

RANGER TECH MANUAL

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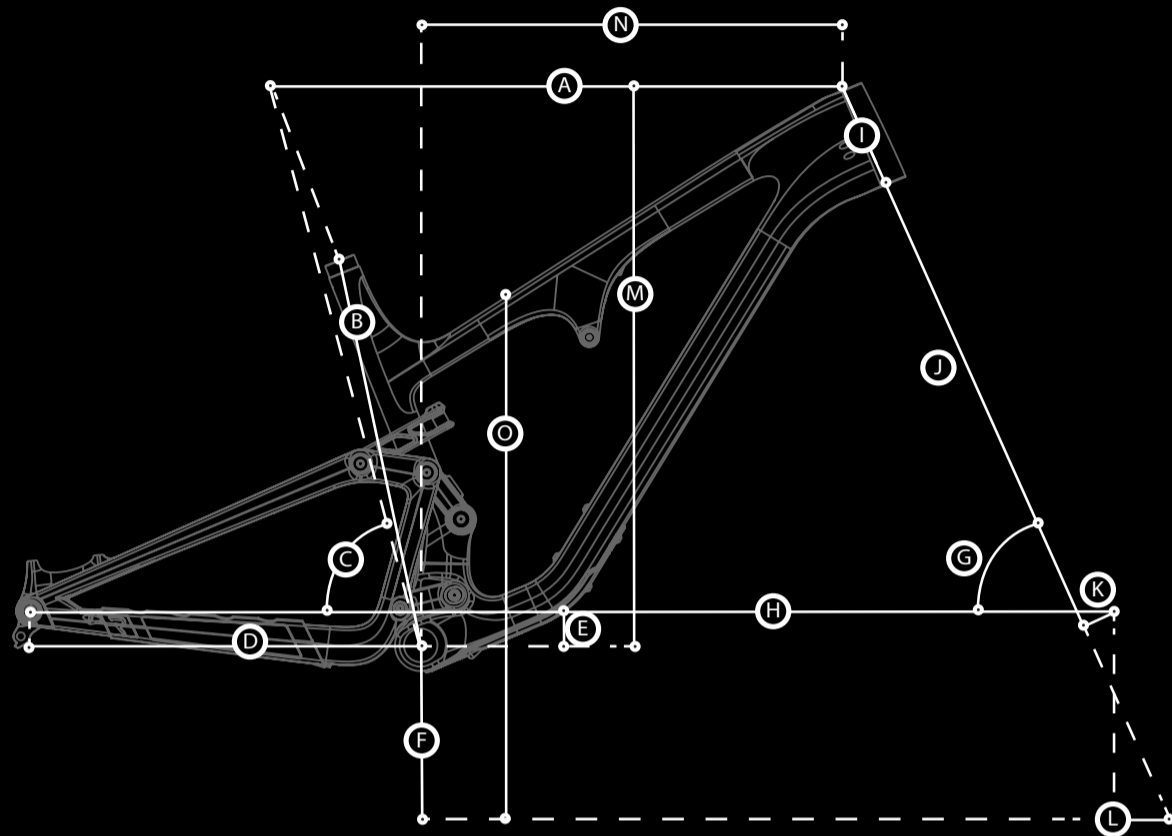
PREFACE

This manual is to serve as guidance for service and specification of Revel Rangers (model year 2023+). If you have an earlier version please refer to the Revel Bike Vault. If you are unsure what version bike you have contact Revel for aid. This document includes component compatibility and instructions on linkage service and frame features. If there are any questions about specific component compatibility please reach out to Revel's customer support line at [\(970\)-456-7336](tel:(970)456-7336) or email at Contact@revelbikes.com.

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GEO & USER SPECIFICATION



FRAME GEO	Small - 5'1" - 5'7"	Medium - 5'6" - 5'10"	Large - 5'9" - 6'2"	X-Large 6'1" - 6'7"
(A) EFFECTIVE TOP TUBE LENGTH	594mm	616mm	639mm	667mm
(B) SEAT TUBE LENGTH	373mm	403mm	439mm	457mm
(C) SEAT TUBE ANGLE (EFFECTIVE/ACTUAL)	75.3°/68.3°	75.3°/68.3°	75.3°/68.3°	75.3°/68.3°
(D) CHAIN STAY LENGTH	436mm	436mm	436mm	436mm
(E) BOTTOM BRACKET DROP	38mm	38mm	38mm	38mm
(F) BOTTOM BRACKET HEIGHT	338mm	338mm	338mm	338mm
(G) HEAD TUBE ANGLE	67.5°	67.5°	67.5°	67.5°
(H) WHEEL BASE	1146mm	1170mm	1194mm	1223mm
(I) HEAD TUBE LENGTH	95mm	105mm	116mm	127mm
(J) AXLE TO CROWN	531mm	531mm	531mm	531mm
(K) FORK OFFSET	44mm	44mm	44mm	44mm
(L) TRAIL	108mm	108mm	108mm	108mm
(M) STACK	600mm	609mm	619mm	629mm
(N) REACH	430mm	453mm	473mm	498mm
(O) STANDOVER	699mm	699mm	699mm	700mm

User Specification

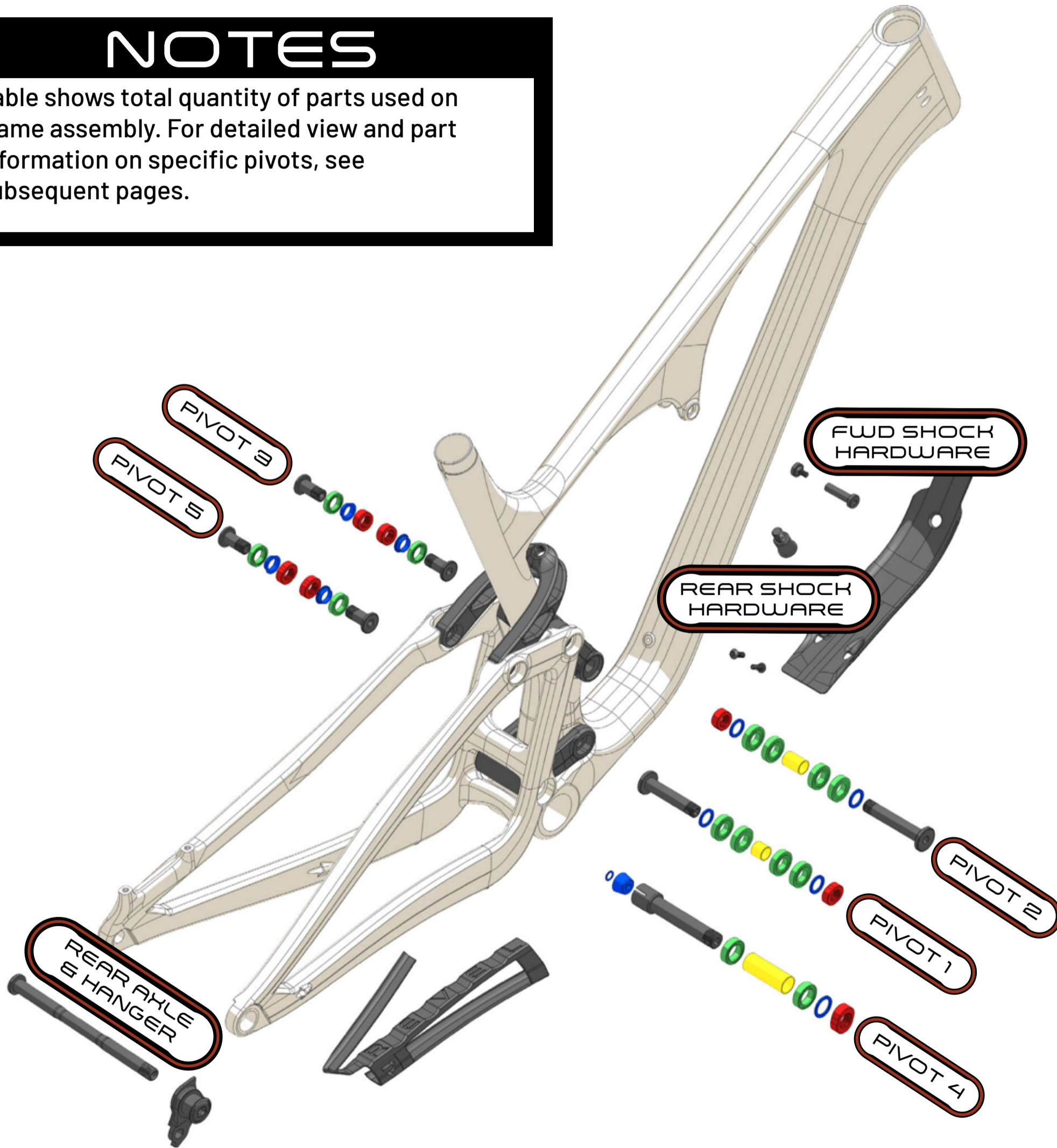
- 1) Headset - IS 42/52
- 2) Pivot Hardware - Torque pivots to value specified on bolt head. See assembly drawing for additional assembly instructions, and hardware and bearing specification.
- 3) Threaded BB - BSA, 73mm Shell Width.
- 4) Crankset - 52mm Chainline. 55mm Chainline compatible based on drivetrain manufacturer recommendations. 36T Max chainring size. See BB manufacturers' frame fit specification for appropriate spacer configuration.
- 5) Rear Dropout - Boost Spacing (148mm X 12mm), 177 X M12 X P1.0 Axle, Sram Universal Derailleur Hanger (UDH), Sram Transmission compatible
- 6) Rear Disc Brake - Post mount, 160mm/180mm max rotor size, torque bolts to manufacturer specification.

- 7) Shock - 190mm X 45mm Shock size. No DU Bushing on rear of shock. 22.2mm X 8.0mm Spacer on front of shock.
- 8) Seat Post - 31.6mm Dia post. 34.9mm Dia. Clamp size. Internal routing guides provided for dropper post.
- 9) Tire Limit Size - 29" X 2.6" max tire size. All tires must be checked for appropriate clearance prior to use.
- 10) Bottle Cage Bosses - 2 Sets of bosses. 1 set located along top of down tube. 1 set located along bottom of down tube. size large, medium and XL have an additional set located on upper down tube
- 11) Fork - 120mm min travel/130mm max travel.

EXPLODED VIEW

NOTES

Table shows total quantity of parts used on frame assembly. For detailed view and part information on specific pivots, see subsequent pages.



