

2021 E-CALIBER

SERVICE MANUAL SUPPLEMENT

Rev 2 December 2021

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Safety

WARNING

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

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.

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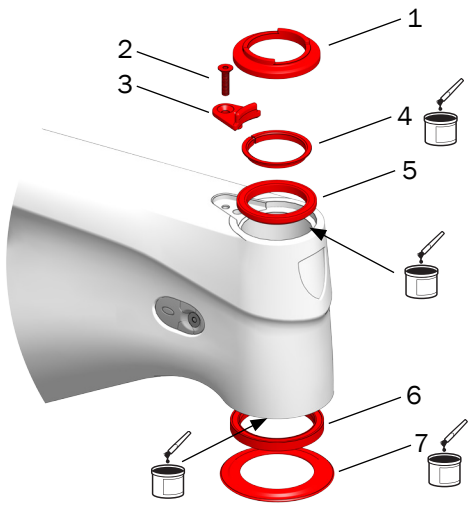
Headset with Knock Block



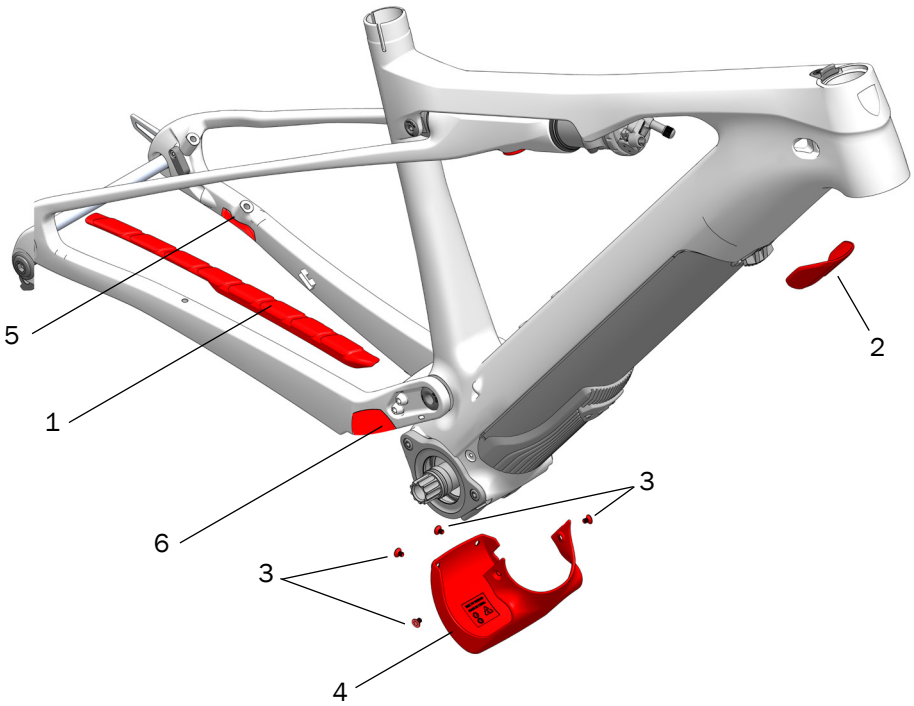
Item	Description	Quantity in Assembly	Part Number	Torque (Nm)
1	Upper bearing cover	1	5252159	—
2	Knock Block chip bolt	1		2
3	Knock Block chip, 62 degrees	1		—
4	Compression ring	1		—
5	Upper bearing	1		—
6	Lower bearing	1	5252158	—
7	Crown race	1		—

Tools

- 2.5mm hex tool
- Torque wrench with 2.5mm hex bit
- Headset tools
- Grease

1. Inspect the components for damage or excessive wear.
   - Knock Block chip (3)
   - Underside channel of the upper bearing cover (1)
   - Interlocking keys of the upper bearing cover (1) and the stem
2. Replace any damaged or worn components.
3. Apply grease to:
   - Upper and lower head tube bearing bores.
   - Inside of the bearing seats of the compression ring (4) and the crown race (7).
4. Install the crown race (7), then the lower bearing (6) onto the steerer tube.
5. Insert the steerer tube into the bottom of the head tube.
6. Install the upper bearing (5), then the compression ring (4) onto the steerer tube.
7. Insert the Knock Block chip (3) and bolt (2) into the frame, but do not tighten it.
8. Install the upper bearing cover (1).
9. Install spacers as needed.
10. Torque the Knock Block chip bolt (2) to 2Nm.

Frame and drive system guards



Item	Description	Quantity in Assembly	Part Number	Torque (Nm)
1	Chainstay guard	1	W582883	—
2	Down tube guard	1	W582884	—
3	Drive unit guard fasteners	4	5269023	3
4	Drive unit guard	1	W1040440	—
5	Rotor guard	1	W1049466	—
6	Chain guard	1	W1049465	—

Chainstay and down tube guards

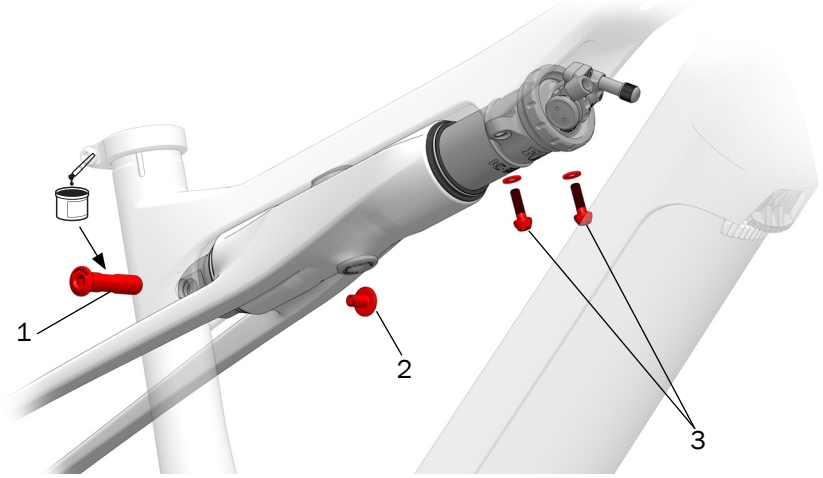
Use isopropyl alcohol to clean the frame surface where the guards attach. Wait for the alcohol to dry before applying the guards.

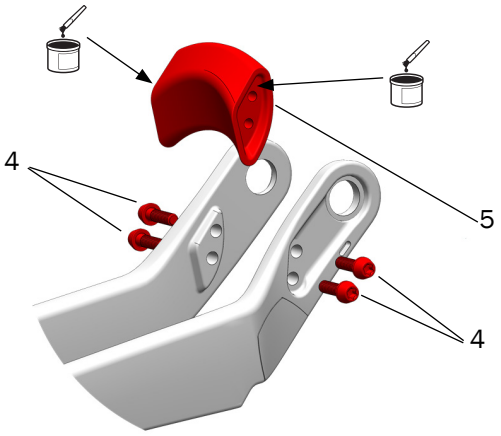
Notice: Do not clean the entire frame with isopropyl alcohol. Isopropyl alcohol could damage the paint.

Rotor and chain guards

1. To improve adhesion, use sandpaper to roughen the backside of the guard and the area of the frame where epoxy will be applied.
2. Attach the guard with a two-part epoxy.
3. Allow the guard and epoxy to cure for 24 hours.

