

Q & A

Your technical, legal and health questions answered.
This issue: a carbon steerer tube conundrum; ankle issues; multi-purpose tyres; sticky brakes; and potholes

QUESTION OF THE MONTH



● Tighten a carbon steerer's bung 'the minimum amount to stop it slipping when the top cap is used to pre-load the head bearing'

TECHNICAL

CARBON FORK TORQUE

Q Can anyone advise me on the correct torque when tightening an expanding bung in a carbon steering tube? It has to be held firm enough to allow for the pre-load to be added to the bearings but not too tight. Any rules of thumb, like 'tighten until you hear a crack and then back off by 1/8th'?

REVOLUTION (via the CTC forum)

A If you hear a crack in a carbon steerer when tightening the bung, it's too late... Given the risk of cracking they pose, expanding bungs aren't a brilliant device to fit inside a carbon steerer; better is a permanently bonded-in plug, which obviously limits the amount the steerer can be trimmed but otherwise makes life easy.

The plug or bung not only houses

the thread for the top cap bolt, which as you note loads the bearings, but supports the steerer's composite matrix against the crushing effect of tightening the stem clamp bolts. Those designed with an expander thread jam themselves against the inside of the steerer but this can, as noted, overload and damage the steerer. There are many types, and steerers are of varied construction, so unless a manufacturer's torque setting for the bung is known, it is not possible to give a definitive figure. The trick is to find the minimum amount the bung must be tightened to prevent it slipping when the top cap nut is used to pre-load the head bearing.

The plug should be placed internally at the same height as the stem clamp and one or both of the stem clamp bolts lightly nipped up so the stem constricts but does not grip the steerer. This is a bit of a safety measure that prevents the steerer from swelling and cracking due to the expansion of the plug and the stem should still be able to slide down the steerer to

compress the bearing. If the plug shifts as the cap bolt is tensioned, tighten the expander a little more; it should grip the steerer without damaging it. It's a bit of a juggling act and, rather than risk cracking the steerer, I have used epoxy resin to bond a slipping plug in place once handlebar stem height and, therefore, steerer length are decided.

RICHARD HALLETT



● A torque wrench: useful if you know the fork manufacturer's recommended settings...

MEET THE EXPERTS



RICHARD HALLETT
Cycle's Technical Editor



DR MATT BROOKS
Cycling GP



PAUL KITSON
Partner from Slater & Gordon (UK) LLP



**HEALTH
FLOPPY FOOT**

Q My left ankle has started to become 'floppy' on gradients. I am unable to put any pressure on the pedal through it, so have to dismount and walk.

The GP authorised an x-ray of the foot which showed everything to be okay. A sports physio has been unable to detect any problem with muscles etc, and the local bike shop thought my riding position was fine. I can cycle 30 miles on flat terrain, and it then becomes floppy on gradients. Or if I go for hills straight away, it gradually weakens the ankle from the start.

Four years ago, I was diagnosed with 'lumbar spinal stenosis', which led to the weakening of the left leg. I have had to progressively put my foot further forward on the pedal and have had to give up using clipless pedals.

MARK BAZELEY

A Possible explanations for a 'floppy foot' would include a nerve problem in the leg or spinal cord, or part of an underlying condition causing muscle weakness. In your case, given your previous diagnosis of lumbar spinal stenosis (a condition where there is narrowing of the spinal canal causing pressure on the spinal cord and nerves as they exit the spine), it is possible there may be pinching of one of the nerves supplying the leg.

Some other causes of ankle weakness include a structural ankle problem or ligament instability, although it sounds as if these may have already been ruled out.

Regardless of the cause, practical cycling tips would include setting the shoe cleats back as far as they'll go to maximise power from downward leg pressure (or giving up using clipless pedals, as you have done). Wearing stiffer shoes to reduce flexion and investing in an orthotic ankle support or a longer foot/heel plate support to fit on the pedals may

also be beneficial. Make sure you warm up before a ride and obviously try to select easier gears on hills.

Physiotherapy can help to strengthen the muscles but as your symptoms seem to be progressive, it might be worth discussing with your GP whether any further neurological investigation would be helpful, such as an MRI of the spine and nerve conduction studies. A referral to a neurologist may be required for these. Other treatments are sometimes used for specific nerve or spinal conditions, including nerve stimulation, epidural spinal injection and surgery.

MATT BROOKS

**TECHNICAL
EASIER-ROLLING TYRES**

Q I've purchased a Cube cyclocross bike, which I intend to use for non-competitive rides around the New Forest, on road and off.

The OE knobby tyres are unsuitable for prolonged road use. Can you recommend a clincher tyre that will roll reasonably well on tarmac and cope with the forest gravel paths, please? I'm not planning extreme off-road use. 700x32C seems to be the right size.

DAVE TUCKER

A A light road tread will do fine for your purposes. Of the numerous possibilities, I'd suggest either Continental's Sport Contact in 700x32C or the Grand Bois Cyprès 700x30C. The former is the 'sensible' choice and will prove durable, tough and affordable. The latter is something of a luxury but will transform your ride.

