

Tire Care

Before Each Ride

Tire Pressure

Tire pressure and tire condition need some attention each time you ride.

Pumping before each ride is necessary because air leaks out of tubes in a few days due to the nature of rubber...it's the same for all of us. It is best to pump the day before the ride so that any problems such as blowouts or difficulty with the pump can be resolved before the morning of the ride. Keep in mind that there will be no bike shops open on mornings before we ride, and gas station pumps may not do what you need even if one is accessible.

Preparing to Pump up Road Bike Tires

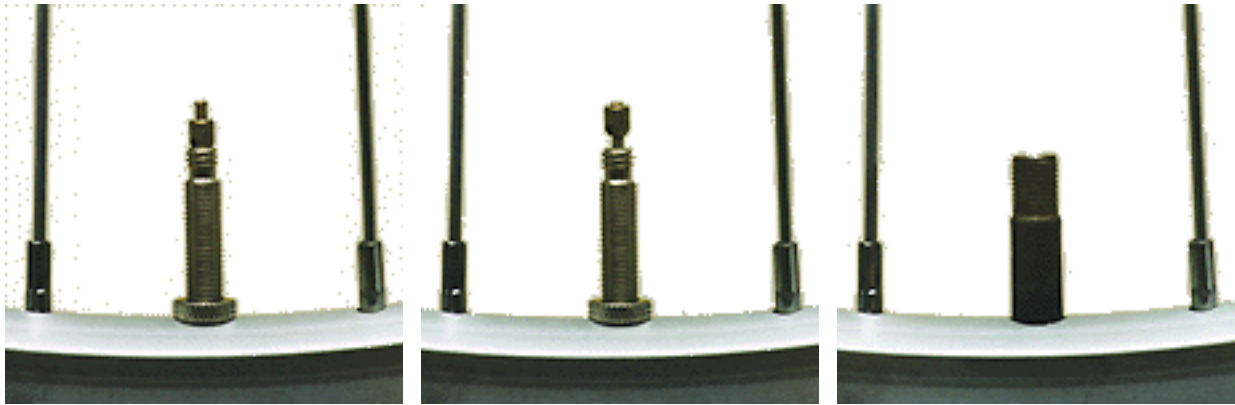
First, you will need a pump. We ask SIG riders to carry a portable pump with them on the ride. It should fit the type of valve for your tubes (see below). If you don't have one, wait until the SIG starts, as we'll discuss the merits of various types of pumps. An ideal portable pump will have a pressure gauge, the ability to convert between Presta and Schrader valves, and a small built-in foot that converts it into a floor pump. You will also want a floor pump at home, because floor pumps are so much easier to pump with than portables, and they all have pressure gauges.

Next, you need to find out the maximum pressure allowed for your tire. To discover this, look carefully along the side of the tire for the recommended pressure. Unlike the tire's brand information, the pressure information will not be on a colorful decal, but will only be in black raised rubber type. You will have to look very closely around the tire wall in strong light to see it. It will probably say 120 PSI or 100 PSI or it might give a range, such as 80-100 PSI or something like that. "PSI" means "Pounds per Square Inch," a measure of pressure that we use in the United States and that is also used by pressure gauges on our pumps. It may also say the same pressure in several other measuring systems including "BAR" that is more useful in Europe.

Let's say that yours says "Max pressure 120 PSI." This means that you should not pump the tire any higher than 120 PSI. However, unless you and your bike combined are pretty heavy, you should actually pump it up to less than the maximum. How much less depends on how light you are and how comfortable a ride you want. If a tire is seriously underinflated, you do risk getting a "pinch flat" if you hit a pot hole, but if your tire is pumped up to the max, it will not absorb any road vibration and you'll feel tired and achy after every ride. So if you are light, you can benefit from a softer ride by using the lower end of the range for your tire. Even at lower pressure, the tire should still feel very hard to your hand.

Finally, you need to determine if you have a Presta or Schrader valve on the tube in this tire. Most road bikes use Presta valves, while Schrader valves are mainly used in mountain bikes and

hybrids. Presta valves come in different length stems: 36mm, 48mm and 60mm. You need to know which is the correct stem length for your wheel. (If your spare tube has too long a stem, that's okay; but if the stem is too short, that tube is worthless for your wheel!) Most bike pumps have nozzle holes for both Presta and Schrader valves. Schrader valves are the thick kind that fit the air nozzles at gas stations. The following steps for pumping up your tire will focus on Presta valves.



*Presta valve
closed*

*Presta valve
open*

Schrader valve

Note that screw-on caps have already been removed from the Presta valves. Graphics from Sheldon Brown's delightful web site <http://www.sheldonbrown.com/brandt/presta-schrader.html>

Pumping Up the Tires

1. Prepare the tire by rotating the wheel so that the valve is on the lower side of the tire is right above the floor. This makes pumping easier.
2. If there is a screw-on cover on your Presta valve, unscrew it and take it off and put it aside. Now... wait, whoa, wait a second...the tire's air valve is not open yet. To open it, unscrew the small nut-on-a-stick that is pointing out of the top of the valve. Unscrew it all the way until it either stops turning, or it starts spinning freely. In either case, it won't come out of the valve and that is good; it is a "captive nut." Now the valve is open. (Please refer to the graphic above to see how the Presta valve looks closed and open.) But before you try to push the pump head nozzle onto the stem of a relatively full tube, you need to release the air lock. Just tap the top of the valve (the little captive nut) until you hear a little air escape. Now the valve is ready to accept more air.
3. Look at the nozzle on your pump hose. Very likely there is one hole for a Schrader valve and one for a Presta valve, although some new pumps have one hole that works with either. The one for the Presta Valve has the smaller opening and no poker sticking up from the middle when you look inside. Remember which nozzle hole you are going to use. They are often color coded.

