

*Feature*

# THE RIGHT BIKE

CAN'T FIND THE BICYCLE YOU WANT?  
ASSEMBLE IT FROM OFF-THE-PEG PARTS.  
**DAN JOYCE** LOOKS AT HOW AND WHY TO  
BUILD UP THE BIKE THAT SUITS YOU BEST





## DAN JOYCE

### Editor

All of Dan's bikes were built up from frames – apart from his Brompton, which has merely been *rebuilt* as bits have worn out

**B**ike choice is subjective. There's no bike that's objectively best, only better or worse for what you'll be using it for. That's why star ratings in reviews are nonsense: your three-star bike might be my five-star bike and vice-versa. All of us have different demands and preferences. To meet them, you might invest in a custom bike – or you could just equip an existing frameset or bike with your favourite components.

The kind of bike you're after will affect how far your version diverges from the stock model. Racing bikes tend to resemble each other because they're shaped by the same demands. It's convergent evolution. There isn't the same pressure on your preferences when it comes to recreational cycling, such as touring or messing about on a mountain bike, or transport cycling. 'Better' or 'worse' are only what they mean to you. That sparks divergent evolution, and very different bikes for loosely similar jobs.

So don't feel disenfranchised by anyone who says your bike should be like *this* or *that*. You know what your priorities are – and how much you want to spend.

### CRITICAL RESEARCH

You can use any bike for any kind of cycling, within reason, but some combinations will be frustrating at best and dangerous at worst. The closer a bike or frame's purpose aligns with what you have in mind, the easier it will be to build into exactly what you want.

Manufacturer descriptions are a good place to start. Bear in mind, however, that they literally want you to buy into their product. So take any claims with a pinch of salt. The same goes for reviews, which sometimes read like cut-and-pasted advertising copy. Others read like Charlie Kelly's Universal Bike Review (Google it).

The more reviews you read, the more you'll find yourself playing bike review bingo: laterally stiff, vertically compliant; responsive handling; direct power transfer; aluminium is 'stiff' (in itself it isn't – it's built into stiff structures to stop it flexing) ▶



and cracking).

Similar bikes are similar, so there might not be much for reviews or adverts to say. It will be said anyway. That doesn't mean it's necessarily wrong, more that small details become exaggerated. The bike with a head angle half a degree less might be praised for its stability, despite this being undetectable in a blind test. Similarly, you couldn't measure most vertical compliance differences in frames with a dial gauge let alone your bum.

Even when reviewers describe bikes well, don't forget that their paradigm for a given kind of bike could be very different from yours.

## FRAME MATTERS

You can make a decent bike out of any of the common materials. They all have pros and cons. Here's a back-of-the-envelope, sweeping-generalisations guide:

**Steel.** Heavier but strong and durable and fails 'gently'. It's resilient: a well-made steel fork really can offer a more compliant ride. Not racing? Ti too expensive? Consider steel.

**Aluminium.** Good when you want light and cheap, especially if the ride will be softened with suspension and/or bigger tyres.

**Titanium.** Lighter than steel and more resilient than aluminium. Doesn't rust. It's not as fatigue-resistant as steel; beefier Ti frames will last longer than featherweight ones.

**Carbon fibre.** The strength-to-weight ratio can be outstanding so it's unbeatable for racing or super-light frames generally. When it fails, however, it fails explosively; there are no slightly bent carbon frames.

Not ideal for expedition riders.

Whatever the material, carefully read up on the bike's technical specification and geometry. Fundamentally, this is the bike; there are no magic ingredients in cycling. Bicycle geometry is functional over a wide range rather than being definitively right or wrong. It grew out of practical considerations rather than pure maths: to fit comfortably, the saddle went here, the handlebar went there, and the front wheel had to be there so it wouldn't hit your feet.

Bicycle geometry is subject to fashion. Whatever's in vogue may be held up as an absolute standard, which it's not: there will be pros and cons. For what it's worth, I think road bike geometry has been getting worse – too short, too steep, handling too sketchy – while off-road geometry has been getting better, with longer front centres and slacker head angles preventing over-the-bars incidents.

