

# SPECIALIZED ASSEMBLY INSTRUCTIONS

## LEVO SL FRAMESET



THIS ASSEMBLY INSTRUCTIONS CONTAINS IMPORTANT INFORMATION. PLEASE READ CAREFULLY AND STORE IN A SAFE PLACE.

### IMPORTANT:

This manual was drafted in the English language (Original instructions) and may have been translated into other languages as applicable (translation of original instructions).

This document is specific to your Turbo Levo SL bicycle frameset, and will be referred to in this manual as the Levo SL frameset.

This manual should be read in addition to the Levo SL User Manual supplied with your frameset, and the two documents should be kept together for future reference. They contain important safety, performance and technical information specific to your Levo SL, which you should read before your first ride and keep for reference.

Included in this document is the Declaration of Incorporation of Partly Completed Machinery which is specific to the Levo SL frameset. This declaration replaces the Declaration of Conformity document at the back of each language section found in the Levo SL User Manual.

The Levo SL User Manual is designed as a reference for a complete bicycle, including the Declaration of Conformity document at the back of each language section. Since your frameset requires assembly of components (suspension fork, seat post, saddle, drivetrain assembly, cockpit assembly, wheels), the information contained herein is intended to supplement the Levo SL User Manual in order to provide you with the necessary information required to complete the assembly and eventually use your Levo SL. For assembly, only compatible and e-bike approved components should be used. Please refer to a component manufacturers' documentation for assembly instructions.

You should also read the entire [Specialized Bicycle Owner's Manual](#) ("Owner's Manual"), because it has additional important general information and instructions which you should follow. If you do not have a copy of this document, you can download them at no cost at [www.specialized.com](#), or obtain them from your nearest Authorized Specialized Retailer or Specialized Rider Care.

ADDITIONAL LANGUAGES ARE AVAILABLE FOR DOWNLOAD AT [www.specialized.com](#).

Please refer to the written warranty provisions provided with your bicycle, or visit [www.specialized.com](#). A copy is also available at your Authorized Specialized Retailer.

### ASSEMBLY

**WARNING!** Due to the complexity of the Levo SL SL bicycle, proper assembly requires a high degree of mechanical expertise, skill, training and specialty tools. Therefore, it is essential for your safety that the assembly, maintenance and troubleshooting be performed by an Authorized Specialized Retailer. Before your first ride, make sure your components, such as brakes and drivetrain, are assembled and adjusted in accordance with the manufacturer's instructions and are functioning properly.

**WARNING!** Many components on the Levo SL, including, but not limited to, the rear suspension and cable guides, are proprietary to the Levo SL. Only use originally supplied components and hardware at all times. Use of other components or hardware will compromise the integrity and strength of the assembly. Levo SL specific components should only be used on the Levo SL and not on other bicycles, even if they fit. Failure to follow this warning could result in serious injury or death.

**WARNING!** Do not sand, drill, file or remove parts from your bicycle. Do not install incompatible components or hardware. Failure to follow this warning may result in serious personal injury or death.

**WARNING!** Electrical components can be exposed when working on your frameset. Do not touch any part of the electrical system while under electric charge. Do not expose the connections of the battery and frame to water.

**SPECIALIZED BICYCLE COMPONENTS**  
15130 Concord Circle, Morgan Hill, CA 95037 (408) 779-6229  
0000156903\_UM\_R1\_08/20

We may occasionally issue updates and addendums to this document. Please periodically check [www.specialized.com](#) or contact Rider Care to make sure you have the latest information. Feedback: [techdocs@specialized.com](#) / [Info: ridercare@specialized.com](#) / 877-908-8154

## DECLARATION OF INCORPORATION OF PARTLY COMPLETED MACHINERY

### The manufacturer:

Specialized Bicycle Components Inc.  
15130 Concord Circle  
Morgan Hill, CA 95037, USA  
Tel: +1 408 779-6229



### Hereby confirms for the following product:

**Product description:** EPAC (Electrically Power Assisted Cycle)

**Model designation:** Specialized Turbo Levo Frameset

**The conformity with all applicable directives from the guideline:** Machinery Directive (2006/42/EC)

**The machine also conforms to all the directives in the guidelines:** Electromagnetic Compatibility (2004/108/EC).

Radio Equipment (2014/53/EU)

**The following harmonizing norms were applied to the product:** EN 15194:2017 Cycles - Electrically power assisted cycles - EPAC Bicycles

**The relevant technical documentation is compiled in accordance with part B of Annex VII of the Machinery Directive 2006/42/EC and will be transmitted to reasoned requests of national authorities by e-mail** [info@specialized.com](#)

The partly completed machinery must not be put into service until the final machinery into which it is incorporated has been declared in conformity with the provisions of the Machinery Directive (2006/42/EC).

