THE QUICK-RELEASE QUANDARY

Securing wheel to bike has never been easier

CHARLIE BARTLETT AND NICK HART ARE REGULAR guys. They like riding bikes and drinking beer. They're not mechanical engineers or anything, in fact one works as a teacher of design, the other as an environmental consultant. But one night in 2003, while enjoying a few pints in their Sheffield, England, hometown, the conversation turned to the pitfalls of modern thru-axles. Sure, bolt-on hubs are exponentially stiffer and safer than quick releases, *but damn it's a pain taking the front wheel off!* They had a few more pints, theorized a bit, sketched ideas on beer coasters. Next thing they knew, they had an answer: the Hartlett.

The Hartlett (above right) relies on a fixed rod in the center of the dropout, a slotted-and-keyed axle and a quick-release lever to hold the whole system tight. Simply open the lever, turn it 30 degrees and pull the 20-millimeter axle from the hub and closed dropouts. It's safe, stiff and potentially quicker than a quick release (with lawyer-lipped dropouts, at least).

It was a solution to a dilemma that had plagued fork manufacturers for decades, one that many considered the missing link in bike design. Tullio Campagnolo initially solved the problem almost 80 years ago when he developed the first quick release, but the added leverage of long-travel forks on modern mountain bikes magnifies the already brutal forces axles must endure. Finding a system that offered enough strength to withstand severe braking, cornering and impacts–yet still allowed riders to easily remove their wheels–proved difficult. Most companies stuck with strong but cumbersome thru-axle systems.

When Hart and Bartlett began shopping the Harlett to fork manufacturers in 2003, they discovered most companies were already working on their own tool-free systems (see sidebar). Maverick and RockShox were about to release their designs and Manitou would soon follow. Clearly, fork designers were determined to conquer this pesky problem.

Pictured at left, from top to bottom: FOX RACING SHOX: Like Marzocchi, Fox is sticking with the tried-and-true 20-millimeter thru-axle. Fox's axle threads directly into the dropout, while Marzocchi's employs an axle and a nut.

MANITOU QR HEX AXLE: The system uses a hexagonal-tipped 20-millimeter axle that fits into matching dropouts with a wing nut and two quick-release levers. Manitou claims it is 50 percent stiffer than a standard quick release.

ROCKSHOX MAXLE 360: Arguably the simplest and most popular thru-axle. The 20-millimeter axle threads directly into the fork casting and otherwise operates like a quick release lever.

MAVERICK QUICKFLIP QR: Maverick developed this tool-free, double quick-release system in 2003. It requires a specific hub with a 24-millimeter axle.

Of all the systems, RockShox's Maxle is gaining the most notoriety. "The Maxle is becoming a decision-making piece," says Eric Schutt, who handles SRAM's mountain bike public relations. "It's attracting people to buy RockShox forks." Competing manufacturers are even eager to use the design. SRAM is selling axle systems to companies like Magura to use on their forks. Mongoose and GT are even using it on the rear of some of their bikes.

But don't expect an industry standard. "There are too many egos in this industry to make everyone agree," said Bill Christensen, Manitou's brand manager. "Even if there were one, someone would think of something better, adopt it and undermine the new 'standard.' This is all perfectly acceptable, it's called innovation." In the meantime, keep an eye out for the Harlett. It is anyone's game, and the regular guys from the U.K. still think there's room for improvement. ***—Dain Zaffke***

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