

2023 FX+ / DUAL SPORT+

SERVICE MANUAL

Contents



Brake/shift routing



E-system components and routing



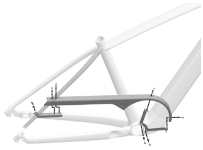
Battery and controller assembly



Bottom bracket/torque sensor



Fork and headset



Chainguard



Fenders and rack



Light routing — FX+



Light routing — DS+



		FX+ / Dual Sport+
Rear hub outer limit dimension (OLD)		144.5mm
Front hub outer limit dimension (OLD)		100mm
Fork steerer tube outer dimension (OD)		28.6mm
Bottom bracket type/width		T47
Brake rotor diameter min/max		160mm
Chainline		49mm
Chainring max		46t
Tire width max 700c (without fenders)	Front	50mm
	Rear	50mm
Tire width max 700c (with fenders)	Front	40mm
	Rear	40mm

Specifications



FX+



Dual Sport+

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 thread-locker 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 appropriate grease



Apply threadlocker

Nm Torque

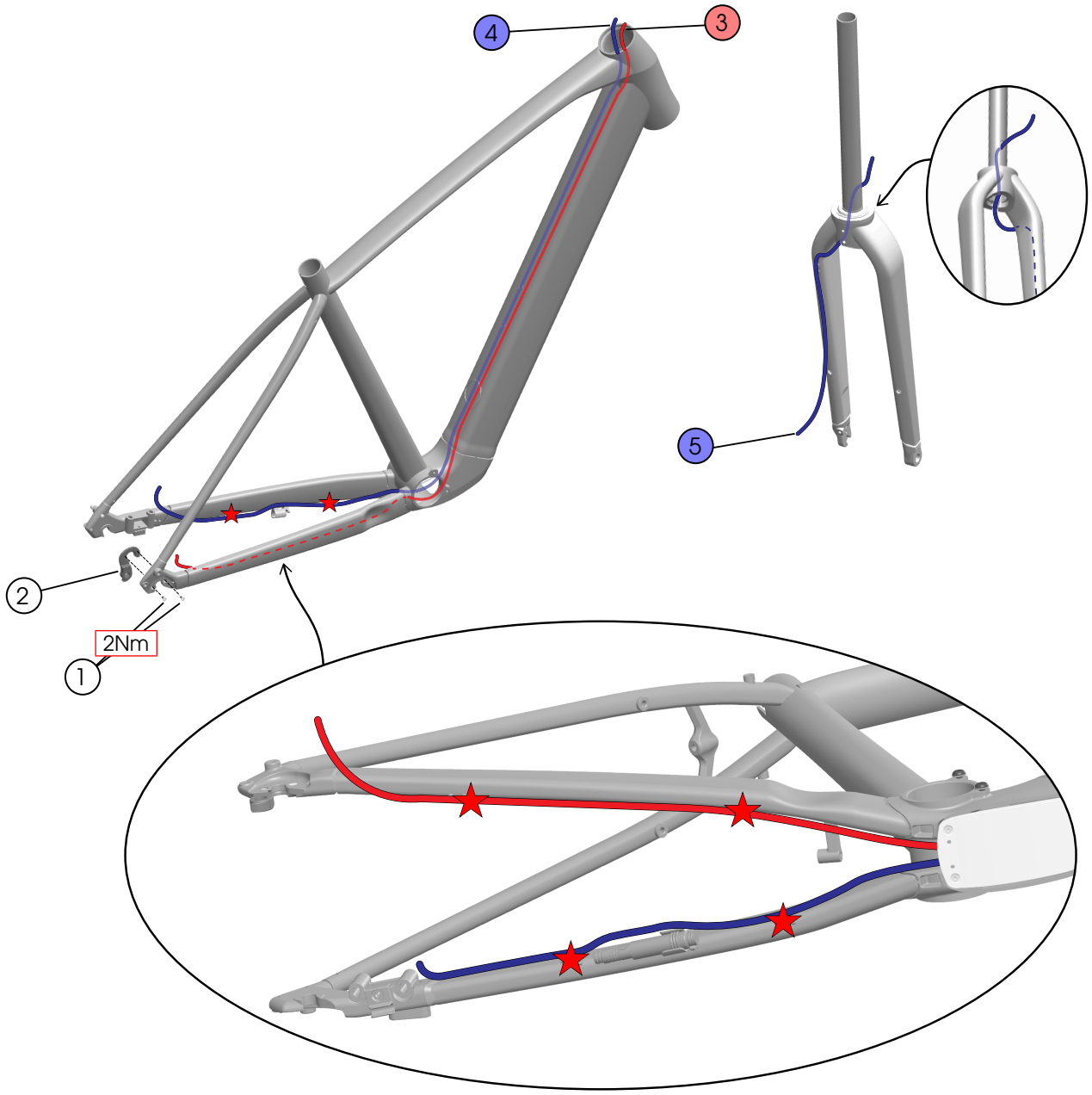
★ Cable (zip) tie

More e-bike information

For additional information about the e-bike system, go to the *Electric bikes* section at trekbikes.com/manuals.