**Technical documentation by:** Specialized Europe GmbH  
Werkstattgasse 10  
6330 Cham, Switzerland

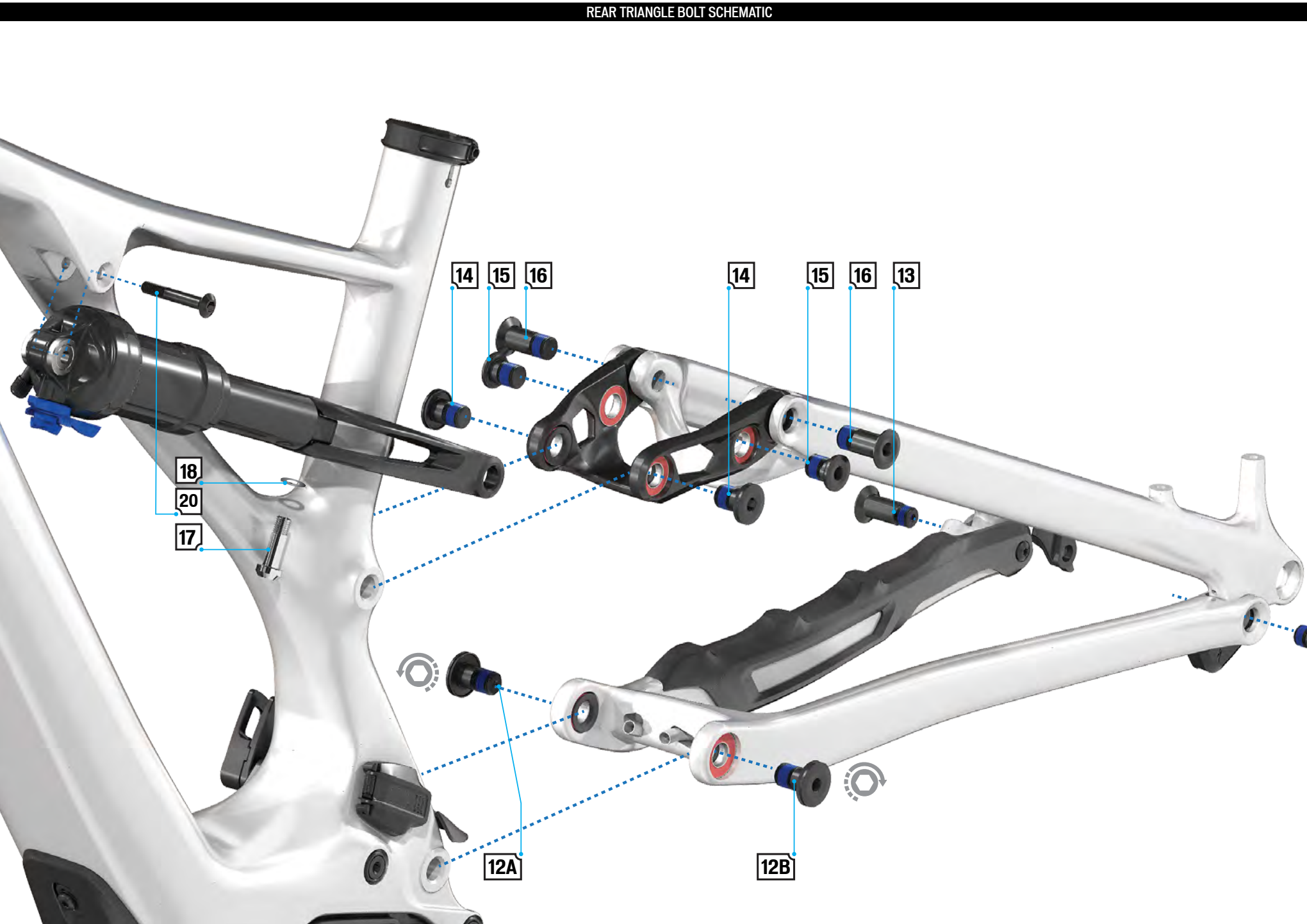
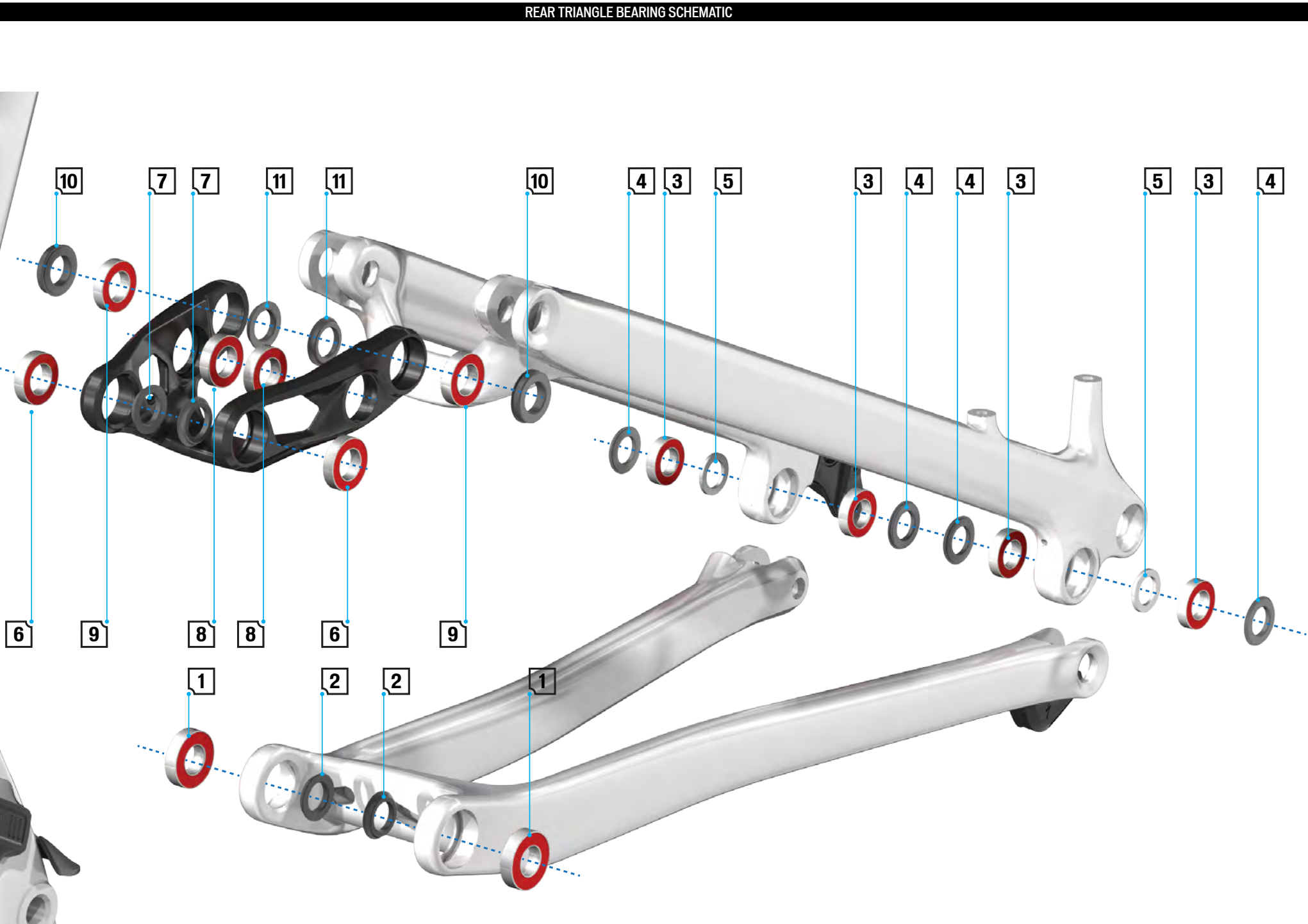
Signature:

Jan Talavasek (Senior Director Turbo)  
Cham, Aug 1st 2020

NOTE: THIS DECLARATION OF INCORPORATION APPLIES ONLY TO BICYCLES SOLD IN COUNTRIES FOLLOWING THE CE MARKING DIRECTIVES.

