



Sussing Out a New Grid The Finishing Kit

Our new bikes would not be complete without the Finishing Kit. This includes the saddle, seatpost, handlebars, stem, pedals and other assorted small parts - and has traditionally been where manufacturers sort of skimp on quality. No doubt these utilitarian pieces don't contribute very much to the overall performance of the bike. However, they do contribute to the comfort and satisfaction that we feel over the long-term. If your budget is tight, then the "serviceable" stock items will serve you well and are easily upgraded as your budget allows.

Generally speaking, the price to performance ratio is rather poor on these items. The paltry number of grams of weight saved or the increase of watts produced on each individual item won't amount to much. Still, the combination of all the components can add up and can be important on a top-shelf bike. So, what are we looking at?

Weight

In cycling you always pay more for less when it comes to weight. For example, small parts such as nuts, bolts, screws, and other assorted fasteners are often excruciatingly expensive when they are rendered in magnesium, titanium, carbon fiber and other exotic materials. Think of these as the jewelry that your bike, and by extension you, will wear when out riding.

The most increase in performance is gained in rotating components (crankset and wheels) and should be where you concentrate your dollars. But what are some other examples? Weight weenies spend their money on alloy spoke nipples, carbon fiber derailleur cages and pullies, titanium nuts, bolts, and screws, titanium wheel skewers, carbon fiber bottle cages, carbon fiber handlebars, stems, seatposts, saddles with carbon fiber, titanium or Vanox (alloy of Stainless Steel, Titanium, and Vanadium) rails, carbon fiber steer tube spacers, carbon fiber pedals with titanium axles and ceramic bearings, and the list goes on and on and on. . .

One item that does appeal is the titanium cassette (see right).

Compared to a steel cassette the weight savings are substantial. The cassette pictured is only 161 grams, whereas an OEM Shimano 105 12 thru 25 cassette is 252 grams – equivalent to the weight of 20 Canadian Quarters.



Stiffness

Stiffness refers to the amount of torsional, flexural, or other deformation that takes place in a part when under a load. When the frame of a bike, the wheels, the crankset, stem, or handlebars flex and/or twists the energy that you are putting into moving the bike down the road is absorbed and is not necessarily returned. However, flex also contributes to the ride comfort of the bike, so making a bike completely rigid is not the answer. Designers must balance out all the characteristics of a frame or component to be successful. So, where to concentrate your money?

Again, the difference between a standard wheelset and a high quality/performance wheelset is dramatic and will help to take your cycling to a new higher level. Spending your money on an upgraded wheelset is your best upgrade.

A stronger more rigid crankset will pay dividends especially if you are a sprinter or powerful rider and every gram saved in rotating mass will make a small difference at the end of a long ride.

Although carbon fiber handlebars, stems and seatposts are often stiffer and lighter than the same parts in aluminum they can also transmit more vibration, leading to numbness and fatigue in the hands, arms and shoulders and bum. Saddles with carbon fiber shells and titanium, carbon fiber or Vanox rails can be made to be both light weight and surprisingly comfortable – but all of this comes at a price – usually in the \$300 to \$500 range.

Lowering Friction

The lowering of friction has really garnered a great deal of press in the cycling industry, but in a machine as efficient as a bicycle the gains are often marginal.

The Chain and Sprockets

The chain drive on a well-maintained bike is about 98% efficient in delivering power to the back wheel, yet some chain treatments and lubricants make claims of reduced friction and increased watts delivered to the ground. One “old fashioned” lubricant that has produced some tangible benefits is good old paraffin wax. When combined with friction modifiers like graphite, silicones, PTFE (Polytetrafluoroethylene) and Tungsten Disulphide power transfer is improved, and wear is dramatically reduced. One chain treatment that I am skeptical about is chain diamond polishing where chains are tumbled in a drum filled with extremely fine diamond powder. The idea is to further polish all the chain plates, rollers and pins beyond what the chain manufacturer has already done. These chains are then waxed using ultrasonic baths to help wax to reach every tiny crevice of the chain. This sort of treatment may help top level athletes with time trials, but the benefit for the average punter is negligible.

Ceramic Bearings and Bearing Races

Ceramic bearings are showing up in all manner of bicycle components, but the velocity of the bearings in many of these components is too low and they aren’t operating in high temperatures – two areas where ceramic bearings do accel. So, putting ceramic bearings into headsets and cranksets makes zero sense. Ceramic bearings and races can be justified in wheel bearings and derailleur pulley wheels where they have shown some benefit.

Oversized Derailleur Pulleys

Engineer Wolfgang Berner first introduced these on the bicycles of Fabian Cancellara and the Schleck brothers in 2010. The theory was, and is, to reduce the amount of flexing the chain is required to do in a stock derailleur with standard 11 or 12 tooth pulley wheels by substituting those pulley wheels with some that range from 13 to 20 teeth and reducing the derailleur cage spring tension, all while maintaining or improving shift quality. Companies like Ceramic Speed, Muc-off, Token, and Kogel claim reduced friction while maintaining or improving shift quality. The improvements will only be fully realized at the top levels of competition, but they are still bike jewelry and will set you out from the crowd at the local club ride. Be prepared to part with \$250.00 to \$1000.00 Canadian Dollars!!!!

Conclusion

Ultimately the Finishing Kit is more about setting your bike, and by extension you, out from the crowd. Most cyclists will end up buying a standard production bike – 1 of 10,000 in Candy Apple Red. The Finishing Kit allows a rider to make their ride just a little bit special. The beauty of this, is that you may change out these small boutique items at any time. I have loosely quoted the great Belgian cyclist Eddy Merckx a number of times, but the message remains the same – “Ride up grades instead of riding upgrades” if you want to improve your cycling the most.