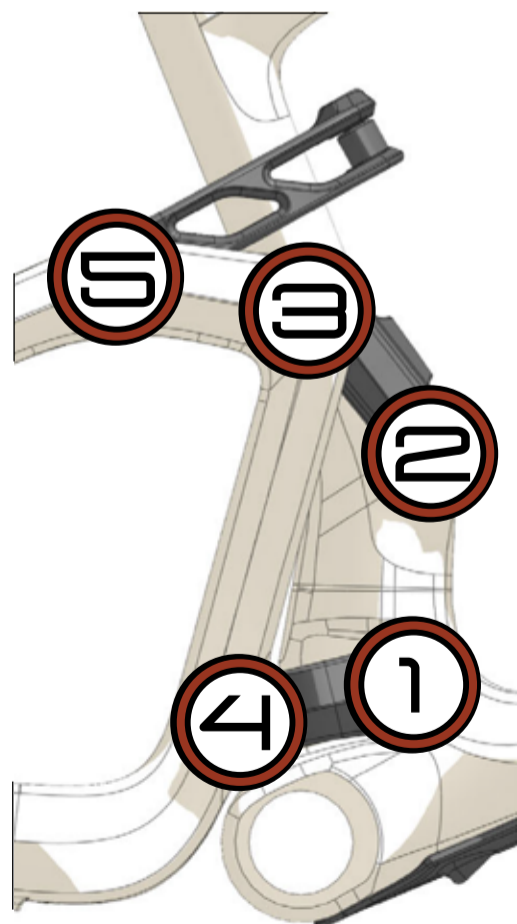
	PART NUMBER	QTY.	ASSEMBLY	TORQUE
1	320-00000-0002 REVEL 29120 FRONT TRIANGLE	1		
2	320-10021-0054-XX REVEL RANGER V2 REAR TRIANGLE	1		
3	320-10021-0051-XX REVEL RANGER V2 LOWER LINK	1		
4	320-10021-0052-XX REVEL RANGER V2 UPPER LINK	1		
5	320-10021-0053-XX REVEL RANGER V2 SHOCK LINK	1		
6	SRAM UDH HANGER	1	GREASE TO SHAFT	25 Nm
7	310-BEA20-0301 BOLU BEARING 6901 V2RD 12X24X6	8	GREASE	
8	310-10021-0035 HARDWARE PIVOT SPACER 18X12.2X2	4		
9	310-00000-0038 HARDWARE AXLE SPACER 12.10X14X12	1		
10	310-10021-0064 HARDWARE AXLE NUT M12X1.0X7.5	6		
11	310-10021-0093 HARDWARE PIVOT AXLE M12X1.0X63	1	GREASE TO SHAFT SUB LOCTITE 243 FOR PATCH LOCK ON THREADS	15 Nm
12	310-00000-0039 HARDWARE PIVOT AXLE SPACER 12.10X14X20	1		
13	310-10021-0094 HARDWARE PIVOT AXLE M12X1.0X71	1	GREASE TO SHAFT SUB LOCTITE 243 FOR PATCH LOCK ON THREADS	15 Nm
14	310-10021-0088 HARDWARE PIVOT SPACER 17.5X12.1X4.8	4		
15	310-10021-0066 HARDWARE PIVOT AXLE M12X1.0X28	4	GREASE TO SHAFT SUB LOCTITE 243 FOR PATCH LOCK ON THREADS	15 Nm
16	100-BEA218-0106 BOLU BEARING 6801 V2RD 12X21X5	4	GREASE	
17	310-10021-0091 HARDWARE PIVOT AXLE COLLET M15X1.0X97	1	GREASE TO SHAFT SUB LOCTITE 243 FOR PATCH LOCK ON THREADS	15 Nm
18	310-10021-0089 HARDWARE COLLET WEDGE 20 DEGREE	1	GREASE TO OUTER SURFACE	
19	310-10021-0060 HARDWARE AXLE NUT M15X1.0X8.6	1		
20	310-BEA22-0502 BOLU BEARING 3802V 2RD 15X24X7	2	GREASE	
21	310-10021-0058 HARDWARE PIVOT SPACER 21X15.2X2	1		
22	310-10021-0061 HARDWARE AXLE SPACER 15.20X17.20X47.25	1		
23	310-10021-0050 HARDWARE SHOCK PIVOT BOLT M5X0.8X14	1	TI PREP	10 Nm
24	310-10021-0051 HARDWARE SHOCK PIVOT AXLE M5X0.8X33.5	1	GREASE TO SHAFT	10 Nm
25	310-10021-0077 HARDWARE SHOCK EYELET BOLT M10X1.25	1	TI PREP	
26	320-00000-0008 REVEL 29120 DOWNTUBE PROTECTOR	1	3M VHB TAPE	
27	320-10021-0018 REVEL 29150 CHAINSTAY PROTECTOR	1	3M VHP TAPE	
28	310-10021-0056 AXLE 12X1.0X177 REVEL UDH	1	GREASE TO AXLE AND THREADS	13 Nm
29	HARDWARE SOCKET HEAD SCREW BLACK-OXIDE ALLOY STEEL M8X1.0X30	1	LOCTITE 243	12 Nm
30	310-10021-0092 HARDWARE WASHER 10X6.4X1.0	1		
31	HARDWARE BUTTON HEAD SCREW M5X0.8X14	4		2 Nm

LINKAGE SERVICE

Things to note before/after service:

- 1) Ensure all bolts are torqued to spec listed in this manual and on bolt head.
- 2) All bolts are right hand threaded but have hex profiles on either end. If turning the bolt from the threaded side, turning counter clockwise will tighten the bolt
- 3) Bolts come with Nylock patch installed. This serves the function of thread locker and can be reused for multiple installations. Verify condition of patch before assembly. If patch looks worn or damaged add Blue Loctite 243.
- 4) It is easier to tighten linkage assembly to torque once it has been fully assembled. Similarly it is easier to break bolts free when linkage is fully assembled.
- 5) All images shown in exploded views of pivots correspond to exploded view on Page 4 of Tech Manual.

See diagram below for pivot location numbers:



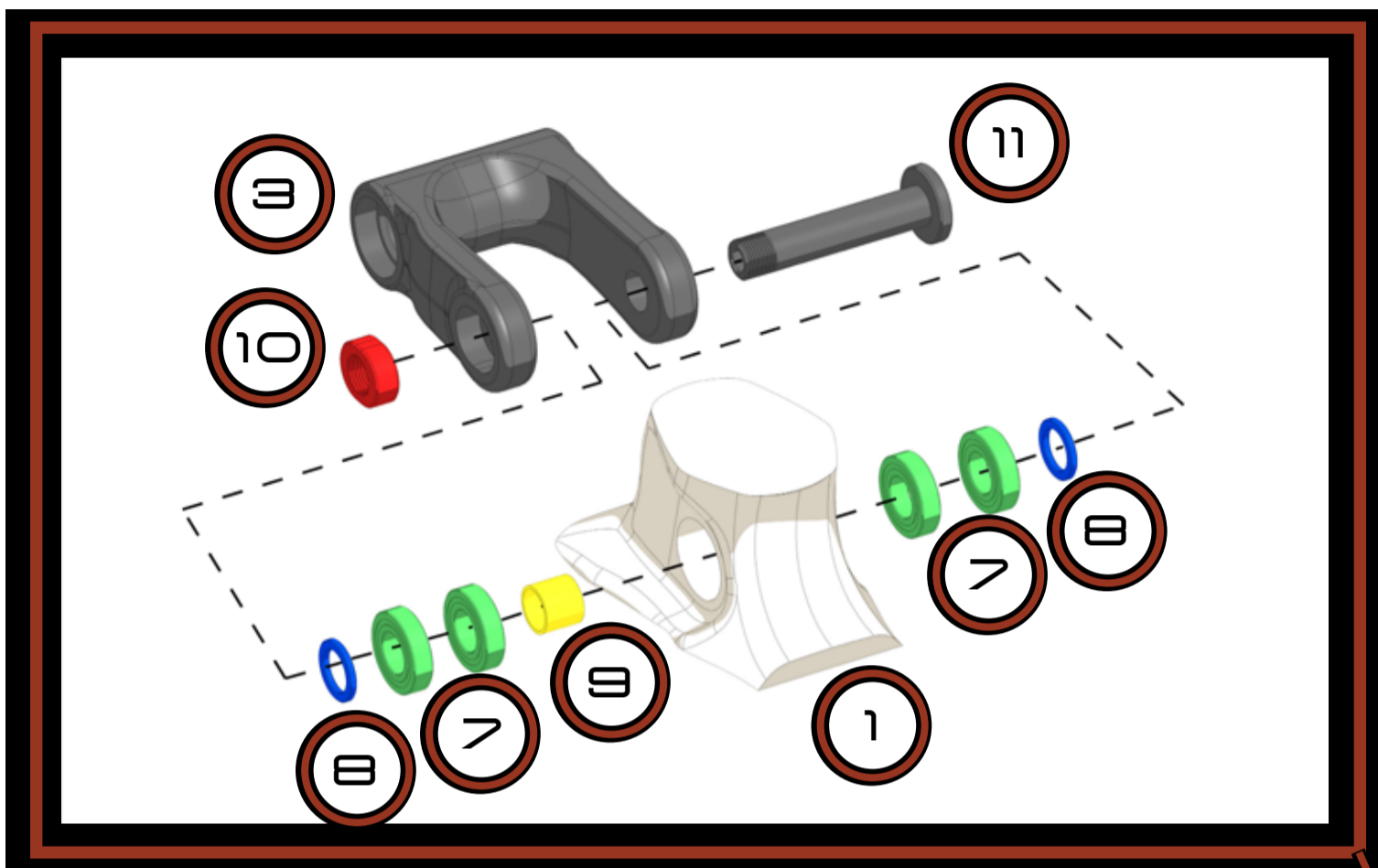
Tools Needed:

- 1) 4mm Hex Key
- 2) 5mm Hex Key
- 3) 6mm Hex Key
- 4) 8mm Hex Key
- 5) Torque Wrench
- 6) Grease
- 7) Titanium Anti-Seize Compound

Additional tools needed when performing a full bearing replacement:

- 8) Bearing Puller (Slide Hammer)
 - 8a) 12mm Bearing Collet
 - 8b) 15mm Bearing Collet
- 9) Bearing Press
 - 9a) 12mm ID Bearing Drift (Ensure largest diameter on drift measures less than or equal to 21mm)[Used on Pivot 1, Pivot 2, Pivot 3 & Pivot 5]
 - 9b) 15mm ID Bearing Drift (Ensure largest diameter on drift measures less than or equal to 24mm)[Used on Pivot 4]