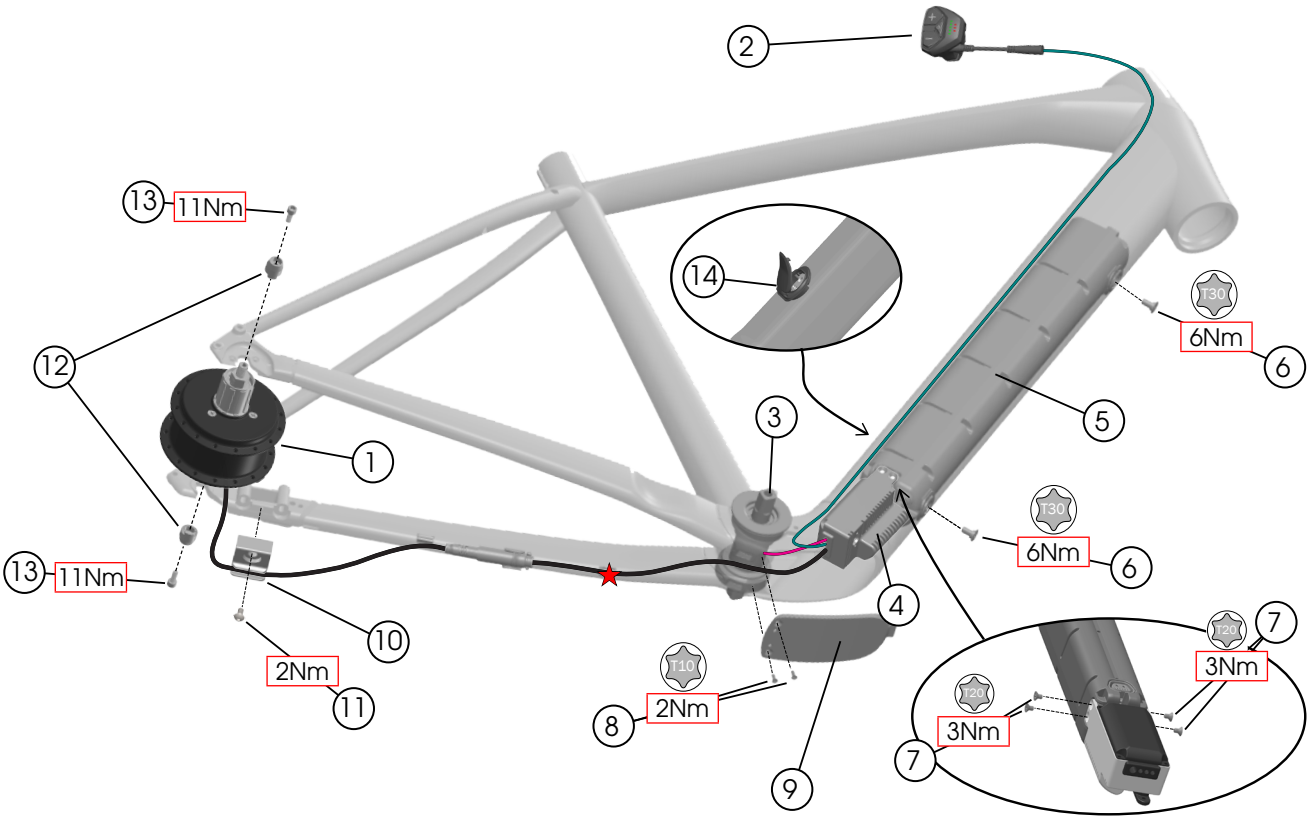
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Brake/shift routing



1. Derailleur hanger bolts (M3x7mm) — *W318604*
2. Derailleur hanger — *W5268484*
3. Rear derailleur cable
4. Rear brake hose
5. Front brake hose

E-system components and routing



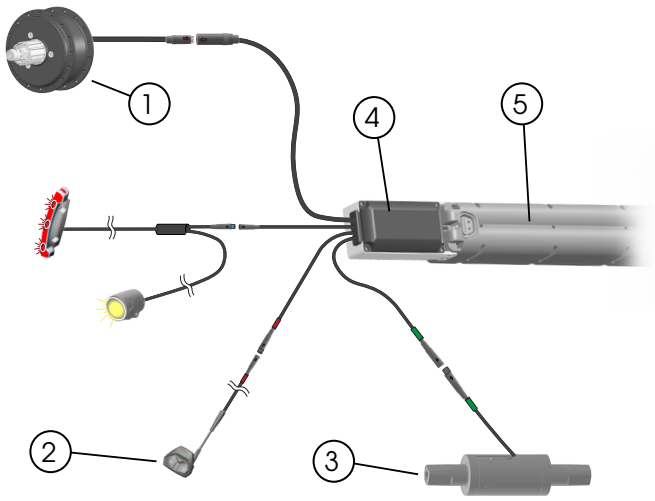
1. Hub motor — *W5266204*
2. Remote — *W5260746*
3. Torque sensor — *W5257770*
4. Controller — *W5252986*
5. Battery — *W5255878*
6. T30 drive bolts (M6x8mm) — *W5258222*
7. T10 drive bolts (M4x6mm) — *5269023*
8. T10 drive bolts (M3x8mm) — *5284384*
9. Bottom bracket cover — *5284384*
10. Cable guide — *5284388*
11. Cable guide bolt (M4x6mm) — *5284388*
12. Anti-rotational flange nut — *5288641*
13. Axle bolt — *5288641*
14. Charge port cover — *W5263927*

Before removing the rear wheel

1. Shift to the smallest rear cog (highest gear).
2. Unplug the motor cable at the chainstay.
3. Remove the cable guide bolt (11).
4. Remove both axle bolts (13) and flange nuts (12).

Wiring diagram

NOTE: Light wiring diagrams are on pages 10-11.

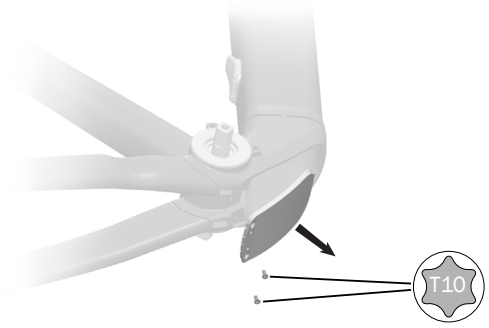


Battery and controller assembly

AUTHORIZED DEALERS ONLY: Only authorized dealers should perform service on the e-system. Improper handling, tools used, or torque applied to these parts may result in damage to the e-system components and cables.

