

Workholding aids & chucking – part 11

Kurt Hertzog looks at different ways in which you can make workholders

This series thus far has been exclusively workholding for the turning process. I've explored many of the facets from between centres through to some of the more exotic multi-axis and eccentric chucks. Always focusing on the safe holding needs for the turning process. But what about the after or non-turning part of the process? For those who are in the round, brown, and shiny camp, non-turning might fall into the buffing, simple carving, or application of finish category. Others may want to do inlay, piercing, painting, dyeing, pyrography, or other enhancement.

Regardless of your particular style, many of the standard workholding tools and equipment lend themselves directly to after-turning and off-lathe workholding. These can be used immediately or after making a bit of adaptation. These shop bought or easily made accessories will add many options to your workholding repertoire. Using these can often allow you to make your work envelope more conducive to your next process.

Other than power carving or the like, most non-turning workholding needs are relatively light grip operations. Also, the need for accuracy and repeatability in remounting during most non-turning processes usually goes away. In this issue, I'll explore the things you already have and some you can easily make allowing you to 'hold the holders' of your work for your non-turning process needs.

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USING THE LATHE

If you can use your lathe as a base for your non-turning workholding, do so. It is there in the workshop, it is heavy, and with little effort, you can reposition the existing workholding method to allow



There are commercially available tapers with headstock threading for non-powered use. A non-rotating taper threaded mount can be obtained with a revolving centre by putting an Allen wrench or wooden kebab skewer into the rotating lock hole

A threaded, straight walled toolpost that is coupled through for vacuum as well. Available from the manufacturer with various thread sizes. Also shown, a home built threaded toolpost made from cold rolled steel ready for cut off to length



For the shop handy turner, taps and dies are readily available in all common lathe threadings. The larger sizes can get pricey so you may want to go in partnership with your woodturning friends or turning club to share a single purchase



◀ USING THE LATHE (CONT.)

the desired orientation. Of course, simply locking the headstock allows for heavy duty work to be done. If you have the mechanics in place, adaptors or specially made holders, you can lock the tailcentre rotation and use headstock equipment. You'll have your work at a comfortable height and secured to a mass that will dampen any vibration. When that orientation isn't desirable, the banjo toolrest clamp can be pressed into service. There are commercially available products that will fit into the straight walled toolpost clamp and let you use your standard threaded workholding devices. For the workshop handy, taps and dies are available that will let you thread not only workholding fixtures but also toolposts to attach them to. If threading

and a rotational lock isn't required, a wooden dowel turned to your lathe's toolpost diameter with accommodation for the work gripping equipment might be a workable solution. Just a press fit into the chuck threads in the right orientation and height you require. Cranking the grub screws down on the dowel might be all you need to secure a chuck or faceplate for your intended use.



Bolts, nuts and threaded rod in sizes used on wood lathes is available at full service hardware shops or industrial suppliers. Buying and altering or inserting these is an alternative to buying or borrowing the taps and dies for fabrication

USING A BENCH

All of the traditional workholding methods can be fastened to a workbench or other table type pretty easily. Perhaps you'll be more comfortable doing your painting elsewhere or the pyrography outdoors. Personally, painting, finishing, and pyrography all create odours

that are better left outside. Better ventilation and less hazard to yourself and others. Think about the clamping mechanisms that can be adapted to accept your headstock threading.

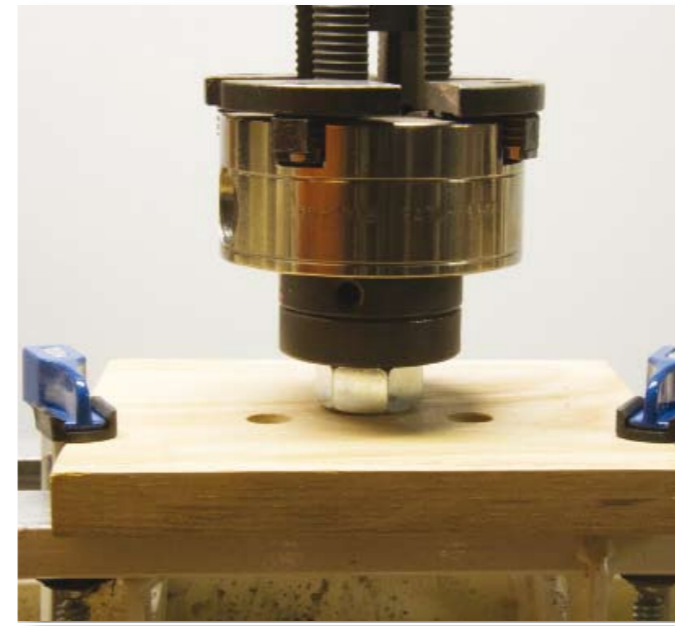
One that jumps to mind is a carver's clamp. Heavy, many are easily repositionable and they can be made portable. Use the existing clamp

mechanism or mount to a base and clamp the base to your desired bench. You can now relocate to any area you wish with plenty of space for your other materials such as paints, carving tools, or woodburning items. You can select a workplace and height that is convenient for your current process. Sitting with the work positioned and repositioned as necessary certainly will help improve your comfort and results. For painting and finishing, moving to a cleaner location is usually desirable. Safety always! Be certain that your workholding method, any adaptors needed, clamping method, and base fastening are all appropriate for your process. Welding a 100mm grinder whirring an aggressive carving burr must be mounted securely. Using a spray can of finish or a small paint brush will have far less stringent strength needs.

