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APS Advanced Pivot System

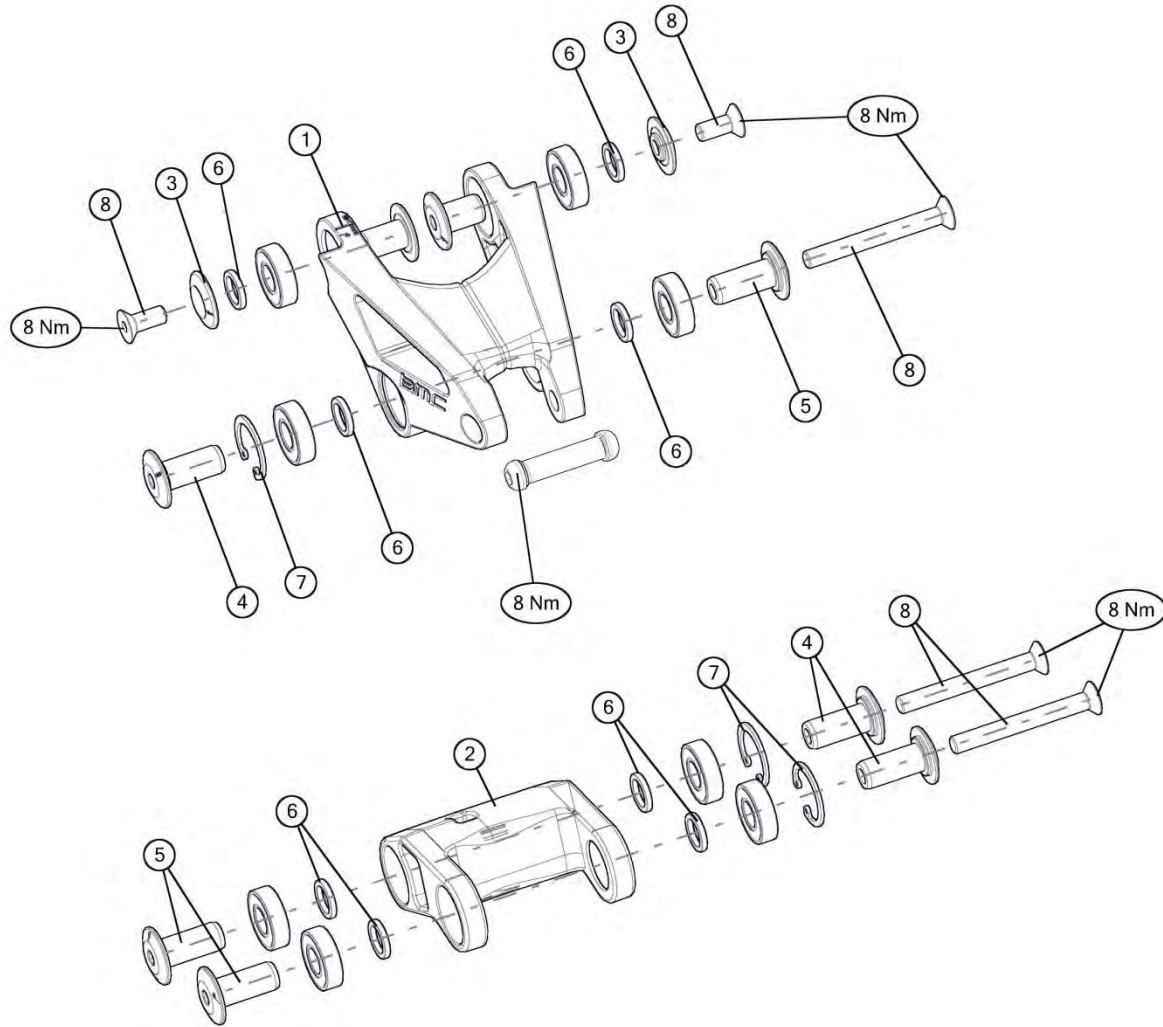
Service and Maintenance Manual

RideBMC Tool Kit MTT / APS

This manual provides detailed steps to overhaul APS suspension systems.

The **RideBMC Tool Set MTT / APS** provides tools that allow technicians to disassemble APS suspension systems. Within the tool set is a Bearing Press and Barrel to support an existing bearing replacement kit as well as necessary punches for disassembly.