PIVOT 1



NOTES

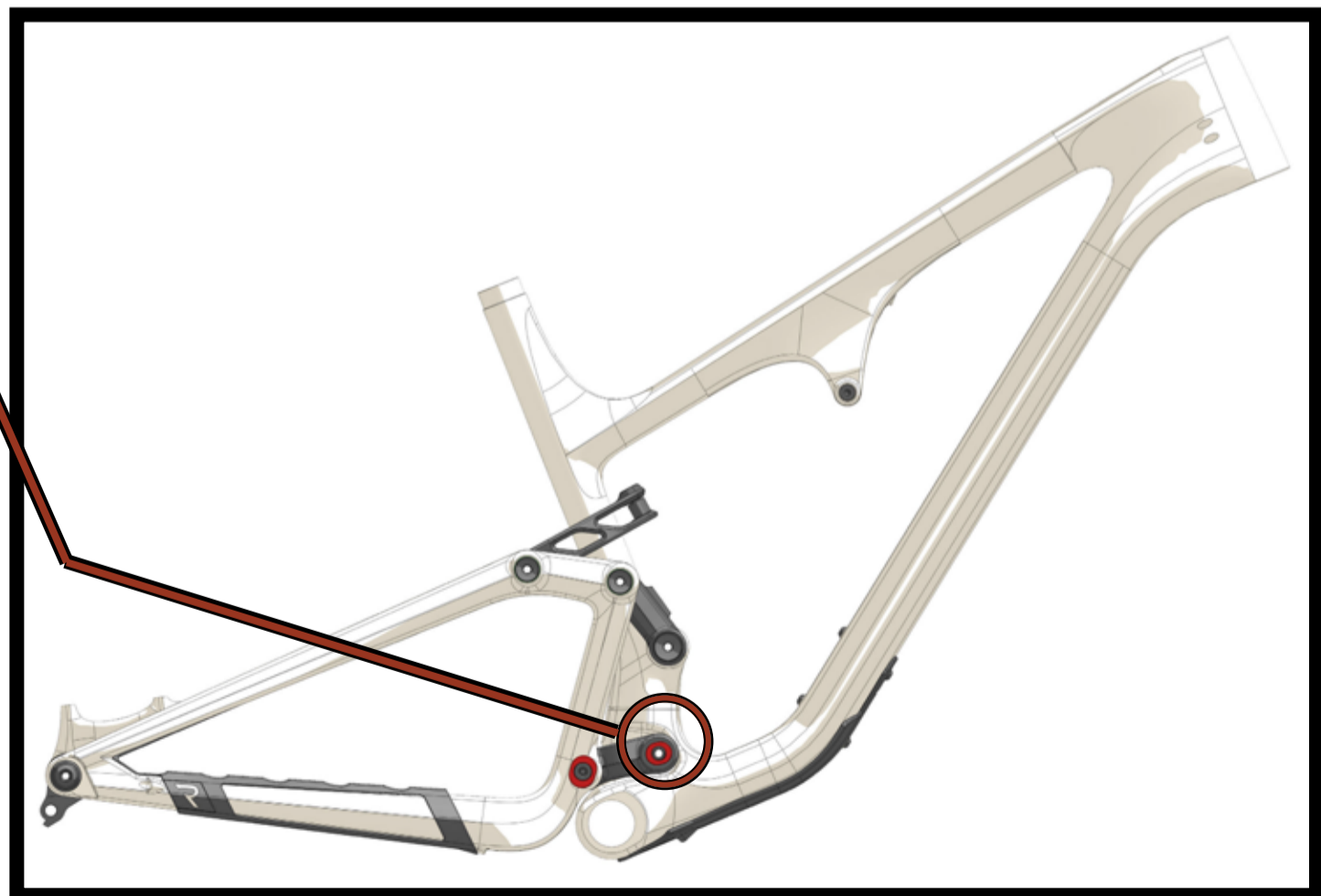
- 1) Torque axle to 15 Nm.
- 2) Apply grease to axle shaft (DO NOT apply grease to threads).

	PART NUMBER	QTY.
1	320-00000-0002 REVEL 29120 FRONT TRIANGLE	1
3	320-10021-0051-XX REVEL RANGER V2 LOWER LINK	1
7	310-BEA20-0301 BOLU BEARING 6901 V2RD 12X24X6	4
8	310-10021-0035 HARDWARE PIVOT SPACER 18X12.2X2	2
9	310-00000-0038 HARDWARE AXLE SPACER 12.10X14X12	1
10	310-10021-0064 HARDWARE AXLE NUT M12X1.0X7.5	1
11	310-10021-0093 HARDWARE PIVOT AXLE M12X1.0X63	1

TOOLS NEEDED

6mm Hex Key

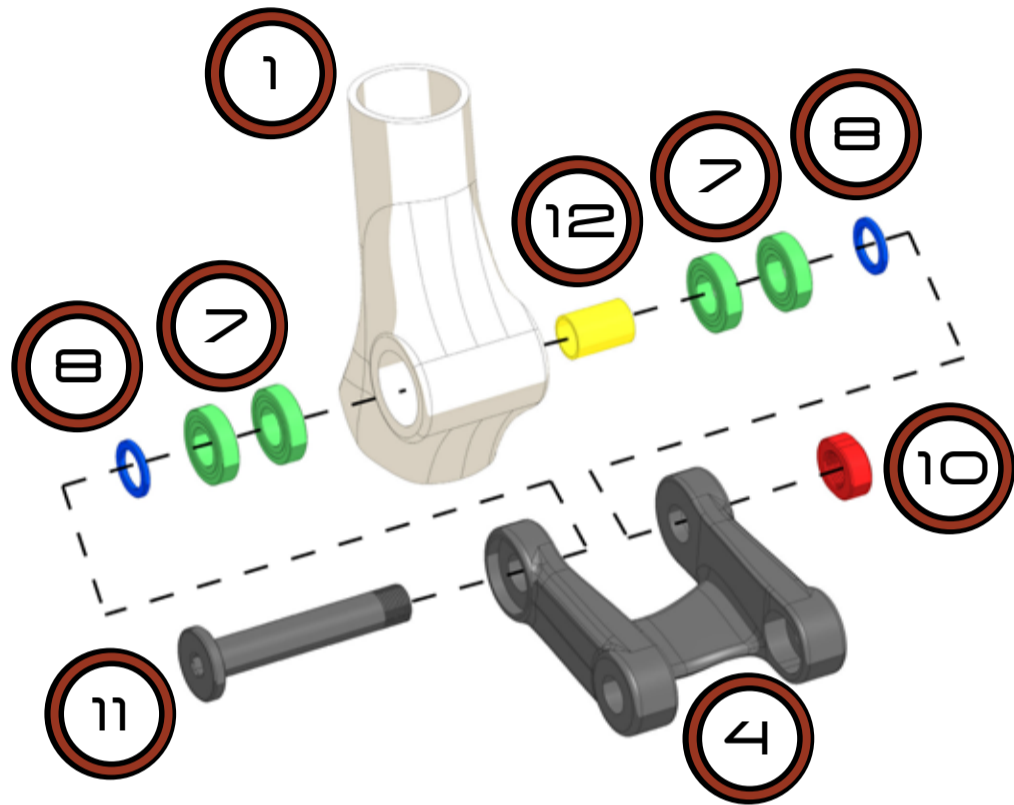
Grease



PIVOT 2

NOTES

- 1) Torque axle to 15 Nm.
- 2) Apply grease to axle shaft (DO NOT apply grease to threads).

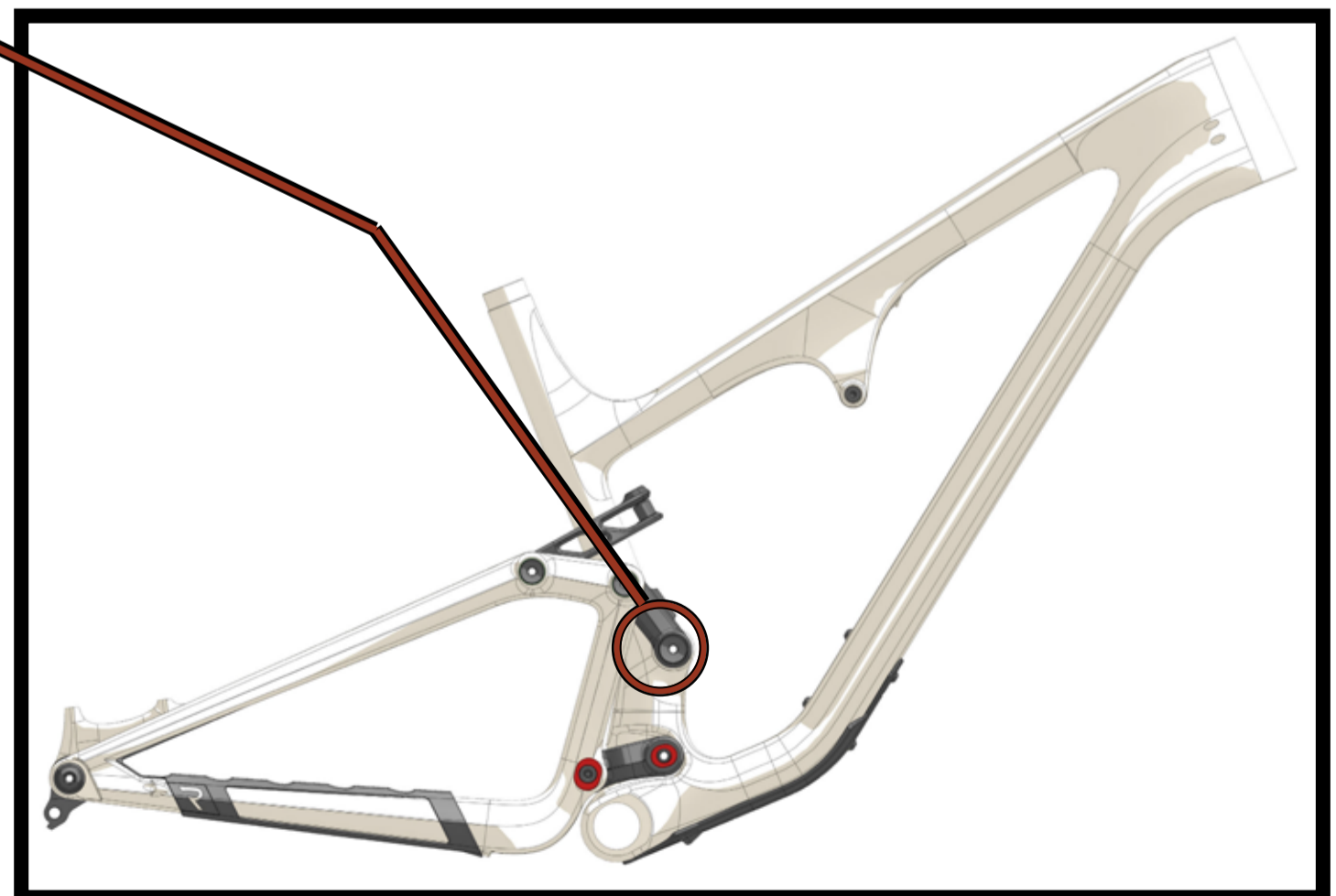


	PART NUMBER	QTY.
1	320-00000-0002 REVEL 29120 FRONT TRIANGLE	1
4	320-10021-0052-XX REVEL RANGER V2 UPPER LINK	1
7	310-BEA20-0301 BOLU BEARING 6901 V2RD 12X24X6	4
8	310-10021-0035 HARDWARE PIVOT SPACER 18X12.2X2	2
10	310-10021-0064 HARDWARE AXLE NUT M12X1.0X7.5	1
11	310-10021-0093 HARDWARE PIVOT AXLE M12X1.0X63	1
12	310-00000-0039 HARDWARE PIVOT AXLE SPACER 12.10X14X20	1

