



## BIKE TEST

# TIME FOR NEW WHEELS

Your next mountain bike will probably have 650B or 29er wheels. What are the pros and cons? **Dan Joyce** tests two steel hardtails from Genesis

**MOUNTAIN BIKE** wheel size was the debate that looked like never ending. Now it has, at least in part: the 26-inch wheel is dead. I don't mean that you won't be able to get tyres, tubes and forks in this size for some years to come, or that your 26-inch wheel bike is suddenly any worse. I mean that if you go into a shop today and try to buy a 2014 or 2015 mountain bike, it will not have 26in wheels – not unless it's an entry-level bike, a downhill bike, or a wide-rimmed fat bike. The choice now, if you're into cross-country or trail riding and are willing to spend more than about £500, is between 29er and 650B, which is also branded 27.5.

The industry's switch from 26-inch to 650B was rapid and has stirred up strong opinions. The new, 25mm bigger wheel is either 'the best of both worlds', sitting

as it does in between 26in and 29in, or 'a marketing con'. Whichever: the switch has happened. If you're in the market for a new bike, then as long as you don't have a big investment in 26-inch (spare tyres? Second or third bikes?), it doesn't greatly matter. What does is how the two wheel sizes left standing stack up.

The other change in mountain bikes has been more gradual: a trend for longer top tubes, shorter stems, and slacker head angles, plus shorter chain stays to stop the wheelbase getting too long. Gary Fisher was one of the earlier proponents of this with his Genesis geometry (no relation), and the baton has been taken up by other brands, notably Whyte. (If you want to see where more gravity-oriented riders are taking this, check out Mondraker's Forward Geometry

bikes.) The primary result of these changes is that you should crash less, especially over the handlebar, because there's more stabilising trail and you're sitting further back relative to the wheels.

For this test, I got two hardtails from British brand Genesis. The High Latitude 20 is a 29er, the Latitude 20 650B. Apart from the wheels, they're very similar indeed: both are steel, both have contemporary geometry, and apart from the Latitude's 20mm longer fork and wider handlebar, they have essentially the same spec. They cost the same too.

## FRAME & FORK

Both bikes are built from double-buttressed chrome-moly steel tubing, branded Mjöltnir. That's Thor's hammer, which was supposedly: a) capable of levelling





● Genesis Latitude 20



● (Above) A 44mm head tube adds stiffness and maximises fork steerer compatibility  
(Below) 27.5 isn't a misnomer with this chunky Ardent, but it's only 25mm bigger and 38mm smaller than 26in/29in



mountains; and b) so heavy that none but Thor could pick it up. There *is* a weight penalty over the equivalent aluminium frame – half a kilo or more – but it's hardly intolerable. The reward is not springiness but sturdiness; these are strongly built frames.

Each is reinforced where the top and down tubes meet the head tube. And the head tube is massive: a 44mm diameter tube that looks a little odd on a steel frame. The bigger tube gives a bigger weld area at the joints. It also accommodates different fork steerers: with the right headset, you could fit 1 1/8in straight, 1 1/8in to 1 1/2in tapered, or 1 1/2in straight. It can't hurt frame stiffness at the front of the bike either. The rear triangle of both bikes has a bracing strut to stop the seat stay bending under braking forces.

Since they're designed here, the frames have some UK-specific features. Foremost among these is mud clearance. There's plenty of room in the rear triangles around the 57mm tyres fitted. You could fit larger in summer, or in winter too if you were happy to dispense with the front derailleurs. Both frames have eyelets for a down-tube mounted mudguard, and a forward-facing seat tube slot to help keep filth out of the frame. Apart from a bottle or two, other braze-ons are absent, probably because Genesis have the bikepacking angle covered with their new Longitude.

Seat tube diameters are different. The Latitude uses 31.6mm, so you can upgrade



## Also available



### 1) WHYTE 901 £1199

Whyte's least expensive 650B trail hardtail takes the 'confident geometry' numbers a step further, with a 66.5° head angle, a longer top tube, and shorter stays. Fork is a 130mm Rockshox Sektor Gold. [whyte.bike/gb/](http://whyte.bike/gb/)



### 2) TREK STACHE 7 £1300

This trail 29er's geometry is fairly similar to the High Latitude 20, except for a 120mm Recon fork with more offset. Wheels and tyres are Bontrager (with 15mm front hub and 142x12mm rear), gears mostly Sram X7. [trekbikes.com](http://trekbikes.com)





● Genesis High Latitude 20



● (Above) Sizes 17.5in and larger get a 100mm fork. The 16in has an 80mm fork so the handlebar isn't too high  
(Below) Both bikes use a clutch-equipped rear derailleur, which doesn't swing about over bumps



» to a dropper seatpost in future, whereas the High Latitude uses 272mm, which offers a bit more flex if you stick with a rigid seatpost.