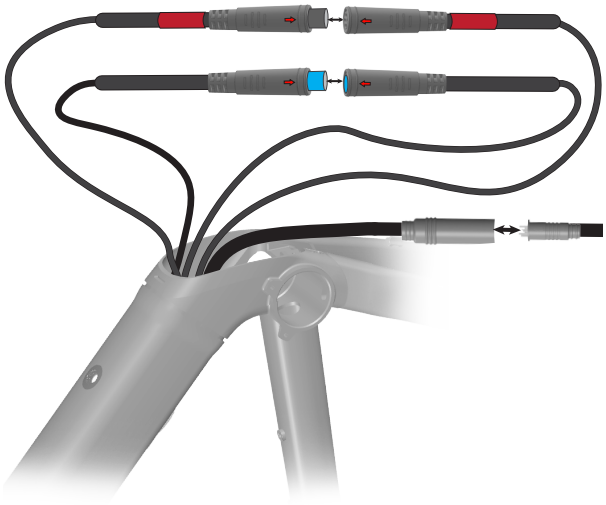
Remove the battery

1. Remove the bottom bracket cover (9).

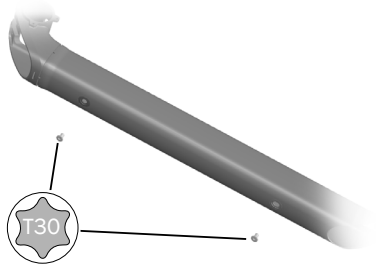


2. Cut the zip tie holding the motor cable to the frame.
3. Unplug all cables in the bottom bracket shell.

   NOTICE: Do not pull the cables apart by the wires — this can damage them.

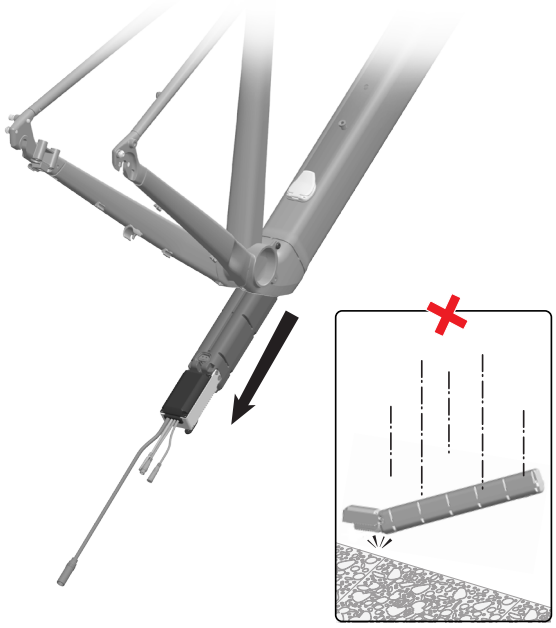


4. Remove the two bolts (6) under the down tube.

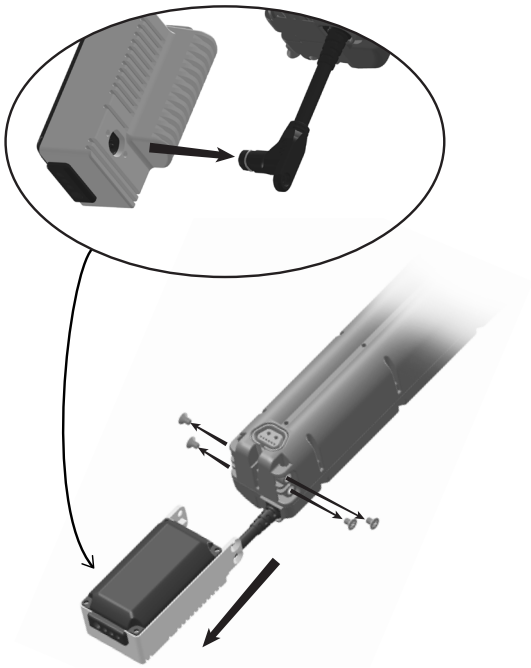


5. Rotate the bicycle and slide the battery assembly out (this uses gravity).

   NOTICE: Don't drop it! The battery can slide out easily and fall to the floor, causing damage.



6. Unplug the battery from the controller and remove the bolts (7) connecting the controller to the battery.

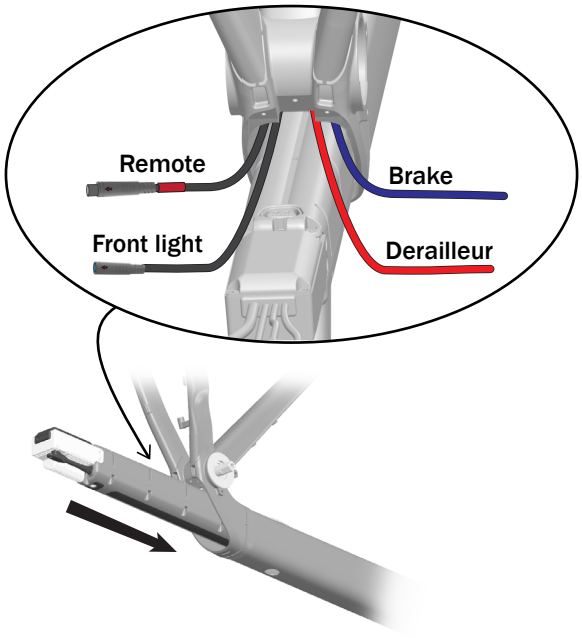


Battery and controller assembly (continued)

Install the battery

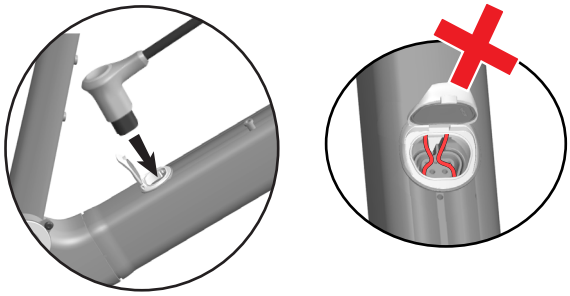
1. Use the four bolts (7) to attach the controller to the battery. Torque the bolts to 3Nm.
2. Slide the battery assembly into the down tube — positioning the cables on the top of the battery as shown below. Readjust the cables, if necessary.

