

## Gears: What are they for and how do I use them?

### Finding it hard to go up hills?

When you first start cycling, the gears may be one of the most confusing aspects of the bike. Gears make cycling easier, especially when going up hills or taking off from lights. Gears allow you to ride faster when your legs are strong and slower when your legs get tired.

Your legs are your engine, but they have a limited amount of power and can only rotate at a limited range of rotations per minute (rpms in motoring terms or cadence in cycling terms). The bike's gears allow you to adjust power output to suit your engine. When the going gets tough - change to an easier gear. When you want to go faster or burn off your competitors, change to a higher and harder gear.

### What is a gear?

The gear is the ratio of the number of teeth on the rear cog to the number of teeth on the front chain-ring. For instance, the largest gear ratio and the hardest to push are with the chain on the biggest chain-ring on the front and the smallest cog in the rear.

Since there are smaller differences between the number of teeth in different rear cogs than between front chain-rings changing rear cogs allows you to make small changes in gear ratio while changing front gears or chain-rings results in big changes in gear ratios.

It's easier to change gears whilst gently pedaling. Too much tension on the chain while changing and you'll get a loud noise, like a big clunk, as the chain is forced onto the next chain-ring. You may even "throw" the chain and have to remount it on the chain-ring.

If you are coming up to, or on, a hill change gears before you need to. This makes the change easier and you will retain more speed.

### How to use your gears, changing gears

Most new bikes come with up to 27 "indexed" gears. This means that the levers or twist shifters used to change gears "click" into place when changing. They are very easy to use and rarely miss a gear or get stuck between gears when properly adjusted.

To change index gears up or down use the levers, or handgrip shifters (twist shifters) on the handlebars. One shifter (usually the right hand one) changes between the rear cogs, the other changes between front chain-rings.

### How many gears do I need?

It's not so much the number of gears but the range of gears that's important. Three chain-rings on the front generally gives a wider range of gear ratios than two.

For rides that include big hills, it would be best to get three chain-rings on the front so that you can change down to your lowest gear to easily go up, and still use a larger gear going downhill.

## **Maintenance**

For your gears to work well you need a clean chain. Lubing your chain regularly is essential. A rusty chain does not make for good shifting or easy riding. The cables and the cable housing also need to be in good condition for accurate and smooth shifting.

Regular maintenance is vital. If you are unsure ask your bike mechanic to take a look.