



My guess is that most knife users wish that they would never need to sharpen a knife. On the other hand, I would also guess that many knife *enthusiasts* like to sharpen, for akin to Indiana Jones, they are in quest of that elusive “ultimate edge.” Personally, I like to sharpen. I also wonder how many knife users who say they don't like to sharpen would change their mind if they were more successful at sharpening. Perhaps this chapter will help.

Actually, sharpening is a relatively complex issue. There are a great many types of sharpening “systems” and even more opinions on which system is best. My plan is to acquaint you with the general issues involved in sharpening *as I see them*, along with many of the more prominent sharpening systems, including using no system at all (called *freehand sharpening*).

Of course, one alternative to sharpening your own knives is to simply send them back to the manufacturer or to a local knife shop for sharpening. Many knife manufacturers offer free lifetime sharpening. Of course, whether or not that service is *really* free is open to debate.

If that is your preference, then your sharpening problems are solved, although this approach does have its own set of problems. First, you will need to carefully package and ship your knife or at least schlep it to the knife store. Second, you will be without the knife for at least a day and possibly a week or so. Third, if the service is not free, you will need to pay for it *every time* your knife needs sharpening. Fourth, it is very unlikely that for the few dollars you are willing to pay to have a knife sharpened (or for the free service), the sharpener is going to spend one to two hours fine tuning your blade! Put another way, you can get *far better results* if you do it yourself.

Frankly, if I could not sharpen my own knives, I would think twice about even using my knives.



So You're Happy With The Factory Edge?

Most non-custom knives come with a factory edge that is, shall we say, less than ideally sharp. Actually, I have noticed quite a variation in the sharpness of knives right out of the box and I have been surprised that some \$40 knives are far sharper out of the box than some \$200 knives. Nevertheless, I have never seen a factory edge that approached the sharpness that one can get with a proper sharpening.

To illustrate, Figure 73 shows a micrograph that I took of a brand new \$200 knife. The even, perfectly perpendicular (to the cutting edge) scratch pattern on the bevel are characteristic of a belt sharpener and you can see a few small imperfections in the apex. Still, the knife did cut modestly well.

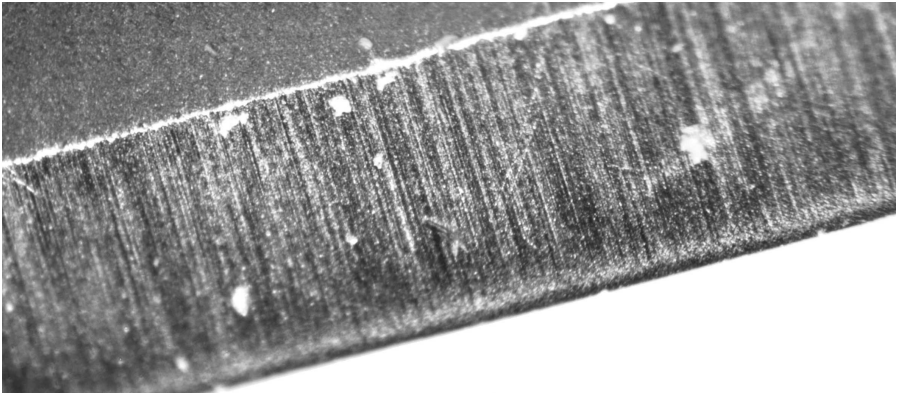


Figure 73: A factory edge

On the other hand, Figure 74 shows the bevel after I sharpened the knife. In this case, I used a KME sharpener, starting with a coarse diamond stone and working through to a strop endowed with an ultra-fine diamond emulsion. I probably don't need to tell you that the cutting performance improved immensely.

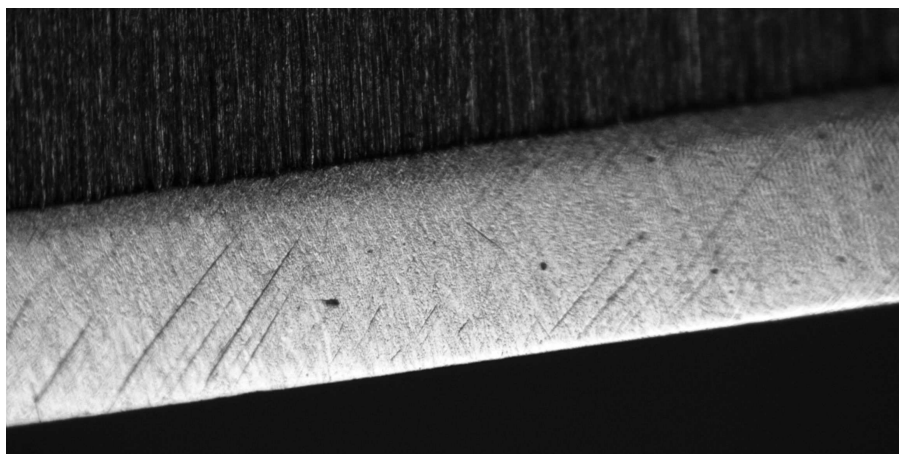


Figure 74: The bevel after hand sharpening



Types of Sharpening Methods

I group sharpening methods into three categories.