Rear triangle and chainstay bridge





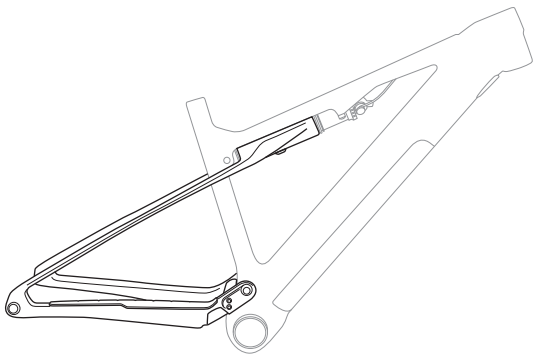
Item	Description	Quantity in Assembly	Part Number	Torque (Nm)
1	Rear IsoStrut axle	1	591626	10
2	End cap bolt	1		—
3	Front IsoStrut bolt and washer	2	W584485	5
4	Chainstay bridge bolt	4	5265697	8
5	Chainstay bridge, charcoal color	1	5266755	—

Tools

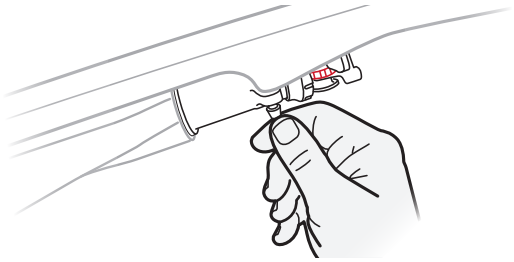
- Bike repair stand
- Torque wrench with 6mm hex bit, T25 and T30 Torx bits
- Grease

Important: You must have the main pivot bearing and sleeve (See the Main pivot section on page 6) and the IsoStrut (See the IsoStrut section on page 10) installed on the rear triangle before attaching the rear triangle to the frame.

1. Put the seatpost in a bike repair stand.
2. Fit the rear triangle into the main frame.



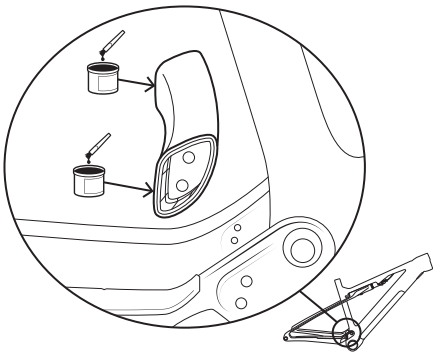
3. Install the two front IsoStrut bolts and washers (3).



Important: Do not torque the bolts at this time.

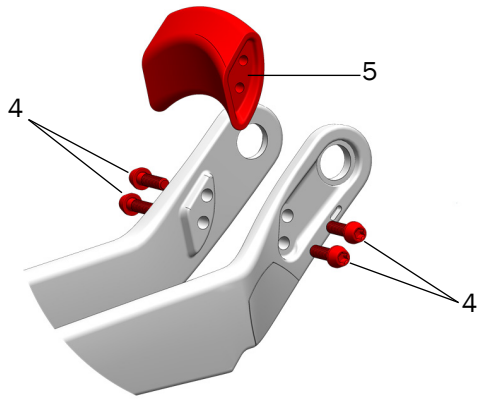
4. Apply grease to the IsoStrut rear axle (1).
5. Install the IsoStrut rear axle (1) and end cap bolt (2).

   Important: Do not torque the bolts at this time.
6. Apply grease to the flat surfaces of the chainstay bridge (5).



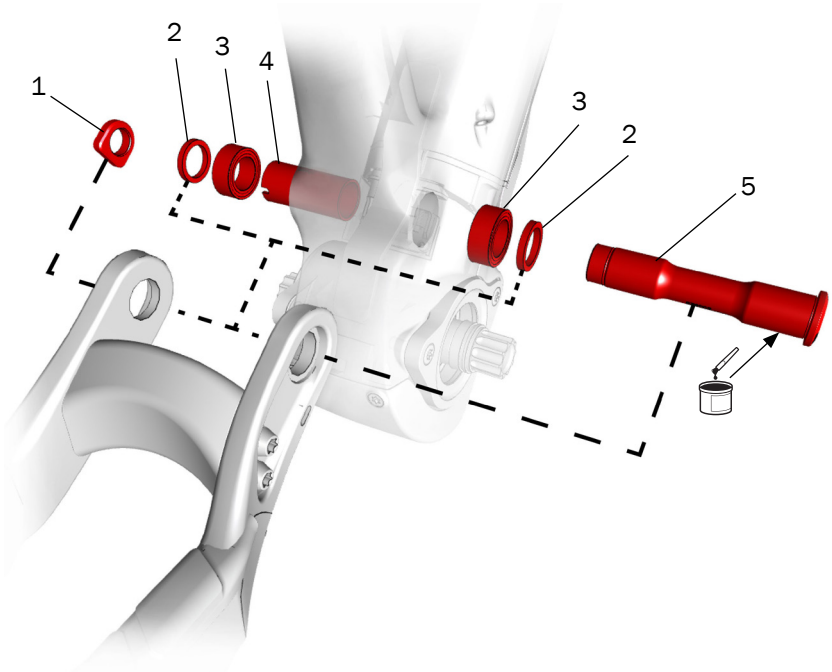
Rear triangle and chainstay bridge (continued)

7. Insert the chainstay bridge (5) inside the rear triangle.



8. Install the four bridge bolts (4) to attach the bridge to the rear triangle.
9. If applicable, install the main pivot hardware before torquing the bridge bolts (4). See the Main pivot section on page 6.
10. Torque:
    - Chainstay bridge bolts (4) to 8Nm.
    - IsoStrut rear axle (1) to 10Nm.
    - Front IsoStrut bolts (3) to 5Nm.

Main pivot



Item	Description	Quantity in Assembly	Part Number	Torque (Nm)
1	Main pivot nut	1	W584134	—
2	Washer	2	W440921	—
3	Main pivot bearing	2	W302025	—
4	Main pivot sleeve	1	W600642	—
5	Main pivot bolt	1	W600628	30

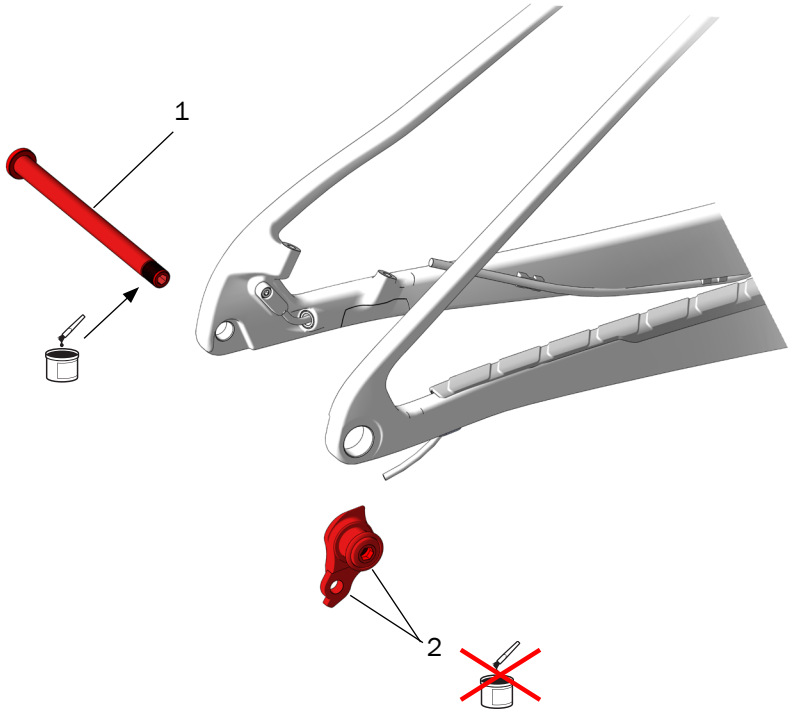
Tools

- Bearing press
- 8mm hex tool
- Torque wrench with 8mm hex bit
- Grease

1. Press in the driveside bearing (3).
2. Insert the sleeve (4) from the non-drive side.
3. Press-in the non-driveside bearing (3).
4. Position the chainstay over the seat tube, making sure the main pivot holes are aligned.