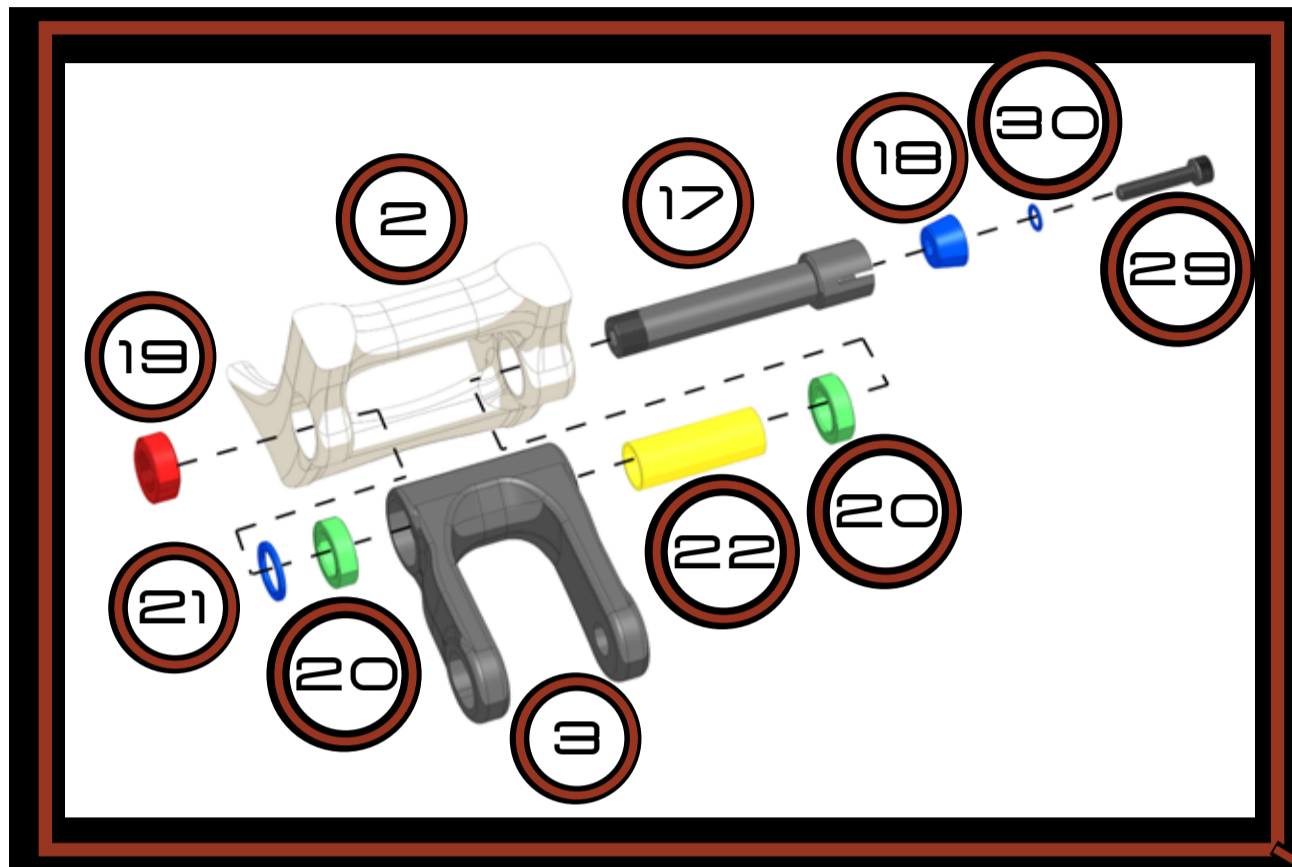
TOOLS NEEDED

6mm Hex Key

Grease



PIVOT 4



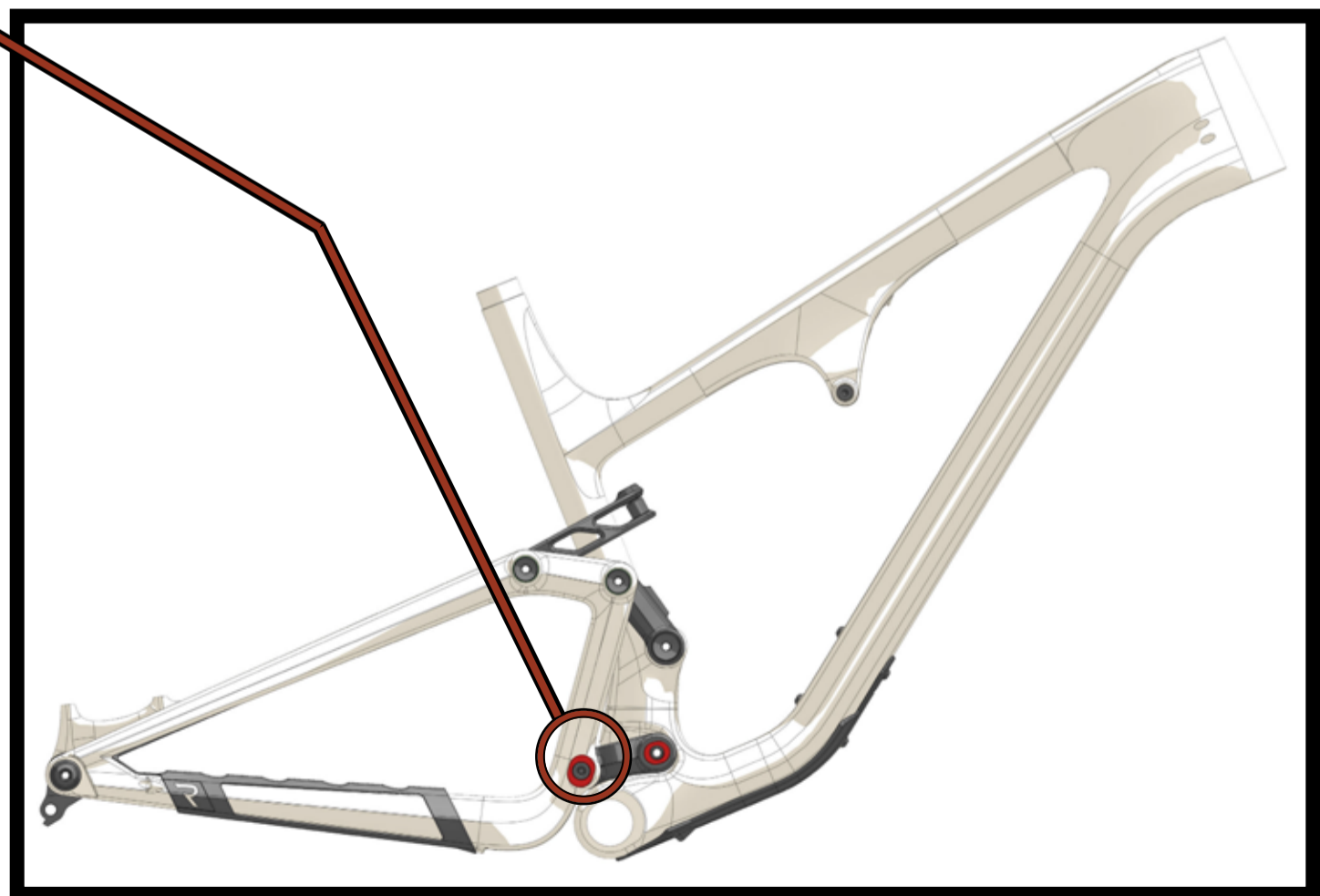
NOTES

- 1) Torque axle to 15 Nm
- 2) Torque collet wedge to 12 Nm.
- 3) Only one washer is used on this pivot. It sits on the drive side of bike, between lower link and rear triangle.
- 4) Apply grease to axle shaft (DO NOT apply grease to threads).
- 5) Pivot 4 makes assembly of rear triangle to front triangle easier if performed before Pivot 3 & Pivot 5.

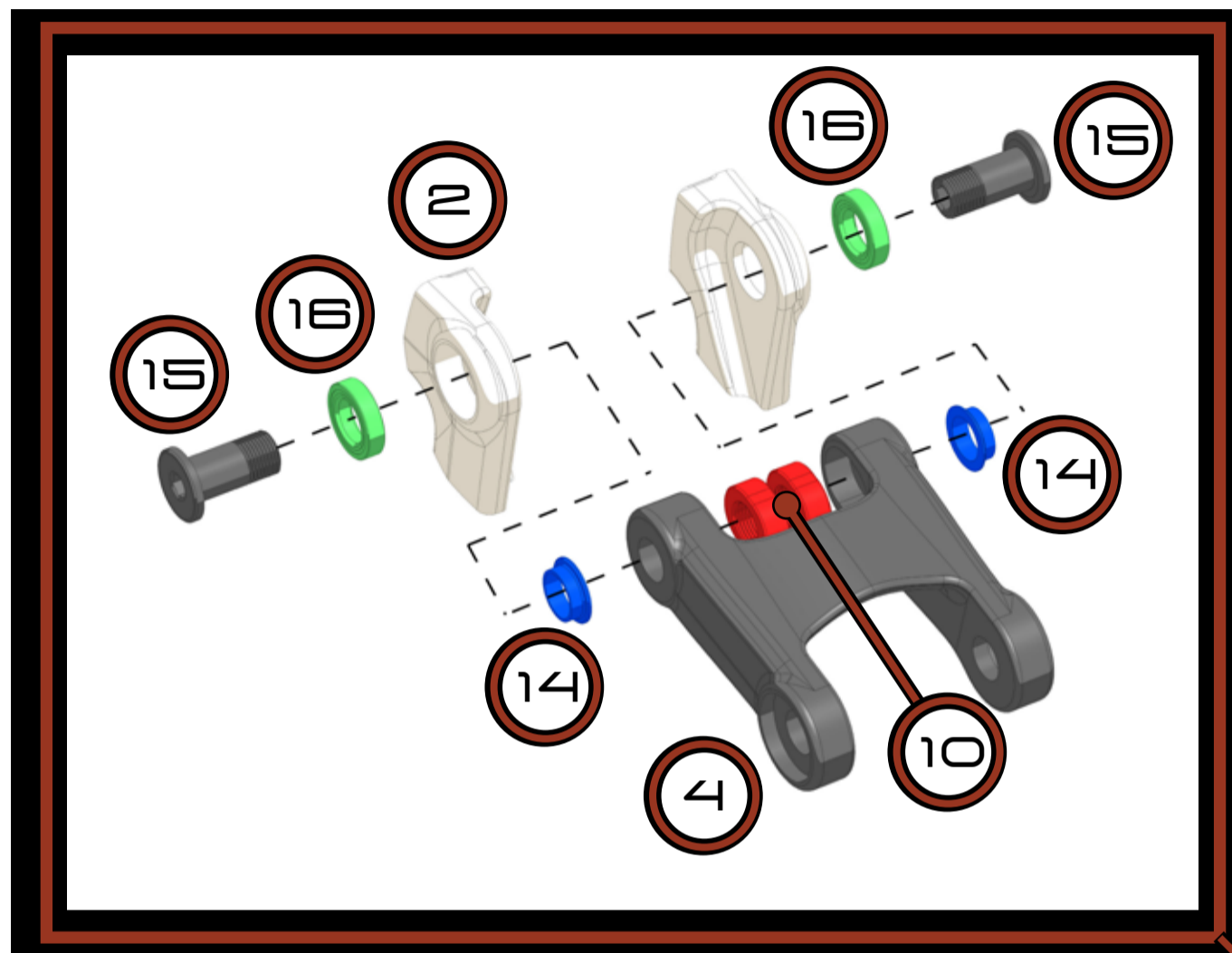
	PART NUMBER	QTY.
2	320-10021-0054-XX REVEL RANGER V2 REAR TRIANGLE	1
3	320-10021-0051-XX REVEL RANGER V2 LOWER LINK	1
17	310-10021-0091 HARDWARE PIVOT AXLE COLLET M15X1.0X97	1
18	310-10021-0089 HARDWARE COLLET WEDGE 20 DEGREE	1
19	310-10021-0060 HARDWARE AXLE NUT M15X1.0X8.6	1
20	310-BEA22-0502 BOLU BEARING 3802V 2RD 15X24X7	2
21	310-10021-0058 HARDWARE PIVOT SPACER 21X15.2X2	1
22	310-10021-0061 HARDWARE AXLE SPACER 15.20X17.20X47.25	1
29	HARDWARE SOCKET HEAD SCREW BLACK-OXIDE ALLOY STEEL M6X1.0X30	1
30	310-10021-0092 HARDWARE WASHER 10X6.4X1.0	1

