

Cycling answers

Your technical, legal and health questions answered by CTC's experts

THE EXPERTS



CHRIS JUDEN
CTC Technical Officer and qualified engineer



DR MATT BROOKS
Cycling GP



PAUL KITSON
Partner at CTC's solicitors, Russell, Jones & Walker



Sidepulls offer less clearance but can work as well as canti's

■ TECHNICAL SIDEPULL OR CANTILEVER?

Q I am considering buying a custom steel touring frame from Mercian. They offer two brake-fitting options: dual-pivot and cantilever. I gather that both will allow me to fit 32mm tyres and mudguards.

I've always used cantilevers in the past, and have assumed that they're the most powerful option, but is that really the case these days?

Daniel Auger

A Sidepull brakes originally had their single pivot above the tyre, so additional clearance came at the cost of longer arms, which bend and exaggerate any looseness in the pivot. This made cantilevers a better choice except on a racing bike.

The modern dual-pivot design of sidepull works just as well with a bit more reach. Up to 57mm these are as good as cantilevers, and if the frame is carefully made to exploit every last mm (so the blocks are right at the bottoms of their slots) that'll be enough for a 32mm tyres

and mudguards – at a pinch!

At a pinch means there won't be enough room for mudguards and actual mud. If your only reason for running 32mm is a bit of comfort on potholed tarmac, this might not matter.

However, if your rides often include a bit of canal towpath etc. – choose cantilevers. And be sure to choose the latest design with horizontal sticking-out arms. Low profile cantilevers may look neater, but they don't work well with road levers.

Chris Juden

■ TECHNICAL 631 OR 725?

Q I have a further question: the custom frame-builders offer a variety of steels, but Reynolds 531ST seems to be no longer around. I am guessing that 631 is a suitable replacement, but am not sure whether 'oversized' or normal sizing is the best thing.

I'd like something as tough as a Dawes Galaxy.

Daniel Auger

A Reynolds would have it that 631 is the replacement for 531, but a lot of people say it doesn't make such a nice frame to ride. I don't know if it's rose-

tinted spectacles or the different tube diameters and thickness it comes in, but if I were going to the expense of custom-built anyway, I'd pay the extra for 725.

I'd also have it oversize. I love my old Mercian, but to be honest its 'normal' diameter tubes are a wee bit too flexible.

Chris Juden

■ LEGAL SPOOKED HORSES

Q I live near Newmarket and on my commute to work I usually encounter horses.

Being race horses they are easily spooked. Occasionally, despite my best efforts, I upset a horse.

Can I be held responsible for any damage to the horse and rider caused from the horse being spooked by the sound of my squealing brakes?

Is it an offence to have squealing brakes on a bike? If a horse is scared of the bike and causes an accident can I be held responsible? Or is the owner/the horse rider to be in control of the horse?

David Robb

A All road users owe a duty to take reasonable care for other people using the highway. A cyclist owes a duty



When you're paying for craftsmanship, it's worth getting the best tubing



■ **HEALTH**
SADDLE SORE

Q For several months now I have been troubled by a saddle sore. If I am off the bike for a week the irritation disappears, but after a couple of days back on the back the swelling and irritation returns. Have you any advice as to how to treat saddle sores?

Frank McCartan, Banbridge, Co. Down

A Saddle sores are a common problem amongst cyclists. At best they are a minor irritation causing discomfort on the bike, at worst they can act as a deterrent to cycling altogether. The term is often used to describe a range of skin problems affecting the perineum and buttocks (in layman's terms, the bottom) from skin irritation and abrasion through to sores and abscesses. They are usually caused by a combination of pressure, chafing and sweating. Many cyclists have found their own personal preferred methods of preventing saddle sores but here are some things to consider.

Good quality clothing is important, such as padded chamois cycling shorts, preferably with as few seams as possible to reduce friction areas. They are meant to be worn without underwear. Chamois cream is popular, with both antiseptic and lubricating properties. Petroleum jelly, antiseptic and nappy creams all have their proponents too. Ride in clean, dry shorts and change out of them as soon as you finish.

Saddles come in numerous styles with different shapes (including those with pressure relieving cut-out areas), sizes, widths and materials (e.g. synthetic gels or leather). Choice is largely down to personal preference. Ask for advice at your local bike shop and a few different ones if possible. Consider saddle and handlebar height, and saddle tilt (usually roughly level is most comfortable, but experiment with a slight tilt if necessary).

Try standing up intermittently when riding and, if appropriate, address any excess weight issues. These measures will relieve some of the pressure on your saddle.

If you develop saddle sore, cut down or stop cycling until symptoms resolve, and consider using an antiseptic cream. Significant pain that is really not improving requires a trip to your GP to exclude an infection or abscess requiring antibiotics, or occasionally incision and drainage.

