uneven bevels?

Posted by Scott Sherman - 24 Oct 2012 12:32

I have noticed a weird phenomenon occur which seems to be a constant. When I mount a knife on the riser clamp in the PP2 and set the angle of the guide rods with the stones in place to say 18 or 20 or whatever angle I decide, the width of the bevel is wider on one side than the other. That is the width measured from the apex of the edge to the bottom of the shoulder of the bevel.

I know that the clamp only moves on one side which causes you to have to compensate and use the angle cube to determine the correct angle, however using the angle cube and very carefully checking both sides to be sure they are exactly the same, (say 18 degrees for example), it seems like the bevel should be exactly the same size on both. I can't seem to understand why this happens. I am not math wiz but it seems like they should be the same. Yet they are definitely not, even just by eyeballing them, without calipers, it is clearly different.

Any ideas? Is it human error or is there just a difference due to the riser clamp not being centered evenly between the rods?

Do you have the same experience or is it just me?

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Re: uneven bevels?

Posted by cbwx34 - 24 Oct 2012 12:49

I'll throw one or two options out there to look at. Many **many** knives come from the maker with bevels that look even, but the edge is actually offset to one side. So, when you put it on the WE, even though the angles are the same, the bevels now look uneven because the edge is not centered. (Precision sharpeners often show how imprecise blades are).

You can see this by looking straight down at the blade at the heel and tip area (it's often easier to see at the tip area looking at it from the spine side), to see if it's uneven.

You can correct this over time, by just doing a little more work on the smaller side until things even out.

It also depends on the blade. If it's a FFG, make sure that it's centered in the clamp, and not cocked off to one side. If it is, even though the angles measure the same on the rods with the angle gauge, they

won't be on the knife.

Also make sure you're working both sides approximately the same amount... sometimes when you raise a burr on one side, it's easier to raise it on the other with less work. You don't need to count strokes, just keep it in mind. If you're seeing the same "error" on different knives, this might be the reason.

Hope that helps!

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Re: uneven bevels?

Posted by KenBuzbee - 24 Oct 2012 13:02

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cbwx34 wrote:

If it's a FFG, make sure that it's centered in the clamp, and not cocked off to one side. If it is, even though the angles measure the same on the rods with the angle gauge, they won't be on the knife.

Without more input, this was my irst thought.

Ken

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Re: uneven bevels?

Posted by Scott Sherman - 24 Oct 2012 13:03

Thanks Curtis,

One observation. The bevel was definitely uneven as delivered. I used my 50-80 grit stones to re-profile the edge from about 22 to 18 degrees. I did not form a burr using the 50-80 or even the 100-200. I ground it until the rough grind marks at these grits were just short of the apex using a 200x microscope to monitor it. When I got to the 400-600, I started creating a burr.

If I understand what you are saying, should I have used the 50-80 grit stones to grind all the way to the apex and keep grinding until the apex actually moves over on the blade to even the bevels so the width from the apex to the shoulder edge is even?

This sort of makes sense. I thought (initially) that if I just used the same angle on the guide rods on both sides, the wider side would come into contact with the stones doing the grinding more than the narrower side until the narrower side became the same width as the wider side. Apparently this can only happen if the apex is moved over by forming a burr on the narrower side, (burr goes onto the wider side) and continuing to grind away until they are both the same. Is that right?

I was thinking that I could lower the shoulder on the narrower side but it sounds like you are saying it must come from the top down not the bottom up. Right?

I am pretty sure the knife is at 90 degrees in the vise.

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Re: uneven bevels?

Posted by cbwx34 - 24 Oct 2012 13:52

I wouldn't use the 50-80g stones to go to the very edge... they can really chip an edge out, which then has to be repaired. In fact, your method and attention to detail was great!!

Since you know the bevels are uneven, what I would do is, over time, just sharpen a "little extra" on the smaller side, until they equal out. I wouldn't worry about trying to correct it all at once.

I think Clay has a video that mentions this... I'll see if I can find it... or hopefully someone has the link.

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Re: uneven bevels?

Posted by Scott Sherman - 24 Oct 2012 13:56

Thanks again Curtis, very helpful and interesting and it is as always appreciated. This is one of those things that falls into the minutia category. Probably no one but me or another WE user would ever even notice. But since we are holding ourselves and our equipment to such high standards here I might as well go for the best result possible.

I didn't find that video either. If you do, and it is no bother to drop a link here, I would love to watch it.

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Re: uneven bevels?
Posted by cbwx34 - 24 Oct 2012 14:10

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I think it's this one...

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Re: uneven bevels?
Posted by Mikedoh - 24 Oct 2012 14:17

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Scott

Jdavis882 has some WE videos that may be helpful. I don't know that I take any sharpening tips/videos etc as gospel, or applying all the time, but they are often at least food for thought. I think it's a good idea not to apex the edge with a low grit stone as you stated.

If I remember correctly, it's advised to sharpen a partial degree at a time on the smaller side. Over repeated sharpening / dulling cycles, you eventually adjust so the bevels are the same. This way you don't waste metal.

Of course If OCD demands, well, you'll have equal bevels sooner.

Mike

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Re: uneven bevels?
Posted by Scott Sherman - 24 Oct 2012 14:25

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Thanks Mike, your right, videos are usually a great tool to learn, but frequently real world conditions will lead to variations and improvisation in what I do at home, but I still love to have them. I have never made a video and really appreciate all these guys who go to the trouble to learn how and actually go to the trouble to do it for us so we can learn from them. I honestly don't think WE would exist if it were not for Youtube. I only really became interested in this system as a result of watching the many great Youtube videos from Clay and others.

Yep, that answers it Curtis. I really thought that it was clever that he put marker ink on the opposite side to see when the bevel moved to where it should be. That Clay, is really brilliant. Great job finding that video. Might be a good one to put in the Wiki page.

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Re: uneven bevels?

Posted by babo - 24 Oct 2012 16:34

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I saw the same thing and it turned out I got one of the kits with a bad heat treatment and my vice jaws were actually bending. Hopefully that is not the case here.

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