   NOTICE: Do not force it — the battery should slide in without applying extra pressure.

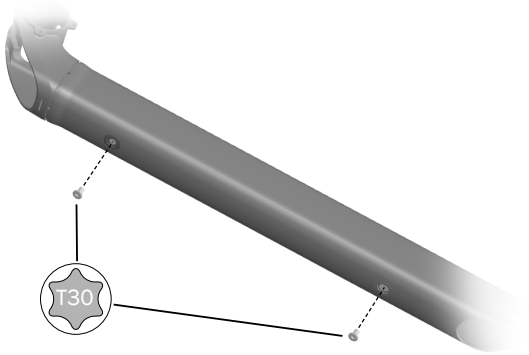


3. Make sure there are no cables between the charge port opening and the battery.

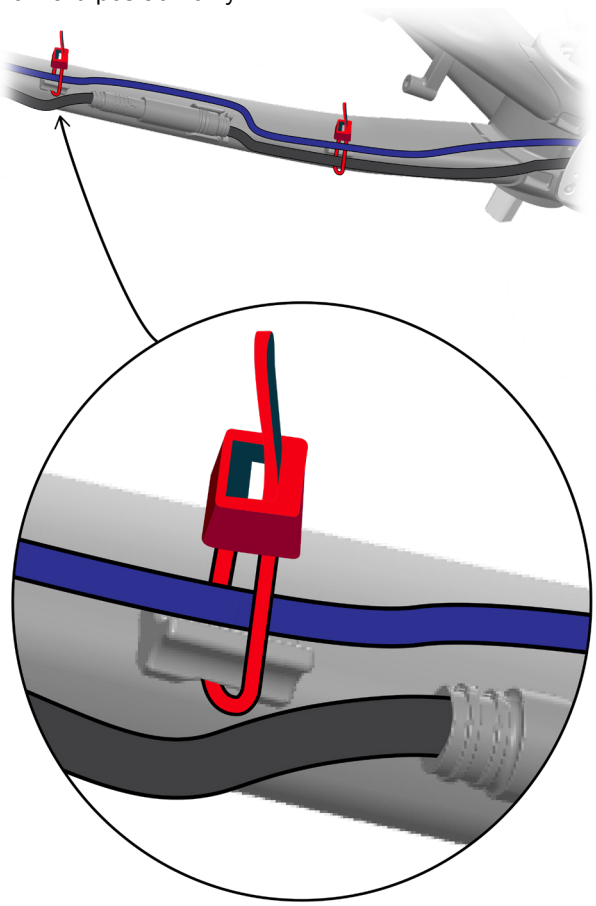
   TIP: Insert an unplugged charger to help align the charge port.



4. Install and tighten the bolts (6) to 6Nm.



5. Connect all cables.
6. Zip tie the rear brake hose to the chainstay in two places. Zip tie the motor cable to the chainstay in the forward position only.



7. Fit all cables into the bottom bracket shell and install the cover (9).

   NOTICE: Do not pinch the cables.

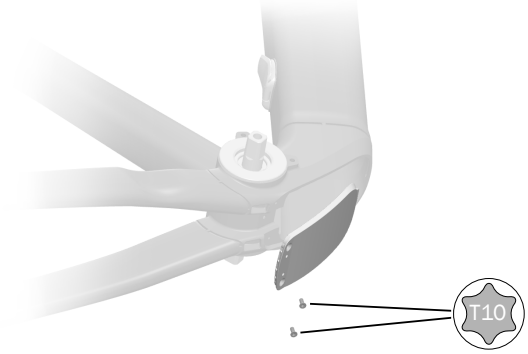
Bottom bracket/torque sensor

AUTHORIZED DEALERS ONLY: Only authorized dealers should perform service on the e-system. Improper handling, tools used, or torque applied to these parts may result in damage to the e-system components and cables.

Remove the bottom bracket

Remove the chainguard, cranks, and pedals before following these instructions.

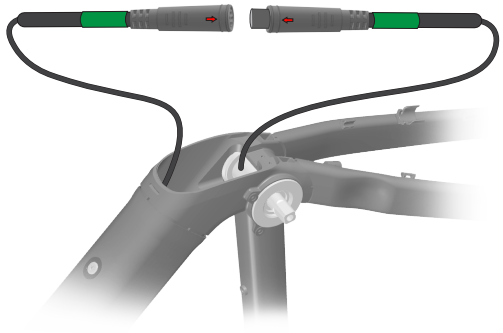
1. Remove the bottom bracket cover (9).



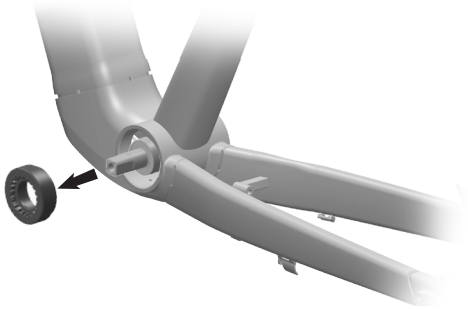
2. Disconnect the torque sensor cable.

   NOTICE: Do not pull the cables apart by the wires — this can damage them.

   NOTICE: If you do not disconnect the plug, you will damage the torque sensor cable when you try removing the bottom bracket cup.