SKU: 12345-6789  
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BLE: 123456



#	PIVOT	PART	QTY	MATERIAL	Ø OD	Ø ID	WIDTH	THREAD	LENGTH	TOOL	BEARING NUMBER	COMMENTS
1	Main (bottom bracket)	Bearing	2	Steel	24	12	6				6901-2RS	Full complement bearing
2		Spacer	2	Aluminum	19.5	12.1	3					Chamfered profile
3	Horst Link (dropout)	Bearing	4	Steel	21	12	5				6801-2RS	Full complement bearing
4		Spacer (outer)	4	Aluminum	20	12.1	2.5					Chamfered profile, sealed
5	Link @ Seat Tube	Spacer (inner)	2	Aluminum	18.5	12.1	2					Square-edged profile
6		Bearing	2	Steel	21	12	5				6801-2RS	Full complement bearing
7	Link @ Seat Tube	Spacer	2	Aluminum	19.5	12.1	3					Chamfered profile
8		Bearing	2	Steel	21	12	5				6801-2RS	Full complement bearing
9	Link @ Seatstay	Bearing	2	Steel	21	12	5				6801-2RS	Full complement bearing
10		Spacer (outer)	2	Aluminum	20	12.1	4.5					Chamfered profile, sealed
11		Spacer (inner)	2	Aluminum	19.5	12.1	3					Chamfered profile
12a		Bolt (LH THREAD)	1	Aluminum	12			M12	20	6 mm HEX	24 / 210	Left hand thread
12b	Main - Non drive side	Bolt (RH THREAD)	1	Aluminum	12			M12	20	6 mm HEX	20 / 180	Right hand thread
13		Horst Link (dropout) pivot	2	Aluminum	12			M11	27.8	6 mm HEX	20 / 180	Countersunk head
14	S-Link @ Seat Tube	Bolt	2	Aluminum	12			M12	17	6 mm HEX	20 / 180	With seal
15	S-Link @ Extension	Bolt	2	Aluminum	12			M12	14	6 mm HEX	20 / 180	With seal
16	S-Link @ Seatstay	Bolt	2	Aluminum	12			M12	25	6 mm HEX	20 / 180	With seal
17	Lower shock eye	Bolt	1	Stainless Steel	8			M8	25	6 mm HEX	24 / 210	TORQUE BOLT LAST
18		Washer	1	Stainless Steel	13	8.2	0.5					
19	Upper shock eye	Flip Chip	2	Stainless Steel								
20		Bolt	1	Steel Coated	6			M6	40	5 mm HEX	10 / 90	Countersunk head

- Grease all bearing surfaces before placing the spacers against the bearings.** This helps keep the spacers in place when assembling each pivot. Always place the smaller (tapered) surface against the bearing, and the wider surface against the frame or stay.
- PIVOT BOLTS:** All pivot bolts are factory treated with a one-time use Loctite Dryloc thread coating. If the bolts are removed for maintenance, either clean and apply a new coat of Loctite blue 242 threadlocker, or install new bolts. Only apply grease to the un-threaded portion of the bolt shaft and the inner bolt head surface. Do NOT grease the threads.
- For best alignment results, do not torque any of the rear triangle pivot and shock bolts until the rear triangle is fully assembled to the front triangle.

The specs below are the intended stock configurations for each model.

MODEL	WHEEL/TIRE	SHOCK TRAVEL	SHOCK EXTENSION <sup>1</sup>	SHOCK STROKE	FORK TRAVEL	BB HEIGHT <sup>1</sup>	HEAD TUBE ANGLE <sup>1</sup>
LEVO SL	29 x 2.3	150	<b>110</b> / 113	210 x 52.5	150	<b>340</b> / 348	<b>66</b> / 66.5

<sup>1</sup>The shock extension length, bottom bracket (BB) height and head tube angle all have two settings based on the Flip Chip position. The stock configuration for the Flip Chip is in the lower position (highlighted in **BOLD**). Refer to the Levo manual for information about adjusting the Flip Chip.

### CUSTOMIZATION

Specialized frames are generally designed and tested to work with the suspension components provided as original equipment. When changing out shocks, be aware certain models of shocks may not be compatible with the frame due to the position of the shock reservoir, size, and/or other compatibility factors, even if they fit. Always check with your Authorized Specialized Retailer or suspension.

**WARNING!** Use of an incompatible shock may cause damage to the shock or the frame and can cause you to lose control and fail.

Levo FSR frames are available in a 29" configuration, with different wheel/tire and/or fork options. Each of these variables will affect the bottom bracket height and head angle of the frame, as well as the general ride characteristics of the bike.

### MAXIMUM FORK LENGTH AND TIRE SIZE

WHEEL SIZE	MAX FORK TRAVEL	MAX REAR TIRE SIZE	CHAINRING SIZE
29"	150 mm	27.5 x 2.8 or 29 x 2.6	30 - 34 <sup>2</sup>

**WARNING!** Only single crown forks with a specified amount of travel or range of travel should be used. Use of different styled forks or forks with longer travel may result in catastrophic failure of the frame which may result in serious personal injury or death.

