e*thirteen

How to adjust your derailleur

Limit screws, indexing and B-limit

Written By: The Hive - Jeremy



Step 1 — How to adjust your derailleur







- There are three adjustments that need to be made to modern rear derailleurs
  - High and low limit screws
  - Indexing
  - B-limit

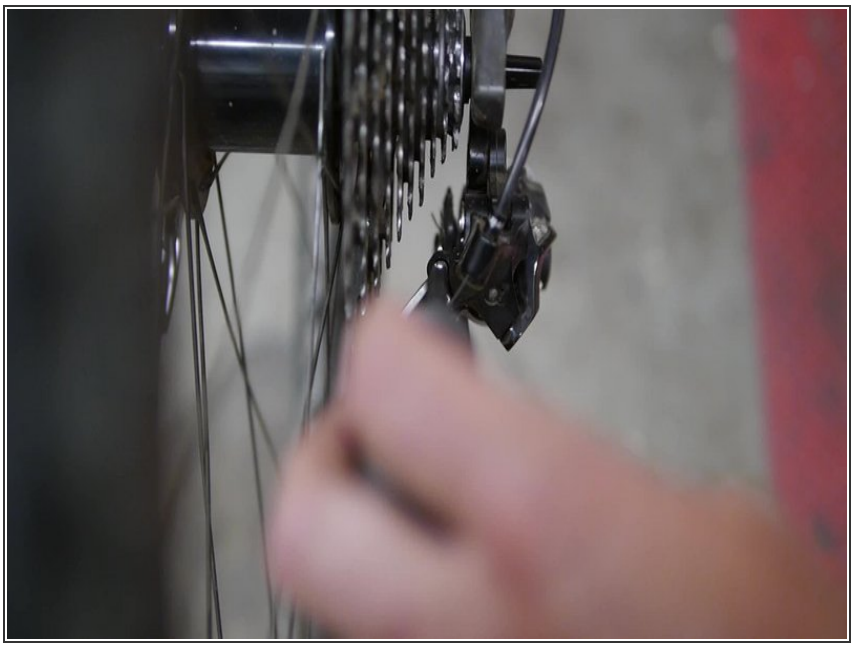
Step 2






- We will start with the high and low limit screws
- Before starting, remove all tension from the shift cable by loosening the cable clamp screw
- These are most easily adjusted with the chain removed from the bike, so it can be helpful to remove the chain as well
- Locate the limit screws, these are found on the back of the derailleur (Shimano) and on side of the derailleur (Sram). They will have an H and L next to them

Step 3



- Adjust the high limit screw, this screw limits the derailleur movement to the outside, between the smallest cog and the dropout
- Sight down the back of the bike, turn the screw until the upper derailleur pulley is centered or just slightly outboard (towards the dropout) from the smallest cog

© 2024

Step 4





- Next, adjust the low limit screw
- Extend the derailleur into the lowest gear (largest cog), while holding the derailleur, turn the limit screw to adjust the derailleur pulley so it is centered over the largest cog
- Once you have adjusted the low limit, release the derailleur to it's relaxed position over the smallest cog

© 2024

Step 5





- Now that the limits are set, we will adjust the indexing by adjusting the shift cable tension
- Check to make sure the shifter is in the smallest cog (hardest gear)
- Check the barrel adjuster on your shifter and derailleur (if it has one) to make sure they are in the middle of their range
- Pull the shift cable through the rear derailleur until it is snug and tighten the pinch bolt
- It is the cable tension that is pulled in specific amounts by the shifter that indexes the rear derailleur

