



OFF-ROAD EVOLUTION

At the autumn bike shows, some themes stand out. Guy Kesteven considers two slow-burn trends that could break big in 2010 and beyond: trail hardtails and 29ers

Visit a cycle show or a few good bike shops and you'll see a broad range of mountain bikes drawn from disparate brands and designs. For all the visible differences, the performance these days is similar for a given purpose and price.

Hardtails still dominate the three-figure price point but past £1,000 it's all about full suspension. The modern trail suspension bike is light enough to ride all day but tough enough to survive regular rough use, and its comfort and control advantages are undeniable. Somewhere around 120mm (about five inches) is now the accepted amount of suspension travel for a 'trail bike'. It's enough to let you go much quicker on technical

descents but doesn't let you go so gung-ho you need reinforced 'downhill' equipment elsewhere.

Decent 5in bikes weigh less than 30lb and the latest carbon flagships clock in under 23lb. Regardless of each manufacturer's claims about the advantage of their patent-protected suspension system, most (including single-pivot swing-arms) are within an ace of each other in terms power delivery and control on the trail.

As for the detailing, most successful bikes share a tight tick list. Head angle of 68-69 degrees, bar width of 26-27in for extra leverage through a 90mm (or shorter) stem, and a top tube length between 23-23.5in for a medium frame. The main practical differences between most current 'trail bikes' are details such as bottle placement, mud

clearance, sizing specifics and colour selection.

Convergence is one design theme. But there's another: doing things differently. Two 'alternative' bike types are making inroads into the conventional market. One is driven by a basic mechanical advantage, while the other is fuelled by a retrograde technical step.

Twenty-niners – mountain bikes with a 700C wheel and fat tyre – have been around for about a decade now, gradually being refined and gaining market share to the point where they're a very popular option in the US. Bigger wheels roll over stuff more smoothly and the additional momentum keeps your speed higher on rough trails. A longer contact patch means more grip for climbing

2010 bikes are launched at the big autumn bike shows, such as Eurobike in Germany (above)



Left: Messe Friedrichshafen, www.messe-friedrichshafen.de



Trail hardtails like Whyte's 905 are gaining popularity among riders wanting to put the bite back into their riding

TRAIL HARDTAIL: WHYTE 905

Whyte's 905 hardtail has been the affordable, but still definitely aspirational option in their hardtail range for several years. The 2010 version uses their already proven frame/fork combo with a well-balanced, budget-aware kit package. The result is a bike that still feels special without you spending a fortune.

Frame and fork

The frame is a classic example of subtle tube shaping. The longer you look at the pure white tubing the more section and profile changes you'll see squeezed into the pipework with high-pressure oil 'hydroforming'.

The convex head-tube gives a neat low-profile front end if you want to remove the spacers and drop the bars. Swollen down- and top-tube front ends give maximum overlap and weld area to back up the stiff fork. The curve of the down-tube also gives ample clearance for fork top furniture if the wheel whips round in a crash.

The down-tube and top-tube also swage gradually through 90 degrees to give maximum joint contact on the seat-tube and bottom bracket shell respectively. It's the chain-stays where the tube moulders have really gone to town, though. They sneak through the

small chainring/tyre gap as tall ovals before flattening out and kinking inwards alongside the spokes to give heel clearance. Then they taper back to round section just in time to weld neatly onto the deeply machine-cut A-frame dropouts.

These dropouts represent the big difference between the 905 and its geometrically identical but more expensive 19 Trail brother. While the 905's are fixed, the 19 Trail uses a triple-bolt clamp arrangement to secure swinging dropouts that can be used to micro-adjust chain-stay length. The main benefit is chain tensioning on non-derailleur set-ups, but they can also tweak rear end geometry/tyre clearance slightly.