   Tip: Slide the long arm of the hex tool from the non-drive side and through the aligned pivot holes. For each step, slide the component onto the hex tool to align the components on each side of the main pivot.
5.  Apply grease to the shoulder of the main pivot bolt (5).
6. Insert the driveside washer (2) between the bearing the chainstay.
7. Partially insert the main pivot bolt (5) from the drive side.
8. Insert the non-driveside washer (2) bewtween the bearing the chainstay.
9. Fully insert the main pivot bolt (5).
10. Install the nut (1).
11. Torque the main pivot bolt (5) to 30Nm.

Derailleur hanger



Item	Description	Quantity in Assembly	Part Number	Torque (Nm)
1	Thru axle, M12X1.0X15MM	1	W600321	10
2	Derailleur hanger	1	W600660	—
	Hanger bolt, left-handed thread	1		25
	Washer, 25mm	1		—

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

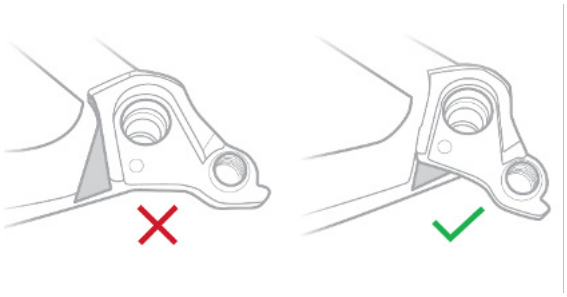
NOTICE: The thru axle must be compatible with a UDH and must be M12x1.0 with a 12.7mm thread.

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

WARNING

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

1. Insert the hanger on the inside of the driveside chainstay.
2. Install the washer on the derailleur hanger bolt.
3. Insert the bolt into the frame.
4. Make sure the hanger is positioned as shown below.

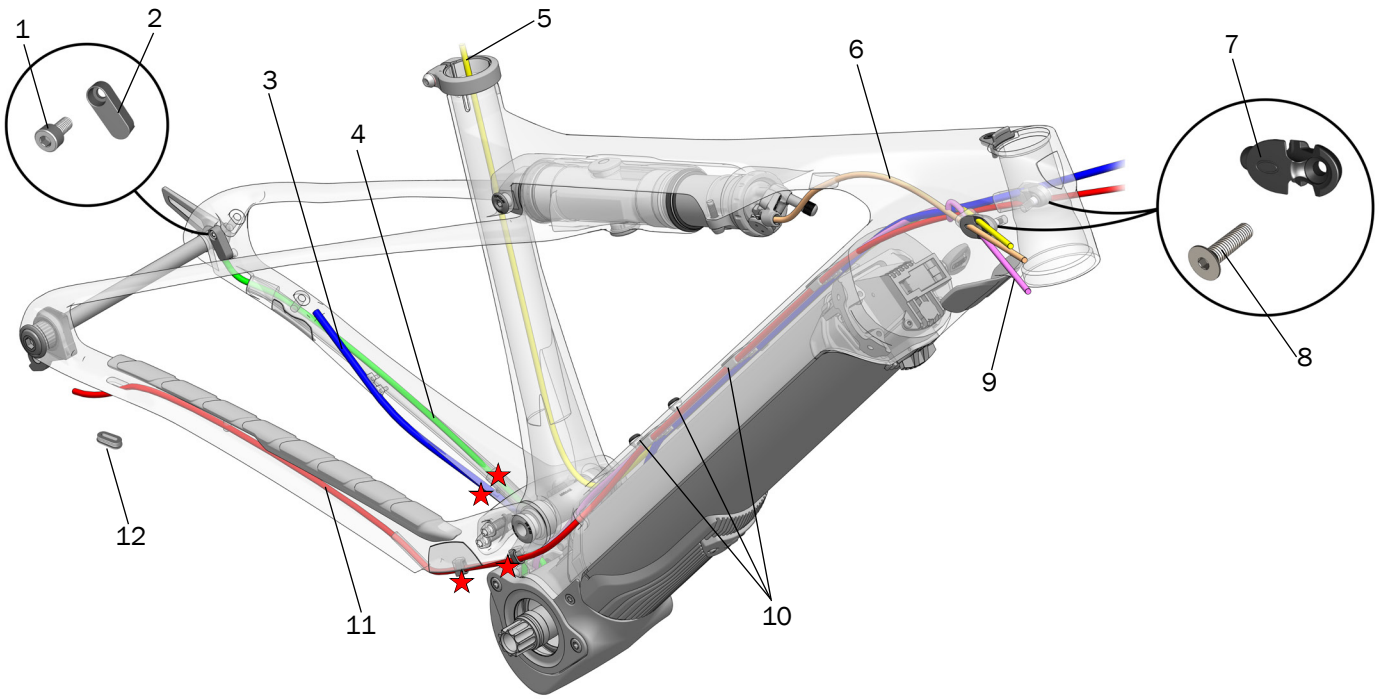


5. Torque the hanger bolt to 25Nm.

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

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

Cabling overview



Item	Description	Quantity in Assembly	Part Number	Torque (Nm)
1	Bolt	1	W562831	3
2	Speed sensor	1	W581396	—
3	Rear brake cable	1	—	—
4	Speed sensor cable	1	—	—
5	Dropper post cable	1	—	—
6	IsoStrut lockout cable	1	—	—
7	Head tube cable guide	2	W519232	—
8	Head tube cable guide fastener	2	W532763	1
9	Controller cable	1	—	—
10	Down tube cable guide	3	W591416	—
11	Rear derailleur cable	1	—	—
12	Grommet, for use with wireless derailleur only	1	5259425	—
★	Zip tie location	4	—	—

Route and zip tie the cables as shown in the illustration above.

Dropper cable

- For detailed dropper remote instructions, please refer to the Drop Lock Remote manual at trekbikes.com/manuals.

IsoStrut cable

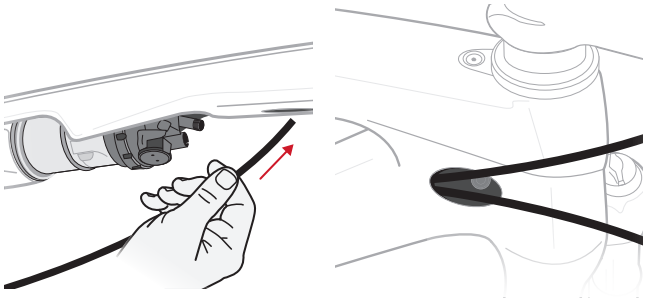
- See the IsoStrut remote lockout cable section on page 9.

IsoStrut remote lockout cable

Tools

- Cable cutter
- Torque wrench with 2mm hex bit

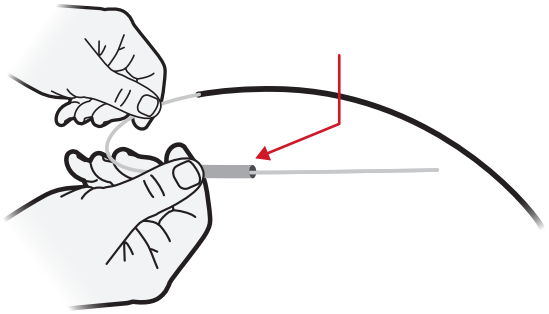
1. Install the cable in the remote lockout.
2. Route the cable through the hole in the bottom of the top tube just forward of the IsoStrut and out the drive side of the head tube hole.



