Stropping pressure
Posted by cbwx34 - 14 Feb 2013 17:33

Ran across this video posted in another forum... thought it might spark a little conversation...

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What'd ya think???

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Re: Stropping pressure
Posted by cbwx34 - 16 Feb 2013 19:36

Glad you responded BluntCut... I didn't figure out the videos were yours until after I posted the first one. Hope you don't mind... found it interesting since pressure while stropping is often mentioned.

Thanks!

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Re: Stropping pressure
Posted by BluntCut - 17 Feb 2013 23:41

PhilipPasteur wrote:

Geocyclist wrote:

Nice video. This confirms my thoughts that if you strop often you are just straightening out the edge. Meaning it is not completely deformed. When it is deformed then you have to sharpen with stones.

I would go with that if you were using straight leather with no compound on it. When you add diamonds, you are removing metal. This means you are sharpening, at least to an extent. It also means that you are doing more than simply stra9ightening the edge, such as what you might do with a smooth steel hone. Of course, if the edge gets too bad, the stones are needed... unless want to strop for a very long time.

As to the video, he is showing the same thing. The edge was pretty bad to begin with. Adding pressure will make the compound cut faster. If you already have a refined edge, I think that it is not really required to add that much pressure. He could have done the same thing using more light strokes.

For instance, if you already have a screaming sharp edge that you ended a stone progression with the 10 K Chosera stone on (just under 2 microns), you really would not likely benefit mush from applying the kind of pressure illustrated in the video when you go to you one micron coated strops.

I suppose that if you are trying to remove 1K diamond scratches with 10 micron paste on leather, some additional pressure would shorten the process some, but would not really be requred, especially if edge refinement was all that you wanted.

Phil

I agreed, pressure controls the rate of metal being abrade from the bevel. Interestingly, pressure hardly induce rounding for this case. One of the major criteria/reason for demoing in this video. As I've repeated tries this strop vs diamond (16 micron to 0.1 micron). Starting around 12 micron the diamond loaded strop increase the rounding rate, reached maximum rate (per pressure against backing) around 6 micron. So 6um & finer abrasive it double my knife bevel angle - from around 30* inclusive to 60+* - proportional to the pressure. Corresponding to how much the backing flex upward. I observed the same for CrO & CBN at 0.5um.

W/o micrograph, I don't know how fine one can produce using this 'balanced / white compound strop'.

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Re: Stropping pressure

Posted by BluntCut - 18 Feb 2013 00:05

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leomitch wrote:

That is interesting. In my case, I always work my edges to near polished with the ceramic stones so I have a very refined edge. For this I use my 'brush as softly as a summer breeze' recommendation. A much less refined edge would benefit from pressure I guess when moving to use the pastes.

My edges have improved so much since I started using gentle strokes after raising the burr, that I never thought of using pressure again, let alone with the strops, until this video. Thanks for posting that.

Leo

Summer breeze pressure, sure, it lightly abrades the bevel & ultimately controlling/trying/hoping:

1. not too much to cause backing flex upward to round the edge

2. abrading force vector to actually push/deflect the apex upward, thus create burr or a micro hollow just below the apex.

3. of course, enough force to actually cause abrasion and or burnish (plastic flow)

See - good reason for me to look for something to supports my (and 99.99% of cutlery users) Summer sneeze zero patience self like fast metal removal (when wanted so) and not rounding to edge

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Re: Stropping pressure

Posted by PhilipPasteur - 18 Feb 2013 00:31

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[quote="BluntCut" post=9261

I agreed, pressure controls the rate of metal being abrade from the bevel. Interestingly, pressure hardly induce rounding for this case. One of the major criteria/reason for demoing in this video. As I've repeated tries this strop vs diamond (16 micron to 0.1 micron). Starting around 12 micron the diamond loaded strop increase the rounding rate, reached maximum rate (per pressure against backing) around 6 micron. So 6um & finer abrasive it double my knife bevel angle - from around 30* inclusive to 60+* - proportional to the pressure. Corresponding to how much the backing flex upward. I observed the same for CrO & CBN at 0.5um.

W/o micrograph, I don't know how fine one can produce using this 'balanced / white compound strop'.[/quote]

OK, I just would like to know how you determined these numbers:

- from around 30* inclusive to 60+*

How did you determine that the diamonds "rounded" the edge.

What exactly is the white compound that you are using. I have at least three different grades of compound that are all white.

Just trying to undersand your methodology.

I think that hand stropping expressly to remove metal is much different than finish stopping on the WEPS.

I will discuss further. It is late here now.

Phil

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Re: Stropping pressure

Posted by BluntCut - 18 Feb 2013 00:37

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PhilipPasteur wrote:

The Bluntcut videos are very interesting. I watched all four of them. In the second one he shows how to get an edge with more conventional stropping. That is all good. I now that this works! In the third and forth, he either flails on the knife, or uses lots of pressure (I have to believe that, if I did what he did...flailing away without looking, the results would not be at all pretty). Apparently it works at some level, at least to cut paper. We know nothing about durability or the ability to perform some of the other sharpness tests.

