GRIZZLY BROADHEADS – and the ‘Tanto Point’

By C. Lacey

This workshop/pictorial concentrates on sharpening one particular two-blade head – the single bevelled El Grande Grizzly – however any two blade broadhead of your preference will achieve better results by using the Tanto point demonstrated here.

This point design will give you an extremely strong, true cut-on-impact tip for your broadhead. The design was inspired by the tip shape of Tanto knives – if you were able to place two of these knives side by side so that the point of each butted up to the other, you would have the basic design we will be aiming to achieve here. A good website where you can see and read more on these particular knives is http://www.coldsteel.com/fixed-blades-tanto-series.html

One aspect of Dr. Ashby’s latest study is that of Broadhead and Tip design. Keeping samples of each broadhead in their original design, he has also set up each of the broadheads with changed points.

Seven different styles were tried in his most recent testing: Needle, Tanto, Round, Chisel, Arch, Concave and Flat. At this stage the results show ‘Tanto’ as 1st, ‘Round’ is 2nd while ‘Arch’ and ‘Chisel’ are vying for 3rd.

Data has already been collected from a huge number of set-up shots where bone (Scapula as well as rib bone) was hit. When using the same bow/arrow/broadhead combination for each group of tests, the Tanto point gave all the two blade broadheads currently being used in this study much improved penetration.

Note: these results are just from the section of testing where broadheads encountered the hard scapula and rib bones of our Asian Buffalo. How much better will they perform on the lighter animals? Dr. Ashby should have a study update for publication by our January 2006 edition but for now, this workshop will allow you to try out this tip design for yourself.

What you’re aiming to achieve:

The Factory bevel on the El Grande Grizzly is set at 40 degrees on one side, with zero degrees on the flat side. This gives an edge ‘thickness’ the same as a double bevelled blade sharpened at 20 degrees on both sides.

The finished El Grande Grizzly shown in this article is spot-on at 25 degrees on the bevel side. This gives a very thin, very sharp edge thickness equalling a double bevelled blade sharpened at 12 ½ degrees on each side. A 12.5 degree double bevel is hard to accomplish without filing the ferrule away.

Changing (or setting) the Bevel is the most important part of this process and will require some effort to become proficient. For the photo spread I used the ‘Razor Edge
Broadhead Sharpener’ however we also use a Low Speed belt grinder (available from most hardware suppliers) suitable for knives and chisels, which simply attaches to your regular grinder. This tool makes the bevel setting process much easier and quicker, but it does take some practice to use correctly.

- If using the grinder attachment, it is very important to not overheat the steel as this will change the temper of the steel, giving you an inferior end result. Keep a bucket of water handy to cool the steel at very short, regular intervals.

- Don’t forget to use the appropriate safety gear when using these tools – and be sure that no one stands in front of the sharpener.

**Setting the Bevel**

Note the angle I’m working at here. If you’re new to sharpening and don’t quite understand these ‘angles’, the 25 degree that I’m working on in the photos is an angle that brings you VERY CLOSE to the ferrule (sometimes I end up taking a little of the coating off it’s that close!).

- Do watch that you don’t actually cut into the ferrule, especially if using the grinder attachment.

Go slow to begin with until you learn to recognise the feel of the bevel angle. After that, you just need to keep it on that angle. Work at this until a wire edge forms along the entire edge length – this takes around 75 strokes per side when using the rasp shown in photos. While the rasp is SLOW, it is much easier to see and control the angle.
Removing Most the Wire Edge

Once you’ve been working on the bevel side for awhile, feel the flat side. If you’re doing the job correctly, you should feel a slight roll of wire (burring) on the opposite side of where you were working.

- This should be felt ALL ALONG the edge. If there is a section where there is no burr (or less wire than the rest of the edge), this means you haven’t kept a consistent pressure along the total length of the edge. Just go back to the bevel side paying attention to that area.

- Once you’re confident that you’ve set the bevel, go from side to side using very light pressure until most of the wire edge/burr is removed.

- This side is to be FLAT with the edge of the sharpener – no angle at all.

Setting the Tip Bevel

Now we need to reform the point to make the Tanto tip. To do this you need to:

- Bevel the tip on the side OPPOSITE each of the edge bevels, in order to form a full cut-on-impact tip.
• We move to a much blunter angle for this job – closer to 40 degrees, however now you just have to drag it straight down the Sharpener.

**Sharpening the Bevel**

Once the Bevel has been set the hard work is finished. Now you just need to get it shaving sharp. I moved to a Medium Grit Diamond Steel for the next stage as shown in this photo. Again, keep a constant watch on the angle. Check the flat side from time to time, looking for evidence that you’re keeping an even pressure all along the surface – there won’t be as much wire but it will be there.

Once you’re satisfied that you’ve gained a sharp edge on the bevel sides, move onto the flat sides.

**Sharpening Flat side of Bevel**

Keeping the broadhead TOTALLY FLAT and level with the stone, apply very light pressure to drag the broadhead along the edge of the stone.
Sharpening the Tip

Return to a 40 degree angle for this and, using very light pressure drag the broadhead toward you as shown.

Honing the Bevel, Flat side and Tip on Fine Stone
The process continues as before but using an Extra Fine India Stone or equivalent. Start with the Bevel side, smooth off the Flat side and then on again to the tip. Chances are, long before you’ve reached this stage you’ll be thinking this broadhead is sharper than usual.

**Stropping.**
A scrap piece of leather will suffice for this job. Jeweller’s rouge is most commonly used to dress the leather and it is readily available. For this article, J-B Bore Compound was worked into the leather. Next, mineral turpentine was applied to the Bore Compound working it further into the leather. Lastly some softened bee’s wax, thinned with turpentine was applied and worked in also.

Start stropping the bevel sides first, than continue on to the flat sides of each bevel. Once you’re done with the edges, you need to strop the two ‘tip’ bevels. Alternating sides of the tip, make an “X” pattern as you strop.

- Always strop AWAY FROM THE EDGE. Stropping with the edge toward you will simply make the broadhead cut into the leather.

- Don’t ‘over-strop’. It should only take a dozen strokes or so to remove any microscopic burrs remaining on the edge.

If you’ve done the job correctly, the blade’s edge should be sharp enough to cut completely through a rubber band long before it passes across the band. It should be this sharp even before final stropping.

Okay, time to test your efforts.
Preparing to test the finished edge.

SLIGHTLY stretch a rubber band between your fingers (work over a bench for safety). Hold the arrow by the nock end only – you only want the weight of the arrow itself resting on the band. Begin to slide the blade across the rubber band.

Success

Note the distance moved before the band was severed. You’ll cut through the band well within the first half of the edge.

The Finished Broadhead
This shows you the El Grande as it comes from the factory (top) as compared with the same head I sharpened for this workshop.

I have come to respect the ‘hard yakka’ quality of the 190 gr El Grande Grizzly. It certainly does the job expected of it even when human error – or animal movement – causes a shoulder bone to be hit. Another advantage is that even if my shaft should break, I know that broadhead will be fine to reattach to a new shaft – and with only a slight touch up in order to bring it back to shaving sharp.

However, regardless of just which broadhead you prefer, I hope this workshop will assist you in sharpening your broadheads and brings you ever more success in the field.

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