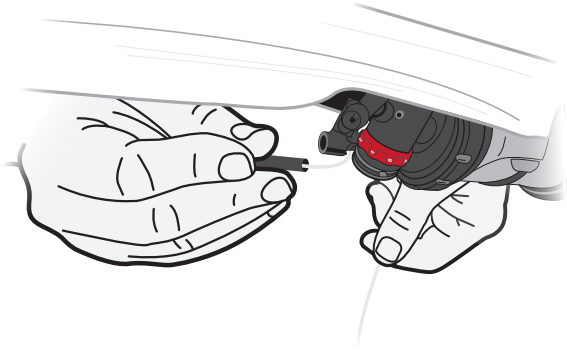
3. At the head tube, route the wire through the cable.



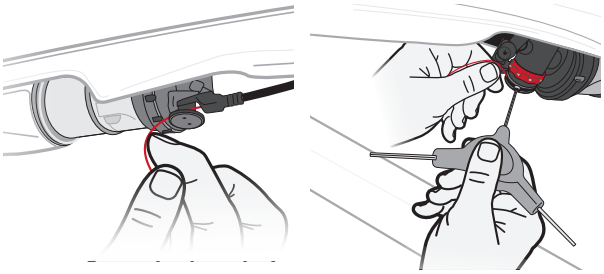
4. At the IsoStrut, slide the ferrule on the wire.



5. Guide the wire through the slot in the cable stop.

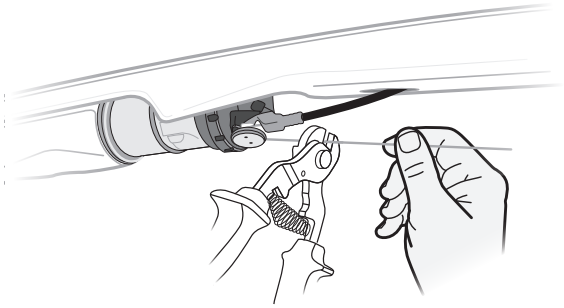


6. Route the wire around the lockout spool and install the set screw. Torque to 1Nm.

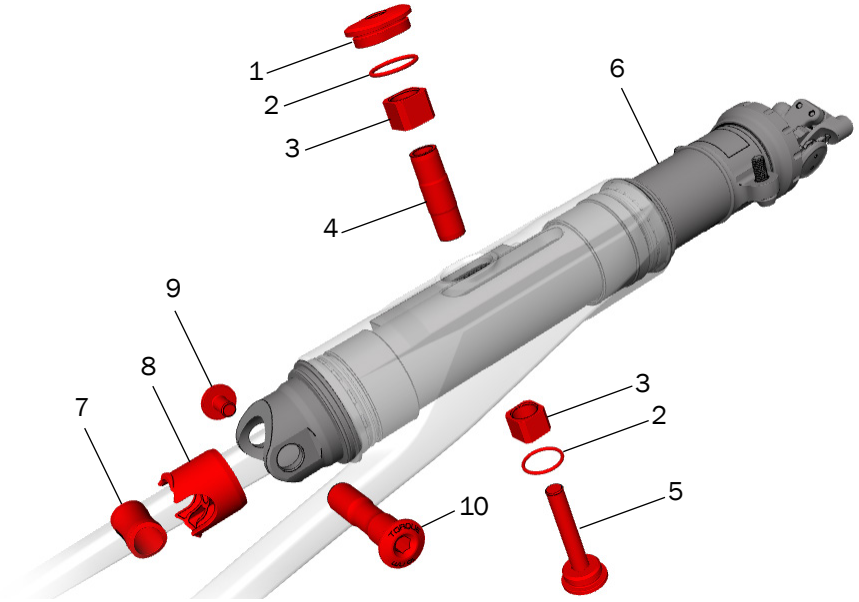


Drive side | Non-drive side

7. Test that the mechanism works satisfactorily.
8. Cut the wire to the appropriate length (20-30mm) and crimp an end cap on it.



IsoStrut

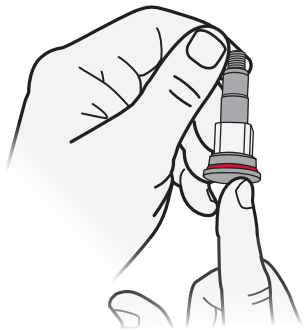


Item	Description	Quantity in Assembly	Part Number	Torque (Nm)
1	Damper body nut	1	W580727	—
2	O-ring	2		—
3	Guide bushing	2		—
4	Damper body sleeve	1		—
5	Damper body bolt	1		7
6	Fox shock, performance, black	1	W587198	—
	Fox shock, performance, kashima		W587197	—
7	Compression sleeve	1	591626	—
8	Shock oil plug	1	W580727	
9	End cap bolt	1	591626	—
10	Rear IsoStrut axle	1		10

Tools

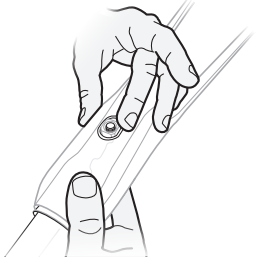
- Torque wrench with 5mm hex bit

1. Assemble the body bolt (5), body sleeve (4), one o-ring (2) and one guide bushing (3) as shown below.

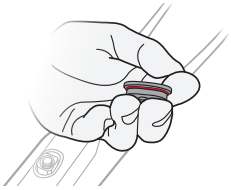


2. Insert the assembly into the bottom of the carriage.

3. Install the upper guide bushing (3) into the carriage.



4. Install the o-ring (2) onto the damper body nut (1).



5. Install damper body nut (1) with o-ring (2) into the carriage.
6. Torque the damper body bolt (5) to 7Nm.

Air volume spacer



Item	Description	Part Number
1	Fox air volume spacer kit	595583

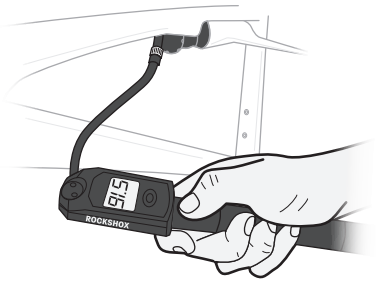
Tools

- BSA30 Open-ended bottom bracket tool
- Spanner pliers
- Loctite Blue 243 threadlocker or similar
- Parallel jaws pliers
- T25 torx drive wrench
- Torque wrench
- Shock pump
- Spacers
- Soft cloth
- Grease

Note: This procedure should be performed with the IsoStrut installed on the bike.

Note the current air pressure

1. Use a shock pump to check the air pressure in the shock. Make a note of the current air pressure so you can re-inflate the shock after changing the air spacer.

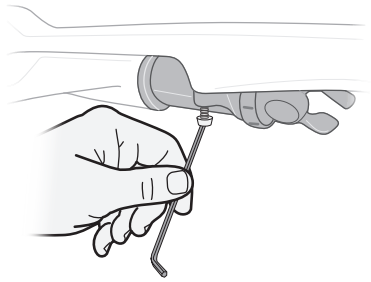


2. Gradually bleed the air from the air valve.

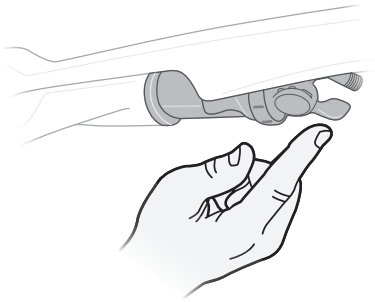
   Tip: You do not need to compress the shock because you will need some air in the negative air spring.

Release the shock from the carriage

1. Remove the two bolts and washers at the front of the shock.

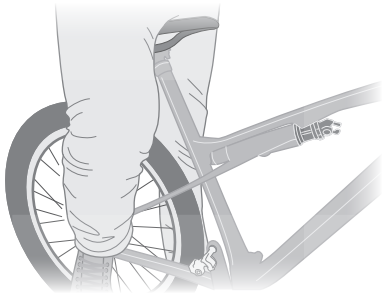


2. Loosen, but DO NOT REMOVE the rear axle.
3. Turn the lockout lever counter-clockwise to the open/unlocked position.



Air volume spacer (continued)

4. Sit on the seat to compress the suspension. The front of the IsoStrut will move away from the top tube to provide clearance for the BSA30 wrench.

