# **Advice**

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#### Technical

# E-bike battery care

I have a Specialized Vado e-bike. Do you have any advice on battery care? Should I recharge it when it's partially discharged or wait until it's empty? Apart from an ambitious quoted range figure, the bike is otherwise going well.

Eric Malcolm

Rechargeable lithium-ion batteries are standard technology used in everything from mobile phones to e-bikes. They are lightweight and can be recharged many hundreds of times while retaining acceptable performance. The ideal recharging regime differs significantly from that preferred for old-school lead acid batteries, which benefit from being charged to 100% capacity.

Instead, Li-ion batteries are best recharged to around 90% of capacity and recharged when around 30% full. This partial recharging strategy keeps the battery voltage close to the optimal level. Preventing it getting too hot also helps maximise

battery life; a storage temperature of between 25°C and 40°C is considered optimal, and should allow the battery to retain around 90% of its performance after a year of regular usage.

Richard Hallett

#### Your Experts



DR KATE BRODIE Retired GP {Health}



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#### Health

# Cycling after Covid

Since having Covid back in August 2021 my energy levels have been decimated. Even riding for a couple of gentle miles finishes me off. I love being out on the bike and I know that the more I ride the easier it will get, but knowing how rough I will feel is really putting me off. Can you offer any advice for overcoming the psychological barrier to getting back riding after illness?

Richard Clarkson

Recovering from any illness or injury takes time and patience, and Covid is no different. If you read the recent article in Cycle magazine you will know that starting with just a few minutes of gentle exercise and building up is the way to go. Monitoring your heart rate may be useful if you have a gadget to do this. Don't be too ambitious or you will suffer and put yourself off trying again.

Have faith in your recovery and trust your body. When you go out, try to find a level route and just ride a short distance. You may be exhausted and aching afterwards but if you do the same route for several days it should become gradually easier. Is there an incentive you can give yourself? The local café or cake shop perhaps? Once you see an improvement, your confidence will return and you will soon be enjoying your cycling again. See: bit.ly/cycle-NHS-getmoving. Dr Kate Brodie

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The SON 28 suits demanding usage

#### Technical

## Take charge on tour

I am planning a long cyclecamping trip this summer and was wondering if there is a good system that will charge on the go? Is there a good front hub dynamo wheel that could supply enough charge to maintain a phone or Garmin, and also stand the rigours of some roughish roads? My bike is an Enigma Etape with rim brakes and 25mm tyres. **Julian Alston** 

The subject was covered in Cycle April/May 17 (cyclinguk.org/ cycle/take-charge-tour-cyclists-guideelectric-power-generation). There are many systems that will charge a device such as a Garmin or mobile phone while riding, almost all based on a front hub dynamo and therefore suitable, laced up with the right rim, for use with rim brakes.

The best-known is probably the SON 28 hub, which is well-proven and suitable for the most demanding usage; similar hubs are available from manufacturers including Supernova and Shimano. The key point is that they produce 3W at 6V, which is turned by a power converter into the 5V required by the device to be powered.

Power converters are available as stand-alone units, such as the Sinewave Reactor, or can be incorporated into a front light such as the AXA Luxx 70 Plus Steady or Busch and Müller Lumotec IQ2 Luxos. They have a USB port for the device charger cable. Ready-built wheels with dynamo hubs are available from specialist outlets such as Spa Cycles and St John Street Cycles; a custom wheelbuilder will, of course, be able to assemble a wheel to your requirements.

**Richard Hallett** 

#### Legal

### Club ride threat?

Are club rides under threat from the Highway Code changes? I saw an article about cyclists having to stop to let drivers pass. Could Rule 66 give drivers the belief that cyclists must do so? sore thumb, via the Cycling UK Forum

The short answer is no: club rides are not under threat. But it seems that since the introduction of the new Highway Code rules, there has been an increase in anti-cyclist behaviour on social media. This may be due to an equivocated interpretation of the new rules, when in fact the rules have just clarified the existing position.

Rule 66, for instance, states that cyclists should be considerate of the needs of other road users when riding in groups - motor vehicles included. The new rules should be interpreted in accordance with the Highway Code objective, which is to promote safety on the road while supporting a 'hierarchy of road users'.

Under the new rules it's now clear that you can ride two abreast and it can be safer to do so, particularly in larger groups or when accompanying children. Safety is the key when deciding if it's better to ride two abreast or single line, including on narrow, busy roads or round bends. Large groups riding in line will take a longer distance to overtake, so it makes sense to ride two abreast.

Cyclists must also be aware of drivers behind and allow them to overtake (for example, by moving into single file or stopping). The rule of thumb is: you must be assured that it's safe for you to do so. **Richard Gaffney** 





#### Technical

### Worn out cleats

When should I replace the cleats on my road bike shoes? I've never done it. Now I am finding my left foot is becoming more difficult to click out when stopping. I'd be interested in hearing about cleat protectors too. David Wood

The simple answer is 'when they are worn', but there does not appear to be any industry-specified degree of wear at which cleats should be replaced. Doing so when the cleat begins to stick in the pedal is one solution, but is leaving it too late if the rider is injured as a result of being unable to clip out.

Unlike recessed metal cleats, protruding plastic cleats wear quickly if their shoes are used for walking on hard, rough ground. The cleat surface that wears is, of course, the surface that rests on the pedal. As soon as the cleat wears enough to rock around appreciably on the pedal once clipped in, it will affect the stability of the foot while pedalling, and this is arguably the point at which it should be replaced, regardless of the ease of pedal exit.

Cleat protectors are (usually) rubber caps designed to be pulled over the cleat to protect it from abrasion when off the bike at, say, a café. They're a bit of a faff to fit, carry and even remember, but are worth a trv.

**Richard Hallett** 

#### Get in touch

EMAIL your technical, health, or legal questions to editor@cyclinguk.org or write to Cyclopedia, Cycle, 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: 0330 107 1789.