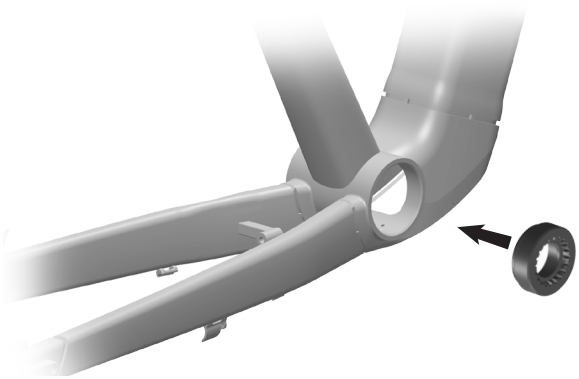
3. Remove the non-driveside cup.



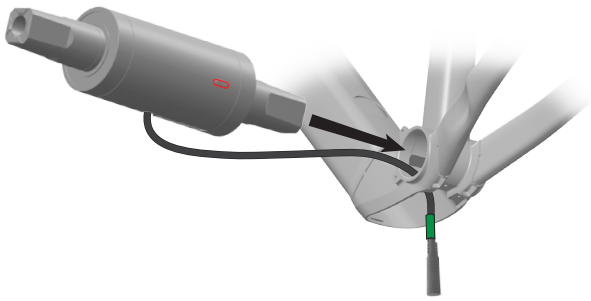
4. Pull out the torque sensor/bottom bracket.
5. Remove the driveside bottom bracket cup, if necessary.

Install the bottom bracket

1. Install the driveside cup. Torque to 35Nm.



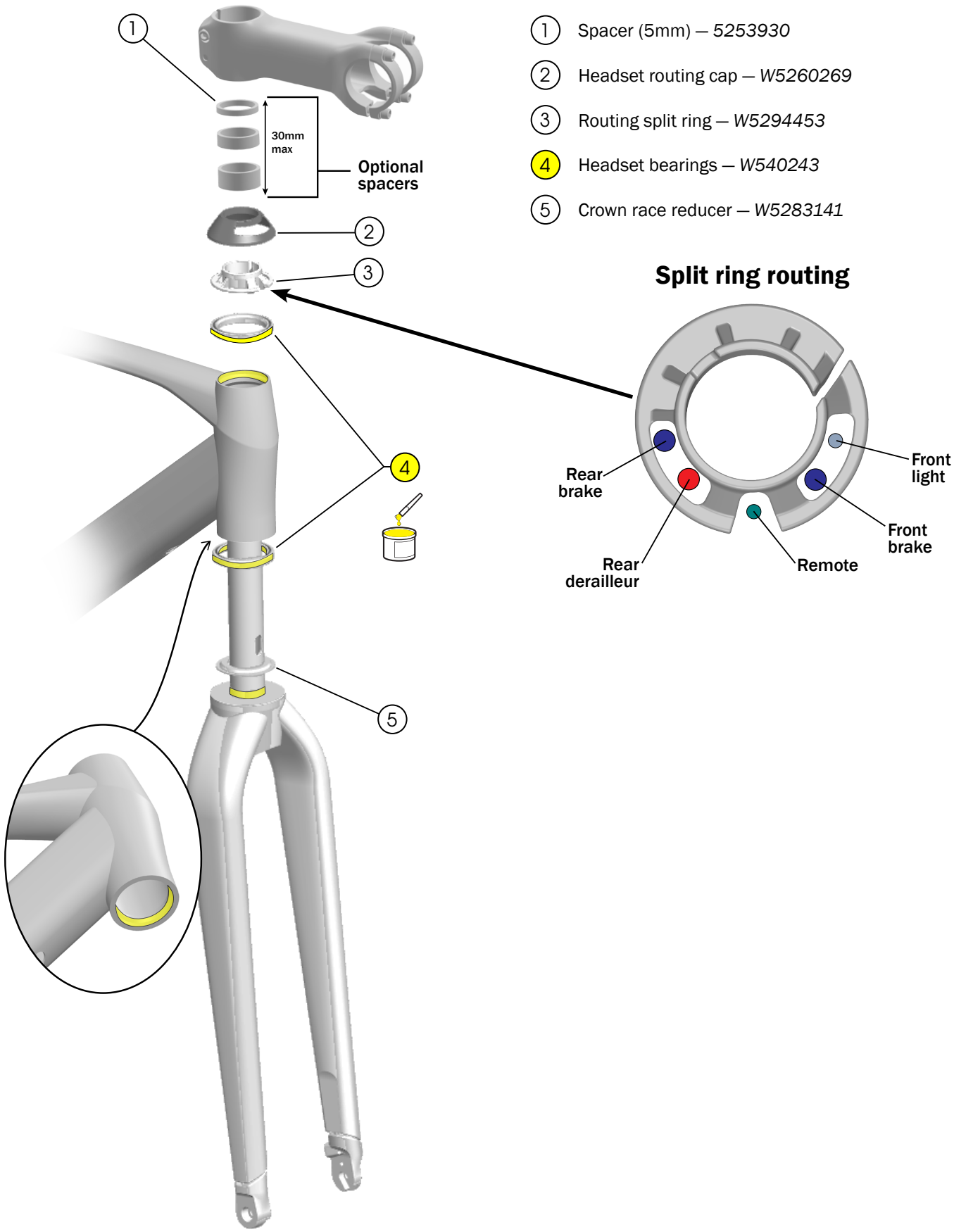
2. Insert the torque sensor and cable — notched side first — into the non-drive side.



3. Install the non-driveside cup. Torque to 35Nm.
4. Reconnect the bottom bracket/torque sensor cable.
5. Fit all cables into the bottom bracket shell and install the cover (9).

