

## Mystery flats near the valve? Maybe not so mysterious!



Those two bulging spots near the valve? They are *\*not\** weak spots in the tube! Or at least they weren't weak/defective when installed. Read on.

Another "mystery flat" in the shop today, one that had previously seen three unexplained tube failures, but today that would end. You see, I've been down this road before, a road that goes like this- a tube, no matter how thin or defective in one section, cannot be forced to bulge because it's held in place by the tire. Anything you see that looks like a bulge or rupture usually represents some external force in play.

This particular tube was leaking at one of those bulges. No surprise there; they look scary and the rubber has thinned out. But how? Nothing funny about the rim or tire.



Closeup, showing the lines to the right of the valve, where the tube has developed leaks from being stretched too thin.

Here's how it happened. During inflation, the person pumping up the tube is pushing the tube's valve up into the tire, creating a cavity underneath. As the pressure increases, the tube fills in underneath, bulging downward into that cavity. That's how you get those funny spots either side of the valve. Over time, sometimes not too much time, that thinned-out tube fails. In the smaller photo, you can see what look like small cuts; those are the areas the tube has split and now leaks.

What to do? Make sure you're not pushing the valve up into the tire as you pump! Especially if you're inflating a tube that already has a fair amount of air in it, since pushing it upward under those conditions pretty much guarantees the tube is going to try and bulge in to fill the empty space. --Mike--