

Walking and Bicycling Resources

Avoiding and Fixing Flat Tires



TYPES OF FLATS

- **Slow leaks** – your bike tire is under high pressure and some of it leaks out naturally, even just sitting in the garage. You should check the tires when you ride, or once a week if you ride often, keeping them at full inflation. If you have to inflate one of your tires frequently, you may have a slow leak, which is often difficult to locate and can require replacing the tube.
- **Punctures** – if you ride over a bit of glass, a sharp rock, or any other object that will punctures your tire, your tire will go flat. Make sure you remove the source of the flat, then you can patch or replace the tube.
- **Pinch flat** – also known as “snakebites,” pinch flats occur when a tire is improperly replaced on a rim or if the tire is not sufficiently inflated. The tube can get caught and pinched on the wheel rim, which will look like two parallel cuts.
- **Blowouts** – if the tire doesn’t hold the tube with an even amount of force, the pressure may cause the tube (and sometimes the tire) to pop like a balloon, with a loud bang. Check your tires – they may be in need of replacement, or the tire may not have been fully seated on the rim before you put air in it.

AVOIDING A FLAT

- Keep your tires fully inflated – Pump your tires up to full inflation regularly (or once a week if you ride regularly). This will help keep the tube from rubbing against the tire and puncturing it as well as cushioning your rim from bending under hard impacts. It will also be much easier to ride on the street, because it reduces rolling resistance on the ground by reducing friction between the tire and the road. The optimal inflation for your tires should be written on the side; it will most likely be in the 50-70psi range for mountain bike or hybrid tires or 90-110 for road bikes.

- Watch where you ride – gutters will collect rocks and glass, so avoid them as much as possible. Keep a wary eye out for broken glass, sharp metal, gravel, and other foreign objects on the roadway.
- Get reinforced tires – many tires come with Kevlar bands or other flat-stopping capabilities, but remember that these won't help you if you ride through glass regularly. Reinforced tires are heavier and produce more friction, so if you buy them you are trading flat protection for comfort and speed.
- Use tire strips or slime-filled tubes – you can get additional protection at your local bike shop. Most of these solutions are heavier and less effective than getting good tires, but they can be helpful if you have to ride in particularly rough conditions.

FIXING A FLAT

- Remove the tube and tire from the wheel – it is usually easier to remove the wheel from the bicycle, although if you are patching the tube, it's not necessary. Release the air – if you have a Presta valve, unscrew the top and press on it, while if you have a Schrader valve, press the hooked part of the tire lever into it. Wedge one of the tire levers under the bead of the tire, then hook the other end on a spoke. Put the next lever a little ways away and repeat until the tire is loosened off the rim of your wheel.
- Locate the source of the flat – make sure you have removed the rock or object, otherwise you will have another flat on your hands. Pump the tube up and listen and feel for the air escaping. If that doesn't work, fill a sink, bucket,



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or bathtub with water and watch for air bubbles escaping. Check both the inside of the tire and the rim for sharp objects.

- Patch the tube – patching is easy to do and less expensive than replacing the tube every time you get a flat. You can get pre-glued patches, but those don't hold as well and may need to be replaced; gluing your own patch is plenty easy and a better bet. Sand around the area of the flat, and apply the glue. Wait for it to dry, then press on the patch.

- Replace the tube and tire – put everything back together. It's usually easier to get the tube on if there's a small amount of air in it, and begin by putting the valve through the valve-hole. You shouldn't have to use the tire levers to get the tube back on the rim, and that often causes pinch flats. Use your whole hand and push the tire around the rim until it pops into place. Make sure the axle is tightened back on your bike, and that you reattach the brake if you had to release it.



Patch Kit
www.istockphoto.com

SOME HELPFUL HINTS:

- Bike shops use talcum powder or baby powder to prevent pinch flats when they put on the tube. You can use a milk-jug with a little talcum powder: just put the tube in, shake it up, and wipe excess off.
- You don't have to remove both sides of the tire from the rim to patch or replace a tube.
- When removing the rear wheel, up-shift so that the chain is on the smallest gear. Push the upper pulley (the jockey gear) backwards and out of the way, and your wheel should fall right out.
- If you haven't fixed a flat before, ask a knowledgeable friend or your mechanic for a tutorial. Some shops and groups also offer flat-fixing clinics; ask around.

Remember to consult a professional before undertaking serious repairs or before trying a project you have never done before, and be sure to take your bike in regularly for proactive care.