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5 classic rides that never get old

Ride a Welsh epic with a modern twist

Perfect pull-ups for stronger riding

Selling success: the Athertons' new bike

BIKE TEST

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GROUP TEST

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ON THE COVER

Jamie Darlow rides the Specialized Turbo Levo SL, in Jonkershoek, South Africa. Photo: Etienne Schoeman



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mbr APRIL 2020

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The Athertons don't do things by half: Rachel and Gee have more than 50 World Cup and World Championship wins to their names, while Dan has recently built one of the world's gnarliest bike parks. Now the trio have launched their own bike brand; we head to Dyfi to check out where the bikes were conceived and tested

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92 BIKE TEST: XC RACE HARDTAILS

Race-ready out of the box, we've compiled four of the best XC hardtails that'll get you on the start line without rinsing your wallet. At around £2,200 each, we have bikes from Mondraker, Scott, Specialized and Trek on test

Do you think I'm XC?

Danny's back in Lycra for a racy hardtail bike test

It's been a while since I've worn Lycra on a mountain bike, and I'm sure you'll all thank me for that, but for this month's XC hardtail test photoshoot, it seemed like the right thing to do. And while it definitely hasn't done anything for my image, it certainly brought back old memories of hammering round race tracks on highly-efficient bikes that transform all of your energy into forward propulsion. I'm not sure whether I'm quite ready for an XC comeback just yet (I might need to fill out my leg-warmers first), but if ever there has been a time to give cross-country racing a shot, it's now. The UCI series is blisteringly competitive, with huge crowds turning up to watch the likes of Jolanda Neff, Kate Courtney, Nino Schurter and Mathieu van der Poel sprint it out for top honours. It's all brilliantly covered by Red Bull TV, so you can follow it live from the comfort of your own home, and this being an Olympic year means everyone is going to be trying to peak for the big event. At a more inclusive level, there are local XC events around the country boasting some great courses that are nothing like the old grassy fields I used to plod around. If you're thinking of giving racing a shot, check out our review of the **latest XC hardtails** on p92. And remember, the Lycra is optional.

Editor, **mbr**



Four speed machines ridden and rated

HOW TO

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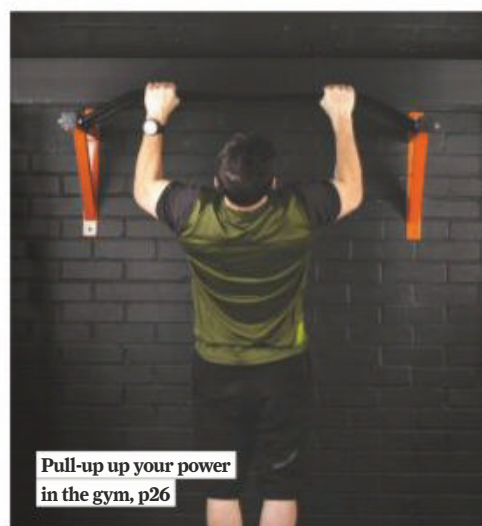
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We've teamed up with strength and fitness experts Fit4Racing to show you how to get faster and stronger on your bike: this month it's the humble pull-up, a simple and effective exercise for boosting your power

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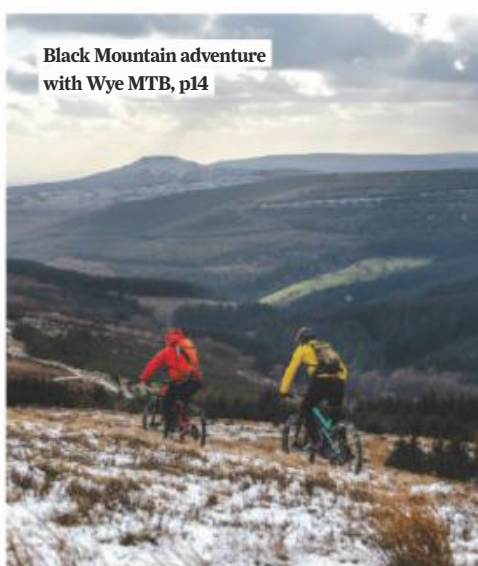
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Spending time learning to play on your bike really does reap rewards: In this final part, Andy Barlow from Dirt School unlocks the secrets of the endo, styles it up with a nose-bonk-to-manual, before taking those skills to the trail



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Black Mountain adventure with Wye MTB, p14



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The Black Mountains in South Wales offer some amazing natural riding, and now, with a little help from Wye MTB, we try and tackle four epic rides in just a single day

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Your rants, raves and witty ripostes

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Manon Carpenter and the local South Wales trail that helped hone her skills

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Big picture

A wise man once said, “An overnight bivvy takes the rush out of a dawn raid.” Sure, it was a bit blowy on the tops overnight, my shoes were frozen solid when I woke up, and I managed to pitch my bivvy on the last remaining patch of snow, but I’m inclined to agree with him. We had the trails to ourselves, the light was off the scale, and the cafe was open for breakfast by the time we returned to civilisation. Same time next week?

James Vincent



Big picture

Watching someone ride a trail they know like the back of their hand is always interesting. The lines they take, the speed they carry, the way they work the trail — it's a revealing insight into both trail and rider. This interaction between trails, riders and bike design is what the Best of British series has been all about. No surprise then, that seeing Dan Atherton riding the trails he's built at Dyfi Bike Park, aboard a bike he's been directly involved in designing was one of the highlights of the series for me.

Sim Mainey

The Buzz

Edited by **Jamie Darlow**

GEAR

RIDES

FAST & FIT

INSPIRATION

GET STARTED

PRACTICAL CLASSICS

Four of the best mountain rides in the Black Mountains and just one day to ride them



Epic downhill skip the grind but freezing winds wage a war of attrition



It's not often you get a completely new experience on a mountain bike. Riding novel trails, in unfamiliar terrain and meeting new people with Wye MTB certainly counts, but this was something else and utterly unique to me.

Stepping off the uplift run by guiding company Wye MTB in the Black Mountains, we roll into the jaws of Storm Ciara and conditions Captain Oates took his fateful stroll in. It's four degrees below zero, with 40mph winds and hail rattling off our helmets like shrapnel. Then it happens. Struggling to breathe against the wind, what feels like a blunderbuss of hail is fired straight into my pipes. Who'd have thought inhaling frozen water would be so detrimental to your riding?

In case you've not heard of Wye MTB, it's a small and relatively new company offering exclusive Land Rover-uplifted riding in South Wales, among other things. They started out in the Wye Valley with off-piste trails around the Forest of Dean, but we joined their newest venture called the Black Mountains Bomb. It takes in some classic rides, like Crug Mawr and Lord Hereford's Knob, the Black Mountain's Cycle Centre and some bits you've never heard of, all uplifted as close as possible to the tops. Is it cheating? Definitely, but

packing as much riding as you'd cover in a week into just one day should soothe the small prick of guilt for most people. We rode the descents without a twinge of guilt, and 1,500m of descending in a day is enough to tire anyone out.

"There are riders out there who've ridden the natural stuff, but now they're perhaps a little bit older and want to tackle the classic descents, but without the climbs," says Dave Windebank. "Or riders who've perhaps only ridden at BikePark Wales and now want to try some natural stuff."

It's definitely natural today. On the top of Crug Mawr, sheet ice fills in the holes of this acclaimed natural singletrack, and the wind is so strong we dare not lift the front wheel off the ground or risk being swept away. "We

THE WIND IS SO STRONG WE DARE NOT LIFT THE FRONT WHEEL OFF THE GROUND



JD's travels light and lets Wye MTB do the heavy lifting



wouldn't bring paying guests up here on a day like today," Gareth Sheppard says. "Idiot journalists are fair game though."

He's right, it's idiotic to be on the mountain tops in these conditions, especially given our feckless level of planning — designer Ben is sporting his finest summer gloves and JD has nothing but a Louri strap, and floppy water bottle shoved in his pocket. Never mind, that's what you pay professional guides for — Gareth, Dave and fellow guide Sam have packs bulging with Haribo.

Off the ridgeline on top, the wind eases and we drop down a peach of an off-camber descent, which would be rocketship fast on any other day. Waiting at the bottom is Clarky to pick us up in the Land Rover.

The Black Bomb costs £95 per rider, and for that sum you get uplifted, treated to gastro lunch at Llanthony

Priory and something like four big mountain descents. There's space for seven in the uplift and you can expect to cover 45km on the bike, with 1,550m of vertical descending.

Most of the ascending happens in the Land Rover, but it doesn't stop us hike-a-biking up to the top of Capel-y-ffin for our second mountain scalp of the day. It turns out that Crug Mawr was actually the sheltered section of the ride though, because up on the top, the wind is enough to scour every bit of heat from our bodies. I literally fly my bike like a kite, holding onto the grips and letting it hang in the air. The trail starts out mellow in gradient but with techie, rich pockets of squelchy mud surrounding islands of gnarly rocks that take care and concentration not to get hooked up on. Then suddenly it's steep as hell and we're into some seriously committed lines across techie rocks, all with a



Uplift by Land Rover
is da (Black) Bomb



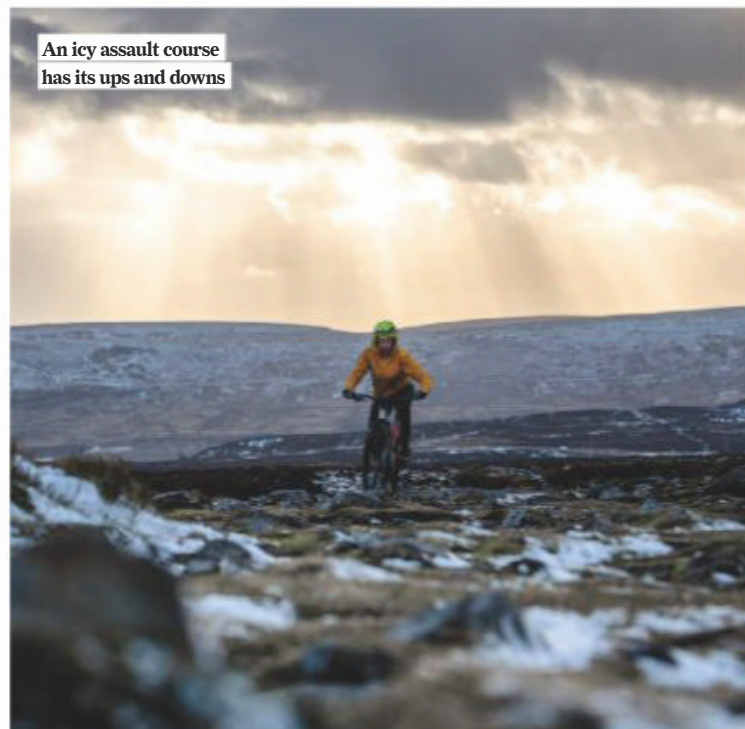
Chasing long shadows
over a winter wilderness



Capel-y-ffin calls for a
spot of hike-a-biking



Carving turns as
the clouds close in



An icy assault course
has its ups and downs

Ice, ice, JD: not even a
mouthful of hail can
slow the big man's flow

THE BLACK BOMB COSTS £95 PER RIDER AND COVERS UPLIFT, A GASTRO LUNCH AND FOUR BIG MOUNTAIN DESCENTS

sheen of snow on top. It's strangely grippy though, and I get to the bottom, silent now in the shelter of Capel-y-ffin, wishing I'd pushed harder. Ah well, there's always another hill.

The next one is Twmpa, exotically known as Lord Hereford's Knob, and in contradiction to my optimistic musings, Wye MTB won't take us up because it's even more exposed than the other two. So there are limits, even for idiot journalists. But just when I'm about to hang up my goggles, Gareth announces

we're off to the Black Mountain Cycle Centre. I'm a little worried it'll be a wasted journey, as I know it's closed on weekdays during the winter. Sure enough, when we arrive there's a 4x4 blocking the uplift. Some guides, I think.

We drive right past the uplift road though, and get dropped off close to the top for a single lap of the bike park. "Honestly they're fine with this," Gareth says. Feeling sheepish for ever having doubted them, we drop in for just one sweet lap of the blue flow trail.

It's not enough, but that's all we get, because there's just time to head out of the Black Mountains and tick off a secret trail. It's not on the official Black Mountains Bomb tour, but Gareth and Dave probably feel bad for having put us through the early stages of cryogenic freezing. It proves long, loamy and natural, and one day soon — assuming better Welsh access rights — Wye MTB hopes to make it part of the loop, but for now it has to stay off the radar.

Two days later, with my wind burn blush just fading and the sense of hearing returning to my ears, I'm already planning the next trip with Wye MTB — next on their guided rides agenda is their Back Country Enduro in the Dyfi Valley, North Wales. These guys know their country, they know the riding we all enjoy, and they know how to organise an epic ride... we will return.



WEST COAST WRAP

A move to carbon-only frames is the standout feature on Transition's ace all-rounder

The Transition Scout looks sharper for 2020: its new frame is only available in carbon-fibre, the geometry and sizing has been tweaked (slacker and longer, naturally, with Transition's favoured short-offset fork) and travel has gone up by 10mm too.

Basic bike evolution, but you might be more surprised to learn that Transition's motive for switching from alloy to carbon is not solely for performance gains.

Yes, it's easier to make a carbon frame lighter and stiffer (as well as more compliant) because it can be controlled so accurately and repeatably, but it also offers much more flexibility in terms of styling and aesthetics.

Creases, chamfers, key lines and radii can be seamlessly integrated into a frame design so that it looks like a cohesive whole rather than an assembly of parts.

"We were able to do so by way of our latex-coated EPS moulding process, which allows for much sharper lines," explains Lars Sternberg from Transition.

"We're also using a really cool blend of 24T and 30T Japanese Toray carbon-fibre in the layup to achieve certain flex and stiffness in the areas we want them without sacrificing strength or additional weight."

The new Scout still comes with 27.5in wheels, but at 140mm, travel has crept up by 10mm on the new stock bike, and by fitting a longer 62.5mm-stroke shock, it's possible to achieve 150mm.

That's a long way from the first ever Scout, which dished out 125mm, but Lars says the bike has the same feel thanks to a new leverage curve.

The Scout still uses the same Transition GiddyUp rocker link suspension, but Transition says it's now more sensitive off the top and has better mid-stroke support.

There's new geometry to back it up too: a slack 64° head angle, low 337mm bottom bracket height, and decent 485mm reach on the size large, with 510mm on the XL.

What type of rider is the 2020 Scout aimed at then? It's got modern geometry, trail-bike suspension travel, Enduro Max sealed bearings, and a new lifetime warranty on the frame, making it pretty appealing for many UK trail riders.



Low standover and deep seatpost insertion lets you upsize and still run a long dropper post

Gear mount under top tube for clean tube/tool storage

EnduroMAX bearings for increased durability are coupled with a lifetime frame warranty

NEW TWIST

Starling has landed with another hand-built UK bike, the Twist

Twist is available as a frame only and without shock for £1,770, while full builds start from £3,800

Speed Balanced Geometry pairs slacker head angles with short-offset forks to give more stable steering while keeping front tyre easy to weight

Reynolds 853 steel, front triangle hand-built in Bristol and rear triangle hand-built by ORA Engineering, Taiwan

Three sizes, with the XL featuring a big 515mm reach, slack 65° head angle, and long 1,288mm wheelbase

Remember Starling Cycles? The brand really impressed us a few years back with the Murmur, a hand-built, steel-framed, single-pivot 29er that hit the sweet spot in terms of geometry and sizing. Well, it still impresses us today, with the launch of its latest bike, the Twist. With a 29er wheel up front and 27.5in at the back, the Twist hopes to tempt riders who want the stability of a big wheel on the front paired with the acceleration of a smaller wheel out back.

“We first tried it a year ago,” explains Starling’s Joe McEwan. “Our team rider Joe just really liked it — it was a bit more manoeuvrable. So I’ve taken the front end of the 29er Murmur and used the back end of the Swoop 27.5in bike.”

Joe says the concept works because there are different gyroscopic forces at play on a 27.5in and a 29in wheel. “People say 29ers roll over stuff better than smaller wheels, but really that’s negligible,” he says.

What makes the difference is that the small wheel takes less inertia to lean it over, and it’s that which makes a mullet bike turn in more easily. Speccing a smaller wheel also allows Starling to add more travel to the bike, avoiding conflict with the rear wheel. So just like the 27.5in Swoop, the Twist has 160mm travel, and will take up to a 170mm fork on the front.

Bird cut-outs are pure custom build

Skinny steel frameset with 160mm rear travel

HOT STUFF

WHAT WE'RE EXCITED ABOUT THIS MONTH

**MOST
WANTED**

TROY LEE DESIGNS D4 HELMET £499

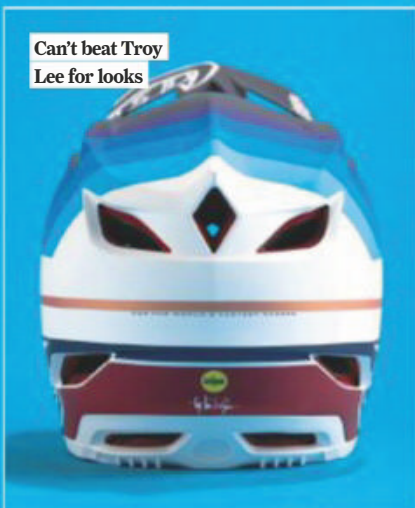
It's over a decade since Troy Lee released its iconic D3, and the brand's flagship product is still one of the best and slickest looking full-faces around. Not bad for a product designed in the Noughties — if only the iPhone 3GS had lasted so well.

All legacies must come to an end though, and with the competition gaining ground, TLD has designed the D4 with a host of tech changes, and the same great colour choices.

The biggest structural change is the use of TeXtreme for the helmet's shell — it's proprietary carbon-fibre made from thinner-layered fabric that TLD says is around 20 per cent lighter than the usual stuff. Underneath the shell is a polycarbonate layer, into which the usual EPS material goes. Unlike on the A2 open face helmet, there's no EPP (expanded polypropylene), because TLD says DH crashes happen at high speed, where you want maximum crumple-zone protection, and that's where EPS shines. Peel back the next layer and you get a MIPS liner for slip-plane protection, and finally the famously comfy pads. It's all held on with a chinstrap and titanium D-ring.

At 1,066g in size XL, the D4 isn't much lighter than the D3, despite all the modern materials, and that's because it has more material and better protection, particularly in

Can't beat Troy
Lee for looks



the chinbar. You now get a collarbone protection zone, a strip of exposed EPS on the side of the helmet, that TLD says is the most likely point where helmet meets clavicle in a crash. The airflow is improved too, with more vents — 21 in total — and there's a new mouthpiece and grill design to improve things further.

There are a host of paint options to choose from, six sizes, and a carry case for portage. It costs a fortune, but if the D4 lasts as well as the D3 you could look at it as a classy investment... just try not to put it to the test. saddleback.co.uk

Comfy pads
on MIPS liner





BUILT TO LAST

Swiss brand Suplest has branched out from road shoes to make the Offroad Pro Flat Pedal. It's made from a Kevlar-like upper material, boasts a sophisticated last for power, a BOA closure system, and its own Bear Paw 5 sole made of SUPtraction dotty profile rubber. **€169, suplest.ch**



THE BIGGER PICTURE

With the biggest field of vision in the Smith range, the Squad XL goggle is ideal for sloppy mountain biking. You get one lens with Smith's special light-enhancing tint, and one clear, and both have an anti-fog coating for steamy conditions. **£85, ultrasporteu.com**



YOUNGEST TALENT

Remember little ripper Harry Schofield's mini Jeffsy? YT has taken the concept bike to production, and it's called the Jeffsy Primus. One size, 24 or 26in wheels, 130 or 140mm travel, modern geometry including a flip-chip, and 12-speed Eagle drivetrain. **£1,599, yt-industries.com**



TERRA FORMA

The Met Terranova helmet is based on the top-end Roam helmet and features the same fitting system. You'll also get MIPS protection, a goggle strap-friendly back end, extended rear coverage, an adjustable and flexible visor, and 17 vents. Good looks and price. **£80, met-helmets.com**



BIRD IN THE HAND

Pivot's new Phoenix Factory grips are left and right-specific, with an ergonomic design that tapers from 32mm on the outside to 30mm inside. It's based on a moulded plastic shell, with holes to aid movement, and uses tacky, high-durometer rubber. **£25, upgradebikes.co.uk**



LONG PLAY

New O5 Plus Bluetooth wireless earbuds from Mifo. They're machined from aluminium, fully waterproof thanks to their nano coating, and you can pair one or both to your phone for calls. Includes a 2600mAh charging case for 100 hours of playtime. **£89.99, mifo.co.uk**



TYRE TAP

The Stan's Dart tyre plug has a two-pronged approach to repairs — filling the hole physically, while also causing a chemical reaction with Stan's sealant for a permanent airtight bond, it's claimed. **£25, paligap.cc**





CANE CREEK eeWINGS MOUNTAIN CRANKS £999.99

Cane Creek's eeWings could well be the stiffest, toughest and most expensive crankset money can buy — made from titanium, it's claimed to be 20-30 per cent stiffer than the best carbon crankset from SRAM or Race Face. Weighing in at 400g, it's lighter than the competition too, and Cane Creek is so confident in its durability, it offers a 10-year limited warranty and 30-day returns policy if you don't like it.

They are double the price of SRAM's superb light, stiff and bombproof SRAM X01 Eagle DUB chainset however, and four times the price of quality alloy options from SRAM, Shimano, Hope and DMR.

Check out bit.ly/MTBcranks for our favourite real-world alternatives.
extra-uk.co.uk

Titanium as
a work of art



Superb finish on
the bottom bracket



BIKE PARK

The Parkinglot bike hook from BBB is simple but effective. It takes any wheel or tyre size, holds it steady thanks to the bevelled centre that catches your wheel's rim, and it's never a struggle to release.

£14.95, windwave.co.uk



NEW HORIZONS

Nukeproof's excellent Sam Hill Horizon pedal has had a makeover this year — after watching his mechanic chamfer the edge off brand new pedals, Nukeproof's designers took note, incorporating the mod into the redesign for extra clearance. £79.99, nukeproof.com

SPRING CLASSICS

Five famous rides that every rider needs to tick off

SKIDDAW, THE LAKE DISTRICT, 53.6km (33.3 miles)

The Lakes in springtime: so good poets wax lyrical about it — and for good reason. A touch of snow on the fells, lambs in the fields and hosts of dancing daffodils, spring is at its finest in Cumbria. Starting in Keswick,

this ride takes you on a tour around and through the hulking Skiddaw massif. It's not going to put your tech skills to the test but it's the near definition of a classic Lakes ride and the perfect way to kickstart the season.

If you are after the best seat in the house and views aplenty then you can, of course, add in a push to the top of Skiddaw itself, starting from the car park at Latrigg.

GPS download bit.ly/skiddawroute

ELAN VALLEY, MID WALES 27.2km (16.9 miles)

The Elan Valley earned classic mountain bike location status a long time ago, so you'd think it would be ram-packed with riders every weekend. Thankfully that's not the case and most of the time you'll, somehow, have the place to yourself. That's in part down to the landscape — huge, immersive and full of quiet drama, it swallows up the crowds. Roman remains, abandoned railway lines and the impressive dams blend an industrial past with natural beauty on a route that's perfect for mountain bike-riding antiquarians.

GPS download bit.ly/ElanValleyRoute



LOST AND FOUND

You've probably noticed something a little different about our routes this month — the po.st short links we've been using for years have disappeared, and in their place is a bit.ly link. It works just the same, and takes you through to the delicious routes we've slaved over this month.

There's another change too, and this one has more impact — our routes are no longer hosted by gpsies.com, instead you'll find them at alltrails.com. Don't worry, you can still get access to all the routes old and new (there are some 344 of them at last count), wwb but they've moved. All you need to do then is set up a free account with alltrails.com and you'll be able to download the routes in the same way you've always done. Happy riding.

GLEN TILT – SCOTLAND 50.56km (31.4 miles)

A big ride for the big country. If you've ever wanted to experience the closest this country gets to wilderness without veering too far from the beaten track, this is a good bet. Technical it is not, but what it lacks in that regard it makes up for with character. If you want to add some technical riding in then you do have options; you'll have to work for it, mind. The grind, push, carry up to Carn a' Chlamain is a slog, but the descent back to the forest lodge is a lot of fun. It's probably best done as a separate ride though, at least until the clocks go forward.

GPS download bit.ly/glentilt

STANAGE – THE PEAK DISTRICT 31.7km (19.7 miles)

I've no idea what the first mountain bike route published was, but if it wasn't something in the Peak District I'd be amazed. The UK's most popular National Park is rammed with classic rides and this is one of the best. If you think classic means dull and dated, you'd be wrong. While this is a well-ridden route, the addition of Lady Cannings trail centre at Ringinglow means you can blend classic and modern into one ride. The nearby Norfolk Arms also makes for a good halfway refreshment stop.

GPS download bit.ly/stanageroute



QUANTOCKS - SOMERSET 38.5km (23.9 miles)

Some riders believe the Quantocks to have the best riding in the UK. That's quite a claim, but it's hard to argue with them. It doesn't take too much effort to find the good stuff here and following your nose is just as worthwhile as following a map. It's easy to get carried away and bite off more than you can chew in that regard and, dare we say it, an e-bike makes a lot of sense on these trails. Whatever you ride, you'll come away grinning. The best riding in the UK? You decide and let us know.

GPS download bit.ly/quantocksrout

PART
THREE

GET FIT FOR RIDING

Struggling to hold on? Pull-ups are a great way to improve bar grip and back strength

Riding mountain bikes puts a high demand on your grip and forearm strength, where fatigue can quickly lead to a lack of bike control and crippling arm-pump. Riding with a lighter, more relaxed grip on the bar can certainly help mitigate this, but there's really no substitute for boosting your grip strength.

And that's where pull-ups come in. Not only will they help increase your ability to hold on, they will dramatically improve your riding in other ways too.

Pull-ups are the best exercise for strengthening the latissimus dorsi, or lats as they are commonly known. These huge muscles on your back run

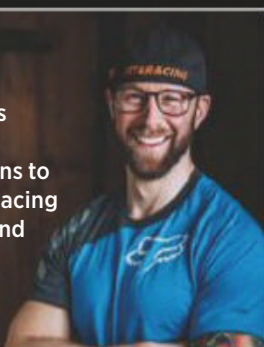
from your armpit to the base of your spine and are primarily responsible for torso rotation and shoulder stability.

Learning to engage your lats effectively through training, the pull-up will enable you to hold a more solid position on the bike for longer, which in turn will take some of the demands away from the smaller muscles in your arms and shoulders.

The combined benefits of arm and back strengthening with pull-ups can't be overlooked. Factor in the affect on your grip strength and pull-ups have incredible crossover to the demands of riding. Best of all, you only need a pull-up bar to reap the benefits.

THE COACH

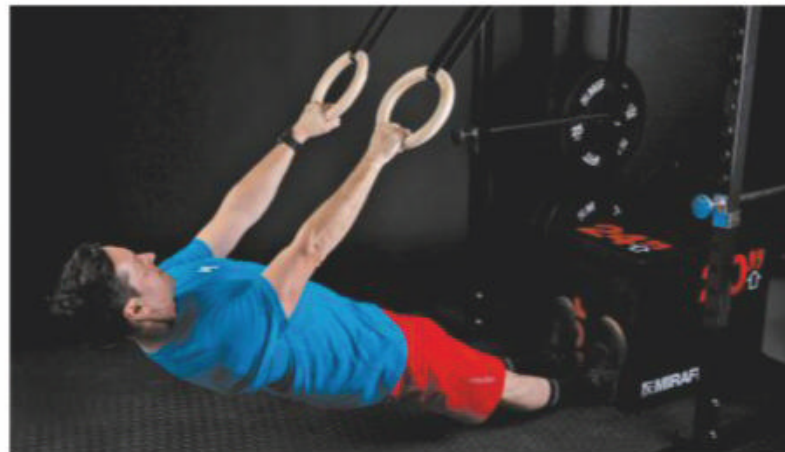
Jonny Thompson is head coach for Fit4Racing, an online fitness programme for mtb riders. Once a forensic scientist, Jonny has devoted the last 10 years to coaching athletes from Paralympians to world number one enduro racers. His main focus with the Fit4Racing team is developing and delivering fitness programmes to pro and amateur riders. Training the likes of Adam Brayton, Jonny also sends digital programmes to riders all over the world, many of whom ride professionally.



