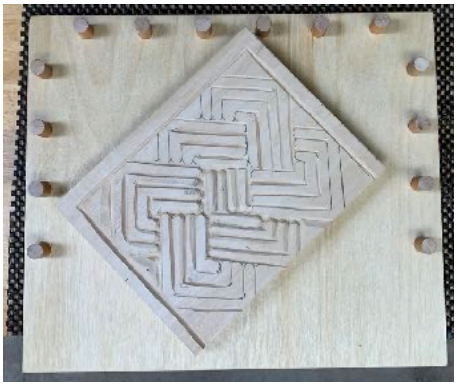
Work holding

A Compendium of Member's Alternatives

There are a lot of ways to hold work for safety and efficiency. Different projects require different solutions, and individual carvers have their own preferences and constraints. The examples below were featured in previous monthly newsletters and might suggest an alternative for your next project.

Carving Hook - by Larry Wade. This is my favorite version for work-holding. Your size can vary but my base is 3/4" plywood, 14"x12" with 1/2" dowels on the top and bottom, each 1 1/4" long, set in 1/2" deep holes, spaced 2" apart and 5/8" from the edges. Dowels around three sides allows rapid and flexible project repositioning. Two dowels on the bottom front edge serve as a lip and extra holes are drilled so pegs can form another lip for extra stability when using the hook on the corner of a counter or work bench. A grippy shelf liner under the board reduces slippage. Dowels rather than solid strips of wood on the top make it easier to remove debris.

Dowels are notoriously slightly too small or too large. If large, sand them down, and if small, wrap with tape; but best is to buy the precise size by testing in a drilled hole at the store. Layout



Top view with anti-slip mat

Top View

Bottom view, 2 pegs 4 extra holes

Work holding

Flexible Carving Station - by Tom Rich

I use the Match Fit system by MicroJig® with a dovetail grid spaced 4" apart in quality ¾ inch plywood to create my carving station. The grooves are made with a 14-degree dovetail router bit. There are a variety of Match Fit jigs and fixtures to hold different carvings. In the photo to the right you can see a square, a corner and an edge holder. The photo below shows by evolved edge holders with notches.

For my carving station I cut another grid on the bottom, offset from the grooves on the top to prevent weakness, clamped to the bench on two sides as shown below.

When my holding board is clamped onto the corner of my bench I can move around the stationary block of wood 180 degrees, and by carving with alternate hands I can avoid having to release the block and turn it.

Keeping the chisels in place and handy was another challenge. I used a readily available bamboo place mat and stitched bunched up rows of bamboo strands with a needle and thread to separate the tools. The tools remain in place, are visible and ready to use. For storage and portability I roll up the mat and place it in my canvas tool roll.

With a sturdy bench at the right height, a strong adjustable carving surface that holds my project securely, and chisels close at hand I can carve more easily for hours. Oh, and notice the base of my gooseneck light in the top photo!

Notice alternate notched hold downs

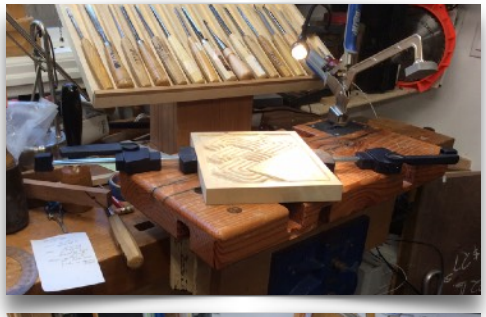
Bamboo mats with ridges

Work holding

Carving SIG

Jim Spitzer Portable, Solid, and Flexible

Jim made this sturdy 9x19x2 inch work surface along with spacer blocks to raise the project to his comfortable level while clamped to counters, work benches, picnic tables, etc. Mortises keep the clamps below the work surface. The work can be held by a variety of clamps including the shown Festool, Kreg and small F clamps. An optional 5x2x17 inch piece of wood under the surface attached by two large lag screws through countersunk holes clamps in a bench vice to adjust the height. The elevated tool holder brings tools within easy reach.