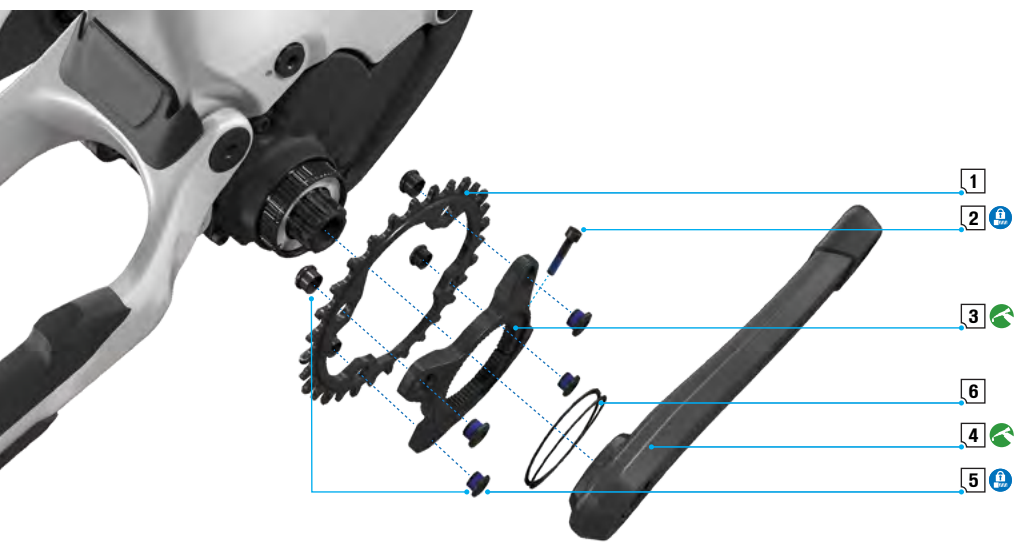
**WARNING!** While the 29 frame is generally compatible with tires up to 27.5 x 2.8 or 29 x 2.6, tire dimensions can vary depending on the manufacturer, and not all forks are designed to accept a larger tire. Always check with the fork manufacturer regarding required clearances.







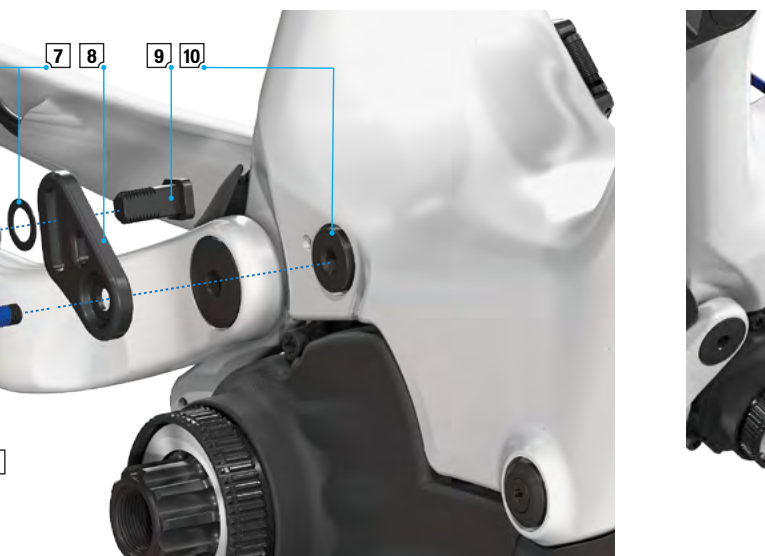
SPIDER & CRANK ASSEMBLY



#	PART NAME	PART NUMBER	QTY	SPEC	TOOL	TORQUE (Nm / in-lb)	COMMENT
1	Chain ring	S191400002	1	32 T	NA	NA	Spider Bolt Circle Diameter 94 mm - 30 T.
2	Spider bolt	S199900074	1	M4 x 20 mm	3 mm HEX	5 / 44	Pre-treated thread locking compound
3	Spider		1	NA	NA	NA	Grease the interface between the motor and spider.
4	Cranks (crank bolt)	VARIOUS SIZES	2	NA	8 mm HEX	50 / 443	CARBON 165 mm (S191600014) 170 mm (S191600018) ALLOY 165 mm (S191600001) 170 mm (S201600002)
5	Chain ring bolts	S200500001	4	M8 x 7 mm Socket Head	5 mm HEX	10 / 89	Pre-treated thread locking compound.

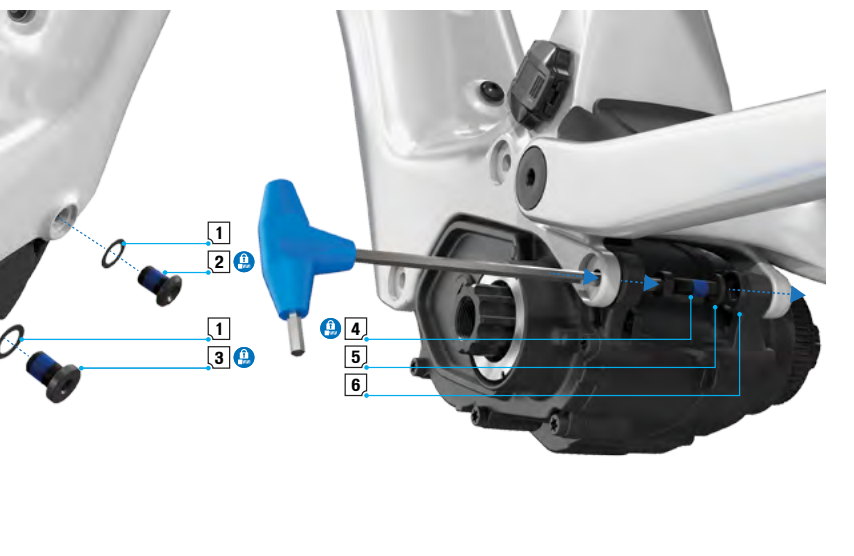
1	Chain ring	S191400002	1	32 T	NA	NA	Spider Bolt Circle Diameter 94 mm - 30 T.
2	Spider bolt	S199900074	1	M4 x 20 mm	3 mm HEX	5 / 44	Pre-treated thread locking compound
3	Spider		1	NA	NA	NA	Grease the interface between the motor and spider.
4	Cranks (crank bolt)	VARIOUS SIZES	2	NA	8 mm HEX	50 / 443	CARBON 165 mm (S191600014) 170 mm (S191600018) ALLOY 165 mm (S191600001) 170 mm (S201600002)
5	Chain ring bolts	S200500001	4	M8 x 7 mm Socket Head	5 mm HEX	10 / 89	Pre-treated thread locking compound.

