

Questions of torque

By [Lennard Zinn](#)

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The Giustaforza

Dear Lennard,

I'd like your recommendation on a reasonable home-shop torque wrench to tighten the exotic materials I and my friends are accumulating on our bikes. I have asked at local bike shops (here in Boulder.) replied with the jaw-dropping answer that they don't bother. Perhaps a professional wrench trusts his fingertips enough to work on a \$300 carbon bar - but I certainly don't.

Who makes one suitable for a shade-tree mechanic once a month or so?

John

Dear John,

On a bike, you really need two torque wrenches, a big one and a small one. You need a big, long-handled one that goes to high torque for tightening the big bolts on the bike to avoid creaking and loosening, like crankarms, bottom bracket cups, and pedals. For that, I have a Wrench Force ratcheting socket torque wrench that I really like. Snap-On makes it, and I've used it happily for perhaps 10 years, as have the other mechanics assembling our bikes in my shop. The Snap-On brand is the best I've tried – very expensive, but lifetime no-questions-asked warranty.

Since you are talking about exotic materials, I am assuming you want to avoid over-torquing small bolts, in which case you need a small wrench. I have a two really nice ratcheting wrenches with small socket drives; one with a 3/8-inch drive from Wrench Force and a Ferrari-spec one with a 1/4-inch drive from ITM.

However, the one that I now use the most and find the simplest to use is the Effetto Mariposa Giusaforza. I have a photo posted above, and you can find it [here](#).

The Giustaforza (meaning "Correct Force" in Italian) is an elegant little torque wrench that accepts the same little hex drive bits as a power screwdriver. That make the drive bits far cheaper, easier to replace individually (you've seen the grab bins of these things by the checkout counter in hardware stores) and easier to store in your tool box.

It shares features of the other wrenches I mentioned above, namely a rotating adjuster, a graduated torque scale, and the head clicks over when the torque setting has been reached. The scale goes from 2 Newton-meters to 16 N-m (18-142 inch-pounds) in 0.5 N-m increments. It does not have a ratcheting head.

For stem bolts, Ritchey now has a slick little torque wrench with a built-in 4mm Allen wrench on it that we often use as well due to its ease of use. It is torque limited both by the short wings on it so you can't get much leverage on it and that it "clicks out" at 5Nm of torque. Many mountain bikes have numerous other bolts that should also be tightened to a range around 5Nm but take 5mm hex keys, not 4mm like the Ritchey has installed. A reader alerted me that the hex bit in the Ritchey tool is only lightly glued in and can be removed with little effort and then replaced with a hex bit of another size.

Lennard