Linkage play--your technique for consistency?

Posted by dgriff - 25 Feb 2012 14:28

Not mentioned much, if ever, is the effect of axial arm/paddle play and linkage play on the angle. Using the Angle Cube one can see fully a 1.5° angle change on my WEPS depending on how one holds the paddle.

The variation is the sum of the paddle and linkage play when you push the paddle in or pull the paddle out at the bottom. I think the best method is to push in, because it takes less effort, and if you relax your concentration, your hands will naturally fall inward.

When I want to check the nominal angle symmetry during setup--knife edge centered--I let the paddle drop all the way down so the link snuggles into the paddle's concave recess. This becomes my nominal angle, but likely not the exact angle depending on how I handle the handle.... 🙂

How do others *handle* this? (no pun intended)

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Re: Linkage play--your technique for consistency?

Posted by Jet B - 26 Mar 2012 11:41

I guess my other option would be to try and find machine screws of the same diameter with washers and a lock nut so I don't have to tap threads in? That might be a simpler option if I can find the stuff.

I'm guessing it's just the washers that take out that linkage slop?

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Re: Linkage play--your technique for consistency?

Posted by wickededge - 26 Mar 2012 12:23

Jet B wrote:

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I'm guessing it's just the washers that take out that linkage slop?

Compressing the joint works well at taking out slop, so the nut/screw combo will have a decent effect on its own. It's even better if you have the washer.

I found the washers on DrillSpot:

DrillSpot

11103084

0.125"ID x 0.25"OD x 0.01"Thick White PTFE Flat Washer, Pack of 50

SKU: 1287009

For my next purchase, I'll try a little harder to find a brass or other metal washer. The PTFE washers are difficult to work with.

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Re: Linkage play--your technique for consistency?

Posted by Jet B - 26 Mar 2012 12:57

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I'm going to go look for some today... I'm hoping a hardware store will have stuff that small. Those are pretty thin washers.

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Re: Linkage play--your technique for consistency?

Posted by Jet B - 26 Mar 2012 18:08

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wickededge wrote:

Jet B wrote:

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No luck finding washers that thin. The smallest brass washers made for machine screws are too thick. Drillspot doesn't ship to Canada. I might drive into Calgary tomorrow and see what I can find. If I don't have any luck, I will probably end up sending the arms down to you guys after all.

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Re: Linkage play--your technique for consistency?

Posted by razoredgeknives - 26 Mar 2012 18:22

I think that the subway straw idea is the best yet!!! I'm gonna have to make a special trip there tonight now lol

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Re: Linkage play--your technique for consistency?

Posted by PhilipPasteur - 26 Mar 2012 21:53

Go to Subway if you want to do this.

I tried about 5 different convenience stores and three differnt fast food places.

I threw away gallons of softdrinks...

I went to subway and could duplicate the results that Holymolar got...

Works like a champ. If they wear out, I know just where to go for replacement parts.

Phil

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Re: Linkage play--your technique for consistency?

Posted by PhilipPasteur - 26 Mar 2012 22:03

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I think that your knife is not clamped in straight. If you have errors due to linkage slack it will not be that consistent as to make one bevel visually different. I have had the same results myself. It has always been with blades that I had to use some cluge to get clamped in firmly. I have tried different materials for doing this, I haven't found anything yet that avoids the problem. The angle cube is pretty useless for verifying this. If the blade soen't have enough of a flat for the clamp to grab and center on, there is no reference surface for the cube.

Anyone have suggestions for getting around this??

The only other thing that I can figure that could cause the different bevel size is something that Ken was talking about. If you grind more on one side than the other when you are getting your initial burr you move the edge to one side of the center line of the blade. I have had that happen, but I try to correct it befor proceeding. This has happened to me with blades that I had no question about them being centered in the clamp... After you set the initial bevel, or so it seems to me, and you sharpen with an equal number of strokes and pressure.. it is hard for me to think that you would offset the bevel enough to be visually apparent... especially when being aware and trying to take the slack out of the arms on each stroke.

Phil

BTW, at this point there is no good reason for not fixing the joints on your arms. It should help consistency. It will not fix a blade that is not centered in the clamp or overgrinding one side for the initial burr!

[quote="Jet B" post=2248]I... Most of the time, I think I'm dealing with the linkage slack okay but there have been times when I seem to be hitting the edge at a slightly off angle on one side so the mod might help me some. I always thought that my knife wasn't clamped straight, but it makes more sense that one hand wasn't holding the stone right while sharpening.

quote]

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Re: Linkage play--your technique for consistency?
Posted by CrimsonTideShooter - 27 Mar 2012 18:47

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Couldn't you just use the knife handle as a flat to measure with the cube?

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Re: Linkage play--your technique for consistency?
Posted by CrimsonTideShooter - 27 Mar 2012 18:49

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Just for the record, the left side of the blade always seems to have a slightly lower angle than the right. It's been that way on every single knife I've done, despite me making sure it's within 1 degree of being centered using an angle cube.

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Re: Linkage play--your technique for consistency?
Posted by wickededge - 27 Mar 2012 20:31

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CrimsonTideShooter wrote:

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So to be clear, if you set both sides to 20 degrees and place the angle cube on the stone after zeroing it on the base, you get different readings even though you've verified that the knife itself is vertical? If that's the case, we have some troubleshooting to do...

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