FUNDAMENTAL EXERCISE: PULL-UPS

LEVEL: 1: RING-ROWS

If you can't perform a single pull-up yet then don't fret, ring-rows are a great place to start. To perform a ring-row, engage your core, pull your shoulder blades back and down, just like at the beginning of the strict pull-up, and pull the rings to your chest. Your torso should remain ridged throughout, so don't let your bum drop down. Rows are super easy to scale, because the more horizontal your body position, the harder the exercise becomes. The carry-over to riding is also excellent as the plane of motion directly mirrors the pulling action on the handlebar.



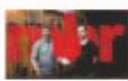
LEVEL 2: BAND-ASSISTED PULL-UP

Use the same principals outlined for the strict pull-up, but loop a band over the bar and around your foot or knee to assist with the exercise. Bands vary in thickness and strength, so choose one that just allows you to get your chin over the bar for sets of 10 reps. As strength improves, use lighter bands until you can do strict pull-ups. Make sure your foot, or knee, holds the band securely in place.



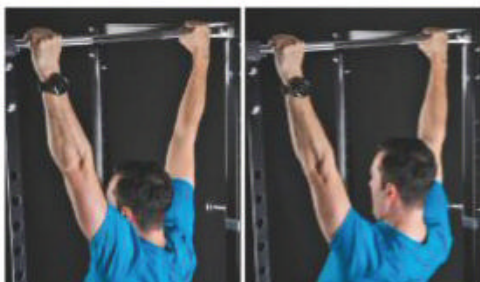


WATCH
THE
VIDEO
mbr.co.uk/
fitness



STRICT PULL-UP

Take a double overhand grip, as it better replicates the hand position you adopt on the handlebar, and encourages more lat engagement than the underhand grip of a chin-up. Hang from the bar and engage your core; you should have no tension in your arms other than your grip. Now bring your shoulder blades together (see above right) so you engage the correct muscles and execute the movement safely and effectively. Pull yourself up while remaining as vertical as possible. If you hinge back instead of pulling straight up you'll engage the traps (trapezius muscle on the upper back) too much. Remember: focus on the lats. Once your chin is over the bar, return to the starting point under control and repeat. When you can perform perfect sets of five strict pull-ups, you can add weight, either by using a dip belt or gripping a medicine ball between your thighs or a dumbbell between your feet.



NEXT
MONTH
DEADLIFTS

A HEALTHY MID-RIDE TREAT

Homemade banana, date and nut bread cheers you up and fuels the ride home

This healthy bread will provide sustained energy for your muscles, as well as lots of B vitamins and potassium. It's made with olive oil and Greek yogurt instead of butter and, if you use stevia, less sugar than traditional banana bread. The walnuts are rich sources of omega-3 fats.

INGREDIENTS

(Makes 10 slices)

- 225g (8oz) plain flour
- 3 tsp baking powder
- 1 tsp ground cinnamon
- 4 tbsp light olive oil
- 2 tbsp low fat plain Greek yogurt
- 50g (2oz) Tate & Lyle Sugar with stevia, or 100g (3½oz) sugar
- 1 tsp vanilla extract
- 2 eggs
- 2 ripe bananas
- 100g (3½oz) soft dates
- 100g (3½oz) walnut pieces

METHOD

Time taken: 70 minutes

1 Preheat the oven to 160°C/fan 140°C/Gas mark 3.

Line a 900g/2lb loaf tin with baking parchment.

2 Place the flour, baking powder, cinnamon, olive oil, Greek yogurt, sugar with stevia (or sugar), vanilla extract and the eggs into a large mixing bowl.

3 Mash the bananas and chop the dates (kitchen scissors are easiest for this) and add to the bowl. Beat the mixture for 2-3 minutes, using a wooden spoon or hand-held mixer, until well blended. Fold in the walnut pieces.

4 Spoon the mixture into the prepared tin and level the top.

5 Bake for 1hr or until a skewer inserted in the centre comes out clean. If not, bake for a further 10min. Leave in the tin for 15min, then turn out onto a wire rack to cool.



Recipe provided by Anita Bean from her book *The Vegetarian Athlete's Cookbook* (Bloomsbury)



PAUL BURWELL

PB works for The Trail Academy, a coaching, guiding and trail building company based in the Surrey Hills. For information on skills lessons, school clubs and guided rides contact: thetrailacademy.co.uk

**BEGINNER MISTAKES**

STAND & DELIVER

Sitting down may feel safer but the opposite is true, and it's faster too

I talked previously about how we get the kids in our Trail Academy school clubs to ride with their feet level. Once they've mastered that, which can take longer than you think, we then get them to stand up. If you are sat down in the saddle you can't absorb bumps with your legs and arms, shift your weight forward onto the front wheel to enhance grip, or even use your hips to pivot in a turn.

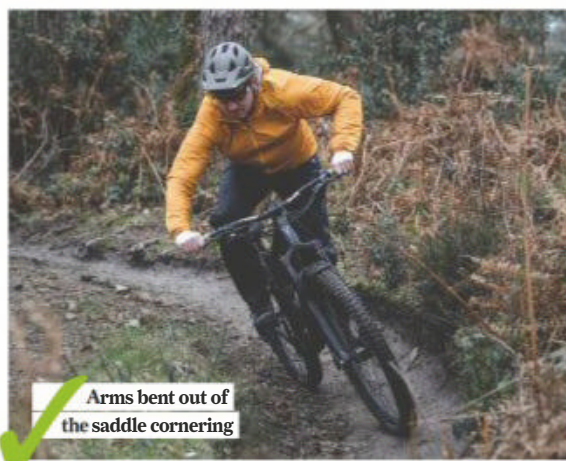
To be fair, sitting down does lower your centre of gravity, but to actually make the bike go where you want, you have to be dynamic, and the only way to do that is to vary your body position. It's not a surprise that one of the heaviest bits of our bodies is the bum, so if we can unglue this from the saddle then we have a good chance of deciding where the bike is going to go, not the other way round.

The big problem with putting things into practice is most kids (and parents, for that matter) only remember one thing, which means if you're learning several new skills — like stand up, feet level, lean forward and bend your arms — you will need to practise and repeat these things over and over until they become second nature. This is why skills coaches break things down so you can focus on a single task, master that, then add another and another until you build up a pattern of behaviour.

ARMS BENT

The next step in our process is to ride with your arms bent, and for the kids we describe this as riding with monkey or muscle arms. We use this slightly funny phrase as a memory aid. With adults I reinforce the message by getting them to do the same thing, but then I often flip it around and get them to ride a corner with their arms totally straight and locked out.

I know what you are thinking — that's going to be awkward and could be slightly dangerous. But the number of riders that try and ride corners like this will surprise you. I am not suggesting bending the elbows to 45°, just 20-30° is enough.

**BE RELAXED**

Practising a new skill is fun but there is always a negative, and the thing we see most often is an increase in body tension, which manifests itself in two ways — riders grit their teeth as well as the bar, almost like they're holding back the gates of Hades. We talk about loose hands at the club and think of this like holding a knife and fork, we want to stay relaxed and compliant.

I know our riders are not going to get all these things dialled first time out, but if they relax, stand up and bend their knees, and lighten their grip, they'll not only look like a decent rider, they're going to feel like one too and that's a step closer to being one.





WORLD CUP PROVEN



NEW BIKES

First rides

SWINGING A LEG OVER WHAT'S HOT THIS MONTH

SPECIALIZED TURBO LEVO SL EXPERT

£7,499 / 29in / [specialized.com](https://www.specialized.com)

NEED TO KNOW

- At 4kg lighter than the regular Turbo Levo, the SL rides more like a conventional trail bike
- New motor and 320Wh battery plus 160Wh range-extending battery
- 150mm travel front and rear, 29er wheels, 2.3in tyres, no mullet option
- Similar geometry and sizing to the Turbo Levo
- Improved Mission Control app
- Four full carbon options, one alloy option

Added watts without extra weight is Spesh's quest — has it found the e-bike holy grail?

How do you make an e-bike feel like a normal bike on the descents? Crack that nut and you're made. E-bike designers have been wrestling with this for years, shaving grams off their bikes to try and remove the weight most riders feel prohibits great descending prowess. They've struggled though, as most e-bikes we've ridden weigh well over 20kg, so the unicorn bike still remains elusive, even if Lapierre has got close with the eZesty.

Step forward the Turbo Levo SL, a bike that weighs as little as 17.3kg in the S-Works model and genuinely descends like a normal bike. It's not perfect; 17.3kg is hardly svelte in non-e-bike terms, and there are some power and battery life compromises to be made, but this is an eye-opening new bike that could well

start a new race to ever-lighter weights.

Specialized developed the new bike in tandem with the Turbo Levo; it joins the Turbo fleet alongside the DH-ready Kenevo we showed you last year. The Turbo Levo SL uses a different motor to those bikes, a Specialized-developed drive unit called the 1.1 that delivers a peak power of 240W with 35Nm max torque. That's less than half that generated by the full-fat Turbo Levo. They've taken pains to protect the motor, using marine-grade radial seals, and the motor is wrapped in a Gore-Tex liner to keep it dry and still allow it to dissipate heat.

The bike has less battery capacity than the standard Levo too, with a 320Wh cell hidden inside the down tube. It is possible to remove the battery pack and charge it off the bike, but — unlike on the Turbo Levo — you have to remove the motor first... best charged on the bike then. That's not all the juice you get though — slot the range-extender battery into the bike's bottle cage, connect to the bike through the charging port above the motor and you instantly gain an additional 160Wh of power. One's included with the S-Works model, two with the Founder's Edition, and they are available aftermarket for £300 for anything lower down in the range.

All of the Turbo bikes from Specialized hook up to a Mission Control app that lets you customise the power output



Power and battery life display recessed into top tube



New 1.1 motor cuts weight but also slashes power



Tight switchbacks allow the Levo SL's agility to shine



and set-up. For the Turbo Levo SL the app is even smarter — punch in your ride distance or duration and it will balance the power output for you. The range is more accurate now because you can add the elevation you're covering too. It'll do the same thing with your heart rate: set your desired training range and the bike will increase or decrease the power to keep your heart rate within your desired range. Most importantly though, you can reduce the power of the motor to anything you like, so riding with friends on regular bikes should become more 'friendly'.

In terms of geometry, the Levo SL shares almost all of its numbers with the Levo, except that it has shorter 437mm chainstays, which Specialized has managed thanks to the more compact motor. It also shares the geometry adjust in the shape of the shock-eyelet flip-chip, so you can change the head angle by half a degree and alter the bottom bracket height by 6mm. The kinematics are very close



It's impossible not to enjoy riding the Levo SL

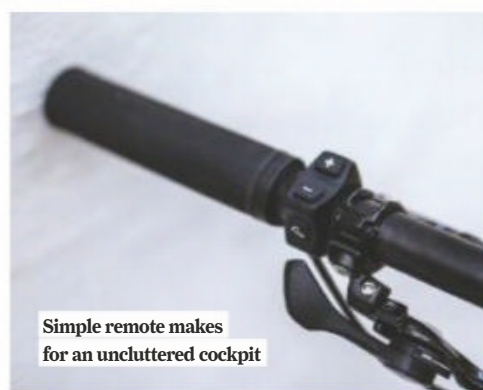
to the Stumpjumper, meaning the 150mm suspension is fairly linear.

HOW IT RIDES

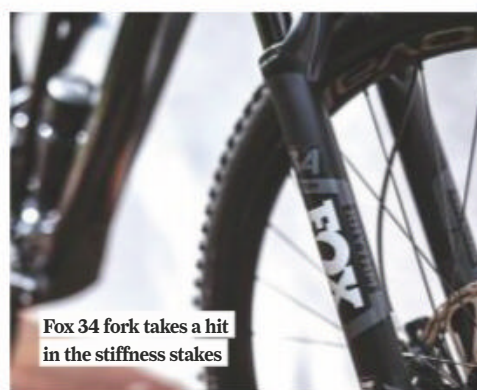
With half the power of the Turbo Levo, climbing does feel underwhelming if you're used to a fully fledged e-bike. There's no thrilling surge of power when you're climbing on singletrack, instead it subtly supplements your efforts without that on-off feel so many e-bikes generate. Half the power doesn't mean it's half as fast on the climbs though. With much less weight to lug up the hills and almost no drag from the motor, it's more like riding a regular e-bike on Trail mode, rather than Turbo, which is



Bottle cage-mounted range extender offers an extra 160Wh



Simple remote makes for an uncluttered cockpit



Fox 34 fork takes a hit in the stiffness stakes

good enough for most situations. The bike delivers that power in a smooth, controlled way too, responding instantly and naturally.

The payoff for the reduced power of course comes on the descents, where the Levo SL leans heavily on its Stumpjumper heritage. The reduced weight means it's far easier to flick the bike between turns than the Turbo Levo. It feels nimble, fun, and there's less incentive to boost out of corners on full gas. Instead you have to ride it properly, like a normal bike, maintaining your speed.

One of the new motor's cleverest tricks though, is what happens when you ride beyond the limiter. The cut-off is so smooth you really don't feel it happening, and it makes the bike seem very natural on fast descents. Specialized says it reduces the motor's support on the descents and flat sections to make the sensation of riding feel all the more normal. Truly, it's impossible to tell when the motor cuts out when you ride it beyond the speed limit. Presumably, power tapers before the cut-off speed to achieve this refined feeling.

Faults? Specialized has tried to deliver the best trail bike for the lightest weight, but in the process it has sacrificed maybe just a bit too much. Gone is the Fox 36 from the new Turbo Levo, and instead we get the spindly 34. The 2.3in tyre up front rather than a 2.6in feels like weight scrimping too, and is lacking in

grip. The sizing is conservative too, and means riders over 6ft will struggle to feel at home on the Levo SL, and I'd have been happier if they'd left the chainstays longer or steepened the seat angle, for better climbing.

Who will buy a Turbo Levo SL? It's hard to say, but I'd hazard a guess that it won't be existing e-bikers. They've already tasted the forbidden fruit of free power, and it's hard to go back from 500 watts to just 250. That leaves riders who've yet to try or to get on board with e-bikes. Fortunately, that's by far and away most riders out there. Putting the doubts to one side though, it's hard to stop riding the Levo SL, and impossible not to enjoy it. To be able to ride up the hills like a pro racer, yet ride down them again on a bike that feels as agile as any naturally aspirated model, is incredible. It's not quite the unicorn we've dreamt of, but it comes beguilingly close.

Jamie Darlow

mbr

1ST IMPRESSION



HIGHS

Feels like a normal bike on the descents, but with the advantage of a little help on the climbs. Great app support, attention to detail and looks.



LOWS

Lower powered than e-bikers are used to. Missing decent tyres and a more robust fork. The sizing is dated.

SPECIFICATION

Frame FACT 11m full carbon, 150mm travel

Shock Fox Float DPS Performance

Fork Fox 34 Float Performance Elite FIT4, 150mm travel

Motor Specialized SL 1.1, 240W peak output, 35Nm max torque

Battery Specialized SL1-320, fully integrated, 320Wh

Display Specialized TCU

Wheels Roval/DT Swiss 370 hubs, Roval Traverse Carbon 30mm rims, Butcher Grid Trail/Eliminator Grid Trail 29x2.3in tyres

Drivetrain Praxis M30 cranks, SRAM X-Sync Eagle chainring, SRAM GX Eagle mech, shifter and cassette

Brakes SRAM G2 RSC four-piston, 200/180mm

Components Specialized Trail 780mm bar, Specialized Trail 40mm stem, X-Fusion Manic 170mm post, Bridge Comp cro-mo saddle

Sizes S, M, L, XL

Weight (size M) 17.5kg (38.5lb)

GEOMETRY

Size ridden XL

Rider height 6ft 1in

Head angle 66°

Seat angle 74.2°

BB height 348mm

Chainstay 437mm

Front centre 811mm

Wheelbase 1,248mm

Top tube 663mm

Reach 480mm

PIVOT SWITCHBLADE 29 PRO XT/XTR

£8,100 / 29in or 27.5 Plus / upgradebikes.co.uk

NEED TO KNOW

- The latest version of the classic Switchblade trail bike has 142mm travel married to a 160mm Fox 36 fork
- Comes stock with either 29in or 27.5 Plus wheels, while retaining the ability to switch between both options
- Reconfigured DW-Link suspension with vertical shock position improves standover clearance, allows for longer dropper posts and provides space for a full-size water bottle, even on the XS frame
- New Pivot Phoenix handlebar, stem and grips make for a dialled cockpit with size-specific bar widths: 760mm(XS), 780mm(S-L), 800mm(XL)

With upgraded suspension and geometry, is the new Switchblade a cut above?

Before Chris launched Pivot Cycles in 2007 he owned and ran another successful bike company: Titus. And it was there that the original idea for the Switchblade was born.

Back then the Switchblade was a full-suspension bike with adjustable travel, with the short-lived Fox Talas shock providing — in theory — a bike that could be used for XC racing one day, trail riding the next.

And while Chris freely admits that the original Switchblade never really fulfilled its two-bikes-in-one promise, the idea of versatility appealed to him.

Fast-forward to 2016 and the Pivot Switchblade launched amid a raging wheel size debate, born again as a 135mm-travel trail bike with the option to run 27.5 Plus wheels (with up to 3.4in tyres) or 29in wheels in the same frame. And while Pivot may well have been hedging its bets, as no one knew which way the market would go, the new 2020 Switchblade retains that same duality.

Granted, the rear end on the latest version only has tyre clearance for 27.5in wheels with 2.8in tyres, but some of the features that were pioneered on the previous Switchblade remain. Take the 12x157mm Super Boost hub spacing for example; the wider hub offering more balanced spoke tension, resulting in a stronger rear wheel that is stiffer laterally and more compliant radially.

But a wider rear end means less heel clearance, right? Not so. It's been my experience on the Firebird 29, and now the Switchblade 29, that Pivots have arguably the best clearance of any bikes I've tested, and that's even with a regular spaced chainset fitted.

Travel on the latest version has been upped to 142mm and the biggest change, at least visually, is that the shock is no longer inline with the top tube. The new vertical location offers improved standover clearance while opening up space in the front triangle for a full-size water bottle, even on the XS frame.

No refresh would be complete without making it longer, lower and slacker. Take a closer look at the geometry chart though and the biggest changes in reach have actually been made on the smaller sizes: the XS and S

growing by 20mm, the M by 15mm. Then the L creeps up by 10mm, while the XL only increases by 5mm.

The new frame retains the asymmetric suspension chip for adjusting the geometry, and combined with a 17mm head tube spacer, Pivot can mirror the geometry of the 29er on the 27.5in Plus version that sells for the exact same price. But even with the 29er in the low geo setting, the 346mm BB height isn't particularly low for a 142mm-travel bike.

HOW IT RIDES

First impressions are important. And two things that instantly struck me about the ride of the new Switchblade were the fit and suspension. So let's deal with both separately and in that order.

With a 470mm reach on the size L, the Switchblade has modern sizing without claiming bragging rights to the title of 29er trail bike with the longest reach.

And while I could comfortably have ridden the XL Switchblade — thanks to the relatively short seat tube and generous standover clearance — at 5ft 11in I really shouldn't be on the biggest bike that Pivot produces.

Also, this is a trail bike, not an enduro-race 29er. As such, it's designed to ride trails that aren't simply up fire roads and straight down the steepest part of the mountain. So you need to be able to keep the front end loaded on trails with a mellow gradient. With the short 431mm rear end, the size L didn't just fit

Vertically mounted shock improves standover clearance







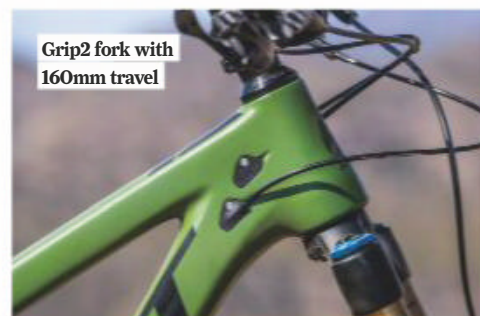
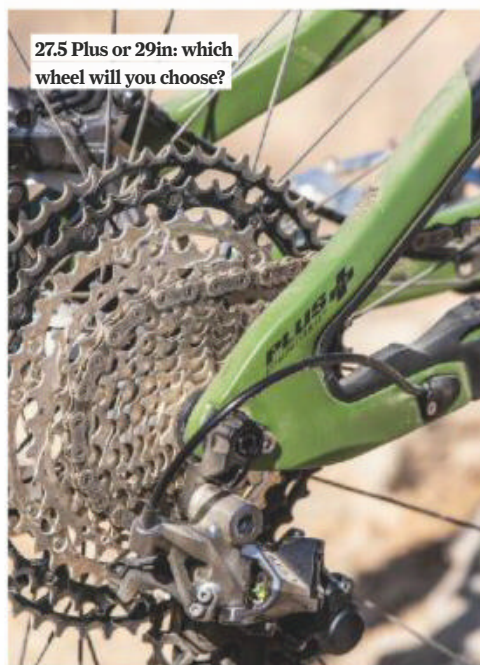
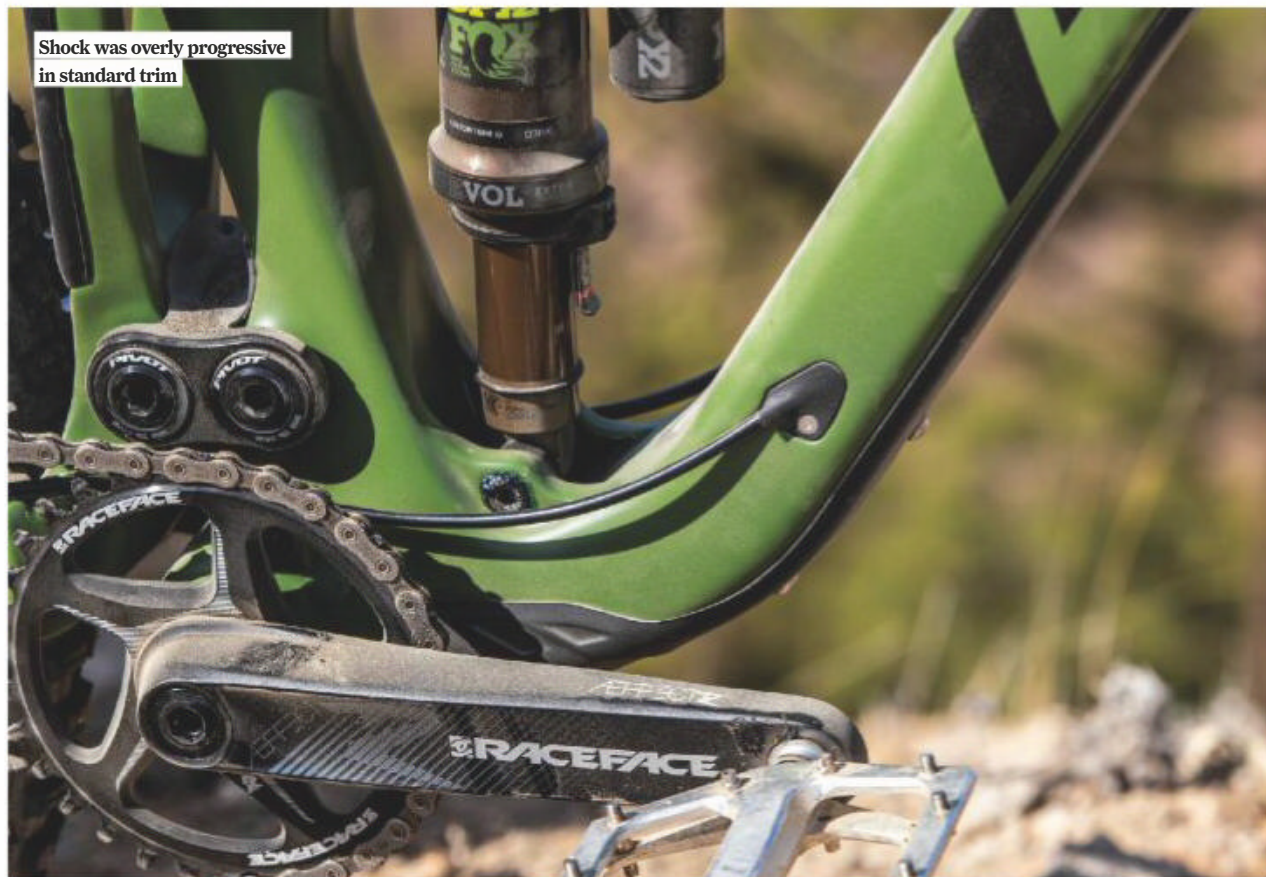
The Switchblade is a versatile trail weapon

well, the weight distribution between both contact patches of the tyres was spot on too.

I could apply enough load through my feet to keep the front tyre weighted, so it didn't push through on flatter corners, and the bike wasn't so long that I struggled to get off the back when needed. If the front end were longer or slacker that balance could easily be upset, and it begs the question, should the XL have a longer rear end? The short answer is, probably.

Now let's take a closer look at the suspension. With a 160mm-travel Grip2 Fox 36 up front, the Pivot certainly isn't lacking in steering precision or control. In fact, the 36 chassis should be the go-to platform for 29er trail bikes due to the increased leverage the bigger wheels place on the fork. And when Fox introduces the 38 for enduro bikes, I'm sure that we'll start to see the 36 on bikes with 140mm travel.

It's the rear suspension where the real progress has taken place, though. Pivot worked closely with Fox to develop valving for the DPX2 shock that makes it less prone to choking on



The Switchblade is one hard-hitting trail bike

high-speed hits. It's a big improvement, but Pivot has negated some of the benefits by making the spring curve too progressive. The shock comes stock with the 0.6in volume spacer, and even with the correct sag achieved with the neat sag indicator, I wasn't able to use the final 10mm of shock stroke. On the second day of riding I went down to a 0.4in spacer and things improved, but I still couldn't get the full 142mm travel, so probably the 0.2in spacer would have been spot on.

And it makes complete sense. Pivot has made DW-Link suspension on the Switchblade more progressive so you have the option to fit a coil shock, so it shouldn't need the bigger-volume spacer in the air shock. Granted, lighter riders running lower shock pressures, or

faster, more aggressive riders, may need extra bottom-out resistance, but the stock combination is too progressive for regular riders to make effective use of all the available travel.

Fitting a smaller-volume spacer is an easy, inexpensive fix though, unlike the Shimano brakes. I'm now convinced that a big part of the problem with Shimano's variable bite-point is that the rotors continually reset the pistons in the calipers as you ride. This was really noticeable and annoying on the trails in Gran Canaria, as the volcanic rock knocked the wheels about more than normal, resetting the pistons frequently. And when grip is in short supply, the last thing you want is to be guessing when the brakes are going to kick in.

The Shimano brakes are the only issue with an otherwise flawless specification, though. The new Pivot Phoenix bar, stem and grips are on the money. The Reynolds carbon wheels and Maxxis tyres are first rate and the Shimano drivetrain never missed a beat, though we did find out that the carbon outer jockey wheel plate on the XTR derailleur does not like flying rocks.

Ultimately, I'd like more time to get the rear suspension on the new Switchblade dialled to my liking, as I was just getting to grips with it on the loose, rocky terrain when it was time to go home. The extra shock progression was not enough to detract from the overall ride quality of the bike, though. The Switchblade 29 is one hard-hitting trail bike that's been designed to tackle the most challenging terrain. And while it could easily turn its hand to a spot of enduro racing, it retains the agile handling of a precision instrument.

