CONVEX SHARPENING THE BRKCA WAY

By Reid Hyken aka: Sharpshooter

We've had a lot of conversations about how to sharpen a convex edge. I've found that a first hand demonstration usually is the best way to show how simple it really is. Perhaps a case of a picture being worth a thousand words, so let's try with pictures.

A convex edge isn't what we have become accustomed to on cutting tools. What we usually see is a bevel, a flats ground on both sides of the blade creating a sharp edge.

The convex edge is like a Bullet Point, gently curving to the edge.

Most sharpening systems are made for the bevels that most manufacturers currently use, the idea being to hold a consistent predetermined angle along the length of the blade on both sides. That won't work on a convex edge since there really isn't a consistent predetermined angle on a convex edge, but rather a gentle curve. To do this with a stone, one would need to carefully "roll" the blade against the stone to follow the curve of the blade.

There is an easier way, make the abrasive follow the natural curve of the blade. To accomplish this we need a flexible backing behind the abrasive.

Sandpaper held tight over a hard mousepad or piece of leather glued to a hard backing such as a wood block.

To refresh a slightly dulled edge one starts with 1500 grit paper and can work up to 2500 or finer. To resharpen a nicked or truly dull edge I start with 320 grit and work my way up, the same technique can be used to change a beveled edge to convex.

Whatever grit you are starting with, the technique is the same.

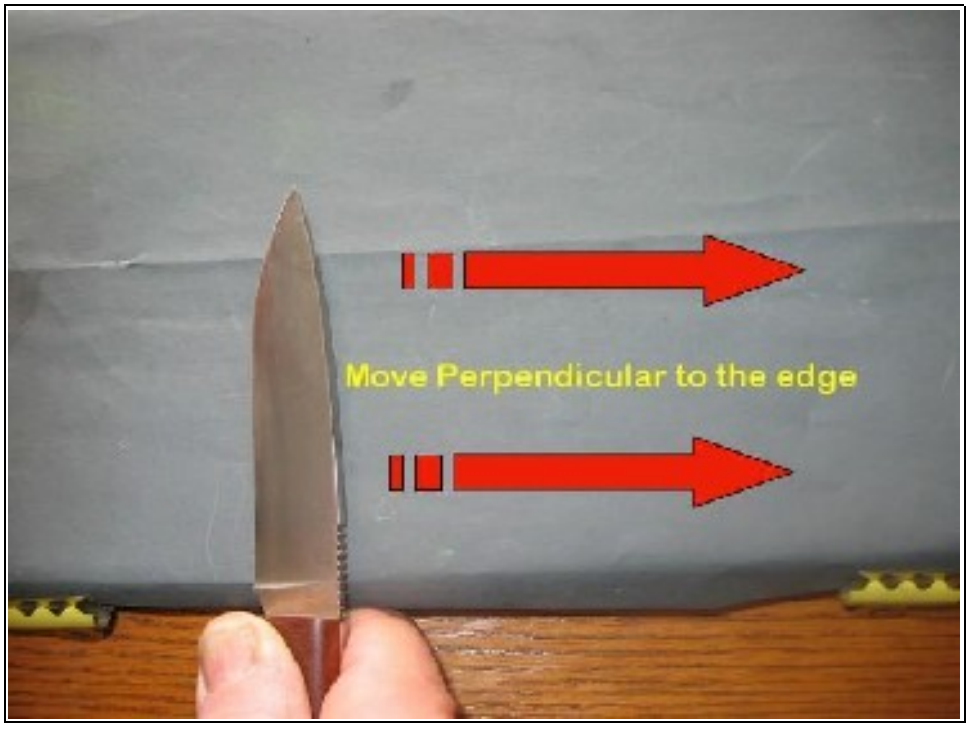
READ THESE INSTRUCTIONS FULLY BEFORE STARTING…

The key to this is to pay attention to the contact between the edge and the abrasive.

Lay the blade flat on the paper

The spine of the knife is lifted slightly from the paper until the edge is contacting the paper; usually this is about a 13° angle. The angle isn't as important as the contact on the edge; remember we have a flexible backing to follow the edge profile.

