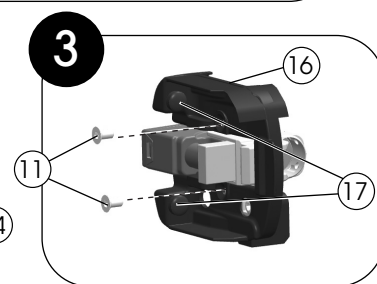
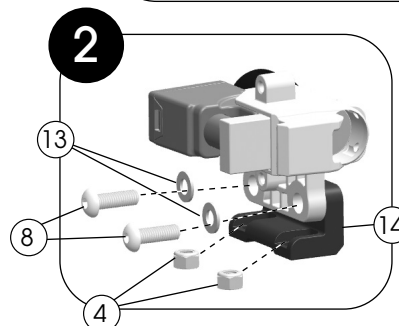
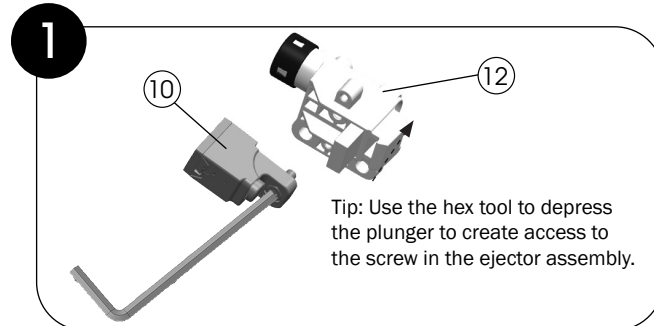
*Bosch part number. Not available on trekbikes.com.

RIB — docking assembly

Lower assembly



Upper assembly



① Alignment plate — [W5252805](#)

② Screws

④ Locknuts

⑧ Screws

⑪ Countersunk bolts

⑮ T25 security screws

⑬ Washers

③ Lower docking bracket

⑭ Upper docking bracket

— [5257257](#)

— [5277571](#)

⑤ Battery connection plug — EB12.100.015*

⑥ Power connection retention bracket

⑦ Screws — [W549307](#)

⑨ Lower battery mounting plug — [W5252293](#)

⑮ Upper lock cover — [W5252292](#)

⑮ Bumpers — [579326](#)

⑮ Ejector assembly — [579324](#)

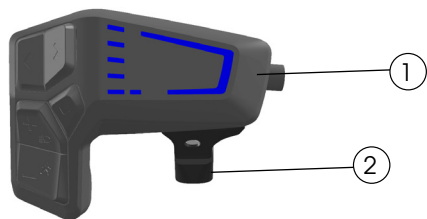
⑮ Lock assembly — [W562311](#)

— [5312122](#)

*Bosch part number. Not available on trekbikes.com.

Remote and displays

LED remote



- ① LED remote — [5288736](#)
- ② LED remote universal clamp — [5288743](#)

Kiox 300



Kiox 300 — [5288735](#)

Intuvia 100

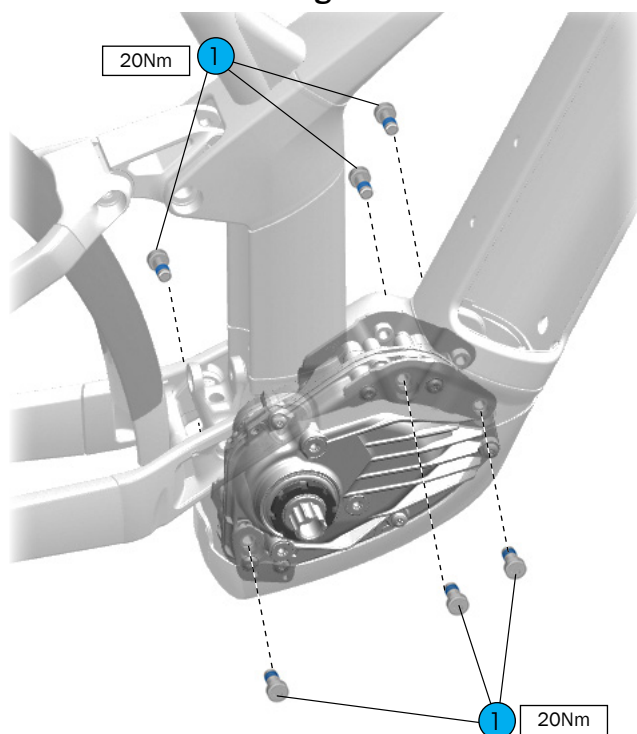


Intuvia 100 — EB13.100.00F

*Bosch part number. Not available on [trekbikes.com](#).

