

Expert advice

# Q&A

YOUR TECHNICAL, LEGAL, HEALTH, AND POLICY QUESTIONS ANSWERED. **THIS ISSUE:** REPAIR SPRAYS, SPOKE PROBLEMS, STENTS, AND MORE



Technical

## INSTANT PUNCTURE REPAIR



Gas and sealant in a can will readily fix small punctures

**Q** I'm looking for a product that would get me home if I have a puncture, without the need to do a roadside repair or tube replacement. Is there anything that can be injected into the tube via the valve?

Rod Kleckham

**A** A few spring to mind: Vittoria Pit Stop, Hutchinson Fast Air, and Zéfal Repair Spray. Vittoria's offering is primarily pitched at conventional tubular tyre users and is therefore designed to work with innertubes, so it can be used in tubed clincher tyres too. Vittoria say the pure latex foam sealant is effective on holes of up to 1mm; in practice it will seal longer cuts but may let some propellant gas out before completing the seal, resulting in a lower final inflation pressure. The canister is good for one 700x25C tyre, which it will inflate to around 90psi. The propane gas propellant is said to dissipate through the rubber of the tyre more rapidly than air or CO2, meaning a top-up will be required a day or so after initial use.

Fast Air is a similar product originally developed for Hutchinson's road tubeless tyres, and the sealant may not be as effective

if used in a tubed tyre. Zéfal Repair Spray is similar to Vittoria Pit Stop.

Richard Hallett

### Technical SPOKES UNWINDING

**Q** On my singlespeed rear wheel, some spokes seem to regularly loosen, making the rim wobble. The problem is easy to fix but I cannot understand how or why the nipples unwind. I have tried extra tensioning, which results in spokes breaking. Can you offer any advice please? The wheel is 700C with 32 spokes on a Mavic Open Pro rim.

Mike Haselden

**A** The problem is not limited to singlespeed wheels. As the spokes in a bicycle wheel are tensioned during the build, they stretch, by 1mm or so, elastically, which means they will return to their original length when tension is removed. The higher the spoke tension, the more they stretch. Spoke tension in the built wheel pulls the nipples against the rim, jamming them in place. If no spoke thread lock is used (or until corrosion and silt seize the nipple to the spoke), the

friction generated by spoke tension is mainly what keeps the nipples from loosening as the wheel is ridden.

As the wheel rolls, the point in contact with the ground is momentarily deflected inwards towards the hub, reducing tension in the spoke at that point. Rim deflection with a narrow, high-pressure tyre on a rough surface might be 0.5mm or so, or enough in the case of a low-tensioned wheel to allow the spoke to contract to its un-tensioned length, in which case the nipple is free for a moment to rotate. Perhaps surprisingly, nipples loosen quite quickly given the chance, which is why many builders use a thread locking compound such



Above: from rosebikes.com. Left: parktool.com

### MEET THE EXPERTS



**DR MATT BROOKS**  
Cycling GP {Health}



**RICHARD HALLETT**  
Cycle's Technical Editor {Technical}



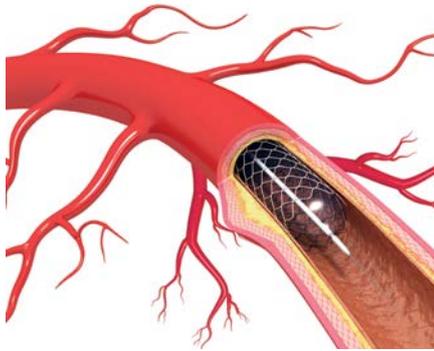
**PAUL KITSON**  
Principal Lawyer, Slater + Gordon Lawyers {Legal}

as linseed oil as a preventative. Correct (high) spoke tension is also effective, since the rim has to deflect further to leave a spoke slack. But high tension is hard to achieve without practice and, ideally, a spoke tensiometer.

You don't state whether you build your own wheels or have simply replaced broken spokes. When doing the latter, it is best to slacken all spokes and start again from scratch to avoid over-tensioning the new spoke. Ultimately, building durable wheels is a question of skill and technique; try a wheelbuilding course if you wish to improve either.

**Richard Hallett**

## Health CYCLING WITH STENTS



**Q** I recently had two stents inserted into an artery into my heart. I wish to get back on my bike but my wife worries. I'd like to convince her it will be okay. I would do 10-20 miles on the flatlands of Cheshire, wearing my heart monitor attached to my Garmin Forerunner 910XT. I will not go to Pott Shrigley or the Cat & Fiddle.

**Ian B Murray**

**A** A stent is used to treat a blockage in a coronary artery that could cause a myocardial infarction (MI, heart attack) or angina. It is a small metal tube made of open mesh, which is inserted over a balloon into the artery. The balloon is then inflated (in a process called angioplasty) to open up the artery at the site of a localised blockage caused by fatty deposits. The expanded stent is then left in place, improving blood flow to the heart muscle.

Following the procedure, exercise is beneficial. Specific advice from your cardiologist is best. If this is not possible, you may be offered a cardiac rehabilitation course a few weeks post-op to improve fitness, confidence and provide education, and this should enable you to receive more personalised guidance based on your progress.

Advice varies, but you can usually start light exercise such as walking within the first few

days, with gentle cycling soon after, certainly within two weeks. Build up gradually based on how you feel, a few minutes to start with, increasing to longer rides as your body allows over the coming weeks. All being well, by two to three months you should be able to take on more strenuous rides. If at any time you experience chest pain, stop and seek medical advice.