Alan Muldoon

mbr 1ST IMPRESSION

✓ HIGHS

Playful, versatile trail bike that isn't phased on fast, rough trails.

✗ LOWS

Inconsistent bite-point on the Shimano XT brakes make it hard to modulate speed.

SPECIFICATION

Frame Hi Mod carbon, 142mm travel

Shock Fox Factory Float DPX2

Fork Fox Factory 36 Float Grip2, 160mm travel

Wheels Industry Nine hubs, Reynolds Blacklabel Enduro Wide carbon rims, Maxxis Minion DHF/DHR II 29x2.5/2.4in tyres

Drivetrain Race Face Aeffect 32t chainset, Shimano XTR M9100 r-mech and XT M8100 shifter

Brakes Shimano XT M8120 four-piston, 203/180mm

Components Phoenix Team Carbon 780mm bar, Phoenix Team 50mm stem, Fox Factory Transfer 175mm (L/XL), Phoenix WTB Pro Vigo (L/XL)
Sizes XS, S, M, L, XL
Weight N/A

GEOMETRY

LOW SETTING

Size ridden L

Rider height 5ft 11in

Head angle 66°

Eff Seat angle 75.5°

BB height 346mm

Chainstay 431mm

Front centre 785mm

Wheelbase 1,216mm

Top tube 638mm

Reach 470mm

KINESIS RISE SLX

£3,200 / 29in / kinesisbikes.co.uk

NEED TO KNOW

- Aluminium e-hardtail that uses the Fazua Evation drive system with removable motor and battery pack
- X-Fusion's E-Slide 34 suspension fork delivers 130mm travel and comes with the shorter 44mm offset
- Three off-the-shelf builds available, with prices starting at £3,200 and topping out at £4,500
- Weight is 20.2kg with the Fazua motor and battery fitted

An e-bike that looks and rides like a cutting-edge hardtail? Sound intriguing...

One of the first e-bikes we tested at **mbr** was an e-hardtail, but we've not tested one since. Why? For the simple reason, we don't think they really work. Yes, we understand they're lighter, simpler and cheaper than full-suspension e-bikes, but with that first and only test, we quickly realised that the extra power and associated increase in speed means you take a battering uphill as well as down. It's a pretty simplistic view, but one that's reinforced by the distinct lack of e-hardtails out on the trails. Why then has Kinesis just launched an aggressive e-hardtail and, more importantly, why are we featuring it?

The Kinesis Rise isn't just any e-hardtail. It uses the modular Fazua Evation drive system, with its low-power motor and compact battery. The motor and battery combine to form the Drivepack, a unit that can easily be removed from the frame and replaced by a blanking plate, quickly transforming the Rise into a conventional hardtail — albeit a heavy one at 16.73kg. Add the Drivepack and this increases to 20.23kg — only about 10 per cent lighter than many full-sus e-bikes.

And while it's lighter than a conventional e-hardtail, it also has less power, so we wanted to find out if this concept makes more sense. By toggling through the top-tube mounted Remote FX control, you have access to three power modes: Rocket, Breeze and River, offering a claimed 400, 250 and 125 watts of assistance respectively.

This is around 150W less than a regular e-hardtail and the motor also has less torque — 55Nm compared to 65-90Nm. So even in Rocket mode, the power of the Rise doesn't feel as strong as Eco mode on some regular e-bikes.

The 250Wh battery has around half the capacity a conventional e-bike, but Kinesis claims it'll manage 1,000m of climbing with a 55km range. Mixing power modes on our first few rides delivered roughly a 2.5-hour run time, but obviously this will vary with rider weight and trail conditions.

The reduced power means you have to work a bit harder, and it also doesn't have that surge of acceleration you feel with a conventional e-bike. In fact, the Fazua motor has a really smooth power delivery, so you rarely wheelspin. But you also can't take any liberties with this bike, as you have to ride the Rise more like a conventional bike. Which is exactly what it's been designed for. In some ways the Kinesis Rise is like the new Specialized Levo SL: a bike that is going to make climbing a little bit easier but with a more normal ride quality on the way back down.

It's lighter than a conventional e-hardtail but has less power

The drive unit is impressively compact





NEW BIKES



You can remove the battery and motor for a pure ride

It may seem trivial but what I really like about the Fazua system is you can clean it without too many issues. Kinesis has also developed a neoprene down-tube wrap to stop mud getting inside the system, and it also recommends flushing out dirt from inside the bottom bracket driver after cleaning. Best of all, you can remove the Drivepack in seconds if you want to take the battery indoors for charging, swap in a spare out on the trail, or just want to ride the bike around like a conventional hardtail.

In fact, that's the beauty of this system, it just feels so normal. There's very little extra friction in the drivetrain and when you're flowing down a section of singletrack the Rise responds just like a regular hardcore hardtail. It looks like one too, and I reckon that its clean profile has generated the most interest. Like the Specialized Levo SL, the Kinesis is closer to a regular trail bike — not just



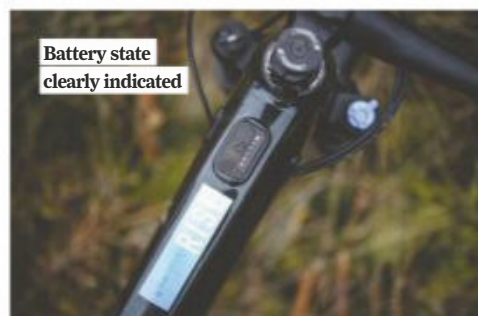
Feels more like a non e-bike when the trail heads downhill



Unprotected wires are not an issue according to Kinesis



Drivepack is a cinch to remove



Battery state clearly indicated

SPECIFICATION

Frame Kinesis aluminium
Fork X-Fusion E-Slide 34, 130mm travel
Motor Fazua Evation 250W, 55Nm
Battery Fazua Evation 250Wh
Display Remote FX- Rocket, Breeze and River modes
Wheels Sector 9E E-specific hubs, Sector 9E WT 35mm rims, Maxxis Minion DHF/Aggressor 29x2.5in tyres
Drivetrain FSA 32t chainset, Shimano SLX r-mech and shifter
Brakes TRP Slate T4, 180mm
Components Alloy low-rise 780mm bar, 45mm stem, X-Fusion Manic 150mm post, DMR saddle
Sizes L1, L2, L3, L4,
Weight 20.23kg (44.6lb)

GEOMETRY

Size ridden L2
Rider height 5ft 10in
Head angle 65.3°
Seat angle 74.5°
BB height 325mm
Chainstay 442mm
Front centre 803mm
Wheelbase 1,225mm
Down tube 740mm
Top tube 630mm
Reach 461mm

I reckon that its clean profile has generated the most interest

in terms of power output and assistance, but also in its aesthetic.

As the name suggests, this model has a Shimano SLX build, although the crank is from FSA and the brakes are four-piston TRP Slate T4s. The bike is fitted with a 130mm-travel X-Fusion E-slide fork and gets a grippy 3C Maxxis Minion DHF up front and a fast-rolling Aggressor tyre on the rear. Both are the 2.5in WT (Wide Trail) versions to add extra cushioning and comfort.

Rather than using conventional seat-tube sizing, Kinesis offers the Rise in 'Size by Reach,' which means four different lengths called L1, L2, L3 and L4. Our test bike was an L2, which roughly translates to a medium with a 461mm reach.

But let's get back to the core discussion. The reason we don't think high-powered e-hardtails work that well is because you tend to sit down more on an e-bike when climbing, and with only the rear tyre for comfort, they really have a harsh ride when going uphill faster than normal.

The Rise isn't really like that though; less power means you're not slamming into stuff at the same speed on the ascents. Sure there were times, especially on the steepest climbs, when I missed the jet fuel you get from a regular e-bike, but if you want to earn your turns, the Kinesis Rise lets you do just that.

So the Kinesis Rise joins the Focus Raven, a 14kg e-hardtail, the fully-suspended Lapierre eZesty and, more recently the new Specialized Levo SL in a select club of low-powered e-bikes that adopt modern technology without losing the ride quality of a traditional mountain bike — all that remains to be seen is if this is what riders actually want.

Paul Burwell

mbr 1ST IMPRESSION



HIGHS

Simple modular drive system, removable battery for home charging, doesn't look like an e-bike.



LOWS

Not particularly light. Tall bottom bracket. Seat quick-release is unnecessary.

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Printed by Walstead UK Limited. Registered at the Post Office as a newspaper.

mbr is published 13 times a year on every fourth Wednesday.

If you have trouble finding an issue at your newsagents, please call
Distribution on 020 3148 3333.

mbr incorporating Mountain Biker International, Bicycle Magazine,
Performance Cyclist and The Bike Mag, a part of TI Media Ltd, is published 13
times a year on every fourth Wednesday of each month by TI Media Ltd, 161
Marsh Wall, London E14 9AP.

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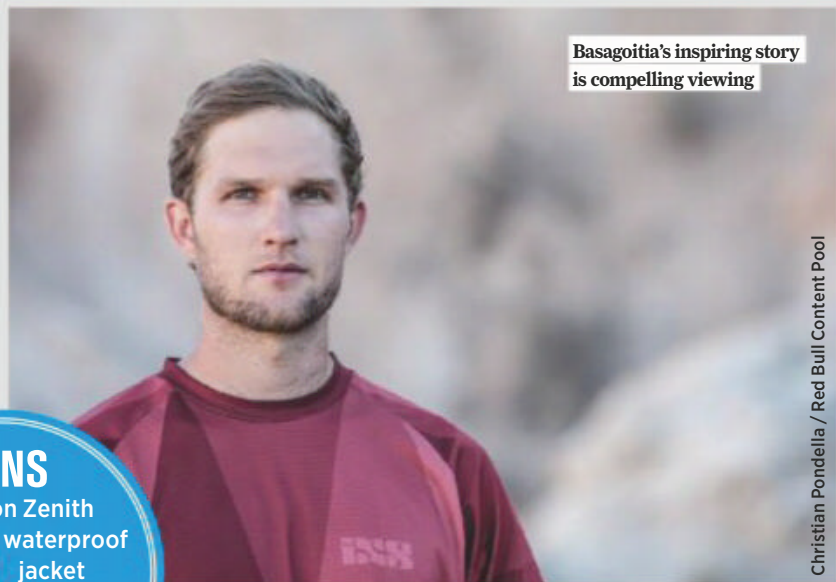
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★ STAR LETTER ★

LIFE-CHANGING E-BIKES

I've never felt compelled to write in before but have just watched a video online, which has done just that. It is called "Back on the Bike" and is the incredible story of Paul Basagoitia, who broke his back at the 2015 Red Bull Rampage and spent years learning to walk and ride again. What struck me was his use of an e-bike. The debate rumbles on like the wheel size debate, but surely the fact that e-bikes allow people to ride until they're older, and indeed aids their recovery from spinal injury, is enough to put it to bed?

I know it is for me. I encourage anyone to take nine minutes out of their day to watch it. Inspirational. Recently I found a 2013 edition of your mag at



Basagoitia's inspiring story is compelling viewing

Christian Pondella / Red Bull Content Pool

home which I'd kept for a route plan. It still had the same strap line on the spine of "Just get out and ride!" — e-bike or not, surely that's what it's all about? Keep up the good work,
Alistair Robinson

Ed — there's only one word for it, 'humbled'. You're right, Paul Basagoitia really is inspirational in his commitment to get back to riding. What struck me watching this video was just how much we take for granted — just pedalling a bike is something to be treasured.

MTB MEETS MTV

My name's Ben and I love your videos and watch them all the time! I play in an indie/rock band from Belfast, Northern Ireland called 'The Left Backs' and we've just released our new single 'Reminisce' today (February 7). I'm getting in contact with you as we would love it if you were able to use the track in any of your videos!

I've attached the Spotify link and an mp3 of the song so please check it out and let me know what you think.
spoti.fi/2vXq8W2

Ben

Ed — Thanks Ben, sounds good and it's practically guaranteed to be the best music we've ever featured — although you're up against ITV's *The Bill* theme tune, *Holding Out For A Hero* by Bonnie Tyler, and generic lift music.

ROUTING AROUND

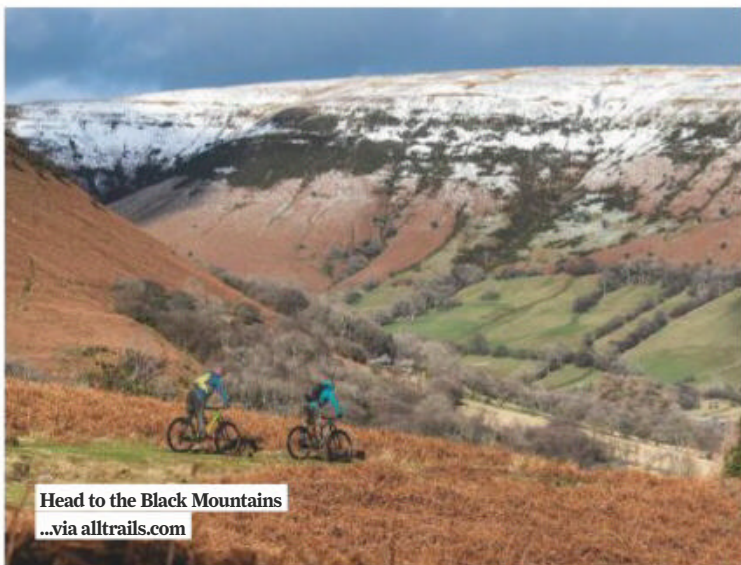
Noooooooo, where have all your routes gone?! What with this awful winter weather we're being subjected to and

the lack of daylight in the evenings, weekend riding has become even more precious, indeed it is the highlight of the week at the moment. Having rinsed most of my local trails, I was leafing through some of last year's copies of your magazine hunting for another **mbr** ride/adventure to go on.

I found an excellent candidate right on my doorstep in your Black Mountains loop. Brilliant, I thought... but then... noooooooo, the po.st service has been removed! Where do we get all those wonderful routes you shared with us?! I'm devastated. It was such a valuable archive. Can we access the routes anywhere else? It's such a shame as I often refer back to old copies of the magazine and hunt for these as it's really handy and inspiring. Please help!

Joe Heaven

Ed — Joe, never fear, spring is on the way, the nights are getting lighter, and you can still get access to the **mbr** routes. You can breathe again. The link shortener po.st doesn't work anymore,



but you can still find all our trails at alltrails.com/members/mbrmagazine — you do have to set up an account to download the GPS files, but it's free and you can view them all on a map, or search by area to find the one you want.

EBAY THIEVES

I have recently had a couple of bikes stolen: my own treasured one and my son's that he just got for Christmas. Since then, my bike has come up for sale on eBay and is still currently live. My concern is that the seller has a few years of selling high-end bike components, which are possibly all from stolen bikes that have been broken up for parts. What is more worrying is that the people who are buying the components are then giving this gang their address, therefore putting themselves at risk and onto a possible bike thief's shopping list. This gang could be responsible for hundreds of burglaries and tens of thousands of pounds of stolen goods.

I wonder if there is a way to reach out to anyone who had purchased items from this eBay seller, only to be victims of theft themselves, to try and build up a case study of the risks and dangers of buying online.

For reference, my bike was stolen in Scotland and is now listed for sale in the Nottingham area.

The sellers buy/sell history is quite interesting as they seem to have purchased from sellers of latex gloves, plastic shoe covers and various angle grinding parts suppliers. And the Scene of Crime Officer who attended our theft said it was a very professional job — no finger or footprints left, they even took the busted locks with them.

I would be interested in an investigative piece like this, maybe highlighting where the criminals found me (Strava, Pinkbike, Facebook), what the insurance (nightmare) was like and how various Police agencies dealt with this as a live crime.

Name withheld

Ed — Thanks for bringing this to the attention of us and all the readers of **mbr**. It's a worrying trend, for sure, and it is increasingly up to us, as bike owners, to safeguard our property. We'll try and look into this more deeply.

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BEST OF BRITISH ATHERTON BIKES

The Athertons are mountain biking royalty so their eponymous bike brand comes with the ultimate seal of approval; we head to their Dyfi Bike Park testing ground

Words & photos: Sim Mainey

The Athertons need little introduction, but they certainly deserve one. Dan, Gee and Rachel Atherton have been a dominant force in UK gravity racing for over 16 years, and are as close to a household name as it gets in mountain biking. Individually they've had more podiums than many race teams, and in creating events like Red Bull Hardline they have helped to push mountain biking's boundaries, while at the same time making it less of a fringe sport.

Over their careers the Athertons have raced for the likes of Muddy Fox, Giant, Commencal, GT and Trek. Last year, however, they decided to do something different. Rather than sign up to another frame deal with a big-name brand, they created their own bike brand and put their hard-won race experience to work, producing a range of bikes worthy of their name.

It would have been easy for them to have just called up a factory in Taiwan and ordered a bunch of frames with Atherton graphics emblazoned on the down tube. But this project was about more than that. It was about doing things their way — pushing limits, trying new ideas and using technology to their advantage. Working with a sponsor always involves a bit of give and take when it comes to product development, but by being in control of every aspect of the frame's design and manufacture, the team could ensure they were working without compromise to make the best bike they could.

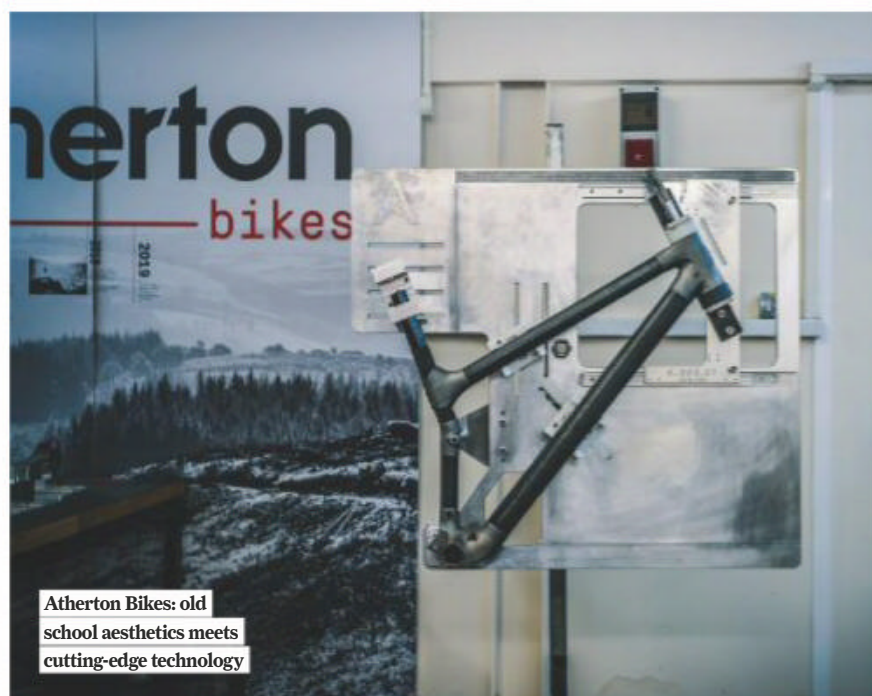
There are no signs on the side door of the unassuming business unit on the outskirts of Monmouth. From the outside, Atherton Bikes HQ is a low-key affair — it's what's inside that counts. A downhill bike is held in the upright frame jig and the first batch of 150mm-travel, 29in enduro frames are being meticulously pieced together in the assembly area. Running the length of one wall is a poster charting the Athertons' careers to date. The feel in here is definitely less bike workshop and ➔

**IT WOULD
HAVE BEEN EASY
TO JUST CALL
UP A FACTORY
IN TAIWAN**

ABOUT THIS SERIES

The UK is a world leader in mountain bike design. We boast a proud engineering heritage and a stoic pragmatism that has forged a reputation for timeless, practical design. At the same time we are open-minded and innovative, unafraid of pushing boundaries and reluctant to rest on our laurels. From enthusiasts tinkering in sheds to large-scale engineering firms, we are a nation of thinkers and doers, a point evidenced by the number of bike brands that call the UK home.

We've more than just curiosity and engineering know-how to thank for this though; the geography of the British Isles has played an equally important role in influencing the design of our bikes. In this series we're going behind the scenes at leading UK brands and exploring the trails that have influenced their design decisions. We'll be asking if there is one trail that informed a bike's design, whether a particular section of a ride led to a eureka moment and how Britain's landscape has shaped the bikes we ride today.





Dan's the man for getting new designs off the ground



3D-printed titanium lugs are bonded to carbon tubes



The Atherton name will sell bikes but the details impress too



The top step
is the Athertons
natural home

more race garage — unsurprising really. Shelves are full of all the parts needed to make any bike company work, as well as mud-covered wheels and used bike components. Of more interest are the lengths of carbon tubing and what look like intricate sculptures neatly lined up next to taped-off workstations.

F1 INFLUENCE

Visually, the Atherton Bikes frames are unlike anything else. The combination of composite tubes joined by 3D-printed titanium lugs makes for a unique look, but the reasons behind this assembly method are rooted in engineering know-how rather than aesthetic whim. The design team behind the frames have backgrounds in Formula 1 and the aerospace industry and when working out the best way to manufacture a mountain bike frame they looked at previous projects outside of cycling.

Composite tubing makes sense for a mountain bike frame. It's strong, light and allows for a modular construction method that gives a lot of design freedom. Joining these tubes together is the tricky part. Atherton Bikes work with Renishaw, experts in metal 3D printing technology, to create the lugs that join the tubes together. The lugs are printed using titanium powder that is melted by lasers, with each frame requiring 16 hours of machine time to print.

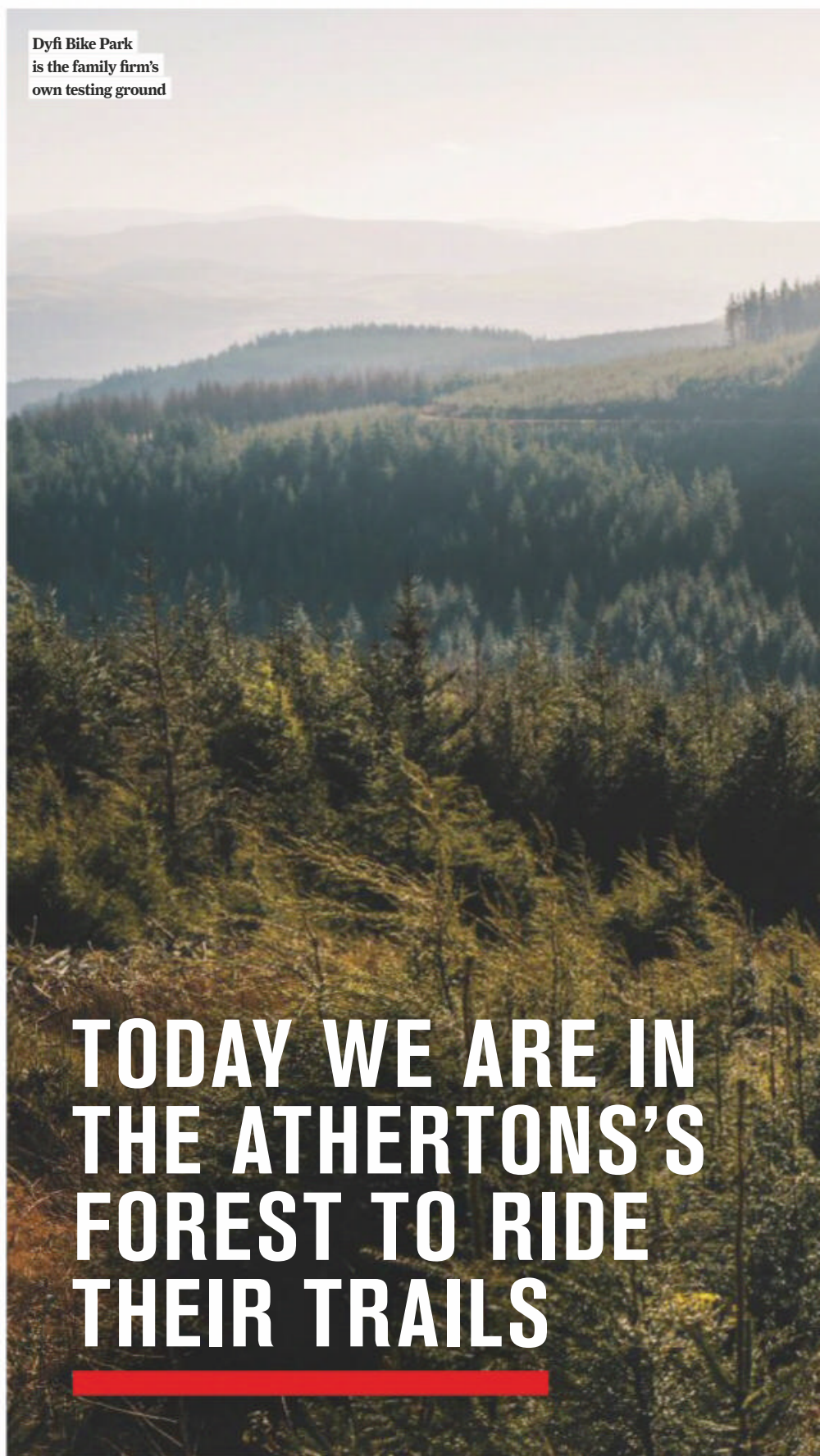
3D printing gives a number of advantages over traditional casting or CNC machining. It allows parts to be made to very high tolerances with a level of detail — internally and externally — that no other manufacturing process can achieve.

The lugs use a double-lap shear joint into which the tubes are fitted and then bonded with a two-part adhesive. People get a bit twitchy about the idea of their frame being joined with adhesive, but this kind of bonding literally holds our world together. It's a proven technology found on jet fighters and race cars, where low weight and high strength are critical.

When it came to designing the suspension, the team enlisted the help of Dave Weagle, a man who knows how to design a winning suspension platform. The DW6 suspension design that is used exclusively by Atherton Bikes is every bit as clever as you would expect and complements the thinking behind the frame perfectly. One of the main benefits is that the design architecture uses a set of fixed pivot points on the main frame, but a lot of adaptability and tuning potential back from that. The DW6 design makes it relatively simple to make changes to seatstay and chainstay lengths, leverage ratios and other elements, all independently of one another, while still retaining the desired pedalling and braking characteristics.

This adaptability and speed of construction, thanks to the way the frame has been designed, is

Dyfi Bike Park
is the family firm's
own testing ground



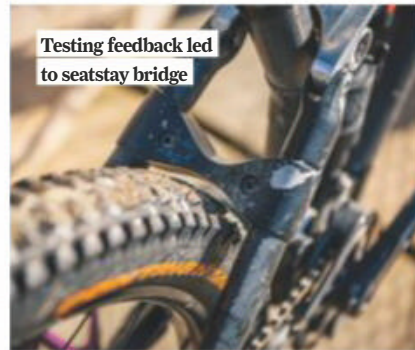
TODAY WE ARE IN THE ATHERTONS'S FOREST TO RIDE THEIR TRAILS

ideal for building the perfect race bike. Dan Brown, the Athertons's manager, says that the quickest turnaround they've managed is four days. After finishing a World Cup race on a Sunday, Rachel decided she wanted to try a different back end on her bike for the race the following weekend. They designed the new parts on Monday, had them 3D printed by Wednesday, back to the factory on Thursday and by Friday the new back end was with the team. This super-short feedback loop is invaluable to a race team constantly looking for improvements — even if in the end Rachel preferred her original set-up.

While this agile manufacturing works well for creating bespoke builds, Atherton Bikes maintains that it also works for large-scale production. Atherton Bikes may well be a start-up at present but it's got an eye on the future and growth. Right now it is still testing systems and tackling all the usual problems a fledgling business faces — one of the most pressing problems being coming up with model names. With the bikes due to go live on the website imminently, a decision will have to be made



DW6 suspension is adjustable for seat and chainstay length



Testing feedback led to seatstay bridge



Evidence of hard use on moving parts



Black finish for test rigs but lugs and tubes still look distinctive



Leaning in is easy when the bike will bear the family name

soon, but for now the enduro frame currently being assembled is simply called ‘the 150’.