© 2024

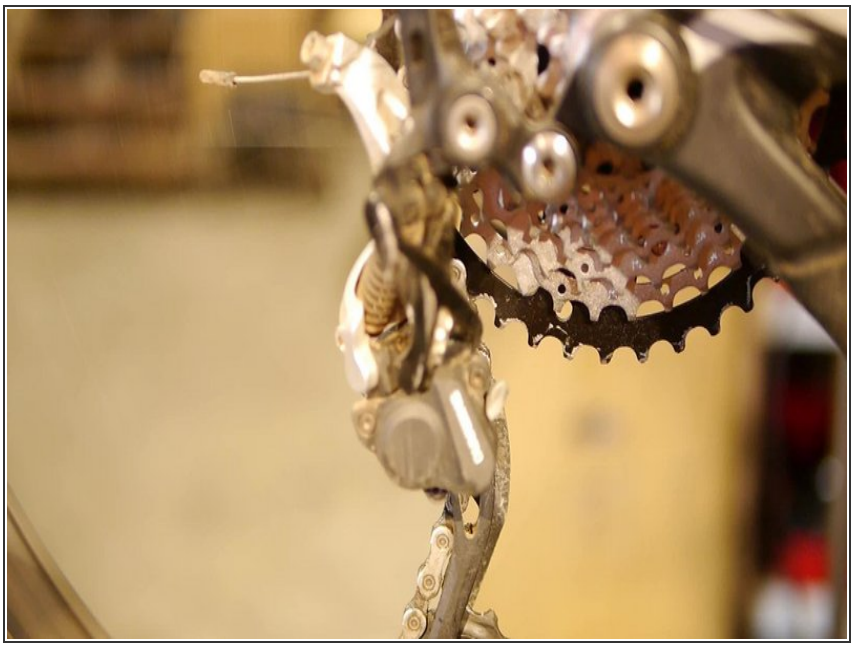
Step 6



- While pedaling the bike, shift from the smallest cog to the next smallest cog.
  - If the shift is sluggish add cable tension by turning the barrel adjuster until the shift is crisp
- Shift back to the smallest cog
  - If the shift is sluggish the high limit screw may need to be adjusted outboard more...
  - ...or there could be drag in the housing that is not allowing the cable to release fully
- ensure the shifting is crisp both up and down from the smallest and second smallest cog before moving on

© 2024

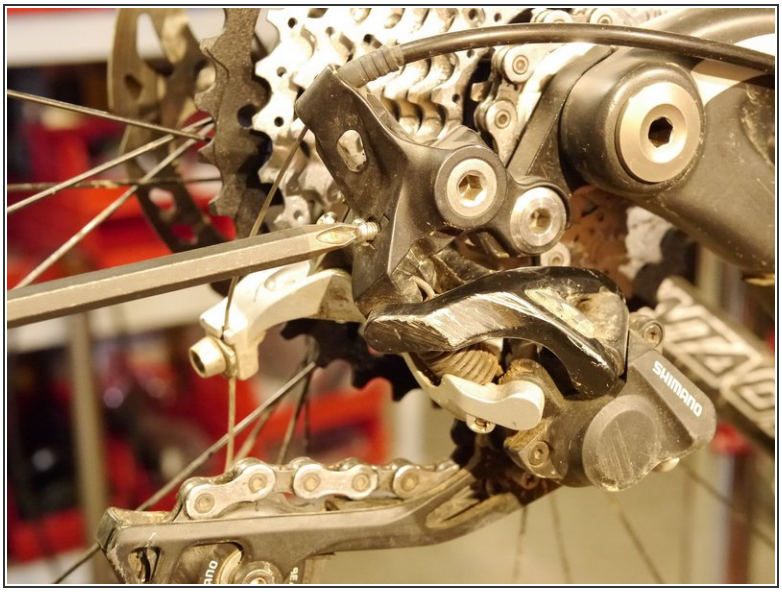
Step 7

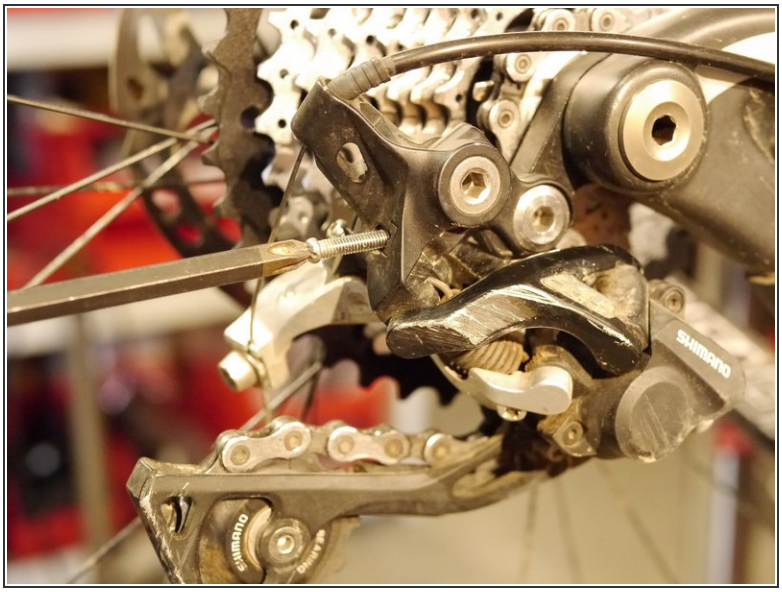


- Next, shift through the cassette
- Adjust the barrel adjuster as needed to get crisp shifting through the cassette
- You can check the alignment between the cassette cogs and the upper derailleur pulley by sighting down the cassette from the back of the bike.

© 2024

Step 8





- Once the indexing has been adjusted, adjust the B-limit for the EX cog
- Shift in to the EX cog
- Adjust the B-limit screw so that there is a 5-6mm gap between the upper derailleur pulley teeth and the teeth on the EX cog or until the pulley is as close as possible but without rubbing the largest cog
  - You will be able to hear if the pulley is rubbing on the cog
  - You may need to install the longer B-limit screw included with the EX cog if you are unable to keep the derailleur pulley from rubbing with the stock B-limit screw
  - You can read more about adjusting the B-limit in our EX cog install guide
- Check indexing and limit screws one last time before riding

Thanks for reading, now get out there and ride!