Steeper seat angles are fine for mountain bikes, where being tipped forward keeps the front wheel down on technical climbs and encourages you to 'ride the fork' on descents – but you'll probably have suspension to soften bumps and vibration. On a bike used for touring, a steep seat angle can lead to sore hands, shoulders, and neck.

Study the specification of the frame. Does it have the bottom bracket, axle, and headset standards you want? Maybe you want a threaded bottom bracket over a



**Top:** The ECR was Rohloff-ready  
**Middle:** DIY front mech mount adapter and chainkeeper  
**Bottom:** Wide, light, and fast

pressfit? Maybe you've got a spare pair of wheels or a spare fork that you can incorporate into your build, saving you hundreds of pounds? Check it has the fittings for the equipment you want. Make sure it has clearance for the size of tyres and mudguards that you'll be using; you'll want an extra 10-15mm at least for the latter.

## YOU ARE THE BOSS

Make a list, on paper or in your head, of features and components you want and don't want your bike to have. You don't have to justify these.

If you don't like yellow bikes, don't get a yellow one – it'll make you marginally less happy when you ride it.

Your list of preferences is a bigger deal for things that are difficult or expensive to change, like wheel sizes, brakes, and gearing. You don't want the frame's limitations to scupper your future plans for the bike. Don't, for example, get a 1x only frame if you're not sure about 1x gearing. Don't get a bike with a hub gears if you're not a fan. This is nothing to do with objective quality or lack of it: it's how you weigh the advantages and disadvantages.

If a frame or bike doesn't meet your criteria, eliminate it from your shortlist. It doesn't matter how good it is if it's not what you want. Yet don't ignore your gut instinct. Once you've done your research, go with the bike or frame on your shortlist that will make you happiest. Ultimately, that's the only metric that matters. ●

## Chris Juden's HOLDSWORTH MYSTIQUE

Retiring to the Peak District [Chris was *Cycling UK's* Technical Officer], I wore out the old rims on my '97 Thorn Audax (original review: [tinyurl.com/audax97](http://tinyurl.com/audax97)), which prompted the search for a disc-braked sporty tourer – only lighter. Too-high gears and inadequate clearances rule out most road bikes for me, but I was hopeful the gravel trend might yield something useful. It *might*, but for the 1× gearing trend (inadequate range) and too-wide chainline of gravel bike doubles (inefficient in big and big, which I use a lot).

So the hunt was on for a frame onto which I could transfer my existing transmission: upgraded in 2012 to 10-speed STI, with the chainset recently altered to a sub-compact double (plus guard-ring). For although I've run triples most of my life, doubles do shift better, and with ten at the back we shouldn't need three in front.

Titanium is known as old man's carbon, but this old man wants the real thing! Snag is: carbon invariably needs a bolt-on mech that won't adjust down to a 42 outer. But when I saw the Holdsworth Mystique, I got an idea to fix its bolt-on bracket differently.

### GUARDS, GUARDS

As this frame claims to fit a 43mm tyre, there should be plenty of space for a mudguard over 25s. And so there is under fork and frame (so much I extended the mudguard brackets) but not where it comes to my size 7 shoes. Not on the Medium frame anyway, which is supposed to fit an average height man. In my case

that comprises a 5ft 6in body on 6ft legs, and I sit quite upright nowadays, so given short 'n' shallow gravel bars on a short stem, I can also fit the Large size. And front centres are 2cm longer on that: 627mm.

Thanks to a re-used transmission and the Black Friday sales, my (mostly) new road bike cost less than £1,200. The most expensive bit after frame and wheels were the brakes. I was pleased to find that these 'hybrid' callipers were not only an unobtrusive shape, but also performed better than purely mechanical brakes, with the hydraulic benefit of self-adjustment. In common with all cable-operated callipers, however, when chainstay-mounted the cable casing ends upwards, so dirty water can trickle into it. So I added lots of grease and the rubber gaiter off a V-brake, with no problems this winter at least.