Whyte's UK designers have given the 905 plenty of mud clearance as standard, however. They've also created a unique slot-free seat-post clamping mechanism to stop rear wheel spray seeping in and seizing things. Stand-over clearance is excellent and there are two bottle mounts inside the mainframe too. Top-tube cable/brake hose routing keeps everything neat and sealed from shifter to mechs. In fact the main gripe they haven't sorted is a second hose guide on the offside seat-stay to remove the need for an extra zip-tie

and cornering too. The downside is more inertia to overcome in the first place, so they can feel sluggish at slow speeds. But get them rolling and they eat up bridleway miles with ease. The latest bikes are well balanced rather than barge-like in handling terms and there's now a good range of 29er-specific kit such as forks, wheels and tyres to choose from.

In contrast 'trail hardtails' are becoming more popular because they make you work harder than full suspension or 29er bikes. Yet by restoring the feedback, they boost the sense of achievement and thrill that most mountain bikers signed up for in the first place – without requiring the A&E-filling speed that a full suss bike needs for the same buzz. As they're lighter they feel more snappy on the trail, and with front ends designed around stiff 'screw through' axle forks, big bars and short stems they're perfect for scruff-of-the-neck riding round challenging trails. To see why these two bike types will be on more stands at the autumn shows this year, we're testing two benchmarks.

BIKE TEST

(Near right and centre) Tyre and mud clearance is good in the rear triangle, and the slot-less seat tube helps keep wheel spray from seeping in. SLX components, meanwhile, perform solidly for their price



(Above and right) Fork and wheel will flex less in turns thanks to the oversize through-axle hub

TECH SPEC

Bike	Whyte 905
Price	£1499
Weight	11.33kg (24.98lb)
Size	Medium (sizes available: S, M, L)
Colours	White
Frame and Fork	6061 hydroformed T6 aluminium, custom drawn and multi butted frame. RockShox Reba SL, Maxle Lite 120mm travel fork with Motion Control damping and TurnKey lock-out
Wheels	Maxxis Aspen 26x2.25in tyres. Whyte 905 20mm through-axle front hub and Hope II Pro Disc rear hub with Shimano XT QR. Mavic XM-317, 32-hole rims. DT Competition Butted 1.8-1.6-1.8mm black stainless spokes with brass nipples.
Transmission	Shimano SLX Shadow rear mech and SLX 44/32/22 chainset. Deore front mech and shifters. SRAM PC-971 chain, Shimano SLX 11-34 cassette.
Braking	Hayes Stroker Trail disc brakes, with 180mm front and 160mm rear rotors
Steering & Seating	Whyte Semi Lock-on grips, Easton MonkeyBar XC OS handlebar, Easton EA50 stem and seatpost. Fizik Gobi XM saddle.
Contact	ATB Sales 01424 753566 www.whytebikes.com

to keep the brake line away from the wheel. Owners wanting to fit a rear carrier rack are out of luck too.

Whyte have specified the 20mm 'Maxle Lite' screw through axle version of RockShox's Reba SL unit, which means there's no danger of deviation from the fork. By using an oversize hollow axle that screws into the offside fork leg and then expands to lock it in place, wheel rigidity across the tips is far better than a conventional 9mm QR skewer. Fork travel of 120mm cuts a good balance between race-style 100mm forks and the smooth but sometimes dive- and stumble-prone 140mm forks on more impact-oriented bikes.

Equipment

In the same 'if it ain't broke, don't fix it' vein, Whyte have changed very little of the 905's proven equipment mix for 2010. Highlights include excellent rider contact points in the shape of Fizik's Gobi XM saddle and 690mm wide Easton Monkey Lite bars finished with Whyte's own bolt-on grips. The short Easton EA50 stem is also matched to frame size to keep the steering super responsive, while the double-bolted EA50 seatpost is secure enough to handle hard 'seated' compressions.

