





6 ACCURACY TWEAKS

Looking to boost your shooting consistency? If so, try these setup tips and watch your arrows begin to stack.

By Joe Bell

Consistent bowhunting success comes down to many things, but your ability to place the arrow properly while under pressure is absolutely paramount. This is why you owe it to yourself and the game you hunt to shoot the most accurate bow setup you can, so you can be filled with confidence each time you shoot. Doing so will pay great dividends during the moment of truth.

In my experience, accuracy is something you “mold” into your setup. Sure, high-quality bows and accessories will make top shooting proficiency easier to achieve, but even the very best products must be dialed-in to compliment your shooting style, arrow/broadhead combination, and add-on components, in order to achieve optimum performance.

In this article, I will point out six things you can do to make your bow shoot sweeter all around.

#1

TUNE ARROW FLIGHT

Unlike target bows and arrows, a hunting setup must be paper tuned



This 70-yard group was shot using a QAD Ultra Rest Pro, testament to its accuracy potential.

precisely for top results, otherwise any amount of blade surface area from the broadhead (fixed or mechanical) will steer the arrow haphazardly and force it off target.

To avoid this, shoot arrows through paper to determine your arrows' flight path. The process is simple and doesn't take much time. All you need is a large picture frame with newspaper stretched tight on all sides. Stand it up and shoot two or three different arrows through it from about 6 feet away.

Flight discrepancies are easily identified by the arrow's footprint in the paper. Fix any nock high or low tears first by adjusting ~~your~~ the arrow's nock height (move down for nock-high tears, up for nock-low tears). Then adjust the arrow rest for left or right tears. When doing so, always make super-small adjustments—about 1/32 inch—at a time.

The goal with paper tuning is to achieve a clean “star” rip—one with a neat bullet-hole in the middle with un-ragged slits laced open by the vanes. This level of tuning is usually good enough, but you can take it one step further by experimenting with an unfletched arrow. Tuning with this arrow will identify the smallest amount of deviation in flight, allowing you to adjust your nock height and arrow rest more precisely. It's a good idea to wrap a strip of electrician's tape to the rear of the shaft to substitute the weight of the fletching. This will keep the arrow's front-of-center weight identical to fletched shafts.

I like to begin paper tuning from 6 feet away, then shooting from 4 feet away. The way I see it, the sooner the arrow straightens out of the bow, the more accurate it will be with a fixed-blade broadhead. You can also shoot from 10 and 20 feet to make sure your flight pattern and tune is consistent across the board.

#2

SHORTEN YOUR DRAW LENGTH

Most bowhunters are “overdrawn” at anchor, meaning, their bow's draw length is too long for their body. This causes many problems that lead to poor shooting form.

First, proper alignment of the draw-arm elbow becomes out of whack, since the archer's arm is completely stretched out, which forces the draw-arm elbow down and out of alignment with the arrow. This makes using back tension during the shot activation almost impossible.

Second, a long, improper draw length often places the path of the bowstring and the arrow's fletching into the meaty part of your face, causing irregular side pressure from shot to shot, destroying shooting consistency.

Whereas, a shooter with correct draw length achieves proper elbow height (which is in line with the arrow, or just slightly above it, when viewed from the side), has less—if any—interference with the bowstring or arrow fletching at full draw, and can pivot his back muscles when needed to activate the rhomboid muscles to produce a clean, crisp shot.

In the end, the archer is more comfortable while aiming, and releases the arrow more consistently from day to day, especially when twisting at the waist on steep downward shots, such as when shooting from a treestand.

#3

IMPROVE ARROW AND BROADHEAD QUALITY

Spine, weight, and straightness consistency are underlying factors behind arrow performance. Usually, the more economical your arrow choice, the more numbering of arrows and accuracy testing you'll have to do.



Arrows that are more spine-consistent will prove much more accurate. Easton's N-Fused Axis and Carbon Express' Maxima Hunter are top all-carbon choices.



Do you really have the time for that? If not, you are better off paying more at the cash register than dealing with ongoing headaches on the range.

The same goes for broadheads. I'd suggest brands known for their exceptionally tight manufacturing tolerances. This leads to smooth-spinning performance and reliable weight consistency, two critical components behind deadly arrow flight. Lesser brands, once again, lead to more mixing and matching of broadheads to different arrows, trying to get one or two just to spin true.

Any imperfection in the broadhead's alignment to the arrow's face can cause consistency problems, especially when arrow speed is excessively high and the bow is slightly off tune.

Over the last couple years I've tested a good amount of arrow shafts and broadheads. In terms of all-carbon shafts, and considering cost, durability, and overall spine and weight consistency, I think it's hard to beat Easton's N-Fused Axis, Gold Tip's Pro Hunter, and Carbon Express' Maxima. Easton's aluminum/carbon models are also superb choices, both the venerable ACC Hunter and Full Metal Jacket, but they may cost a bit more.

In fixed-blade broadheads, I seem to gravitate toward compact all-steel, one-piece ferrule designs with ultra-sharp blades. My favorites are the G5 Striker, Slick Trick Standard, RazorTrick, Innerloc Stainless, and Rocky Mountain Blitz. However, other models from Muzzy, WASP, Magnus, and so on, are also excellent, and I say go with the head that gives you the most confidence—accuracy and durability wise.