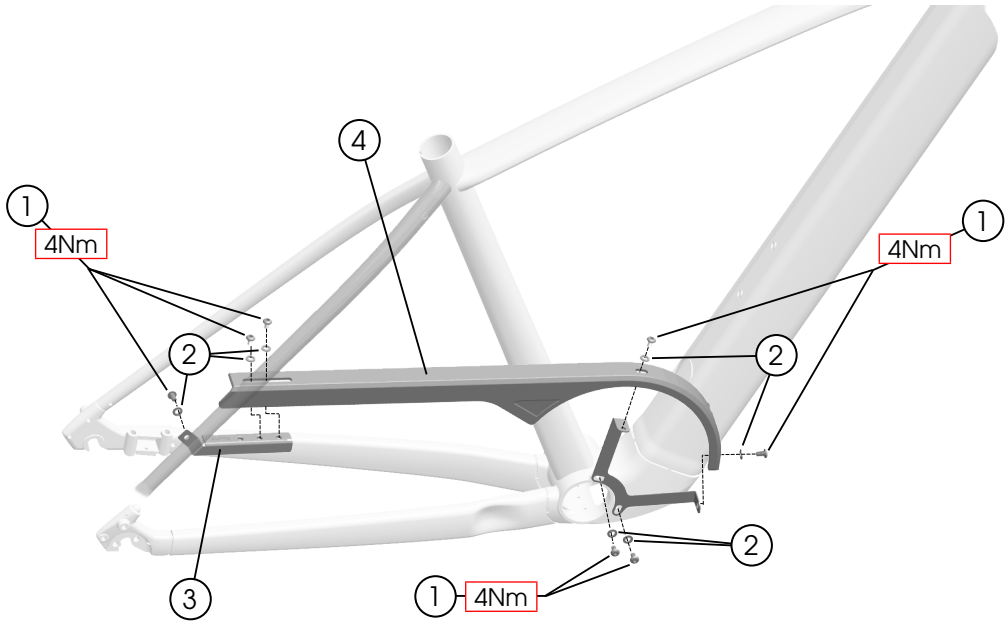
   NOTICE: Do not pinch the cables.

Fork and headset



1. Spacer (5mm) — *5253930*
2. Headset routing cap — *W5260269*
3. Routing split ring — *W5294453*
4. Headset bearings — *W540243*
5. Crown race reducer — *W5283141*

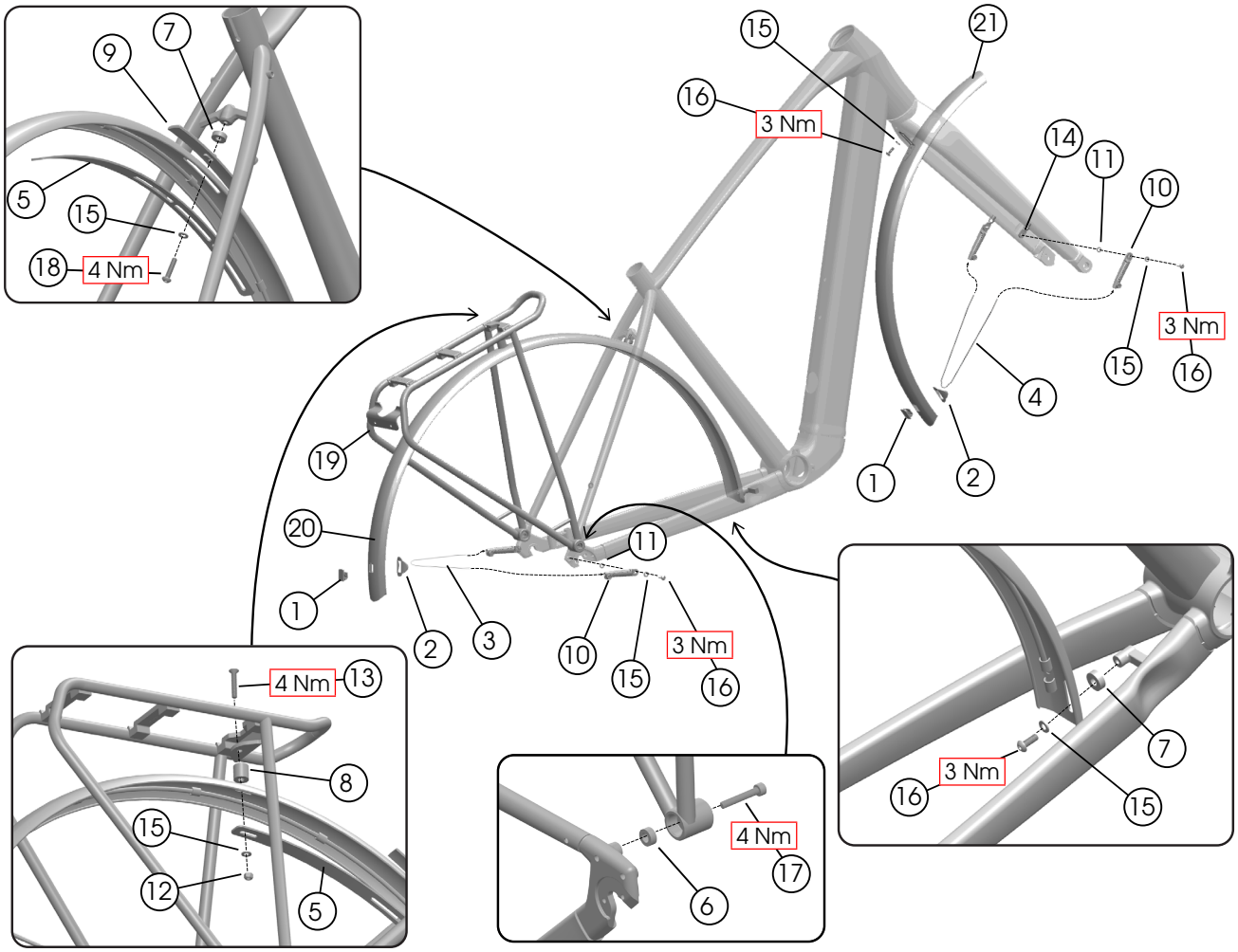
Chainguard (aftermarktet on Dual Sport+)



