Asymmetric Edges Video

Posted by KenSchwartz - 18 Mar 2012 00:53

I'm posting a video I did using a belt grinder. You may wonder why I'm posting this here. The reason is that it is directly relevant to sharpening on a WE.

Some people feel that sharpening asymmetric edges require having a different angle on each side. NOT so!

When sharpening asymmetric bevels on the WE, you can set the angle on both sides at the same angle and just abrade on one side more than the other. I hope this provokes some interesting discussion.

Ken

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Re: Asymmetric Edges Video

Posted by wickededge - 18 Mar 2012 09:53

KenSchwartz wrote:

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Ken

Right - asymmetric can me mean different amounts of metal removed from each side e.g. 7 strokes on one side for every three on the other and it can also mean different angles e.g. 15° on one side and 20° on the other. Both techniques are very easy on the Wicked Edge. I think the main value in an asymmetric knife grind is that it gives the user a little more precision by lessening the deflection on one side of the blade; the closer to a chisel grind you get, the straighter the cut can be.

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Re: Asymmetric Edges Video

Posted by leomitch - 18 Mar 2012 11:36

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wickededge wrote:

KenSchwartz wrote:

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Now here are some real nuggets of knowledge...one can learn something important about sharpening here any day now that we have the triumvirate of sharpening, Ken, Tom and Clay, on our forum. Thanks for sharing your wisdom guys!

Leo

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Re: Asymmetric Edges Video

Posted by KenSchwartz - 18 Mar 2012 15:14

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Clay / Leo

Thanks for the kind comments and warm reception. Clay, you stated a definition of asymmetry very accurately. You can have asymmetry determined by simply measuring the widths of the bevel on each side of the knife. If the bevel widths re equal this is 50/50. If it is 70/30, the ratio is 7 units long on one side to 3 units long on the other. This holds true if the two angles are 30 degrees or 15 or anything else.

You can also have angle asymmetry, even with equal length bevels.

And you can have BOTH subtypes of asymmetry at the same time.

As a precision device, the WE is rather unique in this regard in that you can accomplish this combined asymmetry of both angles and bevel widths with ease in a consistent and repeatable fashion.

You see blade asymmetry often on Japanese Kitchen knives. The knife ITSELF is asymmetric, biased to the right. This puts the edge a bit off of dead center relative to the spine. So if the edge gets centered, it is a bit offset from the knife's overall geometry. This causes the knife to steer or veer off to one side and you have difficulty cutting straight cuts. This is less noticable on thin items like green onions and very noticable on larger items like melons, where you get cuts in arcs rather than straight lines, or when cutting thin slices of cheese that you have trouble getting constant widths. The solution? Match the edge asymmetry with the blade's asymmetry so the force of the knife coming down is aligned with the knife.

In practice, unless you are VERY fanatic, you don't necessarily measure bevel widths with a calibrated graticule (OK, yea I've done that), but just 'eyeball' the relative bevel widths. This is much like getting a wheel alignment.

Here again the WE is particularly well suited because of it's repeatability. You set the WE up with the angles you want on each side, sharpen the knife and try it out. If it steers, you go back and grind some more on one side until you have trued the knife to perfection. Same angles. A perfect way to fine tune a knife precisely to your needs. Then refine the edge.

Ken

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Re: Asymmetric Edges Video

Posted by jendeindustries - 18 Mar 2012 19:11

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Good stuff, guys!

A lot of people have had trouble wrapping their heads around the whole concept of using the same angle on both sides of the knife to obtain asymmetry.

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Re: Asymmetric Edges Video

Posted by ThomasAscher - 06 Mar 2013 01:16

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Doing much research on the internet, this is one of the most muddled topics I've seen! Many conflicting, contradictory explanations regarding the value of asymmetrical edges as well as the proper means of sharpening. The discussion so far seems good in that as indicated, asymmetry can be achieved either by having the same angle on each side, but the edge displaced one way or another, or the same displacement with different angles on each side. The best rationale I've seen is that with a very thin blade, having most of the sharpening on one side you can achieve a very thin, fine-cutting edge without losing so much metal on the other side that it is easily chipped.

The idea of a knife inherently being asymmetrical doesn't seem to me to make much sense as you can order the same knife sharpened for either left or right-handed use.

I'd like to hear from people who have used a right-handed knife left-handed or right-handed or the reverse and know if they've actually experienced any difference in how it cuts.

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