

# Workholding aids & chucking – part 10

In this issue, **Kurt Hertzog** looks at the variety of workmounting supplies available to the woodturner that can mostly be found around the house

In my mind, workholding can be broken down into several categories. The easiest to deal with is the initial, get it mounted and roughed out stage. Here, there is little concern for damage since the blank selection should have included material to be used – abused? – in the workmounting process. The roughing stage will comprehend this sacrificial material needed to mount the blank safely and securely for heavy cutting.

The second phase is when the heavy cutting has been done and now the blank needs reorientation and remounting to further continue the process. Mounting methods now may need to be gentler since the turning is often nearing completion. Your mounting method needs to be less damaging and easily removed.

The last phase is when the turning needs those finishing touches. This can be the final cuts to remove the evidence of prior workholding methods, last detail cuts, sanding, finishing, or after-turning decoration. Sometimes this mounting is when a repair is needed on a completed or

returned turning. Now the workholding grip is on a finished surface and needs to be accomplished with no damage allowed.

In this issue we will focus on a few supplies that you already have around the house or can easily get that will help you with your workholding. Especially phases two and three. Certainly not intended as the final word but only as the thought starters to help you solve your special workholding needs.

## KURT HERTZOG



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## PADDING FOR PROTECTION

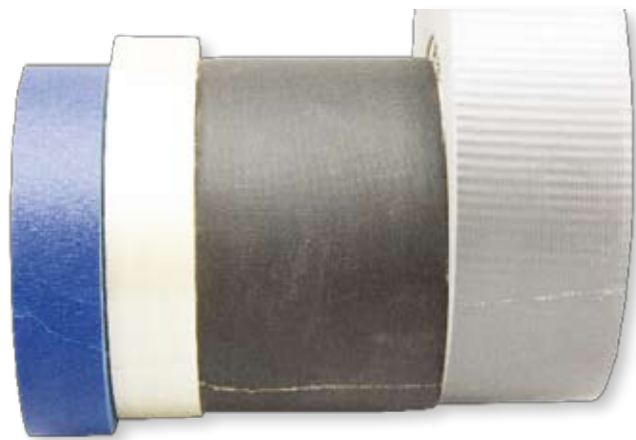
I use four tapes that I can highly recommend. Three are easily found at the home improvement centre with one more difficult to locate. Painter's masking tape is useful everywhere in the workshop. Depending on where you live, it might be coloured blue (US), green (Canada), or some other colour by convention in your locale. Unfortunately there isn't a universal standard. Used by painters to protectively mask off areas or create a straight painted edge, the adhesive is intentionally formulated to bond well yet be easily removed with little or no residue left behind. Mind you, the longer it is left fastened in place, the less true this is. The manufacturer usually cautions on the length of time before it begins to be less removable. I use painter's tape to create a protective surface, marking the depth on drills, making notes on turnings, indicating cut lines, and more. A great convenience is to have rolls of this within easy reach all around the workshop.

◀ **PADDING FOR PROTECTION (CONT.)**

Painter's tape has very little strength and can only be used for the lightest of fastening duties but it excels as protection that is easily removed. Since my Cole jaws rarely if ever see a 'don't care' surface, I always have a strip of painter's tape on the metal surfaces. I use it there as a matter of course. When it

becomes too tattered, I peel it off and replace it. The tape works quite nicely to pad the jaws when clamping a surface to protect. Tape on the bottom of the chuck jaws and around the faces allows for a ginger clamping of the wood. Other aids to secure the piece are in order but the tape will allow for light clamp

loads without marring. Pay attention to the number of wraps or layers of tape to maintain a uniform thickness. Any unevenness will impact your positioning and potential loss of true centre. By using even thickness in wraps, you create a 'crush zone' of tape allowing a firm grip without marring the turning.



