Does your angle cube reading match your W.E ?

Posted by craigpender - 27 Dec 2011 19:39

Hello,

I am a newbie and I am finding that to get a 20 degree setting verified by my angle cube my Wicked edge must be set to 19 degrees on one side and 21 on the other. What do you see on yours? Is this normal?

Thanks

Craig

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Re: Does your angle cube reading match your W.E ?

Posted by BloodHound - 27 Dec 2011 20:27

Is this for every knife you put on the system, or just one specific one? Also, are they all the same kind of grind oe different kinds? Remember that fully flat ground blades need something tho keep them centered based on the geometry of the blade versus the WEPS system.

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Re: Does your angle cube reading match your W.E ?

Posted by craigpender - 28 Dec 2011 05:02

I had the same result on my first 4 knives. One was a big buck survival knife. The other 3 were thin H&K steak knives.

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Re: Does your angle cube reading match your W.E ?

Posted by leomitch - 28 Dec 2011 06:48

When I first got my angle cube, I agonized over the differences I found in the readings too but then I stopped worrying...

There are bound to be differences in readings in even the most precise mechanical rig. When you stop to think about it here are some causes of differences:

...operator error due to eyesight level and lighting when adjusting the angle setting on each side.

...variations in the dimple drilling on the angle adjustment bar

...variations in the screw face that fits into the stop dimples on each side

...slight variation in setup of the angle adjustment bar on each rig

...+/- errors in the reading from one cube to another, I believe there is a half a degree error allowance expected in individual angle cubes

...variation caused by the geometry of the each blade

And the list goes on and on. Now think about a master free hand sharpener. The person has been sharpening for many years and cranks out super sharp knife blades each and every time. People using his knives are amazed by his abilities, yet if you were to measure his angles with a very precise scientific device, what would you find...probably far greater variance than you would find if he had used the WEPS or any fine clamping device and I suspect the WEPS would be right at the top of the most accurate devices.

The question really is what is the effect of the variations in settings? How sharp is sharp?

With my rig with all its adjustments set as accurately as I can, I know I am off from time to time one half to three quarters of a degree at best, but having said that, my knives are almost ethereal in their keenness. I never cease to be amazed at how well my rig sharpens. From time to time when I have gotten really fanatical about accuracy, I have even flipped/reversed the angle arms so that any inaccuracies caused by the dimples are obviated. In order to keep the screws from slipping, I use Purple Loctite to hold the screws firmly locked. With that way of setting up I seem to find the knives slightly sharper, but then I have no way of knowing how much sharper with accuracy or even if the edges are really any sharper at all.

In the end I end up with the sharpest edges I have ever had...sharper than I have ever found using all the various devices I have tried over 60 years or so. My need for edge keenness of a high order has been satisfied by the WEPS. In the real world of slicing and dicing things, I am a very happy camper.

That is my two cents worth.

Cheers

Leo

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Re: Does your angle cube reading match your W.E ?

Posted by edhead35 - 28 Dec 2011 09:09

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A couple more points.

1. The height of the blade changes the length of the adjacent side of the triangle (Pythagorean triangle), therefore it changes the angle depending on blade height.

2. The size of the holes that mount the square bar with the angle marks will change the angle some. The holes have to be big enough in clearance to accept the cap screws that go through it to the bottom of the vise jaw. This slop in the hole will change the angle, so I make sure when screwing the angle marked bar into the vise, that I center the rod on the screw hole pattern before I tighten them.

There is really no way to make a guided system 100% perfect. On the WEPS you have a set of variables, and on other systems you have their set of variables. That is why we use the angle cube, turn the guide rods around to the non dimpled side, and measure each side individually. If you see some gross difference like, 3 degrees or something, I would send the unit back for a warranty issue, but Clay has a tolerance he puts his units through in QC before shipment, and I can't see anyone rejecting a unit because of 1 degree of difference.I remember seeing a picture of Wicked Edge putting a Bar in the vise like a knife would be mounted and checking the angle marks for accuracy. During this process there is probably a limit where Clay would have the units rejected.

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Re: Does your angle cube reading match your W.E ?

Posted by dgriff - 28 Dec 2011 12:17

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May as well chime in.

You will note that as you extend a stone along the guide rod that there is slop in the pivots. As measured with my AC, there is a 1° delta when I apply pressure inward and outward to the bottom of a stone while extended as if you were sharpening. So how much variation is there in your stroke as you do the bicycle motion?

To get a sense of absolute precision once you have tried to align or mitigate variables, lay the bare rod against the empty, closed jaws of the vise and measure the angles. Don't forget to remove the pivot slop by picking a method (push in, pull out). You can see just how closely each degree change on the bar equals a degree change on the AC. Now add stones to see how much difference they make (lay tape over the jaw to prevent marring). Once you see how well the angle mark changes of 1 degree agree with the AC changes then you can be assured that it must be something else causing angle disagreement in practice.

The jaws do not move symetrically. Put a nice slim steak knife in and measure an angle from the right, then put a big fat clever in there. The right jaw will be closer to the angle marks than before. Enough to measure a difference between same settings? What this means is that the edges on different width blades will not be in the same vertical plane even if they were exactly the same height above the base. Going with that Pythagorean theorem thing, then, even if the adjacent side was constant the side opposite will be shorter on the right, and longer on the left.

Here is a question for those in the know--did they offset the fixed jaw, or did they offset the angle marks on the left side of the bar or the mounting holes? Is this a variable that, mixed in on average with all the others won't amount to a hill of beans? (Not a good metaphore these days--a hill of beans is likely quite expensive and would matter greatly to Juan Valdez...).

So, I think the gist of the thing is this: Identify variables and try to mitigate their influence. What can't be eliminated may be measured and accounted for--a little Kentucky windage, so to speak--or found to be negligable and ignored. By far and away the biggest factor is the hamfisted operators--you and me and most of the rest--that are our own worst enemies.

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Re: Does your angle cube reading match your W.E ?

Posted by craigpender - 28 Dec 2011 17:14

Thanks for the replies. I geuss the answer in a nut shell is do not go by the degrees indicated on the bar just use the AC to verify your angle and set it there. say 20 degrees for each side.

Of course there will be factors that kepp it from being perfect but at least you are at the same angle when you start.

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Re: Does your angle cube reading match your W.E ?

Posted by edhead35 - 28 Dec 2011 17:15

I think the magic of the WEPS or any guided system is consistency. Set it up the same way, every time, and use the same technique, same pressure, same method, and you will get crazy sharp tools. You might be a little off on true angle, but without a CNC jig grinder, you will not achieve perfection, and even with CNC equipment, you are still fighting physics, and the fact that nothing is perfect, even perfection.

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Re: Does your angle cube reading match your W.E ?

Posted by CAWalter - 05 Jan 2012 23:00

I find the left to right to be spot on, but if and only if the base is level to the angle finder. If the base is sitting off 1 degree, you will see two degrees difference at a setting that may well be balanced.

CAW

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Re: Does your angle cube reading match your W.E ?

Posted by dgriff - 06 Jan 2012 03:13

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CAWalter wrote:

I find the left to right to be spot on, but if and only if the base is level to the angle finder. If the base is sitting off 1 degree, you will see two degrees difference at a setting that may well be balanced.

CAWWhich is why you would use the "Zero" function on the angle cube to remove the offset. Both sides will now read correct angles relative to the base.

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