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for do-self repairs

TOOL SMARTS

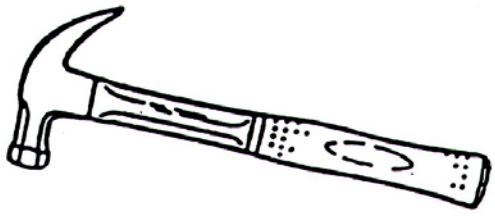
At some point, all of us have run into a job that we just couldn't get done. We have had to call in a tradesperson. And often the only difference that allowed the tradesperson complete the job successfully was the way the job was approached. This is also true when it comes to using tools. The amount of physical strength that you have doesn't always mean that you are going to be able to best use the tool. How well you use your body and your muscles is going to determine how well the job will turn out, how sore you'll be afterward, and sometimes if you'll be able to get the job done at all.

Hopefully, as we grow older, we grow wiser; we depend on our minds more, and on our bodies less. So, before using a tool, start with your mind. First, based on your past experience, you have to select the tool that you feel will best achieve the end result that you want. The tool that you use will have a lot of bearing on how well the job goes for you. People in the trades generally have a large selection of tools to draw from, because they have learned from experience which tools work best in each situation. You probably don't have the benefit of that experience, so you'll need to take a little more time to think about what you are going to do.

Most tool functions fall into a few categories: fastening, cutting, turning, or finishing. The best tool for each job will depend on such things as the type of materials you are dealing with, the size of that material, and the degree of strength and flexibility your body can provide to help the tool.

The real trick behind using a tool is to let the tool do the work – not you. Our muscles tend to work easier when we use our bodies for leverage. For example, when we push away from ourselves, we are able to create more concentrated force than when we pull. This is because the weight of our bodies aids us.

As a general rule, the more muscle groups we can employ when using a tool, the less any individual group will have to work. It's a way of spreading the work around. For example, consider the common task of hammering a nail. If you grab the hammer near the head and move only your wrist up and down, it will take a lot of wrist motion to get that nail hammered into the board. However, if you grab the hammer near the end of the handle, you can dramatically increase your leverage. And, if you swing the hammer using the muscles in your wrist, lower arm, upper arm, and shoulder, and if, while swinging, you shift your body weight slightly to add some more force – you can get the same result while straining each muscle much less. The difference may not be noticeable if you drive only one nail, but if you multiply that by a hundred nails for a large job, you'll appreciate the savings to your body.



Now, think about the act of installing a screw. If you use a screwdriver with a smaller place for your hand to grab hold, you waste a lot of energy holding onto the screwdriver rather than turning it. Try buying a screwdriver with a larger rounded hand grip. This will fill up your hand, and you can then apply your force to turning and not so much to gripping. When you turn it, instead of just using your wrist, try twisting with your forearm. If that isn't enough force, then walk around the screw with your entire body. This method is slower, but will get the job done.

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When using any type of wrench, try to push rather than pull, if possible. If you need a little more force, hold the wrench against your body and use your stomach and leg muscles to push and give you more leverage.

For those of you who have some physical limitations, there are some tools designed to help you maximize the strength that you have. There are screwdrivers that ratchet, much like an auto mechanic's tool, so the amount of turning or twisting of the tool is reduced. (The drawback is that this type will usually waste a small amount of the available force as a trade-off for the ratchet capability.) Some tools have a plastic cushioned hand grip that will make it less crushing to your hand to use.

These principles – using your body weight to your best advantage and spreading the work load around the different muscle groups – are used constantly by people in the trades. You can take advantage of these same ideas if you stop to think before you pick up a tool. After a while, using your body in this way will become second nature to you. But, for now, think before you work, and leave the linament in the bathroom.

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