Once we have this angle established, the blade is drawn across the abrasive, SPINE FIRST. We're not trying to cut the paper, but to drag the edge across it, so we're removing the material behind the edge not from the edge



DO NOT apply much down force on the blade; the weight of the blade is sufficient to do the job. Press too hard and the abrasive

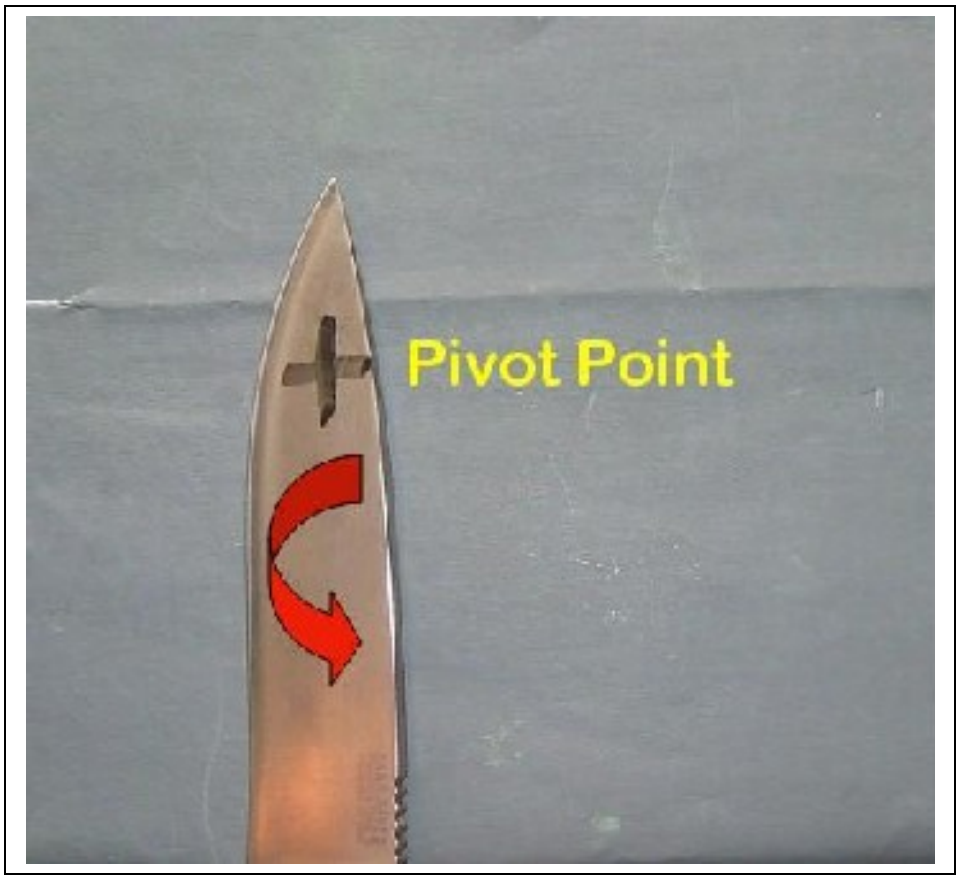
will actually be coming back up in the wake of the blade and remove the edge, dulling the knife rather than sharpening it.

As you draw the blade across the abrasive, you can feel and hear the abrasive doing the job. You'll know it's time to move to the next finer grit when the drag stops and the blade seems to move effortlessly across. The finer grits are removing the scratches left by the more coarse grit. We're really polishing more than removing material, forming a wire on the edge and then removing it when we work the opposite side. This is a complicated way of saying that you need to work both sides of the blade.