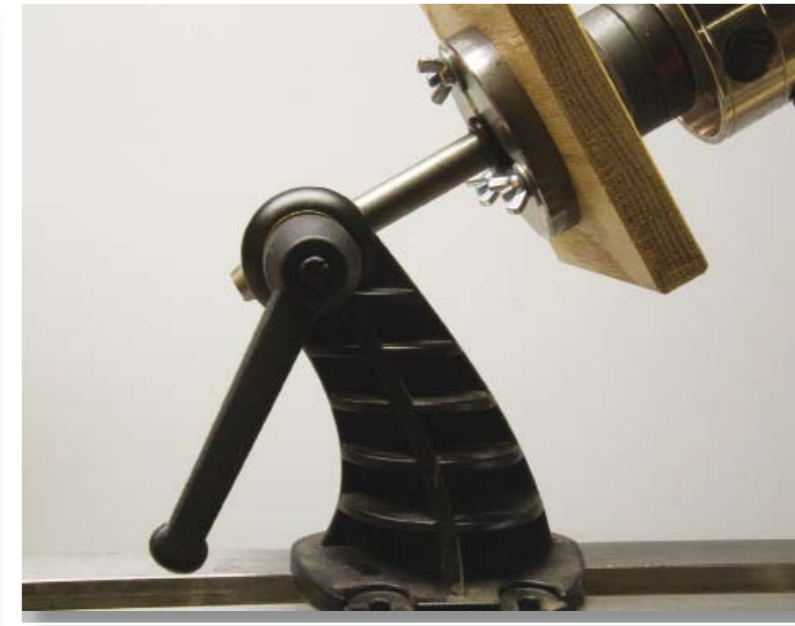
One of the available flexible position toolposts in a bench mount fitting. Attaching it sturdily to a base allows for clamping on the ways of your lathe, a workbench, or outdoors on the picnic table



USING A BENCH (CONT.)



A 3/4-10 threaded bolt countersunk into a mounting block allows for use of all of my tailstock threaded fittings. Using a thread adaptor allows all of my 1-8 headstock threaded workmounting mechanisms to be used as well



The same mounting block also has the bolt pattern and countersunk holes for easy mounting to one of my carving vises. The vise shown removed from its usual bench location. Installing a mounting base would allow use anywhere

USING OTHER THINGS

The lathe and other bench clamps are pretty straightforward ideas. But what about using other things. Let's start with using nothing at all except your hands. Leave your work in the workmounting apparatus for buffing or sanding at other equipment. Buffing tends to be grabby and a secure grip is a wise idea. Holding on to the clamp, chuck, or mandrel keeps your hands clear and holds the work securely. You are less likely to have your turning pulled from

your hands and launched to a different part of the workshop. Not only does that present a safety issue but usually causes damage to the turning. Using some of the more non-traditional positioning items presents opportunities. Bench clamps for other items, microphone stands, photographic tripods, goose neck lamps, and other non-traditional items all work nicely. Depending on the mechanics, these are usually reserved for light duty work but certainly offer easy

positioning and repositioning. If the need doesn't require extremely repeatability, a friction fit on your workholding mechanism will work. Adaptors are easily made from wood and can have the appropriately threaded fastener inset into the block. Thread to thread size adaptors can be made by the shop handy out of wood for light duty and metal for heavier duty. It is important to always remember the safety considerations when using items such as these.



Keeping your work mounted on the workholding device often makes buffing more secure. It often provides a better grip and keeps hands out of the way. If needed, put a wrap or two of tape over any corners of concern



Pen parts in particular have a nasty habit of getting away or rolling off on to the floor. I find that leaving the barrels on the mandrel through the entire process makes it easier to handle and less prone to damage

USING OTHER THINGS (CONT.)



Here are a host of light duty positioning fixtures useful for airbrushing, hand painting, or just spray finishing. Magnetic bases make any metal enclosure or frame a mounting location. Extremely versatile orientation being vertical or horizontal



Embed nuts or thread for a tripod thread. Lots of 6mm holes that will accept pen mandrel shafts and many sanding/power accessory shafts. Now hook-and-loop fastening is possible. The rare earth magnets allow attachment to any metal surface



Clamp or floor supported tripods offer a tremendous flexibility in location selection. A simple wooden adaptor was made to allow for attachment to the tripod thread and a friction fit into the chuck thread. Look at the degrees of freedom

CONCLUSION

The age old manufacturing practice that once a raw material has been oriented and gripped for processing, it is never let go until absolutely necessary. Any re-positioning will never be that accurate again. This holds true for woodturning. Continue holding your work in the existing workholding method and perform every operation that you can. Never reposition or change mountings unless you are forced to or until it doesn't matter anymore. You can always go back to the lathe and rethread your chuck or insert your taper positioned workholding method and be very accurate. Even if you don't think you'll be continuing with any turning, sanding, or other process, what can it hurt? If the need arises, you are in great shape. If it isn't needed, you can always dismount the work and move on. While the slant is a bit different, workholding for the non-turning portions of your woodturning has a lot of opportunities. The thought starters presented here are just that, thought starters. As always, be safe but being safe doesn't preclude being inventive! ●



Weather permitting, the best spray booth in the house is outside of the house. Positioned in any attitude at any height being easily rotated and repositionable. Well ventilated just as the safety instructions recommend