1. Bolts (M5x8mm)
2. Washers (M5)
3. Seat stay bracket
4. Chainguard

5284386

Fenders and rack (FX+ only)



1. Stay clips
2. Damping rubbers

— *5258253*

3. Fender stay (330mm) — *W1049503*
4. Fender stay (310mm) — *W5254584*
5. Fender strut — *W600320*
6. Spacers (12x5mm) — *504881*
7. Spacers (15x5mm)
8. Spacer (15x15mm)

— *5260275*

9. Slot cover — *W1049294*
10. Fender stay mounts — *5258260*
11. Knurled washers
12. Locknut (M5)
13. Bolt (M5x30mm)

— *5260273*

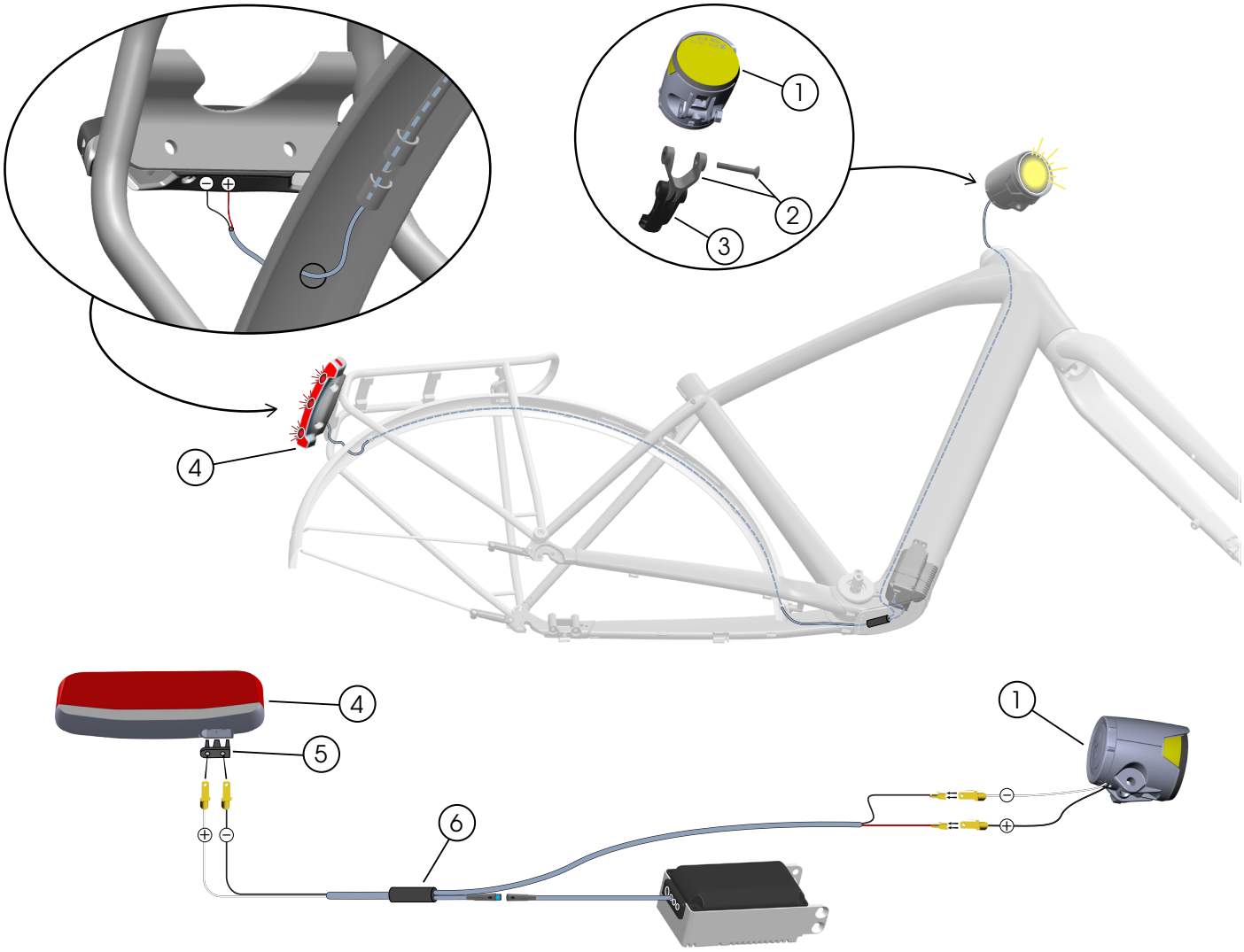
14. Bolt-nuts — *W317707*
15. Flat washers (M5)
16. Bolts (M5x14mm)
17. Bolts, M4 hex
18. Bolt, M3 hex (M5x25mm)

— *5260274*

19. Rack (70mm wide) — *W5284844*
20. Rear fender
    - S — *W5251030*
    - M/L — *W1043750*
    - XL — *W1043751*
21. Front fender — *W5251035*