Dr Matt Brooks

to motorists, pedestrians, other cyclists and people riding horses. When passing horses road users should make sure to give the horse and rider a wide berth when overtaking.

It is not an offence to have a squeaking brake but a cyclist does have a duty to ensure that their cycle is well maintained with fully functioning brakes. Clearly all road users should avoid making excessive noise when approaching horses on the highway, e.g. motorists should not sound their horn and cyclists should not ring their bell when approaching a horse.

Horse riders also owe a duty of care to other road users. A horse is an animal that sometimes can be difficult to control. A horse rider should proceed along the highway in no more than trot and avoid

any potential danger to other road users. If a horse rider takes a horse on to the highway knowing that it is easily spooked by other road users then arguably they are negligent if their horse bolts and causes an injury.

There may, however, be practical difficulties in pursuing such a claim as it may be difficult to prove that the horse rider and/or owner of the horse were aware that the animal was easily spooked in traffic.

Paul Kitson

■ **TECHNICAL**
STOPPING DISTANCE

Q I was wondering how far it took for a bicycle to stop from various speeds and came across a calculation tool on the web-site of the Exploratorium in San Francisco (www.exploratorium.com).

(Above) Chamois cream reduces friction and can help prevent saddle sores

ISLABIKES
LOVE TO LEAD
www.ISLABIKES.CO.UK TEL: 01584 856881
models available for children from 2 - 12 years

ISLABIKES
www.ISLABIKES.CO.UK



A back-wheel skid caused by too much rear brake and too little front. The front stops you quicker and without skidding – but not as quickly as car

[edu/cycling/brakes2.html](#)). I should be most grateful for your opinion of the stopping distances given by this calculator: of 1.15m at 10mph, 2.60m at 15mph and 4.62m at 20mph.

Ian Hendrick

A That calculator is rather misleading. It overlooks the tendency of a bicycle to tip over forwards if you should try to stop it that quickly. This happens because – compared to most other vehicles – the combined centre of gravity of bicycle and rider is rather high and not so far behind the front wheel.

A typical bicycle and rider will pitch over forwards at a 'g-force' of only 0.6g. At or close to pitchover, the rear tyre is hardly touching the road, so the front brake and adhesion between the front tyre

and the road are all-important in an emergency stop. But they become the limiting factor only when the coefficient of adhesive friction, plus the coefficient of rolling drag, add up to less than 0.6. Adhesion on a dry road is better than 0.8. It follows that only on very wet, dirty or icy roads will the front wheel slide before the bike tips.

In practice you can't even stop a typical bike at 0.6g – or not unless you're some kind of trick cyclist – since as soon as the bike starts to tip, it flips! It will be rather tricky to stop a bike even at 0.5g, and the tests of brake systems in British and European Standards call for a more practicable 0.35g.

If you put numbers into the Exploratorium's calculator, for adhesion and rolling drag, that add up to 0.35, you'll get a more realistic set of stopping distances: that are

more than twice as far as those computed above!

So don't tailgate other vehicles when you're cycling. You cannot possibly stop as short and will crash into the back, no matter how quick your reactions or powerful your brakes!

Chris Juden

■ TECHNICAL SHOCKING NEW BIKE

Q I bought a Ridgeback Horizon touring bike earlier this year. I like it a lot, but I get a minor electric shock any time I cycle underneath high-voltage power lines.

This did not happen with my previous bike and my cycle clothing is no different, so logically I have put these shocks down to the new bike. I have mentioned this to the retailer (Evans) but they have not come across this problem before and say that it can't be the bike that's causing it.

Alan Reid

A I've never heard of this either, so thanks to swansonj on the CTC Forum for pointing us to a page on the National Grid's website – all about Microshocks on bicycles!

Apparently when you pass under high-voltage lines they induce a static charge upon your body. Normally this leaks away imperceptibly, but if your points of contact with the bike are well insulated, and you then touch a metal brake lever etc. the sudden discharge can come as a bit of a shock! I guess this bike, being brand new, has a more complete covering of the handlebars etc. than your old one did.

Don't worry: the charge and the shock are no worse than what can happen when you walk across a cheap carpet then touch a radiator. And on a bike they're much easier to avoid.

Simply press one finger against something metal whilst passing under power lines. And don't worry about wires strung from poles: it's only big stuff on pylons that can have this effect.

Chris Juden

CONTACTING THE EXPERTS

Send health and legal questions to the Editor (details on p88). We regret that Cycle magazine cannot answer unpublished health and legal queries. Technical and general enquiries, however, are a CTC membership service. Contact the CTC Information Office, tel: 0844 736 8450, cycling@ctc.org.uk (general enquiries) or Chris Juden, technical@ctc.org.uk (technical enquiries). You can also write to: CTC, Parklands, Railton Road, Guildford, GU2 7JX. And don't forget that CTC operates a free-to-members advice line for personal injury claims, tel: 0844 736 8452.