Expert advice

Q&A

YOUR TECHNICAL, LEGAL, AND HEALTH QUESTIONS ANSWERED. **THIS ISSUE:** RIM WEAR, BROKEN WRIST RECOVERY, SEATPOST UNSTICKING, AND MORE

MEET THE EXPERTS

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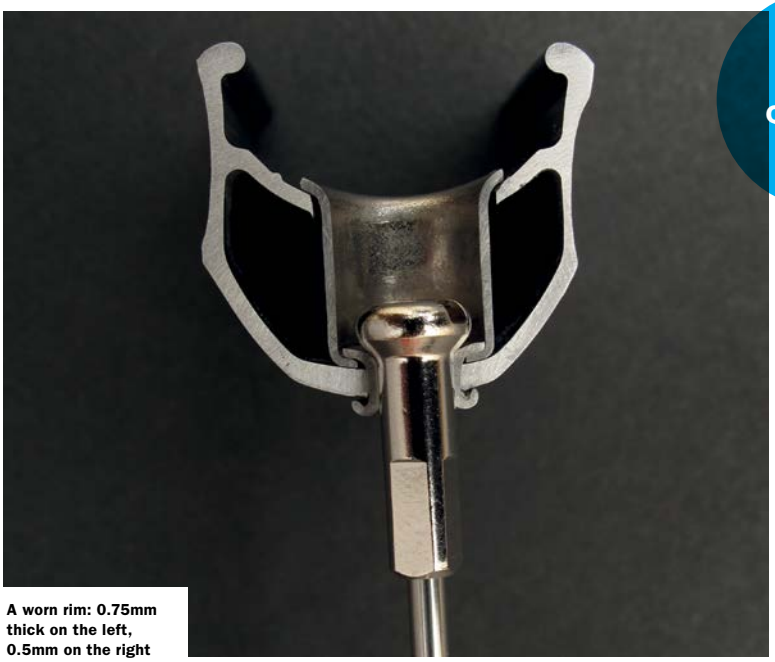

Question of the month

A worn rim: 0.75mm thick on the left, 0.5mm on the right

Above: Phil Gradwell, Flickr

Technical

RIM WEAR WORRIES

Q I have a pair of Shimano R500 wheels, which have four wear indicators, two on each wheel. After two years and about 5,000 miles, one of the wear indicators on the front wheel has disappeared; the rear is okay. Two local mechanics I know and trust have looked at the wheel and told me that it is okay to ride for 'a few more miles'. The manufacturer's instructions say that the wheel should not be ridden when the wear indicators disappear. Should that wheel be replaced immediately, or is it safe to ride for a while longer?

I have also heard that an alternative method is to check the wheel rims with a micrometer and, if they are at least 1mm thick, then the wheel is safe to ride. Does that test override the manufacturer's instructions?

Peter Spear

A It is unusual for the front wheel rim to wear more quickly than the rear, which gets the dirt and grit suspended in standing water thrown onto it by the front tyre. That said, rim wear is caused by braking, and maybe you don't use the rear brake much. In any case, using rim brakes, on aluminium rims in particular, gradually abrades the braking surface and reduces the thickness of the rim wall. In a clincher tyre, the rim wall is stressed by tyre inflation pressure and if worn too thin will crack, allowing a section of rim to break away. The result can be anything from a slight rubbing on the brake block to a potentially catastrophic jamming of the wheel.

The wear indicator is there to show when the rim is worn to an unsafe condition. Since the manufacturer doubtless errs on the side of caution and tyre pressure can be whatever the rider decides on, the wheel may well be safe to ride at the point where the indicator is no longer visible. Or it may not. The prudent course of action is to replace the wheel as per the manufacturer's instructions.

Measuring the wall thickness is tricky, as it tends to wear to a concave shape, but can be done using callipers. This doesn't necessarily tell you much; 1mm may well be dangerously thin. Perhaps the only way to ascertain if the rim can take a given inflation pressure is to grossly over-inflate the tyre, perhaps to 150psi for a 23mm clincher. If it holds 150psi without failing, then it will hold 100psi. But ride the wheel at your own risk.

Richard Hallett

It may take months for a broken wrist to feel normal

Health

BROKEN WRIST RECOVERY

Q I've just had a plaster cast taken off my right wrist after about six weeks. It was a clean break at the bottom end of one of the long bones in the forearm. It's still quite painful, and I'm now wearing a splint. Can I ride my bike, if it doesn't hurt too much? I need my bike to do my work! How long does it usually take to feel normal(ish)?

PT1029, via the Cycling UK forum

A A wrist fracture usually refers to a break through the radius and/or ulna, the two long bones in the forearm. Wrist fractures are often the result of falling on an outstretched arm. Recovery time will depend on the type of fracture and the age of the patient. A 'clean break', where the two pieces of bone remain well aligned, is most likely to heal more quickly. If the fracture involves several fragments of bone, or the ends have been displaced, surgery may be needed to realign the bones or to use metalwork to join them back together, and recovery may be slower.

While in plaster, the muscles in the forearm are not being used. This means that when the cast is taken off, the wrist will feel weak and stiff. Just doing normal activities again will gradually build up the strength but this can be supplemented by exercises (little and often, several times a day for a few minutes – search online for 'physiotherapy wrist fracture exercises').

