# Stock stone/strop progression (Lots of Pics!!)

Posted by razoredgeknives - 20 Feb 2012 19:36

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Hey guys, quick question... I can't seem to find any info to this effect... when going through the process of sharpening a straight razor I have found that the jump between the 1k stock diamond to the 14m pasted strops is too large... after 500 strokes per side w/ the 14m strop it has not removed any of the scratches. Which leads me to my question, what is the logical progression if I am sticking with all stock stones/strops (i.e. no chosera/shapton stones)? I just ordered the 1200/1600 ceramic stones as an "in-between" before I go to the 14m strops. Any suggestions or should I be good?

According to the grit chart in the sticky, it would actually be a step back going from the 1k to the 14m pasted strop (as the 1k is supposed to be 7m).

Thanks for your help!

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** Updated **

I compiled this as a reference for those of you who are interested in the progression photos but not all the discussion in between. I left my original OP above so you can see the problem I was having.

**Tom's series** (pg. 1 - scroll down)

Tom from Jende industries does a series of photos trying to re-create the problem I was having (which he does successfully). In this series he jumps between the 1k stock diamond stones to the 14m WE pasted strops. H**e found that the jump between the 1k stock diamond stones to the 14m strops is too large of a leap.** After 600-800 passes/side, and after adjusting the angle to where he was only hitting the very edge of the edge w/ the strops, he finally made some progress.

**Clay's Series** (pg. 2-6)

Pg. 3 – Clay does a series of photos going from the 10k chosera stones polishing all the way down to

.125m on CBN strops (final photo post # 2025). Pg. 4 - After having a nice mirror polish on the edge, he backs out to the 3.5m pasted strops to check out the scratch pattern left by that paste, and then goes even further out to the 5m pasted strops, which were really effective. On Pg. 6 Clay goes to the following progression: 10>14>10>5>3.5>1>.5>.25>1 microns. He did this while changing directions with each different grit so you could really see what each grit is doing… This was an excellent series!

**Clay's Series** (pg. 7-9)

Here clay conducts an edge progression with all stock stones on Aus 8 steel, starting with 100 grit and going all the way up. He actually re-starts the progression in post #2059 (pg. 14 after taking a little detour (i.e. jumping straight from the 600 grit stock to the 14m paste). He re-starts it with the 600 grit and, on Pg. 9, goes up through the stock ceramics (1200/1600) and then jumps to the 14m pasted strops from there. He goes all the way down to the 3.5m pasted strops. This does seem like much softer steel then we are used to, however (keep this in mind).

**Another one of Clay's series** (different thread) - You can check out this other thread started by Mark76 , in which Clay shows photos of an edge at 510x while playing around with lapping films, strops, and paste vs. spray. Excellent info! See what happens to your edge w/ each subsequent grit!

**Stone Comparison** (pg. 11) – new stones vs. broke in stones

A picture (by Holymolar) similar to **Clay's microscope setup** on how to consistently recapture the same exact spot on an edge when sharpening ( Pg. 14 , post # 2185).

**My Serie**s =) ( pg. 16 , post # 2409) – I progressed up from the 5k/10k choseras all the way to .5m Hand American sprayed leather strops. I post my observations here.

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# Re: Stock stone/strop progression
Posted by razoredgeknives - 01 Apr 2012 23:24

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**wickededge wrote:**

I can't see your pictures, but love the write up. A next study step would be to go from the 1000 grit to plain leather w/ no compound to examine the burnishing effect. That way you could tell how much of what you're seeing is the abrasive and how much is the substrate. My theory is that the burnishing effect of the leather is significant and is greatly improved by the added 'stiction' that the paste provides. Ideally, it would great to test an abrasive free paste on the leather. That sounds like a very fun experiment. I think the reason the diamonds are making such little scratches is two-fold - 1) The diamonds press equally into the leather as they do to the metal so you're not getting a full value scratch 2) The numbers of diamonds on the strop may be significantly less than those on the stones.

This is the exact reason why I am interested in the lapping film... it seems a lot of work (i.e. time) to get down to the sub micron level when you are truly erasing all the scratch pattern from the prior grit. It seems like the lapping film would work better because it would be grit on a hard backing.... although this is just a theory. =) I would love to see some edge results with them down the the .1m size like Ken has. You should compare those vs. leather, Clay, to see which is most efficient and effective =).

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## Re: Stock stone/strop progression

Posted by razoredgeknives - 01 Apr 2012 23:43

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Ok, so check it out... I got the photos of my straight razor edge uploaded and captioned properly (at the bottom of each photo). They were done w/ the Dino Lite (230x), sorry they're not super great quality. For the sake of saving space on this thread, I have put them into a slide-show format on picasa web albums for you to view... I have put photo numbers at the beginning of each caption in parentheses for your critique =)

My observations are as follows:

1. It is a perfect transition to go from the 1600 ceramics to the 5k/10k choseras. You then need to go to the 3.5m pasted strops in order to effectively remove the scratches from the 10k.

2. When you re-strop your paddles w/ a new leather, make sure you account for differences in thickness of leather... this threw me off quite considerably. I re-stropped my 5/3.5m paddles w/ leather that is almost 1/4" thick. This is a huge difference from the 1/16-1/8th" thick stock WE leather. So when I transitioned from my thicker leathered strops (3m) to the thinner WE leather strops (1m) I was getting all the scratches out but not realizing it since I was only hitting the very edge of the edge w/ the thinner strops (since it changed my angle.)