Some tape products I find indispensable for workholding. From left to right: low tack painter's masking tape, high strength glass reinforced strapping tape, gaffer tape, and duct tape

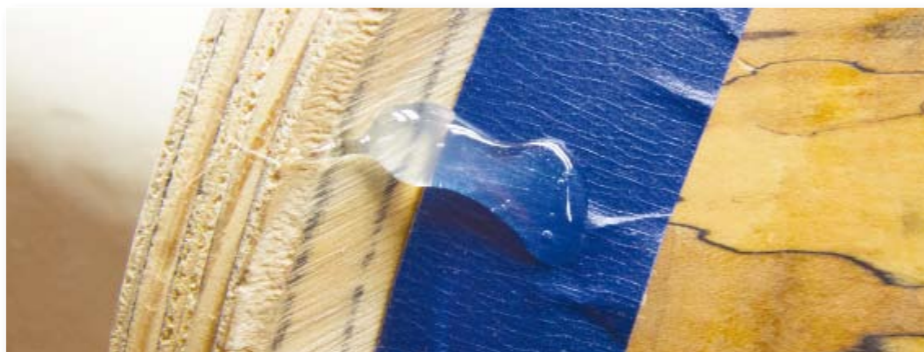


Since my Cole jaws always see a finished surface, I have a protective layer of painter's tape on the metal surface. Notice it is a uniform thickness of one layer in the area where the wood contacts the jaws

**FASTENING APPLICATIONS**

Fibreglass tape, sometimes called glass reinforced packing tape, is a high tensile strength tape. It is so strong in tensile that it needs to be cut. Pricey depending on maker and width, use it as needed to securely fasten a turning when high strength is required. If you don't care about the surface problems caused by the tape adhesion, use it directly. If you need to protect the surface, use painter's tape as protection beneath tapes with more aggressive adhesives. Painter's tape will allow for use of hot melt adhesives or high tack tapes such as glass reinforced packing tape or duct tape on wood. The painter's tape protects the wood surface so the glues or higher strength tapes can do their job.

Gaffer tape is more difficult to find. Not required but certainly nice to have. It is a cloth reinforced tape widely used in the film and photographic industries. It can be used on almost any surface with no evidence of use after removal. A joy to use but costly and harder to find. Between painter's tape and fibreglass tape in strength, gaffer tape provides a firm grip yet is easily removed from the surface. It can be torn by hand while reasonably strong in tensile. If you can find a roll, buy it. One roll will probably last you a lifetime but it is a joy to work with when it is strength appropriate.



As protection for the surface, the painter's tape will allow the hot melt glue to attach to the turning yet be easily removed with no damage. Multiple tape layers might be appropriate depending on the surface sensitivity to the heat during application



Tape on the bottom of the chuck and around the jaw faces allows for a gentle clamping. The painter's tape on the finished surface allows for the fibreglass reinforced tape to provide the actual strength for this mounting without damage

**FASTENING ASSISTANCE AND PROTECTION**

A handy product to have in the shop is stretch wrap. This more industrial version of food plastic wrap is available in the shipping supplies area of the stationary and home improvement stores. It comes on a roll and is simply wrapped around things relying on the cling to itself rather than adhesive. I rarely use it as my sole fastening method but find it extremely versatile as an aid to other workholding methods. It adds security to my Cole jaws as well as traditional chucks and vacuum chucks. Stretch wrap is ideal for sealing up leaks in vacuum clamping. Whether porous material, down right 'holey', or the fit at the vacuum chuck seal area isn't perfect, stretch wrap will find the leaky area and seal it. You may need to provide some support for bigger leaks with tape underneath the wrap but it is

a workholding aid to keep handy. Often the angle of the turned surface and the angle of the Cole jaw bumpers doesn't provide a secure clamping. Even if it does match well, using stretch wrap to firmly clamp the work in place can add that extra security. I always add a bit of stretch wrap as insurance even when I have a secure mount. Whether Cole jaws or vacuum chuck, those few wraps of stretch wrap will keep your turning in place on the lathe even if things go a bit awry and dislodge it. It is much easier – and safer – to reposition and re-fasten work than to remove the dings and divots that usually occur with any unexpected dismantling.

