



Flat Repair on the Road

1. Getting your wheel off

- a. Release the brakes on the wheel with the flat tire.
- b. Skewer operation
 - i. On the front wheel, after releasing the skewer, you'll need to unscrew the head of the skewer so it will clear the safety stops on the bottom of the fork.
 - ii. On the rear wheel, first shift your chain down onto the small cog of the rear wheel. This will make it much easier to get the wheel off and back on again. There is no safety catch on the rear dropout, so once you release the tension from the skewer, the wheel can be pushed forward out of the dropout. Now you need to pull back on the rear derailleur as you push down on the wheel. Your wheel is now completely loose and can be removed from the chain. Remember the chain is independent from the cassette or cogs.

2. Finding the culprit

- a. Look for a piece of glass, thorn, metal or other cause of the flat before removing the tire from the rim. Look for cuts in the tire, also.
- b. After you've pulled the tire off the rim, feel inside the tire for a sharp or poking object.

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3. Installing the new tube

- a. Slightly inflate the tube just to give it shape.
- b. Install one bead of the tire on the rim all the way around. Don't start the second bead.
- c. Insert the valve of the tube into the valve hole of the rim. Tuck the tube under the tire and over the rim.

4. Installing the tire

- a. At this point you'll need to start pushing the second bead over the rim lip. After first six inches or so, the bead will hold itself on. I like to start at the valve, so I can seat the valve first. I have heard others like to install the valve last, to give themselves just a little more slack in the tire. If done correctly, though, either way should work well.
 - i. Seating the valve is very important. The valve has a little bit of thick rubber around it, which the tire could sit on. You do not want this to happen. The tire beads need to seat all the way down on the rim.
- b. Now using your thumbs to roll the second bead over the tire, work the bead onto the rim a few inches at a time. You may need to tuck the tube into the tire and over the rim numerous times, as you progress. Towards the end you'll find it much more difficult. A few tricks here may help. Turn the wheel over

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and go back to where the valve is, and start pulling down on the tire, on both sides to create a little more looseness at the last portion of the bead in which you are trying to seat. Now go back and work that bead over the tire, just half an inch at a time. Don't try to push too big of a section at a time. A second trick is to pull the bead of the tire over the rim with your fingers, instead of pushing with your thumbs.

- c. Once the final section of the bead pops onto the rim, check to verify that the bead is not sitting on the tube. If it is, slightly inflating your tube may cure this problem, or first just pull up on the tire at this section, to coax the tube under the tire.

5. Inflating the tire

It is best to put approximately 20 pounds of pressure in the tire and then inspect the tire for any big slashes, and to make sure the tube is not sticking through any holes in the tire. If it is, you need to patch the tire, or insert a wrapper or dollar bill, to prevent the tube from poking through.

If the tire looks like it is seated well and the tube is not protruding at any point, you can now inflate the tire to the recommended pressure, posted on the side of the tire.

Remember that if you're using a CO₂ cartridge to inflate your tire, the CO₂ will reduce in volume within a day or two, so you'll have to add more air then.

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6. Reinstalling your wheel

If your flat is on the front wheel, slide your axle up into the dropout, watching carefully to push your tire past the brake pads. Once your axle is seated in the dropout, and before securing the quick release skewer, reset your brake's quick release lever, setting your brakes in their tight position. Now while aligning your front wheel in between your brake calipers, tighten your axle skewer. Apply your brakes a few times to make sure your brakes release from both sides of the rim equally. If not, release and then retighten your front wheel, again trying to realign the wheel in the center of the brake pads.

If your flat is on the rear wheel, install the rear wheel by moving the wheel into position, aligning the cogs in the center of the chain. Slightly pull back on the rear derailleur and put the top of the chain on the smallest cog (high gear) and lift up on the wheel. Now pull back onto the wheel and it should slide into the rear dropout. Reset your rear brake's quick release lever and then align your rear wheel between the brakes and tighten the axle's quick release skewer. Make sure you use quite a bit of force to close the skewer. You don't want the wheel to pull out of the dropout when you apply pressure at the pedals.

7. You're ready to ride!