Marty Lawrence — Improvised — Quick and Easy. Marty Lawrence is spending a few months in coastal Maine and has a wonderful sunroom for storm watching. She improvised a bench with a glass table and bench hook, Irwin clamps and laptop nearby for Zoom work.

John Wheeler used the carving bench hook plans provided to the class and feels this is a great setup. This pictured work surface height (bench + board + carving material) is at 40 ½”. Next he plans to adapt this, or another board, to his seated carving bench.

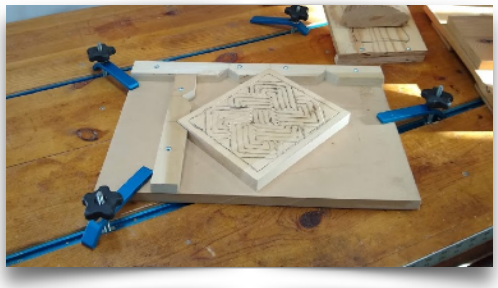
OREGON CARVERS GUILD

Work holding

Carving SIG

Terry Burnside uses T-tracks and hold downs to clamp the bench hook made from the class plan. He can change the orientation of a small piece, and it will be held securely by pushing into the notches. He uses the T-track and clamping system for all sorts of projects.

The second picture shows several other types of hold downs, some homemade and some purchased. Two carpenter vises on the front are designed to hold walking sticks while being carved. The cypress knee on the left is mounted on a swivel carving base. The carving table started life as a simple patio table decades ago and since has been covered with a lot of bells and whistles.



Jerry Sellers — Before and After. The workbench is on wheels and the handle provides a grip when rolling it. Before the workbench was a used, mid-grade commercial kit. The carving table has a half inch plywood riser inspired by the ones at the Guild shop.

Before

A Guild member helped make the cuts for the revised support base. I reused the workbench top and created legs out of re-purposed 4x 4 material. It created challenges because each 4x4 leg was a slightly different size. I braced the bench with a combination of small metal angle brackets and 2x4 cross braces The lower storage was created out of elements of the old base. A friend welded the support

Jon Robertson uses the top of the line Veritas carving bench and sees the following tradeoffs:

PROS:

• Sturdy - the cast iron base (because of tension rods) has a very small 'bounce back' when carving, even when using mallets vigorously on hardwoods.

• Height - it is at a better height for carving than most benches.

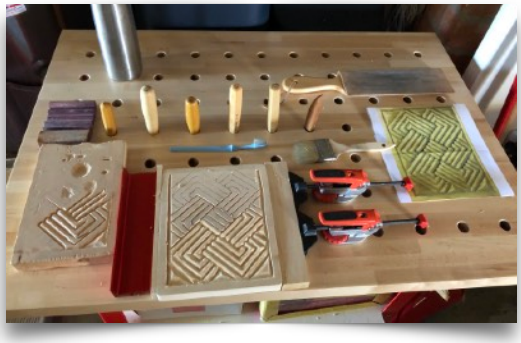
• Orientation - the top can tip and rotate, providing great flexibility.

• Hold-downs – many holes for dogs and edges for clamps.

Work holding

Carving SIG

Al Plasch



My workbench is the Armor Tool Dog Clamp Hardwood Table System (Woodcraft). It is solid, compact, has lockable casters and added shell and storage. I have three different ways to hold carvings, the first being the dog holes and the Armor Tool clamps which fit into them as shown.

The second method uses a rotating circular table with an adjustable angle. With the front cleat against the table I can sit and carve or use it flat and carve standing. It has two pegs to keep it from rotating or to butt my workpiece against. I use a drawer liner for grip but could use double sticky tape.

The third holding device was made out of scrap wood, hinge and a rod copied from a club member. The angle is adjustable, the work can pivot, and all the boards can be strapped together for transportation.

