



How to sharpening lathe chisels

by [jskingry](#) on November 26, 2011

Table of Contents

How to sharpening lathe chisels	1
Intro: How to sharpening lathe chisels	2
Step 1: Sharpening the skew chisel	2
Step 2: Sharpening the scraper	4
Step 3: Sharpening the gouge	5
Step 4: Honing the edge between grinding	7
Related Instructables	8



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Just a normal guy who enjoys the water and outdoors. Grew up on the water in the Panhandle of Florida fishing and boating, still live on the gulf today just a little further Southwest.

Intro: How to sharpening lathe chisels

Anyone who has had a lathe for more than a week knows that you need to sharpen your chisels and sharpen them often. Nothing dulls tool steel like a 3000rpm spinning chunk of wood. I have recently gotten back into wood turning after a ten year break from it so I am revisiting my sharpening techniques and questioning them so what you see here is a combination of my old tradition with a few changes.

A quick google search will yield about ten million hits on jigs, techniques, systems, and machines for lathe tool sharpening. The popular questions seem to be dry grinder vs slow speed water grinder, jigs vs free hand, and whether to use tools straight from the grinder or honing them a little. It really comes down to the fact that there is no right or wrong way to sharpen your chisels and what works for a production turner might not be best for a hobbyist. I used to be a run to the grinder and then straight back to the turning, it was quick enough for most chisels and seemed to work fine. The problem occurred when trying to use a jig for a fingernail grind gouge, it was just slow to change from a flat tool rest to the jigs needed for the gouge so I went searching for something else.

So what do you need.... Well you can start with sharpening stones, they are slow and you simply cannot regrind a profile on a bench stone, it is just too slow. Other options are a bench grinder or belt sander, I currently have a bench grinder which works fine but takes up a lot of room in my small shop and takes forever to change to a different grit stone. I am seriously considering getting rid of the grinder and using a small 1" X 30" belt sander but for now the grinder works fine.

My setup is:

1725 rpm 6" Baldor Grinder with 120 grit pink wheel

Wolvering Basic Grinding Jig

Two sided diamond stone (course and fine)



Image Notes

- 1. Sharpening should not be difficult.

Step 1: Sharpening the skew chisel

We will start talking a little bit about the flat chisels, the skew and scrapers. These chisels will be sharpened using a flat tool rest.

Skew Chisel - The skew is used to produce a very fine finish on spindle turnings. It is also a great too for creating beads on a spindle. The skew is also a tough tool to master, it can produce some really impressive catches so be careful and spend some time practicing, it will be worth it. I have included an image with the proper angles for the skew chisel. The first step to getting a good edge is to establish your initial grind and we will do this on the grinder. I start by putting my flat platform in front of the wheel and adjust the angle with the skew on it until I get that skew on the wheel near 25 degrees. You can place marks on the platform at 70 degrees as a reference and to help you hold it straight. You want to grind at this angle until you have reached both ends of your bevel. You want the edge to meet in the middle of the tool thickness so this might take a little trial and error to get there.

