Beginners Guide to Field Archery (NFAS)

Foreword

This publication is not designed to teach you the skills required to take part in Field Archery, but is a reference guide for those who are undergoing training and are attending a recognised NFAS beginners course.

Field Archery in the UK

Most people associate archery with shooting arrows from fixed distances at roundels. The sport of Field Archery, is virtually unknown to the layman but has an active and dedicated core of several thousand archers. The society has an annual membership of approx six thousand persons in England Scotland and Wales.

This form of archery is thought to have originated as simulated hunting, probably in the USA as out of season practice. It is now practiced worldwide as a sport in its own right. In reality it consists of shooting on rough, usually wooded ground as opposed to the better known target archery, which most people will be familiar with.

The distances shot varies from about 5M up to about 80M but the average would be 20 to 30 metres, The target distances are unmarked so archers first use their skills to estimate the range.

Targets are predominately realistic pictures of animals or life size 3D foam replicas . These are placed around the woodland making use of the natural features of the land to form an interesting and taxing 'course'. The number of targets is flexible but for "open" competitions it is most often 36 or 40.

During the course of a competitive 'shoot', groups of archers, usually four to a group, progress round the course shooting a limited amount of arrows, never more than three, at each target, keeping the scores as they go. Courses vary greatly depending on the type of ground a club is able to obtain for use on a regular basis. Woodland is normally preferred but some clubs use more open undulating ground.

Field archery clubs that are able obtain large enough areas of woodland often put on 'open' shoots in which members from other registered NFAS clubs may compete. How often a club holds these is largely dependant on the interest within the club and the availability of willing labour. Putting on a shoot is hard work and requires a large degree of dedication from able bodied members, as carrying heavy target bosses around woodland and possibly through undergrowth for a day becomes very testing. However any club that puts on well organised shoots over a good, interesting ground can be sure of attracting a large active membership.

NFAS – The National Governing Body

The National Field Archery Society (NFAS) is the largest governing body for field archers in the UK and there are over one hundred clubs around the country affiliated to this society.

The NFAS through its members devises the rules, which govern the sport to promote the safety aspects of field archery and to ensure competition is fair for every type of bow, class and age group. Third party insurance is provided through the society and is financed by part of the membership fee.

The NFAS publishes a bi-monthly newsletter, which provides a discussion forum for the members as well as disseminating club news. Clubs also list their open shoots in this newsletter, together with names and telephone numbers for club contacts, usually the secretary. This publication is essential reading for any archer wishing to attend competitive shoots or for archers looking for a club to join.

For the more experienced archers the NFAS supports each year a number of both National and Regional Championships. These are two day events, held in a different part of the country each year and these competitions attract several hundred competing archers. These are social events as much as sporting events and allow competitors to meet up with old friends and meet new ones from other clubs.

NFAS web site: www.fnas.net

*Footnote

The shooting of live animals with a bow and arrow is strictly forbidden by the NFAS and is an offence under the law of the United Kingdom.

The Importance of Eye Dominance

You have to find what is best for you. The beauty of being cross lateral (left eye right hand dominant or vice-versa) is you have many choices.

The main problem may come if you choose to shoot with one eye closed. If you choose to shoot right handed you will need to close your left eye every time, but your body's natural tendency will be to close the right eye (it will be used to your left eye being the main eye) and every now and again you may close the right one which will is likely to result in the arrow not hitting the target at all.

Here are the options:

Shoot with both eyes open (not to everyone's taste but there are many compelling reasons why this is best and many top archers shoot this way). If you do this you will notice double pin dots (or if using point of aim shooting double arrow points!), the key thing to remember is to line up the dot furthest away from the bow riser. Using this technique you can shoot either left handed or right handed.

Shoot right handed and close your left eye. The danger here will be slipping into closing the wrong eye. There are some things you can do to minimise the risk. a) wear a patch, b always remember that the eye above where your hand touches your face must be open.

Shoot right handed with a modified sight which places the pin on the left hand side of the riser. This is very unorthodox but I have heard of it.

Shoot left handed with either both eyes open or your right eye closed.

The key thing is, you should consider the options and choose what YOU feel best about.

For your information there is nothing wrong with being cross lateral and there are quite a few people out there who are.

How to Determine Your Dominant Eye for Archery

Everyone knows whether they're right- or left-handed, but few know whether they're right- or left- eyed. Follow this simple procedure to find out which eye to aim your bow with.