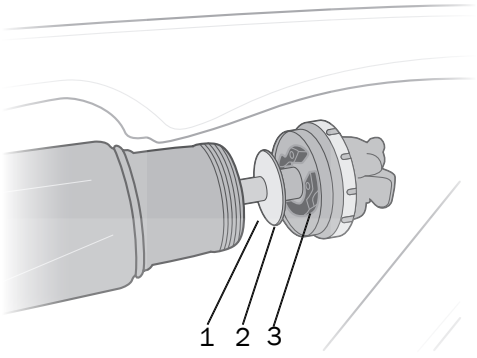


5. Position your body on the seat to keep the shock compressed, and use the BSA30 wrench to break the lock ring loose and unthread it from the carriage.

NOTICE: Use a soft cloth to protect the top tube from scratches the BSA30 wrench may cause.



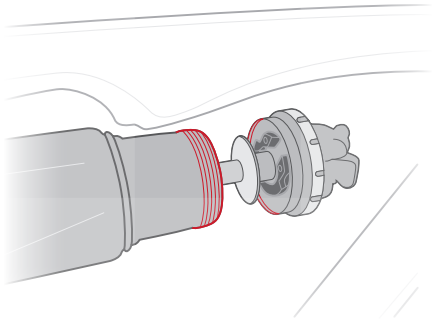
6. Once the ring is unthreaded from the shock, the front end of the shock will extend forward to reveal an o-ring, a round metal plate, and the air spacer.



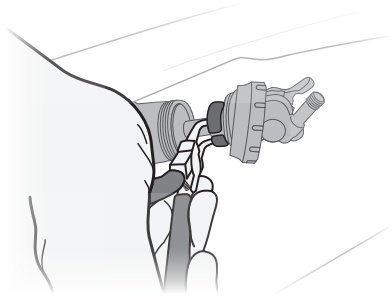
Item	Description
1	O-ring
2	Round metal plate
3	Air spacer

Replace the air spacer

1. Clean off any dirt or residue from the threads and the lock ring.

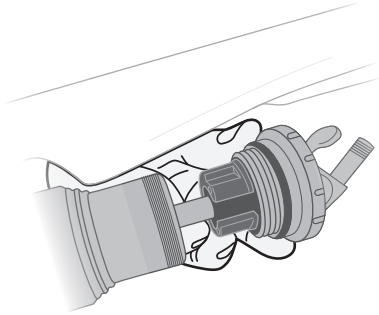


2. Move the round metal plate toward the o-ring. Use a spanner pliers to remove the air volume spacer.



3. Put a new spacer in place around the damper shaft.

Tip: Depending on the size of the spacer, it may be helpful to use the spanner pliers or a parallel jaws pliers to fit the spacer in place.

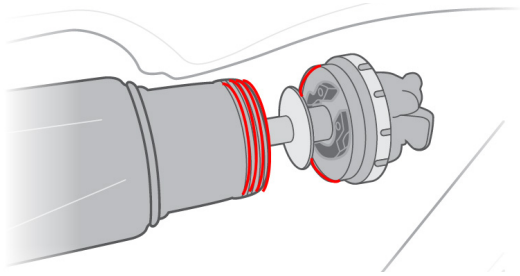


4. You should hear a ‘snap’ when the spacer snaps into the front end of the shock.

Air volume spacer (continued)

Tighten the lockring

1. 
Add Loctite Blue 243 threadlocker or similar to a minimum of 2 threads covering 60-90° of threads.

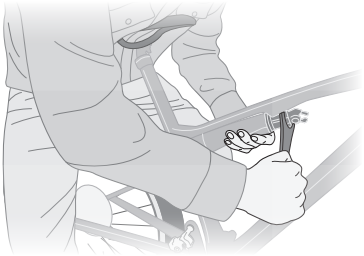


2. Stand behind the seat and pull the seat up to extend the suspension. This will bring the lock ring in contact with the strut.



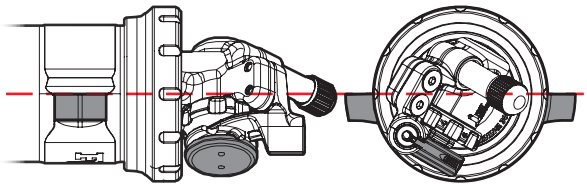
3. Use the BSA30 wrench to turn the lock ring onto the strut.

   Tip: For best results, sit on the rear tire for this step to balance the bike.

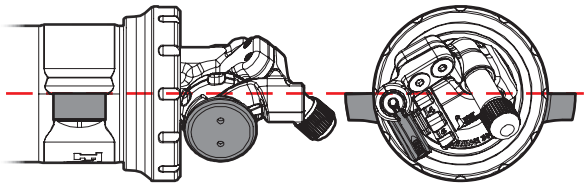


4. As you tighten the lock ring, orient the upper air cap as shown below.

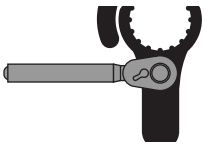
   Size small frame: the air fill valve aligns with the mounting tab.

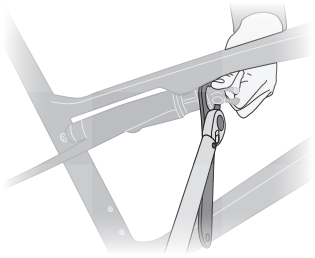


Size medium, large and extra large frames: the cable hanger aligns with the mounting tab.

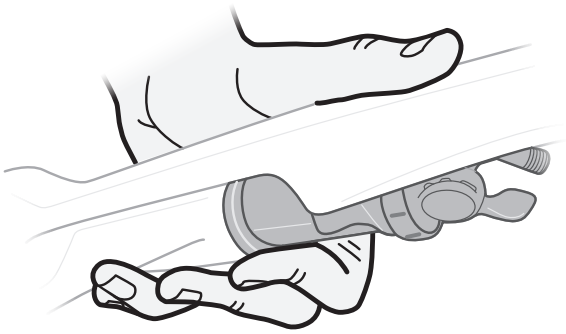


5. Place the torque wrench in the hole in the BSA30 wrench. Torque the lock ring to 17Nm.



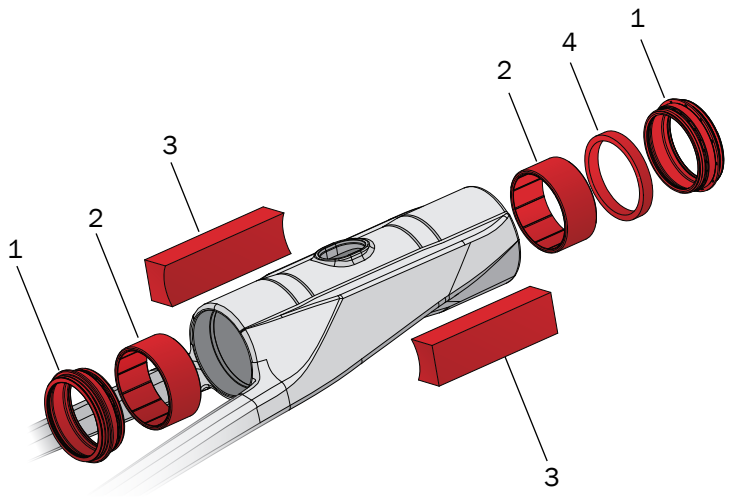


6. Verify the shock is positioned to accept a shock pump to the air valve. If there is interference, reposition the shock.



7. Install the washers and bolts at the front of the shock. Torque the bolts to 5Nm.
8. Torque the rear shock axle to 10Nm.
9. Use the shock pump to re-inflate the shock air pressure to the PSI noted prior to beginning the air spacer procedure.
10. Perform the sag procedure to determine the proper rider setting for the strut.