Freehand Sharpening

By **freehand sharpening**, I mean holding the knife in your hand and rubbing the cutting bevel back and forth against a stationary abrasive medium, such as a ceramic or diamond stone. Alternatively, the knife can be fixed in a clamp and the stone can be rubbed over the blade. This approach is not nearly as common, but I have found it to be very helpful in certain situations. I often use it, for example, to sharpen my hatchets. For an axe, it is even more convenient.

Let me be very clear at the outset—*freehand sharpening takes a lot of practice and can be quite frustrating at the beginning*. However, I will have a suggestion for you that may ease the learning curve.

In order to do freehand sharpening, you will need an abrasive **stone set** consisting of somewhere between two (better: three) and six stones of varying levels of abrasiveness. As I will discuss later, there are various options here. Figure 75 shows a set of Shapton glass ceramic stones, viewed from the back side of the stones. (The front is pure white.) Figure 76 shows a coarse DMT diamond stone.



Figure 75: A Shapton Glass Stone[®] set (back view)



Figure 76: A coarse DMT diamond stone

The trick in freehand sharpening is to maintain a *consistent sharpening angle*, that is, the angle between the cutting bevel and the sharpening stone, a subject I will discuss in some detail later. You should also take care to maintain a consistent bevel thickness along the entire cutting edge and to sharpen both sides of the cutting edge as equally as possible.

Assisted Sharpening Systems

By an **assisted sharpening system**, I mean a sharpening system that uses a jig or guide of some kind that helps (or forces) you to maintain a consistent sharpening angle. I will discuss three such systems: the Edge Pro, the Wicked Edge and the KME.

Motorized Sharpening Systems

By a **motorized sharpening system**, I mean a sharpening system that uses a motor to move the sharpening medium, whether or not it has a guide for helping to maintain a consistent angle. Examples are the Tormek (a large but *very slow* moving abrasive wheel) and the Work Sharp (a small, variable speed belt sander). I will discuss the

Work Sharp but not the Tormek because I do not believe that it is the best choice for sharpening small folding knives.

Incidentally, I would *never* take a knife to a high-speed grinder, although I know some people who do. I use a high-speed grinder to sharpen my lathe turning tools and I know from experience that a grinder can chew up or overheat a knife *very quickly indeed*. High speed grinders rotate dry at around 3000 rpm; the Tormek rotates at 90 rpm through a water bath!



Sharpening Is Very Personal

Possibly the only thing I can say with absolute certainty about sharpening is that it is a *highly personal* process. For every reasonable approach to sharpening, there are probably many people who would say that this is the best approach. I think that there is currently no one best approach. Each has its advantages and disadvantages, like most things in life.

Over the past 30 years, I have used a variety of abrasives, including

- Oil stones
- Japanese waterstones
- Shapton Glass Stones
- Naniwa Chosera stones
- Edge Pro ceramic stones
- Spyderco ceramic stones
- DMT and Atoma Diamond stones

I have also used a variety of assisted and motorized sharpening systems, such as the Edge Pro, KME, Work Sharp and Wicked Edge (and the Tormek).

While I regard my role in this book as primarily providing *information* so that you can make your own decisions, I will still offer you my opinions here and there, for whatever they are worth. If your opinions differ from mine on matters for which you have some experience (a distinct possibility), *please do not be offended*. I acknowledge that my opinion is only that—*an opinion*.



Sharpening Frustration

Sharpening, even with an assisted or motorized system but especially freehand is definitely a *skill* and as such, it takes time to learn.