TEST FACILITY

A day later, and 100 miles north of Monmouth, I’m riding shotgun in a lifted Land Rover Defender as it grunts and snarls its way up a Welsh forest track. Monster truck tyres splash through grey puddles and make light work of the mud, rocks and branches that cover the fire road. Dan Atherton is behind the wheel. Today we’re in the Athertons’ forest, to ride their trails on their bike — something members of the public will also be able to do soon. Dyfi Bike Park just outside Machynlleth is part playground, part proving ground and very much open for business.

When the Athertons bought the forest in which the bike park is built, they also took on a timber yard. A good portion of Dan’s day is taken up with managing the growing, felling, transportation and sale of wood, and his phone buzzes constantly with questions of woodland logistics, staffing and machine repairs. While being a sponsored rider with a bike company and a forest full of trails might seem ➡



Welsh rocks: is there a better place to test prototype machines?

glamorous from the outside, there's a lot of real graft being put in to make the many dreams happen.

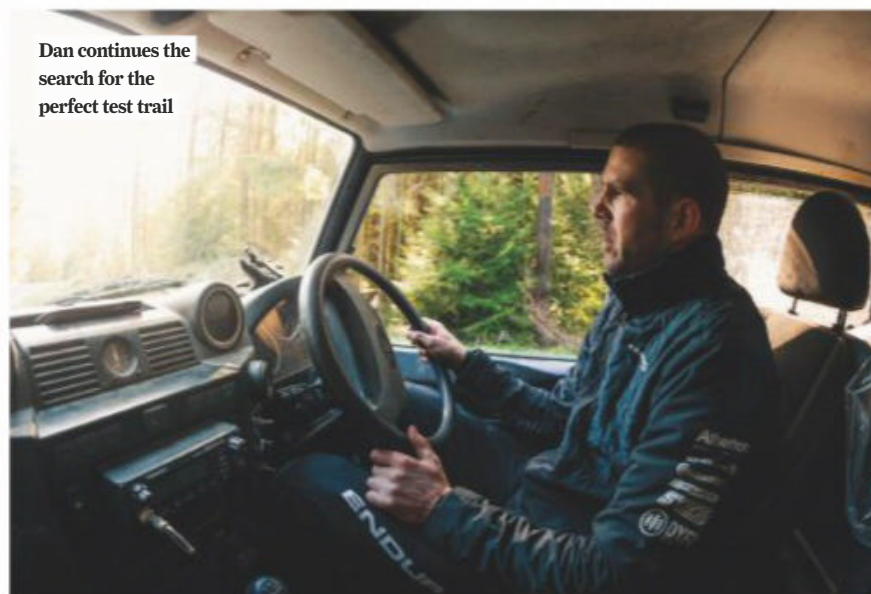
Atherton Racing is a well oiled machine with a long and successful history. Atherton Bikes and Dyfi Bike Park are still very much fledgling enterprises. Launching just one of these ventures would be a tough task, but launching both a bike company and a bike park at pretty much the same time — while also keeping the race team at the top of the pile — is a monumental undertaking. The Athertons' manager, Dan Brown, agrees: "As with everything the Athertons do, it's all or nothing."

While Gee and Rachel have been putting the downhill bike through its paces, the 150 is very much Dan's bike. It comes from his experience as an enduro racer but also as an incredibly talented all-round rider. This is the bike he wished he had when he was racing enduro — a bike built to be fast and to take a beating.

Dan's talents extend beyond just riding; he's also a master trail builder. With a forest at his disposal, the skill to build great trails, and the ability to push a bike to its limits, he's uniquely placed to provide feedback on the bikes.

Feedback is one of the things that makes Atherton Bikes unique. Plenty of brands say their bikes are built with input from their sponsored athletes, but how much of that is lip service is hard to tell. Atherton Bikes is built on the fact you can have exactly the same downhill bike as Gee or Rachel, not just a bike with the same paint job. Equally, the 150 draws on Dan's DH, enduro, 4X and bike park experience. Having trails that he knows intimately, can session time and time again and are conveniently closed midweek, makes Dyfi Bike Park the perfect testing ground. They aren't messing about with the trails here either — a triple black diamond run is just one of the four trails

Dan continues the search for the perfect test trail



currently open at Dyfi. The mixture of trails and features means that in the morning they can session jumps and turns, and in the afternoon concentrate on rough, rocky sections.

AIR TIME

From the start ramp, you look down onto the clear hillside felled of trees. Beyond that stretch the rolling hills of mid Wales. It's a rare opportunity to take in the great view; from here on in, the trail demands your full concentration. A set of decent sized drop-offs act as a qualifier before sending you into a series of large jumps. These are the kind of jumps that, when cleared by a decent rider, make you realise just how much air time is on offer. Dan goes skyward. And keeps going. And going. It's a stark reminder that while feedback from general riders is important, feedback from great riders is invaluable.

Back in the Land Rover is where a lot of the feedback occurs. Frame designer Rob will come ➡

ON: GRAND CANYON:ON

Reach the top, take in the view. We ride for moments like these. The Grand Canyon:ON is a hardtail e-mountain bike for everyone, from beginners to veterans. With an integrated Shimano Steps E8000 drive system and a range of smart design solutions, take yourself to new places and new heights. This is freedom, extended. This is the Grand Canyon:ON.

canyon.com

A full-page photograph of two cyclists, a man and a woman, sitting on a grassy hillside. They are both wearing helmets and cycling gear. The man is on the left, wearing a blue shirt and dark shorts, holding a water bottle. The woman is on the right, wearing a black long-sleeved shirt and dark shorts, also holding a water bottle. They are looking at each other and smiling. In the background, there are two mountain bikes: a red one on the left and a green one on the right. A large, leafy tree is on the right side of the frame. The background shows a vast, mountainous landscape with snow-capped peaks under a clear sky.

CANYON



Feedback from the trails is invaluable for design tweaks

up from Monmouth and ride with Dan, and on the crawl back up the hill they'll chew over what they were feeling on the previous run. Emails, phone calls and WhatsApp messages all work, but none are as valuable as face-to-face conversations right after riding. From these casual conversations requirements can be drawn up and numbers and specifications can be generated. Changes can then be made and the process starts over again.

REAL WORLD

A good example of this was the rear stiffness of the 150. During initial testing, Dan felt the rear of the bike needed to be stiffer, as when he was pushing it into a series of turns in the bike park, things didn't feel quite right. This was backed up when journalists, such as **mbr**'s own Mick Kirkman, were invited on a testing day and their feedback matched Dan's.

Using that feedback, a prototype brace was designed, 3D printed and bolted to the chainstays of Dan's development frame. The brace actually proved to be too stiff, but with refinement and further testing, the right level of stiffness was introduced to the back end and a much neater chainstay brace was developed for the production bike.

Using racers for feedback isn't always easy though. Over a cup of tea in the saw mill, Rachel explains the dilemma of being a racer and constantly striving for that change that will give you the edge. With the opportunity to make changes from race to race, there's a temptation to keep on changing, when what you sometimes have to do is

USING RACERS FOR FEEDBACK ISN'T ALWAYS EASY THOUGH

stick with what you've got and learn how to make it work. Rachel points out that that could well take a whole season, so change for the sake of it isn't always useful. Nor is it useful in terms of making and selling bikes — at some point you have to settle on geometry and kinematics and start selling bikes — after all, that's the reality of Atherton Bikes.

Not only is a bike park a great place to test products, it also provides the perfect opportunity to get a view outside the race scene. Sat at the bottom of the hill, Dan can see what bikes people are riding, how they set their bikes up, what works and what breaks. This is all valuable information that can be used to inform decisions, both for the development of the bike park but also for Atherton Bikes.

Every mountain biker dreams of being paid to ride their own bike, of having their own bike brand and a piece of hillside to dig trails on. It's reassuring to find out that even pro athletes have the same dreams as regular riders.

The Atherton family have worked hard to make those dreams a reality, but they have also given the rest of us the chance to share in those dreams, if not the podiums. **mbr**

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10x10

A DECADE OF ADVENTURE SCHOOLING

*From Argentina to Afghanistan,
we bring you 10 years of
wilderness riding distilled
into 10 lessons learned*

Words & photos: Dan Milner

There are few words out there as alluring as ‘adventure’. We look for it in our weekly rides and in our daily lives; reaching for new experiences that will inject excitement. But adventure, like beauty, is in the eye of the beholder. What makes it an adventure rather than ‘just a ride’ depends on your metaphorical starting point: what’s your previous experience, where are your boundaries, how willing you are to embrace the unknown? Out of the three, it is the unknown factor that brings both the challenges and the rewards of adventure.

Unknowns undermine confidence and test resourcefulness and give even the toughest of Bear Grylls wannabees a run for his or her money. But these are positives. It’s not the kudos of remote locations or the magnitude of an expedition’s aims that define adventure. It’s how you deal with its unknowns and what that

experience teaches you about yourself, others and the world beyond the familiar, that is the most rewarding takeaway from adventure’s rich smorgasbord of experiences.

I’ve been dragging bikes across the globe for nearly three decades, sniffing out worthy singletrack and filling in the gaps between with cultural experiences — like a painting by numbers book for a restless adult. It’s been an immensely rewarding ‘journey’ (sometimes you’ve just got to use these hackneyed terms) but also a challenging one. But no matter what trips I’ve done, where the bike has taken me and what discomfort I’ve clawed through, I’m ready to admit I’m still learning. Every trip teaches me something new.

Having just turned the page on a new decade, it seems like a good moment to look back on the 2010s and ponder the lessons their adventures have taught me.



01

PLAN YOUR EXPEDITION, NOT YOUR EXPECTATIONS

Romps into real backcountry shouldn't be taken lightly and proper preparation is essential. But adventure's myriad possible outcomes can't be planned — that's what makes it adventure and that's a good thing to keep in mind when you set off. As a photographer, I've embarked on trips with key shots already in mind, sketching out how I'll tell the story of what's to come, but I've since learned that such an approach can be frustrating. I've realised that adventure is about relinquishing control, seeing what happens and then embracing (and for me photographing) the story

that unfolds, not the story you want to unfold. In 2017 I returned to Chile's Torres del Paine National Park. It's one of the most incredible landscapes on the planet, but the fickle Patagonian weather meant accepting defeat on many of the trails we tried to ride. We huddled behind rocks sheltering from raging winds, while the park's stunning views were swallowed by mist. But while ambitions are compromised, every unplanned moment, whether good or bad, adds to the magic of adventure; the realisation that, for once in our over-managed lives, things are genuinely beyond our control. It's a great way to put things in context.



Real adventure is what happens when plans fall through

02

IT'S RIVERS, NOT MOUNTAINS, THAT ARE THE GREATEST LEVELLER

Steep mountains are usually seen as any bike adventurer's biggest challenge, and there's no denying that crossing them represents a very real physical undertaking, but while often underestimated, rivers should command equal respect. As Secret Compass's Tom Bodkin (the driver behind some of our most challenging trips) points out, history is littered with examples of the ambitions of whole armies being ruined by simple rivers. The trickiness of crossing knee-deep but fast-flowing rivers with a bike in hand shouldn't be underestimated — something that was hammered home during our 12-day traverse of Afghanistan's Wakhan Corridor in 2013. This wild, untamed but peaceful corner of Afghanistan threw us two-dozen rivers to cross, with only two of them sporting bridges. Never mind scaling 5,000m

passes, it was wading through surging snowmelt, rocks tumbling around our ankles, that became the great leveller among the group. A slip while crossing a river can have serious consequences, especially if Class V rapids wait just downstream as they did in Afghanistan. Planning a route that includes serious river crossings might even mean carrying a safety rope, as we did during our 2019 circumnavigation of Russia's Mount Elbrus.



River crossings can easily land you in cold water

You can test your mettle close to home



03

ADVENTURE IS CLOSER THAN YOU THINK

It's far too easy for people like me who eke out a living from documenting exotic travelogues, to bang on about adventure needing remote locations, weird food and lots of people waving AK-47s. (That's just how we sell these stories to editors.) The reality is that the UK is as good a place to find it as anywhere, if you keep adventure's key ingredient of 'embracing the unknown' at the heart of your plan. Setting a challenge on unfamiliar trails or terrain and adding overnight logistics into the mix can push a ride to the fringe of your comfort zone and into the realm of adventure. In 2014 we used sea kayaks, towing our bikes on inflatable dinghies behind us, as a novel way to introduce the adventure element to Loch Morar's shoreline trails that were already on the riding map. We had no idea if it would work — and the final nine-mile return paddle, battling a fierce headwind, was a moment for digging deep — but the riding and the two nights of wild camping were well worth the effort.



04

ONE PERSON'S ADVENTURE HEAVEN IS ANOTHER'S TRAIL HELL

Everybody is different, and so are their boundaries when it comes to the point when fun becomes Type-2 fun — and it's worth remembering this as you all launch into a group adventure. Finding the balance between adventure and a good ride is a challenge in itself, as our 2015 traverse of Ethiopia's stunningly rugged Simien

Mountains proved. The ride became as much a test of mental resolve as physical resilience when, after several days of laughing our way along buff flowing trails, we faced two days of brutal, baby-head rock gardens. These almost unrideable trails, including a steep, rubble-filled 1,000-metre descent, tested the group's mental stamina — a fall would have had dire consequences — but their inclusion

delivered a bucket-list camp spot perched on the edge of a plunging rift valley. 'No pain, no gain' might be a suitable mantra to apply to adventure, but in spite of the spectacular visual rewards, the trail riding to reach them sucked and tested morale. Time heals all wounds, of course, and every rider will look back and laugh, but at the time these trails almost induced an insurrection.

05

EATING HUMBLE PIE CAN BE A GOOD THING

Being polite can go a long way in society; being humbled can get you a long way in adventure. It pays to remember that most foreign trips would go nowhere without the logistics support of locals, from guides to cooks to bus drivers. After all, you're always a guest in their country, no matter how many scout adventure badges are pinned on your sleeve. Pride and honour might not be so important in UK society nowadays, but they play complex cultural roles in many other places, so being willing to eat humble pie is a worthy attribute for any adventurer, allowing your hosts to keep face and feel worth, even if they are only nine years old. It was nine-year-old Aibek who humbled us during a nine-day ride through Kyrgyzstan's southern Alai Mountains in 2018. Despite his sandalled feet not reaching his stirrups, Aibek and his horse became our shuttle across a raging meltwater river and we were thankful of it. I don't think I've ever seen anyone so proud as Aibek, or ever seen a bunch of athletic white guys so appreciatively humbled.



Get off your high horse if you want to stay in the saddle





Extreme trails can reveal what sort of rider you are

06

COMPLACENCY, NOT CURIOSITY, CAN KILL THE CAT

Do anything enough times and it can become unthinking second nature, and the same goes for adventure. Nobody wants to survive by the skin of their teeth — that usually means something went badly wrong — but it always pays to give due consideration to what you are about to embark on, no matter how much previous experience you have. This was driven home during an exploration of the world’s most southern trail on the Patagonian island of Navarino in 2018. With so many adventures behind me, I allowed the fact that we’d emerged from every one of them unscathed to cloud my judgement of what now lay ahead. I was complacent. But, at the mercy of schizophrenic sub-polar weather, Navarino became the place where one of our team nearly died. Not wanting to be ‘that guy’ — the bossy leader or health

and safety wannabe — and despite having conceived the project, I let us set out without a workable emergency plan. We had no satellite locator beacon, and mobile phone coverage was patchy at best, and we hadn’t properly checked the GPS coordinates of the exit. We set off in sunshine but several hours into the death march a blizzard struck and we lost Claudio, who had been falling behind. After an unsuccessful search and with our own hypothermia setting in, we were forced to finish the route to find help — something that took a further five tiring hours. We reached civilisation at 11pm — too late for the local police to fly a helicopter. Claudio staggered out of the wilderness next morning with second-degree hypothermia, having stayed alive by ditching his bike and the exposed trail for the shelter of the forest. I now pack a Garmin In-Reach satellite messenger for every trip.



Never allow experience to lull you into a false sense of security

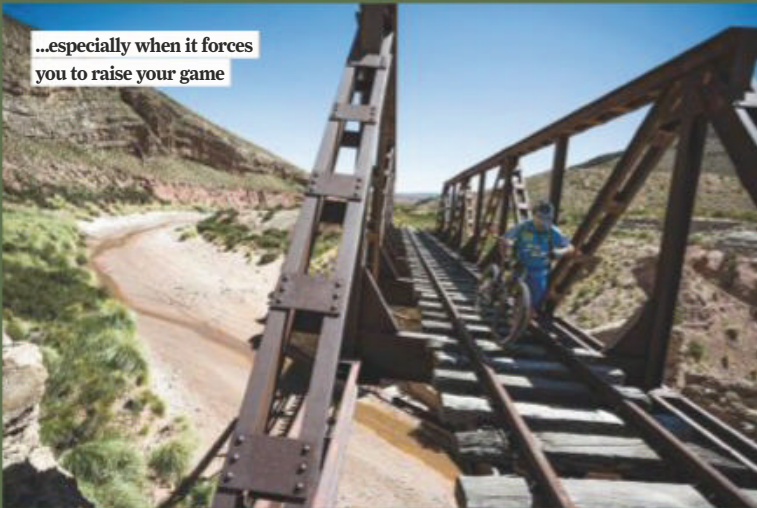


Sticking to the beaten track can be more exciting than it sounds...

07

LATERAL THINKING IS THE FRIEND OF ADVENTURE

As any long-term lover will attest, originality and experimentation can keep the flame burning, and the same goes for adventure. Thinking outside the box can turn a ride into a novel, surprisingly rewarding adventure. This was driven home to Hans Rey, Tibor Simai and me during our three-day ride along a 100-year-old disused railway in 2014. Committing to not deviating from the tracks as they beeline across a 3,000-metre high Argentinean plateau gave our adventure a simple focus and handed us some real challenges. Navigating its overgrown tracks and crumbling sidings and tiptoeing across



...especially when it forces you to raise your game

ageing iron bridges devoid of maintenance and suspended high above rivers, threw at us all the elements of adventure we could ask for, packaged up in probably the most boring-sounding adventure concept I’ve ever had.



08

MAP READING IS STILL A WORTHY SKILL

Google Earth can be a great tool for scouting potential adventures from the sofa, and GPS wizardry can help keep you safer out in the wilds, but there's no escaping the fact that old-school map reading still has its place. I learnt this when I dived into a two-day attempt to ride the route of the Lavaredo

Ultra Trail running marathon in the Italian Dolomites. Lured by the visual goldmine of rugged peaks I'd shot previously while covering the race for its sponsors, The North Face, tracing its route on a bike over two days became the basis for an adventure. I scoured the GPX tracks, plotted our route and worked out overnight hut logistics, but failed

to ever look at a map that showed contour lines. Then, once immersed in the challenge of riding the trail, I discovered that all of our 95km-long route's 5,000 metres of ascent were impossibly steep, and hour-upon-hour of carrying lay ahead of us. We got through it over two very long days, but the rewards were hard-earned indeed.

09

BAD CAN BE A GATEWAY TO GOOD

Adventure is about more than instant endorphin hits, but sometimes the reflective rewards of the long game can be harder to see, especially when the way is shrouded in drenching rain. Having to dig deep is unpleasant, but such moments do genuinely seem to produce deeper, more engaged experiences, as was the case in North Korea in 2018. Already tagged the most ambitious trip I've ever done, we then realised that our aim to reach the summit of Mount Myohyang needed an overnight bivouac. Caught by the edge of a cyclone, we were forced to sleep out under a rocky overhang — the only shelter we could find. A rain-drenched night became the hardest and most uncomfortable point of our 10-day trip, but it cemented bonds between us four westerners and our two North Korean guides/fixers. This bond, forged though shared discomfort, then empowered our subsequent requests to venture beyond our pre-approved itinerary. Hard as it was, without that shared misery, those subsequent doors wouldn't have been opened and we wouldn't have snatched such an authentic glimpse of life inside this secretive state.



Shared adversity leads to camaraderie

10

IT IS NOT ALWAYS JUST ABOUT THE RIDE

Bikes are not only amazing playthings, they can take you into new terrain and challenges that lend themselves to adventure. Bikes are tools to learn about you and about other people. Universally recognised as a simple transport option worldwide, bikes cut through the barriers of culture, language, religion and wealth, whether that's at a UK trail centre or on a North Korean mountainside. And the one thing that my decades of bike adventures have taught me, again and again, is that it is not always just about the ride. Life is a fascinating journey, full of incredible interactions to be had and lessons to be learnt, and it's worth stopping every now and then to absorb them. The bike is just the ticket to get there. **mbr**



Bikes build bridges wherever you are



SAM^{X3}HILL

ENDURO PEDAL



One Pedal To Rule Them All



CAR PARK SKILLS

PART 3

Endos, roll-backs and skids are more than tricks; they can prove seriously useful out on the trails

Words: Andy Barlow Photos: Andy McCandlish

THERE'S AN APP FOR THAT!

Dirt School's coaching app lets you see the right and wrong techniques in slow-mo

DIRTSCHOOL

Hopefully, as these episodes come out they are encouraging you to make more of your idle moments by just mucking about and having fun. Spending time learning how to play on your bike will mean that, once out on the trails, you'll benefit from an increased level of control.

This month we're going to look at using a combination of braking forces, and how moving your weight to get your wheels off the ground will give you more control and balance. With a little practice you can then use this to get round steep, tight corners, or feel like you have more balance and time to react at slow speeds. You can then take that to steeper trails or loose ground and enjoy a better level of control.

THE COACH

ANDY BARLOW

Before joining Dirt School Andy liked to win things — races like the Scottish XC Champs and the Scottish Downhill Champs. Since 2009, though, he's coached some of the world's best riders with Dirt School and helped bring on the BASE MTB course at Borders College in the Tweed Valley. But what Andy really likes to do is communicate those pro techniques to everyday riders.



Try moving your weight forward to load the front wheel and raise the rear end, but move it back again once you're off the ground to help balance the tip



THE ENDO

This is a skill that you can practise almost anywhere with stable ground. It shows good control over your braking and will be a great way to learn how to move your weight to achieve different things with your bike and balance.

To try an endo, roll forwards at a good walking pace and make sure

your seat is down. You're going to want to pull your front brake lever pretty hard, but as you do so, try and lean your weight forwards so that you really load the front wheel of your bike. You'll feel your forks compress and your front tyre start to dig in. As this happens, your rear wheel will start to lift. With very little

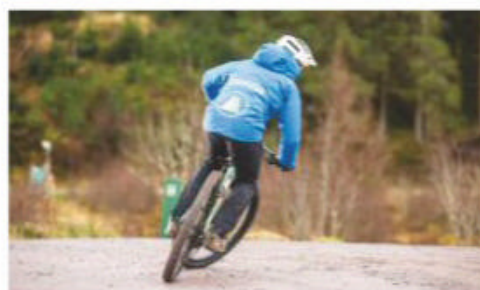
practice you should be able to roll onto your front wheel by bracing the deceleration and really leaning on the front brake. Remember that if you lock your front wheel, or feel like your rear wheel is coming up too far, you can always release your lever and let your back end fall back down again.

90-DEGREE ENDO

Once you've got the hang of how you can raise the rear of your bike by braking hard and bracing your weight, you can try putting a bit of a spin on it by turning into the endo as you initiate it. The first time you try this make sure you have plenty of room around you. The rear of the bike will be swinging out and if you've never done this before then it will likely be a little out of control. You can always release the brake lever to cancel anything you've started, or even jump off if it really goes wrong.

Make sure that you come in and start to carve quite a tight arc with your turn as you start to pull the brake. Remember

that this will test the amount of traction that you have in your front tyre, so you won't get away with really hammering on the brake with this one. Instead you're going to have to balance the grip with the lean, and ultimately the swing of the rear end too. It sounds more complicated than it is though, and pretty soon you'll be able to turn into the carve, squeeze the front brake lever, and let your rear end lift. The momentum of the turn will allow your back end to swing out once it's off the ground. Turn left and your back end will swing out into space to the right. Turn right and your rear wheel will be stepping out to the left.





180 ROLL-BACK

To really get your back end to spin a full 180 degrees you're going to have to help it out by driving it round further with your legs. You really need to work up to this, but if you've managed to master an endo in a straight line, and you're having fun with how far you can rotate your back end once it's off the ground, then this is a good progression.

If you can get it to land the opposite way you came in, then you can actually let go of the brakes and start to roll backwards. Be ready to just jump off your pedals initially as you'll never crack this at first try. Once you work out that you can abandon ship fairly easily you'll have the confidence to try again and get further into the trick.

If you're pivoting 180 degrees and landing in a roll back, then the next step is to keep that rotation going by turning your wheel so you can work your way round to face the way you originally came in. At some point here pull the rear brake and you'll be able to pivot off the rear wheel the same way you did with the front in the endo.



Use your front brake to slow down quick enough that your back end lifts



Stay seated and use the rocking momentum to raise the front end by pedalling away hard

ENDO TO WHEELIE

This is really thrown in here to encourage you to move your weight around and learn what different effects it has on you and your bike. It's easier if you can stay relatively close to being seated as the wheelie part will be a lot easier. For this reason you can leave your seat up for this one.

Come in fairly fast and pull your front brake so it initiates an endo. Try and keep that endo coasting till you eventually come to a complete stop. This in itself will take a little practice as you're having to learn where your tipping point is and how to float around it.

Once you come to a stop and your rear end starts to drop, use that rotational momentum to not only come down, but power into with a couple of pedal strokes and go straight into a pedal wheelie. Once you're up to speed and away again you can simply repeat and try again. This will turn any fire road into a guaranteed playground.



Exaggerate your bunny hop with the focus being on hitting the front end down hard



Use the rebound of the slap to throw your weight back into a full-on manual

NOSE-BONK TO MANUAL

This is a similar trick to the 'endo to wheelie', but it's a little trickier, partly because you're moving the whole time. Instead of using your front brake to raise the rear end of your bike, try bunny hopping into the nosedive so your front wheel lands hard or bonks off the ground. Slapping it down like that will almost set up the momentum in the opposite direction and you can throw your weight back and go straight into the manual. You'll really need to move a lot here, and with a bit of aggression, as you're trying to use your violent shift in body weight to go from one extreme to the other. With a little practice you can go from manual to nose bonk, and back to manual.

STEEP TRAILS

If you're getting the hang of how to weight your front end to do an endo, or moving your weight back to lock the front wheel, then you can start trying this on steeper trails and on loose ground. Keep your weight forward on the bike and balance the amount of braking that you're doing and you'll have more predictable grip and ultimately more control. If you keep your weight back you'll be skidding all over the place.

Try riding down a really steep trail and come to a complete stop for a split second before you roll off again. With a little practice you'll be able to really control your speed regardless of what the slope or traction is like.

Try coming to a complete stop on steep trails to really test whether you have control over your braking and weight transfer

LOCKING WHEELS

If you want to play with how much traction you have when practising endos, then maybe you can experiment with overdoing it and doing a front wheel skid. When you load your front end to endo you'll improve traction, so to skid your front tyre, try keeping your weight back a little. This weightless front end will mean you can skid easily. If it starts to go too far and you're losing balance, just let go of your brake again and the instant rotation will allow you to balance as normal.

ENDO TURNS

The next time you're faced with a tight switchback, why not try and endo your way around the corner. As long as you've practised it in a flat, open space like a car park, you should be able to gauge your traction on a trail and give it a go to try and line up with your exit. This is particularly helpful on steep hairpins, but make sure you're able to endo with confidence before you try it somewhere too exposed. It's a much friendlier skill to have than a skid!



