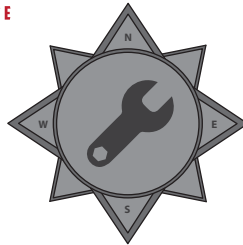


USING A TORQUE WRENCH

When tightening a nut or bolt, it's not all that easy to know whether you have tightened it sufficiently. Wrenches are different sizes and that is intentional to help moderate the amount of force you apply when tightening. It's easier to tighten with a long wrench than a short one because of simple physics. But if you want to tighten to a specific force, and some nuts need to be, you'll need a torque wrench.

FLIP OVER FOR YOUR NEXT CHALLENGE



EARN THIS NUGGET

With the vehicle owner's permission and your parent's full knowledge, reset the torque on at least ten different nuts.

LEVEL L

B-8

There are several types of torque wrenches available. As you would expect, higher accuracy costs more, but they can all do the job if you use them properly. Some will physically slip or click to indicate the correct force has been reached. Others have a dial that you have to watch, but they all essentially do the same thing.

* When selecting a torque wrench, make sure that its range of torque is sufficient for what you need. As you can imagine, the nuts on a motor scooter don't require as much force to tighten as the nuts on a large semi-truck.

* As you are assembling your vehicle, or other project, some nuts will have a torque recommendation. This is to prevent over tightening and ensure consistent pressure. Use the workshop manual or owner's manual for details.

* Begin by tightening the nut by hand and then with a conventional wrench until snug, but not tight. Do not use any oil on the threads of the screw. This will reduce the friction and cause overtightening.

* Set the torque wrench to the correct setting. Usually they'll have two settings, one for Newton meters and the other for foot-pounds. Make sure you are setting the correct scale.

* Finish tightening the nut to the correct torque. Ensure that the torque wrench is squarely on the nut and the nut is in good condition. Any slippage will create an incorrect result.

And that's what it's all about. If you are a serious mechanic, or even a hobbyist, a torque wrench is an essential tool. Without this it is all just guesswork and expensive repairs after the fact.