1. Make a triangle with both of your hands by overlapping your thumbs and the top half of your fingers.
2. Extend your arms toward your target.
3. Look through the triangle at the target.
4. Keep your hand-triangle small enough so that only one eye can look through it up close.
5. Keep both eyes open.
6. Move your hands back to your face, still looking at the target through your hands. Whichever eye your hands gravitate toward is your dominant eye.
7. Double check by holding the triangle at arms distance again and closing your non-dominant eye. The target should remain centred in the opening.

Tips & Warnings

- Right-eye dominant people should usually shoot right-handed, and vice versa.

Basic form

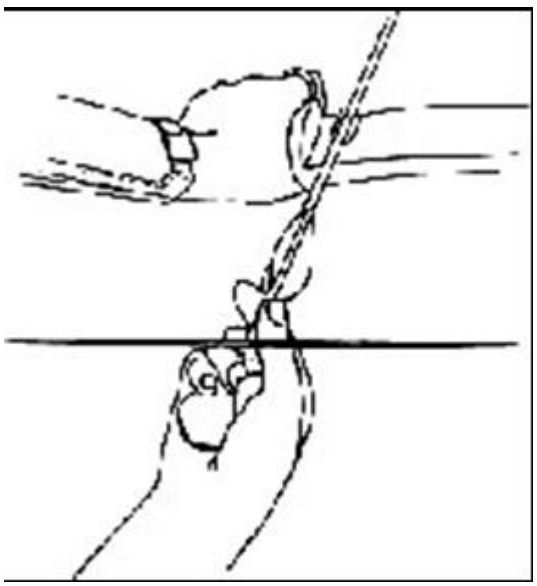
1.Stance & Posture:

Right handed archers hold the bow with the left hand, so with your left side toward the target, stand at a right angle to the target, with the tips of your toes against an imaginary line pointing at the centre of the target. Your feet should be shoulder's width apart, touching the shooting line.

Stand straight & tall, balanced, with ribs down, shoulders down and relaxed. shoulders square to the target

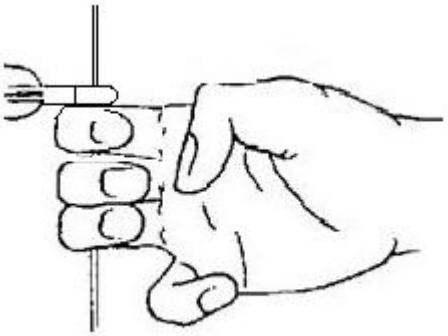
Try and relax

2.Nock (Laying the Table)



Nock arrow UNDER the nocking point on the string. Listen for the sound of a "snap" as arrow connects to the string. cock feather (odd colour fletching) AWAY from the bow

3.Hook String and place bow hand:



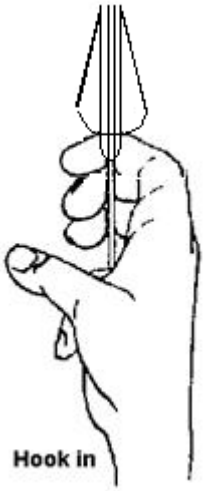
Finger position

Place your fingers in such a way, that you "hook" your fingers under the knock.

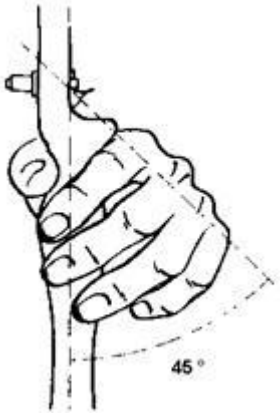
Do not use little finger.

(Shown without finger tab for better illustration)

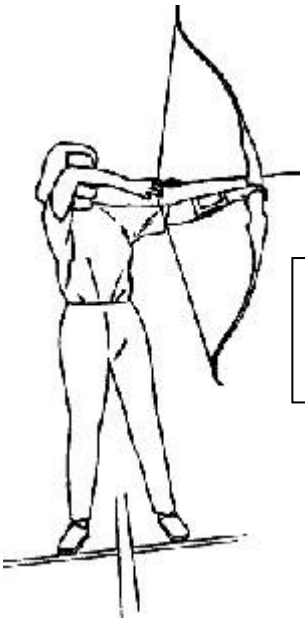
Hook the string at the first groove in fingers. Make sure to maintain a deep hook