DIAGRAM A

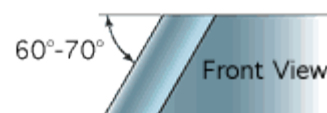




DIAGRAM A

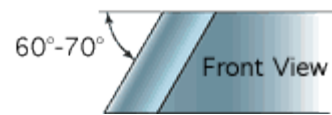


Image Notes

1. See the old steel at the tip, that means more grinding.

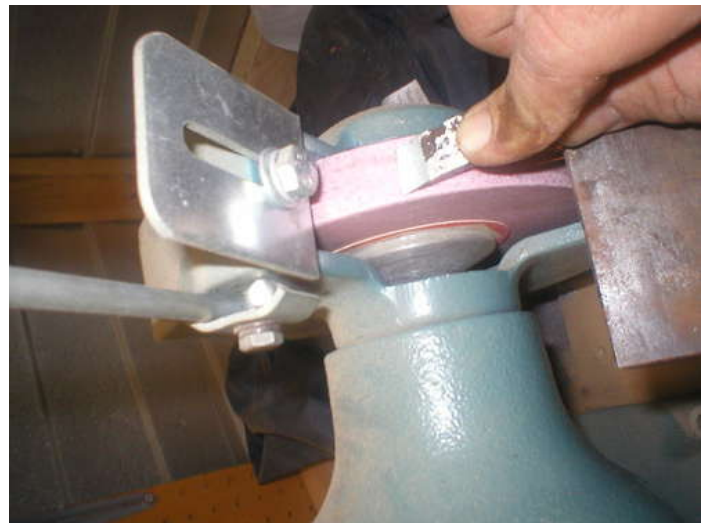


Image Notes

1. For a narrow skew just hold it there at the correct angle, for a wide skew you need to slide it back and forth to evenly cover the entire width on the narrow stone.



Image Notes

1. See the old steel top and bottom, this means you need to grind some more till you get fresh steel top to bottom.



Step 2: Sharpening the scraper

The scraper is one of the easiest tools to sharpen, the only technical part is the angle, most literature suggests using a 70 degree angle. So once again adjust the angle of your tool rest to where the angle will be around 70 degrees and start grinding. For round nose scrapers you sweep the end of the tool back and forth in a smooth manner to make a nice smooth rounded edge. Once again grind until you have the full bevel ground and you are done.

There are many types of scrapers in all different shapes but they are all sharpened in the same manner.

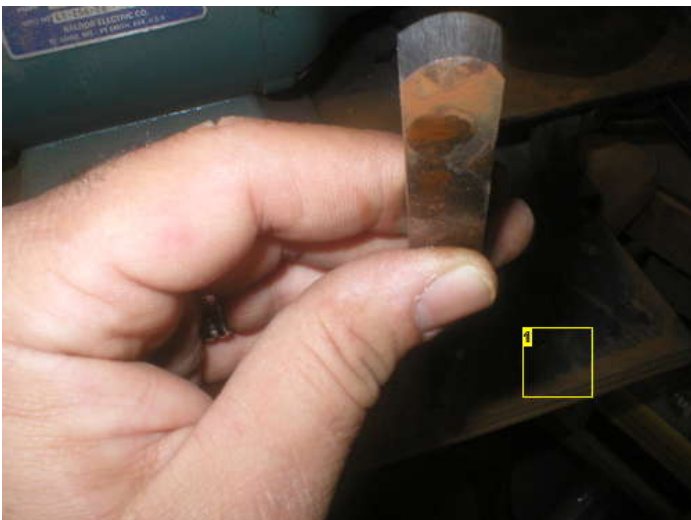


Image Notes

1. a properly ground scraper.



Image Notes

1. Just swing it back and forth.



Step 3: Sharpening the gouge

Wow, you could write a book on the gouge but trust me I will not. What I will explain is the types of gouges:

1. Roughing Gouge - This is a large gouge with high sides used for rouging stock into a round shape. This gouge is typically ground straight across.
2. Continental Gouge - This is the gouge usually included in cheap tool sets, it is similar to a roughing gouge but has much lower sides. Expect to find this gouge shoved in a corner with a straight grind, this is a shame because I find the continental gouge with a mild fingernail grind to be an incredible forgiving chisel capable of producing a finish almost as good as a skew.
3. Spindle gouge - This is usually ground from a solid bar of steel with a wide shallow grind. These work great with all kinds of grinds for different situations.
4. Bowl gouge - These beasts are ground from a solid bar steel and can be found with all kinds of grinds on them, I have models with straight grinds, fingernail grinds, and aggressive swept back designs. Different areas and bowl types call for different grinds, I find a swept back design great for hogging out a bowl but too aggressive for finishing cuts and usually switch to a milder grind.

