

# BIKE FITTING

Can a few hours with an expert ensure our bike won't break us on that epic ride we've got coming up?



Spencer Wilson has been kitting out, fitting and providing specialist performance training for cyclists at Personal Bikefit in West London since 2008. See [personalbikefit.com](http://personalbikefit.com) for more info.

## WHAT EXACTLY IS A BIKE FITTING?

For most of us, finding a bike the right size is generally a case of trying a few in the shop and seeing which one is most comfortable. But unless you go down the custom route, bikes come in a limited range of standard sizes based on average rider dimensions and unfortunately, riders don't come in average sizes. Even two riders of the same overall height will have different proportions and will sit differently on the same bike. 'To put it simply,' says bike-fitting expert Spencer Wilson at London's Personal Bikefit, 'what we're really trying to do is give you as much structural stability on the bike as possible and get everything tracking in straight lines.'

## WHAT ARE THE BENEFITS?

'It's easy to look at power but one of the main things we look at in a bike fitting is efficiency,' says Wilson. 'The other thing most people forget is bike control – you see so many people on a bike that's too long. It's about getting it super balanced with great muscular control.' Getting it right is a fine art, and what seem like tiny differences in measurements can have a major effect – as little as 4mm difference to your saddle height can radically alter the way your bike feels, Wilson adds. 'What we ultimately want is to get good, strong spinal stability and improve the intra-abdominal load. It's easy to create power by using non-functional stabilisers [ie locking the joints], but if you watch a pro, the real functional



Before and after videos show how our position has changed

stabilisers are the glutes, so basically everything else floats, it looks really soft. That's a really hard thing to get but we try to get somewhere near that.'

## WHAT'S THE BEST FITTING SYSTEM?

Bike fitting has come on a long way from the days of a stick wedged between the legs, with high-tech systems such as Retül now hugely popular. But for Wilson, the person doing the fit is more important than which system they use. 'The perception for the customer is that high-tech systems give all the data up on the screen therefore it's better, and yes, Retül is an unreal system. The computer tells you this is out and that's out, using your biomechanical markers, but my background is in biomechanics so I feel I can get better results hands-on. You have to ask how long your fitter has been doing it – if they've been doing it a good few years, that's



This reminds us of visits to shoe shops with our mum when we were kids



long enough to have made a few mistakes and be able to work it out.' Wilson does, however, use the Dartfish motion-capture video system, filming the rider on the bike (mounted on a turbo trainer) to analyse their riding position. 'A lot of the reason we use the Dartfish is to give you the opportunity to see what you look like, because in my mind I look like Fabian Cancellara on the bike but the reality is a totally different thing!' Wilson uses the system to create before and after videos for comparison – which can also be saved for future analysis.

## HOW LONG DOES A FITTING TAKE?

A full session at Personal Bikefit lasts up to three hours, covering everything from cleat adjustment and saddle height to bar width and stem length. Wilson explains why this can be such a lengthy process: 'We're working all the way up the body, getting the cleats right as our foundation, then getting the back end sorted. Once we're happy with the back end, we'll look at the front, and once we've done that, we'll go back down to the bottom and then dial it in again. The deal with a bike fit is that once I change the cleats, it has an effect on what happens to your top half, and that's why we have to go through the same process again in the right order. If you change your cleats, that can change engagement throughout the whole body, maybe shortening your seat height by about 6mm.' So while some shops may adjust the saddle height when you buy a bike, this isn't the same as a proper fitting!

## I'M GETTING ACHES AND PAINS AFTER MY FITTING – WHAT'S GONE WRONG?

The proof of a fitting is in the riding, but while some post-fitting pains may be a sign that further adjustment is needed, Wilson explains that others are to be expected. 'What I think you'll find is that you'll get soreness in your quads,' he tells us, 'but don't be surprised by that - we've changed the cleat position so your quads are now working a lot more, you've got more engagement of the quads and glutes to maximise the power, whereas before you were getting a lot of leverage from the lower back.' Basically, we're using muscles we haven't used before! But Wilson does advise returning to your fitter if you get any niggles so they can assess if they're the good type or the bad type.