Hook in

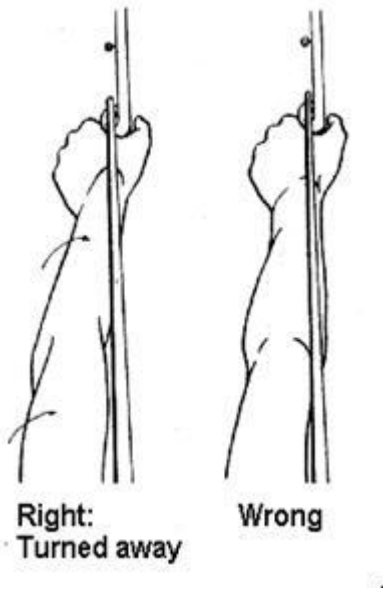


Set your bow hand on the grip on the inside of your life line, on the meaty part of your



Bring the bow arm to shoulder height -keep shoulders DOWN

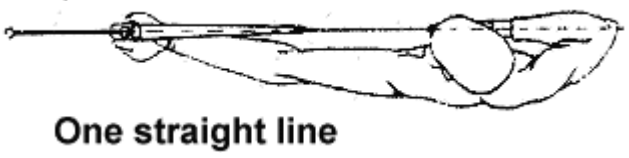
4.Set up(Extending the bow arm)

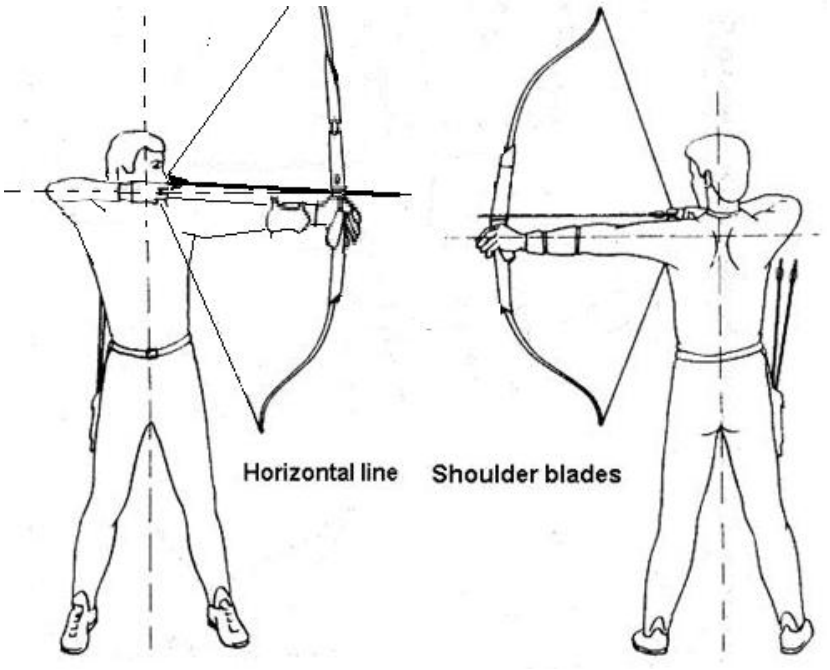


The elbow of the bow arm is slightly bent or rotated,

5.Drawing the bow

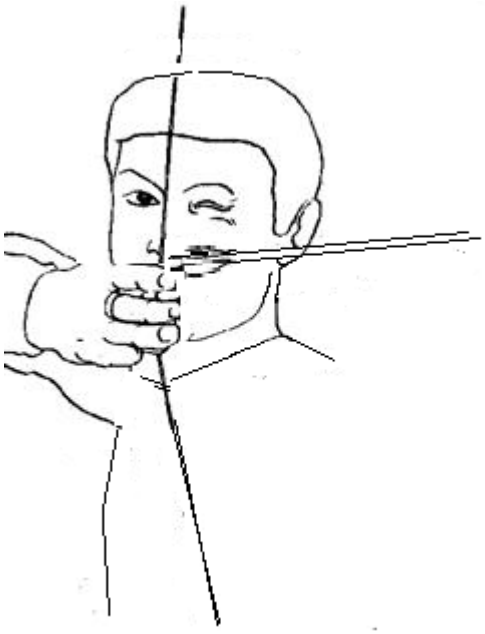
Draw the string along the bow arm in a straight horizontal line to the anchor point on your face.





Draw with your back muscles, moving the shoulder blades towards each other.