TOOLS NEEDED

8mm Hex Key
5mm Hex Key
Grease



PIVOT 3



NOTES

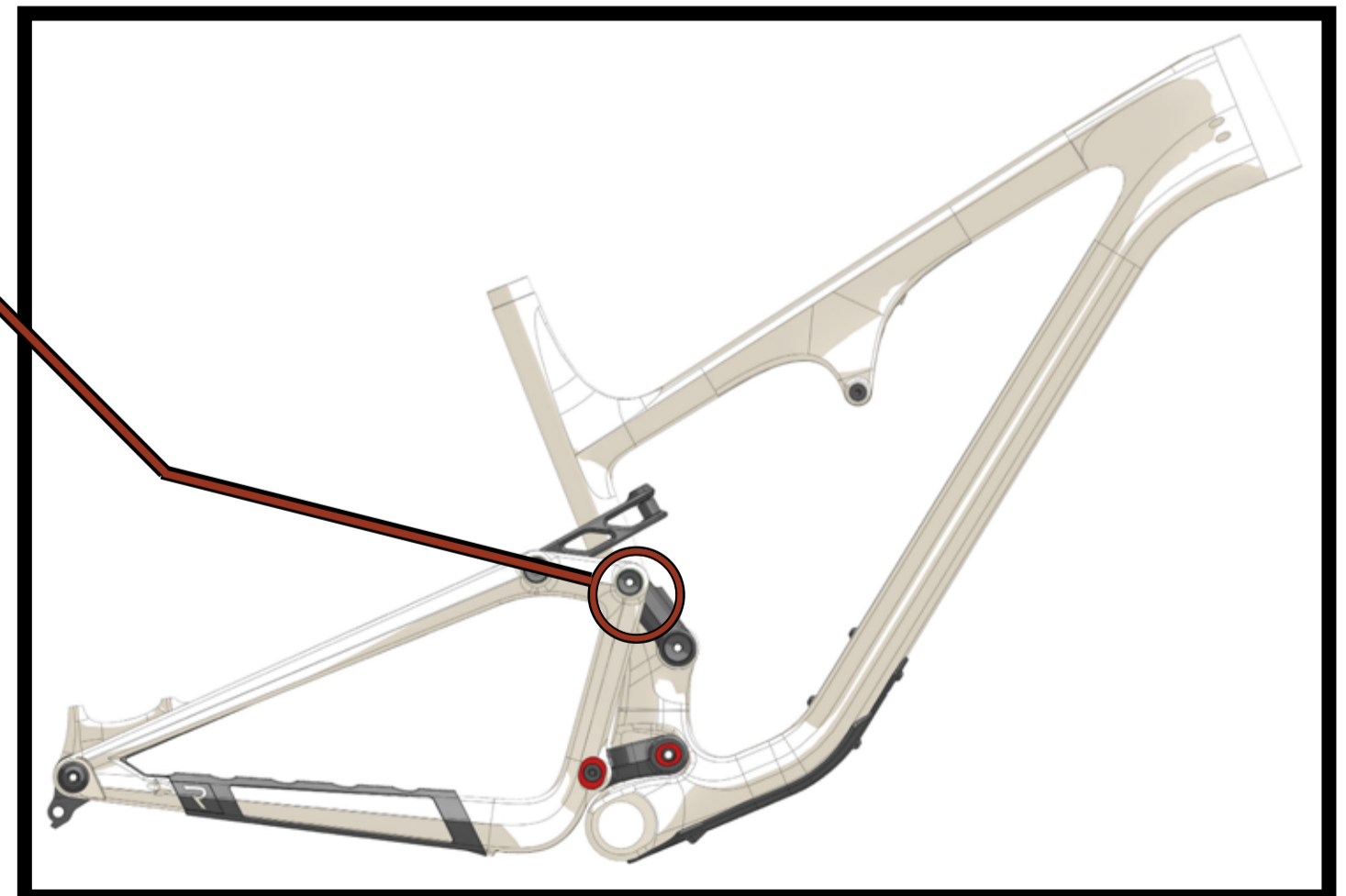
- 1) Torque axle to 15 Nm.
- 2) Apply grease to axle shaft (DO NOT apply grease to threads).
- 3) Front triangle and rear triangle must be assembled before upper link is connected to rear triangle.

	PART NUMBER	QTY.
2	320-10021-0054-XX REVEL RANGER V2 REAR TRIANGLE	1
4	320-10021-0052-XX REVEL RANGER V2 UPPER LINK	1
10	310-10021-0064 HARDWARE AXLE NUT M12X1.0X7.5	2
14	310-10021-0088 HARDWARE PIVOT SPACER 17.5X12.1X4.8	2
15	310-10021-0066 HARDWARE PIVOT AXLE M12X1.0X28	2
16	100-BEA218-0106 BOLU BEARING 6801 V2RD 12X21X5	2

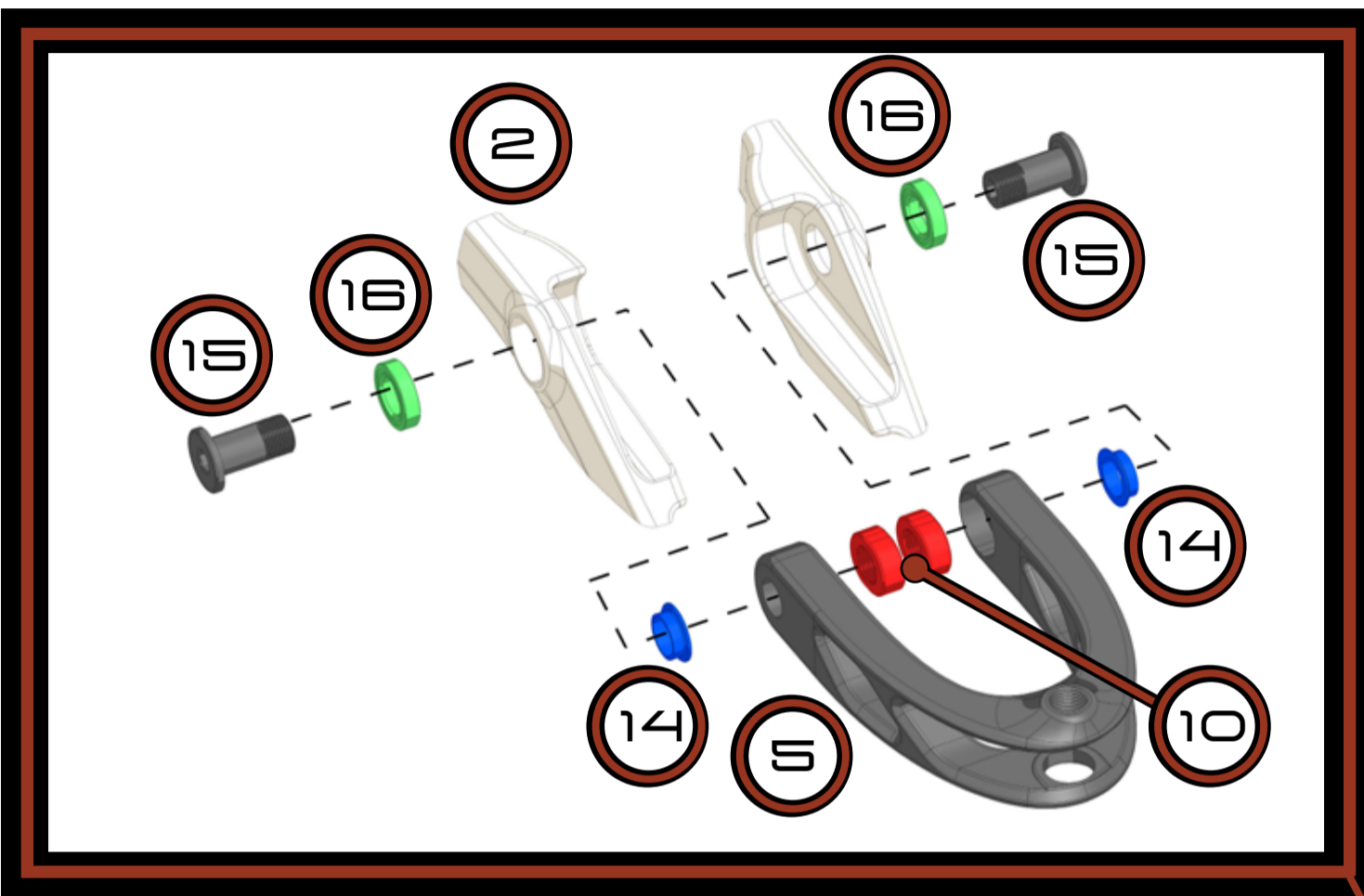
TOOLS NEEDED

6mm Hex Key

Grease



PIVOT 5



NOTES

- 1) Torque axle to 15 Nm.
- 2) Apply grease to axle shaft (DO NOT apply grease to threads).
- 3) Front triangle and rear triangle must be assembled before shock yoke is connected to rear triangle.

