

Despite what some claim, a quality, well-engineered fixed-blade broadhead is the most reliable piece of equipment you can place at the front of your arrow. With proper shot placement on the animal, the chances for this style of broadhead to fail are nearly impossible. Unlike a mechanical head, it's engineered first for strength, giving it an unfailing ability to cut through hide, bone and vital tissue. This will likely produce full broadhead penetration through an animal's chest and an entrance and exit hole for blood to spew out of easily. The result is a quick and humane kill, easy blood trailing and prompt recovery.

However, fixed-blade broadheads have one huge downside. They offer lots of blade surface, which can cause severe accuracy problems when bow and arrow tuning are even somewhat

FIXED-BLADE COMPROMISE

neglected. Also, with each passing year, bow equipment becomes more efficient, resulting in greater arrow energy and speed. This has only pronounced the problem even further.

THE SOLUTION, OR IS IT?

Recognizing this dilemma, broadhead manufacturers have come out with several different styles of ultra-compact fixed-blade heads that minimize overall blade surface to the smallest degree. As a result, they are incredibly aerodynamic. Now we have

fixed heads that are very streamlined and deadly accurate, even when arrow speeds go beyond 280 fps.

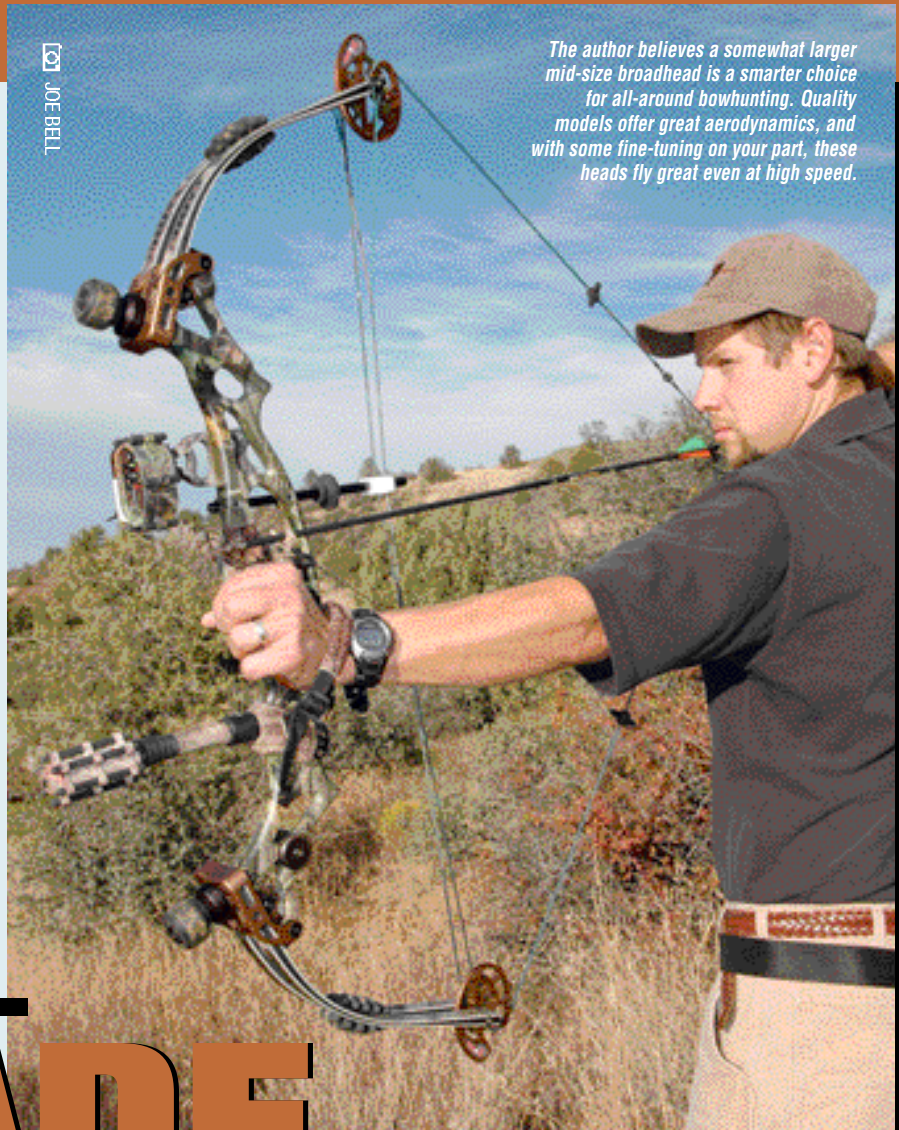
Problem solved, right? Personally, I beg to differ somewhat. The purpose behind a broadhead is to cut massive amounts of tissue—the more the better—and to do this effectively it must maintain a certain amount of blade-cutting surface. When broadhead blades become so small that they barely measure 3/4-inch in length and cutting widths shrink to 1-inch or less, or when ultra-short blades are mounted at a

severe angle to achieve wider cutting ability, a broadhead's ability to perform in a devastating manner degrades severely, especially with marginal hits or sharp-shot angles. In archery, there is simply no free lunch. You can eliminate one trade-off, but an equal and opposite trade-off will suddenly exist in its place.

