ARROW REST TUNING – FINDING THE SWEET SPOT

"Why doesn't my 40 yard pin line up with the others?"

We've spent countless hours attempting to figure out why, after we sighted in, our rack of pins didn't line up with our bowstring and the center of the riser. We figured the problem had to be our shooting form. So, we tried to adjust our form to get them to align. But, this did not work.

After experimenting with arrow spine, cam alignment, hand placement, laser aligning tools, and all sorts of machine shop measuring tools, we figured out that bow torque was a major contributing factor to the pins not lining up. The rack of pins was not supposed to line up with the center of the riser. What we realized was it was a lot more important for the bowstring, riser, and rack of pins to all be aligned at full draw, not at rest.

Understanding this helped a great deal, but we soon found a new set of problems. After tuning our bows, all our arrows would hit the spot at 20 yards. But, at 40 yards, they would hit 3 or 4 inches to the left (or right). We did finally figure out this problem, but to fix it, the answer was somewhere totally unexpected.

Recently, out at the local archery range we met a shooter that had just set up a new bow. He was pulling out his hair because at 20 yards, he was pounding the spot, but, no matter how good of shot he would shoot, at 30 yards, he would hit about 3 inches left.

This shooter was sure that something was wrong with his sight. But he couldn't put his finger on what it was. He had checked the sight's bubble with a carpenter's level against the riser and everything was nice and square. The pins were all perfectly aligned and all in the exact same plane.

So, when it was suggested that his arrowrest was the problem and not his sight, his jaw hit the ground. He could not fathom that his arrowrest was the problem. He had set it up perfectly at center shot, and he had a good tear through paper.

It was a hard sell, but eventually he was talked into moving the arrowrest to the right (he is a right hand shooter) about 1/32". That small of a change in the location of the arrowrest caused a dramatic change in his attitude. All of a sudden he was grinning from ear to ear and hitting the spot consistently, at all yardages. He didn't like his arrowrest not being at center shot, but he disliked not hitting the spot even more.

He seemed to have trouble understanding that static set up is only a good place to start, but needs to be adjusted for changes that happen when the bow is drawn and the arrow shot. The change in the preloading of the limbs and cables, when the bow is drawn, causes the arrowrest to move to the left, and the sight to move to the right. Then, upon release, everything happens so fast that the arrowrest and sight do not have time to get back to the static position before the arrow is gone.

It became easier for him to understand when we pointed out that his rack of pins, when sighted in, are always outside of center shot. The sight pins will never line up with center shot, and it is a major mistake to think that the arrowrest has a fixed location, that is, "center shot".

For us, center shot is a nice theory, but has never worked out to be the most forgiving place for an arrowrest, mainly because our arrows won't hit in a vertical plane. A bow is easier and more accurate to shoot if the arrowrest is not at center shot.

The interesting thing is, when we put a well tuned bow on a machine and draw it back, the pins, arrowrest, string, and riser are all in great line with each other. And when we let that bow down, the arrowrest and rack of pins are out of center shot. But, that is ok for us because the bow is well tuned and shoots like a dream.

We have learned to set up our bows to be in the most forgiving arrowrest location, by using, what we call the "walk back" method. It is also sometimes referred to as the "French Tune" method. This method has been around for a long time and is not our invention. There are different versions of the "walk back" method. The version we use, is to shoot arrows at a vertical tape line (electrical tape works great) that we have aligned on the bale with a carpenter's level. We then shoot arrows at 10, 20, and 30 yards using the same pin. If all your arrows are not in a straight vertical plane, parallel to the tape line (assuming your bubble was level for each shot) then you need to move your arrowrest left/right.

If the arrowrest is adjusted in the wrong direction, the problem will get worse. If the adjustment is made in the correct direction, your arrow impact should get closer to being in a straight vertical line. The goal is to get all your different distance arrows to impact in a straight vertical line. You will then need to move your sight to accommodate this new arrowrest location. It is possible to go too far and your arrow impacts will fade away from the line in the opposite direction. Basically, there is a sweet spot location for your arrowrest.

This is one of the reasons we all shoot micro-adjustable arrowrests. Sometimes you need to move your arrowrest a very small amount to get that sweet spot. Even if a person is not that good a shot, a micro-adjustable arrowrest makes it very easy to make changes and check different arrowrest locations. We feel micro-adjustable arrowrests are invaluable.

Don't get us wrong, paper tears, factory center shot, and laser aligning are good places to start. But, we have never had our bows actually tune to that sweet spot using any of these methods. Mainly, because bow torque, cam lean, sloppy limb pockets, bad nock travel, arrow spine, and many other factors come into play when the bow is shot. So, we have found that the best way to get to that sweet spot is to shoot it in. The method above is a quick and painless way to do this.

We have helped all levels of archers do this, and every one of them has enjoyed increased forgiveness in their setups. No matter what level shooter you are, it really is worth checking out.