

Sharpening 3 Blade Broadheads

As with sharpening anything, from knives to single or double bevel broadheads to lawnmower blades or woodworking tools, there are some people who can get it done with their eyes closed and others who struggle to get even mediocre results. 3 blade broadheads are no exception. There are many people who just can't get the finished level of sharpness on a 3 blade head that they really want (and need). At the same time, other people can't understand what the big deal is...I mean after all, when sharpening a 3 blade broadhead you just lay the head on a file or stone and push or pull it along for a few minutes... The angle is pre-set so we don't even have to think about that. It's about as easy as it gets...Heck, the dang thing just about sharpens itself right?

Well, not so fast there... There are a few details that we need to understand before we even start. Once again, it's not co-ordination or physical ability that has the greatest influence on the outcome, it's *knowledge*. We must have a thorough understanding of exactly what it is that we're trying to accomplish at each stage of the process. We also need to be able to recognize the signs which indicate that we've accomplished the goal of a particular stage or step in the sharpening process so that we don't make mistakes like advancing to step 2 before completing step one. Again, it's knowing and fully understanding the "how and why" of sharpening anything that heavily stacks the odds of success in our favor, 'cause if we don't fully understand what we're trying to do, chances are we're not gonna be able to get it done.

The procedure for sharpening a 3 blade broadhead is similar to the procedure for sharpening anything – raise a burr and then remove it. We do have a couple of curves thrown in when sharpening 3 blade broadheads though because we're always sharpening two blades at the same time.

Alright, if you have trouble getting 3 blade broadheads hair plowing sharp, here's a "how to" that sheds some light on where mistakes are commonly made and hopefully will leave you needing some Rogain for your arms.

As with all sharpening, the very first steps are the most critical. 90% of sharpening anything is accomplished at the very beginning stages using a file or the coarsest stone you can get. For 3 blade heads, no matter the brand, I always start with a file to flatten the blades or "break them down" as they say. I like very aggressive files like an 8 or 9 TPI radius tooth body file. These are very aggressive and save a lot of time. If you don't have a body file, a large (12"-14") double cut or even single cut file will work, just not quite as quickly. We'll also need a coarse India stone, a med/fine India stone, and a hard Arkansas to finish up with...oh yea, and a piece of cardboard.

Before we get started, I have to stress one point. That is that throughout the entire sharpening process from start to finish **the downward pressure we're applying to the broadhead is measured in ounces not pounds**. Pushing too hard will cause the blades to flex and that's the most common cause of all broadhead sharpening failure. Got that?... Don't push down!

Step one- Flattening the blades and raising the burrs:

The first thing we need to do is color the factory bevels with a magic marker so we can actually see what's happening to the blades as we progress. After you've colored the bevels and the ink has dried, hold the broadhead quite a bit off center closer to the tip

end. The tips of 3 blade broadheads can be difficult to get sharp and often require more attention than the rear of the blades. Holding the broadhead near the tip rather than in the dead center will help to get uniform bevels from tip to heel and insure that the blades are wicked sharp all the way to the tip.



This forward grip also helps in preventing the rear of the blades from flexing as we file or sharpen the broadhead. Now, using **VERY LIGHT PRESSURE**, drag the broadhead backward along the file for 3 or 4 passes on one set of blades. Then have a look at the blades, you'll see that the ink is gone from some areas and still on the blades in other



places. It's very likely that you'll have removed more ink/metal from the blade that was below your thumb than from the blade that was below your finger. This is because the knuckle of the thumb is probably locked when sharpening whereas the knuckle of the

finger is not. This results in more pressure being unintentionally applied to the blade under the thumb than the blade under the finger(s). To counter this, I use my index and middle fingers on one side and intentionally push a little harder with the fingers than with the thumb.

Continue to lightly work the first set of blades on the file till all the ink is gone from both blades. It shouldn't take long, although some brands will require more work to flatten than others. When you're certain that all the ink is completely gone from the entire length of the first set of blades, rotate the head and repeat the process on the other 2 sets of blades. When all 3 sides have been flattened and "trued", you may see tiny burrs beginning to form along the edges of the blades which is just what we want to see.