A GOOD COMPROMISE

Often, when it comes to archery-hunting equipment issues, it's usually wise not to go too extreme one way or the other. Arrow weight is the perfect

JOE BELL



The author believes a somewhat larger mid-size broadhead is a smarter choice for all-around bowhunting. Quality models offer great aerodynamics, and with some fine-tuning on your part, these heads fly great even at high speed.

HERE'S WHY YOU SHOULD BE SHOOTING A LARGER FIXED-BLADE BROADHEAD. By Joe Bell

example. Though great for penetration, too heavy of an arrow ruins trajectory, making it difficult to hit animals at unknown distances. A very light arrow, of course, flies fast and flat, but it doesn't retain the bow's energy well, resulting in poor penetration on game, or possibly even deflection, as the arrow strikes. Also, a light arrow flies with little stability in cross winds—a serious downside for western deer hunters. The perfect answer for nearly all bow-hunting is a medium-weight shaft. You get the best of both worlds.

I think this middle-of-the-road approach applies to fixed-blade broadhead selection too. Too small a head produces a skimpy wound channel, whereas a monster-sized, wide-cutting fixed head is the kiss of death when pushed more than 240 fps, no matter how much dedication you put into tuning arrow flight. Big heads simply don't go with modern, high-energy equipment. My personal solution has been to choose fixed-blade models lying somewhere in between these two categories.

HEAD SPECIFICATIONS

For devastating wound channels I like broadheads that offer about 3 inches or more of well-honed cutting surface. These same heads also come with fairly wide cutting widths. Broadheads vary too much in design to

label what's a legitimate cutting width in one category or another. I will say this, though, heads with 1-inch cuts are a marginal choice unless they sport 4 or more blades. And usually, such heads are the best choice when arrow speeds run in excess of 280 fps. Otherwise, a slightly wider-cutting head will almost always produce a better wound channel and "nick" more arteries for more blood flow and faster kills. Cutting width measuring about 1 1/4-inch across is my upper limit, since any larger of a cut tends to introduce planing with modern arrow speeds.

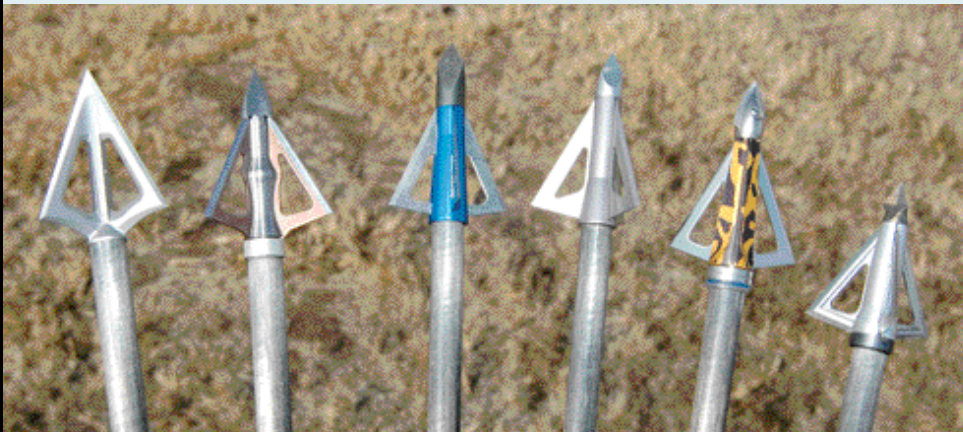
To my amazement, many bow-hunters and broadhead designers seem to disregard the importance of broadhead cutting surface, saying as long as a broadhead cuts a big hole, there's no loss in efficiency. This thinking has spawned a whole new generation of broadheads—compact heads with wider cutting widths. Yet, raw cutting surface remains the same.

I don't agree with this perception. To better understand my thinking, let's analyze the course of a broadhead as it's shot into a deer's chest. First, it passes through hair, hide, exterior meat and, most likely, rib-bone—layers that work to effectively dull a blade's edge. Then it makes its way through vital tissue, which is slick and somewhat rubbery in nature, but contains various blood vessels. Only a really sharp edge will

cleanly snip these tiny cylinders of blood. Also, if nothing less than a sharp instrument bisects lung tissue, then the chance of what's known as localized blunt trauma from occurring goes up, which has to do with dull blades cutting tissue that eventually swell and seal up, producing no blood flow or a lung with a hole in it. "The more blade area you have the harder it is to get the broadhead through an animal," said Bob Mizek, director of engineering for New ArcheryProducts.