Lap Bench for Carving, click here, or click here (go to 3rd screen).

The Lap Bench for Carvers was developed by Greg Miller and colleagues from The Joy of Wood in Australia. "It is a portable bench which sits on your knees while you are seated, enabling a range of wood carving activities including spoon carving, relief carving, Kolrosing, chip carving, and more. The adjustable strap which comes around your back enables you to push against the back edge as your work requires."

Hanging Onto It: A Carver's Bench Hook

by Tom Willing

A life-long wood worker, I have seen numerous solutions to the problem of holding a work piece so that one's hands can be free. This Spring during the Mack Sutter workshop, I needed a bench hook and created this version.

Fig 1 Lens distortion makes it look like the plate is deeper than it is wide

Starting with a scrap of seven-ply cabinet grade 15" x 17 ½" x 3/4" for the base plate, I drilled ½" dog holes on 2 ½" centers with a Forstner bit on the drill press. These holes accommodate pegs for stops against a work piece (Fig. 1). Next, I scrounged a ¾" clamping batten out of a scrap of cherry that is about 2" wide x 16" long. Fig 2 shows this batten gripped by the vise and the base plate clamped to the batten. Being a turner, I made up eight button pegs for stops, but a ½" diameter dowel would work nearly as well (Fig. 3). The ½" diameter by $^5/_8$" deep pegs are a snug fit in the holes. The ¾" cylindrical buttons protrude ½" above the base plate and have a groove for a grip when removing them.

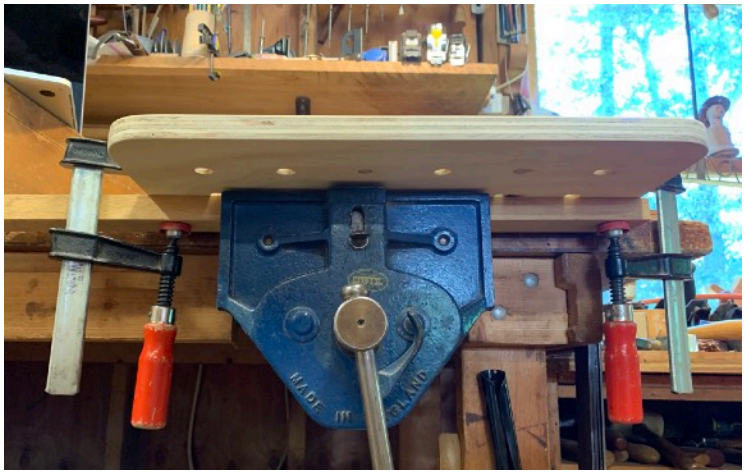


Fig 2 - This view shows the plate clamped to the batten which is held in the front-vise

Never one to hastily lock myself in with permanent solutions, I clamp the batten to the base plate, then secure the batten to my bench using the front vise. The batten could be secured to the plate with screws; however, I optionally wanted to be able to clamp the base plate directly to a bench or table without the batten in the way. I don't have holdfasts, but I would use them if I did. Likewise, I would use a tail vise and bench dogs to hold the plate on my bench if I had that equipment. My clamping arrangement offers infinite angles of orientation of the base plate to the bench top. This arrangement also buys me some knee space when sitting on my stool at my work bench.

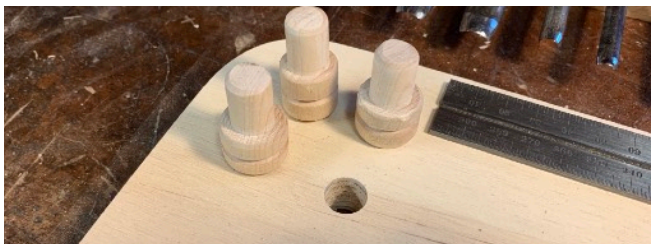


Fig 3 - Button pegs showing point up

The holes in the base plate go all the way through to make clearing them of chips quick and easy. The pegs, heavy enough to be strong, don't bottom out in the holes; the buttons protrude enough to hold ¾" stock securely. There are no metal fasteners to nick my tools.