	PART NUMBER	QTY.
2	320-10021-0054-XX REVEL RANGER V2 REAR TRIANGLE	1
5	320-10021-0053-XX REVEL RANGER V2 SHOCK LINK	1
10	310-10021-0064 HARDWARE AXLE NUT M12X1.0X7.5	2
14	310-10021-0088 HARDWARE PIVOT SPACER 17.5X12.1X4.8	2
15	310-10021-0066 HARDWARE PIVOT AXLE M12X1.0X28	2
16	100-BEA218-0106 BOLU BEARING 6801 V2RD 12X21X5	2

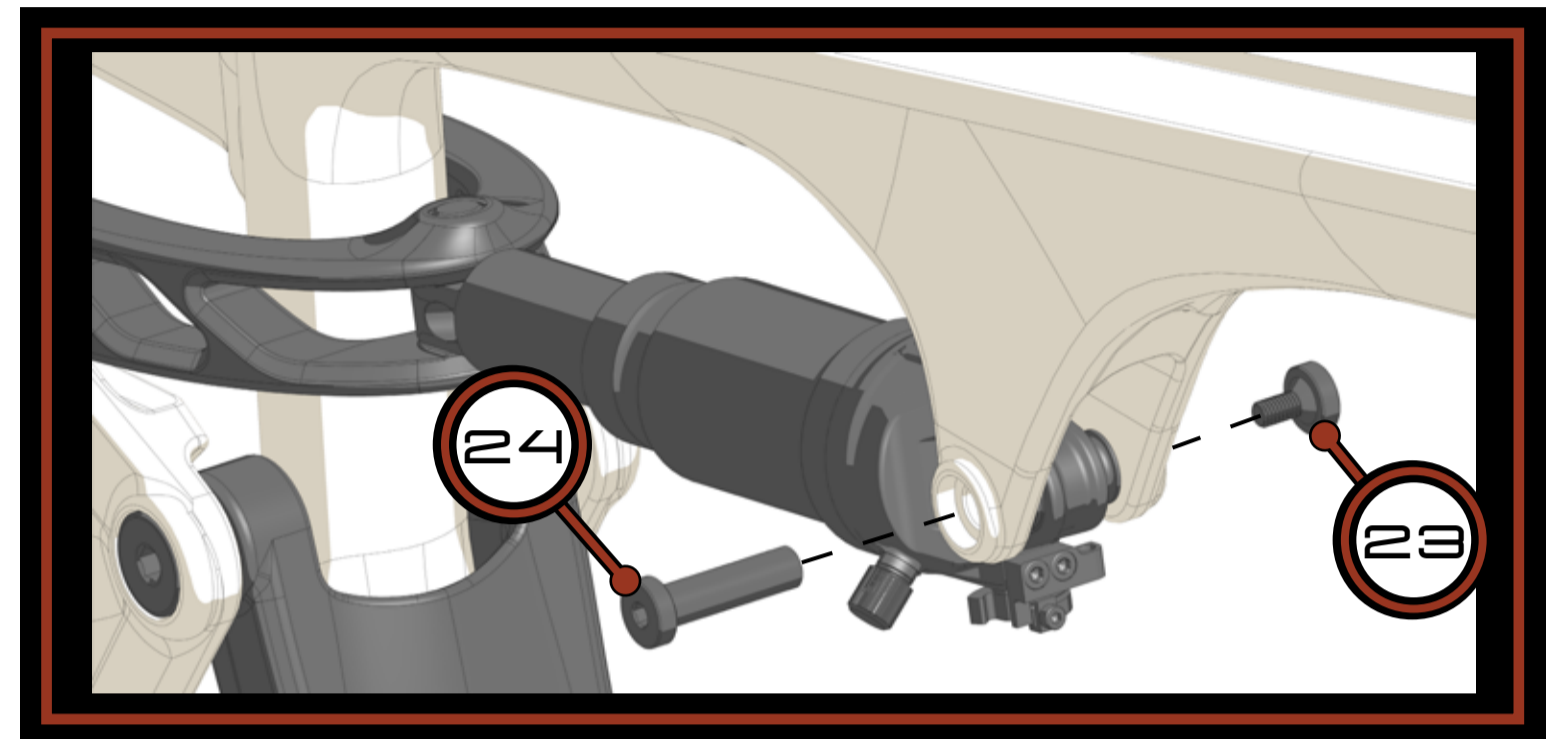
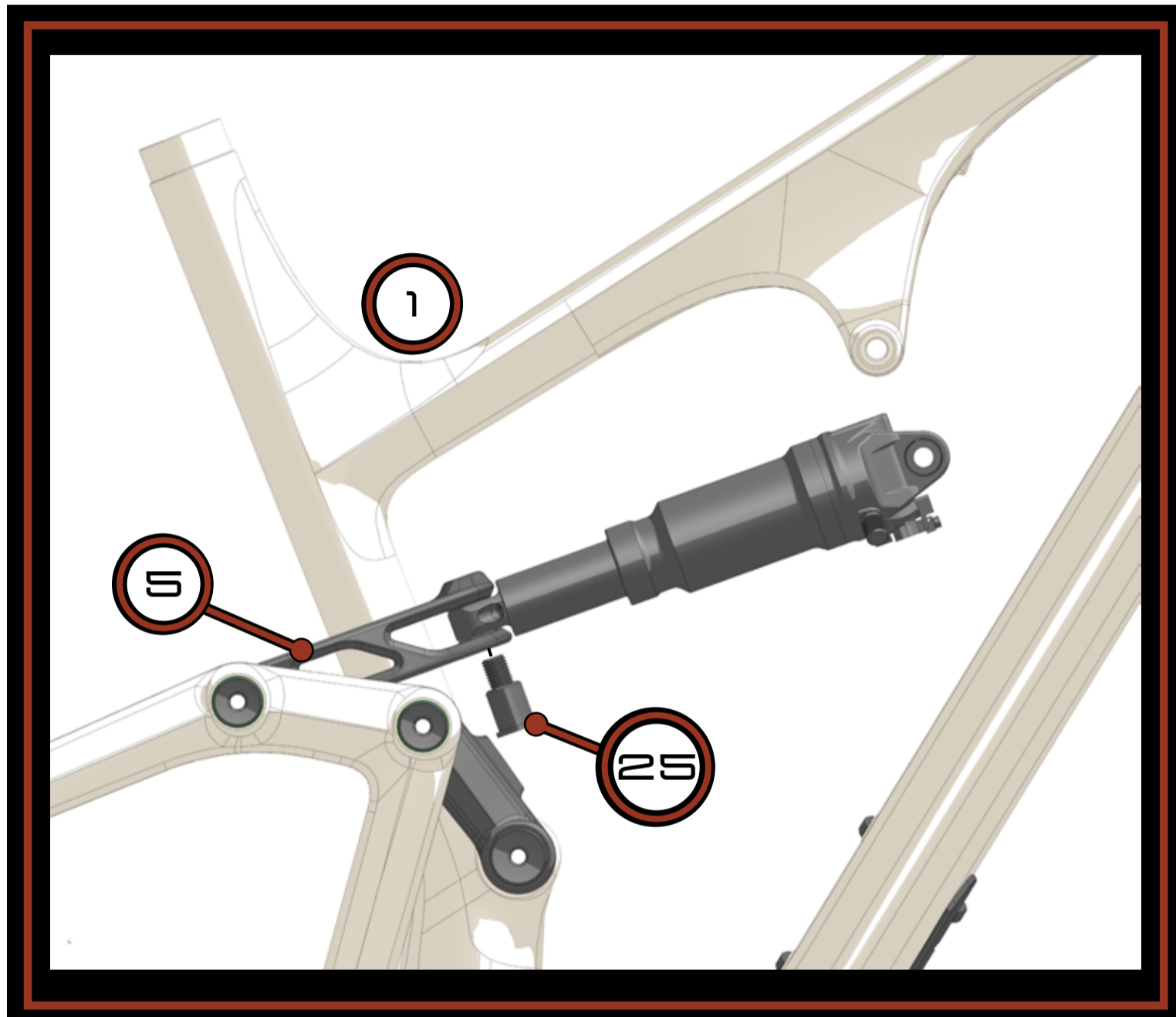


TOOLS NEEDED

6mm Hex Key

Grease

SHOCK INSTALL



	PART NUMBER	QTY.
1	320-00000-0002 REVEL 29120 FRONT TRIANGLE	1
5	320-10021-0053-XX REVEL RANGER V2 SHOCK LINK	1
23	310-10021-0050 HARDWARE SHOCK PIVOT BOLT M5X0.8X14	1
24	310-10021-0051 HARDWARE SHOCK PIVOT AXLE M5X0.8X33.5	1
25	310-10021-0077 HARDWARE SHOCK EYELET BOLT M10X1.25	1

NOTES

- 1) Torque forward shock bolt to 10 Nm.
- 2) Torque rear shock bolt to 15 Nm.
- 3) Apply titanium anti-seize to threads on rear shock bolt.
- 4) Install rear shock to shock yoke, first then rotate shock up into forward shock mount.