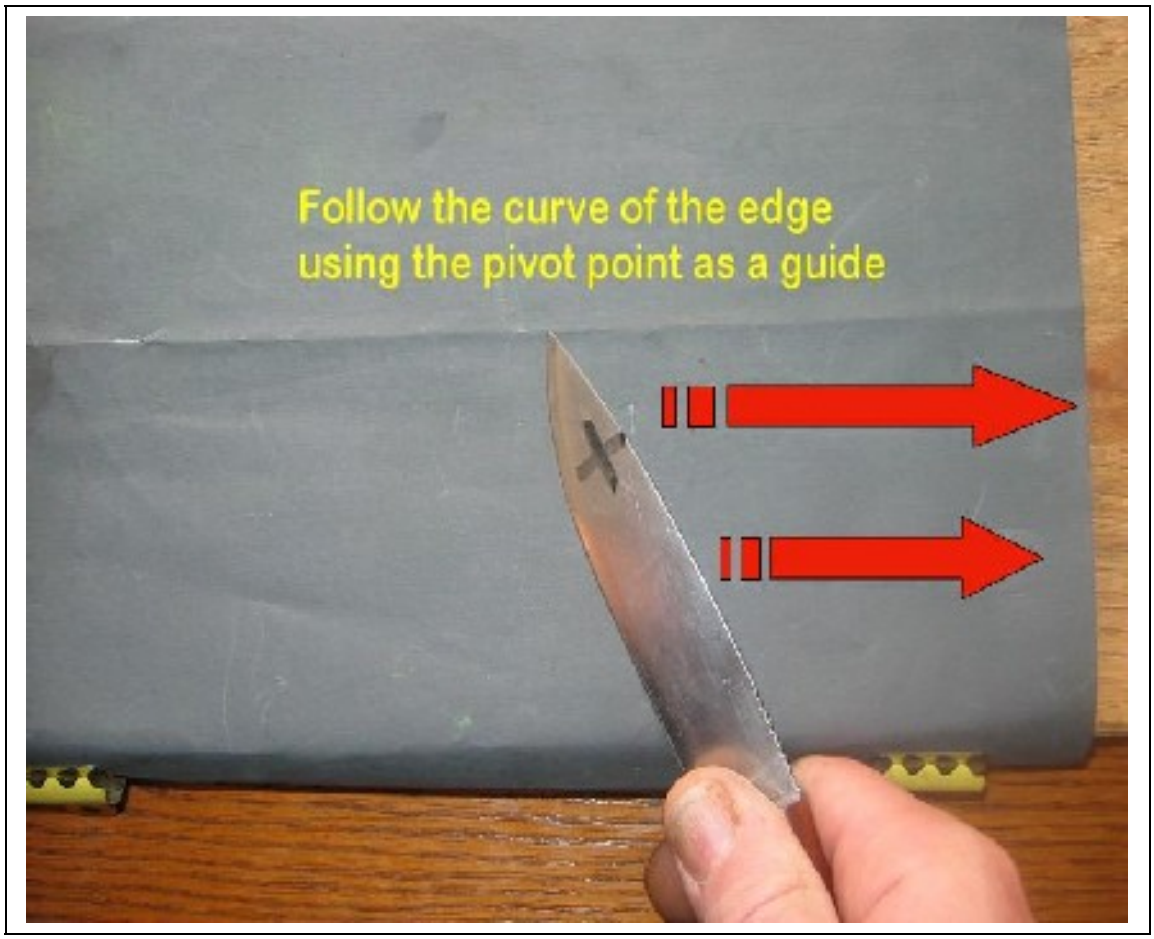
This would be the complete procedure were all blades to be straight across; it's the curve or belly of the blade that trips a lot of people up.

At first glance, one would think that they need to lift the handle as they follow the curve of the edge. That's not correct… remember, we have the blade almost lying down on the abrasive and since the blade is flat the upsweep of the edge is not higher but at a different angle to the sharpening motion.

The handle must be pivoted while maintaining the same plane to maintain the edge contact with the abrasive. In this picture, I have drawn a "Pivot Point" on the blade to illustrate this concept. In reality, I put my off hand index finger on the blade at this point and swing at that point. DON'T use the finger to apply down force it's only there to provide a point of reference.



The goal is to draw the edge across the abrasive at a perpendicular angle. Here is where a lot of people run into problems getting the tip sharp. Usually this is because they don't continue to move the blade perpendicular to the abrasive, but rather draw the knife off the paper following the shape of the curve. A good way to prevent doing this is to keep in mind that blade is supposed to stay on the abrasive all the way across, the stroke ending at the far right or far left of the sheet, not the top or bottom.



Once you have run the course of abrasive papers you have a sharp convex edge.

