

# Repairing a Flat Tire

Tools needed – tube, 2 tire levers, pump or CO2 cartridge, wrench if you don't have quick release wheels.

## Remove wheel from bike

- If rear tire – shift front and back gears onto smallest cog.
- If rear tire – pay close attention to how chain runs through cog and derailleur so you know what it should look like when you replace the wheel.
- Release brakes (if applicable).
- Open quick release or loosen nuts on axle.

## Remove tire

- Remove cap and valve nut from tube stem (if applicable).
- Let air out of tube if not completely flat.
- Squeeze both sides off the tire toward center of rim. Go all around the tire.
- Insert tire lever on opposite side of wheel from valve.
- Insert flat end of tire lever between tire and rim, getting under bead of tire.
- Bend tire lever back towards spokes, pulling tire over rim of wheel.
- Hook other end of tire lever to closest spoke.
- Repeat with second tire lever, move over 2 spokes from the first lever.
- If you can't remove the rest of the bead with your fingers remove first tire lever and alternate inserting and removing tire levers around wheel until one side of tire is off wheel.

## Remove tube

- Check tube to see where leak occurred.
- If you find leak on tube, find same spot on tire and remove object that caused puncture.
- If you cannot find leak, gently run fingers along inside of tire (be careful, it might be glass!).
- Check rim tape to make sure a spoke nipple isn't exposed and caused the puncture..
- If large cut in tire, use patch or fold dollar bill inside tire before putting in new tube.

## Replace tube and tire

- Put small amount of air into new tube (just enough to make it almost round).
- Insert valve into hole, don't install nut yet.
- Carefully tuck tube inside tire.
- Start at the valve, squeeze tire and place back in position on rim.
- Be careful that tube is not pinched between wheel rim and tire.
- Try to do this with your hands and avoid using tire levers if possible. Squeezing the part of the tire that's already mounted toward center of the rim. This will give enough slack to get the rest of the tire over the rim.

## Fill tube with air

- Add air in phases – stop every 20 pounds pressure to check for bulges or dips where the tire bead seats on the rim. If you find one, let some air out and work the tire back into position.
- Pump tire up to full pressure. Max PSI will be marked on tire sidewall.
- Replace valve nut and valve cap (if applicable).

## Replace wheel

- Rear wheel – pull derailleur cage toward rear to take up chain slack and lower bike and chain onto the wheel while letting the chain settle onto the smallest cog.
- Insert wheel in fork and tighten quick release or wheel nuts.
- Spin wheel to make sure it spins freely – if not, make sure wheel's axle is properly aligned in fork (most common cause is that axle is not tight against top of the fork).
- Close brake release lever (if applicable) – spin wheel again to make sure it still spins freely.
- Make sure you don't leave any tools or trash behind.

## When you get home

- Check air pressure and inflate to full pressure with a floor pump if necessary.
- Replace used items: tube, CO2 cartridge.