

RETURN FROM THE DARK SIDE

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I'm Graeme. And I'm a mountain biker.

It wasn't always so. My last road bike was a beautiful, steel-framed, iridescent, powder-green Carlton 10-speed. I bought it when I was working in Lincoln in the English Midlands in the early 1980s.

One Friday evening, I was rolling home from work down the dead-straight London Road. Traffic was heavy and barely moving as I cruised up the inside. I didn't realise it had stopped completely, to let White Van Man cut across, until the last second.

A clipped front wheel later, and I was in the gutter with various head wounds and a heavy concussion.

The bike was in better shape. While all the running gear was munted, the frame was unscathed and was rebuilt under insurance.

I didn't ride it much after that, though, and six months later I sold it before heading home to New Zealand. After the crash I lost confidence in skinny-tyred racing bikes. When the first mountain bikes started appearing in the mid-80s my lifelong passion for two wheels was revived – even if they were just heavier versions of road bikes and could have substituted for a boat anchor. I liked the solidity of the frames and the stability of those fat, chunky tyres.

Fast forward to autumn, 2014 - I was looking for a project as the seasons shifted to winter. I was also rereading a favourite book called 'It is all about the bike. The pursuit of happiness on two wheels.' The author, Robert Penn, is a lifelong cyclist. The book is a record of building his dream bike, starting with a hand-crafted, bespoke frame by one of the United Kingdom's finest custom bike builders, Bryan Rourke.

That's chapter 1: Diamond Soul. About that simple, twin triangle shape. The first one, the Rover Safety, came out of a factory in Coventry, in England, in 1885. This simple design architecture works so well, it has changed very little since.

In the following chapters Penn travels the world to see where the various key components of his bike are made. At the same time he

relates the history of how all these integral parts of the bicycle came to pass and how they've evolved.

Chapter 2 is titled Drop Bars, Not Bombs. The subject is the steering system. Penn visits Chris King Precision Components in Portland, Oregon to discuss headsets.

Chapter 3, All Geared Up, tells the tale of the drivetrain with a visit to Campagnolo in Italy. The following chapters are about the wheelset (Continental in Korbach in Germany for tyres and Gravy Custom Wheels in Marin, California) and the saddle (Brooks in Birmingham, in England). It is a fascinating journey and the final bike is both beautiful and a perfect fit.

I may not have Penn's travel budget (if only). But what about going one-step further? Returning to ground zero: to raw tubing and a design on paper?

To build a bespoke frame from scratch, seeing that design evolve into the perfect machine. What Penn calls the most efficient means of transportation ever invented taken to another, more personal level.

I didn't have to look far for someone to help fulfill this plan. Just around the corner in Lynmore in Rotorua, in fact. Jeff Anderson started building Jeffson road and track frames over 30 years ago, originally in Whanganui.

There's a reason he can have rainbow stripes on his bikes, like some of the most famous names in the history of the sport. One of his early track frames carried Karen Holliday to a win in the 1990 UCI World Championships points race in Maebashi, Japan.

"I built that frame in my shed in Whanganui," says Jeff, with a chuckle.

The bike - complete with UCI world championships rainbow stripes - is now in the New Zealand Sports Hall of Fame in Dunedin.

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“... a go-anywhere hybrid - for tarmac, mud, gravel, easier trails and commuting into town.”



Moving to Rotorua in 2001, Jeff’s reputation as a frame-builder continued to grow. A new location also brought with it a new style of two-wheeler. In Rotorua he turned his attention to mountain bikes, was a pioneer of the singlespeed scene and saw the demand for his distinctive on and off-road tandems flourish.

“Steel is real and I love building in it,” Jeff says. “It’s more than engineering and design, for me. It’s like an art form.”

When Jeff started building bikes he didn’t think it’d be a career: *“It was my second job and I thought ‘this will do for a while,’”* he continues.

“It’s addictive and I want to share that with others,” he enthuses, *“with a workshop where I can teach others how to build their own frames.”*

I wasn’t going to be just a customer and observer of the process. Jeff would generously donate his time as a builder and teacher. I’d be the ‘apprentice’, learning some of the key secrets of frame building.

“Every frame is a unique individual design for each individual customer. I get a real buzz about making their dreams come true.”

The first question was what sort of bike? There are already several mountain bikes, including a singlespeed, in the shed. It was time to explore other options.

This is where the luxury of a bespoke build really begins. There is time for discussion, even debate, and Jeff embraced that with his customary enthusiasm and passion.

“What about a cyclocross-style frame,” he asked one chilly mid-winter afternoon as we gazed out from his workshop to Lake Rotorua and Mount Ngongotaha. A go-anywhere hybrid - for tarmac, mud, gravel, easier trails and commuting into town.

With the classic triangle of a road bike and 700c wheels, but with more clearance, front and back, for beefier treaded cross-style tyres. The bike would be geared, but easy to convert to a singlespeed or even a fixie.

And it would have something I couldn’t do without these days – disc brakes.

