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MORE ON THE SHARPER EDGE

THE RULES

I use a set of basic rules when sharpening carving tools. First, I always keep my index finger just below the edge of the tool. The finger placement not only lets me check the flatness of the bevel, but it also allows me to feel for heat. If the steel starts getting warm, I remove it immediately and dip it in water. In fact, I dip the tool in water before I start grinding.

Another sharpening rule is that I keep the tool constantly moving across the surface of the grinding wheel from right to left. I don't stop that movement for even a moment. The motion helps prevent the steel from heating up, and it reduces the possibility of putting grooves in the bevel.

THE V TOOL

These same sharpening techniques apply to V tools. First, let me describe what a V tool is. It looks like two flat chisels with a U shape at the bottom of the V. I sharpen each side of the tool as if it were an independent flat chisel. I move the tool across the wheel, doing first one flat surface, then the other. The U at the bottom I do last, rolling it across the wheel to create a rounded profile that matches the inside curve.



With the V tool perpendicular to the wheel, I grind one side at a time, moving the edge from one side to the other. Although I use a coolant that is sprayed on the wheel, I never let the steel stay in one place; instead, I move it constantly.



The U shape at the bottom of the V I do last, rolling it across the wheel.

BY: BOB YORBURG

Photography by Roger Schroeder



Bob Yorburg, woodcarver and sharpening expert

Editor's Note: An avid carver and instructor, Bob Yorburg sharpens carving tools for Frank Mitermeier, Inc. In his second article for WCI, he talks about getting an edge on V tools and how to use a horizontal grinding disc. Bob lives with his wife Laura in Yorktown Heights, New York, home of The Amusement Carvers of America, an organization dedicated to teaching carving and related art forms. For more information, contact Bob at 914-243-7890.

A burr was formed where the wings come together. If it is not ground away, it can catch the wood and tear it.



On this V tool, too much metal was ground away where the wings join.



The V tool has its wings skewed forward.



The wings are skewed back on this V tool.



Unfortunately, even V tools that come directly from the factory sometimes have uneven walls. Also, after grinding, there may be a piece of metal sticking out or a small "bite" missing from the bottom of the V. To correct this, I roll the tool gently across the wheel to alleviate the protrusion or to blend the bottom of the V with the side walls.

Having a U shape where the bevels come together is important if the tool is to cut properly. After grinding, if there is a triangle of steel at the bottom of the V, the tool will tear out wood instead of cutting it. Even if I feel I have ground the tool correctly, I test it by taking a cut across the grain of a piece of wood to make sure it cuts cleanly. If any minute trails are left behind, the cutting edge needs to be further honed. If, however, the wood tears out, the tool needs further grinding.

Critical to grinding the side walls is keeping the edge of the V tool perpendicular to the wheel. I do this to keep the bevels equal. Regardless of whether the front of the tool is angled forward or back, the bevels will always be correct if the front edge is perpendicular to the grinding wheel.

THE WINGS OF THE V

V tools lend themselves to two different profiles. If we describe the sides of the V as wings, we can have a "wings forward" or a "wings back" profile. When the wings angle forward, the V tool acts like a pair of skew chisels and it runs through the wood very easily. When the wings are angled back, I have a tool that is especially useful for getting into the tight corners of relief work. However, I would not use it for general cutting because the bottom of the V tends to grab the wood and dig in.



For the V tool to cut properly, it should have a U shape where the sides come together.

In order to make a V tool with wings forward or wings back, I take the tool and "plunge" it straight into the grinding wheel so that the

entire tool is perpendicular to the face of the wheel. Then I lift it up slightly or drop it down a bit to bring the wings in or out. Once I get the angle I want, I come back across the wheel, sharpening the bevels; then I do the bottom. Please note that this process is accomplished very slowly and delicately to prevent the tool from heating up.

POLISHING

The technique for polishing V tools is different from most other tools. The wheel I use is made from laminated shoe leather (see "The Sharper Edge," WCI Fall, 1998). I start off with the bevels on either side of the V flat against my wheel and move them from one edge of the wheel to the other. I then roll the bottom carefully across the wheel. Once the outside of the V tool is perfectly polished, I address the inside of the V. Using a pointed or V-shaped leather wheel, I lightly touch the inside of both wings to it and very lightly hit the apex where the wings come together. If I should press the inside of the V tool too hard on the wheel, I can actually change its profile. Using the leather wheel inside the V is only to remove a slight burr or wire edge that exists after grinding.

I use a 10-in.-diameter wheel for most of my grinding and



I use the same procedure of moving one side across the wheel at a time—the U shape last—on a polishing wheel.



For the inside of the V, I use a special polishing wheel that matches the inside profile.

polishing. The large diameter leaves only a slight hollow ground. This means that the bevel reflects the curvature of the wheel. My large wheel works well for most gouges and V tools. When I want to grind a skew chisel, however, which is flat on both sides, hollow grinding produces a brittle edge. I prefer to use a horizontal grinding fixture, sometimes called a see-through or perforated grinding disc.

GRINDING HORIZONTALLY

Horizontal grinding discs come with slots that radiate from the center. What may seem unusual is how I grind with one. Instead of holding the tool on the top surface, I hold the bevel against the bottom of the disc. The slots allow me to see the bevel being ground underneath. To view the bevel clearly, I need a strong light source coming from above the wheel. I find the fixture useful for spoon bent gouges, flat chisels, and even V tools. In addition, I can custom grind a profile because I can see how the shape is progressing.

As I do with my vertical grinding wheels, I keep the tool moving. Although the slots help circulate air and keep the tool cool, I still dip my tools frequently in water. In keeping with my rules, I hold an index finger near the end of the steel to make sure it is not getting warm.

FOOTNOTES

Many carvers and tool dealers recommend grinding and polishing wheels that run at 1750 rpm. My wheels run at twice that speed. The greater speed allows me to get an edge faster, but I grind my tools with a very light touch and keep them moving.

My advice is to practice first with bench stones, then move to a grinder to gain confidence with V tool sharp-

ening. Slower wheels are probably safer to use, but with more experience, a carver can move to a faster wheel.

Another habit worth acquiring is honing the tools as often as they are used. The tools will stay in fine shape, will require fewer trips to the grinder, and will last longer.

I also dress the wheel frequently with a dressing stone. Metal has a tendency to get embedded in the wheel. If the metal in the wheel should come in contact with the tool, it will overheat it and ruin the tool by taking the temper out of it.

When I first put a polishing wheel on an arbor, I use sandpaper or a lathe tool to get it to run perfectly true. Once I have the wheel running true, I leave it on the arbor for the life of the wheel. A wheel that wobbles does a disservice to my carving tools. ☐



The perforated surface of the disc grinder becomes transparent with rapid rotation. The process of grinding a bevel on a tool can be clearly seen with the aid of a strong light source from above.



Source for Horizontal Grinding Wheels

Euromatic Equipment Co. Inc.
161-15 Rockaway Boulevard
Jamaica, New York 11434
718-528-2000



A horizontal grinding disc has slots that radiate out from the center. When I grind a tool, I hold it under the disc, which is held in a drill press.



Even though I hold the tool under the rotating disc, I can see how the bevel is being sharpened from above. A strong light source from my vantage point helps me see the tool.

A Source for V Tools

Frank Mittermeier, Inc., 3577 East Tremont Avenue,
P.O. Box 2, Bronx, New York 10465/ 800-360-3843.
Website: www.DastraUSA.com. Mittermeier's tools are now being manufactured with a polished edge. They are pre-sharpened and ready to use.