I learned some things during this quick exercise and my design will be modified accordingly on the

Work holding

Creating a Carving Platform, by Jerry Boone

Last winter I seined the Internet looking for ideas on how to make relief carving more comfortable and less taxing on my aging muscles. I was looking for some sort of platform that would bring the work up off the bench and not have me hunkered over it for hour after hour. I also wanted something that would place the piece at about a 45-degree angle

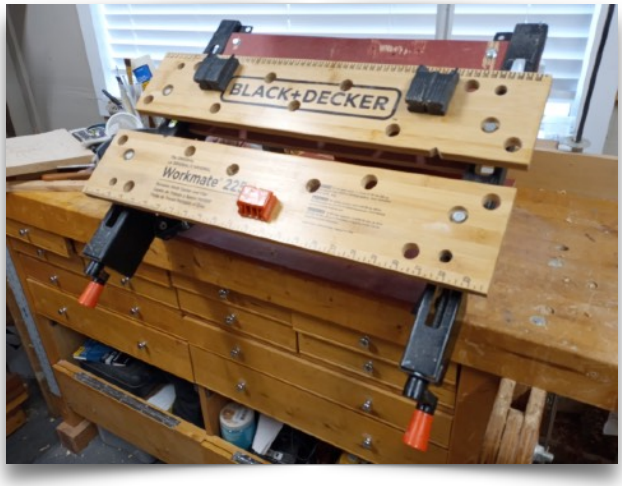
Most of what I saw was fairly involved either from the standpoint of construction or the sheer size, which wasn't going to work in my already crowded 10' X12' shop.

About a year ago I stumbled upon a sturdy, but well worn, Workmate at a yard sale. The Workmate supports were solid, however top surfaces were not. The cheap MDF adjustable planks were warped and flaking. I brought it home for $10, which turned out to be a good investment.

To make the relief carving platform, I removed the legs by drilling out the rivets that attached them to the top assembly, essentially keeping the two horizontal arms that house the screw adjusting assemblies. I used two of the holes created by removing the rivets at the "crank end" of the assembly to attach two 4-inch pieces of light steel angle, left over from some other project. (You can get your own at a hardware store).

I screwed those pieces of angle to a piece of roughly 20" X 20" plywood (also left over from some other project) that serves as the base that sits on the workbench.

A second piece of plywood was attached to the non-screw end of the channels to keep them parallel. They required two holes per side to make the assembly stable.



On that second piece of plywood, I attached a used door hinge (yup, another project) and I screwed that on a 12" X 14" piece of plywood, measuring. The hinge went on the 12" side.

The last piece of the assembly was a scrap 1" x 1" screwed to the far (non-hinged) end of the base board. That serves as a stop for the end of the hinged piece that provides support.

When completed, I ended up with an A-frame sort of assembly that can be made to lie flat for storage or can be transported by folding down the 12" by 14" support.

Because the work surface is directly from the Workmate, it is fully adjustable open and closed.

