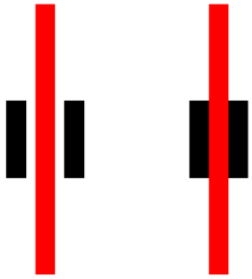
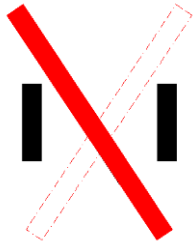
A Bike Disc Brake Rotor Truing Tool, Version 1.0

By R. G. Sparber



The disc brakes on my bicycle work best when the gap between brake pads and rotor is near zero. If the rotor is dead flat, the pads can be set barely above the surface. This would provide the least travel on the brake lever before braking starts. It also gives most of the brake lever range to driving the pads into the rotor.



On the other hand, a problem arises if the rotor is severely bent – it wobbles as the wheel turns. The gap between rotor and brake pads will vary. The brake pads must be backed off to prevent constant dragging.

As the brakes are actuated, the pads must first travel down to the rotor. Then they must straighten the disc until continuous contact is achieved. The entire brake lever range would be used up, leaving nothing to apply force.

If you do a web search for “Bicycle Disc Brake Rotor Truing tool,” you will find plenty of choices. For under $20, you get a bar with a slot in it. This screams, “homemade tool!”

The slot in the tool poses a problem. I can saw a slot, but it will be too narrow. Sawing parallel slots is possible, but my skill isn't very good, so clean up filing would be required. What I really want is a variable width slot.

I cut a piece of 1/8-inch by ¾ -inch strap about 4-inches long. Then I used it as a gauge to cut a second piece.

After degreasing[2], I trial fit one strap on my rotor to determine where to put the first screw. Moving to my drill press, I stacked up the straps and drilled a 10-32 tap hole through. After opening up the top hole to clearance, I tapped the bottom hole.

Next, I ran a screw through these holes and tightened. Then I repeated the process for the second screw.

I used my caliper to measure the thickness of the disc and selected washers to match.

Time to degrease the parts again, followed by the final assembly.

My tool is a nice sliding fit on the disc. There is plenty of mechanical advantage to gently bend the rotor true.

When done, I was able to reduce the gap between pads and rotor by about half.

[2] I did not want to contaminate my rotor with oil.

Acknowledgments

Thanks to Park Tools for their video on disc rotor truing. Their focus on quality tools and education are outstanding.

I welcome your comments and questions.

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