

Basic Maintenance on your bicycle.

Fixing a puncture

This often has to be carried out in cold rain by the side of the road. Punctures do happen more often in the rain, it's not just you. For an effective repair, carry all of the following:

Essential Toolkit

Pump. With the correct fitting for your valve

Patch kit. The glue dries up after 6 months once you have broken the metal seal, however hard you tighten the lid, so replace it twice a year.



Picture 2



Picture 3

Appropriate spanner/adjustable if your wheels are not quick release.

1. Release your brakes, so that the wheel can pass easily between the blocks. You'll need to refit the brakes at the end before you ride off into the sunset – I'll remind you again then. If you're fixing a rear wheel puncture, change gear so that the chain is in the smallest sprocket at the back. *{picture 2 brakes off}*

2. Remove lights etc. from the handlebars, and turn the bike upside down. For the front wheel, undo nuts or quick release, and lift wheel up & out. You may need to undo the nuts/quick release a few turns to get past the safety tabs on the forks.

3. For rear wheel, undo the nuts or quick release. Hold the derailleur as shown in your left hand. Pull your finger backwards and push your thumb forwards at the same time. This should give the sprockets a clear path to escape through. Lift the wheel up and then forward, and shake the sprockets loose from the chain. *{picture 3 wheel off}*

4. You should now have a loose wheel – it doesn't matter whether it's front or back for the moment. If there's any air at all left in the tube, let it out now – it will make it much easier to remove the tyre. For presta valves, undo the knurled bit at the top of the valve four times, then depress it. For schraeder valves, use a small screwdriver or similar to depress the valve core.



Picture 4

Take a tyre lever, and tuck the hooked end under the tyre bead, level with any of the spokes. You can use a spoon for this, but you might damage the tyre bead or bend the spoon. Your call. Pull the end of the lever down and hook it around a spoke to keep it in place. {picture 4 tyre lever}



Picture 5

7. Move one spoke to the side, and repeat with a second tyre lever. The key to taking the tyre off easily is to do it in very small steps. Repeat with a third lever, the same distance along. Remove the middle lever(now redundant), leapfrog over the second and repeat. The second is now in the middle, remove it, leapfrog over and repeat. {picture 5 tyre levers}



Picture 6

8. Pretty soon you should be able to take this side of the tyre off by hand. Reach in and grab a bit of tube, and pull it out. Keeping the tube facing the same way, feel gently round inside the tyre, to find whatever caused the puncture. Be careful, it could be sharp, you don't want to be exacerbating a mechanical setback with a medical one. It's always possible that the air rushing out of the hole will push whatever caused it out of the tyre, but if you leave anything in there you will puncture again straight away. Irritating. Use a screwdriver, knife, keys, whatever to push the intruder out of the tyre from inside. {picture 6 tyre}{picture 7 tube out}



Picture 7



Picture 9

9. When you find something, carry on around and check the rest of the tyre too! There might be something else. If you have found what you think caused the puncture, match the tube up to the tyre – the valve was lined up with the valve hole. This will give you a clue as to where the puncture is in the tube. *{picture 9 check tyre}*



Picture 10

10. Traditionally, one locates the puncture by immersing the tube in a bucket of water. I don't usually carry one around with me, so it's a bit of a useless procedure for roadside repairs. Instead, whack a load of air into the tube. Pass the tube slowly in front of your face. You will probably hear the air rushing out of the hole when you get close, and you will feel it on your skinface. If you can't find it at first, try more air in the tube. *{picture 8 listen}*



Picture 8

11. Once you find the hole, put your finger over it to stop the air, and check the rest of the tube – there may be more than one puncture. Holes located, deflate the tube. Use the sandpaper to roughen the area around the hole, especially if it's near a seam in the tube. *{picture 10 sand}*



Picture 11

12. Then spread a thin layer of glue around the hole, centred around the hole. Spread glue over a generous area, if it's too small and the edges of the patch overlap the glued area, the patch won't stick. *{picture 11 glue}*



Picture 12

13. This bit is very important. **WAIT AT LEAST FIVE MINUTES.** I know, it seems like ages. Any less, and the patch won't stick properly. *{picture 12 wait}*
After five minutes, the glue should be dry. If it's not dry, it's not ready. Wait longer. Then, peel the foil off the patch. Don't peel off the clear plastic, use it to place the patch on the glue without touching the surface of the patch. It should stick immediately. Don't mess about with it, just put it in the right place first time and leave it there. *{picture 13 patch}*



Picture 13

14. You're supposed to use the perforations in the clear plastic to break the plastic and pull it off, but I always leave it on there – it's too easy to pull the patch away with the plastic by mistake, and if you leave the plastic on it stops stray bits of glue sticking to the inside of the tyre once the tube is refitted.



Picture 14

15. Pump the tube up just enough to give it shape – this helps prevent you pinching it as you refit it. Lift the tyre near the valve hole, and place the valve through the hole. Don't screw on the valve ring at this stage. Tuck the rest of the tube evenly into the tyre. Fold the tyre gently back onto the rim, a little bit at a time. When you get to the last bit, you may need to use levers to get the tyre onto the rim. As with removing the tyre, work around the rim one spoke at a time. {picture 14 fit tube} {picture 15fit tyre}



Picture 15

16. Check that the tyre hasn't trapped the tube near the valve – if in doubt, push the valve back into the tyre as shown, to free trapped tube. Pump the tyre up to full pressure, watching as you pump that the tyre sits evenly around the rim. Refit valve ring and cap.

17. For the front wheel, drop the wheel into the dropouts, and tighten the nuts/ quick release. Check that the wheel sits evenly in the forks. If it's uneven, loosen the nuts/ quick release, adjust and retighten.



Picture 16

18. For the rear wheel, pull back the derailleur again as shown. Drop the wheel down until the sprockets are between the upper and lower stretches of chain. Engage the smallest sprocket with the lower loop of chain. Push the wheel downwards and fully into the dropouts.



Picture 17

Tighten the nuts/ quick release. Check the wheel sits evenly between the stays. If not, undo the nuts/ quick release, adjust and retighten. {picture 17 line up (picture 18 sprockets) picture 19)



Picture 18



Picture 19

19. RECONNECT THE BRAKES AND CHECK THEY WORK PROPERLY! {pic - ture 20 wheel in)



Picture 20