



*A Cut Above*

## Using the Knew Concepts Dovetail Bench Clamp With Magnet

V2.0

The Knew Concepts Dovetail Bench Clamp was designed to free the potential of the standard jeweler's dovetail mount, which had, until now, always needed to be screwed into the edge of a table. Now, you have the freedom to take it—and your good tools—anywhere you need them. To a show or workshop, to another spot in the studio, or even to the beach.

The backstory is that we needed to get a dovetail mount onto a card table at a show. Being Mad Machinists—but not mad enough to shoot our host's table full of screw holes—we whipped up the first ancestor of this clamp in the dark of the night before we left for the show. At the show, that impromptu clamp received far more attention than we ever expected. Upon our return, we began what turned into a several years long process of R&D to arrive at the much more versatile clamp you now own. This newly revised version now has a magnet on top to hold burrs and files for easy access, as well as a series of metric and inch rulers, and a pair of circles divided by 6 and 8, with diameter circles every 2mm of diameter, for laying out rings or other radially symmetrical things.

The Dovetail Bench Clamp is simple to understand. The important thing is that it comes apart, and can be screwed back together in four different positions. There are two different 'length' settings available on each leg of the black aluminum angle that makes the bottom half. The total available range is from about 3/4" (19mm) to 3.7". (94mm) There is a fair bit of overlap between the coverage range of the different offset holes. This is deliberate. The astute observer will notice that each leg of the lower half has two different holes that the clamp screw can pass through, and that all four of those holes are at different distances from the front of the clamp. The reason for this is to allow you to set the clamping screw in a range of positions, so as to avoid support rails or lips under the edge of whatever surface you're clamping to. There's always *Something* under there, and it's always in the way. Having several options of where to put the clamping screw lets you get around it, whatever it is, wherever it is.

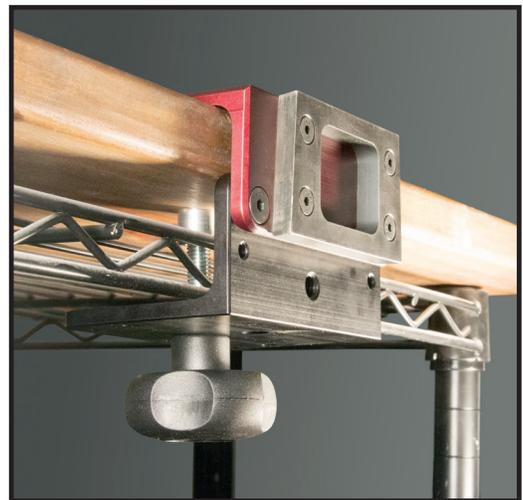


**To adjust the clamp, there are a few basic things to keep in mind:**

- The screws that hold the clamp together require a 1/8" hex wrench to loosen or tighten. Re-tighten securely after assembly.
- There are four screws that hold the clamp together. You only need two of them at any one time. The holes are spaced such that in shortest configuration all four line up. This is intended as an extra reinforcement for heavy usage, but is not required for normal bench use.
- The cap that covers the end of the clamp screw comes off. It must come off to get the clamp screw out to change holes, or to increase clamping range. To get it off, just unscrew the clamp screw. When the cap hits the bottom plate, it will begin to come off. There is a rubber "O" ring holding it onto the screw. The only way to get it to let go is to unscrew the clamp screw out from under it. Don't worry, you're not hurting it. If you try to unscrew the cap itself, the "O" ring will just spin, which is why you have to force it off by unscrewing the clamp screw. To put it back, push it onto the end of the clamp screw, and it will take care of itself when you tighten the clamp.
- It is always best to put the clamp together in the shortest possible configuration.
- It is always best to put the clamp screw in the hole furthest to the rear, if you can. The geometry of the clamp is more effective in the rearward positions.
- The clamp was designed for bench accessories weighing 10 pounds or less. It is specifically not recommended for anything heavier. (For instance, do not attach a 30 pound engraving ball.)
- The upper plate is Milspec class 3 hard anodized aluminum, which makes it hard enough to resist accidental file damage, but it is not hard enough to use as an anvil. Do not hammer on it.
- The magnet on top is not an anvil. It is intended to hold burrs and files for easy access. Do not hit it
- This revised clamp now has engraved rulers in both inch and metric scales, as well as a pair of round guides divided by either 6 or 8. The 'bullseye rings' are spaced 2mm apart. The largest ring is 24mm.



*Various configurations of the clamp. Always try to make it as short as possible, and keep the screw to the rear, if you can.*



*This shows the clamp affixed to a thin 3/4" table, with inches of structure underneath. The clamp screw got around it all anyway, and is clamped tight.*