It is likely that it will take at least another two months for your wrist to feel anywhere near 'normal' again, so stick to light activities only during this period. Initially you should take great care riding your bike as your grip on the handlebar, and hence braking and steering ability, will be impaired. Furthermore, wearing a splint will reduce movement in the wrist, which will compound this. My advice would be to accept that it will take time to recover and not to take unnecessary risks as it may set you back further in the long run.

Dr Matt Brooks

Looking for a solution to dissolve aluminium oxide? Coke is it!

Technical

STUCK SEATPOST

Q I have a Dawes One Down touring bike. The seat post has got stuck, presumably as a result of water getting in between the post and the frame. Can you tell me the best way to release the post so that I can adjust the height of the saddle?

Gareth Rees

A There's a spectrum of ways to remove a seized aluminium seat post, from the gentle to the savage. Which one you end up using depends on how badly stuck the post is. One option reputed to work is to remove the bottom bracket, invert the frame and pour a cola soft drink into the seat tube. Leave overnight and the stuff may have dissolved the aluminium oxide enough to let you remove the post easily next morning.

If the process has not gone too far, it may be possible to turn the frame upside down, clamp the post in a bench-mounted vice, ideally via the cradle, and use the leverage of the frame to turn it, loosening the post.

If this does not work, try drilling a 12mm hole through the side of the post and inserting a length of steel rod which you can use as a tommy bar.

Failing these, the post can be melted out; aluminium melts at around 660°C, way below steel or the filler metal of a brazed joint, so the only damage, if done correctly, is to the paintwork.

It is also possible to use a hacksaw blade to cut slots down the inside of the post, taking care to avoid going beyond the aluminium into the steel seat tube. Once at least a couple of slots have been made, use a cold chisel to part the post from the inside of the tube.

Richard Hallett

Legal

WHAT DO GOVT 'WHIPLASH REFORMS' MEAN FOR US?

A In recent months the Government has looked to reform the rules surrounding personal injury claims, in particular those involving low value injuries.

Whilst these reforms are primarily aimed at reducing the number of minor, exaggerated and fraudulent whiplash-type claims, the effects of the proposals are not limited to those claims. The Government's broad-brush approach will inadvertently limit access to justice for many vulnerable road users, including cyclists.

The reason for this is that one of the elements of the reforms proposed by the Government would see the small claims limit (which applies to all injury types) rise from claims valued up to £1,000 to those valued up to £5,000. In small claims, the claimant is unable to recover their legal costs from the defendant if successful and, as a result, they are often unrepresented.

If accepted, the reforms would see the majority of the minor to moderate injuries suffered by all claimants, including cyclists, fall into the small claims bracket. We would estimate that this would see as much as 70% of injured cyclists unable to recover

Raising the small claims limit would hit cyclists hard

Photos on this page by Alamy

Photo: Richard Masoner, Cyclicious, Flickr

Good bottle dynamos, correctly set up, can be quite efficient

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the cost of legal advice at the end of their claim.

In claims resulting from cycling incidents, particularly those involving uneven road surfaces or potholes, insurers will often raise liability arguments that can prove challenging for an experienced litigator, let alone a member of the public representing themselves with no legal advice. An unrepresented claimant may be taken advantage of by the defendant due to the disparity in legal knowledge.

These reforms have the potential to tip the scales firmly in favour of the insurance companies rather than the injured cyclist, by limiting the claimant's access to professional legal advice.

The road ahead is not yet clear, but the consultation on the proposed reforms has now completed and we await the response, which is due by 7 April this year.

Richard Gaffney

Technical

DYNAMO RESISTANCE

Q Why do bottle dynamos offer more resistance when turning than hub dynamos? My B&M one is very jerky, and I wonder how much energy is lost overcoming the resistance compared to a hub? Or is the apparent increase in resistance of a bottle due to the smaller parts compared to those of a hub built into a wheel?

mercalia (via the Cycling UK forum)

A The wheel of a bottle dynamo is driven by friction between it and the tyre sidewall, which can be compromised by rainwater. In order to minimise sidewall wear, the wheel generally has a surface with a less-than-optimal coefficient of friction with the sidewall.

To get around these factors, the bottle has a powerful spring to press it against the tyre and generate the required friction. Deflection of the tyre sidewall creates rolling resistance, to which may be added bearing friction losses due to the high rotation speed of the wheel.

In practice, a correctly installed bottle dynamo can run very sweetly; its axis must be aligned precisely with the wheel spindle and the spring force against the sidewall just sufficient to prevent slippage. In this case, additional drag compared to a hub dynamo may be as little as 2W. There is, of course, none when it is disengaged.

Richard Hallett

Technical

WHICH FRICTION SHIFTERS?

Q Are there any problems in pairing up down tube friction shifters with rear and front (triple) mechs. If so, what is the best method(s) of dealing with them in a simple and cost effective way?

Cyril (via the Cycling UK forum)

A Provided the levers will pull enough cable to move either shifter through the range of motion required to access all the gears, there is no problem. The ENE down tube levers made by Dia Compe should pull enough cable if your current levers do not.

Richard Hallett

Contact the experts

Email your technical, health, legal or policy questions to 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.