Wheels are workmanlike too, with reliable Mavic XM317 rims spinning

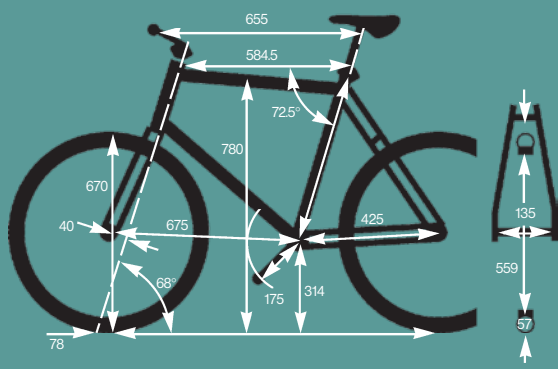
round a Hope Pro II rear hub with its customary clicky Freehub action. Shimano SLX/Deore transmission gear is functional rather than flash, but with added durability from the polish-faced cranks and tucked in Shadow-style rear mech. Hayes Stroker disc brakes are reliable if slightly basic and blunt in feel.

The major change for 2010 is a rubbery one. Gone are the chunky Panaracer Cinder tyres and in come the new superfast, high volume Aspen tyres from Maxxis.

The ride

The Aspens make an immediate difference to the ride over the 2009 Whyte and other 2010 competitors too. While they surf and slide in damper sections and you'll be wanting a lumpier tyre up front by the time the leaves are off the trees, they are blisteringly fast. Their large volume provides additional protection and pneumatic suspension at high speed and the large tyre footprint increases smooth-trail traction too. They're ideally suited to the rocky, compressed hardcore and gravel surface at man-made trail centres and are okay on tarmac.

Add a sub-25lb overall weight (very light compared to most bikes in its class) and the 905 accelerates with race-bike ease. The Hollowtech



cranks, shaped chain-stays and taut mainframe mean there's minimal power loss between you and the trail too. It's this athletic feel that's made the Whytes a standout option in the trail hardtail stakes since they were introduced, as it gives them a more vibrant and versatile ride than most.

The handling and position are classic cutting-edge trail bike. The short – and unusually upswept – stem gives a very light and easily turned front-end feel. Add the extremely accurate fork and wheel combination and it's a pin-sharp steering bike that encourages you to get your shoulders forward and push your skills. It'll wheelie and hop easily, adding an upwardly mobile element even to those who've been flightless since their last BMX session 20 years ago.

Summary

The trail hardtail sector is busier than ever with potential options for 2010 and some might look better value than the 905 on paper. Hit the trail with conviction, though, and few – if any – manage to combine the diverse demands of an aggressive 'have a go' attitude with mile-eating speed quite as well as the Whyte.



29ers have been big news in the United States for some time. But they're slowly gaining ground over here

29ER: NINER RIP 9

As their name suggests, Niner are totally committed to the big-wheeled MTB cause. With nine different 29er bikes in the family they've got the one of biggest wagon wheel ranges; only Fisher make more 29er models. The RIP 9 is Niner's mid-weight all rounder in their full suspension trilogy and delivers high-speed, high-mileage performance with stand-out smoothness.

Frame and fork

Already a very popular bike in the US, the RIP has undergone a rebuild for 2010. This naked 'Raw' finish showcases the detailing superbly. The massive 'milk bottle' head-tube, with its standard 1 1/8in top race and 1.5in lower race, allows the use of the latest tapered steerer forks. Huge trapezoid hydroformed head- and down-tube sections further increase front-end stiffness. This is a crucial area for 29ers as long forks and short head-tubes are a frame designer's nightmare in terms of trying to keep front wheel tracking tight.

Stand-over clearance is potentially a problem on big-wheeled bikes too, as dropping the top tube low reduces the resistance to twist between head-

tube and seat-tube. Niner get round this by flaring the rectangular-section top-tube dramatically once it's past the centre dip, which keeps tracking tight without stinting stand-over.

Increased stiffness is also the overriding remit throughout the rest of the bike. Forged and machined split linkages, welded into a single piece, link the mainframe and rear sub-frame and create Niner's CVA suspension architecture. Rectangular chain-stays and seat-stays are curved slightly for heel clearance, while more machining and forging creates the deep drop-outs and upper stay ends. An asymmetric Y-brace at the front of the sub-frame completes the structure. If you really want to lock the big back wheel inline as tight as possible, Niner also offer the option of a 12mm Maxle Lite screw-through axle for the back end.

