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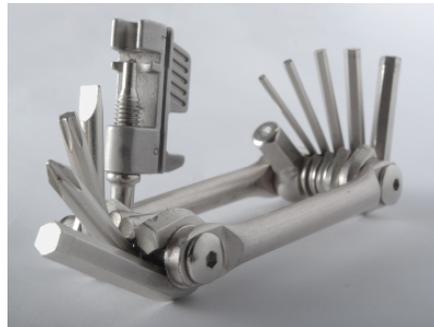
## Roadside Repairs and Maintenance

With the proper maintenance and care of your ride, you can minimize your downtime on the trail. However, flat tires and broken parts are almost unavoidable and knowing how to handle them properly can save your ride or race! Begin your ride by being preparing with the basics of what to carry with you at all times when out riding. You'll need:

- A spare tube that it the right size for your bike and a patch kit.
- A CO2 powered inflation system and at least 2 spare CO2 cartridges.
- Tire tools for removing and installing your tube.
- A multi-tool with a chain tool and multiple wrenches/Allen keys.
- Some anti-flat tire mojo.

What I also recommend for the road: (A bit overkill I know...)

- Zip ties and a small roll of tape.
- An extra section of chain that matches your bike or a master link.
- A small (well sealed) bottle of chain lube.
- An extra shift and brake cable.
- Cannon Cyclery Business Cards!



## Golden Rule Bike Maintenance Facts

- Proper chain lubrication is one of the most beneficial and often overlooked pre-ride rituals. Ideally you should spray or drip lube on the chain *every other ride*. The best practice is to apply a thin coating to the chain only and then wipe off the excess with a dry rag. When the chain is properly lubed it will shift and run quietly, wear longer, and keep other drive train components lasting longer.
- Creaking and popping sounds coming from your steed are not normal and are usually a sign that something is loose, worn, or cracked. It's not a bad idea to occasionally check the important bolts on your stem, crank arms, and headset etc... Be careful not to over torque them however, only tighten them if they are loose.
- Bicycle cables and housing will last approximately 2 years and will stretch, wear, and corrode over time.

- A good quality bicycle helmet has a lifespan of approximately 3 years, after that the polystyrene of which it is constructed will be deteriorated and will not function properly in a crash.

## Blown or Broken Chain Quick Fix

In most cases, a broken chain on the trail is usually caused by a “blown” or broken chain link from a missed shift or damaged chain. The outside portion of the link frays or bends open where the pin connects and breaks apart from the inside portion of the link and disconnects from the rest of the chain. It’s a major bummer during a ride, but can be easily repaired and shouldn’t cause too much down time. Here is how to fix it quickly:

- Get to a safe place on the trail or road that will provide you enough room to work. It works well to use a tree to hang the bike from.
- Using your chain breaker on your multi tool you’ll need to remove the damaged link from the chain at the pin in the same position on the next closest link. This includes one outside and one inside section, a total of (3) pins and (2) sections.
- DO NOT remove the chain pin completely from the chain! Instead, push the pin through only about  $\frac{3}{4}$  of the way through and twist the damaged link out. The factory set chain pins are not designed to be re-installed and will not go back through the chain.
- Re-route the chain back through the cassette, derailleur, and chain rings making sure it is freely moving across the cogs, rings, and derailleur pulleys with the partially pushed chain pin to the outside of the bike.
- Press the open sections of chain back together on the bottom side of the drive train and use the partially pushed pin to hold the chain together. Use your chain tool to push the pin through the chain and watch that it does not go too far in. You should have an even amount of the ends of the pin exposed on both sides of the chain.
- Check to make sure the new connection is not stiff or sticking and then look for any damaged teeth on the chain rings or cassette that may have caused or been damaged in the break. If the connection is stiff, you can loosen it up by wiggling the chain from side to side until it loosens up.



## Broken Cable Quick fix

Usually due to a lack of maintenance or regular cable replacement, a broken cable can be a big problem, especially if you're stuck at the bottom of a climb! However, you don't have to let a broken, frayed, or damaged cable or housing get the best of you. Cables will commonly break where they are most bent, usually at the shifter or under the bottom bracket. However, worn out cable housings can also fail and collapse if they are worn or corroded. This repair will lock your derailleur into one gear and is a bit more advanced; your multi-tool will really come in handy.

- Get to a safe place on the trail or road that will provide you enough room to work. It works well to use a tree to hang the bike from.
- Locate the break in the cable and remove it from the cable housing by pulling it away from the break. Be careful not to poke yourself with the frayed ends of the cable, they are very sharp and can cause an annoying prick to your finger.
- Using your multi tool loosen up the 5mm Allen bolt that retains the cable at the derailleur end. You don't need to remove it all the way, just loosen it enough to get the cable out. Remove and stash any remaining cable housing so it does not get caught in any moving parts.
- Next, you'll be using that broken section of cable to create a tensioning system for your derailleur which is now sprung itself to the hardest gear.
- Find a good section of cable, about a foot or so long, and tie the tightest knot you can in the cable and thread the untied end of the cable back through the barrel adjuster where the housing was threaded. Give it a tug to make sure it is seated.
- Now comes the tricky part. You need to manually shift the bike into an easier gear, probably 2<sup>nd</sup> or 3<sup>rd</sup> cog from the top, and hold it there long enough to re-attach the cable to the binder. This is where it would be helpful to have a bit of help from your riding buddy.
- You'll need to hold the derailleur in position, attach the cable under the binder, and turn the Allen bolt all at the same time to get this to work. However, once it is attached the broken cable will serve as a tensioner and align the derailleur into a more functional gear.
- Once the cable is attached, you'll need to align the derailleur so that the idler pulleys are in a nice straight line under the cog when looking from the back. This will keep the chain in position here and allow you to finish out the ride!

