

# BIKE TEST



CTC members Dan Joyce, on a 2006 On-One Inbred 29er, and Brian Bartlett on a 26in bike. We (Cycle) were sold on 29ers straight away, but they've remained niche in the UK – until now?

Right: by Paul Rogers. Others by Mike Davis

## 29ER MOUNTAIN BIKES

# They made it big

Mountain biking's latest bandwagon definitely has 29-inch wheels. Cycling journalist **Mike Davis** examines the pros and cons of big wheels and tests three very different bikes

» **THAT 26IN WHEELS** are the standard for mountain bikes is really little more than a historical accident. The Schwinn cruisers that were adapted for off-road racing and that ultimately spawned the first purpose-built MTBs used 26in wheels. And that was that. Things could have been different – in the UK, Geoff Apps was experimenting with bigger wheels and he even liaised with Gary Fisher about them. But ultimately tyre and rim availability won out.

De facto standards aren't necessarily optimum, though, and in

(Opposite) 29er wheels are about 10% larger. Bikes with bigger wheels benefit from longer-offset forks and shorter head tubes

recent years 29in wheels have been gaining momentum, both literally and metaphorically. US custom builders like Wes Williams built the first of the new generation of 29ers in the late '90s, and Gary Fisher brought the idea into the mainstream a few years later. Today the bigger wheel size dominates the hardtail market in the US and is likely to do the same here.

It's worth noting that 29in isn't a size plucked out of nowhere. The rims are the same 622mm bead seat diameter as road bike rims – early 29ers used touring rims. Shod with

2in or bigger tyres, that gives the 29in nominal outside diameter. The advantage of a bigger wheel is simple – they roll faster, especially on bumpy ground. A rock, root or hole that would significantly impede a 26in wheel will trouble a 29er less. It's a big difference, and one most easily observed by riding rigid 26 and 29in bikes back to back.

There are downsides. First is weight: whatever you do, a bigger wheel and tyre is always going to be heavier. The more you spend the less of a gap there is, but some budget 29ers do



TREK SUPERFLY 100 AL ELITE



WHYTE 829

BIKES ON TEST



GENESIS FORTITUDE ADVENTURE

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**BIG ISSUES**

Changing the bike's wheel size isn't trivial

**1 Tyres**

Tyre availability was the main thing holding up 29er development until brands like WTB took the plunge. Today most tread designs are available in 29 and 26in. As 29er rims have the same bead seat diameter as 700C road rims, your choice of town or touring tyres is huge. 29er rims tend to be wider, though, so don't go too narrow. Don't forget to carry a spare 29in innertube. 26in MTB tubes can sort of be stretched to fit but it's very much a get-you-home option.

**2 Forks**

Fork availability was the other big stumbling block in the way of 29ers. Rigid forks weren't too much of a problem – the custom builders making the early

frames could just make forks to go with them. Today there's a good choice of suspension forks too, including budget models.

**3 Handlebars**

While riser bars have been the norm on mountain bikes for years, flat bars and low stems make more sense on 29ers. The combination of a big wheel and a suspension fork adds front end height, so lower bars improve weight distribution.

**4 Gearing**

Bigger wheels mean that you roll further for each wheel revolution. This means that a given chainring/sprocket ratio becomes a higher overall gear. Some 29ers use smaller chainrings to compensate, but not all.

suffer a substantial weight penalty. Second is packaging: fitting bigger wheels into a frame means making significant changes. Chainstays and forks have to be longer. Front centres need to extend so the rider doesn't trip over his or her own front wheel in corners. All of this affects weight distribution and fit.

Early 29ers tended to have very long top tubes to eradicate toe overlap. Bigger fork offsets and slacker head angles have allowed designers to bring top tubes in a bit but 29ers are still often a little longer than 26ers of nominally the same size. You may need to choose a size smaller than you're used to.

**Steering wheels**

A larger wheel means more trail, all else being equal, which slows steering. Either a steeper head angle or more fork offset, or both, needs to

be introduced to compensate. This requirement led to a few years of wild experimentation and some less-than-successful bikes, but nowadays we're mostly past all that. There's a lot of variation in 29ers now, but that's because manufacturers are designing them to do different things rather than because they're still looking for answers.