6.Anchoring

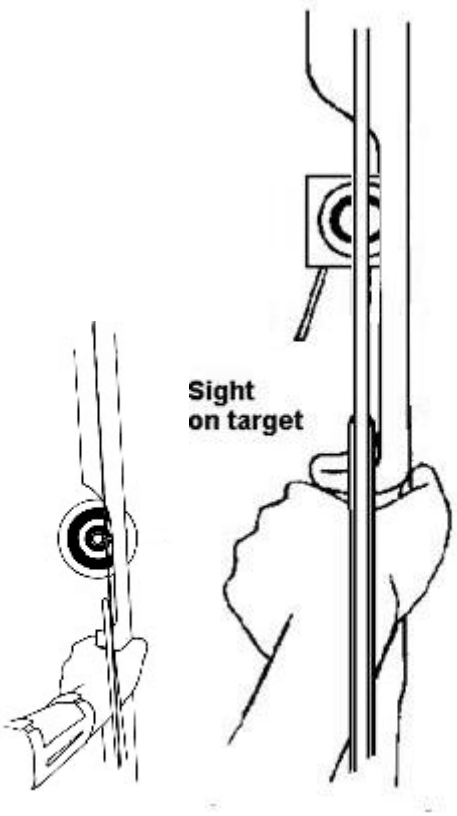


Bow hand, draw hand and Elbow should form a straight line.

Keep both shoulders as low as possible

Keep your teeth together. (no chewing gum, remove hats as well)

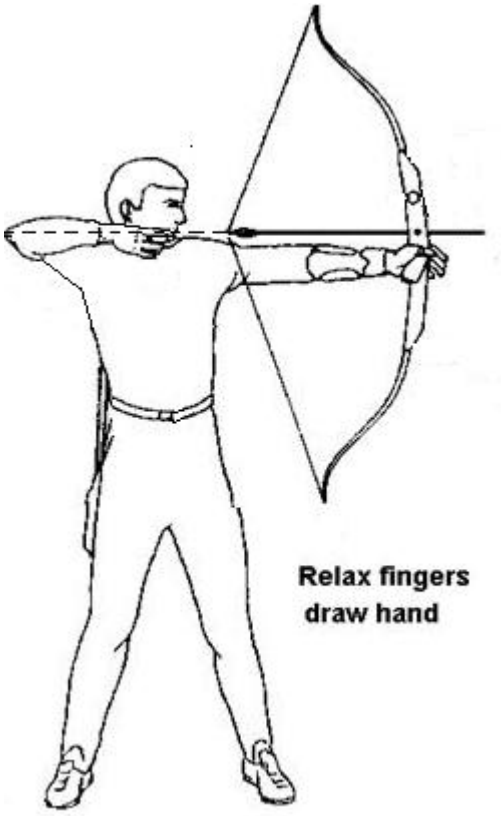
7.Aim



Aim at full draw, by looking straight down the arrow (Gun Barrelling). The string should appear to run down the arrow from nock to pile..

If you are cross dominant- (right handed, left eye dominant or vice-versa) you may need to close the non aiming eye (dominant eye).

8.Release,



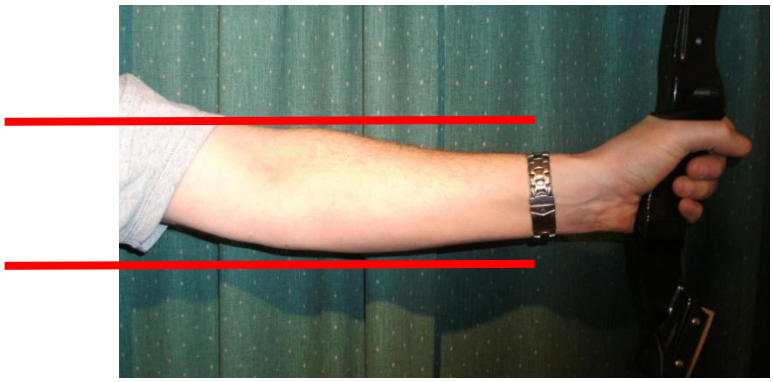
Keep pulling the shoulder blades towards each other.. Once at full draw and are happy with your aim, open fingers cleanly and release.
Do not move until you see or hear the arrow hit target ("RELEASE 2.3.4") for best accuracy.

