

# Make the best of your bike

**BICYCLES**—man's most perfect technological creation, offer three or four times walking speed for similar muscular effort.

Does yours? It will if you are sitting correctly, can pedal freely with no friction losses.

Start where you sit, from your saddle you should be able to reach the pedals without stretching, but if you can touch the ground with both toes at once you are probably too low.

Your frame size will be roughly nine inches less than your inside leg length from crutch to ground.

Now, with your cranks horizontal, and your feet in the clips (see page on shoes) your knee joint should be vertically above the pedal axle. If it isn't, move the saddle forward or back until it is; the saddle should be dead level, by the way, not tilted. If you can only ride with your saddle tilted back then you are sitting too low.

Now go onto the drops. Putting it simply, your knees should just clear your elbows, by too much and you're probably stretching, if they don't clear at all you won't be able to breathe properly.

You push by muscular force exerted through your knee joints to your feet through the pedals, and if these are twisted, you'll feel it in your knees.

To check if the pedal is twisted, unscrew it slowly, keeping your eye on the centre of the dust-cap, either on the oil-hole or on a spot you have marked. If it describes a circle, however small, your axle is bent, replace it or the pedal.

Slip the chain off, and spin the cranks gently, if they don't spin freely, or stop in the same position every time, look for pitting or dryness; with free-running cranks you should be able to blow hard enough to make them move!

With no play in the wheel bearings, the weight of the valve should be sufficient to rotate a wheel, when they should need no more than a drop of oil. If not, check, and perhaps replace the balls and cones.

Scrub your rims and tyres clean with detergent, you can check a clean tyre for cuts, and a clean polished rim will brake you better.

You can check chain wear quickly and easily with no more than a ruler. From the centre of one rivet to the next is just half an inch, so 24 links should make exactly one foot; if you are more than a rivet's width out, replace the chain.

While you are about it, a chain should have the closed end of the spring link clip facing the direction of travel: a derailleur gear should be rivetted.

Look at the freewheel block, compare the most and least-used sprockets, they should look much the same; if there are any traces of 'hooking' replace the worn one.

Chains and gears should be cleaned with petrol or light oil, not paraffin, as this contains water. A modern gear will work when quite worn but it is amazing how much friction can be caused by bad alignment or worn rollers. Put it in middle gear, spin your cranks backwards, if they don't complete at least a full turn, something is binding, and holding you back! Is your gear rusty, twisted, clogged or is the tension just too tight?

You're going: now try to stop, your rear brake on that nice clean rim should be able to 'lock' your wheel.

If your brake blocks are reasonable, parallel with the rim both vertically and horizontally, and you can't lock up, friction is wasting your strength.

Most likely your inner cable needs greasing; so whip it out, replace it for a couple of bob, grease the new one and put it back after oiling the moving parts, adjusting the brake to give minimum clearance between shoes and rim. Then see how you stop!

Next look at your lights, worn batteries can corrode your lamp, bumps can knock it off: split a strap with a razor blade, and use it to hold the lamp on.

If you use a dynamo make sure it's gripping, when 'off' it should be about half an inch from the tyre and radially in line with the hub.

Finally, loose connections mean blown bulbs, dirty connections mean less light, so if you want to see and be seen, keep it tight and clean. Good riding!

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