Skids are NOT just for kids — as long as you do them responsibly

SKID MARKS

They say that skids are for kids, but we all know that's a lie. This one probably needs a small disclaimer that you find a spot to do this responsibly, but as long as no one is looking you can really have some fun with it. We were replacing the leaves every run to get the photo for this one, and we

spent time covering up the evidence afterwards as well.

When you lock your rear wheel in a turn it will step out sideways. Remember that to correct this you just come off the brake and your bike will straighten itself out again. Remember to make your best face for the crowd that will gather!

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13 Jun	Vale Velo North Yorkshire
28 Jun	Peaks Tour Derbyshire
12 Jul	Mendips Sportive Somerset
25 Jul	Malvern Mad Hatter Worcestershire
9 Aug	Ride Yorkshire North Yorkshire
5 Sep	Sussex Downs Classic Sussex
19 Sep	New Forest 100 Hampshire
4 Oct	Box Hill Original Surrey
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THE RIDER

PAUL BURWELL

Position Freelance writer/tester

Mostly rides Surrey Massif

Height 5ft 10in

Weight 79kg (on a good day)

THE BIKE

■ Shimano STEPS equipped e-bike with 150mm of travel

■ 27.5in wheels shod with 2.6in Maxxis Minion 3C tyres

■ Has a whopping 630Wh lithium-ion battery hidden in the down tube

■ E-bike-specific SRAM NX groupset and ultra-short 165mm Shimano E8000 crankarms

MONTH 8: The Sight is fired up but niggling issues remain

For most of December the Norco Sight VLT was sat in my shed, dead as a dodo. It lost power on a ride in the early part of the month and I'd been waiting to hear back from Evans Cycles, Norco's importer, which finally happened at the beginning of January.

I speculated in my previous instalment that finding the fault might be a 30-second job and that turned out to be the case. The shop mechanic plugged in a new Shimano E8000 display and the Sight VLT instantly came to life. Which on the one hand is great news, but on the other, using trial and error to get to the root of problems seems antiquated. With a different issue we could have used Shimano's E-Tube app to find out what was wrong but if the bike doesn't power up I'm not sure how you're going to get it to connect to a smart phone or iPad via Bluetooth.

Fortunately, I live near to a Norco dealer and was able to take the bike into the shop and speak to a mechanic. But what if I'd bought the bike online from Evans or from a direct sales-company? Most direct-sales brands that use the Shimano system do have an arrangement that lets customers visit a Shimano STEPS Service Centre for a diagnostic check if they have a problem. If it's more serious (like the bike is just not working) some have UK-based service centres that you can visit and some also offer a collection service — where you can pop the bike in a box, albeit a reinforced one, and it will organise a courier to collect it. This isn't a quick process but at least it might mean there's light at the end of the tunnel.

One of the things that I love about regular mountain bikes is their simplicity, and the fact that you can fix most problems yourself. I don't believe that's the case with e-bikes. I've had two e-bike



WHY IT'S HERE
Powered version of Norco's award-winning trail bike

longtermers in the last year and both have had problems I haven't been able to resolve. It might just be one of those things, but I get the sense from talking to other riders and reading forums that reliability is still an issue, even with the very latest models. So while I really want e-bikes to be more reliable, with better sealing from the elements, I can only see it going one way — they're going to get even more integration, just like modern cars.

Having not ridden the Sight VLT for a month, one of the first things I noticed compared to my regular bike was just how crude the RockShox Yari fork felt. It has a basic Motion Control IS damper, which is OK mooching about on techy singletrack, but riding hard and fast, my hands nearly bounce off the bar — it really is that harsh. Another issue is that the pivots in the SRAM Guide T brake levers are working loose. I don't know if they're worn, but having to push them back in before every ride is annoying. I also have to tighten the rear mech mounting bolt because that works loose too.

I've had a few issues with the Norco Sight VLT, but this isn't a longtermer that just gets a bit of love once a month. I ride it two or three times a week in all conditions. The problem is, I've had it for less than 10 months but it feels like it's aged two-fold.

SPECIFICATION

Frame Carbon, 150mm travel

Shock RockShox Deluxe RT

Fork RockShox Pike RC, 160mm travel

Motor Shimano E8000 STEPS

Battery In-tube Lithium Ion 630Wh

Wheels Novatec/DT Swiss H370 hubs, WTB ST i29 rims, Maxxis Minion DHF/DHR II 27.5x2.6in tyres

Drivetrain Shimano E8000 chainset 32t, SRAM NX r-mech and shifter

Brakes SRAM Guide T, 200mm

Components Norco 800mm bar, Forged 50mm stem, TranzX YSP12JL Stealth 150mm dropper post, WTB Volt Sport saddle

Sizes S, M, L

Weight 22.75kg (50.16lb)

GEOMETRY

Size tested L

Head angle 66.2°

Seat angle 69.5°

BB height 333mm

Chainstay 445mm

Front centre 795mm

Wheelbase 1,240mm

Down tube 740mm

Top tube 600mm

Reach 470mm



IN THE SHED

BEN'S NS SYNONYM TR 2

£4,199.99 / 29in / hotlines-uk.com



THE RIDER

BEN DAY

Position Account director
Mostly rides Trails around Dorset
Height 6ft
Weight 80kg

THE BIKE

- Aggressive 'down-country' trail bike with a full carbon frame and 120mm travel
- Rolls on 29in wheels to keep speed and efficiency high
- First XC bike to come from NS with a focus on big days in the saddle
- Available in four frame sizes and two price points

MONTH 4: A race shows how versatile the TR can be

This month I took part in a local XC race. It's a great event and over the years I've ridden the same trails on a variety of different bikes. So not only was it a good way to open up my lungs and get the blood pumping, it proved a great way to compare the NS with other bikes I've ridden in anger.

Also NS bills the Synonym as intended for marathon/XC use, even if the ride quality and geometry say otherwise. So an XC race seemed like a fitting challenge for the Synonym.

In fact, there are four models in the Synonym range, split evenly between RC and TR options. My longterm is the entry-level TR, or trail version, with 120mm travel at both ends.

The two RC models have slightly less travel at 100mm, but share the same core DNA of modern frame design and geometry. Yes, the RC models have steeper 67° head angles and the reach measurements extend even further, but the similarities between both platforms can't be ignored. Even the build kits are similar, with a nod to keeping weight down while retaining the fun factor and durability to push hard. Why did I choose the TR version? Simple: 120mm seemed like a sensible amount of travel for the majority of trail riding I do, and it should help spice up some of the less exciting local rides.

But let's get back to the race. It was evil. With the recent weather creating sniper roots and the occasional bog, I struggled to go in a straight line, let alone race. The bike was great though, possibly too much travel for the conditions but I made use of the dual lockout more than usual. When you're hanging, you really want to ensure that every watt of energy is being transferred to the ground to maintain momentum.

Would the RC version have been better? Possibly, but on balance the TR is still the model I would choose as I only dabble in XC racing rather than being a committed Lycra fan. I'll be back to red runs, jumps and flow trails now, instead of redlining my heart rate.

WHY IT'S HERE
The promise of XC pace with enduro attitude

SPECIFICATION

Frame Superlite carbon, 120mm travel
Shock Fox Performance Elite Float DPS two-position remote
Fork Fox 34 Float Performance Grip, 120mm travel
Wheels Rotary hubs, WTB ST light 29in rims, Maxxis Rekon/Ikon 29x2.4/2.35in tyres
Drivetrain Truvativ Stylo 7K chainset 34t, SRAM GX Eagle shifter and r-mech
Brakes SRAM Level T, 180/160mm
Components NS Licence Mini Rise Lite 760mm bar, Synonym Trail 60mm stem, X-Fusion Manic 150mm post, Octane One Crit saddle
Sizes S, M, L, XL
Weight 12.7kg (28lb)

GEOMETRY

Size tested L
Head angle 66°
Seat angle 70°
BB height 345mm
Chainstay 435mm
Front centre 796mm
Wheelbase 1,229mm
Down tube 755mm
Top tube 610mm
Reach 491mm



Canyon Strive CF 8.0 £4,099



Norco Sight C NX12 VLT £5,900



NS Synonym TR2 £4,199.99



Nukeproof Reactor 290C Elite £3,799.99



Scott Contessa Ransom 910 £4,949

LAURA'S SCOTT CONTESSA RANSOM 910

£4,949 / 29in / scott-sports.com



THE RIDER

LAURA BAILEY

Position

Freelance sporting events manager

Mostly rides Surrey Hills and QECP

Height 5ft 9in

Weight 75kg

THE BIKE

■ Women's version of the 170mm-travel Scott Ransom

■ 29in wheels with 2.6in Maxxis Minion tyres will keep you trucking

■ Contessa components and a lighter shock tune make it women-specific

■ Standalone model that comes in three sizes — S, M and L

MONTH 2: Upping the pace calls for a handling re-think

As chance would have it, I slipped a disc in my lower back right after the Contessa Ransom landed on my doorstep. It wasn't lifting the box that caused the injury, or even riding, I did it training in the gym. Note to self and other Crossfit fanatics: don't bounce your deadlifts. So until recently, my rides on the Ransom have been limited to short, mellow trails — far from ideal for evaluating the performance of Scott's 170mm-travel 29er.

But with my recovery progressing well, I ventured to BikePark Wales to ease myself and the Contessa Ransom into more challenging terrain. I like to try out new bikes on trails that I know, not least because it's safer, but I also get the chance to compare my latest bike directly to others I've tested on the same trails.

So I started on the fast, flowing blue trails, and my initial thoughts can be summarised by the first thing that popped into my head: 'damn this bike picks up speed quickly'. In a straight line the acceleration was instantly noticeable and impressive, and I reckon it's largely down to the bigger wheels, supple suspension and top-quality Maxxis Minion DHF tyres.

I should point out that this is the first time I've had a longtermer with 29in wheels. And while I do have a 29er Trek Fuel Ex 9.9 as my personal bike, the Scott is the first long-travel 29er that I've spent any time on. So please excuse me for being new to the party and very excited.

Picking up speed at such a rapid rate did catch me off guard once or twice, especially when the trails



Slim spacers have lowered the bar for Laura

suddenly dived back into tight turns. The long wheelbase means agility and nimbleness isn't the Ransom's instant happy place, and I am certainly having to think further ahead and get ready to muscle the bike more when rapid changes in direction are required. Like any new experience though, it will take time to adapt, but I've already realised that I need to lean the Ransom over more in the corners to get the 29in wheels to carve a tighter radius.

As the day progressed, I wanted to lower the bar height a touch, as I was feeling a disconnect with the front tyre. I quickly found out that the Syncros stem spacers have a weird interlocking shape, and because they are pretty thick, they offer limited options for fine-tuning the handlebar height. So while they look sleek, I've replaced them with thinner spacers that offer more adjustment. I just wish I could change the spacers in my spine as readily.

WHY IT'S HERE
Scott wouldn't send the bike we wanted, the Genius!

SPECIFICATION

Frame Ransom carbon/alloy SL 6011, 170/120mm travel

Shock Fox Nude TR Evol

Fork Fox 36 Float Performance Elite FIT4, 170mm travel

Wheels Syncros Revelstoke 2.0 hubs, Syncros 30mm rims, Maxxis Minion DHF 3C Maxx Terra 29x2.6in tyres

Drivetrain SRAM GX Dub 32t chainset, SRAM GX Eagle r-mech and shifter

Brakes Shimano XT M8120, 200/180mm

Components Syncros Hixon alloy 800mm bar, Syncros XM1.5 50mm stem, Fox Transfer 175mm dropper, Syncros XM1.5 Ti saddle

Sizes S, M, L

Weight 14.8kg (32.6lb)

Contact scott-sports.com

GEOMETRY

Size tested L

Head angle 64°

Seat angle 67.4°

BB height 347mm

Chainstay 438mm

Front centre 807mm

Wheelbase 1,245mm

Down tube 741mm

Top tube 635mm

Reach 467mm

THIS BIKE CHANGES EVERYTHING

THE TURBO LEVO SL

17.35 kilograms. Nimble handling. Double your pedaling power. Conventional wisdom says it's impossible, but fortunately, the Turbo Levo SL doesn't care about conventional wisdom—it's too busy redefining the modern mountain bike experience. This is the Power to Ride More Trails.



[SPECIALIZED.COM/TURBO-LEVO-SL](https://www.specialized.com/turbo-levo-sl)



BEN'S CANYON STRIVE CF 8.0

£4,099 / 29in / canyon.com



THE RIDER

BEN SMITH

Position Art editor

Mostly rides

Surrey Hills

Height 5ft 9in

Weight 77kg

THE BIKE

■ 29er enduro race bike with up to 150mm rear travel

■ Shapeshifter switches between XC and DH modes on the fly

■ High-end Fox Performance Elite suspension front and rear

■ Carbon Reynolds wheels and SRAM X01 groupset complete dream-build specification

MONTH 6: A real-world test of the Shapeshifter remote travel adjuster

This month I donned a white coat, dusted off my clipboard and undertook a very unscientific experiment. The goal? To try and quantify what effect, if any, the ShapeShifter has on the Strive's performance. But let's back up a bit before we get into the (pseudo) science.

The basic idea behind the ShapeShifter is that it gives you two bikes for the price of one. With just the flick of a handlebar remote, you can instantly transform this 150mm-travel 29er enduro race bike into a short-travel ripper with steeper geometry, ideal for finish-line sprints and long stage transfers. And, if the marketing is to be believed, it could make the difference between winning and losing.

Over the past six months I've used the ShapeShifter on the Strive a lot, while racing and on regular rides, and it certainly feels more efficient in XC mode. But feelings have no place in science, or racing, so I wanted to discover if the ShapeShifter actually makes a difference where it matters most... against the clock.

For my experiment I selected a trail with a short climb mid-way along it, with the trail ending with a fire road that I could sprint along to an imaginary

finish line. My makeshift enduro stage was short enough to perform consistent back-to-back runs using both travel modes to discover which is fastest. And as a bonus experiment, I also timed the climb back up to the start in each mode.

Ideally, I would have done hundreds of runs with a power meter to measure my exertion, then fed the results into a super computer and normalised the outcomes, throwing away any erroneous data points. But I only had a couple of hours before work so relied on feel, breathing rate and experience to pace my efforts.

So what did I discover? Unsurprisingly, the biggest difference was noted on the steady-state climb back to the start of the test loop. With an average time in XC mode of 6.33 it was 17 seconds faster than the average time in DH mode. It felt like it required less

effort too, probably down to the bike sitting up a little more in XC mode and the suspension being that bit firmer too.

On the descents the margins were much smaller. The short climb mid-way along the trail took a maximum of just 16 seconds, so any difference would be hard to detect with my lack of hi-tech equipment. Still, there was a distinct advantage: I was consistently 1.5 seconds quicker in XC mode. Yup, it's a small margin, but it's a winning margin.

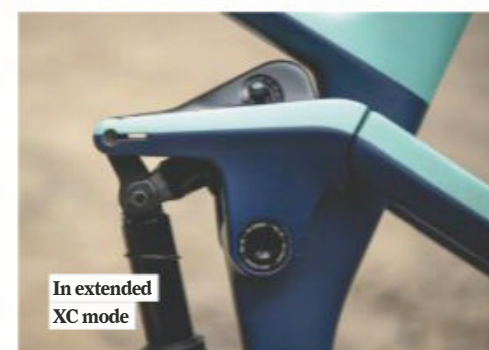
Probably the most surprising result though, was that the finish-line sprint was almost identical in both modes, with both times averaging nine seconds.

So according to my results Canyon's claims seem to have some merit. Again, take this 'data' with a large pinch of salt, but there is enough of a pattern here to show that the ShapeShifter does indeed make a difference, whether it's against the clock or simply racing your mates to the top of a climb.

WHY IT'S HERE
Does the Shapeshifter really offer two bikes in one?



Shapeshifter in DH mode



In extended XC mode



BENJI'S NUKEPROOF REACTOR 290C ELITE

£3,799.99 / 29in / nukeproof.com

SPECIFICATION

Frame Strive CF carbon, 135-150mm travel
Shock Fox Float DPX2 Performance Elite
Fork Fox 36 Performance Elite, 160mm travel
Wheels Reynolds TR 309 carbon, Maxxis DHR II 29x2.4in tyres
Drivetrain SRAM Descendant carbon chainset 32t, X01 r-mech and shifter
Brakes SRAM Code R, 200/180mm
Components Canyon G5 800mm carbon bar, Canyon G5 40mm stem, Fox Transfer Performance Elite 150mm post, SDG Radar saddle
Sizes S, M, L, XL
Weight 14.5kg (32lb)

GEOMETRY

(DH MODE)
Size tested L
Head angle 65.3°
Seat angle 65.9°
BB height 334mm
Chainstay 437mm
Front centre 792mm
Wheelbase 1,229mm
Down tube 745mm
Top tube 640mm
Reach 470mm



THE RIDER

BENJI HAWORTH

Position Deputy digital editor

Mostly rides The North

Height 6ft 1in

Weight 73kg

THE BIKE

■ 29in trail bike with 130mm travel, also available in 27.5in with identical build kits and pricing

■ Four-bar linkage is designed around wide-range cassettes

■ Carbon and alloy frame options, all with flip-chip geometry adjustment

■ Elite model gets a 140mm-travel Fox 36 fork, and Fox Float DPX2 rear shock

■ Ten-model range with four 29in and six 27.5in models

MONTH 3: New headset radically changes steering and will take some getting used to

Due to a combination of other testing duties (last month's Shimano XT drivetrain review being the main ride time sucker) and the lure of having an e-bike in the garage, I'm afraid to say that I've not put the usual amount of miles in on my longtermer this month. Sorry people.

BUT... I have ridden it a handful of times, a couple of which were with its new angle-changing headset installed. I managed to get hold of a Works Components headset that knocks a whopping two degrees off the head angle. This, theoretically and actually measured, takes the Reactor's head angle to a slack-tastic 63.5°. That's virtually into downhill bike territory. Or some of the more progressive trail and enduro bikes out there, such as Geometron, Pole et al.

So then, what does the bike ride like now, you ask? If you want to know the truth, I'm struggling a bit with it really. There are however, glimpses of huge potential. Namely, it will ride down the outside of tall buildings if it has to. Seriously, it's un-endo-able.

The key thing I think I'm struggling with is timing. Having the contact patch of the front tyre so far out in front of the bike is taking some time to get used to when it comes to cornering and — more significantly



Head angle adjust has had a big effect

— when 'working' or pumping the trail. I'm just always a bit too late with my inputs. It doesn't help that I'm switching between different bikes too.

I'm definitely going to stick with it though. The experience currently reminds me of riding a 29er when coming off a 26in wheel bike back-in-the-day. All in all, more uninterrupted quality time with the Reactor is required. It could be amazing. Or it could remain something of a laggy dog's dinner. Only time will tell.

Oh, and the first real specification niggle has appeared, the rear Shimano SLX brake has developed an inconsistent bite point, which XT and XTRs are infamous for. It's not that bad at the moment but it's worth noting.

WHY IT'S HERE
It's Nukeproof's first dedicated short-travel trail bike

SPECIFICATION

Frame T-700/800 Monocoque carbon, 130mm travel

Shock Fox Float DPX2 Performance EVOL

Fork Fox 36 Float Performance, 140mm travel

Wheels DT Swiss M1900 Spline wheelset, Maxxis Assegai/DHR II WT 3C MaxxTerra EXO+ 29x2.5/2.4in tyres

Drivetrain Shimano SLX M7100, 30t chainset, r-mech and shifter

Brakes Shimano SLX M7120 four-piston, 203/180mm

Components Nukeproof Horizon 800mm bar, Nukeproof Neutron 45mm stem, Brand-X Ascend 150mm dropper, Nukeproof Horizon SL saddle

Sizes M, L, XL

Weight 14.95kg (33lb)

Contact nukeproof.com

GEOMETRY

LOW SETTING

Size tested L

Head angle 66.1°

Seat angle 71°

BB height 330mm

Chainstay 440mm

Front centre 794mm

Wheelbase 1,235mm

Down tube 745mm

Top tube 640mm

Reach 480mm

Tested

ZIPP 3ZERO MOTO WHEELSET

£1,875

SPECIFICATION Wheel size: 27.5 or 29in • Internal rim width: 30mm • Freehub engagement: 6.9° • Weight (29in): 891g front, 1,019g rear • Contact: zyrofischer.co.uk

Carbon wheels were once touted as the saviour of 29ers, their reduced rotational weight offsetting the sluggish acceleration inherent with bigger wheels. But as manufacturers quickly discovered, lightweight carbon 29in wheels don't hold up to the rigours of regular trail riding. As such, extra carbon had to be added to the rims, making them stronger, stiffer and ultimately heavier. Today, the weight difference between the best carbon and alloy wheels is marginal, even if there's still a gulf in price.

So if a robust carbon rim isn't much lighter than an alloy one, what advantages do they offer other than being stiffer, less prone to buckling, and cracking rather than denting? Until the Zipp 3Zero Moto wheelset arrived, the short answer was not very much.

And what's most interesting about the 3Zero Moto carbon rim is that weight-saving is a secondary concern; it's performance that headlines this class act. Most carbon rims are, well, carbon copies of alloy rims and use the same box-section construction. But Zipp has flipped this process on its head, borrowing a concept straight from motocross.

By using a low-profile single-wall rim, Zipp has been able to engineer the carbon to flex locally around the spoke bed. This allows the section of the rim just above the contact patch of the tyre to flex under load. Zipp has coined the term 'ankle-flex' to better describe the concept, because just as your ankles articulate to keep your foot firmly planted on the ground as you run round a corner, the lower part of the rim flexes to align the contact patch of the tyre with the terrain.

It works. And it's not the only advantage of Zipp's unique rim design. Having a carbon

rim that can move locally makes it less prone to failing and dramatically reduces the risk of pinch flats, something I've experienced first hand. That's not to imply that the 3Zero Moto wheels are indestructible, though. And while it's tempting to run lower tyre pressures, I'd advise against this, especially if you are approaching the upper end of Zipp's 120kg weight limit — a sum that includes the bike and your riding kit. I'd also recommend using an insert in the rear tyre for racing, just for extra protection when the rim reaches its maximum ability to flex, as a rock will always win that particular encounter. If you're unlucky and the rim does fail, you're covered under Zipp's lifetime warranty.

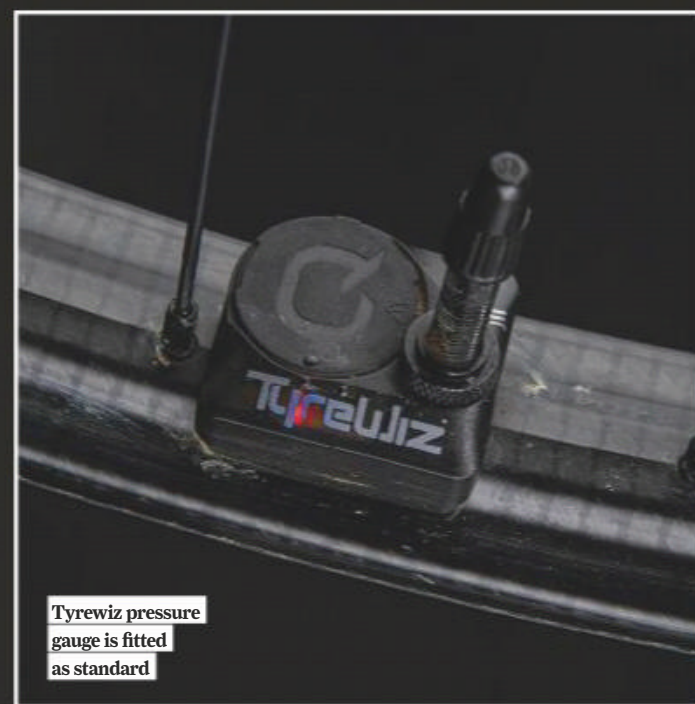
In back-to-back testing with Santa Cruz Reserve 30s the Zipp 3Zero Moto wheels offered an appreciable reduction in harshness, while increasing traction and control. In fact, the best analogy I can use to describe the sensation of riding the Zipp wheels is by comparing them to tyres. It was as if I'd switched to softer compound rubber, without

the associated increase in rolling resistance. And even though the tyres on both wheelsets were identical, the sound of the tyres also changed, with less pinging from the side knobs on the Zipp wheels when blasting through rough, rocky terrain.

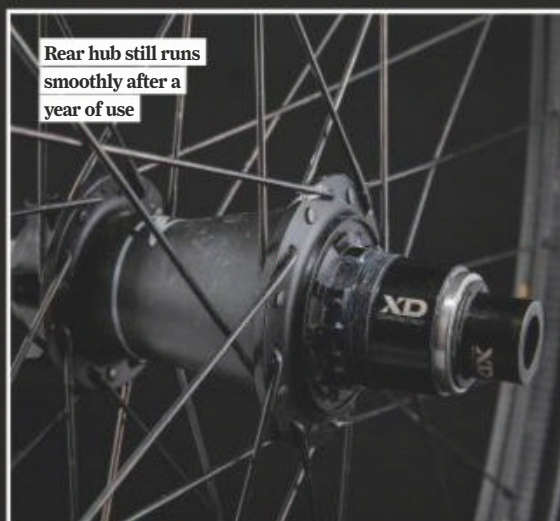
So the rims are amazing, but how does the rest of the wheelset stack up? The Zipp ZM1 hubs don't carry the cachet of King, Industry Nine or DT Swiss, but the bearings are still every bit as smooth today as when I fitted the Zipp wheels 11 months ago. Granted, the Double Time freehub technology, with its 52-point engagement (6.92°), is positively lethargic compared to many modern hubs, so Half Time technology would probably be a better moniker.

CUTTING-EDGE TECH

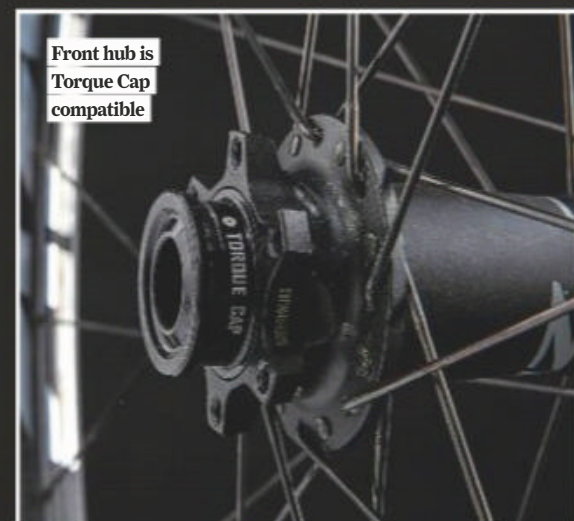
With Zipp coming under the big, red SRAM umbrella, it should come as no surprise that the front hub is Torque Cap compatible, the bigger 31mm end caps boosting stiffness with all RockShox forks. The end caps pop on and off



Tyrewiz pressure gauge is fitted as standard



Rear hub still runs smoothly after a year of use



Front hub is Torque Cap compatible

YOUR TESTERS



PAUL BURWELL

Half-term this month sees PB coaching the next generation of rippers. Although swimmers might be more accurate



JAMES BRACEY

Escaped to Italy to shoot some gravel bike videos and found actual dust. Yes, we've seen the footage and it's true



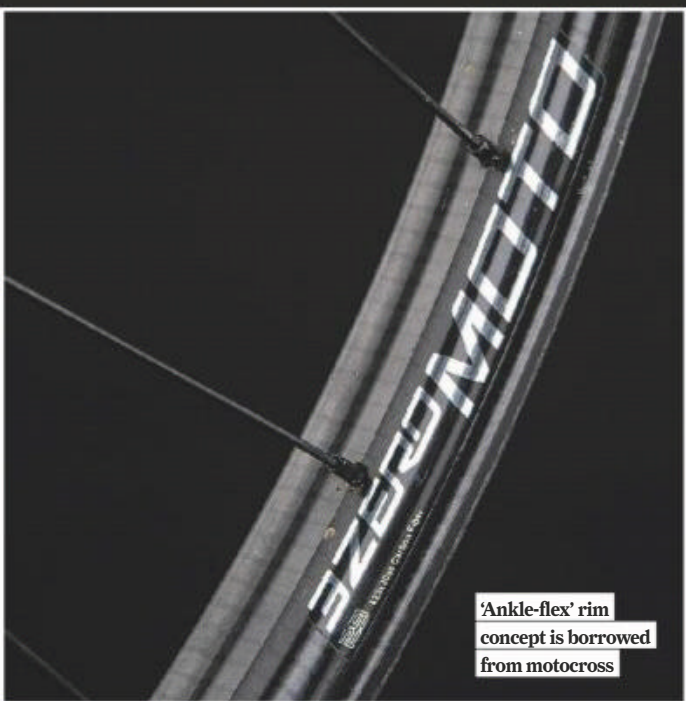
MICK KIRKMAN

Currently had it up to the eyeballs with the UK weather so escaping to Africa for the Kingdom Enduro in Lesotho



ALAN MULDOON

Dusted off the heart rate monitor and bar ends for the XC race bike test. Now contemplating entering the UCI XC e-bike series



'Ankle-flex' rim concept is borrowed from motocross

easily and because you also get the standard 21mm end caps with the wheels, you can tune steering stiffness to a degree, or just match the hub compatibility to any fork.

