

## Solving Arrow Pattern Problems

If something is going wrong and you don't know what it is, then it's time to go through the checklist.

Most of the time, the pattern of your arrow groups may give you a clue to what may be happening. It could be some part of your equipment has come loose or moved, or it could be that you are shooting slightly different from how you shot yesterday, without you realizing it.

Part A.

Check your archery equipment and set-up thoroughly. Check that everything is in its correct location and setting, with no loose parts or screws. (This is why keeping set-up and tuning records are useful) The direction of error relates to where the arrow lands in the target.

Some errors may also have a diagonal component. A high, left error could be caused by either a combination of equipment faults or a combination of shooting form faults. The error patterns described below relate to right-handed archers. For left-handed archers, the left and right error causes should be reversed.

Arrow Patterns - Equipment	
High Errors	Caused by:- Arrow nocking point too low Arrow riding up sloping arrow rest Nocks not aligned on shaft, pointing up at end Stiffer lower limb on bow Arrow moving down string during draw or release Degree of fletching angle not uniform Weight variations in arrows Point of balance variation in arrows String height variation
Low Errors	Caused by:- Arrow nocking point too high Arrow dropping off worn rest on release Stiffer upper limb on bow Badly worn, frayed or loose fletches Badly worn or ridged finger tab Armguard or clothing catching on bowstring Nocks not aligned on shafts, pointing down at end Fletches hitting bow or arrow rest on release Arrow moving up string during draw or release Degree of fletching angle not uniform Weight variations in arrows Point of balance variation in arrows String height variation
Right Errors	Caused by:- Nocks very loose on string

	<p>Nocks too tight on string  Nocks not aligned on shaft, pointing right at end  Worn arrow rest  Fletches hitting bow or arrow rest on release  Bow brace height is too low  Bow limbs twisted  Bow limbs not aligned  Bow limbs very loose  Arrow hitting inside edge of bow window  Pressure point too near center shot location  Arrow spine too soft  Fletches not large enough to control arrow  Weight variations in arrow points  Arrow rest too far forward or back from pressure point of bow</p>
Left Errors	<p>Nocks very loose fit on string  Nocks too tight fit on string  Nocks not aligned on shaft, pointing to left at end  Arrow sliding off worn arrow rest  Fletches slightly hitting bow or arrow rest on release  Bow limbs twisted  Bow limbs not aligned  Pressure point out too far from centre shot location  Arrow hitting outside edge of bow window  Arrow spine too stiff  Fletches not large enough to control arrow  Weight variations in arrow points  Arrow rest too far forward or back from pressure point of bow</p>
Scattered Errors	<p>Caused by:-  Combination of one or more of above faults  Nocks not aligned, pointing all directions  Nocks worn or not matched  Arrows not matched for weight  Arrows not matched for spine  Broken strand in bowstring  Not enough strands in bowstring  Bent arrows  Loose sight and/or sight pin</p>

Once the equipment has been eliminated as the cause of the errors, then its on to

Part B.

Arrow Patterns - Shooting Form	
High Errors	<p>Caused by:-  Bow hand  lower on grip  more relaxed than usual, increasing bow cast  more pressure on the thumb muscle than usual</p>

	<p>jerking up on release</p> <p><b>Bow arm</b>  more extended than usual, increasing draw length  more relaxed than usual, increasing bow cast</p> <p><b>Bow shoulder</b>  extended more than usual, increasing draw length</p> <p><b>Drawing hand</b>  moving backwards further after release  fingers pinching down on arrow nock  plucking the string and peeking to see where arrow went  greater pressure taken on the third finger  flicking fingers down on release  allowing fingers to release in order from top to bottom</p> <p><b>Drawing arm</b>  elbow elevation too high</p> <p><b>Head</b>  string held too lightly against chin  lifting nose away from string just before release  tilting head back  having gap between teeth, lowering chin position</p> <p><b>Other</b>  shooting faster than usual</p>
<p>Low Errors</p>	<p>Caused by:-</p> <p><b>Bow Hand</b>  grip tighter than usual, reducing cast of bow  grip higher on bow, increases stress on upper limb  high wrist style, not usual grip style  dropping on release, lowers elevation of shot</p> <p><b>Bow Arm</b>  bent more than usual, reduces draw length  over-extended or locked causes lack of follow through</p> <p><b>Bow Shoulder</b>  collapses and rises up, reduces draw length  hunched shoulders, lack of back tension, reduces draw length</p> <p><b>Drawing Hand</b>  flinching or double release  dead or static release, when live release is usual  forward release, reduces cast of bow  more pressure on index finger than usual  fingers pinching arrow nock  low elbow alignment  more tension in the knuckles or back of the hand  string touching face less than usual  plucking fingers off string, causes left/right error as well</p> <p><b>Head</b>  looking up or peeking, lowers bow during release  dropped down during anchor and release</p> <p><b>Other</b></p>

	aiming longer than usual drawing shorter than usual bowstring catching on loose clothing shooting through clicker
Right Errors	Caused by:- Bow Hand placed further left on grip, causing torque in bow bending wrist outwards, moves bow to the right on release tilting top limb to the left moving to the right on release Drawing Hand plucking the bowstring string alignment further left than usual Other shooting through clicker body twisting to the right on release
Left Errors	Caused by:- Bow Hand placed further right on grip, causing torque in bow wrist bent inwards, moves bow to the left on release tilting top limb to the right moving to the left on release Bow Arm over-extended or locked Bow Shoulder pointed to the left Drawing Hand plucking the bowstring on release string alignment further right than usual snap shooting, not at full draw and anchored prior to release Head moving position of teeth, moves chin position for anchor held forward offline with body Other leaning body backwards bowstring hitting loose clothing on release loss of back tension on release

If you have tried to find the cause of your shooting problem and can't find a fault by yourself, then the next step is to have a friend watch your shooting. They may be able to see something that you may have missed. You can also have a friend video your shooting from close up and from different angles. It can make a great deal of difference, when you see yourself shooting.

If you still can't find your shooting fault, then it's time to consult your local archery coach or you may choose to by pass all the above checklist and consult the archery coach first.