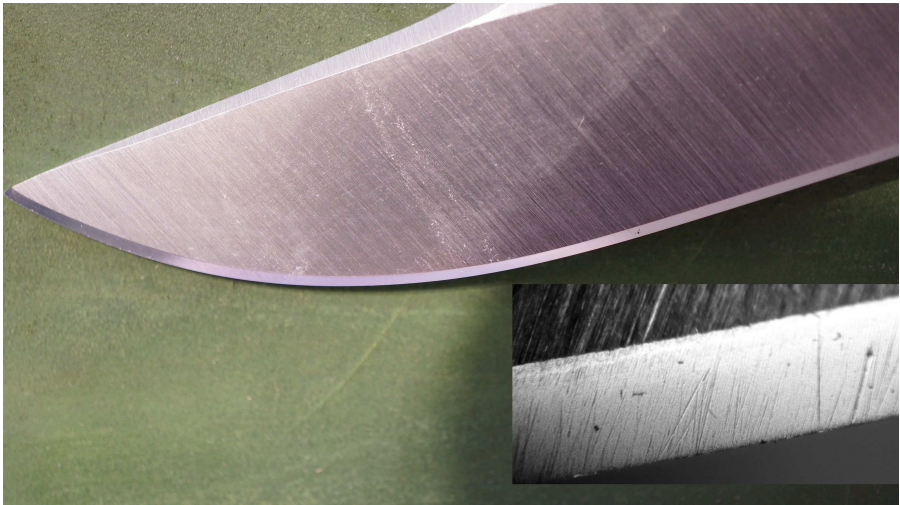


Figure 77: A sharpened bevel with an even, mirror polish

In general, your goal is to produce an even, mirror-polished bevel, like the one shown in Figure 77. The micrograph insertion shows that it is difficult to remove *all* of the scratches in the bevel. I spent about 30 minutes sharpening this knife. I could have removed more scratches by spending more time sharpening, but there is clearly a diminishing return here. This bevel is past razor sharp and I can see the individual hairs of my beard in its reflection. That is enough for me.

I often think back some 30 years ago when I tried to sharpen my first plane blade using oil stones and a small jig for holding the blade. The result was supposed to be a blade that would take beautiful, fine shavings on the order of a thousandth of an inch from a piece of wood. Instead, all I got was some ugly wood dust—and not even much of that!

It took me some time to finally get a passable edge on a plane blade and a lot more time to get a professional edge. It will probably take you some time as well. If you get any satisfaction from the process of sharpening, stick with it. Try not to get too discouraged. Who knows, soon you may be hiring yourself out for a few extra bucks as a knife sharpener! At the very least, you will become more popular with your friends and neighbors.

One thing I would strongly urge is that before spending any money on a particular sharpening system, you watch as many YouTube sharpening videos as you can stand. All you need to do is search for the name of the system or stone, for example, you can search for “freehand sharpening”, “Wicked Edge” or “Chosera stones”. You

should also watch any videos from the companies that make the systems. (These are usually posted on YouTube as well.) This is the best way to see these systems in action, something I cannot provide to you in this book. In this way, at least you may be able to eliminate some systems from your short list.



Practical Versus Theoretical Sharpening

I think it is important to divide sharpening into two camps, which I will call **practical sharpening** and **theoretical sharpening**.

In practical sharpening, all we want to do is get an edge that is sharp enough (or perhaps a little more) to do what we need it to do for as long as possible. We do not care if the knife could be a lot sharper, because we realize that the sharper the knife is, the shorter it will remain that sharp. Also, we do not care if the bevel is so highly polished that we can distinguish every individual hair on our faces in the reflection! For us, sharpening is a practical necessity, not a luxury.

In theoretical sharpening, we are in quest of that **ultimate edge** and any cost. We do not care if a single swipe through a piece of cardboard will ruin that edge. Moreover, we definitely want to see each of those hairs in the bevel! Of course, there is plenty of room for compromise within the theoretical camp, but we are not in the mood to accept compromise.

I suspect that 95% or more of knife users couldn't care less about theoretical sharpening!

I also suspect that those of us who are interested in getting that ultimate edge want to do so only on a few of our knives, because we realize that such an edge is fleeting. After all, just because we have a theoretical interest in the ultimate edge does not mean that we have lost our common sense. We still buy knives to cut up cardboard boxes, Manila rope, twist ties and so on. For these knives, an ultimate edge would last for exactly one cut into the first box!

In the upcoming discussion, I am going to address myself to both practical and theoretical sharpening. For the most part, practical sharpening and theoretical sharpening use the same equipment and the same methods. The main exception is that a practical sharpener will not use the ultra-fine abrasives designed to approximate that ultimate edge. But the sharpening *techniques* are the same.

It is also important to keep in mind that you can approach even practical sharpening at various levels of involvement. If you feel that you have better things to do than sharpen blades, you can simply invest in a single sharpening system and a strop and