I've applied this strop to many knives at least a month prior to my BF post & videos. Edges are around 90% durable compared to my edge-lead to 0.1um poly diamond stone. And not as clean (burr free) as edge-lead. I can switch back & forth between 2 approach for an edge and still hitting the apex (either manual or EP), so sort of confirm not rounding affect. Also from the paper cutting test, the edge entry cut angle remained low instead elevated even at heavy pressure. Oh well, there is no secret with this strop, so it's very easy to try to figure out whether it: worked or sort-of or not.

I also think that the eplanation that he give about grit size protecting from rounding the edge sounds plausible, but I can't say I am buying it with what I know now. Too much time on bench strops that has given me results that simply do not support his ideas.

I really don't know my conjecture holds water or it's just a simple grasp a 'sound good' reason for why my edges not not look like a bunch of parabolas. I actually have another more far-out explanation but figured that my kevlar vest has poor coverage

I sure hope people try & tell me why - better than me flailing my arms theory/conjecture.

Then you have people like Cliff Stamp out there that insist that stropping is counterproductive and weakens the edge. He also insists that if you have a genuinely great edge after using stones, nothing you can do with a strop will make it better, only worse.

I am not quite buying that either.

I agreed with you Phil. However there are many variables involve when we are talking about this type of stropping interaction. Hence with a right setup, you can get a perfect-storm to weaken the edge, but the norm for abrasive collides to steel in stropping (pushing away from apex) will has a slight chance of stretching/crack the steel/alloy lattice, which are undetectable or visible, until fracure when in use. In the larger scheme of thing, impact forces from cutting usually many magnitudes greater than a few moleculars weakening. I can see where edge-trail belt sharpening could crack/stretch at grain level, whereby this edge will perform poorly.

In the mean time, I am not sure how what he is doing relates much to the WEPS. At least, nothing I saw is going to make me rethink my techniques using the WEPS. I have never used 8 pounds of force while stropping, and really don't think I want to start.

IF it works, maybe it can simplify WEPS strop configuration & enhance its effectiveness. Easy route of stropping success for WEPS's users.

BTW, I use bench strops regularly with from 10 microns down to 0.25 micron abrasives. Nothing I have been able to detect leads me to believe that the edge of the edge is going from 15 to 30 degrees per side after using these strops. I can't see a burr at 400X, nor can I feel anything that seems like a burr. When I am done, I can definitely push cut phone book paper against the grain and tree top arm hair. I would like to know how he got the measurements to justify his claims.

Take a spyderco vg-10 or zdp-189 blade, strop with CrO 0.5um or 1um diamond at 0.5 lbs pressure. Oh do it for a few minute, I am sure you will get a wire-edge. To guarantee occurence, lower the angle to 20* inclusive. At this angle, I thinkg it's about 3x more difficult to get a clean edge without burr/wire/rounding.

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Re: Stropping pressure

Posted by BluntCut - 18 Feb 2013 00:48

PhilipPasteur wrote:

How did you determine that the diamonds "rounded" the edge.

Fresh sharpened an edge with dmt benchstone all way to 3um, measured angle with caliper. Rubbed on diamond charged strop, measured angle with caliper (iffy read) and use sharpie marker + loupe edge-lead on dmt EE.

What exactly is the white compound that you are using. I have at least three different grades of compound that are all white.

I used/tried

1st - bulk white compound (probably alox) ferrous/stainless-steel rated at 1.2K grit. $5 per lbs.

2nd - Razor Sharp white compound (for slotted paper wheel), as I read - it's around 15um. $8 per 3oz.

I think that hand stropping expressly to remove metal is much different than finish stopping on the WEPS. Sharp is sharp

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Re: Stropping pressure
Posted by wickededge - 18 Feb 2013 10:35

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An easy way to test for edge rounding with the Wicked Edge is to use a marker and magnification. Here's an example: sharpen at a specified degree, then strop. Color in the bevel with a marker. Make a few, very light passes with the stone at the original sharpening angle. Examine under magnification. If there is still marker, only on the edge, then there has been some rounding. Another option is to get some samples made that show the cross section of the bevels i.e. bar stock cut in 1" or 2" lengths and then sharpened on the long edge. The cross section cuts would need to be very clean and surface ground very flat in order to observe any rounding.

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Re: Stropping pressure
Posted by mark76 - 18 Feb 2013 11:11

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wickededge wrote:

An easy way to test for edge rounding with the Wicked Edge is to use a marker and magnification. Here's an example: sharpen at a specified degree, then strop. Color in the bevel with a marker. Make a few, very light passes with the stone at the original sharpening angle. Examine under magnification. If there is still marker, only on the edge, then there has been some rounding.

Smart thinking! Not that I'd expect anything else from you of course , but I'm gonna try this.

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Re: Stropping pressure
Posted by PhilipPasteur - 18 Feb 2013 15:34

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wickededge wrote:

An easy way to test for edge rounding with the Wicked Edge is to use a marker and magnification. Here's an example: sharpen at a specified degree, then strop. Color in the bevel with a marker. Make a few, very light passes with the stone at the original sharpening angle. Examine under magnification. If there is still marker, only on the edge, then there has been some rounding. ...

Or there is a micro bevel.

Phil

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Re: Stropping pressure
Posted by wickededge - 18 Feb 2013 16:33

PhilipPasteur wrote:

Or there is a micro bevel.

Phil

Yes, or that

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