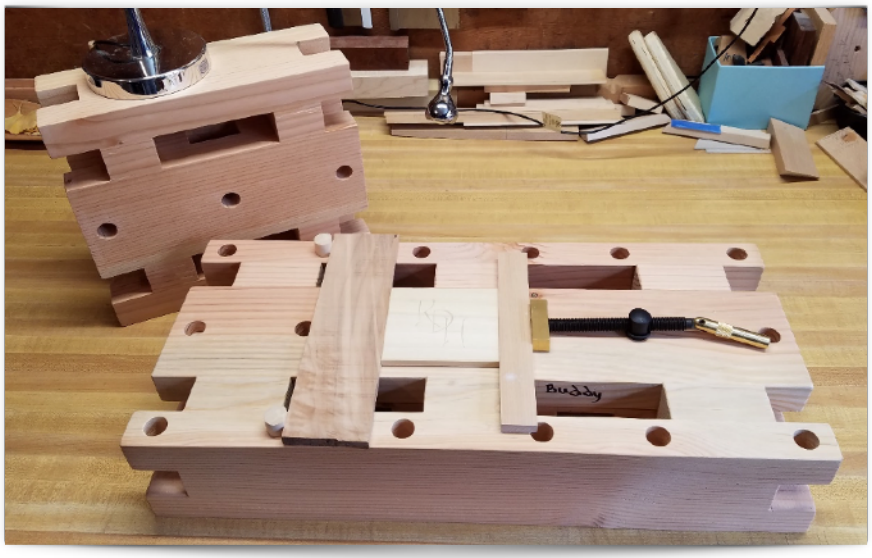
Once I used it a couple of times and was happy with how it worked, I ordered replacement adjustable plates. The new ones are made of bamboo. It wouldn't be difficult to make your own out of 3/4 plywood or fresh MDF. Before installing them, I drilled a number of new bench dog holes to accommodate different sizes of wood.

The work surface is at about 40°. I can make it more vertical by simply putting a piece of inch thick stock between the hinged board and the stop.

Because I was able to use scraps, the entire project cost about $50.

Bench Buddy, a bench-on-bench for carving and other stuff

by Ruth Warbington



Classical carving is usually done standing at the bench with the project at a comfortable working height, usually an inch or two below the elbow. For me, this is about 4 ½ inches above my workbench. I had been stacking a couple of 8/4 poplar boards to bring my work up to that height. I liked the feel of a solid base as I worked, but the clamps holding everything together got in my way. The benchtop benches I had been researching for some time weren't what I wanted -- until Yoav Liberman's very simple Bench Bull. He designed it to stand on edge, but when knocked over on its back it had promise. I've listed links for several bench-on-bench (BOB) designs that show many non-carving ways to use them.

Bench Buddy (BB) and Bench Bud-Lite are my variation of Liberman's Bench Bull. Bench Buddy is 4 1/4 x 10 1/4 x 22 inches and Bench Bud-Lite is about 11 inches long. Their width of 10 ¼ inches is just right to hold boards and still leave space on the far side to lay out my gouges. Ten inches is also a good working height when BB is on edge for non-carving jobs or to bring small work closer to my eyes. If I need a wider or longer surface, then Bench Bud-Lite will sidle right up. Often Bench Bud-Lite is as big as I need. The many 1 ¾ inch long "ears" on BB are for clamping it in place horizontally (which I've found isn't always necessary) or vertically and to clamp other things to it. Lots of ears give lots of clamping options. The top photo shows how a small workpiece can be held using wooden dogs, battens, and a Wonder Pup.

Photo 2 shows a typical board secured by four dogs

and two wedges. No metal in sight to nick a carving gouge! Opposing wedges are not needed because the flats on the dogs provide the complimentary angles. Pairs of wedges of different widths accommodate narrower or wider boards. A wedge angle of 14 degrees works great. A fingernail depression in each wedge gives purchase for the Bench Buddy helper (looks like a push stick) to tap out the wedges with a mallet. The helper is also used to tap in the wedges; it keeps the mallet away from the workpiece.