For those who turn disconnected woods such as hollow forms with voids or missing sections, stretch wrap is ideal for helping

keep those pieces so they don't flail or potentially break off. Wrapped securely with stretch wrap and fibreglass tape or duct tape over the top if needed, the turning can be spun with much less concern about separation. Hollowing is much easier with all of the pieces kept in proper position. Stretch wrap is handy to cover those areas of the lathe, chucks, or other valuables when you are painting or finishing. A few wraps and you can spray away with all of your attention on the application, not concern for the holding device. You can also use stretch wrap to seal off your green turnings when you head off to lunch. Similarly, a plastic grocers sack works nicely but a wrap or two of stretch wrap can seal things up nicely helping prevent unwanted drying and cracking of the piece you are working on.



Turnings no longer perfectly round don't engage with all of the buttons on the Cole jaws. With the rubber bumper's durometer and the angle of engagement, even many perfectly round items can use some additional assistance in fastening



Stretch wrap works nicely to assist the Cole jaws with fastening the work to the surface. No adhesive fastening, just stretching around the jaws and over the work allows for more secure attachment. Mind the direction of rotation when wrapping



The beauty of stretch wrap is you can see right through it and cut through it in the areas you wish. After cutting in one area, add additional wrapping as needed to maintain the integrity of the mounting prior to cutting away more wrap



Stretch wrap works very nicely to mask areas off the turning or protect your chucks and other valuable equipment from paints and finishes. The low cost and ease of use makes stretch wrap a must have item in the workshop



Good practice is to always use the tailcentre until forced to remove it. Many times you'd like a form fitting compliant push to be your contact with your work. How about your basketball, beach ball, tennis ball or other round cushy item?

I find tennis balls work extremely well being very firm yet compliant. A great use for the spent tennis balls with less than serviceable fuzz. Obviously the point is removed from the tailcentre when using with any air filled cushioning device

## ◀ NOT JUST FOR THE PLAYGROUND

For turnings you need to push against delicately, a ball from the toy box or sporting supplies storage works nicely, such as the examples shown above. It distributes the force nicely and helps

stabilise those outspread walls reducing vibration. Pushing in the centre, padded or not, won't help reduce or eliminate the flutter of bowl or platter walls out at the extremes. Get creative with your tailcentre accessories

to help flesh out your selection of compliant and padded pushing devices. Using them coupled with various headstock grips can make for a secure yet delicate mounting of your work.

## SPECIAL INSIDE NEEDS?

When faced with voids, disconnected sections, or wings, begin thinking about filling a bag. A plastic bag pushed inside of a form can be filled with polystyrene packing peanuts and pushed on with a tailcone to nicely distribute the force. Couple that with some outside wrapping of stretch wrap, perhaps with added strengthening tapes over the wrap, and you have a stabilising method to work on the inside or the outside. Use one and then the other or together as needed. Ultra low cost and extremely flexible with no residue or marks left behind. Mash a piece of polystyrene into the bottom of an irregular shape and make it conform. Now you can push on it and hold things nicely. Can it get more flexible in solving some problems?



Push a plastic bag inside, fill it with styrofoam packing peanuts, compact to your desired density and use your tailcentre cone for a firm grip. Combined with outside stretch wrap and tape, this technique is great for troublesome open forms

Don't be afraid to crush form a pad for those troublesome shapes or sizes. Polystyrene can be formed easily in a contour hugging pad for nearly any shape on demand. A tailcentre cone or other force distributing device now holds things



## CONCLUSION

This collection of odds and ends of tape, glue, and toys might look silly. I hope it sparks a kind of thinking to aid with your special workholding needs. As always, use the tailcentre unless it needs to be removed for access and always be safe. Obviously, your speeds and feeds need to be adjusted appropriately when using some of these methods. I think you'll agree that they open a wide range of padding and fastening methods that will let you accomplish that special mounting needed. Use and expand these techniques to help mount and stabilise the turning, spread the force, and add security to your workmounting methods. Workholding equipment and supplies don't always come from the woodturning retailer. Be safe but feel free to be creative! ●



Whether from the stationer's packing department or the children's toy box, there is a wealth of workholding aids available to you. Always be safe and secure but that doesn't rule out being creative