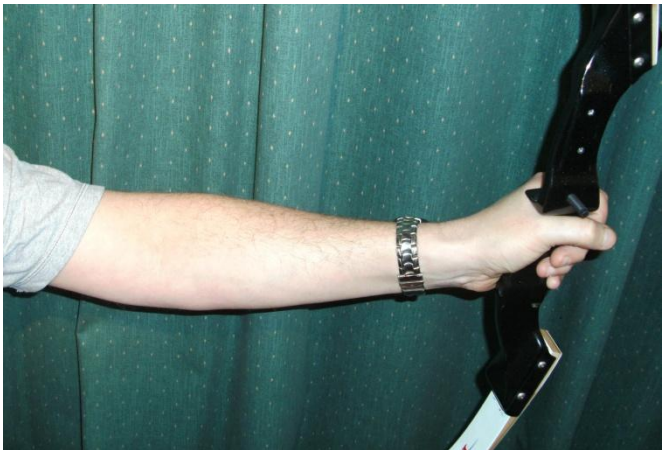
Three fingers under and a dropped elbow.

(1) ***The importance of "three fingers" under draw, to coach's***

- DOESN'T pinch arrows with the fingers, allowing beginners to shoot their first arrows without pulling them off the arrow rest.
- Allows pupils to achieve an "anchor point", location on the face, where they can "gun barrel" by looking down the arrow using it to aim.
- Explain why we are not teaching "instinctive" because by the nature of the word if you can shoot instinctive you can do it immediately.
- Explain why getting the first arrows to hit the target is important.

(2) ***Dropped "Elbow"***





- Explain the dropped “Elbow”, why it works so well, show the position to each potential coach. (They may not agree).
- Explain handhold on the bow (how to demonstrate)

- ***The dropped elbow does three things:-***
    - Firstly it takes the arm out of contact with the bowstring.
    - Secondly it builds a “relaxed shock absorber” into the bow arm.
    - Thirdly it eliminates “locked joints” from a straight arm.

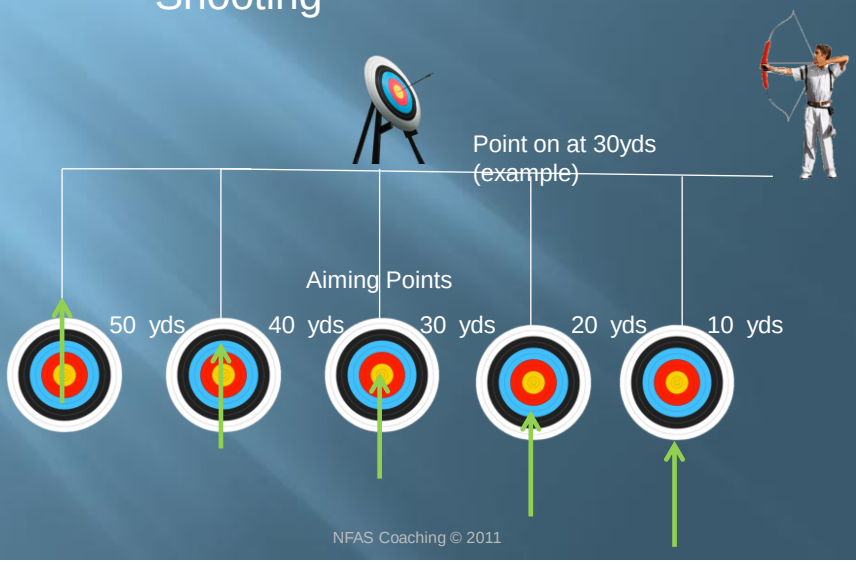
25. Gap Shooting

Gap shooting essentially is just using something on your bow as a sight ... most typically the point of the arrow. In premise, if you have consistent form, your arrow will come to the same point relative to your bow each time. Then with practice you use the tip of your arrow as one reference point and then the target as a second reference point and look at the "gap" between them. Based on the distance the "gap" will change. At some distance the tip of the arrow will actually be on the target and this is the distance where you are "point on". From there if you are closer to the target you shoot under the target and further from the target you shoot over.

The principles of Gap Shooting

First determine your point of aim . This is the point at which, when you shoot the arrow and it hits the exact spot at which you were aiming. Shoot an arrow from this distance, then from ten yards, aim at exactly the same point on the target (note, your arrow may go well above the target boss at this distance. (Ensure you have suitable backstop material in place).Measure the distance between your first arrow, point on and your second arrow ,10 yards. This is the distance that you should aim below the target to hit the intended score area. Repeat these steps for each 10 yard increment up to your point of aim. For distances greater than your point of aim, your arrow will be landing below the intended target area, measure the distance between your point of aim arrow and the arrow s below and this will be the distance that you have to shoot above to achieve hitting the desired target area.