“I often make build decisions from gut instinct, but I guess that’s also a result of over three decades of experience.”

A fitting was the first step – climbing on to Jeff’s sizing frame with my riding shoes on. A draft design had already been hand drawn, based on my height.

For Jeff’s experienced eye, this initial sizing is about general parameters. The tweaking and fine-tuning - to accurately accommodate more specific things like torso length and inside leg

measurement - would come with setting the handlebar angle and seat height.

“I fillet braze with bronze. It’s one of the oldest welding techniques, frame builders have used for over 100 years. There’s a reason for that – done right it creates a clean, unbreakable bond.”

Before you can weld, you have to cut the tubing to length (with sparks flying). Jeff uses Italian-made, double-buttet Columbus Zona tubing. This is strong, light and won’t break the bank. As Jeff says, a custom-frame doesn’t have to super-expensive and only for the 1%. The next step was mitering the ends of the tubing. This was done on a lathe with special tools. These are designed specifically for cutting out the necessary semi-circles in the tubing to form a snug embrace, tube to tube.

“Getting welds just right, just how I want them, has taken me all my life. They are so important - and what a lot of the hand crafting of a frame is all about.”

The first part of this process is setting the tubing in a jig, adjusted to the angles and tube lengths of each design.

As we assembled the frame, Jeff made a couple of tiny micro-adjustments using a grinder. Tube ends were coated with flux. This looks like Rotorua mud, applied with a spatula to the tube ends. Heated with an oxyacetylene torch, this hardens to protect the tube when applying the bronze.

The first stage of braze filleting (welding with bronze) is called tacking. The frame is connected enough to take out of the jig. If the frame isn’t quite right, the joins can still be broken and adjusted.

In the case of my frame, it was perfect. Which is when the real business began - the final braze filleting in a stand.

I have to ride this bike, so I wasn’t going to trust some brand-new ‘apprentice’ to do this. Jeff did most of the work.

When it was my turn, he carefully explained everything first. Then he quietly and patiently talked me through the process, over the noise of the torch, occasionally jumping in to steady my hand.

I fillet brazed the seat and down tubes to the bottom bracket and the rear triangle to the main frame. What a satisfying experience: the iridescent colours of the flame, the flux bubbling and the bronze melting in the heat to a golden, honey-like texture.

It’s a subtle process to apply just the right amount of heat, then pull back the flame, wait...and, start again.

“...seeing it complete for the first time was an emotional moment.”



also used rods of 24% silver to braze on the cable runners. Silver has a significantly lower melting point than bronze and the torch was set no higher than the flame on a kitchen gas hob.

The braze filleting was filed to tidy it up and we polished the frame to a high sheen, before a clear coat was applied to protect it. No paint, just raw to show the work.

At this stage I could have taken it home and hung it on the wall. But that would have meant missing out on riding it.

It was time to consider running gear. Purists may want to look away now, but ultimately we decided on MTB-style riser bars.

There were two reasons.

Jeff had carefully listened to what I had been saying at the planning stage and realised the main use of the bike would be as a commuter. Listening is a big part of a frame builder's stock in trade - getting it right for each individual customer.

Riser bars would provide more comfortable and relaxed riding – and perhaps a softer landing back into the world of road bikes.

That was the first reason. The second was more pragmatic. To keep the cost of the build down we were recycling a lot of the running gear off an old mountain bike of mine. It's a Santa Cruz Blur – 10 years old, 1st generation and one of the first in New Zealand.

Not long after the drivetrain was completely refurbished I got a newer Santa Cruz. The Blur hardly got used and it was a shame to see some good gear go to waste.

Adapting brakes and gear levers to drop bars is possible, but also a time-consuming mind game. Reason 2 for the riser bars.

In the future we may switch to new componentry and drop bars (I actually have a very fine set – aluminium, very light, made in Italy in the 1970s).

The Blur became The Donor (and the frame has gone straight to the pool room).

A bike has to look right, though, and Jeff was determined to make this as perfect as possible. The old DT Swiss hubs were red and didn't blend with the overall look of polished metal, bronze welds and black. So new SRAM ones were ordered and a wheelset built up with chrome spokes and Mavic rims.

There were other cosmetic touches, too. Bling from the jewellery box, like gold Ti quick release levers and valve covers, matching the bronze of the welds.

"You are building something that a customer will use for a long time and that has to fit like a glove. That's incredibly satisfying."

Although I'd been alongside the build all the way from design and fitting, seeing it complete for the first time was an emotional moment. It was the same with the first ride, even before the set-up was fully tweaked. Glove is exactly right – and an old familiar one. They say it's not the destination it's the journey. Building this bike was both – rich and rewarding. My Jeffsimspon is typical of Jeff's frames – simple, elegant and with clever design flourishes.

It really is where art, engineering and design all cross paths, forming a harmonious piece of practical, road-going sculpture.

I will own it forever. But I haven't started to shave my legs...yet.

Check out Jeff's website for more information on bespoke bikes:

www.kiwibikes.co.nz

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