Detailing includes red anodised caps for the suspension bearings, up and under bottle cage mounts and cable routing for a remote controlled height-adjustable seat-post. If the Raw alloy look doesn't agree with you, Jungle also import the black anodised options with Small to Extra Large frame options covering riders from 5'3" to 6'7".

Other trail hardtails

Genesis Core 40 £1049.95

Not as aggressively angled as the Whyte, but the Core 40 is another hard-riding hardtail option from a well-focused UK brand. Shimano SLX/XT kit drives a lightweight alloy frame and travel adjustable RockShox fork. The Genesis Altitude range also offers a suite of steel alternatives for trail aesthetes. www.genesisbikes.co.uk



Cotic Soul £470 (frame)

The original frame from one of the original UK 'micro brands', the long-fork-compatible Reynolds 853 framed Soul is still a classic ride. Top class steel ensures strength while the slim back end keeps your spine alive on long rides. www.cotic.co.uk



Orange Crush £1079.95

Basically an aluminium framed version of Orange's classic P7 steel hardtail, hardtails don't come much more surefooted and technical trail capable than the Crush. The short stem is all about instant agility while big tyres and long Fox forks keep trouble at arm's length. Orange 01422 311113 www.orangebikes.co.uk



BIKE TEST

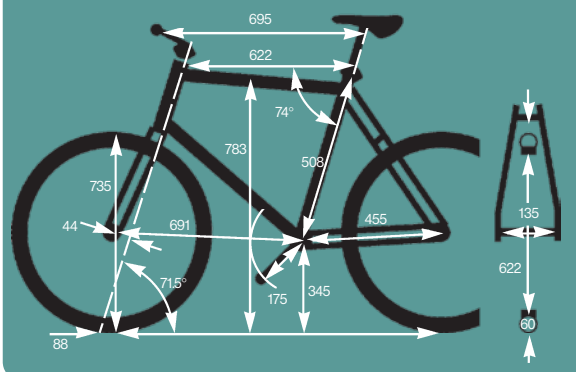
(Near right and centre) The short head tube is tapered, with a wider lower race. The Fox F29 is among the best 29er forks

(Far right and below right) Add 115mm of rear wheel travel to a 29er and you get a super-smooth ride on choppy tracks



TECH SPEC

Bike	Niner R.I.P 9
Price	£1729 (frame only)
Weight	13.37kg (29.48lb) as tested
Size	Large (sizes available: S, M, L, XL)
Colours	Raw, Milk Dud brown and Licorice (sic) anodized, Tangerine painted
Frame and Fork	Niner custom hydroformed 6061T6 alloy chassis with CVA suspension and Fox Float RP23 rear shock. Fox F29 120 RL 120mm travel fork (2009)
Wheels	Panaracer Rampage 29x2.35in tyres. Mavic C29SSMax wheelset
Transmission	Shimano XT chainset 44/32/22 and front mech, SRAM X9 rear mech and shifters. SRAM PC 971 chain, Shimano XT 11-32 cassette.
Braking	Avid Elixir CR hydraulic disc brakes. 185/160mm rotors
Steering & Seating	Niner Flat Top 710mm width bar, Syncros FL 90mm stem and FL micro adjust alloy seatpost, WTB Rocket V saddle.
Contact	Jungle 01423 780088, www.jungleproducts.co.uk



The number of 29er suspension forks available is growing, but Fox's F29s are definitely some of the best. This 2009 version doesn't get the latest weight-saving 'FIT' cartridge damping of 2010 forks, but the open bath damping is smooth and succulent over the smallest bumps. The tapered steerer tube also gives a very secure top-end-to-frame connection. We would opt for the 15mm screw-through axle version rather than the conventional QR version to take tracking accuracy right to the fork tips.

