



Tony Ellsworth on Conversations of Wheel

Significance

By Tony Ellsworth, July, 2008

Tony noticed an industry trend towards lighter, at the expense of rolling friction trackability, handling and control with regard to wheels and begin a study of the wheel unit as oppose to the components of the wheel.

1. Faster Rolling, increased track-ability and stiffness at the axle.
 - a. Using highest quality and cleverly integrating bearings, Ellsworth wheels roll noticeably faster with a rider on them, on rough road or trail conditions.
 - b. The rougher and heavier the load, the more significantly Ellsworth Wheels perform with regard to how fast they roll, and how little friction there is while rolling loaded.
 - c. We use more balls in the bearings, and integrated bigger bearings meaning the bearing balls are bigger and there's more of them to carry the loads. Many balls make for light work!
2. The force directional direct pull hub, and match engineered quadruple butted spokes allow for higher tension, which saves weight while increasing stiffness, life and strength of the wheel.
 - a. This means the wheel tracks better, last longer and is stronger for the weight.
 - b. Each wheel is hand laced, no machines, and de-tensioned three times in the process, so the wheels tension is very even, and the wheels are well settled in.
 - c. The wheels stay true, even in hard use, due the precision and care with which they are built, tensioned, de-tensioned, repeat, repeat... and finally tensioned.
3. Ellsworth's horizontally tapered wall Rims are the lightest for their width of any rim in the world.

- a. The width allows a tire to maximize its side wall stiffness and put more tread block on the terrain.
- b. A wider contact patch with out a bigger tire saves over all wheel weight, and the sidewall of the tire is able to function better and not roll under side load.
- c. This enhances the handling, traction and control of the bike.

No question, the wheel and the frame are the most significant components in the ride efficiency, and control. It's no accident Ellsworth focused on the wheel after perfecting the frames.