The build was finished by Xmas, since when I've ridden nothing else on club-runs and 'exercise' rides. The Mysteron has not only replicated my Audax bike (whilst saving 1kg): bosses for three bottles and two carriers also make it a capable tourer – as I proved in the Canaries in February. It even has room for 37mm tyres. My 'proper' tourer is now looking worried!



**Left:** The large size Mystique has frame and toe clearance for full mudguards  
**Inset:** Chris Juden descending to Haría, Lanzarote

### Tech Spec CHRIS'S 'MYSTERON'

#### • Approx replacement value:

£1,800

#### • Size:

Large, 56cm (as shown, no pump)

#### • Weight:

10.5kg/23lb (as shown, no pump)

#### • Frame and fork:

Holdsworth Mystique carbon (DIY alteration of mech mount & added chain watcher).

#### • Wheels:

Thru-axle Fulcrum Racing 5 DB wheelset, Continental GP4-seasons 25-622 tyres\* and Vavert tubes.

#### • Transmission:

2×10-speed, 42,26×11–36 = 19–101in. Shimano Ultegra STI\*†, 105 chainset\*† & front mech\*†, XT-Shadow rear mech\*†, Sram PG1050 cassette & PC1051 chain. SPD

pedals\*. New rear mech (GRX-400) pending.

#### • Braking:

TRP Hy-Road cable/oil callipers, Shimano Deore 160mm discs\*.

#### • Steering & seating:

FSA IS-138 carbon headset, Planet-X Superlight 8cm stem, Selcof Sterrato flared 42cm bar, Cinelli cushions & cork tape. Selle San Marco Rolls on Planet-X post (bottom cut off).

#### • Equipment:

Stronglight 35mm mudguards (DIY mudflap), plastic bottle cages\*, Topeak Road Morph pump\*, DIY modified Mirrycle mirror, DIY stub for lamp on fork, etc...

#### • Frame from:

[planetx.co.uk](http://planetx.co.uk)

\* used , † old model

### YOUR BUILDS: Pilar Martinez-Abarca's tourer

Years of cycle-touring made me dream about the bike I wanted. Building a bike from the naked frame not only gave me exactly what I wanted right up to

the smallest details, but it also made me learn how my bike worked and gave me the confidence to maintain it and repair it wherever I might be. The first thing I did was to

accomplish my old dream of cycling from my doorstep in Peterborough, England, to the place I was born, in Bilbao, Spain, via ferry from Portsmouth to Saint Malo.



## Dan Joyce's GENESIS VAGABOND

I'd been thinking about a wide-tyred all-purpose 'road' bike for a while, when I happened to test a Genesis Vagabond (April/May 19). With Schwalbe Marathon Supreme tyres fitted, the stock Vagabond managed a fast club-run almost as well as my road bike and far more comfortably. Plus it could do much more.

I bought a frameset and mostly fitted parts I already had. I use it for: Sunday club runs with the fast group (50-70 miles averaging around 18-19mph); recreational road and easy off-road rides by myself; trips into town; and grocery shopping with a Burley cargo trailer. I haven't toured on it but could do so with a smaller chainring.

Initially, I had two pairs of wheels: road and off-road. But I much prefer my mountain bike on anything that these 700×44C René Herse Snoqualmie Pass tyres are overmatched by. Where they and the Vagabond work well are on the non-technical forest and moorland tracks that crisscross the North York Moors.

These tyres are part of the reason I can keep up with clubmates on carbon-fibre racers on road. Weighing less than 380g each and run tubeless, the tyres' rolling performance on tarmac is excellent. They're not especially tough, so I switch back to Marathon Supremes for winter.

The handlebar is only 38cm wide. The width suits my damaged shoulders (one displaced collarbone, the other smashed and plated) and must improve rider aerodynamics compared to a wider bar, as it brings the arms and shoulders inwards.



**Left:** The Vagabond wasn't N+1 but N-4; I've since sold my road bike, second MTB, cargo bike, and town bike  
**Inset:** Broxa Forest track

Since I don't pretend the Vagabond is a mountain bike, steering doesn't suffer.