Those are the gouges so let's talk about the grinds.

For most all gouges around 60 to 70 degrees is a good starting angle to grind, as you get more comfortable or just want a more aggressive chisel you can go below 60 degrees but be careful these things can take a lot of wood off fast and you need a lathe with some good horsepower to hog off that kind of wood.

The most basic and simple way to grind a gouge is to set the angle on the flat tool rest right and then roll the tool back and forth until sharpened, this creates a tool with a straight cutting edge and high wings.

Every other grind takes either experience or a good jig, there are many brands of jigs to choose from or you can do like me and make your own jig. Just do a quick google search for "homemade fingernail grinding jig" without the quotes for plenty of ideas. As you can see in the pictures of my jig I have marks for the angle of the arm, basically the further forward the arm is the more swept back the grind. So for a basic continental gouge I will have the arm all the way back for a basic almost straight fingernail grind, for a swept back bowl gouge I will have the arm all the way forward and in between those two extremes is everything else.

As you can see I have a block of wood mounted on the grinder platform, this is my gauge on how far the tool extends from the jig, I use 2" for everything, it just keeps things simple.

So once you have your tool in the jig and the arm of the jig adjusted to where you want it, adjust the v-arm of the grinder rest in our out to get the right front angle on the grinding wheel. Then you simply start grinding swinging that tool handle side to side in a nice slow and smooth manner. As you can see going back to the grinder every time you need to touch a tool up can be a pain which is going to lead into the next step.