#4

AVOID TRIGGER CREEP

Some of you may not know what trigger creep is, at least beyond gun shooting, but most low- to mid-range quality release aids tend to have this quality. This isn't a good thing since creep can lead to anticipating when the bow will fire.

In contrast, a creep-free release gives you no feedback as to when the

Carter is renowned in the target archery market for offering release aids with crisp, creep-free triggers. The new RX2 is one of its wriststrap hunting releases, a model used by top bowhunter Randy Ulmer, who is pictured here with a trophy Nevada mule deer.

sear will break, forcing you to stay focused on aiming or on pulling through the shot using back tension—the key behind making a great shot.

Trigger weight (pressure to fire) should have no bearing on trigger travel or creep—firm or light, it

OPTIMIZE BOW BALANCE

Proper bow balance and weight didn't make the six most-important list, but not because they weren't deserving of it. After all, these elements tend to play a vital role in how well you shoot your bow.



Doinker makes an effective V-Bar unit so you can add counter weight where it's needed to better balance your bow, which will help it hold and aim better, as well as reduce shot torque.

A well-balanced bow is not only more pleasant to hold in your hand, but it allows steadier aiming and more torque-free shooting. I prefer bows to hold nearly plumb in my loose, extended hand (not in the drawn position), and so that it rocks just slightly forward after the shot, not excessively back, or to the side.

To better balance your bow, simply add stabilizer and small coupler weights in various places on the bow's riser until you achieve a balanced feel. Also, if you use a bow-mounted stabilizer, you may want to consider an offset stabilizer system or a rear-mounted V-bar to offset the side weight of a loaded bow quiver.

Fuse makes the Sidekick, which works very well. Doinker's Offset Bar, when used with counter weight, also counters bow weight when adjusted properly.

Overall bow weight is very personal and revolves heavily around your priorities in the field. If lightweight and easy carrying capability are a huge concern for you, then a feather-weight package is obviously what you'll want. However, keep in mind, the lighter the rig, the less steady the bow will aim. This will likely degrade accuracy on longer shots.

Slightly heavier rigs are more cumbersome to pack around the forest or up mountains, but they do maximize aiming and shooting stability. Like most things in archery, I prefer a compromise. I lean toward midweight bows that carry easy enough but also drive tacks way downrange. Most of my pet hunting rigs weigh about 7 1/2 pounds overall weight. I say to each his own. —J.B.



Correct draw length means the draw-arm elbow is in line or slightly above the arrow at full draw, as the author is demonstrating here.

should break over crisp. This is where it pays off buying a precisely machined release with an exceptional trigger system.

To get a feel of what a top-notch hunting release feels like, I'd suggest shooting some of the new Carter models. As you may know, Carter is renowned in the target market for producing super-high-quality T-handle releases. However, in recent years, they have delved heavily in the hunting market, launching a line of reliably smooth wriststrap, index-finger releases.

Last year's new RX1 and 2 (reverse-side draw) proved to be outstanding, both having an easy-to-load open-hook design and comfortable ergonomics. I've tested both of these releases and they offer excellent trigger quality and shooting performance.

This year, Carter also has the Like Mike, which is being called their most precisely made wrist-strap release ever. It was named after Michael Braden, a top winning pro who competes exclusively with this style of release. This release is said to have one of the lightest triggers of any Carter release along with the least amount of over-travel. When shooting it, your finger seems to go nowhere—even after the arrow is fired. This all promotes a cleaner, more accurate shot feel.

The RX Series, and the new Like Mike and Lucky (similar to the Like Mike but with a more compact body), all have what I would call "standard-positioned triggers," meaning they do



One key feature to Arizona Archery's Avalanche rest is its Whale Tail launcher. It's made of flexible steel, which dampens arrow oscillation at take off, providing a smoother, more forgiving shot and easier paper tuning.

not have triggers mounted more forward to maximize draw length, although the RX1 could be considered to have a midrange trigger position.

#5

USE A FORGIVING REST

As the arrow's launching pad during take-off, the arrow rest is certainly a major factor in how accurate or forgiving your bow shoots.

In my opinion, with a well engineered bow and cam system, one that delivers straight, level nock travel, the drop-away rest will produce the finest, most reliable accuracy and performance when using hunting-style arrow setups.

I like aggressive helical and small-diameter shafts in order to optimize arrow control (for fixed-blade broadheads), flight trajectory and arrow penetration on game, and the drop-

away rest compliments this setup the best.

However, not all drop rests are build the same, and some actually seem to degrade accuracy not enhance it. Some are difficult to adjust and to tune, as well, complicating the process of getting your bow dialed-in.

The three most important qualities a drop-away rest for hunting should have are quiet performance, a fast-dropping launcher arm, and fall-a-way function that doesn't induce excessive cable torque (via the pull-down cord).

Drop-aways with launcher arms that fall slowly often cause fletching contact issues, making perfect arrow flight difficult to achieve. Also, the faster the arrow speed, the faster the launcher must drop to avoid contacting vanes.

