

Trailside Repairs

Nothing beats the freedom of cycling, but there is one cloud that often floats ominously on cyclists' horizons – the question of what happens if something goes wrong? Commonly known as 'mechanicals' these range from getting a puncture to brakes squealing or gears skipping. The reality is that while they're frustrating and sometimes time consuming, they don't need to curtail a riders' dreams and plans. With a few skills, a bit of experience and the right kit, your confidence will grow in no time.

Where to start?

If you're completely new to mechanics, I always recommend learning to do a basic safety M-check, which teaches you about the main parts of a bike, what to look out for and when to change parts so that you prevent problems occurring when you're out on a ride.

Seat Post

Grease seat post regularly. Mark seat height with tape if needed; remove post and apply grease to neck of seat tube. If carbon, use carbon paste.

Saddle

Check saddle bolts are tight.

Handlebar

Lift front wheel off the ground and make sure bars turn smoothly and in line with front wheel.

Spokes

Squeeze part of spokes to check tension. If loose get checked.

Chain

Use chain checker regularly and change chain* at 50% worn.

**Chains come in 'speeds'. Count number of cogs on the cassette (rear wheel) to find speed.*

Pedals

On both sides pedals 'do up forward'. Grease threads regularly.

Check pads

Check brake pads have wear left on them (disc = min 1mm, rim = min 1mm in the grooves on face of pads). Make sure pads don't rub and come on evenly.

Tools

- Allen key
- Torx keys
- Torque wrench (up to 20mm)
- Grease
- Carbon paste
- Chain checker

Axle

Check axle is done up properly and wheel in straight (front and back).

Mindful Mechanics – a different way of learning

The best place to start with bike mechanics skills is at home, in the warm and dry, with no pressure on your time. Rather than waiting for things to go wrong, I am a firm believer in facing fears and tackling them head on. If you can get used to doing these jobs in the comfort of your own home, then they will not cause you as much concern when you're out and about.

Mindful Mechanics is about preparing yourself and enjoying the process of learning, of letting yourself become immersed in the mechanics but also learning to step away when you notice the anxious feelings and fears arising. Many of us are used to an inner critic who happily starts a 'told you so' narrative when we attempt to learn new things as adults. Try to see this inner critic as a 'broken thought' pattern and that it's not only ok, but essential for things to not go smoothly every time if we're to truly learn a new skill and build our resilience.

Let's go!

To get you started, we're going to look at two tasks related to the most common problem cyclists face: punctures! Punctures are pretty much inevitable, especially in winter when hedgerows are being cut back or if your tyres are getting a bit old. If you find yourself getting regular punctures in the same tyre it can be a sign that it's time to change it.

While removing the front wheel is usually straightforward, removing the back wheel can be more tricky. Likewise, cyclists can find removing and replacing a tyre daunting, so I've outlined steps to make these tasks easier and remove the fear.

So, with your Mindful Mechanics mindset in place and in the warm and dry of your home, have a go at these two tasks and see how you find them.

- **Removing a rear wheel**
- **Removing and replacing a tyre**

Removing a rear wheel

1. Shift the chain and gears to the smallest (highest) gear/cog on the rear cassette. This moves the derailleur as far away from the wheel as possible.
2. Turn the bike upside down so that it's resting on the saddle and handlebars (removing any panniers or bags first).
3. Loosen and remove the rear axle. If it's a 'skewer' style axle you can leave it in place, just make sure that it's loose enough to clear the frame dropouts where it rests. Through axles (which thread directly into the frame) can be fully removed.
4. Unhook the chain from the cog(s) at the cranks.
5. Holding the derailleur body in your left hand follow these steps to create a large opening for the wheel to move through:
 - a. Push the cage forwards with your thumb
 - b. Pull the whole derailleur backwards (with the cage still pushed forwards)
6. Keep the derailleur held back and use your right hand to lift the wheel up and out of the rear frame triangle.
7. To replace the wheel all you need to do is repeat the process with the derailleur (step 5) and then lower the wheel into place and pop the chain back onto the front chainrings. It doesn't matter where the change sits on the cassette as long as it loops round it. Once the wheel is secured in place and the bike is upright, the chain will return to the smallest cog as you turn the pedals.



TASK TWO



Removing and replacing a tyre

The ease or difficulty of this job can vary hugely depending on the type of tyre (road bike tyres are smaller volume so are often harder to fit, while tyres on hybrid bikes are often fairly straight forward). Practicing at home means that if you find you have a tricky tyre/rim combination then you can get used to it or make plans to reduce risk of puncture eg change tyres more regularly or use slime filled inner tubes which self-heal small holes.

Removing a tyre

1. Always use 3 tyre levers! That is my golden rule. Which style you use is up to you but having 3 is non-negotiable. The reason is that with 3 tyre levers you will remove enough of the tyre that the rest of it pops off easily and you don't have to force the tyre lever round the rim which can damage both the tyre and rim.
2. Holding the wheel vertically in front of you, ensure all the air is removed.
3. Work around the sides of the tyre and 'break' the bead away from the rim. This can be hard if the tyres have been in place for a while. Do this for both sides of the wheel.
4. Place the wheel on the ground with the valve at the lowest point. The area of tyre around the valve will be the hardest to remove as the valve and inner tube take up more space there.
5. Choose a spoke that is on the outer side of the wheel and insert your first tyre lever.
6. Move to the next spoke along and insert the second lever. If this is tricky you can insert levers 1 and 2 at the same time and push both down by hand.
7. Move to the next spoke along and insert the third tyre lever. At this point the second tyre lever usually drops out with the release of pressure on the tyre bead. You can now remove the remainder of that side of the tyre by hand.
8. If you're simply fixing a puncture or replacing an inner tube you can leave the opposite side of the tyre in place rather than removing it entirely.



Replacing a tyre

1. Holding the wheel vertically in front of you, make sure the valve is uppermost.
2. Tuck the inner tube into the tyre body and then start by pressing the tyre into the rim around the valve.
3. Keep your hands either side of the valve and work your way symmetrically round the wheel, tucking the tyre in as you go.
4. When you reach the far side of the wheel you may find the tyre seems too tight to pop over the rim. There are two options:
 - a. Move your hands back to the top of the wheel; grip the tyre firmly and push your hands round the wheel (maintaining grip) so that you create excess at the bottom and can push it into place.
 - b. Alternatively, try a tyre seating tool like this to help pull the tyre into place. It anchors on the rim on the outside and allows you to lever the tyre onto the rim. Don't be tempted to use tyre levers to get a tyre back on as they can trap the inner tube between the tyre/rim and can also damage the rim.



Wherever you are on your cycling and mechanics journey, I recommend learning one skill at a time. Get really comfy with it and then move on to the next one. Before long you'll have a raft of jobs that you can do. Learning bike mechanics skills gives us choice and freedom!