

# The Lowly Bench Block, version 2

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Have you ever thumbed through a tool catalog and seen reasonably priced tools that have absolutely no apparent value? What in the world do you do with *that*?



The bench block might be one of those odd ducks. What's with all of those holes? Why is there a cut right down the middle? And why is the perimeter knurled?

I will attempt to answer these questions plus show you how to use this great little, and possibly unappreciated, tool.

You will see that the bench block is a sort of "Swiss Army Knife" to a machinist.

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If you do a search using “round bench block” you will find many vendors selling the import version for less than \$20. You can also spend a lot more for one made by Starrett®.



The top surface has been ground flat with respect to the bottom. Use it when you need to raise something up while keeping it parallel to the support surface.

There is a 90° V cut all the way across the face. Use it to hold round stock. If you clamp the round stock into this V, then you can use your hacksaw to cut it and not worry about it rolling. Just keep that blade away from the block.

You can also clamp some square stock into this V and

have the opposite edge pointing straight up. That position is hard to achieve without a V.

And finally, what is with all of those holes? The size of these holes has been carefully selected to match common drill and tap sizes.



The only thing of note on the bottom is that it has been ground to be parallel to the top.

The recessed bottom saves metal so lowers the cost of manufacture. But it also reduces the contact surface which can help the bottom to find a solid footing.

Now that we have had the 5¢ tour of the tool, let's move on to seeing how to use it.



I wanted to hand tap a hole in this piece of steel. Sure I could set up my mill and install my tapping head, but it is hardly worth the trouble. The tap must go in reasonably straight but I didn't need super precision here. So I put the steel into my vise jaws so it was aligned with the top of the vise jaws.

I did it by eye but could have used my bench block. I would have loosely placed the steel in the vise jaws, turned the bench block over so it touched the jaws and the steel, and then tightened the jaws. The surface of my steel part would then have been aligned with the jaws.



I have used my bench block to align the tap with the jaws of the vise. You see a finished part next to the set up. Using the bench block in this way is simple, quick, and gives good results. Without the bench block, it is easy to start the tap at an angle and have it bind up as you feed in.



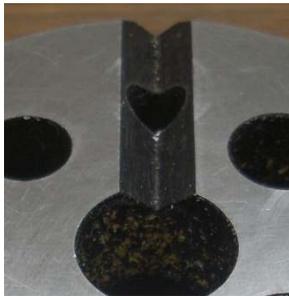
There are plenty of times that I want to drill a hole using my hand held drill. The block provides a degree of alignment that I have trouble reaching by eye.



This alignment is particularly helpful when drilling through vertical surfaces or overhead. The knurled perimeter and weight of the bench block give you a solid grip and a good feel.



The bench block is also useful on my drill press. Here I have installed a 1/4" drill in the chuck. Then I fed down until the drill entered the 1/4" hole in the V.



Once I clamped down the bench block, I have the center of my V aligned with the center of rotation of my drill press.



I can then change to a different drill and be confident that the hole I cut will be on the center line of the round stock. I'm using a spotting drill here to cut a cone shaped hole.



I can switch to a smaller drill to finish the job.

I don't use my bench block every day, but often enough to justify the reasonable price plus space it takes up in my shop. It is also small enough to go into my tool box when I am working outside my shop.

Corey of the valley metal Yahoo group wrote:



Bench blocks are handy for driving pins out of things.



I hope that readers will point out other uses for the bench block. After all, all of us are smarter than any one of us.

You can also read about a bench block made from a hockey puck at

<http://rick.sparber.org/hpbb.pdf>

I welcome your comments and questions.

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