### 9-SPEED GEARING

Flat pedals raise roadie eyebrows. But I could never get clipless pedal cleats as far back as I wanted to properly support my weak right foot (a legacy of a spinal cord injury). With flats, I can put my feet where I want – and ride in any footwear.

I've written about 1×9 Microshift Advent gearing before ([cyclinguk.org/cycle-magazine/review-microshift-advent](http://cyclinguk.org/cycle-magazine/review-microshift-advent)). Suffice it to say the 26in bottom gear is low enough for me for the 1-in-3 climb of Rosedale Chimney. The chainring is in the middle position on the chainset to make the chainline as good as it can be.

Improvements? I'd like triple bosses on the fork and better provision for a rear mudguard. But overall I'm pleased. It's versatile and comfortable. When I did a century ride on it last year, I finished feeling fresh – no pummelling from road vibration! I can keep up with roadies on the flat, am faster downhill, and only notably slower on punchy climbs where the bike's weight tells. Perhaps one day I'll obtain a similar frame in titanium...

### Tech Spec DAN'S ALL-ROADS BIKE

<ul style="list-style-type: none"> <li>• <b>Approx replacement value:</b> £1,400</li> <li>• <b>Size:</b> M</li> <li>• <b>Weight:</b> 12.46kg/27.4lb*</li> <li>• <b>Frame &amp; fork:</b> 2019 Genesis Vagabond frameset.</li> <li>• <b>Wheels:</b> 44-622 René Herse Snoqualmie Pass tubeless tyres, Shimano MT75 XT 29er wheels [622×19 UST rims, 24×2 spokes, 100/135mm QR XT hubs], Halo Allen-key skewers.</li> <li>• <b>Transmission:</b> Nukeproof Neutron EVO pedals, 170mm Shimano Deore triple chainset, 40t 104bcd Snail narrow-wide chainring, Shimano Deore Hollowtech II bottom bracket,</li> </ul>	<ul style="list-style-type: none"> <li>SRAM PC951 chain, Microshift Advent 9-speed 11-42t cassette, levers and clutch mech. Nine ratios, 26-101in.</li> <li>• <b>Braking:</b> Avid BB7 Road callipers, 160mm rotors.</li> <li>• <b>Steering &amp; seating:</b> 380×31.8mm FSA Omega Compact Road bar, 80mm×17° Wake stem, Genesis 1 1/8in headset. Charge Spoon saddle, 27.2×400mm Thomson Elite layback seatpost, Surly Stainless Seatpost clamp.</li> <li>• <b>Equipment:</b> SKS mudguards, Carradice SQR mount, two bottle cages, Burley trailer hitch.</li> <li>• <b>Frame from:</b> <a href="http://genesishikes.co.uk">genesishikes.co.uk</a></li> </ul>
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\* as shown in photo, without pump, Garmin, or tool bottle

### YOUR BUILDS: Tim Evans's £100 utility bike

I wanted to see if I could build a decent quality utility bike for less than £100. I bought a 1995 Marin Eldridge Grade for £30 on Facebook Marketplace. It looked very sorry

for itself, but the frame and most parts were pretty good. I just exceeded my budget, spending £106. The bike is lovely to ride. The Tange double-butted frame is light

and zippy and the Mavic wheels are light and strong. It's ideal for riding the rough lanes around here, and also for moderate off-road... I also use it for errands and shopping trips.





## Sam Jones's SURLY ECR 29+

Four years ago I decided I wanted a bike that combined my love for touring with long-distance trekking into backcountry. I wanted a bike that scoffed at woodland trails, bounced down mountain tracks, sailed over sand and snow, and did it all comfortably, reliably, and most importantly in a manner to bring a smile to my face – oh, and did I mention while laden?

I wasn't sure if this was possible, but I set off undaunted into exploration mode. Requirements were clear: steel, braze-ons everywhere, cable disc brakes, no suspension, and the capability to take a Rohloff hub.