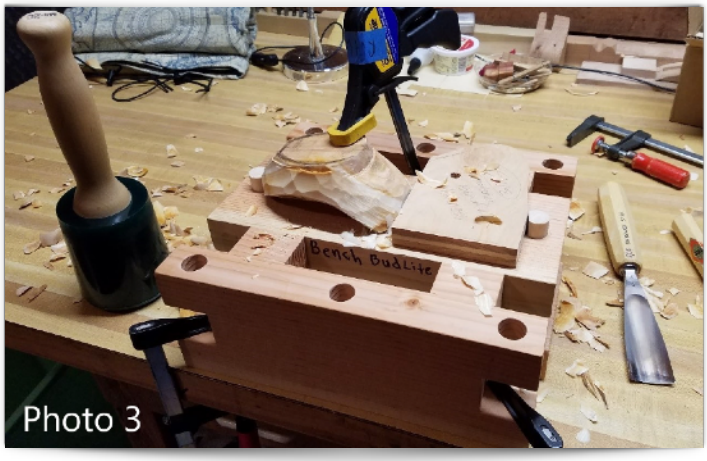


Photo 3

Photo 3 shows a small bowl clamped upside down to shape the outside. The rectangular gap allows access for clamping smaller items on the middle panel. The gaps also allow clamps to pass all the way through BB when it is on edge. Then work can be clamped to the face for sawing or routing.


Photo 4

Making Bench Buddy:

Some pieces of carefully selected quartersawn 2x6 fir studs were left over from a recent shavehorse build. I had milled them straighter and more square and they were pretty dry. Photo 4 shows the center panel before final glue up; the other parts are just behind it. The center panel has three 1 ½ inch thick boards glued face-to-face with the middle one shorter by 1 ¾ inch at each end. One could instead space out short pieces for the middle layer. I kept it one piece and then cut mortises to keep it more solid and to have a simpler glue up. The 4 ½ inch width of this center panel was sized to yield a total BB width of just over 10 inches. The mortises in the middle piece are just big enough for small F-clamps and narrow enough so the dogs won't fall into them, but the narrow width does limit where clamp pressure can be exerted on top. The sides of the BBs (as seen in the first photo) are 1 ½ by 4 ¼ pieces on edge with a notch cut out at each end to form four ears. Two or three 1 ½ inch thick spacers separate each edge board from the center panel. The gaps between spacers are at least 4 ¼ inches long to allow F-clamps to pass through when BB is on edge and to access the mortises inside the center panel. After gluing all the pieces together I intended to send the BBs though my planer but after the nasty snipe "cleaning up" the center panel I decided against it and just leveled it up with hand planes. I used a ¾ inch Forstner bit and drill press to make dog holes no more than 5 inches apart (the reach of Wonder Dog). Only the holes in the ears go all the way through; the rest are stopped so that the dogs protrude above the surface where they can be grabbed and pulled out. One side of BB can be a smooth work surface without dog holes. I

also choose not to put dog holes in the edge faces to leave a smoother work surface when BB is used vertically as a high work surface.


Photo 5

I put Bench Buddy to work right away making the bench dogs as shown in Photo 5. The dogs were made from ¾ inch hardware-store dowel and are about 2 ¼ inches long. Take a sample dog hole in a block to the store to find snug-fitting dowel stock. The "bigger" stuff I picked is tight and has needed sanding, but the tight fit is probably necessary so the dogs don't come loose when carving with a mallet. To make each dog, push one end of the dowel stock up through the block until flush with the top. Then hand saw a slight undercut into the side of the dowel and into the block (about 4 degrees works). Now push the dowel up a little, cut off the chip, raise the dowel more and cut the dog to length. Repeat using the same kerf in the block for each undercut. The slight undercut helps hold the workpiece down and creates a flat on the dog for more holding surface area and less damage to the workpiece.

My new buddies have been great shop helpers! Since my build I keep finding new uses and I keep them close at hand. This winter they may come in from the cold garage to do some carving with me in the house.

References:

Two short videos are a great place to start seeing the wonderful world of BOB. Two Popular Woodworking links connect to five posts by Yoav Liberman.

https://www.popularwoodworking.com/projects/portable-workbench/ Bench-top bench article by Yoav Liberman posted to Popular Woodworking website February 22, 2020 sized 7.5 x 12 x 25 inches, originally published in American Woodworker, Apr/May 2014

https://www.popularwoodworking.com/woodworking-blogs/bench-bulls-by-blog-readersvery-cool-designs/ Bench Bull versions from readers of Yoav Liberman's blog. At the bottom are links to Liberman's three Bench Bull posts which precede this one.