CHAIN GUIDE ASSEMBLY



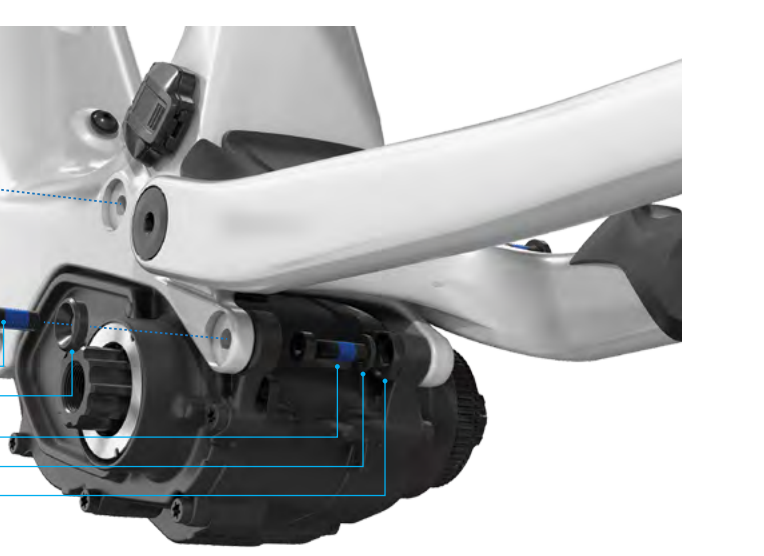
#	PART NAME	PART NUMBER	QTY	SPEC	TOOL	TORQUE (Nm / in-lb)	COMMENT
1	NUT	CHG LEVO SL CHAINGUIDE S201200002	1	M8 X 10 mm	5 mm HEX	4.5 / 40	Custom chain guide nut
2	O RING		1	9 mm ID x 1.5 mm THK	NA	NA	Use light grease
3	CHAIN GUIDE OUTER PLATE		1		NA	NA	
4	SPACER		1	8.1 mm ID x 15 mm OD 1 mm THK	NA	NA	
5	CHAIN GUIDE INNER PLATE		1		NA	NA	
6	MOUNTING BOLT		1	M5 x 14 mm x 0.8 P	T25	NA	
7	WASHER		2	M8 8.2 ID x 13 OD x 0.5 mm THK SST	NA	NA	
8	CHAIN GUIDE BACK PLATE		1		NA	NA	Align the plate on the frame with the pin dowel inserted into the locator hole.
9	CHAIN GUIDE SLOTTED SCREW		1	CUST M8 x 1.0 SLOT	NA	NA	Custom chain guide bolt
10	MOTOR MOUNTING BOLT		1		NA	NA	See Motor Mounting bolts for details

DRIVE SIDE MOTOR BOLTS



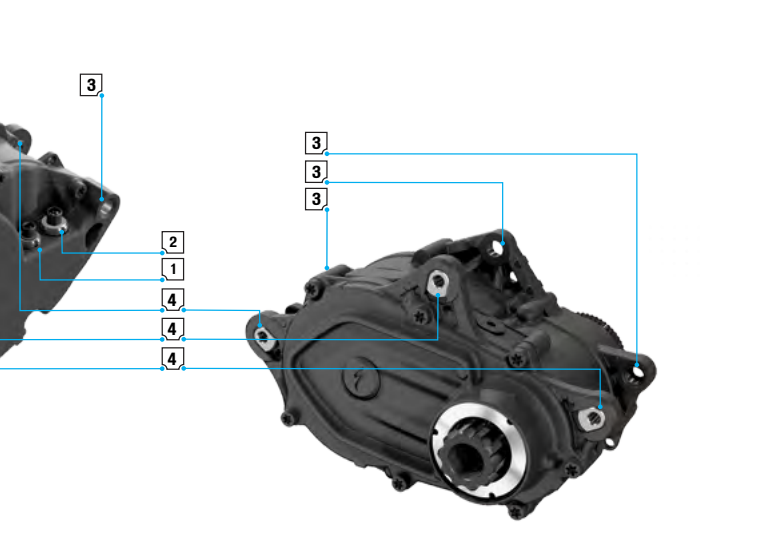
#	PART NAME	PART NUMBER	QTY	SPEC	TOOL	TORQUE (Nm / in-lb)	COMMENT
1	MOTOR BOLT WASHER	S194200050	2	M10 x 11 ID x 16 OD x 0.5 mm THK	NA	NA	Custom countersunk washer.
2	MOTOR BOLT		1	CUST M10 x 25 mm x 1.0 p	T30	17 / 150	Pre-treated thread locking compound. Motor cover bolt mounts into this screw
3	MOTOR BOLT (CHAIN GUIDE)		1	CUST M10 x 14 mm x 1.0 p	5 mm Hex	17 / 150	Custom bolt, chain guide bolt mounts into this screw
4	MOTOR BOLT		1	M6 x 22 mm x 1.0 p	4 mm Hex	10 / 89	Mount bolt through the NDS motor mounting bolt thread. (use a long reach hex socket for torquing)
5	MOTOR BOLT WASHER		2	M6 x 6.4 ID x 12 OD 1.6 THK	NA	NA	
6	MOTOR MOUNT NUT		1	CUST M10 x 9.5 mm x 0.1 p	15 mm Spanner		Custom motor nut

