Wrenches

You should probably be using a ratchet and socket. Go use that first. If that doesn't work, then take out the wrench.

Wrenches are used to tighten nuts and bolts, and occasionally as hammers and lever arms. The goal of this article is to show good habits with wrench use so you don't damage the precious nuts and bolts on a piece of machine

Wrenches will be in standard and metric. Most cars these days, even american cars, use metric. Don't use standard on my metric motorcycle or I'll have to kick your ass.

[image of wrench with labels]

A typical wrench has a boxed end and an open end. ALWAYS use the boxed end if you can, especially when breaking a nut loose or tightening. The goal should be to have as many points of contact as possible so you don't round the nut or bolt. Boxed ends have 6 points of contact, open end has 2. It is possible to pry apart the open end with too much force, so use the boxed end whenever you can.

The open end is useful because it is angled slightly. This is for hard to reach places where you can barely get any rotation on the wrench. The idea is you turn it a little, then flip the wrench, then turn it some more, than flip again, repeat. Also some nuts needs to be adjusted on a bolt that is inserted into something, so you need the open end to adjust the nut. Sometimes it can be a lot quicker to use the open end, as it slides in and out from the side. Feel free to do then when the nut is fairly loose. Still, when its really tight, strive for the boxed end.

Safety

I wear safety glasses all the time because I want my eyes to be beautiful and eagle sharp my whole life. I've had toxic brake fluid shoot into my eye when I overtightened a brake line with a wrench and it exploded. My damn safety glasses were on my head. I ran to the sink and poured water in my eye for 10 minutes straight.

The more immediate harm from a wrench is "busted knuckles". Thats when you wrap your whole hand around a wrench and hit your knuckle on a metal piece of something while rotating it. The main advice is to push on the wrench with an open palm when breaking a bolt loose.

Gloves can be used to less the wear on your hands, though often this just slows you down.

The most risky thing you can do with a wrench is be in a hazardous location, such as on a ladder or in a machine room. When you break a bolt loose, you are pushing hard on a wrench that suddenly rotates. You can loose your footing and fall over, or off a ladder, or off a building, or into a

drivechain. When breaking a nut loose, alway have firm footing and make sure you are not being supported by the wrench itself. Spread your legs apart so you are stable, or lean your shoulder onto a wall so you are supported while you push/pull on the wrench.

You can easily over exert yourself while trying to break a bolt loose. Get the right tool for the job. You should probably be using a ratchet/socket or breaker bar in many cases. Pull and push in ways that are natural for the body, take the time to reposition yourself and do smart moves that place force on the wrench easily instead of in a difficult manner.

Locking wrenches together

[Image of wrenches locked together]

Old trick taught to me by pops. You can pry open a wrench very easily this way and it will no longer be the right dimension. Also you can slip the wrenches out of each other and send one into your face. Don't do that.

A better way is to use a cheater bar.

A note on adjustable wrenches

Avoid these whenever possible. If you use an adjustable wrench to work on my car, you get kicked out of the shop. It has 2 points of contact and makes it very easy to round out bolts. If your bolt assembly can be cut off and replaced when you round out the nut and can't take it off, feel free to use the adjustable. Also if this is a part that won't be serviced often, I can understand using an adjustable to carry less tools, like on an hvac job. Still, do your future self a favor, use a regular wrench.

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