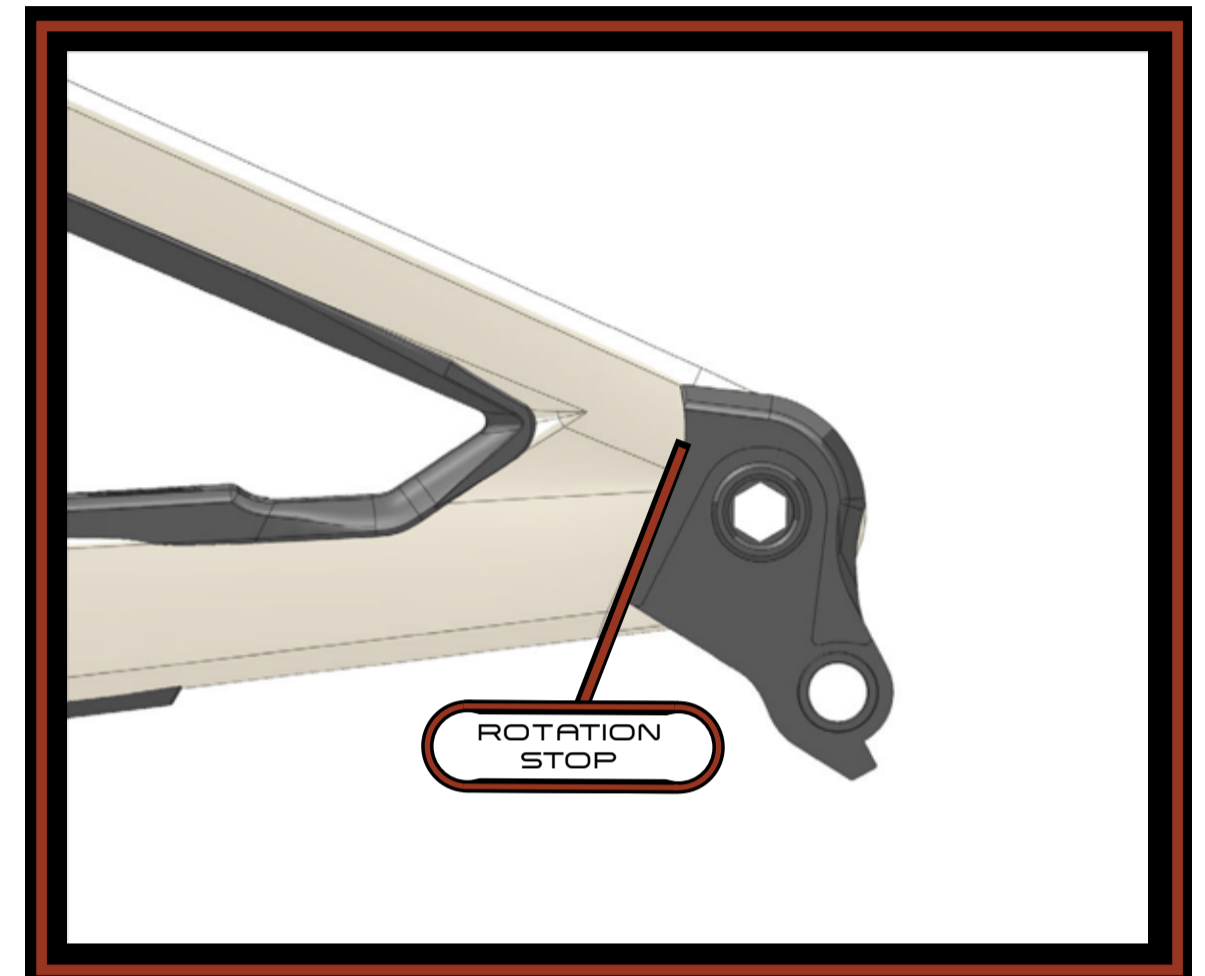
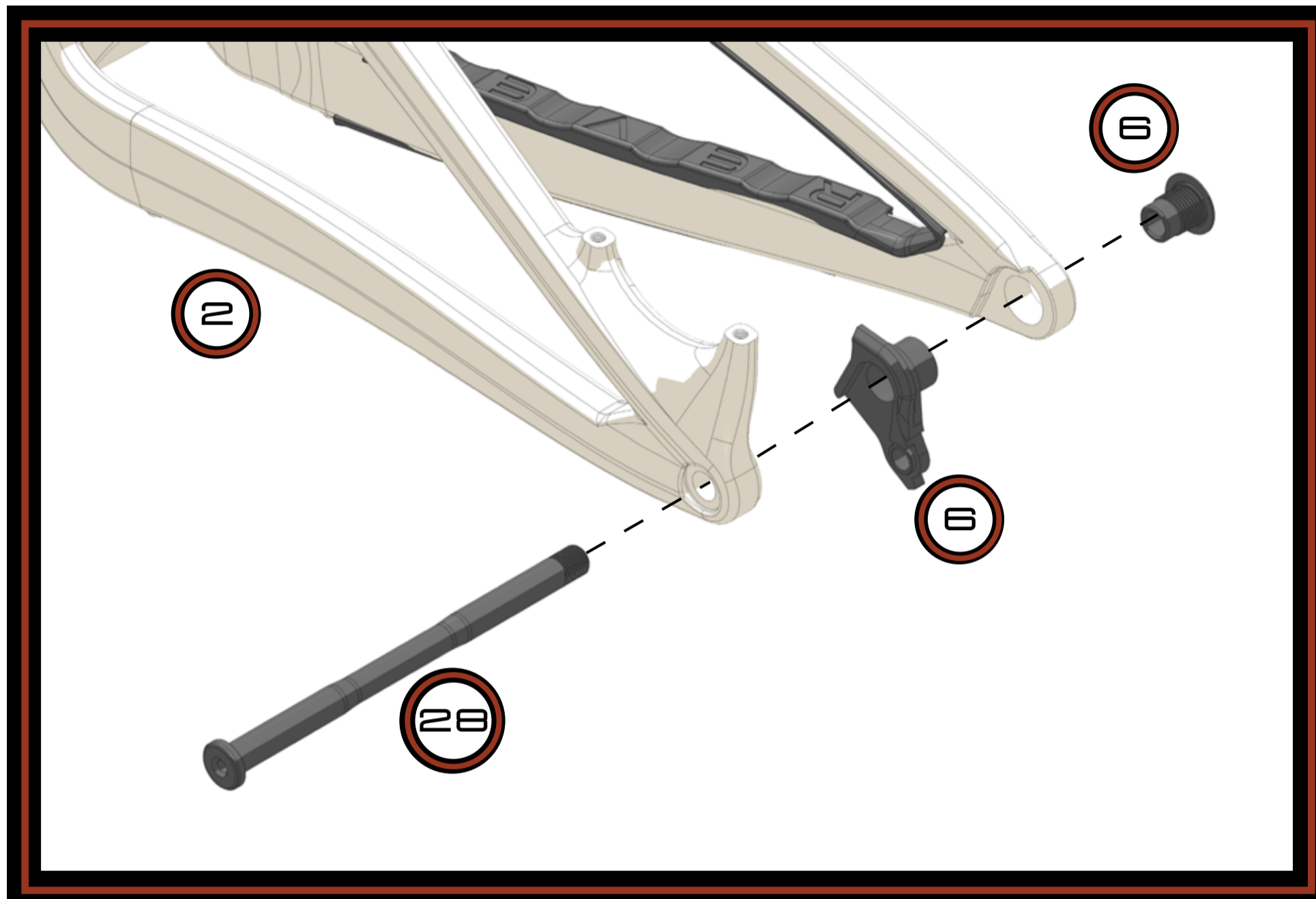
TOOLS NEEDED

8mm Hex Key

4mm Hex Key

Titanium Anti-Seize Compound

UDH HANGER & AXLE INSTALL



	PART NUMBER	QTY.
2	320-10021-0054-XX REVEL RANGER V2 REAR TRIANGLE	1
6	SRAM UDH HANGER	1
28	310-10021-0056 AXLE 12X1.0X177 REVEL UDH	1

NOTES

- 1) Torque UDH hanger to 25 Nm. **NOTE:** UDH hanger is left-hand threaded.
- 2) Ensure UDH hanger is rotated fully forward and resting on rotation stop.
- 3) Torque Revel UDH compatible axle to 13 Nm.
- 4) DO NOT apply grease to frame, UDH hanger or UDH bolt threads.
- 5) Apply grease to axle shaft (DO NOT apply grease to threads).
- 6) DO NOT torque axle to torque spec without wheel installed.