Image Notes

1. Roughing gouge with straight grind.



Image Notes

1. Continental gouge.



Image Notes

1. Note the mild fingernail grind.



Image Notes

1. Spindle gouge with a straight grind.



Image Notes

1. Bowl gouge with a straight grind.



Image Notes

1. Bowl gouge with a sweptback grind, note the long sides and aggressive shape.

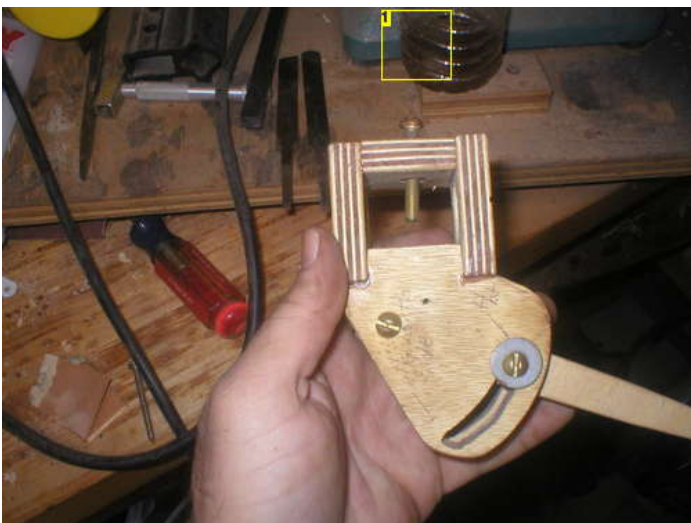


Image Notes

1. Note the position of the arm, this is for a mild fingernail grind. Slide it forward for a more sweptback grind.

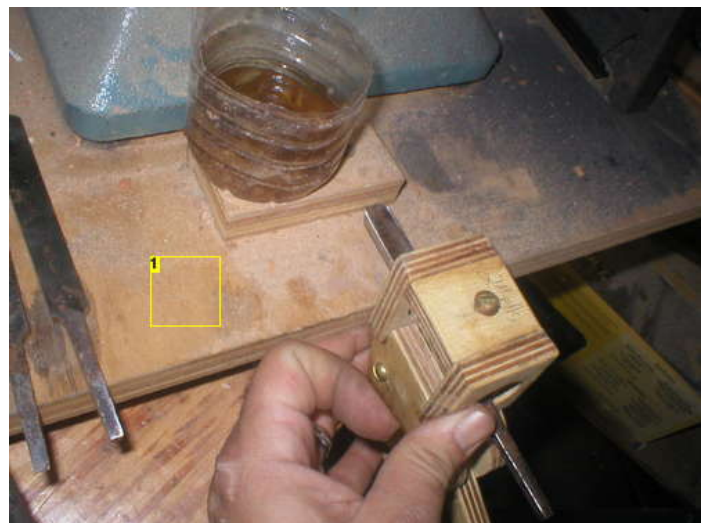


Image Notes

1. Block is set to get a consistent 2" extension from the jig. Also note the fancy cup of water.



Image Notes

1. Adjust the V arm on the grinder in or out to set you bevel angle.

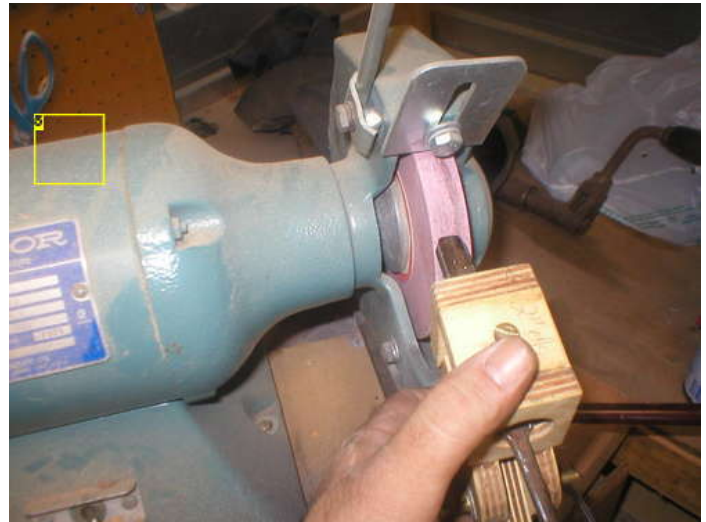


Image Notes

1. And takeoff! We are grinding!
2. And takeoff! We are grinding!
3. And takeoff! We are grinding!
4. And takeoff! We are grinding!
5. And takeoff! We are grinding!