"Blade area involves all blade surface areas, including the sides of the blades as well. This allows compact broadheads to penetrate exceedingly well—perhaps better than mid-size offerings. But if you're going to use a short head, it had better be sharp—and I mean sharp from start to finish—otherwise killing effectiveness can suffer," said Mizek. "Broadheads with longer cutting edges, even when slightly dulled, will cause more damage. Considering all this, a mid-size broadhead like the Thunderhead 100 or slightly smaller Thunderhead XP is perhaps a safer all-around bet. Generally speaking, manufacturers are better able to design mid-size heads and build them using high-quality materials. Also, most importantly, with these heads there's enough length to the blades to divide up the work so the job is done more effectively."

In case you don't know, a broadhead



Though hard to define, the author places any broadhead with about 3 inches or more of honed cutting surface into the mid-size fixed-blade category. Examples of such heads are (from left) the G5 Montec 100, Rocky Mountain TI-100, Muzzy 100 4-Blade, Innerloc 100, New Archery Products Thunderhead 100 XP, and Grim Reaper Hades. NAP's Bob Mizek suggests examining the broadhead's blades after a hunt. "If they're still sharp and undamaged, buy them again the next year. If they're dull and rolled over, they quit doing their job before they passed through the animal. Try another brand next year."

can only kill in two ways: through massive hemorrhaging (vast amounts of bleeding), or what is known as asphyxiation, where the animal quickly suffocates due to the deflating of the lungs. A dull broadhead won't cause massive amounts of bleeding, and it won't create a gaping, non-sealing hole in a deer's lungs. If either of these critical outcomes does not occur, there's a great chance the deer will either live long enough to escape you or death entirely!

Simply put, the more cutting surface a broadhead has, the less chance it has at becoming dull by the time it reaches the deer's vitals. This greatly increases its killing ability. As you can see, raw cutting surface is very, very important.

SUPER TUNING IS REQUIRED

Now that we've identified the killing ability of mid-size heads, let's jump into the part you're curious about—how to get them to fly well at high speed.

Paper Tune: The first thing to do is paper-tune the arrow's flight. Get yourself a copy of Easton's "Tuning & Maintenance Guide" by going to www.easton.com, and clicking on the "Downloads" tab. It walks you through paper tuning step-by-step. With a release-aid setup, accept nothing less than a perfect "bullet hole" in paper. I strip the vanes off my paper-tuning arrows and dab the point with a red ink pen. A clean hole nearly the diameter of the shaft outlined in red is what I'm looking for. With a fingers release I strive for about a 1/2-inch horizontal tear with



Mike Slinkard, a pro-level shooter, top hunter and owner of Winner's Choice Bowstrings, won't trust his hard-earned shots to nothing less than an ultra-strong fixed-blade broadhead. He arrowed this Wyoming mule deer using a Tight Point Shuttle T-Lock 100 broadhead, Gold Tip Pro Hunter arrow, and a Ross bow.

this red mark square in the middle.

I double-check fletching clearance by shooting a regular, vaned shaft following this. This time a perfect "star" rip, outlining the footprint of three clean vane tears, is what I'm looking for. Any odd tears mean fletching contact is occurring somewhere along the arrow shelf or rest arm. Spray the back of the arrow with Desenex foot powder to identify contact points. (A fingers-release arrow will produce a slight tear.)

Arrow Spine: Proper arrow spine is crucial for good broadhead flight and penetration. Always err on the side of too stiff a spine rather than too weak. "Arrow spine selection is critical to getting your broadheads to fly like your field points," said Mizek. "I like and use the program from Archer's Advantage. This easy-to-use program covers all the popular brands, models and sizes. It's found at www.archersadvantage.com."

Align Broadheads: This is the critical part. A broadhead must spin absolutely true when attached to the arrow—there can't be any wobble along

the ferrule, or the front of the arrow or insert base. A slight deviation in the tip area is probably okay, but I still like to choose heads with ultra-straight bodies—from the very base to the top of the tip—for the best possible aerodynamics.

To check alignment, buy a Pine Ridge arrow spinner and look for any wobble as the arrow and broadhead rotate in fast revolutions. Few broadheads spin perfectly with just any shaft. This occurs due to imprecise inserts or insert installation. You might have to try mounting several different broadheads onto different shafts until you get it right. With aluminum or ACC type arrows, heating and twisting inserts (when hot-melt glue is used) or switching out inserts can solve this problem as well.

