

Bike Repairs While Cycling

Essential Skills for Every Cyclist

Cycling is a fantastic way to explore the outdoors, stay fit, and enjoy the thrill of speed. However, every cyclist should be prepared for the occasional mechanical issue that can arise during a ride. Knowing how to perform basic bike repairs while cycling can save you time, prevent frustration, and ensure that you can continue your journey safely. This guide covers some of the most common bike repairs and the skills you need to master them.

Common Bike Repairs

Flat Tires

Cyclists often face flat tires. To fix a flat tire, you will need:

- A spare inner tube
- Tire levers
- A mini pump and CO2 inflator. Ensure these are compatible with your tire valve (Presta or Schrader). The mini pump is a backup in case you screw up using the CO2 inflator! Also, ensure the CO2 inflator has a control valve to adjust the flow of gas into the inner tube. Make sure you have the right size gas cartridge for your tire volume. Have a look at this chart for reference.
<https://www.crossroadscyclingco.com/articles/co2-carbon-dioxide-tire-inflation-chart-pg232.htm>
- The control valve will help prevent overinflation of your tire.
- Soft cloth or cotton balls to check for sharp objects that may have penetrated the inner surface of the tire
- Needle-nose pliers to remove any detected sharp objects
- Tire boot to fix cuts or slashes

First, remove the wheel from the bike, and use tire levers to pry the tire off the rim. Remove the damaged inner tube, inspect the tire for any sharp objects, and replace it with a new tube. Inflate the tube and reattach the tire to the rim. Finally, reinstall the wheel on the bike.

This Park Tool video (<https://www.youtube.com/watch?v=eqR6nLZNeU8>) will outline the various steps to remove a wheel, remove the inner tube and replace it with a new inner tube. There are of course variations on how to do this while on the road and under time restraints. More experienced cyclists may want to avoid removing both beads from the rim

and pull out the damaged inner tube and replace the new one from one side of the wheel. Another variation is to start re-beading the tire along the rim OPPOSITE to the valve, working your way to the valve. Because the base of the valve may interfere with the bead sitting snugly under the rim, move the valve IN about 1-2 centimeters, getting the bead under the rim and then push the valve snug against the inner rim surface. Always check that the inner tube is well seated within the tire by starting at the valve and moving the tire to the side and inspecting the well alongside the tire while rotating the wheel, then repeating the process on other side.

You can ignore replacing the bottom nut or valve cap with the Presta valves. With road bike tire pressure of 80-120 PSI, the valve will be well seated. The end cap is used to protect the inner tube from damage by the inner core while the tube is coiled up.

Broken Chain

A broken chain can be a ride-ending problem if you aren't prepared. To fix a broken chain, you will need:

- A chain tool
- A quick link or spare chain pin. Ensure you are using the proper master link for your chain brand (Shimano or SRAM) and the right speed for your REAR derailleur (8-9, 9, 10, 11) Campagnolo chains require special links and chain tools.

First, use the chain tool to remove the damaged link. Then, use the quick link or spare chain pin to reconnect the chain. Make sure the chain is properly tensioned and runs smoothly through the derailleurs. Do not use the large chainring and large rear sprocket since the chain will have been shortened.

This Park Tool article outlines the various steps to deal with damaged chains.

<https://www.parktool.com/en-int/blog/repair-help/on-the-ride-chain-repair>

Broken Derailleur Cable

- This GCN video offers solutions for managing broken derailleur cables, provided you can understand the British accent.
- <https://www.youtube.com/watch?v=obUkL-Ya8dE>
- For a broken front derailleur cable with a triple crankset, pull the derailleur cage by hand to the middle chainring and tighten the L-limit screw to hold it in place.
- For a broken rear derailleur cable, choose a middle cog and tighten the H-limit screw to hold it in position.

Broken Rear Derailleur Body, Cage or Hanger

- You will have to convert the bike to a single speed to get home or your destination or a bike shop if nearby.
- Remove the chain
- Remove the derailleur
- Choose a gear. For triple chain ring bikes, use the middle chain ring, for two chainring bikes, choose the smaller one.
- Run the chain from the chosen rear cog to the front chainring and shorten the chain with the chain tool, ensuring the chain has proper tension so as not to fall off the chainring.

Front Dérailleur Cage Bent or Twisted

- If the front derailleur is bent or twisted during a chain jam while shifting, the cage can be realigned with a pair of pliers so that the outer cage is approximately straight with the chainrings. If it doesn't shift properly, pick a ring that is sustainable and use cable tension and limit-screw adjustment to keep the chain in place.

Twisted or Bent Handlebars or Stem

- After a crash, the handlebars may become misaligned. To realign, stand in front of the bike and place the front wheel between your knees. Loosen the stem binder bolts and turn the handlebars so that the dropouts are parallel with the wheel. Re-tighten the stem binder bolts to the right torque using the pre-set key if available.

Saddle or Seat Post Issues

- If the saddle is loose, then the clamps can be re-tightened. However, if the saddle or seat post is broken, then it is better to remove both from the bike and keep riding. Do not leave the seat post in place! It is not a safe resting place for your rear end.

Broken Spoke

- With a single broken spoke, the wheel's lateral true (being in the middle between the two caliper brake pads) can be improved by loosening the two adjacent spokes. You may need to open the rim brake caliper to allow for the 'wobble of the wheel'. You can wind the broken spoke around its next-door neighbour to keep it out of the way.

Squeaky and Noisy Chain

- Inadequate lubrication causes a noisy chain. Even on short, wet rides, lubricant can wash away. Carry a small bottle of chain lube and use just a drop on each link while

slowly pedaling forward while someone holds your bike for you. If no one is available to help, then pedal backwards but avoid having the chain bunch up if it is dry.

Essential Tools for On-the-Go Repairs

Carrying essential tools can make all the difference in fixing bike issues while cycling.

Consider packing:

- A multi-tool with hex keys, screwdrivers, and a chain tool
- Stem bolt torque key
- Spoke wrench for your spoke nipples.
- 2 spare inner tubes and 3 tire levers (sometimes one breaks)
- A mini pump and/or CO2 inflator with control valve
- CO2 cartridges
- Quick links or spare chain pins
- A patch kit for minor tire repairs
- Tire boot or spare tire
- Needle-nose pliers or Leatherman multitool
- Soft cloth or cotton balls
- Disposable gloves
- Wet wipes to remove grease from your hands

Conclusion

Being prepared for bike repairs while cycling empowers you to handle unexpected issues confidently. Equip yourself with the necessary tools and knowledge, and practice preventive maintenance to enjoy seamless and safe rides. Remember, the more you know about your bike, the better your cycling experience will be.

Reference

Park Tool Big Blue Book of Bicycle Repair by C. Calvin Jones 2nd Edition