NON-DRIVE SIDE MOTOR BOLTS



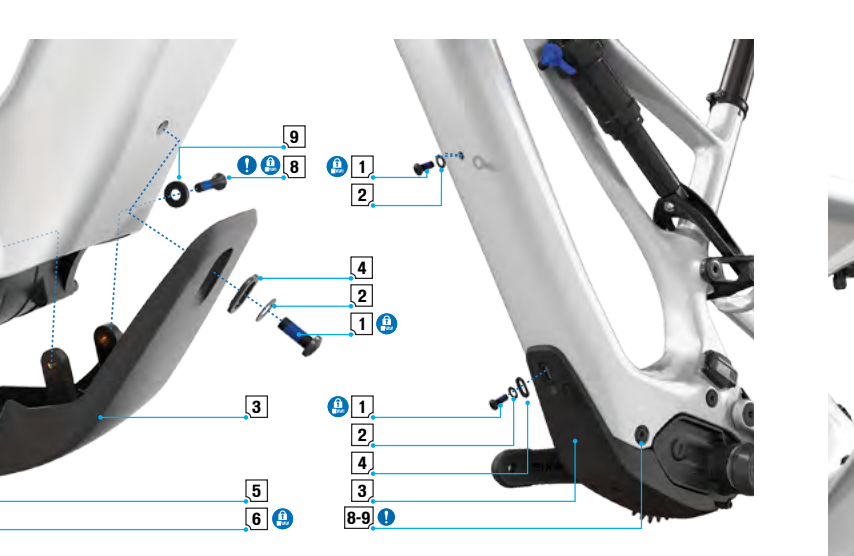
#	PART NAME	PART NUMBER	QTY	SPEC	TOOL	TORQUE (Nm / in-lb)	COMMENT
1	MOTOR BOLT	S194200050	2	M6 x 20 mm x 1.0	T30	10 / 89	Pre-treated thread locking compound.
2	MOTOR BOLT WASHER		3	M6 x 6.4 ID x 16 OD x 4 mm THK CS	NA	NA	Custom countersunk washer
3	MOTOR BOLT		1	M6 x 28 mm x 1.0	T30	10 / 89	NOTE: Bolt holds both the motor and the motor cover. The bolt must be installed after the motor cover is in place in position.
4	MOTOR BOLT		1	M6 x 22 mm x 1.0	4 mm Hex	10 / 89	Mount bolt through the NDS motor mounting bolt thread. (See Motor Mounting bolts drive side for details) (use a long reach hex socket for torquing)
5	MOTOR MOUNT NUT		2	Cust M10 x 9.5 mm x 0.1 p	15 mm Spanner		Custom motor nut. (See Motor Mounting bolts drive side for details)

MOTOR MOUNTS AND CONNECTORS



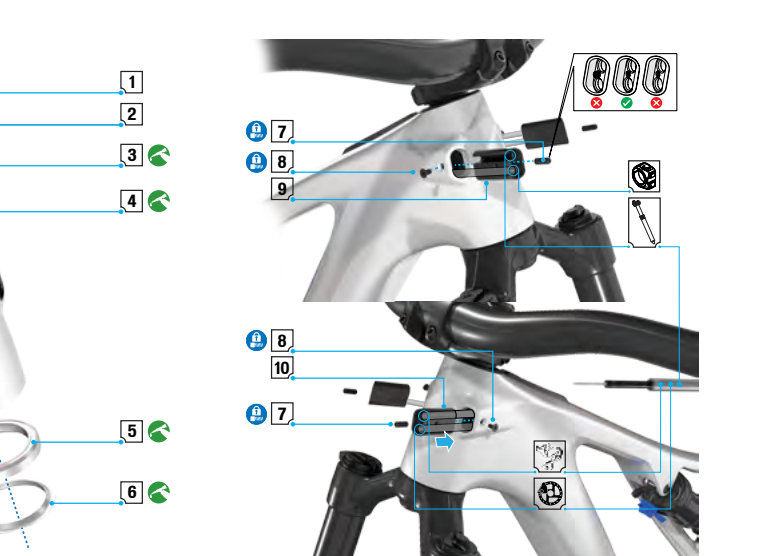
#	PART NAME	PART NUMBER	QTY	SPEC	TOOL	TORQUE (Nm / in-lb)	COMMENT
1	Speed Sensor Connector	S196800016	0	NA	NA	NA	
2	Main Harness Connector		0	NA	NA	NA	
3	Threaded Inserts		0	NDS Motor mount threads	NA	NA	
4	Removable threaded inserts		3	DS Motor mount threads	NA	NA	

BATTERY MOUNTS AND MOTOR COVER



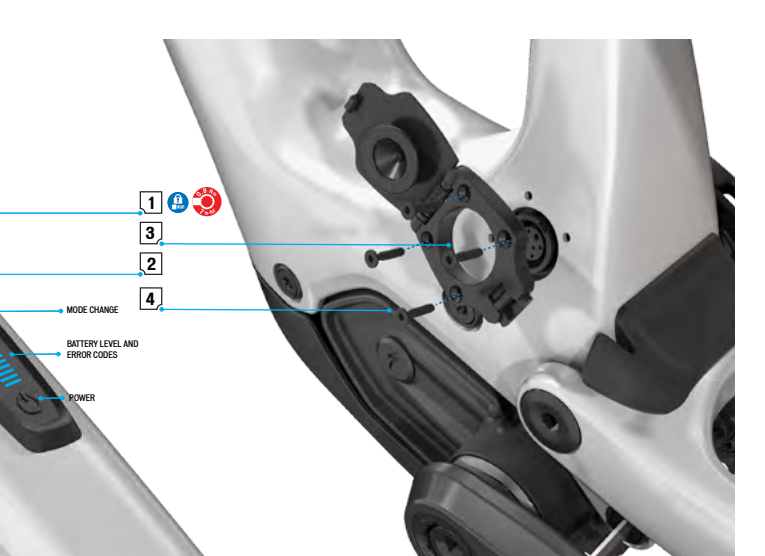
#	PART NAME	PART NUMBER	QTY	SPEC	TOOL	TORQUE (Nm / in-lb)	COMMENT
1	BATTERY BOLT	S193400002	2	M6 x 14 mm	T25	3 / 27	NOTE: lower bolt is inserted through the rock guard. Pre-treated thread locking compound.
2	BATTERY WASHER		2	M6 6.4 ID X 12 OD X 0.5 THK	NA	NA	
3	ROCK GUARD	CARBON FRAME S194200047	1	NA	NA	NA	
4	ROCK GUARD WASHER SLOTTED		1	M6 SLOT HOLE 6.4 ID X 12 OD X 1.5 THK	NA	NA	
5	ROCK GUARD WASHER		1	M6 6.4 ID X 12 OD X 0.5 THK	NA	NA	Pre-treated thread locking compound.
6	ROCK GUARD BOLT		1	BUTTON HEAD M6 x 14 mm x 1	T25	2.5 / 22	Pre-treated thread locking compound.
7	ROCK GUARD BOLT		1	FLAT HEAD M4 x 35 mm x 0.7	T20	2.5 / 22	NOTE: Inserts into motor mounting bolt. Pre-treated thread locking compound.
8-9	MOTOR MOUNT BOLT AND WASHER	See motor mounting bolts					