Cycle's editor Dan Joyce and long-time staffer Julie Rand's husband Roland Seber convinced me if I wanted no suspension, 29x3 tyres would compensate and iron out the trail's bumps. At the time, options were limited for an off the peg bike made of steel that could take a Rohloff hub and large wheels. It came down to Shand's Bahookie or Surly's ECR or Krampus. The ECR won. It was cheaper by about £600 than the Shand, had more braze-ons than the Krampus, and came with Jones loop bars – a major plus.

It was love at first ride. I remember whipping down some singletrack following the dust plumes of Roland's Surly Krampus and suddenly spotting a large, unavoidable stump in the trail. I braced for a tumble and hoped the bike would be okay... and just rolled straight over the stump. I soon learned the ECR is a sympathetic bike to a low-skilled off-roader, and rides wonderfully even when



**Left:** 'The ideal bike for the North Downs Way' is how Singletrack described it en route  
**Inset:** Sam riding The Chianti Way in Tuscany

festooned in bikepacking luggage.

I've mostly changed the contact points. I swapped the saddle for a Brooks Flyer but it limited my luggage carrying so I'm now using a 12-year-old Brooks B17. I've also popped on some very comfy ESI Extra Chunky MTB Grips, which help take the sting out of the trail.

### 14-SPEED HUB

Since going tubeless, I've found the Maxxis Minions are great for the winter and spring slush, but I'm on the lookout for a summer setup. The biggest change is the 'Coke can' in the rear wheel: a red Rohloff hub. I added this earlier in the year thanks to the Cycle to Work scheme (it covers parts too) after my second derailleur died. I've never been happier – big thanks to Dave at Pilgrim Cycles for setting me up.

Over these years, our exploits have ranged from night rides with colleagues and loops in the Surrey Hills to escapades on the Dorset Gravel Dash, filming at Cape Wrath, and a recuperative bikepacking foray into the Tuscan hills. The bike may be heavy, but I'm always comfortable and riding with a smile on my face.

Job done. ●

## Tech Spec SAM'S BIKEPACKING RIG

- **Approx replacement value:** Priceless obviously! Likely to be around £2,600 (no idea it had crept up so much!)
- **Size:** S
- **Weight:** Never weighed... 14-16kg?
- **Frame & fork:** 2016 Surly ECR.
- **Wheels:** Maxxis Minion DHF 29x3.0 (front, ghetto tubeless), Maxxis Minion DHR II 29x3.0 (rear), Surly Rabbit Hole rims, Surly Black Ultra New Hubs 32h 100/135mm O.L.D.
- **Transmission:** Shimano Saint Flat Pedals PDMX80, Surly O.D. 175mm cranks, Surly Stainless Steel 104 BCD Chainring [36T], KMC DLC 8-speed chain, red Rohloff Speedhub [20T], Rohloff twist shifter. 14 ratios, 15-81in.
- **Braking:** Avid FR-5 brake levers, Avid BB7 brakes, 180/160mm front and rear rotors.
- **Steering & seating:** 710x31.8mm Jones H-Bar Loop aluminium handlebar (black), ProMax 4 bolt, 31.8 stem, Brooks B17 Special Titanium saddle, Promax 27.2x350mm Offset seatpost.
- **Equipment:** Salsa Anything HD Cages [2], Restrap Saddlebag 14L, Beerbabe custom frame bag, Outershell Adventure Drawcord Bar Bag, Timberbell.
- **ECR info:** [ison-distribution.com](http://ison-distribution.com)

## YOUR BUILDS: Max Graham's retro road bike

Last year my friend Kevin Keogan died. A keen amateur racer in his youth, Kev was an avid follower of the Grand Tours and Monuments. I was given a pair of his old wheels and a box of

bike parts by his wife. The wheels were Mavic Reflexes and the parts included a full set of 8-speed Shimano Dura-Ace. I sourced a donor bike, a Holdsworth, from Resurrection

Cycles in Harrogate, then rebuilt it with Kev's bike parts. To celebrate his memory, I rode the bike to the UCI World Championships in Harrogate, where Kev lived.