Carriage wiper seals and bushings



Item	Description	Quantity in Assembly	Part Number	Kit
1	Carriage wiper seal	2	—	592550
2	Carriage wiper bushing	2	595247	
3	Foam block	2	—	
4	Foam ring	1	—	

Tools for replacing the seals

- IsoStrut seal and bushing press tool set. Available as part number 593490.
- Delrin rod, 1 inch (25.4mm)
- Headset press
- Fork bath oil, 10wt

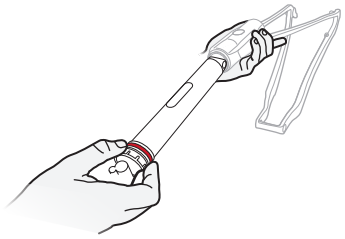
Tools for replacing the bushings

- Slide hammer
- 30-36 Expanding collet
- IsoStrut seal and bushing press tool set. Available as part number 593490
- Bushing sizer
- Clean, dry cloth

NOTICE: Inspect all tools prior to use to make sure they are clean. Dirty tools could deposit grit into the shock which could mar surfaces and create friction that could damage the shock.

Remove the shock from the carriage

1. Remove the IsoStrut hardware. See IsoStrut section on page 10.
2. Remove the shock from the carriage.

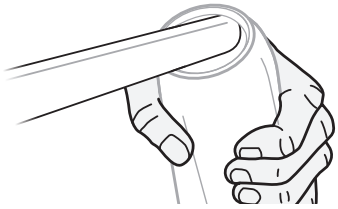


Carriage wiper seals and bushings (continued)

Remove the carriage seals

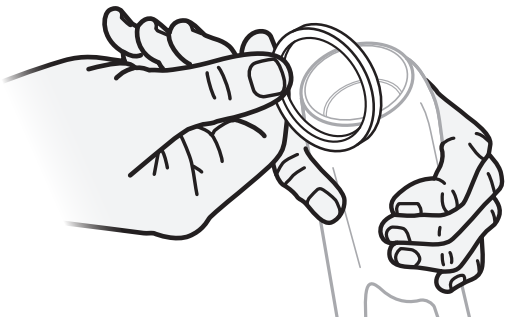
1. Use the Delrin rod to pull out the front seal.

   Tip: You may need to move the rod around the carriage to remove the seal.

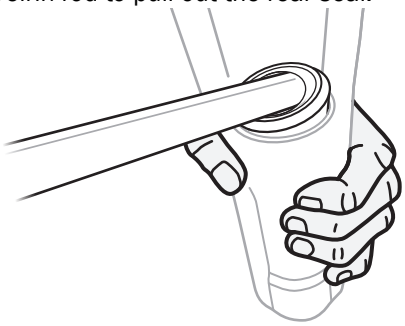




2. Pull out the foam ring. This is the only foam ring in the carriage.



3. Use the Delrin rod to pull out the rear seal.



If you are replacing only the seals, jump to Carriage wiper seals and bushings (continued) section on page 17.

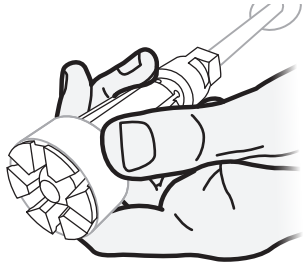
If you are replacing both the seals and the bushings, continue with the Replace the bushings section on page 15.

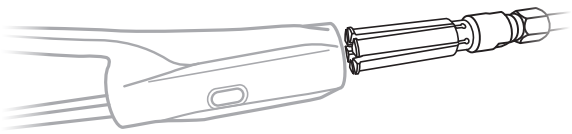
Replace the bushings

NOTICE: Do not apply grease to the bushings.

1. Put the slide hammer with the collet attached inside the front end of the carriage.

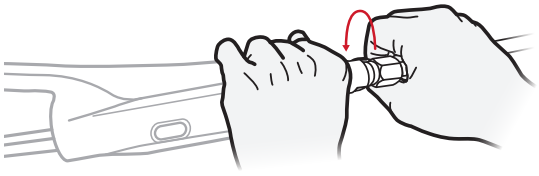
   NOTICE: Take care to engage only the bushing, and NOT the interior of the carriage. Engaging the carriage could damage the carriage.



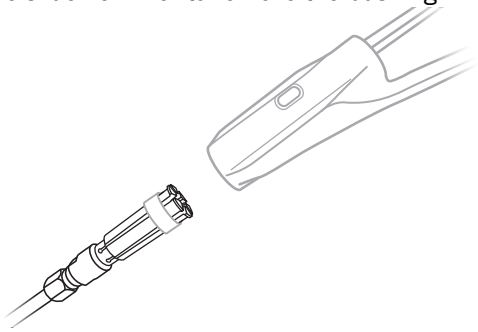


2. Thread the collet to engage the bushing lip.

   Tip: Be careful not to engage the lip inside the carriage. Engage the bushing only.



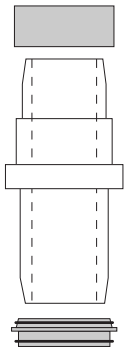
3. Use the slide hammer to remove the bushing.



4. Repeat steps 1–3 to remove the rear bushing.
5. Wipe the bushing bores with a clean, dry cloth to remove any debris.

Carriage wiper seals and bushings (continued)

6. Load a new bushing onto each bushing installation tool.

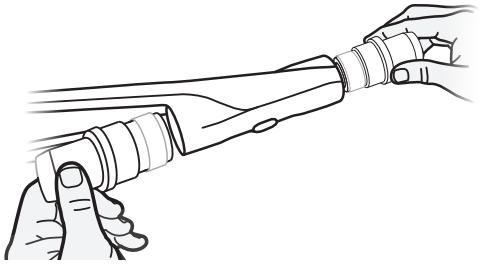


Bushing
Use this side of the tool for pressing in bushings.

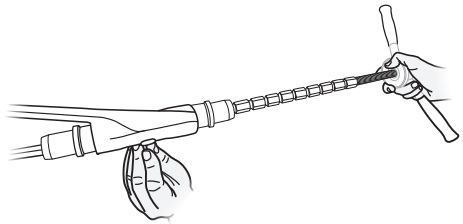
Seal
Use this side of the tool for pressing in seals.

NOTICE: Do not use grease when installing the bushings. Using grease could cause the bushings to slip out of place.

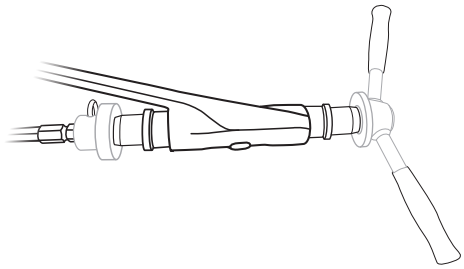
7. Put one tool with one bushing into the front of the carriage, and the other tool with the other bushing into the rear of the carriage.



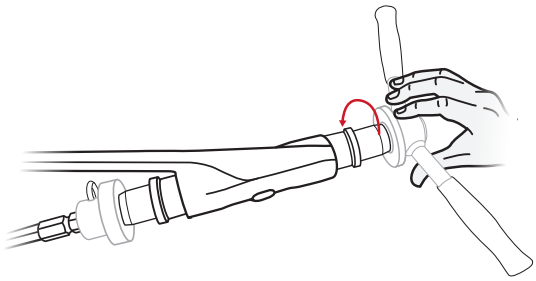
8. Insert the upper half of the headset press into the front of the carriage.



