

CHAIN REACTION

Gearboxes are go

Industrial designer **Joe Brook** believes gearboxes could be big on bikes, and not just in terms of bulk. Is the bike trade about to ditch front and rear mechs?

BIKE FRAMES may be getting lighter and stronger but makers still rely on derailleurs for the transmission. This is ancient technology.

The future is Orange goes the advertising jingle for the colour-coded telecoms company. But the bike trade Orange is also forward-thinking. At Eurobike, this small British company displayed two of the most innovative bikes at the show. Both featured gearboxes.

Raleigh-owned Diamondback also displayed a G-box bike.

Currently there are two companies offering gearboxes which comply with the GCON standard: Universal Transmissions and SR Suntour.

Whereas the rear mech is from the world of road cycling, many of newest developments in mountain biking are coming from moto-cross. Fanning the flames of this progression is Kalle Nicolai who produced the GCON standard thus allowing frame builders and gearbox designers to have an interface with which to interact. Companies such as Nicolai, Orange, Suntour and Diamondback have taken up the standard.

The current offerings are Universal Transmission's 14-speed G-boxx 2 which uses Rohloff hub technology, and the considerably smaller spur-gear gearbox from Suntour,

“Lighter cheaper gearboxes will spur market growth within the next two years.”

These gearboxes have sealed mechanisms. Bash them and nothing will break. Bash a high-end mech and you've got a high-end replacement on the cards – and a failed run.

Gearbox technology offers the prospect of truly tough bikes, bikes that will last for years. Now, this could be seen to be one of the system's downfalls. Not everybody appreciates technological advancements. Some can be bad for business. But smash one mech too many and that rider may leave the sport altogether. A bike equipped with a gearbox will keep the rider in the sport: what you lose in replacement mechs, you make up for in riding accessories over a long period of time.

And gearbox bikes offer lots of other advantages, such as eliminating chain growth, allowing stronger rear wheel builds and a centralised weight location to improve handling,

the V-boxx. Consumers are interested in these technologies but they remain concerned about cost and size/weight issues involved with current gearboxes. As the G-boxx uses a geared hub to shift gears both cost and weight remain high because of the heavy and costly Rohloff hub. However, weight shouldn't be such a big issue because with weight shifted to the centre of the frame there are handling benefits and, don't forget, adding a 'heavy' gearbox means losing front and rear derailleurs and the heavy cassette.

In March next year, there will be a new 7-speed G-boxx gearbox which will use UT technology rather than a geared hub. This should hit the market at a lower price nad, hopefully, a lower weight, too.

Suntour's V-boxx is already lighter and less bulky but it lacks a lever shifting unit, and doesn't yet have the same



Universal Transmissions has a lighter, smaller gearbox on the way

street cred as Universal Transmissions.

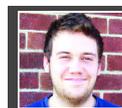
This could change and it's good to see Orange is trialling both gearboxes on their 'Strange' prototype bikes. Michael Bonney of Orange believes lighter, less expensive gearboxes will spur market growth within the next two years. I agree with him.

Gearboxes will be seen on all-mountain trail bikes not just burly freeride and downhill rigs. In terms of cross country bikes I think it will be a good number of years before we see truly

lightweight gearbox technology coupled with lightweight materials. But in order for gearboxes to become more established, more mainstream suppliers need to grasp the technology and apply it to their frames. Now.

Mech makers clearly have a vested interest in staying with derailleurs and throwing oily grime at The Man in the White Suit but new technology that works better can't be held back for ever.

www.g-boxx.org



Joe Brook is an industrial designer. He helped Nicolai develop both their new gearboxes as well as working on the GCON standard. He is currently on the look-out for a design job in the bike industry.
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