

CONFIDENT CYCLING

RECREATIONAL RIDING

Pre-Ride Briefing: Changing Flats

Purpose: Overcome participant's concerns about the difficulty of fixing flats

Time and Place:

This module is designed to be given outdoors just before a bicycle ride and is expected to last about 20 minutes for discussion and 10-20 minutes for each participant to complete the process.

Learning Objectives:

Participants will learn:

- how to remove a wheel
- how to remove a tire and tube from the wheel
- how to find and mitigate the cause of punctures
- how to replace tire and tube on the wheel
- how to put the repaired wheel back on the bicycle.

Materials:

The instructor will need the following materials:

- instructor cards with module discussion
- complete wheel from a bicycle
- sample tubes showing different valves and different puncture types
- tire levers
- pump or CO2 cartridge system
- 2 patch kits showing the different types
- extra tube

Script	Action
<p>Good morning, my name is _____ and I'll be give you a short lesson on how to fix a flat tire. I'll want all of you to work through this exercise with your own bike so I hope you have tools. If you don't have tools you can help each other. I have a floor pump but I want you to use the pump or the CO2 cartridges you carry with you or so you will know how to do them. We'll use the floor pump as a last resort.</p>	
<p>Your bicycle wheel has lots of parts, the tire and tube are the parts that meet the road and keep you riding comfortably, but the other parts give the wheel shape and keep it running well.</p>	<p>Hold up a complete wheel</p>
<p>Beginning at the center of the wheel we have the hub and axel (on most modern bikes the skewer and quick release go through the axel) where the spokes are attached. At the other end of the spokes are nipples that are used to adjust the tension on the spokes to keep the rim round and true.</p> <p><u>Script</u></p> <p>Outside the rim we have three non-metallic parts, the tire, tube and rim strip. In a minute we'll show you how to take off a tire and change or repair a tube and we can see the rim strip and tube at that point.</p>	<p>Point out the parts as you go over them.</p> <p><u>Action</u></p>
<p>There are two ways to puncture a tube,</p> <ul style="list-style-type: none"> • One is to have a sharp object like a nail, thorn or piece of glass cut through the tire and make a hole in the tube. A hole made this way may be very small and hard to find. 	<p>Have a tube with a hole in it and one with a snake bite puncture</p>



<u>Script</u>	<u>Action</u>
<ul style="list-style-type: none"> The other is to hit a sharp edge like a pothole or construction plate when you are running with low pressure in your tubes. This may cause a “pinch flat” or “snake bite.” The puncture made this way will actually be two holes, side by side (hence the term snake bite) because the tube got “pinched” between the rim and the sharp edge that the tire hit. 	
<p>The other way to lose air in a tube is a blow-out which is normally caused by the bead of the tire separating from the rim or a worn or damaged tire allowing the tube to squeeze out and rupture. Make sure you check your tires for wear whenever you do your ABC Quick Check</p>	<p>Show a tube with a blow out type of failure. Show a worn tire section.</p>
<p>The rest of our discussion is about fixing a flat after you have one and we will do it the easy way, we will assume you have a second tube that you can use instead of actually having to patch a tube in the rain with cars whizzing by 2 feet away.</p>	
<ol style="list-style-type: none"> If you are working on the rear wheel make sure you move your chain to the smallest cog (highest gear) using the shifter in your right hand. Once you have done that the easiest way to complete the removal is to turn your bike upside down. <p>Release the Quick Release or loosen the nut holding your axel and remove your wheel.</p>	<p>Show the way to remove a rear wheel easily.</p>
<ol style="list-style-type: none"> Check the outside surface of the tire for obvious damage or foreign objects like nails or thorns...make sure you find them all instead of stopping after you find the first one. 	

<u>Script</u>	<u>Action</u>
3. Release the valve (a Presta valve requires you to unscrew the nut, a Schrader valve just requires depressing the pin in the center) and let out as much air as possible.	Show both kinds of valves and how they work.
4. Choose one side of the tire and press the tire away from the rim all the way around.	Demonstrate
5. Move to a point directly across the wheel from the valve and insert the first tire lever under the bead of the tire and pry the bead up and over the rim. Clip the tire lever to a spoke with the hook that is found on the other end of the lever from the spoon that goes under the rim.	Demonstrate
6. If the tire is too tight to continue peeling off, use a second tire lever about three spokes away from the first and pry the bead up and over the rim at that point.	Demonstrate
7. Take one of the levers and pull it around the rim to move one side of the tire to the outside of the rim. Do not remove both sides of the tire.	Demonstrate
8. Starting away from the valve, reach inside of the tire and pull the tube out until you get to the valve.	Demonstrate
9. Push the free edge of the tire back across the rim at the valve and pull the valve out of the hole in the rim. Leave the tire in the same orientation that it was in (line up the label on the valve and you'll always know.)	Demonstrate

<u>Script</u>	<u>Action</u>
<p>10. Find the hole in the tube and mark it</p> <ul style="list-style-type: none"> a. Inflate the tube and feel for the air coming out. b. If you can find water immerse the tube to find the hole. c. Stretch the tube and look for a hole. 	<p>Demonstrate</p>
<p>11. Using the valve hole in the rim, position the tube to help find the point on the tire where the puncture occurred.</p>	<p>Demonstrate</p>
<p>12. View the inside and outside of the tire to find what caused the puncture. Don't run your bare hand around the inside of the tire. Use a cloth or piece of paper towel to protect your hand and catch on the object in the tire.</p>	<p>Demonstrate</p>
<p>13. Remove any foreign object(s).</p>	<p>Demonstrate</p>
<p>14. Inflate a new tube to give it shape and slide the valve back in the valve hole in the rim.</p>	<p>Demonstrate</p>
<p>15. Pull the tire over the tube at the valve and then ease the tube back in the tire using both hands and moving around both sides.</p>	<p>Demonstrate</p>
<p>16. Once the tube is back in the tire and in the center of the rim then begin pushing the bead of the tire back under the edge of the rim. Start at the valve and move with both hands working towards the far side.</p>	<p>Demonstrate</p>



<u>Script</u>	<u>Action</u>
<p>17. At the far edge it can get difficult to work the bead over the rim. First try rolling the whole tire over the rim with the heels of your hands. If that fails try starting at the valve and moving any slack around to the far side.</p> <p>As a last resort turn your tire levers backwards and use them to help get the last part of the bead on. This is a good way to snag and puncture a tube so be careful.</p>	Demonstrate
<p>18. After the bead is on all the way around work it with your hands to make sure it is well seated. Then inflate the tube/tire to about 30 pounds and check to see if the valve is clear and the beads on both sides are seated. You can do this quickly by spinning the wheel.</p>	Demonstrate
<p>19. Finally, deflate the tire and then pump it up to the recommended pressure that is normally found on the sidewall of the tire.</p>	Demonstrate
<p>20. Mount the tire back on the bike checking that brakes are properly adjusted and working and that the quick releases are properly closed. Spin the tire to make sure it is true and is not rubbing on anything.</p>	Demonstrate
<p>21. Do a check of all the bike before you go back on the road. Pick up your old tubes, boxes, GU^(tm) packs and any tools you may have used and take them with you.</p>	



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