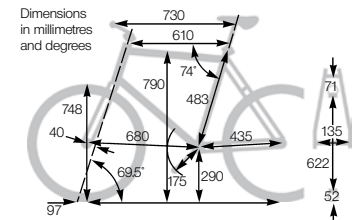
**Upsizing your bike**

Is a 29er for you? If you favour brisk wheels-on-the-ground riding then you'll get big benefits. Based on the current crop of 29ers, it's hard to see why you'd want 26in wheels on a cross-country hardtail, for example. If you're into extreme descents, jumps and drops then it's less clear cut, with wheel strength and stiffness becoming issues, as well as the difficulties of fitting big wheels into long-travel suspension frames.





GENESIS FORTITUDE ADVENTURE

**GENESIS FORTITUDE ADVENTURE****Price:** £1499 (£459.98 frame only)**Weight:** 12.9kg/28.4lb**Size:** 19in**Sizes available:** 17.5, 19, 20.5in**Frame and fork:** Reynolds 725 steel, bosses for three bottles, rack and mudguards. Steel unicrown fork, bosses for cages, rack and mudguards.**Wheels:** Continental X-King 29x2.2in tyres; stainless spokes; DT X470 rims; Shimano Alfine 11 rear hub, M595 front**Transmission:** Truvativ Stylo chainset, 32T; Truvativ outboard bearing bottom bracket; KMC K810 chain; 18T sprocket; Shimano Alfine shifter and 11-spd internal gear hub. Gear range: 28 to 113 inches.**Braking:** Avid BB-7 mechanical disc brakes, 160mm front and rear**Steering and seating:** 680mm Genesis 6061 flat bar; 100mm Genesis stem; FSA headset. Madison Flux saddle; Genesis 6061 seatpost 400x27.2mm**Accessories:** none**Contact:** genesisbikes.co.uk

# Genesis Fortitude Adventure

THE FORTITUDE range from UK brand Genesis is something of a rarity, being designed solely for use with rigid forks. This allows Genesis to use a very short fork, making it easier to keep the bars at a sensible height and avoiding the need to put any curves or bends in the down tube to clear wide suspension fork crowns. Rigid-only is a niche, but it certainly has its place.

The Adventure is the most expensive Fortitude, designed for multi-day off-road trips as well as being a simple, fun mountain



(Above) Shimano's 11-speed Alfine hub gives a 409% range (Top) It's also available in 1x10 and singlespeed versions, with different frames

bike when unladen. The Reynolds 725-framed Adventure comes with an impressive array of bosses and mounts. As well as three sets of bottle bosses – two in the usual locations, a third under the down tube – you'll find rack and mudguard mounts at both ends.

## Gear selection

The front ones are particularly interesting, with three bosses on each fork leg. One pair of these can be used as conventional low-rider mounts for a front rack, or you can use two adjacent ones for an additional bottle cage or all three for a Salsa Anything Cage. The Anything is an oversized cage with nylon straps that can carry insulated bottles, rolled-up sleeping mats, bivvy bags or anything else that's reasonably light and generally cylindrical.

The Shimano Alfine 11 hub gear has been chosen for reasons of low maintenance and lack of sticking-out bits to get broken off miles from anywhere. It delivers an impressively broad gear range but can't match a full 3x10 derailleur setup – with the 32t chainring and 18t sprocket

supplied it's like having an 8-34t 11-speed cassette. You get most of the gears you need most of the time. Given the big wheels and load-lugging potential of the Fortitude, though, a switch to a bigger sprocket may prove useful; they're available with 20, 21, 22 and 23 teeth as well as the 18 that's fitted. Cable-operated Avid BB7 disc brakes continue the rugged theme, with cables being a lot easier to sort out in the wilds than hydraulic hoses.

## Reliable ride

In use, the Fortitude is stable without feeling ponderous, despite its large trail figure. It can be hustled through singletrack if you like, but it doesn't demand attention. A rigid bike is never going to be the most comfortable ride off road, but with high-volume 29x2.2in tyres, slender frame tubes and a 27.2mm seatpost it's smoother than you'd think. At 12.9kg unladen the Fortitude isn't particularly light, but it's sturdy and dependable.

