

## Here's the second most asked question ... "What are the most important tools/gear I should carry with me while on the bike?"

This is a great question since it brings up a couple of 'gotchas' or catches to consider. So, let's get to the list

**MOST IMPORTANT ITEM(S)** is your cell phone, house and/or car keys and driver's license. I consider this an item since you can carry all of this in a small plastic bag and stuffed in one of your jersey pockets. Also consider carrying your insurance card, some cash and optionally a credit card.

When out on the road, or on your MTB, the #1 problem cyclists experience is a flat. So, this next grouping are essentials needed to get you back onto the bike quickly. Depending on what types of roads or trails you ride, many cyclists opt for a tire sealant. If you run clinchers, you can add a sealant to both tubes, if you run tubeless, add some to the inside of the tire. Sealant used in tubeless tires should last several months before drying out and needing to be added again. One area of concern for the tubeless route is how corrosive is the sealant to the inside of the rim. Do a little research and contact the wheel manufacturer first before selecting a sealant for your tires. I have seen a certain sealant used with a certain wheel and after 6 months, the inside of the tubeless wheel was completely rusted.

- 1) **SPARE TUBE** – Carry at least 1 spare tube, AND, make sure that the
- Valve is the right type for your wheels. A Schrader valve won't fit in a wheel designed for a Presta valve.
  - Valve stem length works with the wheels you are riding. Tubes come with valves of varying length.

32mm	33mm	34mm	36mm	37mm	40mm
42mm	48mm	51mm	52mm	60mm	80mm

Last Sunday, I was on the 'A' group ride when one of the guys got a flat. We stopped and he pulled his spare tube from his saddle bag. The valve stem length was 48mm, he had 50mm deep rims. He just upgraded his 24mm wheels for 50mm wheels and forgot to get the right tubes. Luckily someone had a spare and we were back on the road. So, go out right now and check two things, (1) that your tubes will fit your wheels and (2) that your tubes are in good shape. Sometimes, when they sit in a saddle bag for a long time, they rub against other items in the bag and end up with a small hole. At the same time, check your CO2 cartridges to make sure they are in good shape, no rust or dents or other compromises.

- The tube is the same size as the wheels you are riding. It's not a good experience when you pull out a 650C spare tube when you are riding 700C wheels.
- The tube material. Tubes come in;
  - lightweight (butyl) – more for racing bikes, and where weight and durability is a consideration
  - standard (butyl) – these work best for all around general riding, club riding, club racing
  - puncture resistant (sometimes called thorn-proof) – HEAVY tubes when you don't want a flat
  - self-healing (sealant already included) – HEAVY since they already have sealant installed
  - lightweight (latex) – the **LIGHTEST** tube for racing only (since they are more fragile

Make sure to choose a material that will match your application. In general, standard butyl works best. For racing on a smooth surface, use a lightweight latex tube. If you do get a flat, roll the tube up and patch it at home. For the cost conscious, when tubes have 3 patches and you get the 4<sup>th</sup> flat, time to throw it out.

- The tube's wall thickness. These are most available size options. Most general-purpose tubes you will find are 0.8mm/0.9mm.

Racing	All-Purpose		Thorn-Proof
0.6mm	0.8mm	0.9mm	1.6mm

- The tube is the right diameter for your wheel/tire configuration. For example, an online bike shop has the following road tube sizes available;

18-23mm	18-25mm	19-24mm
19-25mm	19-26mm	23-26mm
25-28mm	28-32mm	35-43mm

Match the tube size to your tire size. For example, if you are running 700x25C tires, you can use 18-25mm, 19-25mm, 19-26mm, 23-26mm or 25-28mm tubes.

- 2) **PUMP/CO2 INFLATOR** – This is for those that don't want to carry a small/mini hand pump on their bike. Even though I have seen a lot of cyclists carry their hand pump in their jersey pocket, I have also seen 2 separate crashes where the cyclist had broken ribs due to the mini pump being in their back pocket. So, for safety! A CO2 inflator system can be purchased as a kit that is comprised of the pump head, and 1 or 2 CO2 cartridges. With this system, there's no need to carry a patch repair kit. Make sure you read the instructions since there are both threaded and non-threaded CO2 cartridges and you will need to use the correct one with the pump head. CO2 cartridges also come in different capacities, usually 12gm, 16gm and 25gm. The smaller capacity cartridges are usually used for road bikes while the 25gm is used for MTBs. There are lots of options out there so pick one that best meets your needs.
- 3) **TIRE LEVERS** – you will need at least two to get most tires off. Tire levers come in 3 flavors, a) plastic, b) plastic with a steel core, c) heavy duty steel. Here are my observations having used virtually every type of tire lever made.
  - a. **Plastic** – Most break easily, especially when trying to take off or put on a **tight** tire.
  - b. **Plastic w/Steel Core** – Will also break easily where the steel ends.
  - c. **Steel Levers** – DO NOT USE on modern road wheels, especially carbon wheels. Use only for kid's bikes or big box store bikes.



**MY CHOICE** – The BEST tire lever I have ever used is Pedro's Tire Levers, and, for the past 6 years, these are the only levers I have used. Even though they are plastic, I have yet to break even one! They currently come in yellow, pink, green and red AND come with a LIFETIME warranty – so, take your pick!

**PRO TIP:** ALWAYS wear eye protection when taking off/putting on a tire in case the lever breaks. You don't want the broken plastic to hit you in the eye.

- 4) **TIRE BOOT (plus 4mm & 5mm allen wrenches)** – What happens when you run over a piece of glass or metal and get a slice in your tire? You basically have 2 options, you can use your cell phone and call for help or you can boot the tire. The best boot material I have found is plain **DUCT TAPE**. I take both a 4mm and 5mm allen wrench(s) and lay them back to back so that on one end I have the angle of the 4mm and, on the other end the angle of the 5mm. That way I can use either tool if needed. I then secure them together using DUCT TAPE. I wrap the wrenches together with at least 10 turns of DUCT TAPE. This gives me plenty to use if needed. When I need to boot a tire, I can rip off the exact amount of tape to form 2-3 layers on the inside of the tire.
- 5) **MULTI-TOOL w/CHAIN TOOL** – Pedro's also has a \$25 tool that does it all, including a chain tool. No more fixing a chain by pounding links in with a rock! Try the RxM Multitool instead. Again, a lifetime warranty.



**PRO TIP** – The valve stem hole (on the inside of the rim) on some wheels can be sharp enough to cut a tube. Take some sand paper or a small file and remove any burrs on the inside of the rim. This will ensure that your tubes won't be cut where they insert into the valve stem hole.

**Where to carry all of this?** The right saddle bag will work the best for you. I prefer TOPEAK bags as they have always been consistently the highest quality – lasting the longest. They have a full range of bags including my favorite, the AERO WEDGE PACK. Sizes available are XS, S, M and L.

I know that there was quite a bit of information to go through. Spend some time and make a list of what you need. All of this can be procured at your LBS or on-line.