3. The .5m Hand American spray seems to create larger scratches than the 1m Hand american spray,

and not as consistant (for some reason... I shook the bottle before I used it, its weird) - your thoughts on this please? I may be wrong...

Anyway, I got it to pass the HHT on the entire edge, although I was only a quarter inch from the edge when holding the hair. Haven't shaved w/ it yet, probably will tomorrow =). I only polished it down to .5 microns since I had spent all day on this project lol. Those choseras are sure sweet though!!! I'm loving them!

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## Re: Stock stone/strop progression
Posted by wickededge - 02 Apr 2012 07:51

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Great looking series - it looks very much like the results I got on the other post about stone progressions, very similar especially in playing around between 3.5 microns and .5 microns.

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## Re: Stock stone/strop progression
Posted by razoredgeknives - 02 Apr 2012 10:54

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Clay, I updated the OP w/ page references for those that just want a quick run down.

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## Re: Stock stone/strop progression
Posted by razoredgeknives - 02 Apr 2012 10:55

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yeah they do look very similar! It just seems like, to me, the .5 is leaving much deeper scratches than any of the others. And it is almost a "dual" scratch pattern... really weird!

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## Re: Stock stone/strop progression
Posted by mark76 - 02 Apr 2012 11:32

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Great pictures, Josh! They really show the power of the use of a microscope.

What I still find difficult while making these photographs is the lighting. I used the automatic lighting from my (Veho) microscope. It has got two levels, medium and high, and depending on the external lighting conditions I pick one. But, like in your pictures, a very smooth edge sometimes shows up almost

completely white and sometimes quite dark.

What is worse, depending on the lighting, I may completely miss certain types of scratches. I have made photographs in which after 100 stropping strokes the edge seemed very smooth, whereas after 250 strokes a lot of scratches in a particular direction appeared. I first thought I had contaminated the strops, but closer examination of other photographs revealed that the scratches were there already after 100 strokes, but did not show up on the pictures. (I also wondered whether this was due to the deeper scratches getting revealed as the bevel gets more polished, an effect that Tom has described, but that seemed unlikely, since it were the more shallow scratches.)

How do you deal with these lighting issues, Josh? Also interested in the way you get your pictures so consistent, Clay. I already read that you photograph the edges while the knife is lying on a piece of white paper. Do you use the lighting from the microscope, Clay, or an external source of light?

The .5m Hand American spray seems to create larger scratches than the 1m Hand american spray, and not as consistant (for some reason... I shook the bottle before I used it, its weird) - your thoughts on this please?

When I look at the edge, I see that the (supposedly) .5 micron scratches are present not in a completely regular pattern. Also, the spaces between them are relatively large. I would not be surprised if this were contamination. (Contamination really is an issue at these micron sizes. I managed to get scratches on an edge using blank leather and blank balsa strops I had just removed from their plastic packaging.) What you could do is repeat the exercise with a new set of strops loaded with the .5 micron spray. If you see the same pattern, it could be the spray. If you don't, it is likely contamination.

Clay also got some unexpected results below 1 micron. I guess the only way to find out is to do more experiments.

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## Re: Stock stone/strop progression

Posted by wickededge - 02 Apr 2012 12:44

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Yes, more experiments! I'm doing some today too on the difference between lapping film, leather and balsa strops.

For lighting, I just use the lights of the scope itself and I rotate the scope until I get the lighting angle desired and then keep it there for the entire series. I do the photography with the knife blade flat on a piece of photo paper onto which I've traced the outline of the blade so I can get it back in the same way

every time.

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# Re: Stock stone/strop progression

Posted by razoredgeknives - 02 Apr 2012 13:23

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**mark76 wrote:**

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What I still find difficult while making these photographs is the lighting. I used the automatic lighting from my (Veho) microscope. It has got two levels, medium and high, and depending on the external lighting conditions I pick one. But, like in your pictures, a very smooth edge sometimes shows up almost completely white and sometimes quite dark.

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Well, to answer your question, I have found that there are two main light views (as seen in my pictures) and I utilize both to my advantage (as one will show things the other will not). For me, it is just a matter of how I hold the microscope. I also have found that I don't like to put it right on the edge due to it damaging the very edge (when I'm down to about 11-12*/side it will do this against hard plastic).

That is a good observation on the contamination... I may try that. I really need to order more strop paste soon as well,  lol.... I'm getting low. I will probably reface all my strops with top grain cow hide leather and start fresh.

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## Re: Stock stone/strop progression

Posted by razoredgeknives - 02 Apr 2012 13:28

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**wickededge wrote:**

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I do the same as far as the scope, Clay. When I was doing the razor, I actually found that, to alternate sweeping directions, I would actually rotate the entire WE system around so that the "point" of the razor was pointing at me... that way I could be sweeping away the entire time. It sped things up considerably. I would then rotate the base back around to take photos so that way you can see the alternating direction easier (otherwise it would get quite confusing).

Clay, what I would REALLY like to see is some experiments on the lapping film and also the nanocloth or the kangaroo leather that Ken had mentioned. I know you have the settup and the materials, so if you get time, I'm sure we would all love that! (but I also know your busy too... just whenever you get time, I'm putting in a request now lol).

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# Re: Stock stone/strop progression

Posted by wickededge - 02 Apr 2012 14:22

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**razoredgeknives wrote:**

**wickededge wrote:**

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I'm building up to this though am waiting for the crew to get a break to mount them. In the meantime, doing more comparative studies with the things I already have made up.

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