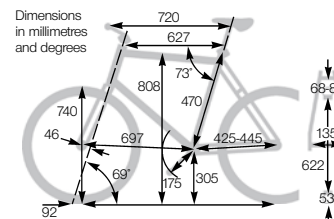
## Also consider



**1) Salsa Fargo £1619** (£499 frame and fork only) Designed for drop bars and with bosses to fit anything you can think of, the Fargo is a 29er tourer that's ready for the long haul. [ison-distribution.com](http://ison-distribution.com)



**2) Jones Diamond Frame £815** (frame and fork only) Rigid MTBs are all Oregon's Jeff Jones does. The steel Diamond Frame is the most affordable of his creations and will take a 26x4in (l) front tyre. [jonesbikes.com](http://jonesbikes.com)

**WHYTE 829**

Price: £1899

Weight: 12.4kg/27.3lb

Size: M (18.5in)

Sizes available: M, L (20.5in)

**Frame and fork:** 6061-T6 hydroformed aluminium, modular dropouts, tapered head tube. Fox F29 RL fork, 100mm travel, QR15 through axle

**Wheels:** WTB Bronson 29×2.2in tyres; Whyte XC-202 29er wheelset, 28 spoke front/32 rear

**Transmission:** Shimano XT chainset, 175mm, 24-32-42; Shimano outboard bearing bottom bracket; Shimano HG-54 chain; Shimano HG-81 11-36T 10spd cassette. Shimano SLX shifters, XT derailleurs. 30 speed, 19-111 inches

**Braking:** Shimano SLX disc brakes, 180mm front/160mm rear

**Steering and seating:** 700mm Whyte Custom flat 2014 bar; 70mm Whyte Custom stem; FSA Orbit ZS headset. Whyte Custom saddle; Whyte 30.9x400mm 2014 seatpost

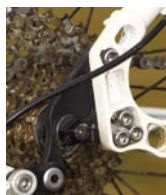
Accessories: None

Contact: [whytebikes.co.uk](http://whytebikes.co.uk)

# Whyte 829

▶ **WHYTE'S 829 IS** a little different from most other 29er hardtails on the market. While the majority of aluminium 29ers at this price are pitched at the racier end of the spectrum, with steep angles and low weight to the fore, the 829 is designed for longer rides on more challenging terrain.

With one tube flowing into the next in an apparently seamless fashion, at first glance the 829 looks as if it's made from carbon fibre. But the more traditional welds at the bottom bracket and dropouts give the game away: the frame is 6061-T6 aluminium, with double-pass welds giving the smooth appearance.



The bolt-on dropouts can be swung and refixed, giving 20mm of chainstay adjustment

The oversized head tube accommodates a tapered fork steerer, with a 1.5in bottom bearing and 1.125in top. This gives a larger tube to weld the down tube to and stiffens the fork without adding too much weight. With the very short head tube that a 29in front wheel and a suspension fork dictates, this is a good thing.

## Relaxed geometry

The versatility of the 829 is enhanced by the bolt-on swinging dropouts. These have been seen on Whytes for a few years and afford 20mm of chainstay adjustment, allowing for straightforward singlespeed conversion. (A hub gear could work too.) The rear brake is mounted to the moving part of the dropout to maintain calliper alignment during chainstay adjustment.

Even if you only ever use gears, the dropouts are useful; pull the chainstays right in for snappier handling in summer and extend them for more mud room in winter. Clearance is impressive either way, with the chainstays joining a forged yoke at the bottom bracket and the seat tube being significantly curved. A direct mount front derailleur puts the cage back where it needs to be.

While most 29in hardtails

compensate for larger wheels with steeper head angles than their 26in cousins, the 829 is deliberately relaxed. It's got almost as much trail as the touring-oriented Genesis Fortitude, but a short stem and 700mm wide flat bars encourage you to weight the front in corners. You do need to do that: ridden with commitment the 829 sweeps into corners with enthusiasm but if you just sit there it tends to run wide.

## Trail hardtail

The 829's geometry really comes into its own on steeper, rougher, faster trails, where the combination of stable handling, a stiff chassis and big wheels provides a very capable ride indeed.

The 829 is well equipped, with a Fox fork and Shimano running gear – the mid-range SLX brakes are particularly impressive – but overall weight is on the high side compared to similarly-priced competitors.