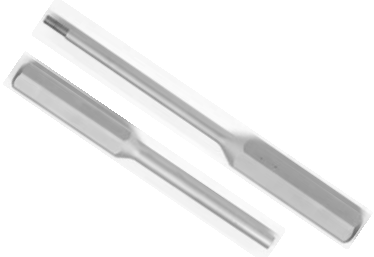
APS Suspension Diagram



Rocker	1
Lower Link	2
Bearing Cover	3
Bearing Cover – “Step”	4
“Bearing Cover – “Flat”	5
Spacer	6
C-Clip	7
Main Pivot Bolt	8

This information is available in the Dealer Techbook (p. 275)

APS Service Tools:



Threaded &
Drift Punch**



Bearing
Press & Barrel**



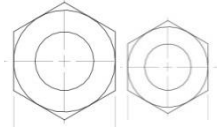
Bearing Press / Pull Kit



Torque Wrench



C-Clip
Pliers



5, 4mm Allen

Additional service recommendations:



Thick
Grease



Loctite 248™
Threadlock stick



Loctite 680™
Retainer

**** Only available in RIDE BMC Tool Set MTT / APS**

Service Interval Guidelines:

	Torque Check	Clean / Lube	Bearing Replacement
Initial ride period			
Initial 10hr of riding	X		
Regular maintenance			
Every 50hr of riding	X	X	
Every 250hr / annual	X		X

Similar to service requirements of many other parts of a bicycle, service needs are largely determined by the riding environment. Excess rain, mud, and extreme conditions influence necessary service intervals. Please service accordingly.



**Upper Mount
Hardware**



**Lower Mount
Hardware**

Remove the rear shock and wheel from your APS-equipped bike. Caution – when removing the shock, there mounting hardware on each side of the shock (top and bottom) – maintain their orientation for easy installation.



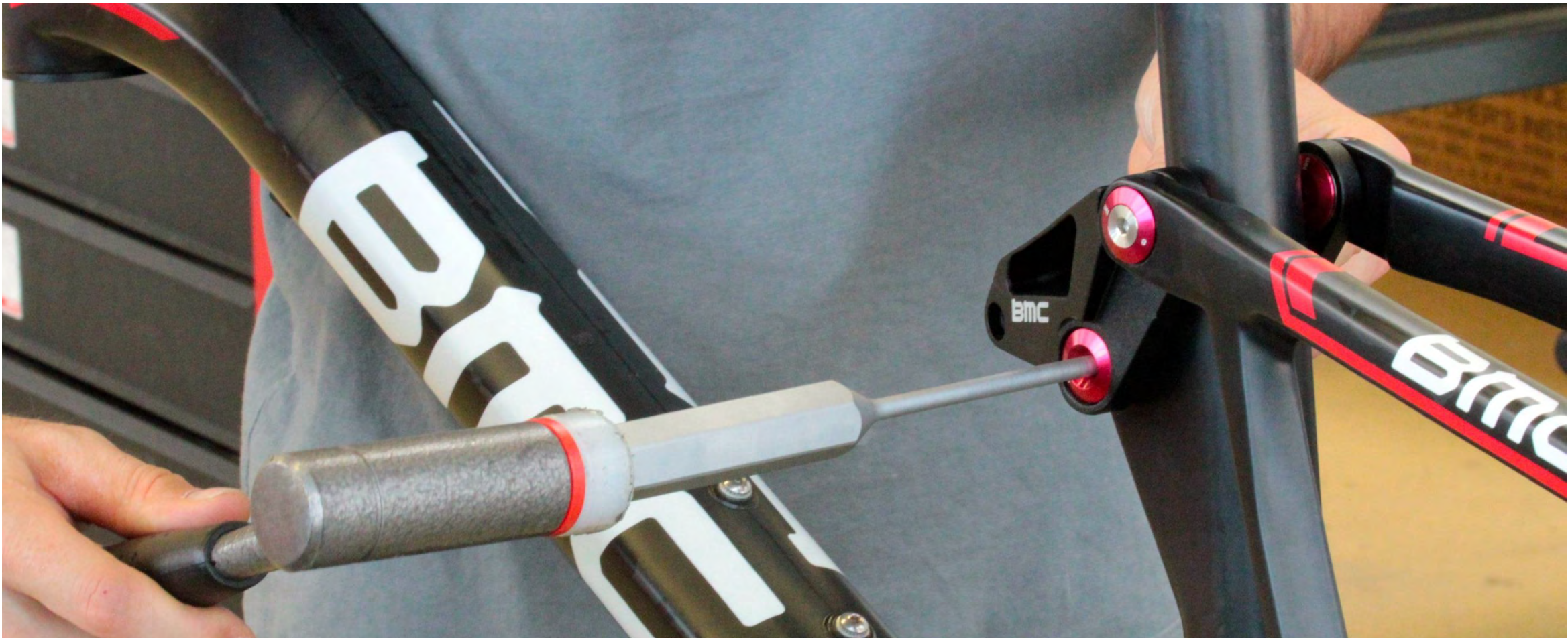
Loosen and remove the bolt in the rocker main pivot – it can be helpful to keep the drive-side (DS) and non-drive-side (NDS) hardware separate for easy re-installation.



