



Premier Endurance Coaching

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## Tires and Tubes

### Repairing a Flat Rear Wheel in the Field

#### Equipment required:

- 2 tire levers
- 1 pump
- 1 new tube

1. Shift rear derailleur into smallest gear, farthest to the outside of the bike.
2. Open the brake caliper assembly lever.
3. Open the quick release skewer and strike the wheel with your hand to remove the wheel from the frame.
4. Set your bike down with chain side up.
5. Hand new tube to a friend and have them put some air into the new tube—just enough to give it some shape.
6. Make certain all the air is out of the flat tire and squeeze (pinch) the tire 360 degrees to make certain the tire bead is completely "unseated".
7. Approximately 4" from the valve stem, vertically insert the first tire lever over the rim, and under one side of the tire bead. Spoon the bead over the edge of the rim by rotating the tire lever down. Hold the tire lever in place (some levers have a feature that allow them to be hooked over a spoke to be held in place).
8. Approximately 3" from the first lever, insert second and repeat. Your objective is to remove the tire bead from the rim between the two levers.
9. Spoon the remaining tire bead rim edge with the second tire lever. Remove the tube from the tire but keep the stem in the rim. Inflate tube enough to identify where the puncture is located. Inspect tire at this location and confirm there is no debris left in the tire. If there is, remove it. Otherwise, you could get another flat with your new tube!
10. Remove the tube and hand to your buddy to fold and place back into seat bag. Insert the new tube stem into the rim and the debris-free tire. Wrap the tire over the tube at the stem and push the stem into the tire. Hook approximately 6" of the tire bead into the rim around the valve stem. Install the remaining new tube into the tire.
11. In both directions from the stem, hook the tire bead into the rim. Make certain the tube is not pinched between the tire bead and the rim! Finish with the last 3-6" of the uninstalled tire bead away from the valve stem.
12. Force the last tire bead over the rim with the index fingers and thumbs of both your hands. Verify that the tube is not pinched between the tire and the rim. Inflate the tire to approximately 45 psi. Check again to make certain the tube is not caught between the tire and the rim. Inflate to recommended pressure, at least 100 psi.

13. Pick up your bike and install the wheel into the frame, while hooking the top rung of the chain onto the top of the smallest cog. Pull the wheel into place between the brake pads and verify that the rear axle is centered in the frame. Tighten quick release skewer nut so the lever is snug at 90 degrees. Close the lever completely with the palm of your hand. Verify that the brake pads are centered on the rim. Finished! :-)

### **General Guidelines**

- For road bikes, inflate tires to 100 psi minimum before every ride. Saves energy and protects the (expensive \$\$) rim from pothole damage.
- When installing new tires and tubes, use talc powder (baby powder) on the tube and inside the tire.
- Cable housing "shrinks" over time (with use) and makes the cable loose. To tighten cable lengthen the cable housing by turning the barrel adjuster counterclockwise. To make the cable loose shorten the cable housing by turning the barrel adjuster clockwise.
- Brakes work best if the pads are not too close to the rim. This position allows better brake modulation and less chance that a slightly "out-of-true" (slightly bent) rim will rub the brake pad and create drag.
- Brake caliper assembly, front and rear, can be easily bumped off center. Center the brake caliper on the rim by grabbing entire assembly and moving right or left until brake pads are equal distance from the rim on both sides.