And as if the Zipp wheels weren't already packed with cutting-edge tech, the wheelset has TyreWiz fitted as standard. The wireless pressure gauge gives you live readings on your phone, where you can set upper and lower pressure limits, with the small light on the unit at the base of the valve indicating if the pressures needs adjusting. Most impressive though, is that after 11 months of use, the batteries are still going strong. Yes, I had some issues connecting to the original TyreWiz app, but now that it has been rolled into the SRAM AXS app it connects every time. Still, I could happily live without the £250 TyreWiz, especially if it meant that the wheels were proportionally cheaper.

So the Zipp 3Zero Moto wheels offer a ride quality that is superior to the best alloy wheels, with improved durability over most carbon alternatives. At 1,910g for the 29er wheelset they are some of the heaviest on the market, not that you can tell when you're riding them.

In fact it is the additional cost of TyreWiz, when a £20 pressure gauge would suffice, and the slow freehub engagement that takes the shine off the otherwise standout ride quality. So probably the best option would be a custom build with your preferred hubs. In fact, that's currently the only option if you have a 12-speed Shimano drivetrain and want to benefit from all of the advantages the 3Zero Moto rims have to offer.

Alan Muldoon



mbr ratings explained

The scores on the doors

1

2

3

4

5

6

7

8

9

10

1-4 Something's wrong. It's rare, but sometimes a product will have a design flaw or some other weakness that means we can't recommend it. Steer clear.

5-6 OK — one or two faults but it has potential.

7 Good — worth considering.

8 Very good — for the money, we'd buy it.

9 Excellent — a slight mod or two and it might be perfect.

10 Simply the best — we couldn't fault it.

SCOTT SPORT VOLT SHOE

£89.99

SPECIFICATION Weight: 395g • Sizes: 5-12.5 (39-47) • Contact: scott-sports.com

Scott Sports has a range of over 30 mtb shoes, but only two are designed for flat pedals: the Volt and the MTB AR. The Volt is the top model in this micro range and gets a Boa L3 closure and a branded 'Sticki' rubber sole. The innovative closure is incredibly simple — you turn the dial clockwise to tighten the thin nylon cords, and to release the tension you just pull the dial and everything pops open. It's

quick to use and, unlike laces, the nylon strings don't fray and can't catch in the crank, and you can fine-tune the tension while riding. The design also results in an incredibly clean upper, which means there's very little for mud to stick to.

There are a couple of downsides. I've seen riders whack a dial on a rock and break it, and when you're trying to set a high tension they can also be stiff to turn. Even at the extreme I was never able to get the closure as tight as a shoe with laces.

Although the Volt has an innovative closure, flat pedal shoes are judged on the quality of their rubber soles. To maximise grip and stop the shoe moving on the pedal, this rubber needs to be soft and have slow-rebound properties.

Unfortunately, Scott's in-house Sticki rubber is neither. The mid-sole is flexible, so it deforms easily to the pedal, but the rubber feels springy on the pedal, and when sprinting hard down a steep descent my feet shifted forwards a few times on the pedal. Overall, the Volt just doesn't have the same locked-in feel of a Five Ten or Ride Concepts shoe.

With its ErgoLogic insole, the Volt is comfortable and I really like the simplicity of the Boa system. It's also excellent value and looks neat and tidy, but I'd trade all of that in for a softer rubber sole.

Paul Burwell

7

MAVIC XA HIP BELT

£54

SPECIFICATION Colours: Black • Storage: 3 litres • Contact: mavic.com

Mavic's new XA Belt has three litres of storage and a host of mtb-specific design details to ensure it's no bog-standard bum bag. Tough fabrics and metal buckles offer extra durability, and the pack is centred on a roll-open design that protects a jacket or extra top.

Opening the XA's main flap reveals this jacket stash and also a main chamber with a wide zipped mouth. To tune waist tension depending on cargo load, this flap fastens via a sturdy metal hook into various fabric loops. Extra zipped pockets and stashes can accommodate trail snacks, mini-tools and a mobile phone, and there are specific pouches to hold an inner tube and mini-pump. The right waist wing flap also has a decent-sized, zipped compartment that's handy for grabbing essentials without removing the pack completely.

Hydration storage sees twin mesh pockets to hold standard water bottles, rather than a bladder and hose set-up. This arrangement works well but it won't best suit riders who like to continually sip fluid.

Mavic's adjustable waist belt uses an all-metal clasp that threads through itself, and dense foam backing on the main pack that's



comfortable and airy against the spine. I had two gripes: first, the fabric strap joins the main chamber via elasticated tips, which afford the ability to 'peel', or bounce, the cargo load off the spine when fully loaded and riding dynamically. Another bugbear is how fiddly Mavic's thread-through metal clasps are with cold hands and how you need to breathe in to release the buckle if you've cinched it tight enough to stabilise the pack properly. Extra faff points go to the multi-position closure on the main wrap-over flap that's more fiddly to close than a normal, tensioning plastic clasp buckle.

The XA's jacket stash is neat and keeps it out

of the crud and wet, and the layout is generally pretty good with solid and durable materials used everywhere, although the 3L of storage feels like less owing to the way the space is divided up. £54 is a good price for the build quality, but several elements feel a bit over-engineered, and a waist pack you can ratchet tight onto your torso is the number one priority for me to eliminate any swinging. So while the XA Belt is pretty sorted, I won't be swapping it for my regular pack.

Mick Kirkman

8

ragley 2020 range.
It's here.



www.hotlines-uk.com

DMR OIOI SADDLE

£35

SPECIFICATION Weight: 270g • Size: 278mm x 147mm • Contact: upgradebikes.co.uk

Developed with the help of DMR's sponsored rider Ben 'The Deakinator' Deakin, the OiOi saddle is low profile, lightweight, has a stress-relieving base and comes in two camo colourways, to reflect Ben's former career in the Marines.

Construction is similar to most modern saddles: it has a nylon base, lightweight foam padding, a synthetic leather perforated cover and cro-mo steel rails, which is what you'd expect for £35.

The overall profile of the OiOi is similar to DMR's Stage saddle, but it has a slight hammock shape down the centre, so you sit 'in' the saddle rather than 'on' it. A recessed channel and cutaway underneath in the nylon shell puts less stress on your soft parts, but like most modern saddles it does work best if you tilt the nose down slightly by a couple of degrees. I found I could sit right back into the shoulders of this saddle when climbing without slipping too far off the back.

I've ridden the OiOi on some pretty long rides and it's all-day comfortable and durability also seems good — it's been banging around in the back of my van and it's still in good nick.

My only issue with the OiOi is the cover. This has

a sort of perforated finish, which is not that grippy and also tends to hold on to dirt, so you can slide around on it in the wet.

For the money the OiOi is good value; it's also plush, light and reasonably hard wearing. I'd like to have seen more made of 'The Deakinator' branding (two colour options doesn't seem like a lot of input) but this saddle does look pretty sleek on the bike.

Paul Burwell



100% S3 GLASSES

£139.99

SPECIFICATION Weight: 28g • Contact: freewheel.co.uk

Eyewear like this 100% S3 promises the protection of goggles with the airflow of glasses. The S3 has a half-frame design, but there's an extended nose piece to wrap further around the bottom part of the lens. This adds a bit of stability and also allows it to incorporate a couple of vents to push air up behind the lens. It also makes the S3 feel less like something you might wear during a science experiment.

The frame isn't as wide as some of the other larger eyewear on the market as the lens flares out from underneath. This means it doesn't feel too wide on the face and keeps out of your peripheral vision. The arms have just enough flex to really latch onto your head without feeling too tight.

Peripheral vision is simply superb, plus with the increased size comes increased protection and the S3 lens does a great job of keeping out the elements. It does have a tendency to steam up when stopped in damp/cold conditions, but this clears reasonably quickly when moving again.

Two lenses are included with the S3, and standard issue is my favoured clear option. Then you can choose between the standard mirror lens (that came with our test set), a contrast-enhancing HiPER lens or photochromic. For trail riding I find the standard mirror lens is not as good as the competition in terms of picking out objects, so would

probably opt for the better HiPER lens. This would add to the cost of the S3, and at £140 for the standard package, these are already at the premium end of the market.

James Bracey



ION SCRUB SELECT RIDING TROUSERS

£149.95

SPECIFICATION Sizes: S, M, L, XL • Black • Contact: ion-products.com

The Scrub Select is Ion's slightly heavier-duty, DH-style trouser using stiffer DWR-coated fabrics together with thinner, more flexible ones. Reinforced panels in high impact areas include a thick, splashproof backside area topped by a rippled, flexible band for better ease of movement. A tight-fitting, elasticated ankle cuff keeps the trouser well out of the way of chain and cranks too.

The Scrub's heavily articulated cut delivers perfect riding comfort, although two testers both reckoned the waistband was big for a Large/34in waist size. This meant cinching the Velcro hip tabs in as far as they would go to just get enough tension to stabilise the waist.

In wet UK weather, Ion's fabric doesn't get too heavy and dries really quickly. The tough, triple-stitched material and seams also haven't got damaged or pulled during months of testing. Ion's shape and function is near perfect then, but the well-positioned waistband could be tighter and would also benefit from stiffer elastic and material in the wrap-over tabs to keep things better locked in place. This is a common gripe I have with most riding trousers except the Specialized Demo Pro Pants that fail to consider most keen cyclists have muscular thighs and butts and comparatively smaller waists.

The Scrub Select costs £50 more than Spesh's pant too, but is tougher and handles wet rides better without getting too heavy and saturated — it would be perfect with a stiffer, narrower waist for a bit less cash.

Mick Kirkman



ALPINESTARS ASPEN WR PRO GLOVES

£30

SPECIFICATION Sizes: S – XXL • black, black/mid grey, black/red • zyrofischer.co.uk

The Aspen WR from Alpinestars is a water-resistant, soft-shell winter glove with a synthetic suede palm. I chose it specifically for the single-layer palm, since any padding or excessive thickness under my fingers reduces grip and feel, and diminishes control.

Build quality and stitching is good, so the Aspen's tough enough that it won't fall to pieces quickly. It's also warmer and more water-resistant than my go-to cold-weather glove — the 100% Brisker — although it also eventually gets saturated on the wettest days just like its rival.

The Aspen has a much bulkier feel and less sensitivity at the grips than the benchmark Brisker, though. It's reasonably dextrous, but with the softshell material extending a little into the gap between forefinger and thumb, excessive fabric at thumb

and little fingertips, and also less flexible fingers, it simply isn't as supple and dextrous when riding. Being toastier and offering better water resistance for the same money might swing it for

some, but feel is king for me, so I'll stick with the Brisker for now.

Mick Kirkman



RACEFACE TURBINE R 35 STEM

£89.99

SPECIFICATION Weight: 124g • Length: 32, 40, 50, 60, 70mm • Rise: 0° • Stack height: 42mm • Contact: silverfish-uk.com

RaceFace's excellent Turbine R 35 stem has featured in these pages more than once, but I'm taking another look because it's now available in nine different anodised colours — black, blue, green, orange, purple, red, silver, turquoise and something called Kashmoney gold, which is actually a bit more copper than gold.

It's also available in a new 32mm length rather than the 35mm, which has been discontinued. There are four other lengths available, but if you check the company website you'll see the 60 and 70mm only come in black. The stem is compatible with a standard 1 1/8in steerer tube and comes with a 35mm bar clamp; the 31.8mm size has also been discontinued.

Apart from the jazzy new colour, what I really like about the Race Face Turbine R35 is that it's pretty stiff for a lightweight machined stem. It's crafted from a lump of 7075 aluminium billet and is oversized in the midriff as well as having an oversized Overbite faceplate. This gets the company's

Top-Lock clamping system, where the top two fasteners are clamped fully, with the bottom two then snugged up to close the gap. This system eliminates uneven clamping and creates a stiffer union between bar and stem. Even with a matching 800mm Next R bar fitted, the steering feels precise and immediate, with just the right amount of resilience.

The surface anodising is first class, too. I've got a black version on my bike and it still looks good as new. The bolts have lost some of their paint but then I do change the handlebar quite often — it's one of the curses of being a product tester.

At £90, the Turbine R 35 isn't a cheap stem, but I reckon it's one of the best-looking on the market. It's also really stiff and solid for something so light and is definitely the icing on the cake if you're putting together a custom build or just upgrading a tired old cockpit.

Paul Burwell



Disc brakes

We've had 10 sets of discs on heavy rotation; which is top of the stops?

Words: Paul Burwell Photos: Roo Fowler, Daniel Gould

Disc brakes are now standard-issue on bikes costing as little as £300. The reasons for this are simple: they offer powerful, reliable stopping power in all conditions, giving you the confidence to tackle whatever the trail throws at you.

This year we've included some affordable options, such as the new Shimano SLX units, but we also have some top-end trail anchors like SRAM's new Guide G2 Ultimate and the Hope Tech E3. There are also lightweight options like Shimano's XTR and Magura's MT7 Pro. With the growing popularity of e-bikes, we also have two dedicated brakes in the shape of the SRAM Guide RE and TRP G-Spec E-Mtb. So whatever type of riding you do, we have a brake for you.

Regardless of price or application, there are some essential features we expect on all

disc brakes and the first is adjustable reach. This lets you tune the brake lever spacing to match your hand size; dial this in properly and you'll be able to brake more comfortably and confidently.

The other thing we expect from modern brakes is a good modulation or feel. A good brake builds power progressively without feeling too grabby. This way you can really feel when the wheel starts to lock, so you can back off and remain in control.

We endure plenty of bad weather and wet trails, so a brake needs to function in these unpredictable conditions and brake pads need to be hard-wearing but still powerful.

These 10 brakes are all fighting it out for top honours — the best will be the one that most successfully balances weight, performance and cost.

USED & ABUSED

How we test

Most manufacturers don't include the cost of rotors or adapters in the overall price of their brakes, so we've worked this out for you and included it in the copy. We've also weighed all the brakes and included the weight of a 200mm (or 203mm) rotor and lever/caliper. We've printed this separately because you may want to run a lighter 180mm or 160mm instead. We've also not included the weight of the adapters because, depending on the frame and fork you're using, they may not be necessary. Factor in around 80-90g for two adapters and all the fixing hardware.

Know your disc brake

ROTOR SIZES

The most common rotor sizes are 160, 180 and 200mm. There's more mechanical advantage with a larger-diameter rotor, which gives greater stopping power but obviously adds weight too.

ADAPTOR

Adaptors are often required depending on your combination of frame, fork and rotor. Most manufacturers sell these separately, because you may not need them, **and there are so many options available.**



BRAKE PADS

Brake pads are available in two compounds — metal sintered or organic. The latter are often fitted as stock because they're cheaper, but metal sintered pads are the more durable option and work better in the wet.



REACH ADJUSTMENT

Reach lets you fine-tune the position of the brake lever relative to the bar to suit your preference or hand size. It's adjusted either via an annoyingly hard-to-access grub screw or a small knob/dial that you can adjust by **hand.**

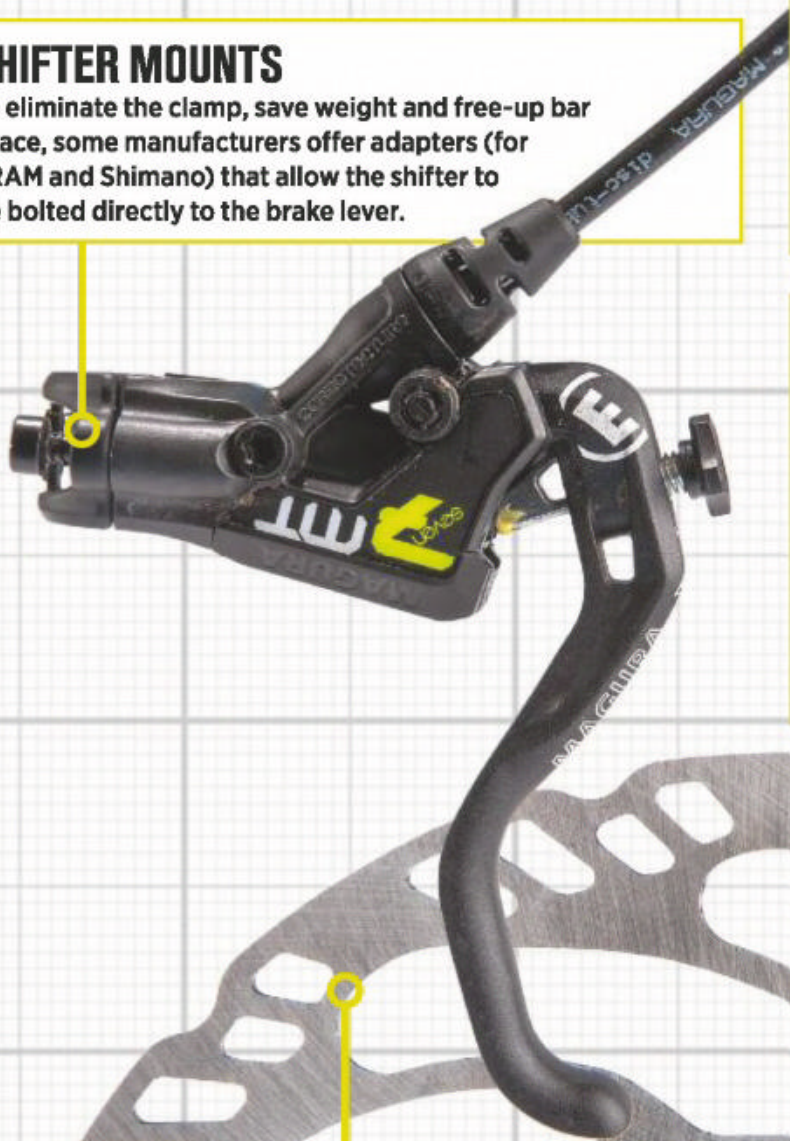
BITE-POINT ADJUSTMENT

Technically this adjustment doesn't move the brake pads any closer to the rotor but it does reduce the distance you have to pull the lever. On SRAM brakes this is called Contact Point Adjustment, on Shimano it's Freestroke and it's adjusted by a dial on the front of the lever blade on the former, and a small Phillips head screw on the latter.



SHIFTER MOUNTS

To eliminate the clamp, save weight and free-up bar space, some manufacturers offer adapters (for SRAM and Shimano) that allow the shifter to be bolted directly to the brake lever.



OLIVE AND INSERT

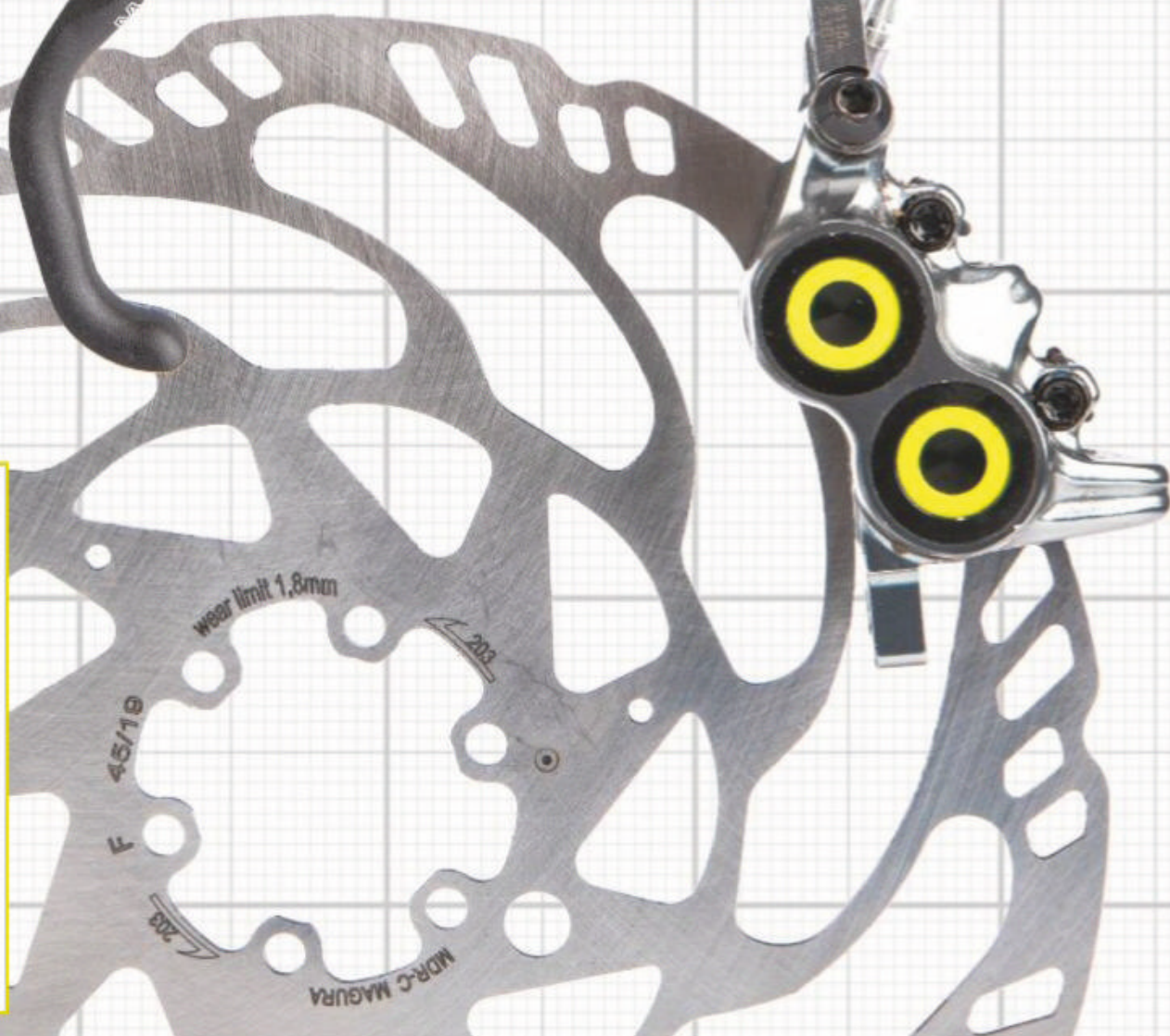
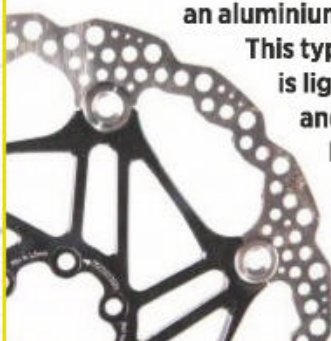
These are the small components used to connect the hose into the lever. A spares set is usually included in the box because you often need to shorten the **hose** when fitting the brake for the first time.



ROTOR CONSTRUCTION

Standard disc rotors are cut from stainless steel and are heat-treated. Two-piece designs (including floating rotors) have the steel braking disc surface riveted to an aluminium carrier.

This type of rotor is lighter, truer and is far less likely to warp, but will cost more.



HAYES DOMINION A4

£199.99

SPECIFICATION Weight: brake 302g, rotor 187g • Rotor size: 180 and 203mm • Contact: hotlines-uk.com

The Dominion A4 remains unchanged from the brake we tested a year ago. It looks like good value until you find out that it is sold without rotors and adapters, which are on the expensive side at £44.99. This brings the total cost for a front and rear set to over £500. Weight for the stainless-steel rotor is reasonable, but the Dominion A4 lever/caliper is weighty, making this one of the heavier systems on test.

One of the unique features on the Dominion A4 is the Crosshair caliper centring, which is essentially two tiny grubs screws threaded in the caliper that push against the fixing bolts, allowing you to precisely fine-tune the pad position relative to the rotor. Crosshair eliminates the usual trial and error

method, and helps you achieve that perfect drag-free set-up.

To match different hand sizes, the Dominion lever gets a dialled reach adjustment. This bezel is indexed, so won't work loose, and also has a very light action, so it's not going to bind if you get any grit in there. It also has a wide sweep to accommodate different hand sizes, but the one issue we've found is the lever blade is a little bit short. It has a hook on the end, but it's pretty broad and not that comfortable when braking with one finger.

There is no bite-point adjustment, but the stock setting balances lever travel and power delivery equally, so we actually didn't miss it.

Unlike previous Hayes brakes, which were always a bit on/off, the Dominion is really well modulated.

The A4 is not the lightest and it doesn't quite have the smooth power band of a SRAM brake, but it's solid and excellent quality.



HOPE TECH 3 E4

£175

SPECIFICATION Weight: brake 254g, rotor 171g • Rotor size: 160, 180, 183, 200 and 203mm • Contact: hopeotech.com

This time round we're testing Hope's Tech 3 E4 with a two-piece floating rotor, which adds £45 to the base price. The company also makes a regular stainless-steel variant for £10 less and you will need to stump up another £16 for fork and frame adapters if you need them.

As the name suggests, the brake is built using the third generation Tech brake lever combined with a four-piston caliper. The lever has both reach and BPC (Bite Point Control), adjusted by two silver machined dials on the front of the lever blade. There's a big adjustment range, allowing you to set the stroke exactly to your hand size, and they're also indexed, so shouldn't creep, but our test dials were super-stiff to turn

and they're also angular, so are best adjusted with gloves on. To improve wet-weather grip, the lever is drilled at the front, and Hope also offers optional shifter clamps (for £15) should you want to direct mount a shifter pod.

What we really like about the Tech 3 E4 and Hope brakes in general is the simple set-up — everything is precisely made and easy to align and bleeding is a cinch. The pads do squeal a bit in the wet, but they bed in quickly, only requiring two hard stops to come up to full power. Once up and running there's plenty of grunt and the lever has such a light action that you can easily modulate the power delivery. Our only

issue is there's quite a lot of lever stroke, so if you run the levers close to the bar they can bottom out on the grip — if you have big hands this shouldn't be a problem, but if you have small digits you may not be able to get the perfect set-up.



MAGURA MT5

£93

SPECIFICATION Weight: brake 242g, rotor 222g • Rotor size: 160, 180, 203mm • Contact: magura.com

Even though the Magura MT5 plays second fiddle to the MT7 Pro, it's actually 7g lighter as a system. It uses a similar carbon composite lever with a forged four-piston caliper. £93 gets you a lever, hose and caliper, but you'll have to do a bit of DIY if you want to cut the front hose to the correct length. Spares are included in the box, but you'll need to stump up some money for dedicated bleed kit.

Instead of the MT7's tool-free reach adjust, the MT5 lever has a small Torx head screw on the front. It's easy to access and indexed, so won't work loose, but there is limited adjustment and it can unwind if you go too far. The blade has a nice shape and taper but the radial design — the master cylinder is perpendicular to the bar — means it pulls in at a tighter arc than, say, a SRAM brake. It's powerful and has plenty

of bite, but the power doesn't build evenly and actually drops away a little at the end of the stroke.