## Also consider



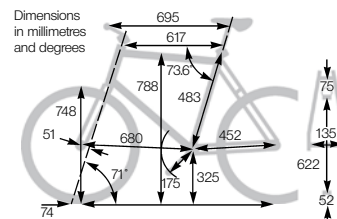
**1) Giant Xtc Composite 29er 1** £1,699 A racier proposition than the 829, with steeper angles and lower weight thanks to a carbon fibre frame. The aluminium version is £300 less. [giant-bicycles.co.uk](http://giant-bicycles.co.uk)



**2) Cotic Solaris** £499 frame only Another UK-designed 29er, the Solaris uses True Temper OX Platinum and Reynolds 853 tubing. It will take 80-120mm suspension forks, or 470mm tall rigid ones. [cotic.co.uk](http://cotic.co.uk)



TREK SUPERFLY 100 AL ELITE

**TREK SUPERFLY 100 AL ELITE**

Price: £2,200

Weight: 12.8kg/28.2lb

Size: 19in

Sizes available: 15.5, 17.5, 19, 21, 23

**Frame and fork:** Alpha Platinum aluminium with tapered head tube, Fox RP2 shock. Fox F29 RL, 100mm travel

**Wheels:** Bontrager 29-1 Expert 29×2.2in tyres; 28 spokes front/32 rear; Bontrager FCC front hub, Shimano M525 rear; Bontrager Mustang 29 rims

**Transmission:** Shimano M552 chainset, 24-32-42; Shimano press-fit bottom bracket; KMC X10 chain; Shimano HG62 11-36 10spd cassette. Shimano SLX shifters and front derailleur, XT rear derailleur. 30 speed, 19-112 inches

**Braking:** Shimano SLX hydraulic discs, 180mm front/160mm rear

**Steering and seating:** 690mm Bontrager Race Lite bar; 100mm Bontrager Race Lite stem; FSA headset. Bontrager Evoke saddle; Bontrager Rhythm Elite 400×31.6mm seatpost

**Accessories:** Sag meter, shock pump

**Contact:** [trekbikes.co.uk](http://trekbikes.co.uk)

# Trek Superfly 100 AL Elite

## COMBINING BIG WHEELS

with full suspension represents additional challenges for bike designers and it's only recently that such bikes have become widely available. Trek's Superfly 100 is a fairly typical example but with some unique touches; Trek's 29ers are the work of MTB pioneer Gary Fisher, who's been advocating big wheels for at least a decade.

Despite its name, the Superfly 100 actually has 110mm of travel. To make room for the movement of the large back wheel the seat tube



There's less room – or requirement – for suspension with bigger wheels. This Trek has 110mm

is set forward at the bottom bracket end, being attached to the down tube rather than the press-fit BB shell itself. This lets Trek preserve a straight seat tube for unhindered saddle lowering but necessitates a direct-mount front derailleur.

It also means that the saddle moves backwards more than usual as it's raised, meaning a shallower effective seat angle for taller riders. The Superfly is notable for being available in an unusually wide range of sizes. 29ers make a lot of sense for very tall riders, so the inclusion of a 23in size isn't surprising. The 15.5in option at the other end of the scale is more adventurous.

## Fast handling

The unique feature of the Superfly is the fork. Off-the-peg Fox F29 forks have 46mm of offset, but Trek's is a custom model with 51mm. More offset means less trail (and more toe clearance), compensating for the increased trail that a bigger wheel creates.

The Superfly also has quite a steep head angle, giving a very light feel to the steering. It's almost disconcerting initially, as the bars don't feel like

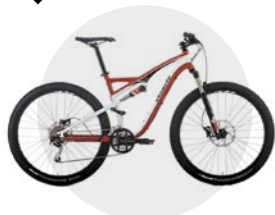
they're connected to anything, but you quickly get used to it. The geometry is very effective on slower, tighter trails – this is one of the best bikes there is for switchback climbs, regardless of wheel size.

## Flattens rough trails

As speeds rise you need to pay more attention than on some similar bikes, and it takes a while to build confidence in the light steering. Once you do, the combination of full suspension and 29in wheels makes the Trek feel almost unstoppable on rough trails. It's a very capable bike indeed.

Experienced riders will enjoy it, and beginners will find it very easy to ride. Intermediates taking their first forays into more challenging trails may find it a slight handful. It's worth trying some of the more relaxed-geometry competitors by way of comparison before you reach for your wallet, to get a feel for what you prefer.

## Also consider



**1) Specialized Camber 29**  
£1900 Specialized have backed 29ers heavily for 2012. This one is more trail bike than XC racer, with a 120mm Recon air fork and 100mm rear shock. [specialized.com](http://specialized.com)



**2) Scott Spark 29 Elite** £2,199  
Shallow head angle and low bottom bracket make the Spark ready for the descents, remote front and rear suspension lockout ease the climbs. [scott-sports.com](http://scott-sports.com)