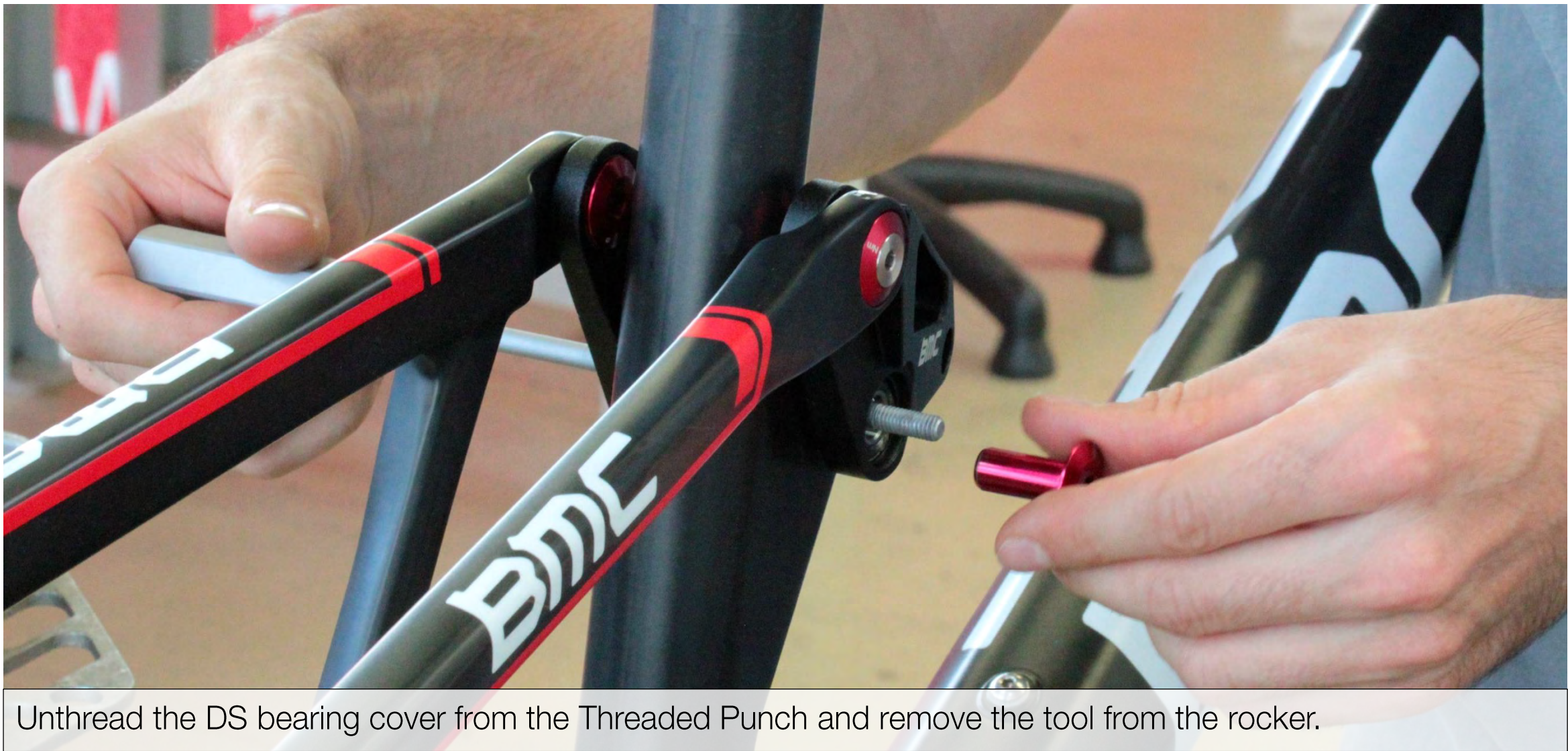
Pass the Threaded Punch through the non-drive-side (NDS) and thread in to the drive-side (DS) bearing cover. Make sure to engage plenty of threads – 5 full turns is sufficient thread engagement.