Both bikes use an X-Fusion air fork with a 15mm screw-through axle, something that will reduce sideways flex in the front wheel and prevent it accidentally ejecting. The Latitude's fork is 20mm taller and has less offset; the bikes' trail figures end up about the same. You can adjust the forks' rebound and each has a switch to lock it out. Both had quite a bit of stiction from the seals to begin with, but they loosened up after a few rides and some silicone spray.

#### COMPONENTS

Size apart, the wheels are identical. The rims are wide, 23mm internally, so support wider tyres without them squirming or rolling off when you corner. Wider rims will be laterally stiffer too. The rim bead hook is designed for tubeless tyres, so you'll need only a rim strip, new valve, and sealant to ditch the innertube. The wheels are built with good quality spokes: double-butted Sapim ones.

Both bikes use 57mm Maxxis Ardent tyres. These all-round trail tyres coped with everything from sharp rocks to roots and mud during the test. I'd have preferred a lighter-treaded Maxxis Ikon for at least the rear of the High Latitude, as the Ikon still grips okay in mud in 29er format and it rolls noticeably better.

There's not much to say about the Shimano Deore transmission and hydraulic

brakes. Everything worked well and won't be particularly expensive to replace when it stops doing so. The High Latitude has a 38/24 double rather than a 38/26 double like the Latitude to compensate for the bigger wheels. I found the big gap between chainring sizes frustrating. If I didn't fit a single ring, I'd fit smaller outer and possibly inner rings instead; the bolt-circle diameters of 104 and 64mm would allow this, and there's scope to move the mechs.

The Latitude's riser bar is wider than the flat bar of the High Latitude. At 750mm, it's as wide as I've ever used. Most of the time I didn't really notice the difference, but it helped with steering leverage when things under-wheel became difficult. I was less impressed with the single-bolt saddle clamps of both bikes, which allowed the saddles to be knocked out of horizontal alignment easier than twin-bolt clamps.

#### RIDE

Both bikes offer confident handling. Sitting further back behind a slacker head angle makes these bikes descend far more surely than a steeper-angled bike with a longer stem, where your weight is more forward. Conversely, you need to remember to lean forward enough while climbing to stop the front wheel wandering.

This was the first time I'd ridden a bike with 650B wheels. I was underwhelmed. I can't say I noticed any real difference from 26-inch. There must be an incremental





● Genesis High Latitude 20

» improvement in rolling performance, especially over bumps, but it's small – or at least, *smaller*. At 584mm, a 650B rim is 25mm bigger than the 559 of a 26-inch rim but 38mm smaller than the 622 of a 29er rim. It's not a halfway house.

The differences between the High Latitude 20 and Latitude 20 were tangible. The 29er felt quick enough, so I took it to a cross-country race. I couldn't seem to hold the same pace on the 650B bike. On club rides, I kept drifting off the back, particularly when the trails opened out. On twisty singletrack that was more about fun and feel than efficiency, the Latitude 20 was fine. It reminded me of the now defunct Orange P7 (26in).

To check that the efficiency differences weren't just in my head, I rode the bikes back to back on a 2.5 mile circuit in Dalby Forest, incorporating much of the black-graded World Cup route and a bit of the red route. Being a tight and technical circuit, with little in the way of fast singletrack or fire roads, any momentum advantages from the bigger wheels ought, by conventional wisdom, to have been minimised.

The test was somewhere between science and sticking a finger in the air, as I don't own power cranks. I do have a Garmin Edge 500. So I rode the circuits at exactly the same average heart rate: 150bpm, a brisk pace but not racing. I did the same warm up each time, and rode with only current and average heart rates visible. Overlaying the heart rate traces afterwards, I was pleased to find they were mirror images, deviating by only a few beats at any point.