HEADSET BEARINGS / ICR PORTS



#	PART NAME	PART NUMBER	QTY	SPEC	TOOL	TORQUE (Nm / in-lb)	COMMENT
1	HEADSET SPACER	S192500019	3	34 mm OD x 28.6 mm ID x 5 mm	NA	NA	
2	TOP COVER		1	Matt black	NA	NA	
3	COMPRESSION RING		1	Alloy	NA	NA	Grease
4	UPPER DROP IN HEADSET BEARING		1	1 1/8" UPPER DROP-IN BEARINGS	NA	NA	Grease bearing
5	LOWER DROP IN HEADSET BEARING		1	1 1/8" LOWER DROP-IN BEARINGS	NA	NA	Grease bearing
6	CROWN RACE	S206500008	1	Alloy	NA	NA	grease
7	HEADTUBE PORT SET SCREWS		2	M3 x 20 mm x 0.5 p	1.5 mm Hex	Until flush	Pre-treated thread locking compound.
8	HEADTUBE PORT SCREW		2	Flat Head M3 x 6 mm x 0.5 p	1.5 mm Hex	0.8 / 7	Pre-treated thread locking compound.
9	ICR CABLE PORT DS		1	Slot and Nylon tube port	NA		
10	ICR CABLE PORT NDS		1	2 x Nylon tube port	NA		

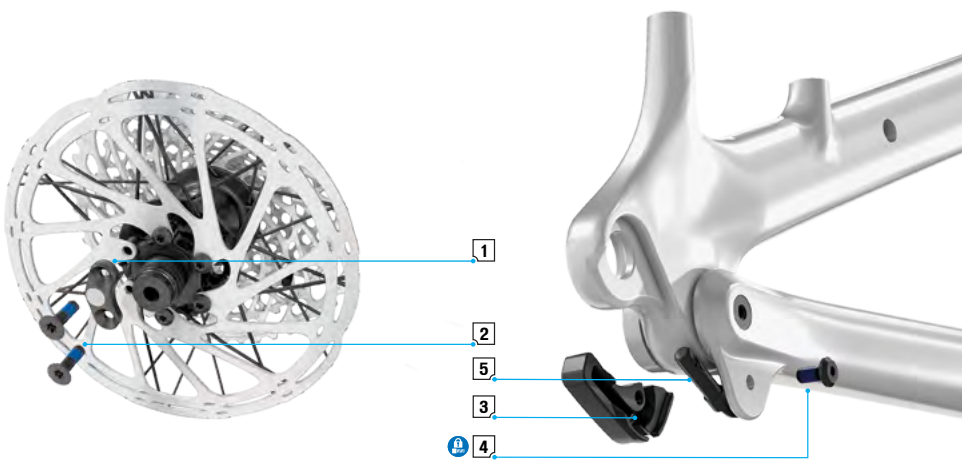
TURBO CONNECT UNIT / CHARGE PORT



#	PART NAME	PART NUMBER	QTY	SPEC	TOOL	TORQUE (Nm / in-lb)	COMMENT
1	TURBO CONNECT UNIT (TCU) SCREW	S206800005	1	M4 x 10 mm	T10	0.8 / 7	DO NOT OVERTIGHTEN MAX 0.8 Nm. Use thread lock
2	TURBO CONNECT UNIT (TCU)		1	NA	NA	NA	Update firmware via USB Data cable and Turbo Studio. Replacement Battery: CR 1620. Remove with a non metallic tweezers.
3	CHARGE PORT	S209000023	1	NA	NA	NA	
4	CHARGE PORT SCREWS		4	2.5 x 14 x ST	T8	NA	Self threading screw