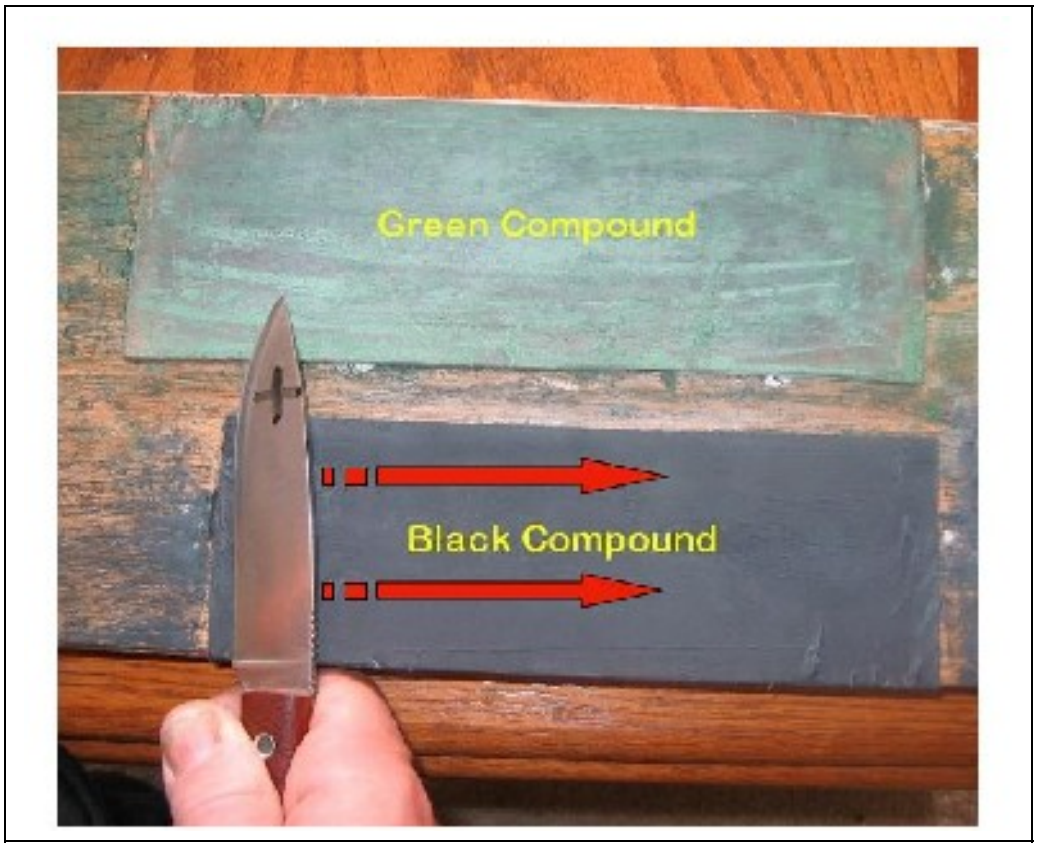
To check that there are no more flat spots on the edge, I use a piece of hard plastic. They sell special rods of plastic to do this test, but markers work just as well and are plentiful/cheap. I put the edge against the plastic at about the same angle as I sharpened at and with no pressure run the entire edge along. Any flat spots will cause the edge to not bite into the plastic and skip off.

Look closely at the picture and you can see how the edge is actually slicing the plastic, a flat spot will skip across.

When you are satisfied that there are no more flat spots, you're ready to move on.

You can further refine the edge by stropping it. To make a strop, 2 pieces of leather can be glued down to the wood block, smooth side up. Bark River Knife and Tool sells bars of stropping compound at a very reasonable price to finish off the job. The black compound is more coarse that the green.

Heat up the leather until it's warm to the touch and run the compound into the leather. I use a heat gun for more even heating. After I've applied the compound, I again heat the leather to work the compound in. Using the same technique as on the abrasive paper, strop the blade, several strokes on the black followed by the green.



Once you have the edge good and sharp, you really only need to strop it to keep it keen, saving the abrasive paper for when the edge is nicked or if you get it really dull.

There are many ways of seeing how sharp and even an edge is, one I use is slicing paper. The thinner the paper, the sharper the knife must be. Here's a couple of fine curls made by the NorthStar I sharpened for this article on some this white paper, after passing it around to ten or so people over a weekend to try it out, the edge was pretty rough. Now you can see that it makes some very fine curls in the paper.

It only takes a few seconds to get the edge back to hair popping if you get in the habit of stropping after a day's work.