Pass the Threaded Punch through the non-drive-side (NDS) and thread in to the drive-side (DS) bearing cover. Make sure to engage plenty of threads – 5 full turns is sufficient thread engagement.



Using a non-metal mallet, strike the Threaded Punch with sufficient force to dislodge the DS bearing cover. Excessive force is not necessary – adjust force as needed during removal.



Unthread the DS bearing cover from the Threaded Punch and remove the tool from the rocker.



Insert the Drift Punch through the DS and begin removing the NDS bearing cover. Excessive force is not necessary – adjust force as needed during removal



Once the bearing covers are removed from both sides, slowly swing the rocker forward.



Once the rocker is moved, make sure to secure the two spacers on the inside of the rocker



Continue removing bearing covers using the Threaded and Non-Threaded Punch for the remaining pivots.



Continue removing bearing covers – the two remaining seatstay pivots require only the use of the Threaded Punch. The outer bearing cover on DS and NDS do not require any removal tool. Remove the rocker from the frame



Once the inboard cover is removed, make sure to secure the spacer – location of the spacer varies between frame platforms

Lower Link

To remove the lower link use the same method as the upper rocker:

1. Remove the main bolt.
2. Use the Threaded Punch to remove DS bearing cover.
3. Use the Drift Punch to remove NDS bearing cover.
4. Keep track of small spacers and proper orientation.
5. Remove link from the frame.

Refer to the **Service Interval Guideline**

If **“Clean and Lube”** is all that is needed, cycle the bearings through several rotations and reverse the previous steps. Apply grease to all moving contact points and apply Loctite 242 or 248 to bolts.



 **Use tightening torque 8Nm**

If there is a need for **“Bearing Replacement”** continue through the remaining steps.



Use C-Clip Pliers to remove the c-clip bearing retainer from the rocker and lower link. On all platforms, there is one (1) c-clip on the rocker and two (2) clips on the lower link.




It is recommended to wear safety glasses during this step


Bearing Removal / Installation

Use your existing bearing removal & installation tool kit to remove and replace all bearings from the rocker and lower link.

Provided in the **RIDE BMC Tool Kit MTT/APS** is a properly sized Bearing Nut and Bearing Barrel – these can be used if the proper size bore and outer shell are not in your existing kit.

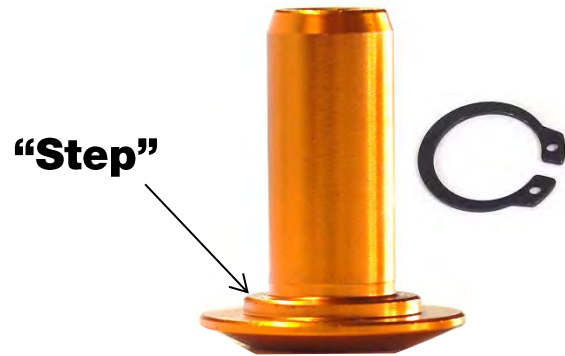
 It is critical to pay attention to which direction bearings need to be pressed – some move inboard and some move outboard. There is a structural retainer that clearly indicates which direction the bearing can move. Use of Loctite 680 when installing new bearings is acceptable.

Re-assembly of Rocker and Lower Link

 When re-mounting the rocker and lower link it is important to make sure that the proper Bearing Cover is used. There are two (2) different covers and proper placement depends on the use of a c-clip.

As seen in the photo:

- When a c-clip is used, a “Step” Bearing Cover is required
- When no c-clip is used, a “Flat” Bearing Cover is required.