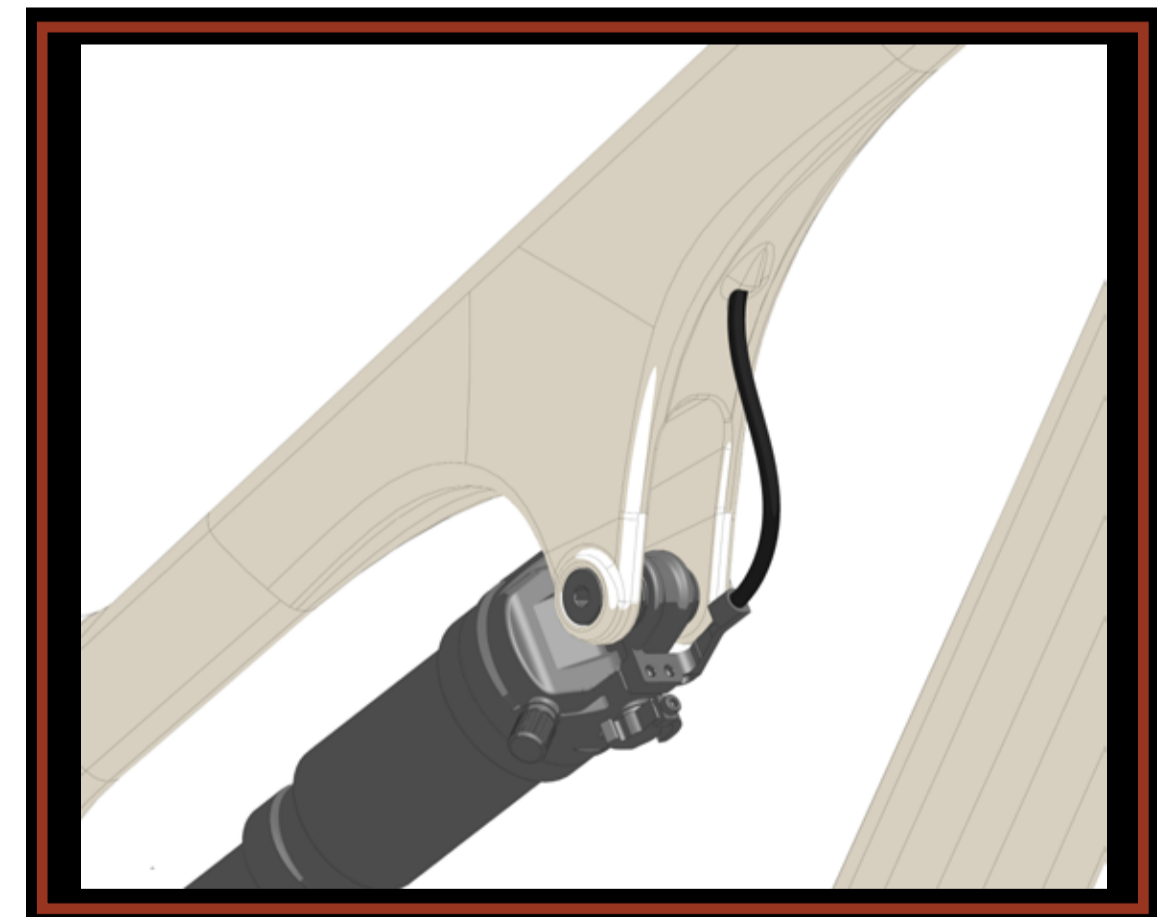
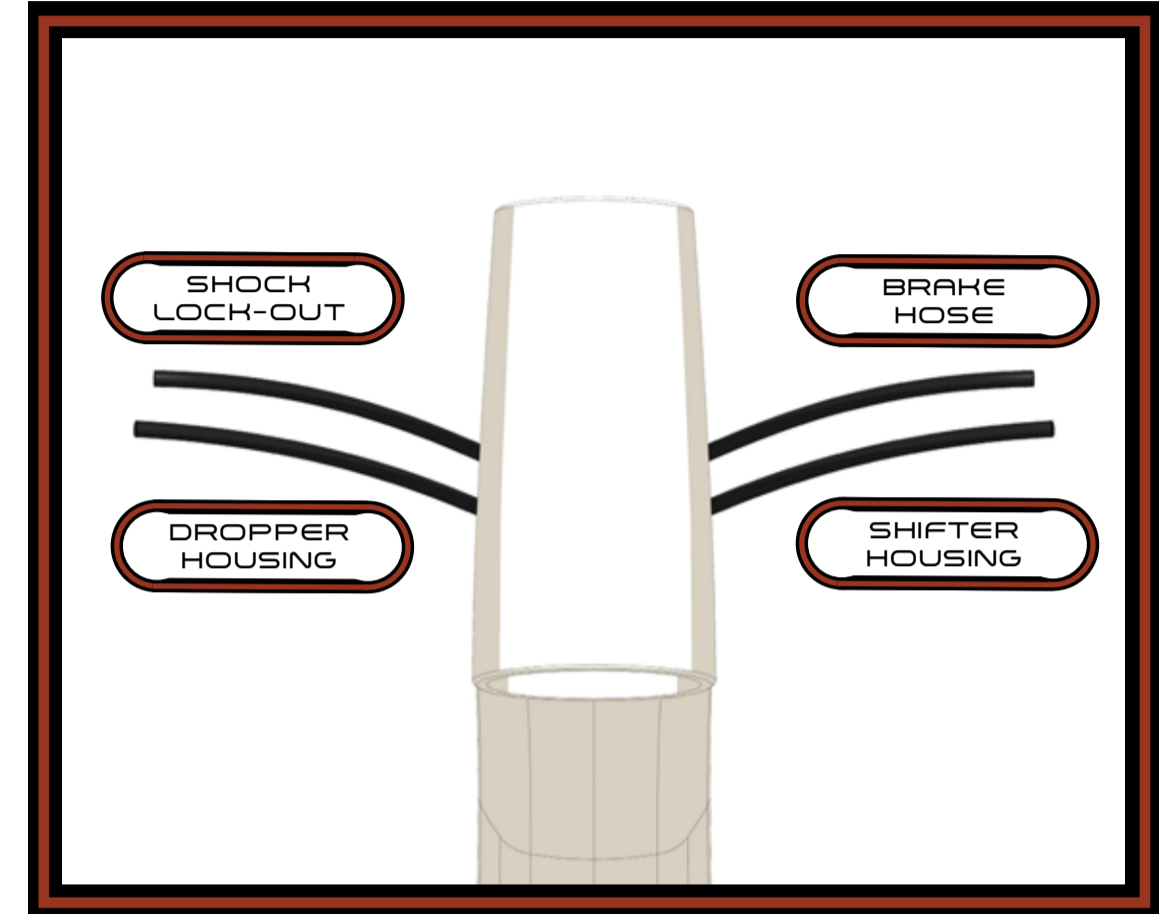
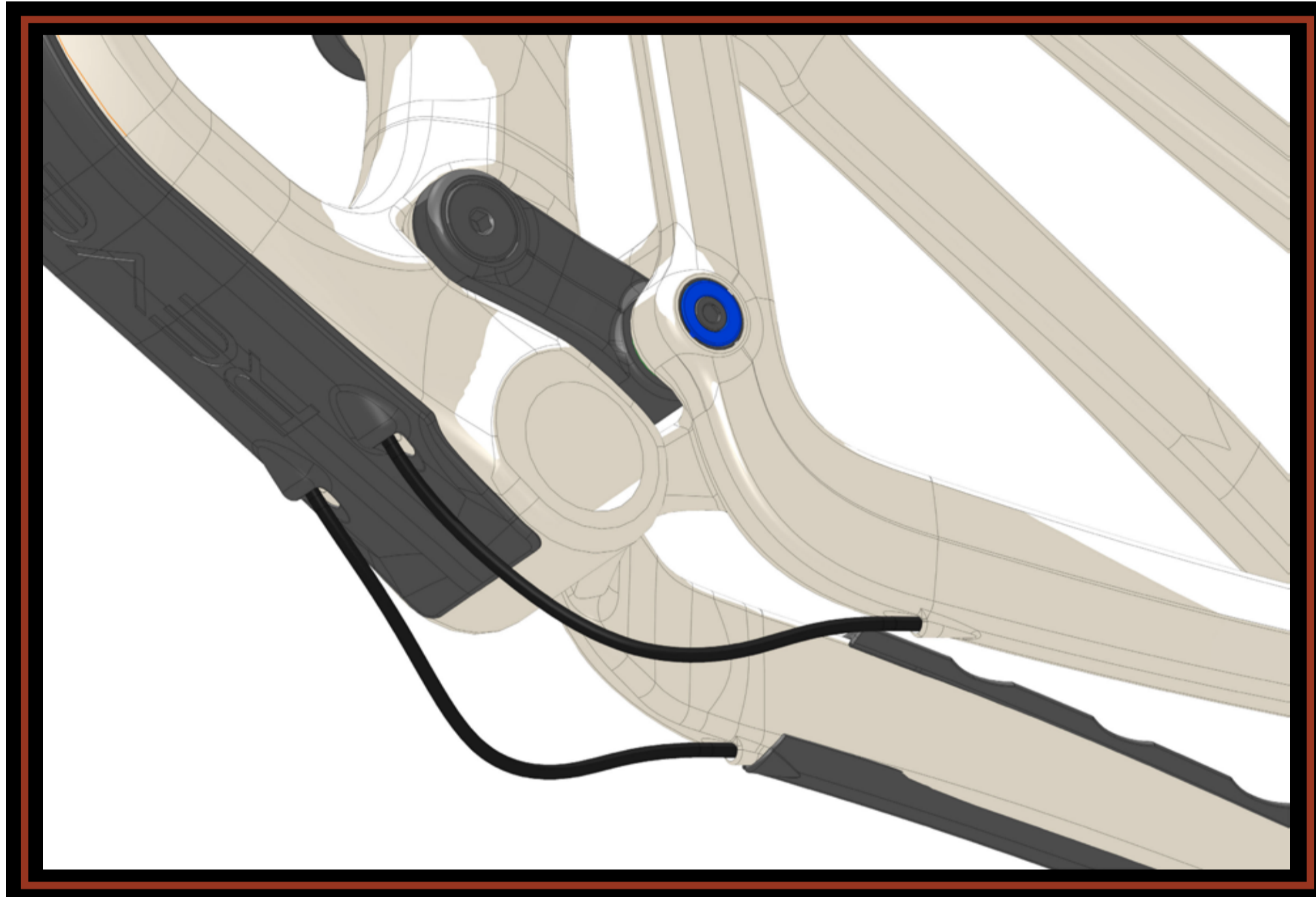
TOOLS NEEDED

8mm Hex Key

5mm Hex Key

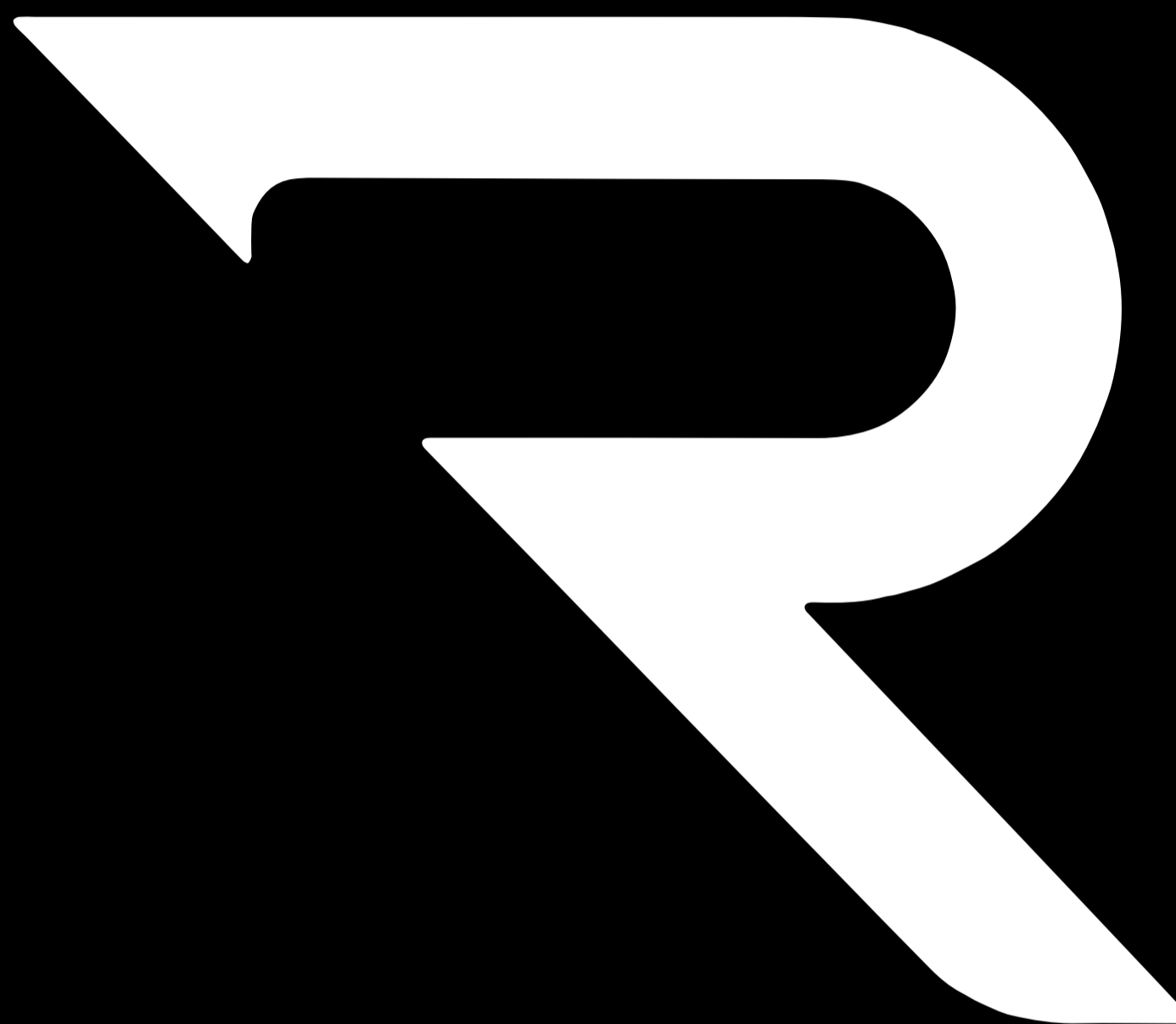
Grease

INTERNAL ROUTING



NOTES

When sizing shifter housing and brake hose leave 30mm (1.20") extra length to account for cable growth during suspension travel.



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