In addition, designs that tend to torque the downward-moving cable on the bow have a tendency to disrupt cam synchronization and even twist the bottom limb, preventing smooth arrow take-offs and precise paper tuning.

Manufacturers have really stepped up the pace in designing better drop-away rests for hunting, and many now use the upward-moving cable on the bow to eliminate torque applied to the limb and cam.

Models I haven't had a lick of problems with are the Quality Archery Designs Ultra-Rest Pro, Arizona Archery Avalanche and Lightning, Mathews Down Force, and Trophy Taker X-Treme. I'm currently testing the Octane Tripwire, which looks to be another great model with intelligent, functional features.

I've also found that "flexible" launcher arms a bit more forgiving when using lesser quality arrows and/or fixed-blade broadheads. Arizona Archery makes the Whale Tail arm that mounts to any of their drop-away models. The launcher is made out of "feeler gauge" flexible steel, which is made to dampen any slight arrow vibration at take-off, allowing a smoother, more consistent arrow launch.

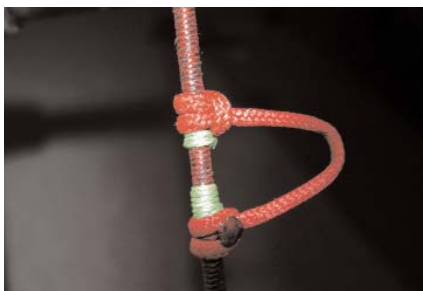
In many cases, this accessory can be mounted to other manufacturer rests as well. I suggest checking it out, as it

could give you that accuracy edge you've been looking for.

#6 EMPLOY A GOOD STRING SYSTEM

One key to an accurate setup is maintaining the bow's tune. In order to do so, you must choose reliable components. This relates heavily to bowstrings, which is why I prefer the stretch-free performance of custom bowstrings. The brand I prefer the most is Winner's Choice, because of the company's relentless quality to detail.

If your bowstrings creep (permanently stretch) even a minute amount,



A loop that promotes downward arrow pressure is important since it often enhances shooting forgiveness. To add downward pressure, all you have to do is serve in a nockset below the arrow nock inside the loop. When pulling on the loop with your release, the arrow will now be subjected to a slight downward force, keeping the arrow more securely on the arrow rest during take-off.



The author prefers one-piece all-steel broadheads for most of his hunting due to their tight manufacturing tolerances, which he finds makes them shoot very accurate and spin true nearly every time. He used a G5 Striker to arrow this Montana whitetail.

the bow's tune and precise arrow flight become drastically jeopardized. However, perhaps even more important than overall bowstring creep is your arrow's nocking point height. If it changes even a hair, the effects can be significant. This, in a lot of ways, makes it the most important area on your bow, next to your peep sight placement.

A basic string loop will make your bow more forgiving and easier to tune. But an "enhanced" loop system will make the bow even more accurate, while allowing you to hook up fast during those rushed shots on game.

The first key behind a better string loop is its length. It's important to adjust the loop size to the specific jaw-trigger length of your release aid. The size should also correspond with how the bowstring bisects your nose at full draw. It should just barely touch, if any. In most cases, the length of most of my string loops measure about 4 1/4 to 4 1/2 inches long, when unattached to the bow and laying it straight along a ruler, and measuring the distance just inside the base of one rounded burnt ball to the other.

Again, as discussed earlier, you always want the bowstring to be as "free floating" as possible so there's never side pressure applied to it, which could cause consistency issues.

Next, it's best to tie in two small nocksets to straddle the arrow's nock placement on the string—one above it, one below. The one above should be slightly smaller than the one below, in order to create a small amount of downward pressure on the arrow. This keeps the arrow firmly on the launcher arm during take-off to better stabilize it, enhancing accuracy.

This type of setup makes the loop wider, too, and easier to grab onto with any jaw type on a release, whether it's a dual or single caliper, or an open hook.

I prefer a slightly softer loop material, such as Brownell's .078 or BCY's 2mm loop string, since it allows greater twistability, to better offset torque, if applied during rough shots when the release head twists somewhat.

The next important element is the arrow's nock fit, specifically how tight or loose it clamps to the string's center serving. You don't want it overly tight or loose. Nocks that go on too tight are identified by excessive serving wear, while the best way to determine loose fit is to check for gaps in the nock's throat area when the nock is on the string. You can also detect loose fit by twisting on the rear of the shaft—a loose fit will cause some wiggle.

Tight nock fit causes undue friction, while a loose fit, undue slop. Both affect accuracy. Generally speaking, the nock should be able to pop off the string when you give it a firm tap from the tail end. To get nock fit just right, you may have to remove and apply different diameter center serving on the bowstring, or be sure to tell your custom string maker the exact type of arrow nock you use.

Confidence is the name of the game when making tough shots in the field. And to get your mind feeling warm and fuzzy about shot performance, you must hold in your hand a deadly accurate, perfectly tuned, arrow-driving machine. Beyond that, it becomes a simple matter of practicing wisely, exercising good shooting form, and waiting for the right opportunity to come. ◀