

## Poor Arrow Flight – Causes and Solution

This article is a broad brush approach to possible causes of bad arrow flight and poor groupings. There are many more than those addressed here. Most deal with getting a good basic bow and arrow set-up.

So let's look at your bow first.....

Check each of these points in the order they are shown !!!

**Draw Weight :** If draw weight is too much for you - turn it down. You should not be struggling to hold the bow back while you are aiming.

**Draw Length:** The bow must fit YOU! You must be anchored in the same spot on every shot with the bow stopped at the back.

**Peep Sight:** At full draw the peep should be right there in front of your eye. If it is too high or too low reposition it along the string. If it is not lining up sideways - lean the top of your head over to see through it, if it is too low or too high reposition it again. Be sure it is tied in well and will not move at all after you have secured it. Put a mark on the side of the peep and the string with a white or yellow marker. If it does move you will see the marks are not lined up.

**Rest Setup:** Put an arrow on the string and set it on the rest. Look down the arrow and find any spot on the rest or the riser where the arrow might be hitting and readjust to eliminate any such collision. Some older bows have no riser clearance and arrow contact with the riser is virtually unavoidable.

**Centershot Setting:** Look down the arrow and determine by sight if the arrow is sitting relatively straight in relation to the bow without any fletches hitting the riser. The spot where the arrow is not pointing to the left or to the right is known as the centershot area. Some owners manuals will give an exact measurement for centershot.

**Cam Timing :** Compare the position of the top and bottom wheels or cams and make sure their positions in relation to the limbs are the same. This will only be a rough estimation. If a difference is visible, the cam timing is probably way off and needs to be reset by a pro with the proper equipment and procedures. The best timing job is done at full draw and involves complicated procedures.

**Cable Guard:** Make sure the cable guard is tight and that it is pulling the cables over far enough that the arrow fletchings will not hit the cables at all. Make sure that the cable guide (or sliding insulator) is moving and sliding freely. Be careful that the cable guard is only adjusted enough to make clearance. You can cause trouble by pulling the cables over too far..you only want minimum clearance!!

**Stabilizer :** Make sure the stabilizer is tight and that it swings the bow forward when held loosely in the V of your hand. If not add more weight.

**Sight and all accessories must be tight:** Check that the sight pins are secure and the sight mounting bracket is tight , as well as all attached accessories.

Now let's look at your arrows:

Arrow Size: Make sure you are using the correct size arrows.

Arrow Matching: Make sure each and every arrow in your set are exactly the same. Be sure the fletches are the same. Be sure the points are the same. Be sure the nocks are in the right position for your rest. Remember..most modern rests require the odd or cock fletch to point downward.

We are assuming that through all of these checkpoints YOU ARE using practice points and NOT broadheads!!

Arrows Straight : Be sure every arrow in your set is straight and not dented.

Carbons Arrows: Sometimes carbon arrows are very unforgiving and critical. Try to start out using a stable aluminum arrow until things are working properly. Sometimes the bumpy nocks on carbons cause the poor arrow flight. There are some really smooth nocks and adaptors available lately to eliminate this problem completely!

Now let's look at you:

Anchor: You must anchor your hand against your face or neck the same way every time. (See Tech Bulletin on Anchoring)

Aiming: Make sure the pin is centered in the peep and on the bullseye. Hold still and release gently. Don't move at all until you hear or see the arrow hit the target! (See TB on Aiming)

Not Centering Sight Pin in Center of Peep Hole: Maybe THE MOST common cause of poor shooting!!

Form and Stance: Stance and posture are crucial. If your stance and posture are different on every shot, the arrow will fly to a different spot on every shot.

Holding the Bow Straight: Using and watching a level on the bow sight on each and every shot will assure that the bow will be held the same on every shot. Frank Pearson says" I live by the level ", and he is a world class champion and archery expert.

Grip: Make sure you are holding the grip or handle the same way on each shot.

Hand position on the grip is part of good form.

Back Tension : Remember the Gentle back tension on your release arm as you are aiming and releasing. (See TB on Aiming and on Anchoring)

Dropping Arm Early : Remember to hold absolutely still when releasing until the arrow hits the target. This is a very common cause of poor shooting.

Shoes: I've seen shoes make a remarkable difference. Solid shoes will keep you much more still and stable than squishy sneakers. This could be something to try.

If you have checked all of the above... try some of these:

Put a nocking point below your arrow with a 1/16 gap so you don't pinch the arrow.

Make sure your arrow nocks click tightly onto the string. Put a level on your sight where you can see it while aiming. Make a mental checklist of a few checkpoints that you will go over during every shot.

### Time To Start Sighting and Getting a Good Group:

Generally, I have found that if the bow is set up correctly and the shooter pays attention to the basics as described above, that he will shoot a good group immediately and just needs to sight in the pins. This is usually good enough until the shooter gets familiar with the bow. Paper tuning is a pursuit that should be taken up after the shooter is comfortable and confident with his or her equipment.

If you still are not getting a good group by now, you probably have overlooked one of the items above. So check them again and then move on to paper tuning if necessary.

**Paper Tuning :** Shooting arrows through a piece of stiffly stretched paper to see how the arrows are flying as they leave the bow.

Generally, look at the paper tear and see if the fletches are higher or lower than the point. If higher, then lower the nocking point. Do the opposite if lower. Correct the Vertical tear first - then move on to Horizontal or sideways correction. Correcting Horizontal or sideways tears is a bit more difficult. Look at the tear and see whether the point of the arrow is to the left or the right of the fletch. If to the right move the point to the left by adjusting the rest. Opposite if the point is left of the fletch. Sometimes these horizontal corrections make it worse. If that happens try the opposite adjustment of the arrow rest. Just take your time and pay attention to the way that your adjustments effect the paper tears. If you get it perfect - good for you. If you get it close to perfect and can't improve it.. settle for it and see what kind of a group you shoot.

If you run into difficulty and cannot get a good tear - have another archer shoot a few holes. You might be surprised and find that the other person shoots a good hole. If that is the case, you will then know that the bow will shoot correctly and that it is your effect on the bow that needs to be changed! Which is almost always the case!