The forged caliper is incredibly solid and features four pistons and comes with four individual brake pads. There's a bridge of material across the centre of the caliper to boost stiffness, so these only load from the bottom. This is less convenient, and with two sets of fixing bolts to remove, we found it a bit of a mission swapping out the pads.

The MT5 is excellent value for money and has good bite, but the svelte lever and radial design makes it feel flimsy. There's also a bit of dead travel before the power kicks in and the lever can sometimes pull all the way to the bar if you yank it suddenly.

8



MAGURA MT7 PRO

£188

SPECIFICATION Weight: brake 249g, rotor 222g • Rotor size: 160, 180, 203mm • Contact: magura.com

The MT7 Pro combines Magura's lightweight composite lever with a forged caliper. For £188 you get a caliper, hose and lever, but they only come in a single length, which means the hose on the front brake needs trimming. Olives, top hats and spares are included in the box, but you'll need tools and a bleed kit to do this properly. A stainless-steel Storm HC rotor adds an extra £25 to the base cost, and adapters and bolt hardware are a further £8.50 per end.

Most other brakes in this test use a parallel main piston, but the Magura persists with a radial design, which means the master cylinder is perpendicular to the handlebar. Configuring the brake like this has two advantages — the lever takes up less space and the reach adjustment is easier to access. The downside is the lever arcs into the handlebar at a tighter angle, which can feel like your finger

is being dragged off the end of the lever. We also found the dial for adjusting the reach to be really tight, and on one of our test brakes it jammed solid.

Despite the really short lever, the MT7 Pro has a good bite, but the power seems to drop off the deeper you are into the stroke. It does feel soft initially and has a lightweight action, but there is dead travel before the power kicks in, and because of that, the lever can often pull all the way to the bar if you yank it suddenly. This is a powerful brake, it's just a little unpredictable when riding aggressively.

Magura makes some really capable disc brakes and the MT7 Pro is in that category, but the lever is flimsy, and the action is erratic.

7



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SHIMANO XTR M9100

£219.99

SPECIFICATION Weight: brake 199g, rotor 166g • Rotor size: 140, 160, 180 and 203mm (CentreLock only) • Contact: freewheel.co.uk

Shimano uses a pick-and-mix style pricing structure for XTR, and sells the lever, caliper, rotor and adapters separately, which means it's tricky to give an accurate price for the complete brake. You also have to put the brake together yourself.

Price for the lever is £75.99, the caliper/hose is £109.99, adapters are £12-15 and the Ice-Tech rotor — which is XT because Shimano doesn't offer a six-bolt rotor at XTR level — is £54.99. If you add all that up you're looking at over £500 for a full set of brakes.

The XTR brake we're testing is the new non-trail version with the minimal lever and caliper design. It's the lightest brake on test, but it is a two-piston design, so is optimised for weight rather than power —

ample if you're small and light and/or riding an XC bike.

The new 2020 lever has a svelte carbon blade and reach can be adjusted with a tool, but Shimano has redesigned the clamp, cleverly adding an extra bracing strut without taking up any more bar space. This really works, reducing flex and making the brake feel more positive, but the hinged clamp, with its security pin, is a pain — it's tricky to release and we struggled to get the bolt in straight. In fact we think it would almost be easier to have a fixed clamp and take the grips off.

The XTR brake is superb quality and has a smooth lever action. However, it still suffers from a fluctuating bite point at the rear, so when you're hammering into an ugly turn, you really don't know what you're going to get. The fact that you have to assemble the brake yourself just makes things worse.

6



SHIMANO SLX M7120

£154.99

SPECIFICATION Weight: brake 249g, rotor 166g • Rotor size: 140, 160, 180 and 203mm (CentreLock only) • Contact: freewheel.co.uk

The Shimano SLX brake comes with a lever, hose and caliper in the box. The system is fully bled, but like XTR, it's not connected up — you have to join them yourself. On the one hand this means you can tweak the hose length, route the cable internally or even use a different lever, but there's more chance of things going wrong and if you leak fluid, you will need a bleed kit to top it up, which is an added expense.

Like XTR, the SLX lever gets the extra brace to reduce lever flex. Unfortunately, it also gets the same hinged clamp, which has a security pin — you have to press the pin with a 2mm Allen key to release it — and while that's overkill, the fixing bolt doesn't seat right; it all seems a bit complicated.

The SLX has a tool-free reach adjustment. It's not indexed, but it didn't work loose during the test period. The lever is on the stubby side if you have big hands,

but it features a ServoWave action, so alters the mechanical advantage through the stroke to increase power progressively. Unfortunately, it has the same variable bite point issue as XTR.

At the caliper end, SLX gets four differently-sized ceramic pistons so that the pads toe-in slightly, also helping the progression. Shimano says this also reduces brake squeal and, combined with the finned brake pads and Ice Tech rotor, offers excellent heat dissipation. Set-up is pretty easy and the rotor aligned perfectly with minimal pad drag.

This SLX brake is powerful, but the stubby lever won't suit every rider, and that unpredictable bite point really knocks confidence.

7



SRAM GUIDE G2 ULTIMATE

£265

SPECIFICATION Weight: brake 256g, rotor 183g • Rotor size: 140, 160, 170, 180 and 203mm • Contact: zyrofischer.co.uk

Since this is the top-end brake in the Guide range, it has a price to match, and it doesn't even include the cost of a rotor or adapters. The stainless-steel Centreline (£48) shown is what we were sent for review, but SRAM also offers a Centreline X with a machined alloy carrier, which is more in keeping with this level of brake. The only problem with that is they're £68 an end. Add that to the price of the brake and adaptors and you're looking at close to £700 for a full set of G2 Ultimate brakes!

The new G2 Ultimate looks similar to the previous Guide Ultimate, but there are several subtle changes. The two-piece caliper has a new forging, which is better at resisting flex, resulting in a firmer lever feel.



It also sees greater machining around the piston area, so the pads retract more easily and rub less. Talking of which, those are new too. They're the same shape, but now feature a 'Power Organic' compound and a steel (grey) backing plate.

The lever itself remains unchanged and still uses a carbon blade with the subtle twin taper making it one of the most comfortable out there.

SRAM has tweaked the tool-free reach adjustment; the dials still have a wide range and are indexed, but they're now easier to turn. This was true when new, but grit has started to make them feel a little graunchy.

The improvements to the G2 Ultimate are not ground breaking, but at this level it's a law of diminishing returns. This brake is a little bit more positive, and getting a drag-free set up is less of a headache. This is superb brake, but very expensive, so we can't rate it any higher.

9

SRAM GUIDE RE

£120

SPECIFICATION Weight: brake 283g, rotor 195g • Rotor size: 140, 160, 170, 180 and 203mm • Contact: zyrofischer.co.uk

Originally the Guide RE was designed for e-bike use, but it has loads of feel and power and is such a good price that savvy riders have been fitting it to their regular bikes ever since it came out. The price above doesn't include a Centreline rotor or adapters, so you'll need to add another £48 and £20 respectively to the base price.

What makes this such a good anchor is it combines the shape and feel of the Guide lever with the stopping power of the Code caliper in a more affordable package.

The lever shape is identical to the Guide G2 Ultimate tested left, but it uses a cheaper aluminium blade, simple press-in bushing and reach adjustment, tuned via a dial on the front of the lever. It's just as comfortable and it builds power in the same way but

the bushing doesn't feel as smooth and, over time, it can work loose, causing some slop. We've also had a few issues with the master cylinder sticking slightly and the lever not returning in the past.

The four-piston caliper is a two-piece design bolted together to boost stiffness and features top-loading brake pads. We had a few issues with set-up — it's not quite as precise as the Ultimate, and the piston can stick over time, causing uneven pad wear and some rubbing.

You don't get all the bells and whistles of the G2 Ultimate, but the Guide RE is just as comfortable, has a similarly light action and all the power is on tap when you need it. It does require a

little bit more looking after though, and in the long-term it can feel tired, but for the money it's really hard to beat, and is one of the bestperforming disc brakes at the lower end.

10



TEST
WINNER!

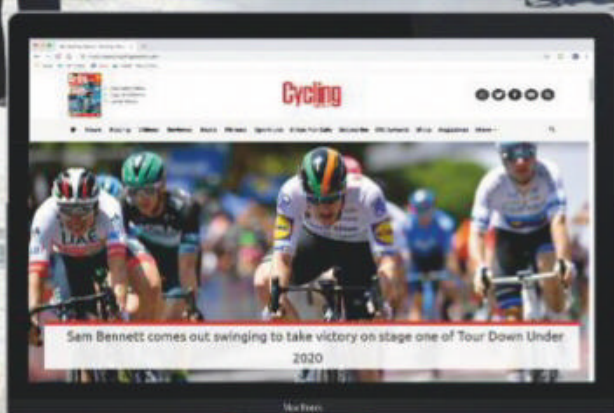
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TRP G-SPEC E-MTB

£160

SPECIFICATION Weight: brake 312g, rotor 234g • Rotor size: 180 and 203mm • Contact: upgradebikes.co.uk

You can't see it in the photos, but TRP's new G-Spec E-mtb disc brake has a specific extra thick 2.3mm rotor. According to TRP, this extra thickness decreases the operating heat of the brake system by eight per cent and reduces rotor warping by 15 per cent, which means the pads shouldn't glaze, and the brake is less likely to fade on long downhill.

TRP sells the E-mtb as a complete package, which means you get a fully built lever and caliper with a rotor size of your choice in the box. Adapters are an extra £12-15, which is good value compared with most other brands.

The lever is pretty meaty with a big square blade, but we didn't find it particularly comfortable and found it more difficult to feather compared to

the SRAM options. It does have tool-free reach adjustment, which is indexed and easy to access on the inside of the blade. The lever assembly has a split clamp, but it incorporates a plastic shim — we're assuming you replace it when you install one of TRP's i-Spec shifter adapters — and this constantly fell out when we removed the brake lever from the bar.

Like the old Quadiem, the E-mtb took several rides to bed in and come up to full power, which is down to the pad compound. Once bedded in, it had plenty of bite, but it's not very progressive and there is a lot of excessive lever travel before it really starts to slow you down.

Since the E-mtb is intended for e-bikes, it doesn't really matter that it's the heaviest on test, but we're not convinced that e-bike brakes really get that hot on UK rides, which means the thickness is just unnecessary weight.

7



TRP G-SPEC TRAIL SL

£150

SPECIFICATION Weight: brake 311g, rotor 203g • Rotor size: 180 and 203mm • Contact: upgradebikes.co.uk

TRP has ditched the Quadiem name from its disc brakes for 2020, now everything falls under the G-Spec banner, including this brand-new stopper — the Trail SL. It still uses the Aaron Gwin-designed brake lever, but the four-piston caliper is a little cleaner looking and it's only available in black.

We initially assumed that the SL in the name stood for Super Light, but put the brake and rotor on the scales and you'll see this is not the case — it's one of the heaviest on test and 75g heavier than the SRAM G2. However, it does feel incredibly solid and TRP does spec a stiffer forged caliper body. This features dual-sized pistons and cooling fins, and the pads are bottom-loading.

The brake lever has reach adjustment, which is tool-free

(you turn a dial on the inside of the blade) and indexed, so it doesn't unwind and it allows you to set both levers by the same amount relatively easily.

There was a big issue with our test brake — the rotor wasn't round and part of it rubbed on the pad mounting pin. We eventually found the high spot and filed off a bit of material to cure the problem, but the quality is pretty poor for a brake costing £150 per end.

Like the old Quadiem, the Trail SL has quite a bit of lever travel before the power kicks in. There's a ton of modulation and it has a light action, but if you run the lever in-board it can bottom-out before you're fully stopped.

What really lets this brake down though is the quality, weight and uncomfortable lever — we've marked it down accordingly.

7



Conclusion

In the verdict of our last disc brake group test, we pondered the merits of budget disc brakes versus top-end models, and how, in terms of the basic job of killing speed, they both work equally as well. The top-end brakes in this test use exotic, lightweight materials and have more adjustment features that can tune the feel of the brake, but in terms of stopping distances, the £125 Guide RE is just as good as the £265 Guide G2 Ultimate. So why spend twice the money on the G2 Ultimate?

Even though the RE is comparable in this aspect, the G2 Ultimate is a much nicer-feeling brake. It has a lighter lever action, it's easier to set up

and with the quality components and better pivot bearings, it's more durable. The G2 Ultimate is superb, and if money is no object this is the best brake, but we found it really hard to justify the price when you can buy two sets of the excellent Guide RE brakes for the same money.

The problem with the G2 Ultimate and a lot of other expensive brakes is there's a law of diminishing returns in play. For example, the difference in weight between the lightest and heaviest brakes is only 180g, (it's skewed slightly this year because of the lightweight XTR), but the difference in price is £170 — per wheel!

There's more to it than weight though, which is why most of the higher-end brakes on test have some great features. We particularly liked the Crosshair caliper alignment feature on the Hayes Dominon A4.

Tool-free reach adjustment is also a big plus in our book, or tooled adjustment if it's easy to reach and not tucked away in an inconvenient place. Then

again, you could argue once you've used these knobs and dials to adjust the lever

SRAM's Guide RE is versatile, great value and totally does the business

position to your hand size, are you ever going to use them again?

One of the definite must-haves for a trail brake is a four-piston caliper. You have more bite and power with little extra bulk, and even the weight increase over a two-piston is barely 50g — that's the difference between the twin-piston Shimano XTR and four-pot Magura MT5. If you're just racing cross-country, the XTR is plenty powerful enough because the bikes are lighter and you want to brake as little as possible when there are medals at stake. There are ways of making it lighter, too, with CentreLock rotors and integrated shifter clamps. However, it still has this annoying fluctuating bite point issue — something that also plagued the cheaper SLX to a lesser degree. It may sound trivial but any randomness in braking can really knock you off your stride — it did us.

Both Magura brakes suffer from a similar problem where the levers often come right into the bar and then sometimes not. The lever is incredibly light and takes up minimal space, but it just feels a bit flimsy.

On the other end of the spectrum, the two new TRP G-spec brakes are weighty. The lever shared by both is also uncomfortable, especially for riders with small hands. We can live with the lengthy bedding-in time and weight, but the out-of-round rotor is not something we're prepared to overlook.

So while we fully expected to have an innovative, freshly-released brake winning this test, instead SRAM's excellent Guide RE takes top marks for the second year running — it's versatile, great value and it totally does the business.



	Price	Weight (Brake/Rotor)	Rotor	Contact	Rating
Hayes Dominion A4	£199.99	302/187g	180, 203mm	hotlines-uk.com	8
Hope Tech 3 E4	£175	254/171g	160, 180, 183, 200 and 203mm	hopetech.com	8
Magura MT5	£93	242/222g	160, 180, 203mm	magura.com	8
Magura MT7 Pro	£188	249/222g	160, 180, 203mm	magura.com	7
Shimano SLX	£154.99	249/166g	140, 160, 180, 203mm	freewheel.co.uk	7
Shimano XTR	£219.99	199/166g	140, 160, 180, 203mm	freewheel.co.uk	8
SRAM Guide G2 Ultimate	£265	256/183g	140, 160, 170, 180, 203mm	zyrofischer.co.uk	9
SRAM Guide RE	£120	283/195g	140, 160, 170, 180, 203mm	zyrofischer.co.uk	10
TRP G-Spec E-mtb	£160	312/234g	180, 203mm	upgradebikes.co.uk	7
TRP G-Spec Trail SL	£150	311/203g	180, 203mm	upgradebikes.co.uk	7



XC RACE HARDTAILS

A lean, mean quartet of cross-country hardtails built for speed are put through their (race) paces

Words: Alan Muldoon Photos: Roo Fowler

TESTED
THIS
MONTH



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SPECIALIZED EPIC HT

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ENGRAVED ON MY HEART.



Sporting our sister title's Lycra, we hit the singletrack, hard

We love hardtails at **mbr**. And while we comprehensively cover the trail rider's needs with our Hardtail of the Year and performance trail hardtail tests, it's been a while since we reviewed thoroughbred XC race models.

So why now? If you follow XC racing, even from a distance, you'll have noticed that it's not just the race courses that have evolved in recent years. When we tested XC full-suspension bikes this time last year, one thing was crystal clear: XC race bikes have never been in a better spot, the bikes rising to the challenge of modern courses and the demands of the next generation of racers.

And while most of the racing elite have smoothly transitioned to 29er full-suspension bikes, if you're just getting into XC racing, a trusty 29er hardtail is a much more affordable way to get your hands on a lightweight, efficient bike.

Which is why we have four carbon XC 29er race hardtails lined up on the grid for this month's test. Mondraker, Scott, Specialized and Trek are no strangers to the XC podium, and with all four bikes costing around £2,200, no bike has a jump on the starter's pistol.

If you're looking at these XC whippets and wondering what sets them apart from the typical trail hardtail, the short answer is attitude. The most obvious difference though, is that none of them come with dropper posts,

XC bikes have never been in a better spot, rising to the challenge of modern courses and the demands of the next generation

even if lightweight short-travel droppers have been adopted by top-flight XC racers keen to gain an advantage on the technical descents that populate modern racing.

Fork travel is also less than on the typical trail bike — all four bikes in this test sporting 100mm-travel forks. Obviously the geometry is adapted to the intended use, so the head angles are much steeper than your typical trail hardtail. Long stems still prevail, which is why the reach measurements aren't anything like as long as you'd find on a trail bike, even if the sizing and fit are both very similar.

By far the biggest difference though, is that XC hardtails are optimised for weight saving, which is why our four test bikes all have slender carbon frames. It's also why they have skinny, fast-rolling tyres, as energy conservation is king when it comes to racing.

So we have four bikes cut from exact same cloth — probably Lycra — and all designed with one goal in mind: getting to the finish line first. But which one should you get? To answer that question we'll be clipping in, shaving our legs and getting a rubdown after every ride. We'll

want to see which of these bikes offers the best power delivery without leaving you battered or broken. And to uncover which bikes can handle technical terrain when your legs and brain are both starved of oxygen, we'll be razzing around the woods in an ultra-fatigued state to replicate the intensity of racing.

So the starting pistol has been fired, and the race is off. All that remains to be seen is which XC 29er race hardtail crosses the finish line first.

CONTROL TYRES

To make the testing process as fair as possible, we fitted 29x2.2in Maxxis Ikon 3C Maxx Speed control tyres to all of the bikes in this test. Priced at £64.99 each, extrauk.co.uk





Flattened stays and 27.2mm seatpost are both designed to flex and enhance comfort

A neat handlebar remote lets you lock out the 100mm-travel RockShox SID fork in an instant

Shimano MT 501 brakes use a weight-saving 160mm rotor up front

2.2in Maxxis Ikon tyres reduce rolling resistance while maintaining traction

MONDRAKER CHRONO CARBON R

£2,399

SPECIFICATION

Frame Stealth carbon

Fork RockShox SID 29 Select Charger RL, 100mm travel

Wheels MDK 110/148mm hubs, MDK-XP1 29 rims, Maxxis Ikon 3C MaxxSpeed 29x2.2in tyres

Drivetrain Truvativ Stylo 6k 34t chainset, SRAM NX Eagle r-mech and SX Eagle 1x12 shifter

Brakes Shimano MT501, 160mm

Components Onoff Sulfur 0.2 740mm bar, Mondraker XC 80mm stem, Onoff Sulfur O-R post, Mondraker XC saddle

Sizes S, M, L, XL

Weight 11.12kg (24.52lb)

Contact silverfish-uk.com

GEOMETRY

Size tested L

Head angle 69.8°

Seat angle 71.5°

Effective seat angle 73.4°

BB height 302mm

Chainstay 426mm

Front centre 693mm

Wheelbase 1,119mm

Down tube 712mm

Top tube 625mm

Reach 447mm

Mondraker is probably best known for its pioneering Forward Geometry.

So when the Chrono XC race hardtail arrived we expected radical sizing and a seriously short stem. That wasn't the case.

And while the Chrono's XC Forward Geometry may have been ahead of its time when it was first released last year, the new Specialized Epic HT can claim the most progressive geometry in this test. But the size L Mondraker isn't far behind, its 447mm reach measurement guaranteeing that the Chrono Carbon R frame remains current, even if it no longer pushes the boundaries.

It's still a Mondraker though. The way the seatstays are elevated as they enter the dropouts matches the Foxy trail bike, and the kink in the top tube, just behind the tapered head tube, mimics the Dune enduro bike. It's the flattened top tube and seatstays that are the most striking though. And this design is not simply about looks — when combined with the slender 27.2mm seat tube, the frame has also been engineered to be easier on your lower back.

SUSPENSION

Of the three RockShox forks in the test, the 100mm-travel SID Select on the Mondraker is by far the most race-focused. And when we are talking XC racing, that means it's the lightest. It still has stout 32mm upper tubes, but excess material has been whittled away from the lower legs, where even the 15mm dropouts have cut-outs to save grams.

The Charger RL damper also has a different feel, offering more support in

the form of a low-speed threshold, so when you get out of the saddle to sprint, the fork remains steadfast. Start hitting bigger bumps though, and the SID reacts, and quickly. Like the Trek, there's a remote lockout to maximise efficiency for the finish line sprint, but the firmer initial touch to the damping on the SID means you are way less likely to need it.

COMPONENTS

All four bikes on test come with SRAM Eagle 12-speed drivetrains and NX rear derailleurs. Mondraker and Specialized both downgrade the shifter to SX level, and while this doesn't diminish shifting performance, you can't help but feel a little short-changed. There's no shortage of top-end speed on the Chrono though, the bigger 34t chainring guaranteeing that you won't spin out as readily with the 11-50t cassette. Given that many XC racers run 36t chainrings, it seems like a good compromise for us mere mortals.

The slender 27.2mm seatpost provides additional compliance but it seriously limits your choice of dropper posts. Also, the small 160mm brake rotor up front seems out of place, but the limiting factor on an XC bike is normally tyre traction, not braking power, so it works just fine and saves a few grams.

PERFORMANCE

From the off, the Mondraker Chrono R felt purposeful, poised and precise, instantly reacting to the most subtle of rider inputs. To say that it felt 100 per cent race focused is an understatement. Stand up to sprint and the Chrono responds with fast, efficient power transfer. It carved corners more

effectively than most of its rivals too — the low bottom bracket height and balanced weight distribution allowing you to load the excellent Maxxis Ikon tyres for maximum traction. And it's this balanced handling that really gives you the confidence to stay off the brakes and maintain maximum momentum.

Precision is something of a double-edged sword, though. When you're fresh, it's a blessing, but on longer rides and on rougher courses the Mondraker was less forgiving. The skinny grips transmit trail buzz straight to your hands, and while the forgiving flex of the frame is noticeable when fully weighting the saddle on steeper climbs, when you stand up, or simply hover just above the seat, that modicum of comfort instantly evaporates.

VERDICT

When every second counts, the Mondraker Chrono R delivers. It's light, fast and focused, with the sole purpose of being ruthlessly efficient. With Mondraker's XC Forward Geometry, the weight distribution of the bike is superbly balanced and the Chrono R rails turns like no other, so you never have to second guess what the front tyre is doing. It's not the most forgiving race bike however, even with the slender 27.2mm seatpost, so the Chrono R's real calling card is short-course racing, on smoother tracks.

8



HIGHS
Fast, reactive
ride

LOWS
Not the most
compliant



Kinked top tube
is unmistakably
Mondraker



34t chainring
requires strong legs



Flat top tube and
seatstays engineered
to boost comfort

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BIKE TEST

The Scale has a quick-release seat collar, not that you'll have time to adjust your saddle height

Scott supplies a couple of slender custom headset spacers with the bike for fine-tuning the stem height

Fox's 32 Step-Cast fork pumps out 100mm of smooth, controlled travel

2.25in WTB Ranger Fast Rolling tyres keep the tempo high, while retaining traction

SCOTT SCALE 920

£2,199

SPECIFICATION

Frame Scale 3 carbon

Fork Fox Float 32 SC Performance, 100mm travel

Wheels Formula 110/148mm hubs, Syncros X-25 rims WTB Ranger Fast Rolling 29x2.25in tyres

Drivetrain SRAM Stylo DUB 32t chainset, SRAM NX Eagle r-mech & shifter

Brakes Shimano Deore M6000, 180/160mm

Components Syncros Fraser 2.0 740mm bar, Syncros FL2.0 80mm stem, Syncros Duncan 2.0 post, Syncros Belcarra Regular 2.0 saddle

Sizes S, M, L, XL

Weight 11.47kg (25.29lb)

Contact scott-sports.com

GEOMETRY

Size tested L

Head angle 69.1°

Seat angle 70.3°

Effective seat angle 73.9°

BB height 308mm

Chainstay 422mm

Front centre 704mm

Wheelbase 1,126mm

Down tube 705mm

Top tube 611mm

Reach 443mm

If you're after an XC race hardtail with a proven track record, then look no further. Under Nino Schurter, the Scott Scale has dominated XC racing like no other bike, and in every wheel size too. And while Nino was slow to make the switch to 29in wheels, take one look at the 15-strong Scott Scale range and the shift to big wheels is striking; only two 27.5in bikes remain and both are entry-level.

There's also the Scale RC range that's even more race-focused, but with prices starting at £2,799, we had to settle for the regular Scale 920. Not that we're complaining. The IMP carbon frame is a thing of beauty. The down tube runs seamlessly into the chainstays while the flattened seatstays bypass the back of the seat tube to send trail buzz straight into the top tube. In that regard, it's very similar to the Specialized, but the slacker seat angle makes it slightly more compliant.

With internal cable routing, the clean lines of the Scale frame are enhanced further, where Scott's ICCR design uses a full-length cable outer and a variety of alloy inserts at the entry and exit ports so you can customise the routing to fit a front derailleur or dropper post.

Keeping an eye on the prize means the Scott comes with bolt-thru quick-release axles front and rear, just like the Trek. Unlike the Trek however, the rear axle on the Scott clears the stays, making it easier and faster to remove the rear wheel if you get a puncture. Also, because the rear disc brake mount cups the rear hub, it is super-easy to locate the threaded end of the axle in the driveside dropout.



SUSPENSION

Releasing RockShox's grip in this test, the Scale 920 gets a 100mm-travel Fox 32 fork — the cutaway Step-Cast lower legs increasing stiffness without growing the overall stature of the fork. The Rideloc remote is integrated into the lock-on collar of the grip and sits neatly under the bar. It offers three compression settings, but we couldn't feel much difference between the mid-setting and fully open, so Scott could use a two-position remote with less lever throw that just offers lockout and the fully open setting.

There's no faulting the performance of the 32 fork though. It's supple off-

Customisable internal routing for super-clean lines



HIGHS
Fast in every situation

LOWS
Front derailleur compatibility

Step-Cast fork allows for bigger legs without broader shoulders

QR clears the stays, so you can spin it tight

the-top, so there's plenty of grip, and it's also progressive, so it offers plenty of support and doesn't bottom on bigger impacts or g-outs. In short, it offers stable handling and consistent traction.

COMPONENTS

All of the bikes in this test boast a 12-speed SRAM Eagle drivetrain, but only the Scott gets the full 500 per cent gear range with a 10-50t cassette. Not only do you benefit from more top-end speed, the higher quality SRAM XG-1275 cassette offers faster, more precise shifts, most noticeably when you're shifting down the cassette under power. Freehub engagement is also rapid, so you can brake hard and get back on the gas in an instant.