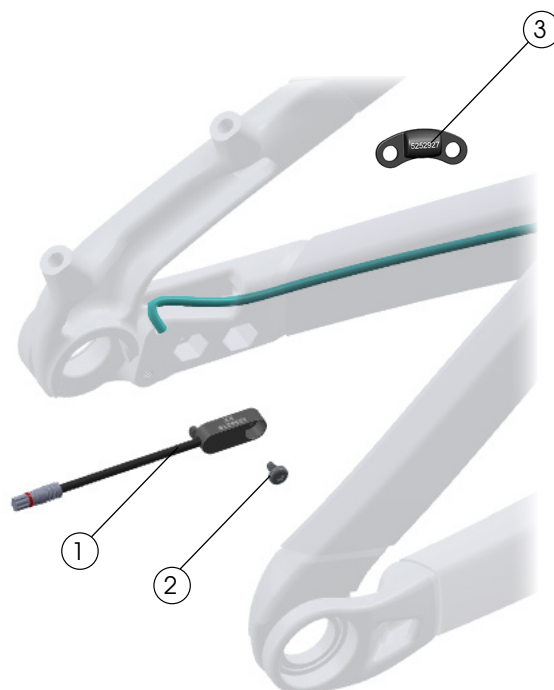
Drive system components

Drive unit and mounting bolts



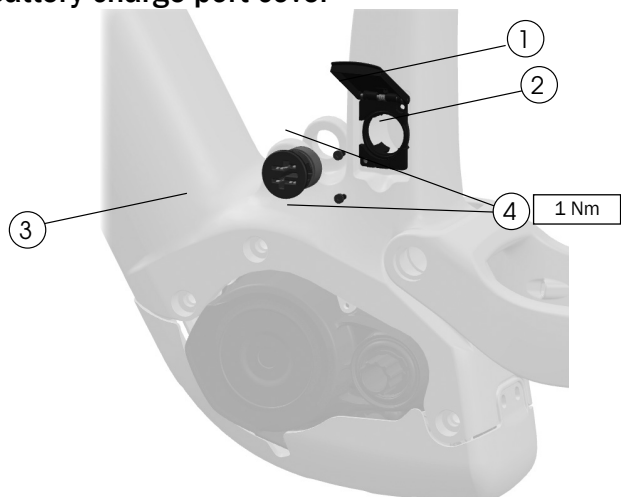
- ① Mounting bolts, TP40 — [5265419](#)
(Bosch 1270.016.470)

Speed sensor



- ① Speed sensor — [5284750](#)
② Bolt — [W562831](#)
③ Rotor mount speed sensor magnet — [W5252927](#)

Battery charge port cover

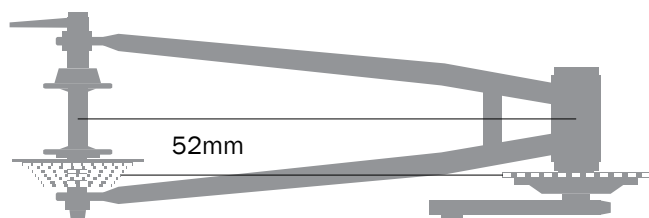


- ① Charge port cover — [44373](#)
Search trekbikes.com to find the color-matched part for your bike.
② Base — [W5251862](#)
③ Charge socket — EB12.120.04A*
④ Bolts, M3 x 6mm — [5284849](#)

*Bosch part number. Not available on trekbikes.com.

Specifications

Chainline (1x only)



- Boost hub with offset chainring.

Max chainring (1x only)

- 46T

Rear brake mount

Minimum	Maximum
180mm, direct mount	Adaptable to 203mm

Maximum tire size

Notice: Measurements of actual tires may vary. Always verify there is sufficient clearance between the tire and the frame. Improper tire size could damage the bicycle frame. Trek recommends 6mm clearance above and on both sides of the tire.

Frame	Maximum tire size
XS, S	27.5" x 2.6"
M, L, XL	29" x 2.6"

Water bottle fit

XS and S frames: Use a Bontrager side-load cage and a 21oz (621ml) bottle.

Seatpost

	WARNING
Always follow the seatpost manufacturer's minimum insertion recommendation. Failure to follow the recommendation could cause damage to the seatpost and result in injury to the rider.	

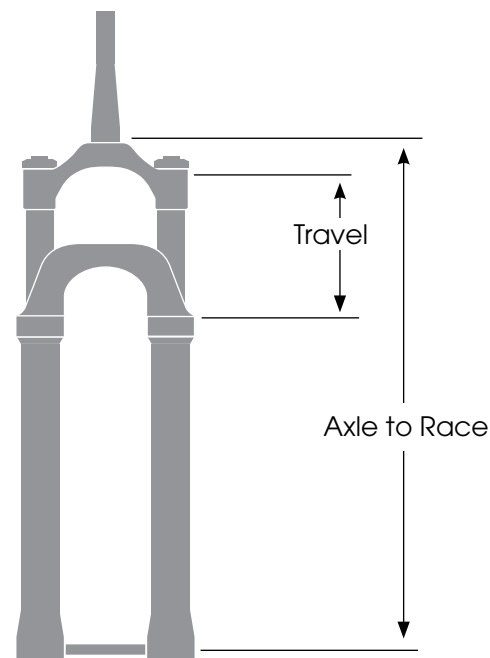
Measurement		
Maximum insertion	Frame	
	XS	180mm
	S	207mm
	M	215mm
	L	246mm
	XL	297mm
Seat tube inside diameter		31.6mm
Seat tube post clamp outer diameter		36.4mm

Fork

Refer to the suspension setup card included with your bike or the suspension calculator at

[Trek bikes.com/suspension-calculator](https://trekbikes.com/suspension-calculator).

	WARNING
Exceeding the recommended maximum fork length could damage the bicycle and result in injury to the rider.	



Frame size	Axle to Race (mm)		Travel (mm)
XS, S	Recommended	505.5	100
	Maximum	520	120
M, L, XL	Recommended	540	120
	Maximum	545	120