

Dirk Zedler

Every cyclist now has a choice of MTB sizes, as long as it's a large

It was not that long ago when 29-inch wheels made their debut on mountain bikes, and launched an instant and unstoppable trend. Within months, bikes with 26-inch wheels had become unsellable.



You can't have them all.

Bigger wheels roll better and absorb bumps and other obstacles more easily. But they are heavier, take more effort to accelerate, have softer sides and require longer forks and chainstays, making bicycles a little heavier.

Especially with full-suspension frames, the transition to 29ers wasn't without issues. The significantly larger wheel diameter had a negative effect on the suspension kinematics. Simply put, long-travel suspension is not possible with this size.

But with classic 26-inch wheels suddenly unfashionable, the industry had to come up with another solution for long-travel bikes. Its answer was to revive a wheel size that had disappeared from the market years ago: the 650b, or 27.5-inch wheel.

One remarkable, and often overlooked, result of this shift to larger wheel sizes is that weight no longer dominates the conversation about mountain bikes.

That is no great loss, as weight is overrated in general. Saving 200 grams is ridiculous when the total system — bicycle and rider — weighs 70 to 90kg (155 to 200 pounds). It makes even less sense when the cyclist is riding on underinflated tires because he neglected to pump up the inner tube.

Marketing trumps reason. For better or worse, big wheels are now a must for everyone. That benefits many riders, unless they happen to be short.

Over the years, a few innovative bicycle manufacturers have tried a more reasonable approach by adjusting the wheel size to the size of the cyclist.

A road bike with a frame smaller than 51cm is more harmonious when paired with 26-inch wheels. In addition, there is less toe overlap, so the bike not only has better riding dynamics but is safer as well.

On the other end of the size spectrum,

many forget that the German company Heidemann once built everyday bikes in large frame sizes with 30-inch wheels.

Although there are clear technical advantages to offering smaller or larger wheels depending on a rider's size, both extremes have disappeared from the market. In Heidemann's case, the entire company disappeared.

Instead, marketing has succeeded where reason has failed. The marketing machines behind mountain bike brands have accomplished a surprising feat: No matter whether the cyclist, and thus the bike frame, is tall or short, a hardtail is a 29er and a full-suspension bike has 27.5-inch wheels.

It's all too much. Wheel sizes are just one variable. Even excluding less common types of bicycles, such as folding bikes, the bicycle industry now deals with more than 10 different quick-release and thru-axle dimensions for front wheels, and more than 10 standards for rear wheels.

Mountain bike tire widths range from about 25mm (1 inch) to a whopping 128mm (5.05 inches).

Add to that all of the possible options in rim widths and the range of brake disc standards, and the industry is dealing with a incomprehensibly large matrix of potential combinations.

Bicycle retailers thus have to be able to cope with hundreds of combinations of wheel sizes, tire sizes, rims, brakes and more. And that's before accounting for different brands, colors or even spoke lengths.

There is no question that these new standards may improve the function and performance of bicycles. And, driven by the creativity of brands' marketing departments, they may stimulate the desire of cyclists to buy new

bikes and make some CEOs smile.

Smaller cyclists on the trail will be at a disadvantage from these new sizes because they are forced to ride on small frames built between wheels that are too big. Yet the dictates of fashion often lead consumers into making unreasonable decisions.

Pondering the afterlife. A bigger issue awaits customers and retailers when it comes to servicing these bikes.

Is there a realistic chance that a retailer will have a needed part in stock? It's already a chore just find the right size inner tube at a holiday destination.

What if the bicycle is three or four years old and the new "standard" has already become outdated?

What if a consumer has to buy a new fork because of a defective front hub, but the fork no longer fits the frame because the standard for steering tube diameters has changed?

We are already seeing situations where quality spare parts are difficult or impossible to find.

For retailers, it is increasingly difficult to perform repairs at reasonable prices. And they don't have the space, or the money, to maintain a full complement of replacement parts in stock. Nor do they want to assume the risk of buying parts that they will never be

able to sell.

The industry has to answer the question of how long a sport bike should be useable, or whether we want them to become disposable products. It will take strong alliances between manufacturers, wholesalers and local retailers to find solutions.

Manufacturers and their distributors will have to take responsibility of ensuring adequate suppliers of spare parts so retailers will be able to keep their customers' bicycles in good repair for several years after the sale.

But — hand on heart — how many manufacturers really care about the "after"? ■ **DIRK ZEDLER**



You need which size?

Zedler-Institut

Since early 1993, graduate engineer Dirk Zedler has worked as an expert analyst who investigates bicycle accidents and material failures on behalf of courts, companies, insurance companies and private individuals. Since 1994, he has been recognized as an officially appointed and sworn expert for bicycles, and, since 2014, for electric bicycles. His team currently prepares about 800 expert's reports per year.

Zedler – Institut für Fahrradtechnik und -Sicherheit GmbH benefits from this wealth of knowledge to manufacture testing systems that enhance research and development efforts, leading to safer and better bicycles. It also supplies equipment for leading European special-interest magazines. These test systems are available for purchase by manufacturers, and are available to customers at the Zedler-Institut's test lab.

The Zedler-Institut also draws upon its background to write user manuals that



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help bicycle buyers understand how to use their bicycles and pedelecs appropriately, while releasing manufacturers from liability. Manuals are published in more than 30 languages.

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