PERFORMANCE

We've always had a soft spot for the Scott Scale. It's the XC race bike that maintains a laser-sharp focus on the task at hand, while retaining a lighter side to its personality that makes it fun and surprisingly capable too. It's not the most compliant bike in this test, that honour goes to the Trek, nor is it the lightest, again the Trek wins on weight,

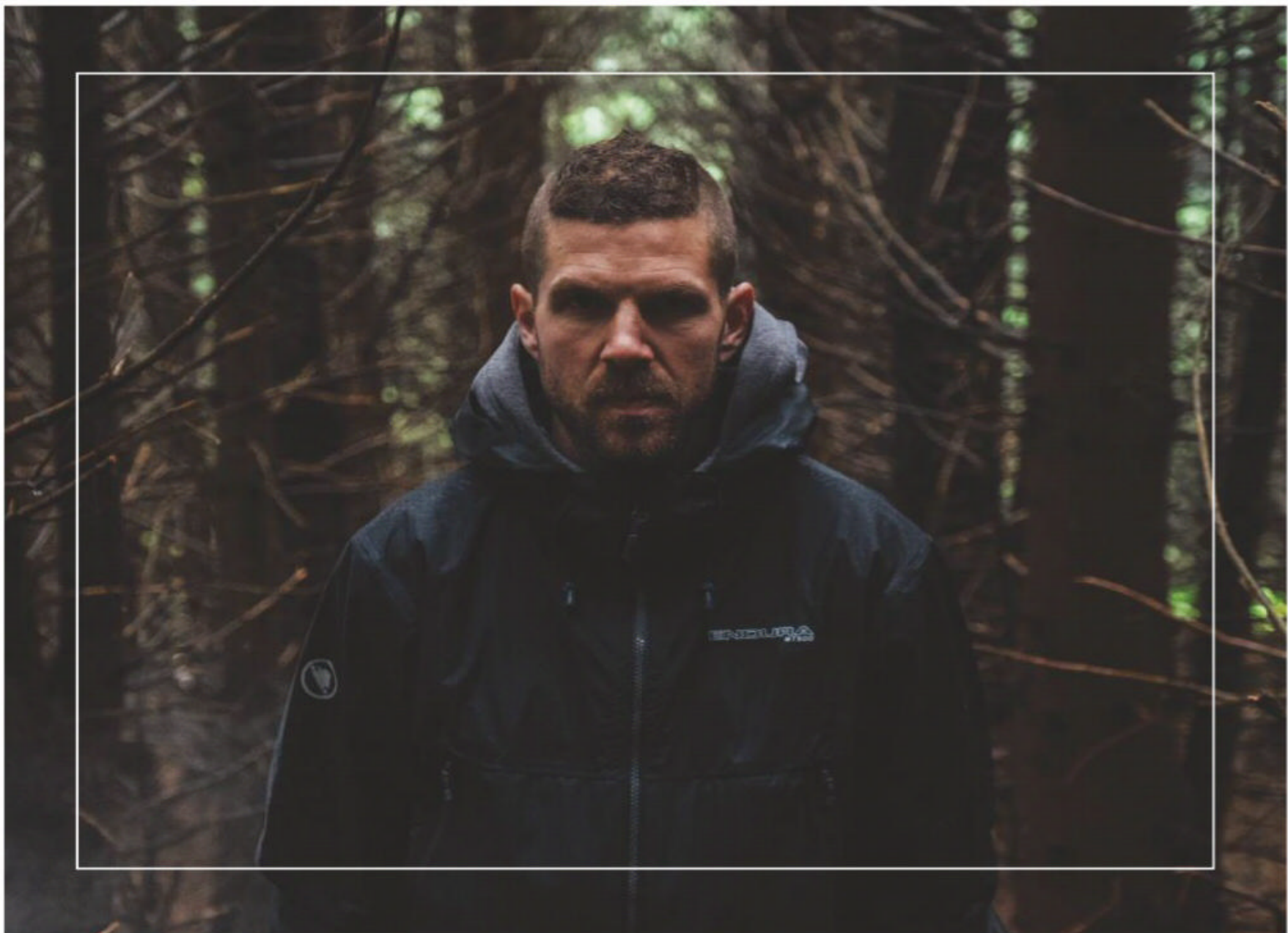
but the Scale 920 is so freaking fast in every situation, it's easy to see how it has accrued so many championship titles.

Stomp on the pedals and the Scale leaps into action. It's a bike that actively encourages you to dig deep, then bury yourself. It has the best power delivery in the test, without the organ-rattling ride of a bike that's overly stiff. In fact, with a lighter wheelset, the Scale 920 could have added this test to its long list of titles.

VERDICT

Some brands use race teams for marketing, others focus on product development; Scott clearly does both. As such, the Scale 920 is a finely-tuned XC race machine with a huge trophy cabinet to prove it. When efficiency matters, the Scale 920 transforms every watt of available energy directly into speed. Whether that's grinding up a climb with your nose glued to the stem, exiting a corner, or simply changing gear. And direct power delivery isn't the Scale 920's only trump card, it's equally adept at turning its hand to even the most technical trails.

9



Dan Atherton has been knocked down and out, but always got back in the ring again.

Anyone who has witnessed a World Cup downhill race will realise that it falls squarely into the category of dangerous sports which come with a risk of serious injury. There's zero run-off in wooded sections and there's no air-fence to cushion your fall should you take a tumble in a rock garden or misjudge a gap jump. Every competitor has to face the fact that there's a real risk of getting badly beaten up. You will crash. You will get hurt, there will be bruises, no matter how well protected you are.

Why did he go on after repeatedly hurting himself - and, in particular after breaking his neck?

It's a question that elicits a Dan Atherton trademark pause. "Hmmm. It's hard to say...it was just...passion really. It's passion that makes you get up at five or six in the morning to go training. It was just impossible to put the bike down. The thing is riding downhill is something that is so much a part of you, ingrained so deeply, that you can't stop."

The eldest of the three Atherton siblings is a reflective soul. You get the strong feeling that he is a steady presence in the Atherton Clan, but his exterior calm shouldn't be interpreted as a blissed out state, because riding downhill always meant facing up to a potential beating from an unyielding opponent.

He is still a formidable driving force behind the scenes of the race team but these days Atherton measures himself against his fearsome engineering in the Welsh hills rather than against the clock on the World Cup circuit. An undisputed track visionary and a king of trail construction, but the challenge is fundamentally the same, you are going head-to-head with a scary opponent, risking a battering from the terrain. He now pits his design wit as well as his skills, nerve and fitness against the mountain, and, although he's been knocked down a few times, he's not ready to stop riding or digging, not anytime soon.

Dan Atherton wears Endura's award winning MT500 collection.

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SPECIALIZED EPIC HT

£2,249

SPECIFICATION

Frame FACT 11m carbon

Fork RockShox Judy Gold MC, 100mm travel

Wheels Specialized 110/148mm hubs, Specialized XC 29 rims, Fast Trak Gripton 29x2.3in tyres

Drivetrain SRAM X1000 Dub 32t chainset, SRAM NX Eagle r-mech and SX shifter

Brakes Shimano MT501, 180/160mm

Components Specialized alloy 750mm bar, Specialized XC 70mm stem, Specialized alloy post, Body Geometry Power Sport saddle

Sizes XS, S, M, L, XL

Weight 11.63kg (25.64lb)

Contact specialized.com

GEOMETRY

Size tested L

Head angle 67.8°

Seat angle 72.6°

Effective seat angle 73.7°

BB height 306mm

Chainstay 425mm

Front centre 726mm

Wheelbase 1,151mm

Down tube 742mm

Top tube 635mm

Reach 455mm

When Specialized launched the 2020 range of Epic hardtails, it boasted that the top-of-the-range S-Works frame weighed a scant 790g. That's more than 75g lighter than the previous Epic HT and, according to Specialized, it's the lightest production XC frame on the market.

Impressive as that is, does the cutting-edge carbon tech trickle down to the entry-level Epic HT that we are testing here?

Granted, the frame doesn't use the same higher-modulus carbon as the headline-grabbing S-Works bike, but it does come from the exact same mould. So even though the FACT 11m carbon frame is 140g heavier, it shares the same geometry and sizing — both of which were updated in the latest round of revisions, making the Epic HT the longest and slackest bike in this test.

The goal for the new Epic HT wasn't simply to save weight, though. It's the only bike here designed around a 1x drivetrain, where eliminating the option to fit a front derailleur has opened up space for improved tyre clearance while keeping the chainstays relatively short. As such, the Epic comes stock fitted with 2.3in tyres while giving you the option to fit 2.4in rubber for rougher courses or trail riding.

Specialized also upped the seatpost diameter from 27.2mm to 30.9mm, so the frame now accepts all the latest dropper posts. To help offset the extra stiffness of the fatter post, the arc of the seat tube has been tweaked, and combined with vibe-absorbing slender stays, the frame has just as much compliance as previously.



SUSPENSION

To complement the slacker head angle and longer reach measurements, Specialized has opted for a shorter 42mm offset fork, which prevents the front end from getting too long relative to the rear. Travel across the Epic HT range is fixed at 100mm, the entry-level model here equipped with a RockShox Judy Gold fork. There is no fancy remote lockout attached to the Motion Control damper, but the dial lets you fine-tune the low-speed compression damping all of the way up to a firm lockout.

When quick-release hubs reigned supreme, Specialized had its own →

Fatter seatpost is stiff but frame design compensates



HIGHS

Progressive geometry and sizing

LOWS

Needs lighter wheels



Shimano and RockShox Judy Gold fork remote on Specialized bar



Nothing wrong with entry-level Shimano rotors and calipers

oversized end caps to improve fork stiffness. So it's fitting that the Epic HT is the only RockShox-equipped bike in this test to adopt Torque Caps. Improved stiffness and steering precision aren't the only benefits either — these oversized end caps also make the hub easier to locate in the dropouts when replacing the front wheel. Handy if you get a front flat mid-race.

COMPONENTS

With fatter grips, a wide 750mm bar and a relatively short 70mm stem — that actually ships the right way up — the cockpit on the Epic HT is much closer to a modern trail bike than an out-and-out XC weapon. Not that we're complaining, as it gives the Epic HT an edge on the steepest descents.

On descents, however, the wider Power saddle makes it slightly harder to get off the back. Once you learn to shove your knees out a little more, this isn't an issue. The saddle is firm, so more high-frequency vibration is transmitted through it, but it's still one of the most comfortable saddles we've tested.

PERFORMANCE

At the very top end, Specialized boasts the lightest frame weight, but the entry-

level Epic HT is still 0.5kg heavier than the Trek or Mondraker, and marginally heavier than the Scott. Some of that weight is in the wider tyres though. In fact, the carbon wheelset and tyre combo on the Trek is over 500g lighter than the rolling stock on the Epic HT.

With lighter wheels, the Epic HT would gain extra zip on flatter, rolling trails, or when sprinting out of corners. And while it lacks the sharper handling of the Mondraker, the raw speed of the Scott, or the out-and-out compliance of the Trek, on more technical terrain the Epic HT really starts to make sense.

VERDICT

With the latest Epic HT, Specialized has blurred the line further between XC racing and trail riding. The wider bar, shorter stem and fatter tyres enhance control, while cutting-edge geometry and sizing inch it closer into trail bike territory.

Yes, it's got one of the lightest carbon frames, but some of the kit, especially the wheels, prevents the Epic HT from really soaring to new heights on the climbs. So while the latest Epic HT can gap its rivals on the steepest descents, the build kit needs to be lighter if it's also going to boss it uphill.

8

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The IsoSpeed decouples the top tube from the seat tube for a more forgiving ride

Trek offers the Procaliber in six frame sizes, where the size small has 27.5in wheels

Bontrager Kovee Elite carbon wheels save weight and energy

2.2in Bontrager XR2 Team Issue tyres come set up tubeless

TREK PROCALIBER 9.7

£2,250

SPECIFICATION

Frame OCLV Mountain carbon
Fork RockShox Reba RL, 100mm travel
Wheels Bontrager 110/148mm hubs, Bontrager Kovee Elite 23 carbon rims, Bontrager XR2 Team Issue 29x2.2in tyres
Drivetrain Truvativ Stylo 6k 30t chainset, SRAM NX Eagle r-mech and shifter
Brakes Shimano MT500, 180/160mm
Components Bontrager Race Lite 720mm bar, Bontrager Elite 95mm stem, Bontrager Pro OCLV post, Bontrager Montrose Comp saddle
Sizes S, M, M/L, L, XL, XXL
Weight 11kg (24.23lb)
Contact trekbikes.com

GEOMETRY

Size tested L
Head angle 69.2°
Seat angle 70.6°
Effective seat angle 72.6°
BB height 310mm
Chainstay 433mm
Front centre 703mm
Wheelbase 1,136mm
Down tube 705mm
Top tube 628mm
Reach 442mm

Modern XC race hardtails aren't just designed to be ruthlessly efficient on the climbs. The best composite frames also use custom carbon layering, unique fibre alignments and sculpted tube profiles to engineer in compliance. And while the Procaliber 9.7 incorporates all of the above, Trek takes it further with its IsoSpeed technology.

First designed to improve the comfort of its road bikes, IsoSpeed decouples the seat tube from the top tube, which in turn allows the seat tube to flex more easily and transmit less trail buzz to the rider. The simple idea being: less systemic rider fatigue leaves more energy for turning pedals. Sounds great in theory, right? Well, the good news is, it's even better in practice.

Yes, the extra tech involved in IsoSpeed adds a few grams to the frame weight, but Trek has still managed to produce the lightest bike in the test, even if it's only 110g under its closest rival, the Mondraker. Most of the savings are rotational weight — the carbon Bontrager Kovee Elite wheels guaranteeing that the Trek is lightning fast off the start line.

In fact we were so surprised to see carbon hoops on the Procaliber 9.7, we actually double-checked that Trek hadn't sent a more expensive model by mistake. As it turns out it couldn't have, even if it had wanted to, as the Procaliber 9.7 is the most expensive XC hardtail that Trek offers in the UK.

SUSPENSION

In the RockShox hierarchy, the 100mm-travel Reba on the Trek sits below the

SID on the Mondraker but above the Judy on the Specialized. It strikes a great balance in terms of performance too. On high-speed chatter it's more forgiving on your hands than the SID, but it still offers more support for cornering and cranking hard than the Judy.

And if you really want to tighten up the response of the fork for a spot of black-top blasting, the RockShox under-bar remote lockout is always within easy reach. It feels plasticky compared to the remote on the Scott, but thanks to the super-light cable action it's effortless in use. And, because the release lever sits proud of the lockout lever, you always open up the fork when you reach for it in a moment of panic.

COMPONENTS

Have we mentioned the Trek's lightweight carbon wheels? Well, we should also highlight that they were the only wheels in the test to come set up tubeless. All you have to do is add sealant, which Trek kindly provides.

The contact points on the Procaliber are sorted too, and we particularly liked the ESI Chunky silicone grips. Granted, the 12-Speed Eagle drivetrain with its 11-50t cassette doesn't give you as wide a gear range as the Scott, but the SRAM XG-1230 cassette still offers a marked improvement in shifting performance over the Specialized.

PERFORMANCE

When we first set eyes on the Trek, it wasn't love at first sight. If anything, we thought the size large bike looked a little ungainly with its inverted 95mm stem and taller top tube. We even went as far

as to peg it 'the roadie's mountain bike'. Then we rode it. From the first pedal stroke the Procaliber took the lead in this test and never faltered.

We were instantly won over by its effortless turn of speed, in part thanks to the carbon wheels, but it's also about the more forgiving ride quality of the frame. Bumps just didn't chip away at our speed as much as they did on the other bikes on test. And even when we were out of the saddle, the Procaliber was still the smoothest bike here. So much so, that the real limiting factor on rougher more technical terrain was saddle height. So while the weight savings of the OCLV carbon seatpost aren't to be sniffed at, we'd swap it for a short-travel dropper in a heartbeat.

VERDICT

Given that Trek's XC race hardtails top-out where most other brands begin, the Procaliber 9.7 can, and should be, considered top of the range. Not least because it possesses the ride quality of a flagship product too.

The specification is standout, so the Procaliber 9.7 is also the lightest bike on test, albeit by the slimmest of margins. But just like in racing, sometimes that's all it takes to win. This was no photo finish though, as Trek's IsoSpeed decoupler offers a fast ride that's efficient and very forgiving.

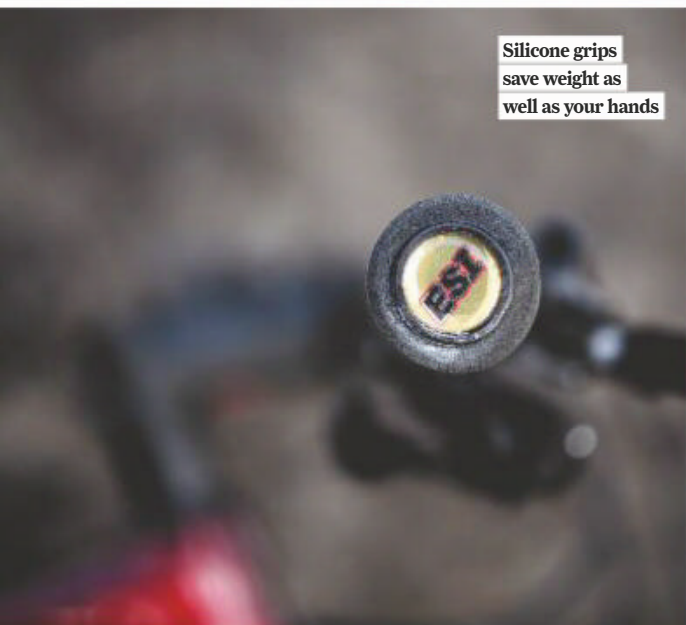
10

HIGHS
Speed with
comfort



LOWS
No dropper
post

Silicone grips
save weight as
well as your hands



IsoSpeed
decoupler is a
game-changer



RockShox Reba fork
is responsive but also
offers decent support



Conclusion

In the interest of full disclosure, no legs were shaved during the production of this bike test and **mbr**'s expense budget didn't stretch to cover massage therapy after each test session. We did, however, enlist the help of an ex-expert level cross-country racer. It's been over 20 years since he last donned Lycra and raced in anger, but it looks like he hasn't aged a day since. Yes, **mbr**'s editor, Danny Milner, was our very own XC Stig, *Cycling Weekly* race kit and all.

Even more impressive than Danny's timeless XC style, was just how fast all of the bikes in this test were. Uphill, downhill or simply blasting along flat, otherwise dull sections of trail, these sub-12kg hardtails totally rip.

And with the high-stakes game that is elite-level XC racing, it should come as no surprise that the bikes all converge in terms of performance, travel, handling, geometry and sizing. Because there's nothing quite like a clearly defined goal to focus attention on the best possible design solution.

And as if it wasn't hard enough to separate our four XC flyers, they all had the same Shimano brakes and very similar SRAM 1x12 drivetrains. So if you have any remaining doubts about the front derailleur being well and truly dead, this test should dispense with them once and for all.

Not having a front derailleur is still a relatively recent phenomenon in XC racing though, especially for athletes sponsored by Shimano. Which is why only the most recent design — the Specialized Epic HT — has a dedicated 1x frame. The Epic HT also has the most progressive geometry and sizing, but we struggled to find the right balance between stability for speed and the precision handling needed to thread the eye of the needle.

We had no such issues with the Mondraker Chrono Carbon R. Precision is what this bike is all about. When you haven't got the presence of mind or the physical strength to keep the Chrono on point however, it's not the easiest bike to ride. And that goes for the bigger 34t chainring too.

In many ways the Scott Scale has the same efficiency as the Mondraker, but it's not as edgy, so you don't have to keep on top of it to the same degree all of the time. It helps too, that it's the best part of £200 cheaper than the Mondy.

This test wasn't decided on price though, even if the bike with the best specification won. Weight wasn't really a consideration either, yet it was the lightest bike that reigned supreme. No, the Trek Procaliber 9.7 crossed the finish line first because it's the fastest bike here. And in XC racing, that's all that counts.

The Trek was the fastest bike — that's what counts in XC



Trek's Procaliber 9.7: no-holds-barred trail-ripping speed machine

RANGE FINDER

Our test winner's stablemates

TREK PROCALIBER 6

£1,400

This is the entry-level bike in the Procaliber range. It gets an Alpha Platinum aluminium frame rather than carbon, but it still sports the IsoSpeed design that decouples the top tube from the seat tube. The geometry and sizing also mirror our test winner, so handling should be on point too.



TREK SUPERCALIBER 9.7

£4,000

If you want the look of a hardtail but an even more forgiving ride than the Procaliber 9.7, how about the new Supercaliber? With its IsoStrut design delivering 60mm of travel, it could well be the perfect balance between hardtail efficiency and weight saving, with full-suspension comfort and control.

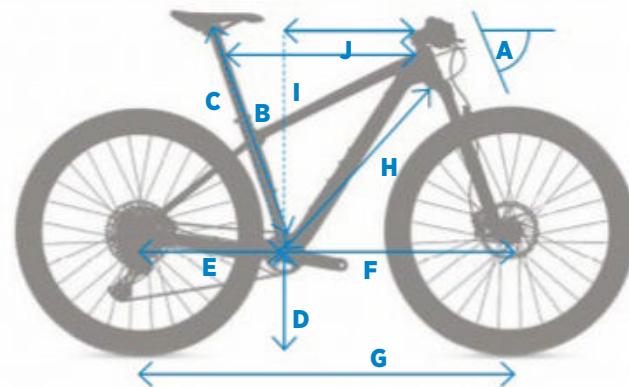




NOTES ON THE NUMBERS

Chainstays: mainstays of XC bike geometry

It's clear from looking at the geometry of our four test bikes that XC racers are obsessed with short chainstays. And while trail riders like a short back end for snapping around turns, XC racers want to keep the stays as short as possible as this offers the most direct power delivery. As front ends grow, however, the chainstay lengths will need to increase to maintain balanced weight distribution and handling. In fact, manufacturers are missing a trick by not offering size-specific chainstay lengths on these carbon XC bikes, especially given that each frame size requires its own specific carbon mould anyway.



	Mondraker	Scott	Specialized	Trek
A Head angle	69.8°	69.1°	67.8°	69.2°
B Seat angle	71.5 °	70.3°	72.6°	70.6°
C Effective s/a	73.4°	73.9°	73.7°	72.6°
D BB height	302mm	308mm	306mm	310mm
E Chainstay	426mm	422mm	425mm	433mm
F Front centre	693mm	704mm	726mm	703mm
G Wheelbase	1,119mm	1,126mm	1,151mm	1,136mm
H Down tube	712mm	705mm	742mm	705mm
I Top tube	625mm	611mm	635mm	628mm
J Reach	447mm	443mm	455mm	442mm

SPECIFICATION

This month's bikes at a glance

Make/model	Mondraker Chrono Carbon R	Scott Scale 920	Specialized Epic HT	Trek Procaliber 9.7
Price	£2,399	£2,199	£2,249	£2,250
Weight	11.12kg (24.52lb)	11.47kg (25.29lb)	11.63kg (25.64lb)	11.01kg (24.23lb)
Contact	silverfish-uk.com	scott-sports.com	specialized.com	trekbikes.com
FRAME				
Sizes	S, M, L, XL	S, M, L, XL	XS, S, M, L, XL	S, M, M/L, L, XL, XXL
Size tested	L	L	L	L
Frame material	Stealth carbon	Scale 3 carbon	FACT 11m carbon	OCLV Mountain carbon
Suspension fork	RockShox SID 29 Charger RL	FOX Float 32 SC Performance	RockShox Judy Gold MC	RockShox Reba RL
Rear shock	N/A	N/A	N/A	N/A
Front travel	100mm	100mm	100mm	100mm
Rear travel	N/A	N/A	N/A	N/A
WHEELS				
Hubs	MDK 110/148mm	Formula 110/148mm	Specialized 110/148mm	Bontrager 110/148mm
Rims	MDK-XP1 29	Syncros X-25	Specialized XC 29	Bontrager Kovee Elite 23 carbon
Spokes	CN stainless steel	Stainless steel	DT Industry	DT Competition Race
Tyres	Maxxis Ikon 3C MaxxSpeed 29x2.2in	WTB Ranger Fast Rolling 29x2.25in	Fast Trak Gripton 29x2.3in	Bontrager XR2 Team Issue 29x2.2in
GROUPSET				
Shifters	SRAM SX Eagle 1x12	SRAM NX Eagle 1x12	SRAM SX Eagle 1x12	SRAM NX Eagle 1x12
Cassette	SRAM XG-1230 11-50t	SRAM XG-1275 10-50t	SRAM PG-1210 Eagle, 11-50t	SRAM XG-1230 Eagle, 11-50t
Rear mech	SRAM NX Eagle	SRAM NX Eagle	SRAM NX Eagle	SRAM NX Eagle
Crank	Truvativ Stylo 6k 34t, 175mm	SRAM Stylo DUB 32t, 175mm	SRAM X1000 DUB 32t, 175mm	Truvativ Stylo 6k DUB 30t, 175mm
Bottom bracket	SRAM DUB PressFit	SRAM DUB PressFit	SRAM DUB BSA	SRAM DUB PressFit
Brakes	Shimano MT501	Shimano Deore M6000	Shimano MT501	Shimano MT500
Rotor sizes	160mm	180/160mm	180/160mm	180/160mm
COMPONENTS				
Saddle	Mondraker XC	Syncros Belcarra Regular 2.0	Body Geometry Power Sport	Bontrager Montrose Comp
Seatpost	Onoff Sulfur O-R	Syncros Duncan 2.0	Specialized alloy	Bontrager Pro OCLV
Handlebar	Onoff Sulfur 0.2 740mm	Syncros Fraser 2.0 740mm	Specialized alloy 750mm	Bontrager Race Lite 720mm
Stem	Mondraker XC 80mm	Syncros FL2.0 80mm	Specialized XC 70mm	Bontrager Elite 95mm
Rating	8	9	8	10



MY BEST TRAIL

Mtb's movers and shakers select their favourite places to ride



AS CHOSEN BY...

**MANON CARPENTER,
DH RACER & GEOLOGIST**



Racing success came early to Manon — she won the World Cup overall and the Worlds all before her 20th birthday, then retired from the sport aged just 24. Manon now rides for Radon, feeds the 'gram and studies geology

Through my teenage years there was a period when Wednesdays after school involved an evening group ride around 'The Superloop'. It was generally a summer thing, and almost all the trails involved weave through incredibly green, deciduous woods over the kind of orangey hard-baked clay that turns to icy slickness after any rain. The loop involves a number of short, sharp and not very sweet climbs to get to the top of the descents that aren't ground-breaking in terms of length but make up a nice circuit around the local hills, all within riding distance from the house. The descents aren't that difficult but they are technical, pretty rooty in places and involve some thought to ride them well — which is how I like it.

During most of my racing years I generally ended up riding other trails, seeking out rides that involved longer descents (with less intense climbs!) or something more technical or fast to suit whatever I wanted to work on. Fast forward to the last few years and I've moved across town, ending up a bit

closer to the Superloop-loop. I really enjoy spending days out, re-learning and making my way around the circuit, not to mention stopping off at the fair few options for outdoor coffee/cake/full-on-pub-lunch pit stops on the way — weather-permitting.

One of the hills in particular became of interest to me last summer when I was asked by Radon bikes (one of my sponsors) if I wanted to work on a Dream Build project with Gee Milner.

If you haven't seen this online, it basically involved me building a bike up from scratch, then taking it out for a blast the following day. I had this hill in mind as somewhere interesting to film after discovering a number of really cool rock slab and gully features that you

don't tend to find on most of the trails in South Wales. However, I was painfully aware that if it rained at any point in the few days leading up to filming, the riding wouldn't be anything like I'd imagined! With a back-up plan in mind and a dubious weather forecast, we stuck to our filming dates and lucked out with the ideal trail conditions.

Fast and tacky, the rocky gully we'd cleared out a few weeks before rode perfectly and I had great fun ripping the trails I'd been riding since I was 14, all within pedalling distance from the house. Just as we packed up after filming and headed for food, the heavens opened with a deluge of rain, turning the trusting tacky dirt into a greasy nightmare.

The descents are technical, pretty rooty in places and involve some thought to ride them well



NO SHORTCUTS

—
When the fastest way down the mountain isn't necessarily the easiest, quality separates itself from the rest. Committing to overcome adversity is the key to greatness, for when the going gets tough, the tough get going.