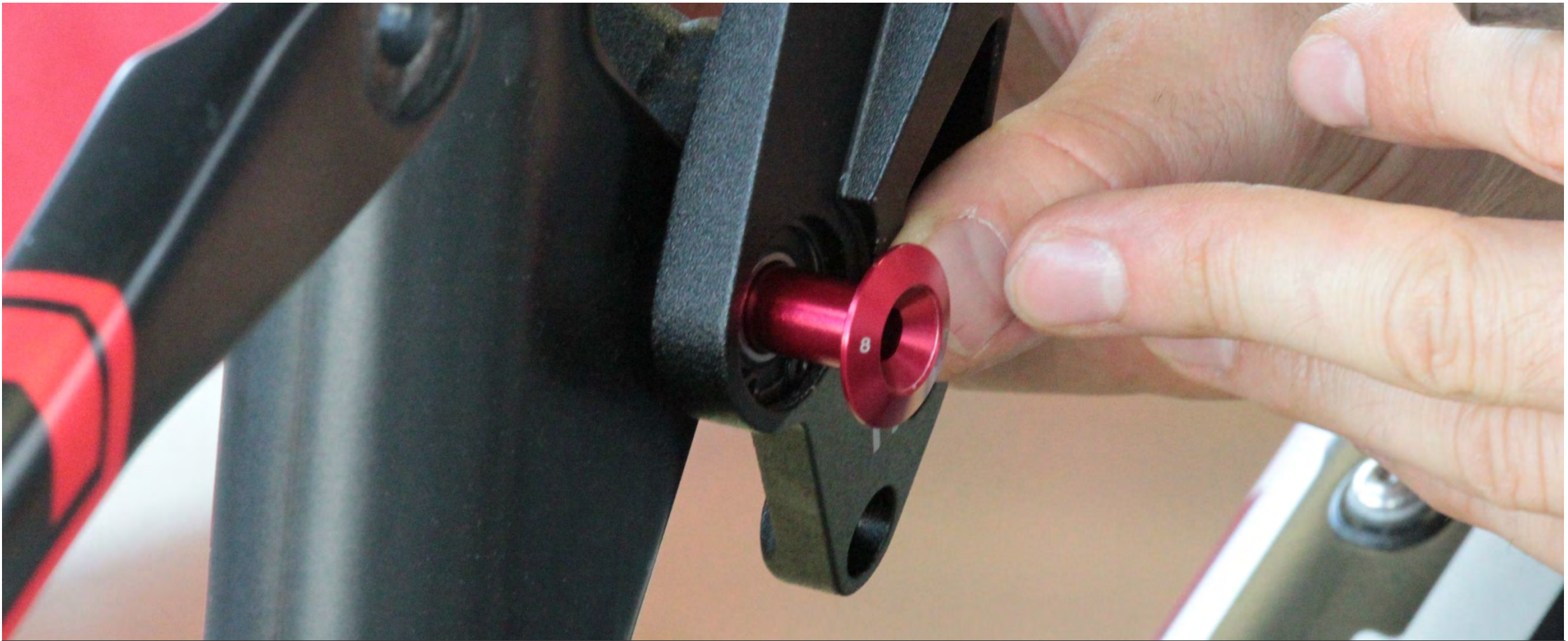
“Step” Bearing Cover + C-Clip



“Flat” Bearing Cover



Once all bearings are installed and c-clips are in place, it is time to install the rocker and lower link. Begin with the main pivot of the rocker. Insert the bearing cover and push just past the bearing. Apply grease all the way around the bearing – this is done to secure the spacers. Spacer and bearing cover bore should align (inset photo).



The bearing covers can help align the rocker and lower link. If necessary, light force can be used to get bearing covers into the bore – we strongly recommend a non-metal mallet to prevent scratching.



For the seat stay pivot on the rocker, the bearing cover bore inserts from the inboard side. Place a small amount of grease around the cover and bearing race to help hold the spacer in place (similar to the rocker main pivot). Insert the bearing cover enough to sit flush with the spacer. Use this method for all pivot spacers.



Loctite 248



Continue on to all other pivots. Install pivot bolt and tighten to proper torque (8Nm). We recommend the use of Loctite 242 (liquid) or 248 (stick) on all pivot bolts.

Final steps:

Before installing the shock, check each pivot for smooth motion.

Once each pivot has been reassembled and checked, and the shock is installed, it is recommended that each pivot bolt be re-checked for proper torque.

Tightening torque of all bolts = 8Nm

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