Equipment

Jungle currently supply frames rather than complete bikes so you can build an RIP up anyway you want. There are some points worth making about the spec fitted here however.

The big C29ssMaxx wheels are eye-catching thanks to their fat, flat-bladed Zicral alloy spokes, and they're reasonably stiff laterally for a big wheel. This QR version converts to 15mm screw-through by pulling out the end spacers, and there are dedicated 20mm through-axle versions as well. Sealed rims mean they're ready to go tubeless now.

The more we ride 29ers the more obvious it is that the larger contact area of the tyres needs a less aggressive tread than a 26in tyre

to maintain grip. Even in slippery conditions the extra shearing force required to break free makes tyres as chunky as the Cinders here a real winter-only resort. Switching to something smoother (our current favourites are Kenda's Small Block 8 or the Maxxis Ardent) will not only release a lot of speed but also lighten up the bike considerably.

Outside of that we've no complaints. The SRAM gears are positive and punchy, the XT chainset is a classic and the Avid brakes are powerful and well controlled. Niner's Flat Top flat bar gives all the leverage of a wide riser bar but without adding extra height to a handlebar already hoiked up above the big wheels.

The ride

With a hefty weight of over 30lb (including pedals), the 'pedal, damn it' slogan of the top tube sticker is essential advice if you want to get the RIP rolling. The heavy static weight, coupled with chunky tyres that add even more drag and inertia, mean this is a bike you really need to dig acceleration out of. Although the handling is very well balanced, the inevitable longer wheelbase also dictates a more 'bus driver' than 'buccaneer' approach to tight, wooded trails.

Once you see the RIP into a middle

ring canter or a big ring gallop, however, those big wheels turn from millstone to steamroller. With a flatter approach angle from the larger circumference, they naturally roll smoother over any roots or rocks in their path. The increased inertia also reduces the slowing effect of obstacles keeping momentum and speed much higher than conventional wheels. The CVA suspension works impressively well over square-edged obstacles such as big roots or blocky rocks too, swinging backwards and up to absorb any waiting wallops.

Add the extra stability of the bigger wheels, plus reduced chance of impact punctures, and the RIP's advantages increase exponentially the faster you're prepared to push it. This is obvious in group situations as you watch riders who initially pulled away from you struggling to hold the same pace as the trail deteriorates.

You could (and we have)

said this of other 29ers we've ridden, but where the RIP really impresses is its precision line holding. As we've stated, a screw-through fork would flatter this even further, but the tight frame and tapered head-tube were enough to put the front tyre firmly where we wanted. There's no sense of wander or yaw between the two wheels when you're banked over hard and exploring limits of tyre traction either, which is rare for 29ers.

Summary

There's no escaping the weight of the RIP, which makes it sluggish and tiring at slow speeds. Once you've got those big wheels rolling, though, there's very little that'll stop them keeping your average speed surprisingly high. Add very well balanced and impressively precise handling and the Niner is a great bike for making small work of big rides in belligerent terrain.

Other 29ers

Gary Fisher Ferrous 29er £1500

Gary Fisher were the first major brand to jump on the 29er concept and are the only brand with a double-figure range, including carbon and alloy full suspension bikes plus six different hardtails. It's this super slim, super smooth steel ride that caught our attention this year, though. Gary Fisher 01908 282626 www.fisherbikes.com



Giant XTC 29ER 1 £1400

The latest major manufacturer to bring their 29er range into the UK, Giant's two bike big wheel line up is a proper clean-sheet project, right down to their own brand wheels. Assuming they handle okay, keen complete bike prices should establish them as a very viable alternative to niche names. Giant 0115 9775900 www.giant-bicycles.com/uk



On-One Scandal £199 (frame)

Yorkshire based On-One were among the first to get 29er handling really 'right' and to free big wheelers from their previous barge-like mannerisms. The fact they did it with frames at a fraction of a cost of the opposition without compromising on trail performance is even more remarkable. www.on-one-shop.co.uk





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