4. Push this nozzle hole gently over the open Presta valve. Push straight so you don't bend the small nut and its tiny stem. Unfortunately, there is no satisfying click or other indication that it is on far enough...you just need to learn with practice.
5. Lock the Pump nozzle over the valve. Different pumps have different ways to do this, but most of them involve pulling a thumb lever up, away from the tire to lock. The pressure gauge may not show any pressure yet until you start pumping and that is OK.
6. Start pumping. Step on the pump's foot rest if there is one and pull the handle all the way out and push it all the way down. One of several things may happen:
 - a. If the tire is nearly full, you may not be able to get air into the tube because the valve won't open on a nearly full tube. If this is happening, the pressure gauge will show a huge increase when you pump, way over your goal in less than one push on the pump, but you are just increasing the pressure in the pump hose, not in the tube. This happens if you forgot to release the air lock. Remove the pump head and push down on the little nut that sticks out of the valve to let some air out. Now, the valve will open when you start to pump. Replace the pump nozzle onto the valve and try again.
 - b. You might pump ten full strokes and the tire isn't getting harder and the gauge isn't moving. This means that the nozzle isn't firmly attached or locked on. Remove it and try again.
 - c. If air is going into the tube, the tube is getting harder (slowly at first), and the gauge shows an increase, keep pumping until the gauge shows you have reached your goal.
7. Remove the nozzle from the valve. To do this, first open the nozzle, probably by pushing the thumb lever back down. Then, carefully remove the nozzle by pulling it up as straight as you can so you don't bend the small nut and stem too much. Don't worry if there is a loud but brief whoosh of air when the nozzle comes off...that is compressed air coming out of the pump hose, not the tube.
8. To close the valve, screw the little nut back down until it stops. That is important because the little nut and stem keeps the air in! Replace the screw-off cap if you can find it, but it isn't essential.
9. Now, pump up the other tire! Both tires should feel hard on a road bike. But, if at all possible, rely on a gauge, not on feel... at least until you are ready to work as a mechanic for a Tour de France team... then you can rely on feel with our blessing.

Note: It is recommended that you not use CO2 cartridges on the C-SIG unless you are very experienced with them. That is, you have exploded your share of tubes and know how to avoid it.

After Each Ride

Tire Check

Check your tires for glass, sharp stones, cuts and wear after each ride. This is called the "tire check." It is also important to do a tire check on the road after crossing an area with much visible

glass. The reason to eliminate this road debris is that even if it doesn't blow out your tube now, it will eventually wear through if you ride on it.

Turn each tire slowly and look carefully in strong light. Glass will shine. Pick items out or pry them out with a blunt tipped nail. Start rotating the wheel at the valve so you know when you are finished. Don't cut your fingers.

If there is a cut or hole in the tire material, you might get another stone or piece of glass in the same place. You can reduce the chance of this happening by filling the cut or hole with a tiny dab of Shoe Goo from the shoemaker's shop. It might go by another brand name, but this kind of glue remains flexible when dry.

Finish off by spinning the wheels to check that the tires aren't rubbing the brakes. You can also use this opportunity to check the true of your wheel by observing the tiny gap between a brake pad and the wheel as the wheel spins. There should be very little wobble visible.

How Long Do Tires Last?

As a rule of thumb, tires last between 1,500 and 2,000 miles, or two years, whichever comes first. Tires lined with Kevlar or other anti-flat armor may last a thousand miles longer than that. The C-SIG will probably put about 350-400 miles on the tires. The reason that two years is important is that ozone in the air weakens rubber even if it isn't used. Cycling can be an inexpensive sport compared to most, but it isn't cost-free because there are some consumables that need to be replaced regularly such as tires, brake pads, and chains.

Foldable Tires

When you buy new tires, keep in mind that modern "foldable" tires are much easier to put on and off and are much easier for fixing flats than old fashioned tires. Foldable tires hang from the wall at the bike shop folded in small cardboard cartons.

The technical reason for the difference is that tires have wires, called "beads," along the edges where they "clinch" onto the wheels. You can't see the beads because they are buried inside the rubber. On older tires, beads were made out of metal and kept the tire round even when off the wheel. Modern tires have beads made of nylon or Kevlar and this allows the tire to fold when it is off the wheel.

It takes some muscle and time and three tire tools to remove a tire with a metal bead from the wheel; whereas, one can almost remove foldable tires with just fingers or with just a bit of help from one tire tool.

Also, with foldable tires, plastic tire tools can be used instead of metal tools and these are less likely to pinch the tube and make a hole in it during a flat fix.

Riding an Older Bike

If you are going to ride an older bike in the SIG, at least replace the tires, tubes, and brake pads and have a bike shop do a cleaning, lubing, and safety check including checking the wheels for true (round) and the handle bars for tightness.

A full servicing including lube of the bottom bracket (where the pedals go through), the wheel hubs, and replacing the cables, wouldn't be a bad idea also and might cost less than \$100. Compared to getting a car serviced, bike service is very cheap and just as important to your long term health.

Most important of all, make sure that your hands fit easily around the brake handles while your hands are securely on the handlebars. If they don't, the bike shop will have some solutions.

Conclusion

Please deal with your tires during the week between each SIG ride and come to the ride with properly inflated tires. This is important for your safety, and for getting the ride started on time and with happy leaders.