9. Insert the lower half of the headset press into the rear end of the carriage and lock it into place.



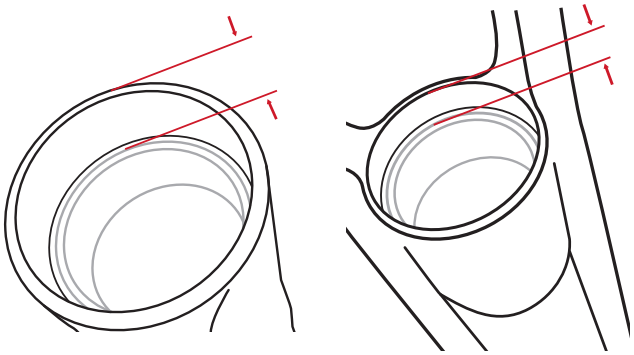
10. Spin the headset press until it is snug against the bushing tool. Check for correct alignment of the press, tools, and bushings. Rotate the press to push the bushings into place. It's normal to have different gaps at the front and rear of the carriage.



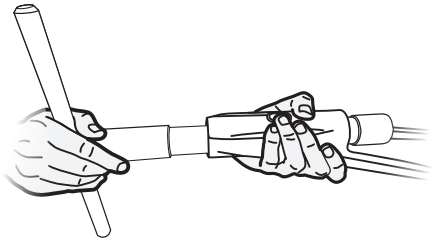
11. Tighten the press until you feel resistance. Once you feel resistance, remove the press and both tools.
12. Inspect the bushings to verify they are pressed deep enough into the carriage. From the top of the bushing to the step above the bushing, the measurements should be:

Front = 16.9mm

Rear = 10.5mm



13. From the front of the carriage, use the bushing sizer to size the bushing. The sizer can be rotated to the left or to the right.

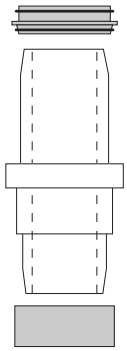


14. Repeat step 13 three to four times, alternating between the front and rear bushings.

Carriage wiper seals and bushings (continued)

Replace the wiper seals

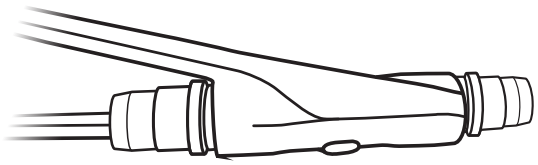
1. Wipe the seal surface inside the carriage to remove debris.
2. Load a new seal onto each seal installation tool.



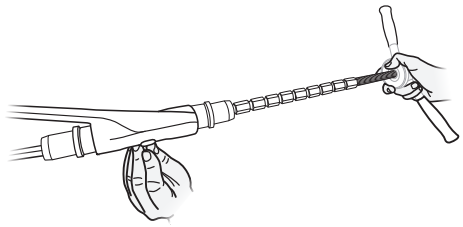
Seal
Use this side of the tool for pressing in seals.

Bushing
Use this side of the tool for pressing in bushings.

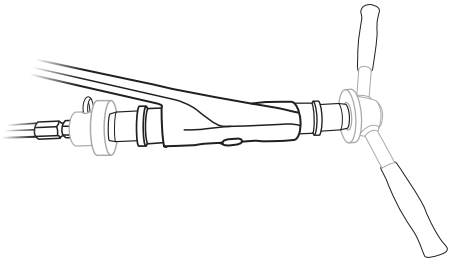
3. Put one tool with one seal into the front of the carriage, and the other tool with the other seal into the rear of the carriage.



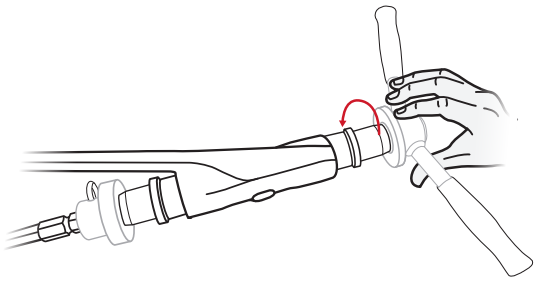
4. Insert the upper half of the headset press into the front of the carriage.



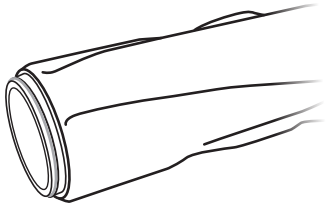
5. Insert the lower half of the headset press into the rear end of the carriage and lock it into place.



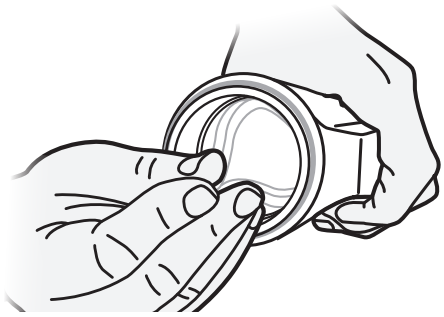
6. Spin the headset press until it is snug against the seal tool. Check for correct alignment of the press, tools, and seals. Rotate the press to push the seals into place.



7. Tighten the press until you feel resistance. Once you feel resistance, remove the press and tools.
8. Inspect the seals to verify there is no gap between the seal and the carriage.



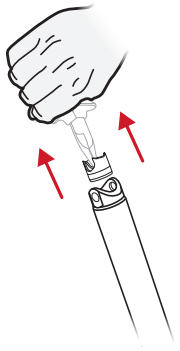
9. Soak the foam ring in 10wt fork bath oil.
10. Install the foam ring into the front of the carriage.



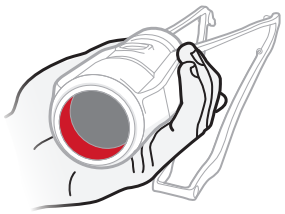
Carriage wiper seals and bushings (continued)

Install the IsoStrut into the carriage

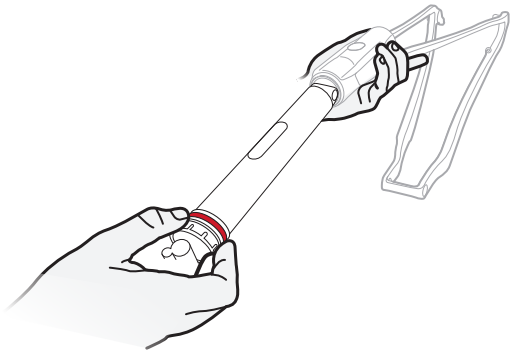
1. Remove the compression sleeve.
2. Carefully pull out the oil plug from the shock.



3. Place the foam blocks into the carriage and position them against the sides of the carriage. Do not soak the foam blocks in fork bath oil prior to installation.
4. Lightly oil the inside of the carriage seals.



5. With the sag o-ring in place on the shock, insert the shock into the carriage.

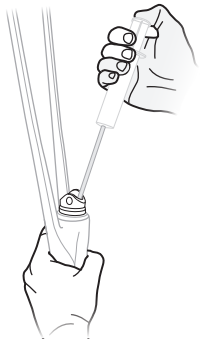


Install the damper body hardware

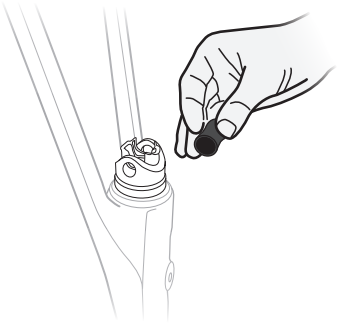
See IsoStrut section on page 10.