Over a 23-minute ride (it's not an easy 2.5 miles!), the High Latitude was 21 seconds quicker. That's about a second a minute, or just under 2%, faster. Breaking the rides down by the admittedly vague accuracy of Strava segments, the High Latitude made significant time on two long climbs (Jingleby Top Climb and Black Route Climb) and a



● Genesis Latitude 20

little on two up-and-down segments (Three Rock Drop and Worry Gill). The Latitude was quicker on a tricky, rocky descent (Schwartz Koff). Elsewhere there was nothing much in it.

**SUMMARY**

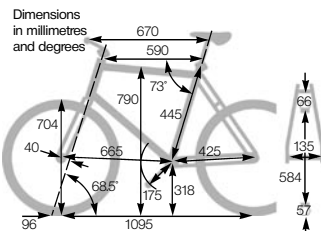
If you're not racing or riding long distances, a couple of per cent isn't a big deal. So do you want the handling feel of smaller wheels or the efficiency of bigger ones? Try both. I'd advocate riding the biggest wheels that you comfortably fit. This philosophy shows up in some bike brands, where the same model is offered with different wheels: 650B for small to medium riders, 29er for medium to tall.

Wheel size is not just about speed. Bigger wheels are more comfortable and stable on bumpy ground. (I fell off the 650B bike twice, the 29er not at all.) On the other hand, it's easier to fit more suspension travel around a smaller wheel, so perhaps 650B bikes will dominate the longer-travel trail bike market while 29ers (continue to) dominate in cross-country.

As for the Latitude 20 and High Latitude 20, either one is well suited to the muddier, more technical trails that UK mountain bikers encounter more often than riders in the USA or Continental Europe. Steel hardtails at £1200 are something of a niche – for a few hundred pounds more, you can have a full-suspension bike at a similar weight – but it's a niche that both bikes fill quite well. I preferred the High Latitude 20; it was better at the kind of riding I do more of. ●

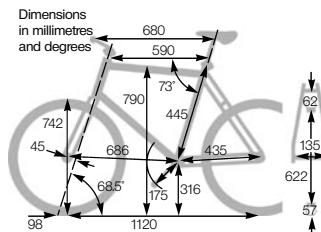
● (Far left) Bigger wheels aren't just for cross-country racing. They're fine on trail centre tracks (Near left) This is some of the Strava segment 'Schwartz Koff' on Dalby Forest's black route

**Tech Spec**



**GENESIS LATITUDE 20**

- PRICE:** £1199.99
  - SIZES:** 16, 17.5, 19, 20.5in
  - WEIGHT:** 12.73kg (no pedals)
  - FRAME & FORK:** Double-butted cromoly frame. 120mm X-Fusion Velvet RL2 fork, 15mm axle, tapered steerer
  - WHEELS:** 57-584 Maxxis Ardent tyres, Alex Volar 2.3 rims, 32x3 Sapim 2.0/1.8/2.0mm spokes, Deore M618 hubs
  - TRANSMISSION:** Deore M615 chainset 38/26, Shimano BB51 73mm, Shimano HG50 11-36 cassette. Deore M610 shifters & M615 derailleurs (GS rear). 20-speed, 20-96in.
  - BRAKING:** Shimano M447 hydraulic discs 180/160mm rotors
  - STEERING/SEATING:** 750x31.8mm riser bar, 70mmx7° stem, FSA Orbit ITA-A h/set. Genesis saddle, 31.6x400mm seatpost
- [genesishikes.co.uk](http://genesishikes.co.uk)



**GENESIS HIGH LATITUDE 20**

- PRICE:** £1199.99
  - SIZES:** 16, 17.5, 19, 20.5in
  - WEIGHT:** 12.9kg (no pedals)
  - FRAME & FORK:** Double butted cromoly frame. 100mm X-Fusion Slide RL2 fork, 15mm axle, tapered steerer
  - WHEELS:** 57-622 Maxxis Ardent tyres, Alex Volar 2.3 rims, 32x3 Sapim 2.0/1.8/2.0mm spokes, Shimano Deore M618 hubs
  - TRANSMISSION:** Deore M615 chainset 38/24, Shimano BB51 73mm, Shimano HG50 11-36 cassette. Deore M610 shifters & M615 derailleurs (GS rear). 20-speed, 19-101in.
  - BRAKING:** Shimano M447 hydraulic discs 180/160mm rotors
  - STEERING/SEATING:** 720x31.8mm flat bar, 80mmx7° stem, FSA Orbit h/set. Genesis saddle, 27.2x400mm seatpost
- [genesishikes.co.uk](http://genesishikes.co.uk)