## DO I NEED TO GET A NEW BIKE FIT DONE IF I GET FITTER OR LOSE WEIGHT?

'We recommend everyone comes in once a year – not for the full three hours, because we know it's in the ball park, but just come for an hour to make adjustments,' says Wilson. 'We had one guy come in recently, a year after ➔'

A proper bike fit, fine-tuning everything from cleat position to stem length, will make you more efficient, give you better bike control and increase your power



The Dartfish motion capture system is a handy demonstration tool



We discuss the adjustments to see if they've worked

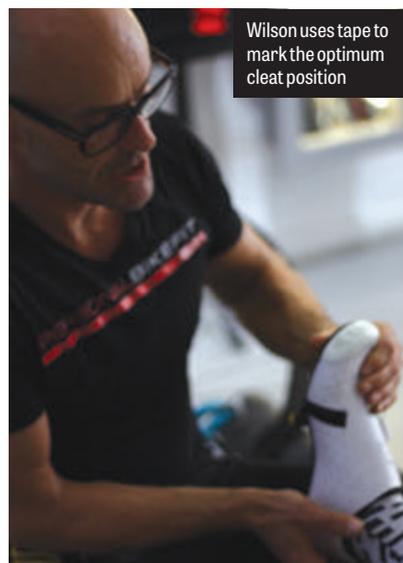
he bought a bike from us, and we found we had to drop the saddle 10mm and increase the stem length by 20mm – it was like we'd got it completely wrong! But we went back to the videos [this is where the Dartfish system comes in handy!] and saw that was how much he'd changed physically. He'd done a lot more riding, so his hamstring mobility had changed, his core stability had changed.' Similarly, if you ride different types of bikes – cyclocross or time-trial, for example – you should get a separate fitting for each. 'Those are all very different disciplines and require very different riding positions,' Wilson explains.

## WHERE CAN I GET IT DONE?

Personal Bikefit was a great choice for us but if you can't get to West London easily, other good bike fitters are easy to find – perhaps the best option is to get a recommendation from a clubmate or cycling colleague. Otherwise, look online – for example, [cyclefit.co.uk](http://cyclefit.co.uk) has stores in London and Manchester, while [specializedconceptstore.co.uk](http://specializedconceptstore.co.uk) has several locations around the UK offering its Bodyfit Pro service.

## HOW MUCH DOES A FITTING COST?

The cost of a full bike fitting session will vary from place to place and depends on the level of service offered. Personalbikefit charges £240 for a full fitting, which may sound like a fair chunk of cash but what you get for that is a complete head-to-toe service that will ensure you're in the most efficient riding position. And when you're more efficient on the bike, you'll be able to ride further and faster and the whole experience will be a lot more fun. You'll also take away a document listing your measurements so you can apply them yourself, say if you buy a new bike – though Wilson will happily help you set up a new bike to avoid mistakes. So, is it worth it? Well, we came away from our session feeling like a pro, suddenly able to put out what felt like loads more power while feeling a lot more comfortable on the bike. Sounds like a no-brainer to us! 🚲



Wilson uses tape to mark the optimum cleat position

## OLD-SCHOOL TRICKS

With all the modern high-tech equipment he has at his disposal, you might be surprised to see some of the techniques Spencer Wilson uses during a bike-fitting session...



1

### PROTRACTOR

Yes, exactly like the one you used in maths lessons at school, just a bit bigger. While the Dartfish video system allows Wilson to measure rider joint angles on the computer, he likes to get hands on. You may have read that the knee needs to be at this or that angle, but as Wilson points out, it depends on the type of riding you're doing. 'Most people naturally put their saddle too high, which decreases the leg angle – this is fine for a track event where you want maximum power for a short burst, but what you want for an endurance event is efficiency rather than outright power. Lowering the saddle allows you to engage more muscle fibre – you're creating a circle rather than pushing down. When knee lift is higher, the VMO [vastus medial oblique, just above and inside the knee] and glute muscles fire better.'



2

### PLUMB LINE

For optimum power output, it's essential that you get the fore/aft position of your saddle absolutely spot on. Wilson achieves this by measuring the position of the knee relative to the pedal using that favourite of DIY dads across the land – the humble plumb line. 'The pedal isn't going to move so we need to align you with that,' he says. 'We want to engage that VMO muscle to put the load evenly through the knee which is what it's designed to do – look how huge that muscle is in the pros. If the saddle is too far forward, you get a compression of the knee joint and that can lead to injury.'



3

### SIZING STEM

'We used to use this ages ago, but it went out of fashion. It's a great bit of kit though,' says Wilson. The idea is simple – the sliding mechanism allows the fitter to move the bars back and forth to find the perfect stem length. Much quicker and easier than fitting and removing different stems. And it can produce some surprising results – we discovered we needed to increase our stem length by a whopping 20mm! It demonstrates how a bike fit needs to be a holistic process – with our saddle too high, as it was before, the longer stem would have stretched us out, leaving us before long with a bad back!