With carbon arrows, the only real alternative is to use G5's ASD tool to create a perfectly flush face on the arrow's insert or the arrow's tip (in the case of Easton's or Beman's HIT-style arrows). This tool is a big time saver and maximizes the performance of every carbon arrow on hand. If arrow wobble continues, then save that shaft and possibly the broadhead for occasional plinking, nothing else. (Note: It's important to use only the highest quality arrow shafts, inserts and arrow nocks when using mid-size broadheads. Otherwise, top accuracy cannot be achieved.)

Mike Slinkard, a pro-level archer, bowhunter and owner of Winner's Choice Custom Bowstrings, takes

The ASD tool from G5 Outdoors will allow you to achieve better broadhead alignment, since it creates a truer, flatter surface on the arrow's insert or tip.



broadhead alignment very seriously. He says that without it he can't achieve the kind of field-point-like accuracy he requires. "I have an old aluminum arrow straightener that I added a bearing setup to that will except the point of my broadhead," said Slinkard. "The indicator gauge is set on the arrow insert. With this tool I can align all my broadheads to the shaft with a degree of accuracy of 1/1000 of an inch. This step really helps to tighten my arrow groups and my hunting heads hit right along with my field points. Most of my hunting bows shoot arrows around 280 fps," said Slinkard. "I have had a few that shot over 300 fps as well. Again, perfect head alignment is what will make or break accuracy especially at heightened arrow speed. One of the most accurate hunting bows I have ever owned shot my hunting

from perfect arrow flight."

Aligning Blades with Fletching:

According to Bob Mizek, it's waste of time and was only important during the old days when risers were not cutout generously for broadheads.

Make Sure Heads are Tight: Mizek also suggests to always screw the broadhead down tight with a broadhead wrench. "Loose heads play hell with penetration and can actually unscrew on impact. I've seen it done!"

GO TO THE RANGE

Experiment: It's always wise to dabble with a few different broadhead models, and possibly even arrow shaft brands and even fletching types. Also, if you often hunt in somewhat breezy conditions, shoot when the wind blows with different components and see which combination drifts the least

into improved accuracy. I have shot conventional vanes as well, and prefer 5-inch versions. Back when I shot Thunderheads, I used 5-inch right helical Arizona vanes. Today, however, I prefer Bohning Blazer vanes with slightly shorter heads."

Shoot at Long-Range: According to Slinkard, shooting broadheads at long range will identify slight imperfections in your gear. "I shoot every arrow/broadhead combination at 70 yards," said Slinkard. "If the arrow will not hit within a 6-inch spot at this distance (after I am happy with my bow's tune) I will rotate or change the arrow nock. If that doesn't help, that arrow will not be with me on a big-game hunt. Most of the time you can tune inaccuracy out of a particular arrow, but not always."

Currently, Slinkard shoots a Tight Point Shuttle T-Lock 100 broadhead, though he's also very fond of the Rocky Mountain Ti-100, which he has used for many years with exceptional results. "Both of these heads are ultra straight and I can shoot them in the same hole as my field points all the way out to 80 yards."

Truly, what proper broadhead selection boils down to is what will get the job done—not sometimes, but every time. It is my belief that nothing will get it done with the consistency of a high-quality mid-size fixed-blade broadhead. Don't be tempted into using ultra-stubby broadheads for your big-game hunting. Yes, they fly great, but they don't always work effectively, particularly if the blades aren't made out of the highest-grade steel and honed to perfection. You should at least give larger heads a try. With a little attention to detail and the use of quality equipment, including top-end arrow shafts and components, you can have your mid-size fixed heads drilling the eyes out of your foam target. I'm telling you, when it comes down to crunch time and a giant buck is giving you that once-in-a-lifetime opportunity, you'll be glad you went this route. ◀◀

Not only does he dislike them from a penetration standpoint, but Mike Slinkard also doesn't see the reason to shoot mechanicals. Once he fine-tunes his setup, he achieves field-point-like accuracy with his fixed-blade heads. He routinely shoots 3-inch-size arrow groups at 50 yards using Tight Point T-Lock 100 or Rocky Mountain Ti-100 broadheads. He's big on blade sharpness too, and often leather-hones each blade, regardless of brand.



arrows at 304 fps. My only problem with that bow was a short brace height that I had arm clearance problems with when wearing heavy clothing.

"I want my broadheads to group nearly as well as my field points. This type of accuracy sometimes takes many hours of tuning to the bow and rest to obtain, but the end result is absolute optimum accuracy and confidence when faced with a difficult shot. Also, this assures that the arrow is impacting the animal with the maximum power that only comes

amount. That's what you'll want to use when the hunt is on.

For example, I notice that with some heads standard 4-inch vanes or New Archer's QuikSpin 4-inch vanes produce better groups compared to smaller, compact fletching I often use with release-aid gear.

Also, it's a good idea to put your fletching on using maximum helical. "I think all vanes need to be fletched with a hard helical for hunting," said Slinkard. "This gives the arrow more spin and greater stability. This translates