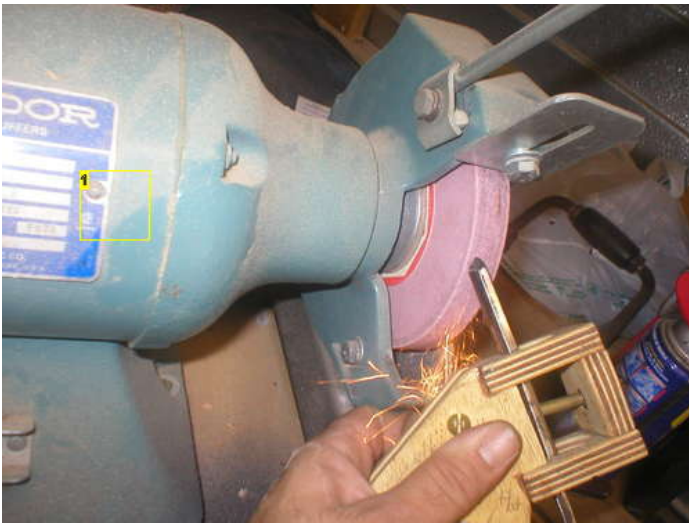


Image Notes

1. The key is to sweep back and forth for an even grind on the wings and the tip.

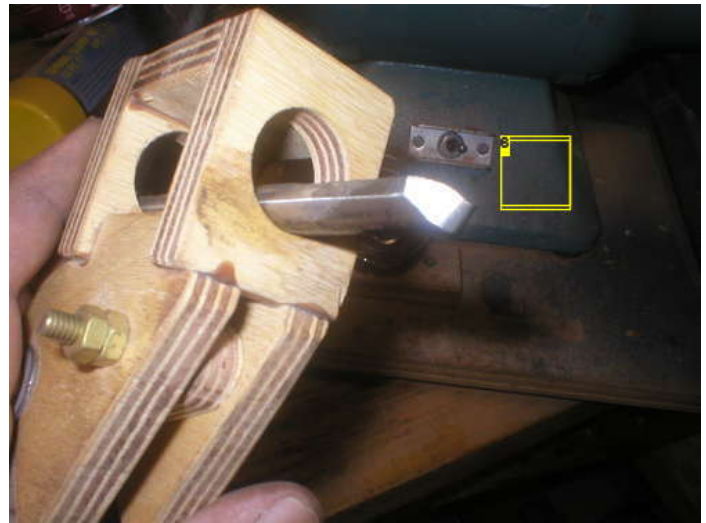


Image Notes

1. when the shiny fresh steel covers the entire bevel you are finished.
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6. when the shiny fresh steel covers the entire bevel you are finished.

Step 4: Honing the edge between grinding

Now this step is were I deviate from conventional wisdom. I hear people say it is so quick to put the gouge back into the fingernail jig and put it back on the grinder, perfect identical results every time. I am calling shenanigans! My take is you will never get the same exact angle of everything, but who cares about 1/2 degree, well that is more time spent grinding which means it is not so quick.

I hate the grinder personally, it is so much quicker and easier is to take out my diamond hone and ten seconds later I have a tool way sharper than one straight off the grinder. This becomes very evident when working with the skew or continental gouge, a few swipes on the diamond stone and I just saved myself five minutes of sanding.

I usually just hone the edge until I have completely flattened out the hollow grind from the grinder, and that is a lot of turning.

You may have noticed I left out the parting tool, well that is one tool you will probably never had to re-grind, just a few swipes with a hone and you are back in business. Also with a parting tool, I get horrible cuts no matter how sharp it is, but maybe that is just me.

I hope this instructable has helped someone out there, remember, sharp tools make working much more pleasant.



Image Notes

1. I use paste wax for protection from rust.



Image Notes

1. A few quick strokes on the diamond hone gives a fresh sharp edge. Try to focus on both the top and bottom of the bevel touching the stone.

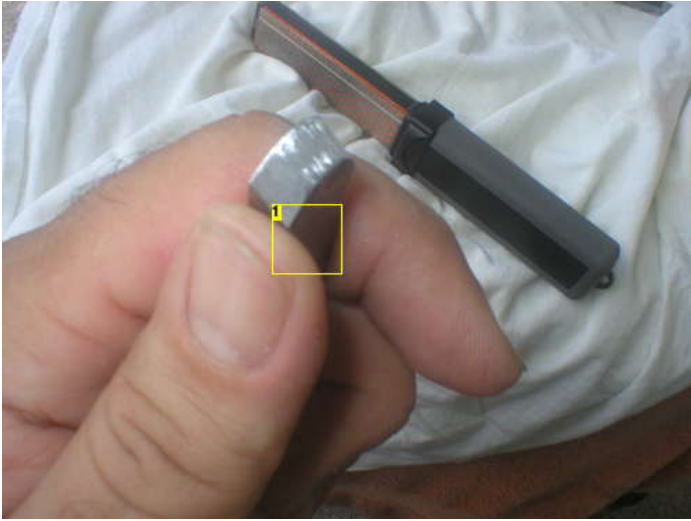


Image Notes

1. See the honed steel top and bottom.



Image Notes

1. A little more accurate on this one.

Related Instructables



Turning new handles for your lathe tools by jskingry



Finger Top on a Lathe by Jor2daje



Turning a baseball bat by carlbass



How to turn a wooden pen on a lathe by Superninjacamper



Gouge for a Lathe the good and cheap way (Oland Tool) by snotty



Wood Lathe attachments & improvements pt 1, low buget sanding table. by Dr Qui