Light routing — FX+

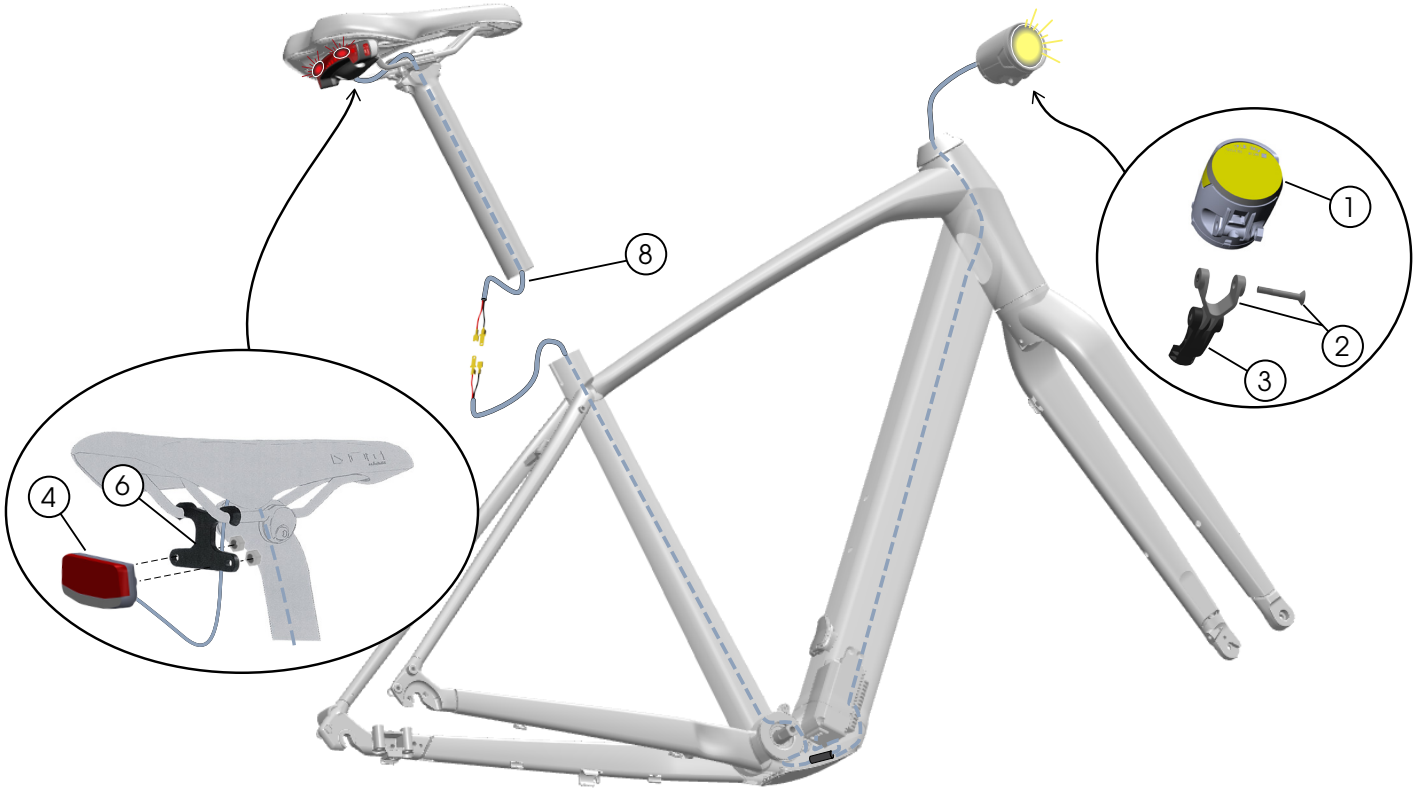
NOTE: These lights are designed for 6 volts. If you use a light with a higher voltage, it may not function properly and take power away from the e-bike motor.

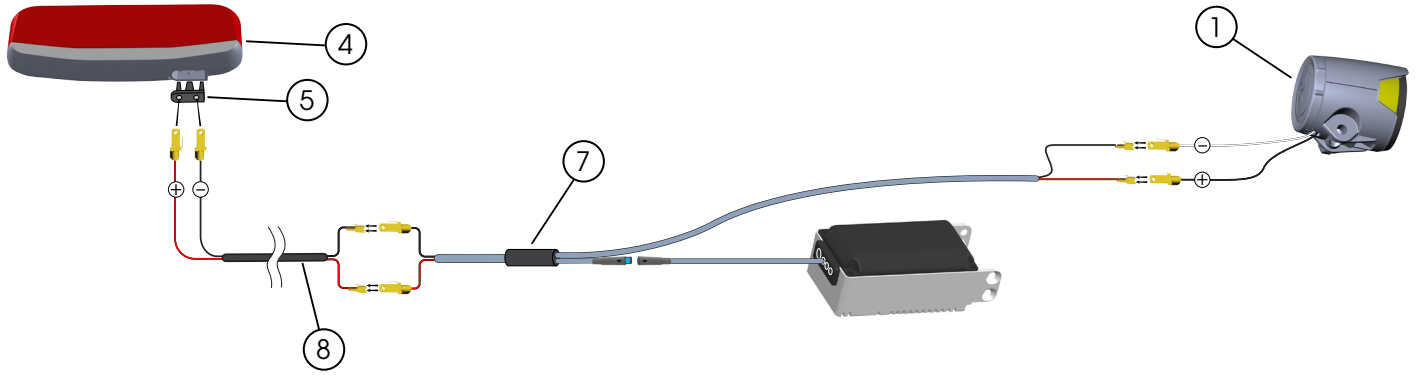


1. Front light — *598624*
2. Front light bracket and bolt — *W5269698*
3. Blendr mount and bolt — *W540565*
4. Rear light — *W504513*
5. Cable connector — *5307542*
6. Y-cable — *W5279080*

Light routing — Dual Sport+

NOTE: These lights are designed for 6 volts. If you use a light with a higher voltage, it may not function properly and take power away from the e-bike motor.





1. Front light — *598624*
2. Front light bracket and bolt — *W5269698*
3. Blendr mount and bolt — *W540565*
4. Rear light — *W504513*
5. Cable connector — *5307542*
6. Rear light bracket — *W581598*
7. Y-cable — *W5279080*
8. Rear light extension cable — *W5284809*

Specifications

		FX+ / Dual Sport+
Rear hub outer limit dimension (OLD)		144.5mm
Front hub outer limit dimension (OLD)		100mm
Fork steerer tube outer dimension (OD)		28.6mm
Bottom bracket type/width		T47
Brake rotor diameter min/max		160mm
Chainline		49mm
Chainring max		46t
Tire width max 700c (without fenders)	**Front**	50mm
	Rear	50mm
Tire width max 700c (with fenders)	**Front**	40mm
	Rear	40mm