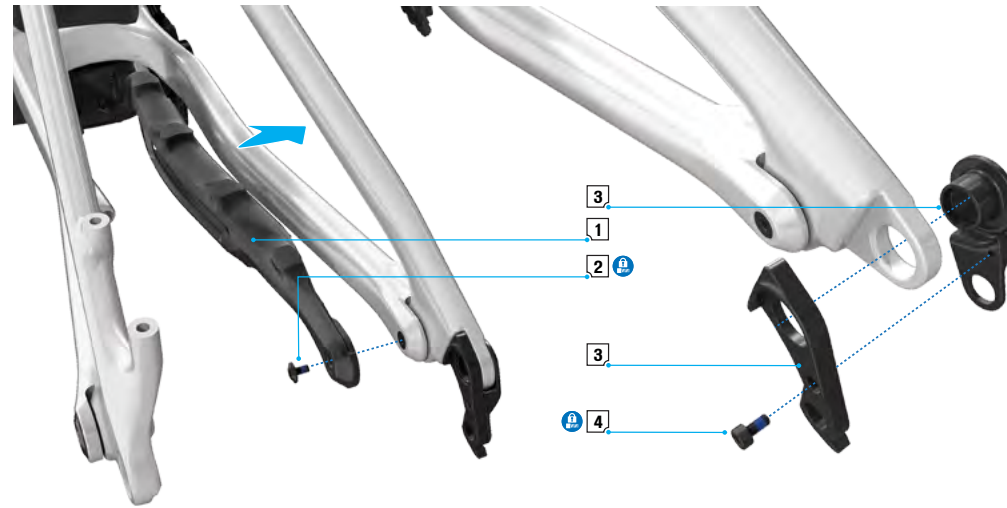


SPEED SENSOR



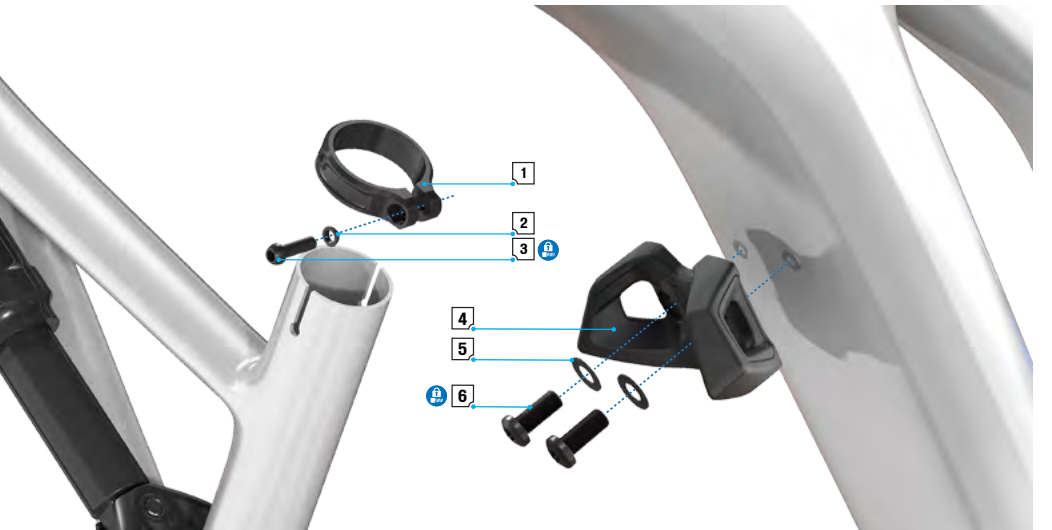
#	PART NAME	PART NUMBER	QTY	SPEC	TOOL	TORQUE (Nm / in-lbf)	COMMENT
1	6 BOLT ROTOR MOUNT SPEED SENSOR MAGNET ASSEMBLY	Speed sensor magnet kit S194200016	1	6 bolt version	NA	NA	Keep the magnet free of dirt and debris.
2	SPEED SENSOR MOUNTING BOLTS		2	M5 x 16 mm x 0.8 p	T25	6.2 / 56	
3	SPEED SENSOR COVER	Speed sensor cover kit S196800019	1	NA	NA	NA	
4	SPEED SENSOR COVER MOUNTING SCREW		1	M4 x 8 mm x 0.7p	2.5 mm HEX	1 / 9	MAKE SURE THE BOLT IS ALIGNED. DO NOT CROSS THREAD. Pre-treated thread locking compound.
5	SPEED SENSOR		1	NA	NA	NA	

DERAILLEUR HANGER / CHAIN GUARD



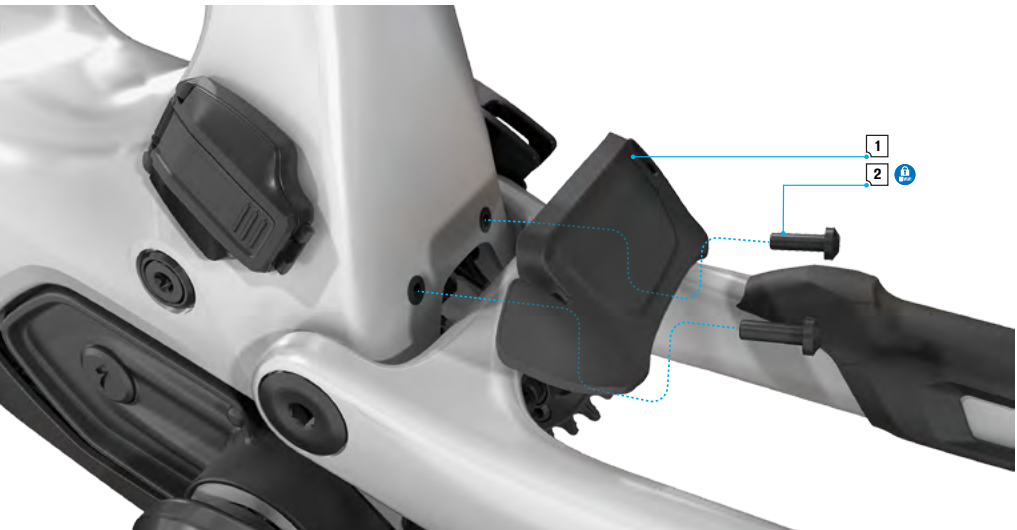
#	PART NAME	PART NUMBER	QTY	SPEC	TOOL	TORQUE (Nm / in-lbf)	COMMENT
1	CHAINSTAY PRO-TECTOR	S186900003	1	NA	NA	NA	
2	CHAINSTAY PRO-TECTOR MOUNTING SCREW		1	M4 x 7 mm x 0.7p	T25	0.8 / 7	Pre-treated thread locking compound.
3	DERAILLEUR HANGER	S172600001	1	NA	NA	NA	DERAILLEUR HANGER, MTB/ROAD LONG - SANDWICH HANGER
4	DERAILLEUR HANGER MOUNT SCREW		1	M3 x 6 mm x 0.5	2.5 mm Hex	0.8 / 7	Pre-treated thread locking compound.

SEAT CLAMP / BUMPER GUARD



#	PART NAME	PART NUMBER	QTY	SPEC	TOOL	TORQUE (Nm / in-lbf)	COMMENT
1	SEATPOST CLAMP	S184700004	1	38.6 mm diameter	NA	NA	
2	SEATPOST CLAMP WASHER		1	M5 x 5.1ID x 7.87 OD	NA	NA	
3	SEATPOST CLAMP BOLT	S199900073	1	M5 x 18 mm x 0.8	4 mm Hex	6.2 / 55	Pre-treated thread locking compound.
4	BUMP STOP		1	Small and medium frame only	NA	NA	
5	FORK BUMPER BOLT		2	M5 x 14 mm x 0.8 p (pressed on washer)	T25	3 / 27	Pre-treated thread locking compound.

MUD FLAP



#	PART NAME	PART NUMBER	QTY	SPEC	TOOL	TORQUE (Nm / in-lbf)	COMMENT
1	RUBBER TRAIL MUD FLAP	S194200049	1	NA	NA	NA	
2	RUBBER TRAIL MUD FLAP BOLT		1	M4 x 12 mm x 0.7 p	2.5 mm HEX	1 / 9	Use thread lock.

RANGE EXTENDER CAGE



#	PART NAME	PART NUMBER	QTY	SPEC	TOOL	TORQUE (Nm / in-lbf)	COMMENT
1	ZEE CAGE (RIGHT)	43014-2114	1	NA	NA	NA	
2	BOTTLE CAGE BOLT		2	M5 x 10 mm	3 mm HEX	2.8 / 25	Use spacers on upper and lower downtube water bottle bolts
4	BOTTLE CAGE SPACER		2	OD 10 mm ID 6.2 mm H 2 mm	NA	NA	Spacers must be used with all water bottle cages on the down tube to avoid damage to the battery case.

CABLE GUIDE