There will always be people who have resumed strenuous exercise much sooner but that depends on individual circumstances. Warm up before a ride and, above all, be sensible and listen to your body. If you're utterly exhausted, can hardly breathe and your heart's pounding, then you're overdoing it. If you're taking medication such as beta-blockers post-op, there's a chance your performance may be affected by this.

**Dr Matt Brooks**

## Technical KEEP ON TRIKING

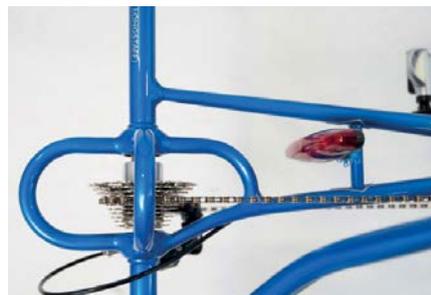
**Q** My day-to-day cycle and tourer is a two-wheel drive Longstaff trike. The drive relies on a 7-speed Maillard block. I have now run out of sprockets. I could have new axles and a new boss made but would prefer to keep it original if possible. Is there a freewheel on the market that has the same spline pattern as a Maillard freewheel?

**Steve Bullas**

**A** According to Jez Hastings of Longstaff Cycles, inventor George Longstaff sourced sprockets from several multiple freewheels, or 'blocks', for his eponymous double freewheel, the most common being the Sachs 'Aris' and Maillard 700. Neither is still in production and there appears to be no current equivalent, but NOS Sachs and Maillard sprockets are still available from a number of sources – including Longstaff Cycles.

The use of various donor blocks means that, as Hastings points out: 'some [sprockets] fit some and others fit others so it's not obvious at first.' The good news is that Longstaff can advise on and supply the correct parts for your drive. Visit [longstaffcycles.com](http://longstaffcycles.com) or call 01782 561966.

**Richard Hallett**



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Right: Robert Read Road Signs / Albany



Such a road is still a public place so driver insurance laws apply

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**Legal**  
**WHEN IS A ROAD NOT A ROAD?**

**Q** On my ride to work along a signed cycle route, there's a pinch point: a single-track tarmac road about 100 metres long, controlled by traffic lights. A sign at each end says the road is closed to motorised vehicles, except to permit holders. However, I'm frequently passed by vehicles using it as a shortcut. If I was unlucky enough to be in a collision, would I be able to claim against the driver? They're not driving on the highway at that point? Or could I claim against the council, who created this unusual road but don't enforce it?

Dave Thorpe

**A** This seems a strangely designed section of road. There ought to be clear signage warning motorists that the road is for permit holders only, that it is a cycle route, and that they should not overtake cyclists and/or proceed slowly and with caution.

In *Gorringe v Calderdale Metropolitan Council*, the claimant sustained serious injuries when her car collided head on with a bus. It is alleged that the council was at fault for not providing clear warning signs of the dangers of that section of the road. A 'slow' sign on the tarmac had worn away.

The Court of Appeal held that there was no breach of section 41 of the Highway Act 1980 as road markings did not constitute part of the structure of the road. In addition, arguments that the council was in

breach of its duty under section 39 of the Road Traffic Act 1988 to provide signage to warn of the dangers also failed as there was no history of this being an accident black spot.

It would therefore be extremely problematic to pursue a claim against the council for lack of signage. It is also unlikely that a court would find that the council was in breach of its duty of care in relation to the design of this shared section of road. If there was a collision, the obvious defendant would be the motorist.

There have been several examples where insurers have successfully argued that an accident did not occur on a road, and accordingly that there was no statutory obligation to indemnify. For example, a car park was held not to be a road in the cases of *Clarke v Cato* and *Charlton v Fisher*. However, these cases were decided before an important amendment to section 143 of the Road Traffic Act 1988. The Motor Vehicles (Compulsory Insurance) Regulations 2000 changed the reference from 'road' to 'road or other public place'.

Although the section of road is open to 'permit holders only', I would have thought that it is unlikely that an insurer would be able to persuade a court that this was not a public place, given the absence of barriers and the usage of the road as a shortcut. In any event, unless the motorist who caused the collision was in breach of the terms of the policy of insurance, I would not expect arguments about indemnity from the insurer.

Paul Kitson

**Technical**  
**TREKKING TRIPLE CHAINSET MEETS ROAD MECH**

**Q** I've upgraded the entry-level drivetrain of my 19-year-old hybrid and now have: eight-speed 11-32 cassette; 46-34-24 Stronglight chainset; M591 Deore rear mech (works beautifully); and a Claris FD2403 front mech. The chainline is 45mm.

I initially tried a Deore M591 front mech but it refused to shift down to the inner ring. I wonder if this had to do with the 50mm chainline requirement for this and many other MTB front mechs? The Claris works okay middle to inner and back but is a little heavier and slower from middle to outer. Would it help to change to a Sora front triple (45mm chainline, but 50t top and 20t capacity)?

Christopher Lycett

**A** MTB front mechs are designed to work with a mountain bike's wider bottom bracket shell. The actuating mechanism is dimensioned accordingly and will work poorly outside its usual range of movement. Furthermore, since the Deore mech is made for a 42T outer ring and has an 18T capacity, its refusal to handle the Stronglight chainset is easily excused.

From their specifications, the Claris and Sora triple front mechs are functionally identical, so there's little chance that the latter would offer an appreciable step up in performance.

Richard Hallett



**Contact the experts** Email your technical, health, legal or policy questions to [editor@cyclinguk.org](mailto:editor@cyclinguk.org) or write to **Cycle Q&A, PO Box 313, Scarborough, YO12 6WZ**. We regret that Cycle magazine cannot answer unpublished queries. But don't forget that Cycling UK operates a free-to-members advice line for personal injury claims, tel: **0844 736 8452**.