Keep going but now use even lighter pressure, rotating the head frequently until you can see or feel a continuous burr running along the entire length of each blade. Using a file will raise the burrs in short order and we have to get the burrs developed at this first stage. At and near the tip of the broadhead the burrs can be harder to detect, you may not be able to see the burr but, you should be able to feel it. It will have a very coarse feel and if it's there it will snag or slightly catch when lightly brushed across a piece of cotton fabric like a tee-shirt.

When you're sure you have burrs running continuously from tip to heel on all three blades, do 5-10 more passes per side over the file with very light pressure, rotating the head between each pass. This is critical. We're almost done with the file now and when doing these last finishing strokes, use just the weight of your hand and arm without *any* downward muscle exertion. At this point the head should feel sharp. Maybe not razor sharp but sharp none the less. When you get to this point, it's basically all over but the shouting. This broadhead will be plowing hair in about 3 more minutes.

Now to the stones. Start with your coarsest stone and using the same light pressure you used when finishing on the file or even less, just slide the head forwards and backwards, back and forth on the stone very lightly for about 20 seconds on one side, then rotate the broadhead and do the same thing on the other 2 sides. The same thing can be

accomplished using individual forward or backward strokes but it will take much longer to achieve the same goal, here's why:

Remember what we said about understanding what we're trying to accomplish? Well at this point we've set the bevels and raised the burrs with the file and now we're only polishing and refining the cutting edge that we created with the file. So if we're polishing (and we are) let's save some time and get this done. What we're actually doing at this point is polishing out the file scratches and bringing the bevels and cutting edge to a more refined level of finish, just like sanding a piece of wood only on a microscopic level.



So give each set of blades about 20 seconds of back and forth "polishing" on the coarse stone. This should be adequate to remove all the scratches and imperfections left by the file which we must do before we can move on to the "sharpening" stage. Now to actually sharpen the blades, we need to make a few finishing passes on the coarse stone. This is where it's important to go in one direction only. Some people will tell you to lightly drag the head backwards over the stone, others will tell you to push the broadhead forward. Personally, I use forward strokes to sharpen but this is only personal preference. I don't think there's a right or wrong way. Try both and see which works best for you.

Now push (or pull) the broadhead along the stone in one direction, lifting the broadhead at the end of each pass, and count your strokes. Everyone has their own "count". Some will go 50 or more per set of blades, then 10 then 5 etc. That's too much work for me. My count is 7, 3, 1. In other words, after polishing, I do seven forward passes on one set of blades, then rotate the head and do the same seven again on each of the other 2 sets of blades. Then I'll drop to sets of 3 strokes followed by the critical 1,1,1. No matter what count you choose to use, it must end in a series of single passes rotating the broadhead between each pass. These final 1 pass rotate, 1 pass rotate, 1 pass rotate strokes are done *extremely lightly*. Try to even counter the weight of your hand so that the broadhead is barely touching the stone. At this point I may do 15 strokes total, rotating the head each pass.



The broadhead should be very sharp at this point. It will still be a coarse feeling sharp though because we've only used a coarse stone so far. Now all we need to do is to repeat the same process on a medium grit stone and then do all it again on the hard Arkansas. In print it may sound time consuming but it's a fairly quick process. After the initial file work you'll only need to spend about 1 minute or less on each stone in succession. When you repeat the process on the finer grits you continue to refine the cutting edge further and further as you go through finer and finer grit stones. Remember there are two distinct steps used with each stone- polishing and sharpening. Be sure to use both steps on each stone.

The final WOW! step... After you have your broadhead as sharp as you think you can possibly get it, get a large piece of plain 'ol brown corrugated cardboard, lay it on your bench and stop the head by dragging it backward (stopping must be done backwards) using a 7, 3, 1,1,1,1,1,1,1,1 count. You just won't believe what a piece of plain brown cardboard can do for an already blazing sharp broadhead.

It's been said that a 3 blade can never be made as sharp as a 2 blade head can...Bologna! A honed and stropped 3 blade should be able to fluff clumps of hair off your arm effortlessly using a straight plow motion in any direction, and there aren't many quivers of 2 blade heads out there that can do that.

Ron Swartz
KME Sharpeners