RICHARD HALLETT



Mens Evolve Short Sleeve Jerseys



Ladies Layla Short Sleeve Jerseys



Mens Aero 50 Bibshorts

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● If you've adjusted the spring tension screws (bottom right and bottom left), check the brake blocks themselves



TECHNICAL V-BRAKES BINDING

Q The rear V-brake on my commuter bike is binding on one side. Looking at the bike from the rear, the right hand brake block is not moving away from the rim. (The cable comes in from the left.) If I push the brakes over by hand then they'll stay central.

However, as soon as I apply the brakes again, the right brake block stays against the rim. The cable doesn't seem to be sticking. The springs are still springy – but having said that, I have no idea how much tension each is giving.

THE FAT COMMUTER (via the CTC forum)

A This is one of those questions easily answered with the offending item in the stand in front of you but less so from a brief description.

From yours, I am going to suggest that the brake block on the right-hand side is positioned lower than its partner and has worn to the point that, when the brake is applied, it partly slides under the inside face of the rim and stays there when the brake is released.

If so, the cure is to adjust the block so that its lower edge hits the rim just above the lower edge of the brake track. It may prove necessary to trim the brake block down a little with a craft knife if wear has given it a 'lip'.

RICHARD HALLETT

LEGAL

POTHOLE PREVARICATION

Q When I asked for some sections of road to be repaired, my local authority advised me: 'The inspector will measure the pothole to determine whether or not the pothole breaches the intervention levels below:

● **FOR FOOTWAYS:** 20mm vertical difference in surfaces in flagged footways, or a depression of 25mm over a 600mm length in any one direction.

● **FOR CARRIAGEWAYS:** 40mm deep and 300mm length in any one direction
Other defects that may be present but do not breach intervention levels will not be repaired.'

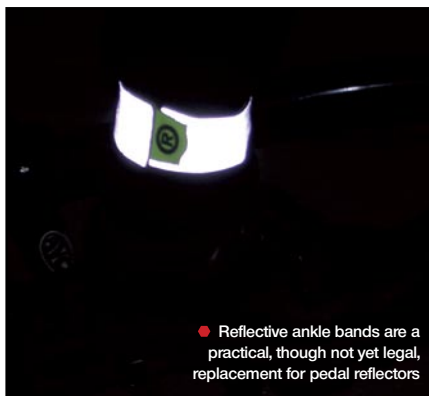
However, 4cm represents a real hazard for cyclists. Are there no guidelines on potholes? Would I be able to claim for damages if a pothole of 'acceptable' depth caused me to fall off my bike?

R BLACK

A A highway authority has a legal duty to maintain the highway pursuant to Section 41 of the Highways Act 1980. By section 329(1) of the 1980 Act 'maintain' includes 'repair'. Section 58 of the Highways Act 1980 provides a defence where the highway authority can show that it took reasonable care to ensure that the highway was not hazardous to users of the highway; guidelines on reasonable care are given.

A Code of Practice for Highway Maintenance was published in 2005 but is not mandatory. Recently, the Court of Appeal in the case of *Devon County Council v TR* [2013] EWCA Civ 418 gave guidance on the status of this Code of Practice.

In that case, the offside tyres of a claimant's motor vehicle went into a potholed area causing him to lose control



● Reflective ankle bands are a practical, though not yet legal, replacement for pedal reflectors

and collide with trees on the nearside verge of the road.

The trial judge held that it was foreseeable that a car driven on the edge of the carriageway would encounter the damaged area, which presented a danger to road users. The court held that the defendant's failure to maintain or repair the highway was the main cause of the accident, and that a six monthly maintenance inspection regime was insufficient, particularly as monthly inspections had been recommended in the code for this class of road. The trial judge held that as there was no legitimate reason for the defendant's departure from the Code of Practice, they had no defence to the claim.

The highway authority appealed to the Court of Appeal, which held that the rut could be seen in the road and it could only have inadvertence on the part of the motorist for failing to see it and this meant that he had failed to keep a proper look out. It held that the motorist was 50% contributorily negligent.

This case therefore highlights that the code is evidence of good practice but its status must not be overstated. It has no statutory basis, and local authorities must exercise their own judgment. Ultimately, whether or not a defect is regarded as a hazard to ordinary road users is a matter for a trial judge.

PAUL KITSON

TECHNICAL PEDAL REFLECTOR FIX?

Q I believe it is a legal requirement that all bikes have reflectors on the pedals. However, they simply do not stay on. The fittings break due to being kicked every time I put my feet onto the pedals. Or the reflective bits slip out of the casing they are slid into. What is your advice?

REBECCA LACK

A Reflective ankle bands or trouser clips are inexpensive and hard to damage and, at night, return the same visual signal, associated with cycling, as pedal reflectors.

RICHARD HALLETT

Dan Joyce adds: *Whether the Road Vehicle Lighting Regulations will ever be amended to adopt this or any other alternative to pedal reflectors, given that so many bikes on UK roads do not have them, remains to be seen.*

Contact the experts Email your technical, health and legal questions to editor@ctc.org.uk or write to CTC Q&A, PO Box 313, Scarborough, YO12 6WZ.

We regret that Cycle magazine cannot answer unpublished queries. But don't forget that CTC operates a free-to-members advice line for personal injury claims, tel: 0844 736 8452.