Add oil to the carriage

1. Use a syringe to fill the IsoStrut with 15cc of 10wt oil.



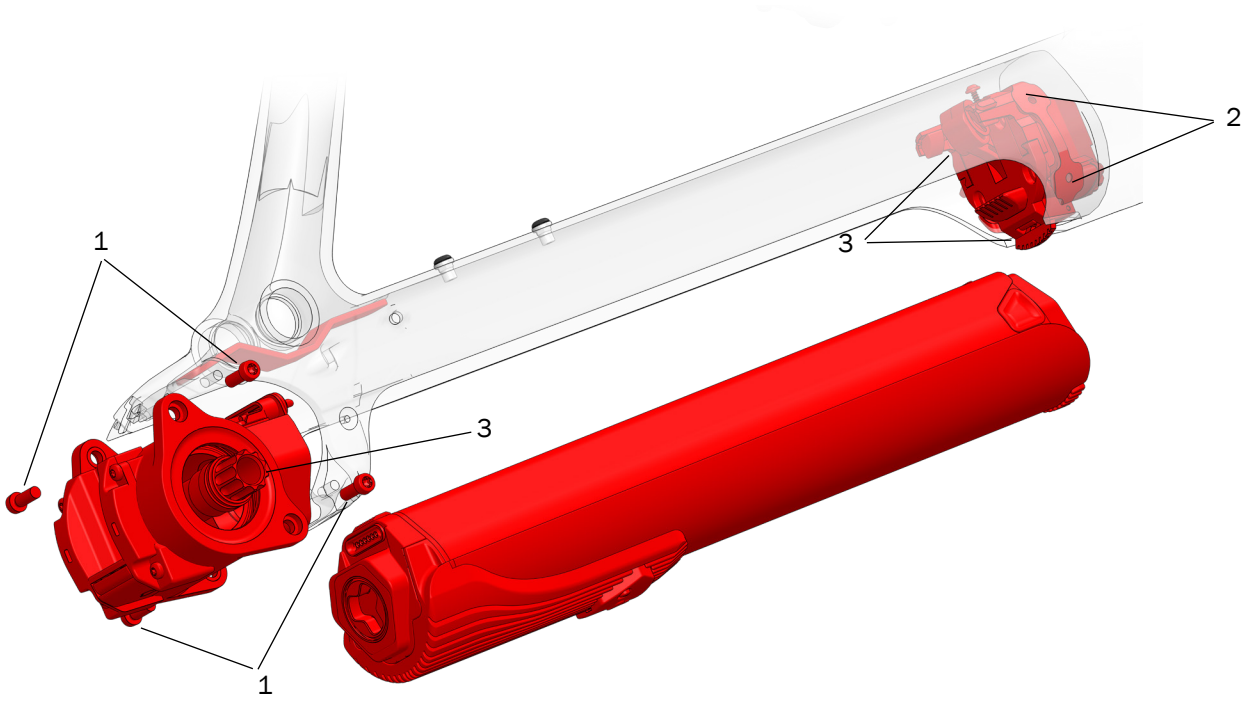
2. Firmly press the oil plug back into the aft end of the shock. Make sure the plug is tightly seated in the opening.
3. Install the compression sleeve into the oil plug.



4. Install the IsoStrut rear axle and end cap nut. Torque the axle to 10Nm.

   Tip: If the compression sleeve will not allow the rear IsoStrut hardware to pass through, the oil plug is not fully seated into the shock. (See step 2.)
5. Install the front IsoStrut washers and bolts. Torque the bolts to 5Nm.
6. Wipe off any excess oil from the IsoStrut.

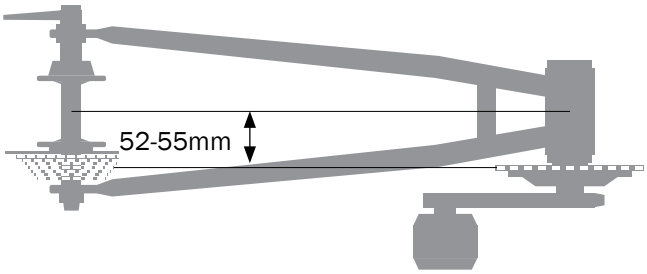
Drive system



Item	Description	Quantity in Assembly	Part Number	Torque (Nm)	Notes
1	Bottom bracket fastener	4	Refer to the 2021 Domane+ LT Fazua system manual.	8 – 8.5	Frame thread must be clean. Do not apply grease.
2	Locker fastener	4		1.8 – 2.2	
3	Spider lockring	1		20 – 25	

Specifications

Chainline (1x only)



Chainring (1x only)

Minimum	30T
Maximum	32T with 52mm chainline
	36T with 55mm chainline

Rear brake rotor

Minimum	180mm direct mount
Maximum	230mm

Knock Block steering radius

62 degrees

Seatpost

Minimum insertion

WARNING

Always follow the seatpost manufacturer's minimum insertion recommendation. Failure to follow the recommendation could cause damage to the seatpost which could cause the rider to fall and become injured.

Maximum insertion

Frame size	Maximum Insertion
Small frame	205mm
Medium	270mm
Large	
Extra large	

Suspension

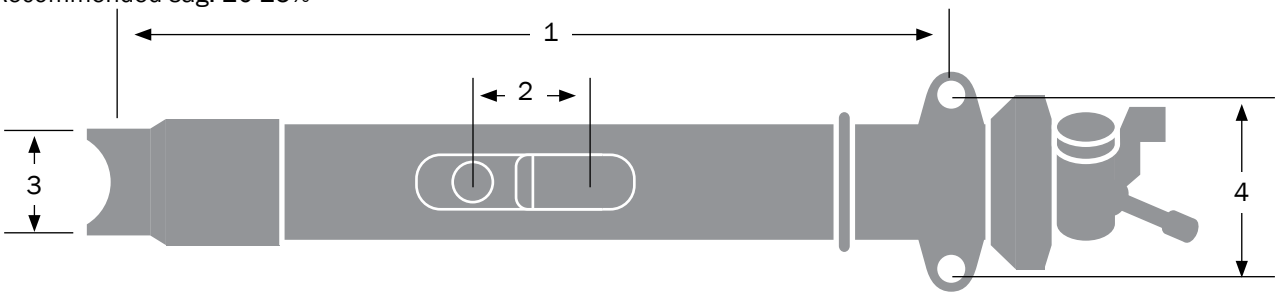
The first step in suspension setup is to set the sag. All other settings should be adjusted after setting the sag. For instructions on how to set the sag, please view the Suspension setup video at trekbikes.com/manuals.

Refer to the suspension setup card included with your bike or the online suspension calculator at trekbikes.com/suspension-calculator.

For recommended rebound settings refer to the suspension calculator at trekbikes.com/suspension-calculator.

IsoStrut

- Recommended sag: 20-25%

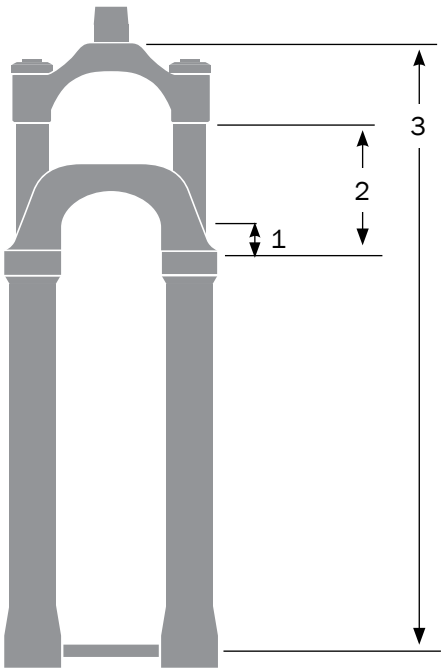


Item	Description	Dimension
1	Shock eye-to-eye length	235mm
2	Stroke length	32.5mm
3	Rear mount width	31mm
4	Front mount width	48mm

Fork

WARNING

Maximum fork length is measured axle to crown. Exceeding the recommended maximum fork length could damage the bicycle and could cause severe injury to the rider.



Item	Description	Dimension
1	Recommended sag	18mm /15%
2	Travel	120mm
3	Maximum fork length	531mm