The principles of Gap Shooting



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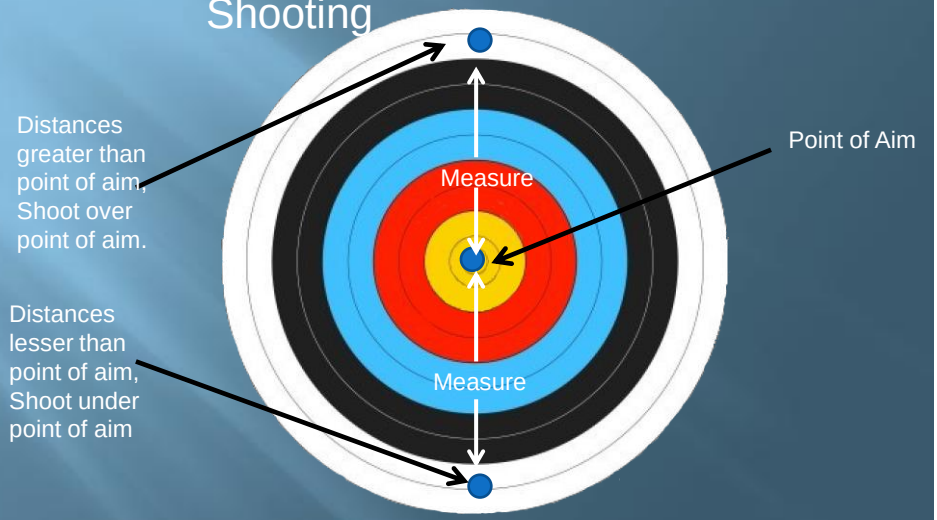
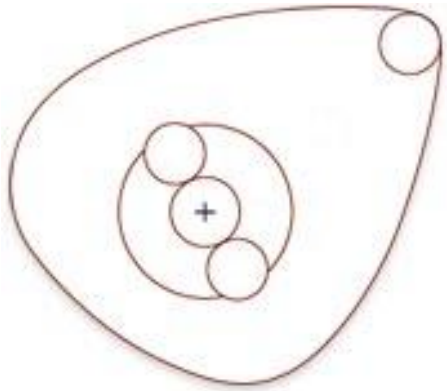


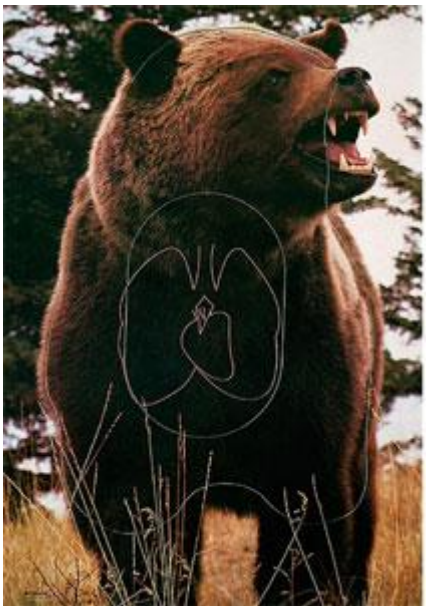
Scoring in NFAS Competitions

Line Cutters
What Counts….and what doesn't?

If the arrow shaft touches the outer edge of the line the higher score counts.

Multi Scoring Zones and True Vitals





On many of today's targets we are presented with multi scoring zones, it will become incumbent on your as coach to explain how they are scored and which ones count. At all shoots it is the responsibility of the organisers when using such targets to state which zones are being scored, however this is not always the case and you should always check if it is not mentioned.

On some paper faces inner kills have been replaced by representations of heart and lungs. The heart counts as the inner kill (24) when used and includes the ventricles.

NFAS PEG SHOOTING ORDER

AGE GROUP	1st Arrow Peg	2nd Arrow Peg	3rd Arrow Peg
ADULT	RED	WHITE	BLUE
JUNIOR 14 & 15 years inclusive	WHITE	BLUE	BLUE
JUNIOR 12 & 13 years inclusive	BLUE	YELLOW	YELLOW
CUB Under 12	YELLOW	YELLOW	YELLOW
CUB Under 9	ORANGE	ORANGE	ORANGE

NFAS BIG GAME SCORING

ARROW	SPOT	INNER (KILL)	OUTER (WOUND)
1st	24	20	16
2nd	0	14	10
3rd	0	8	4

Cheshire Oak Bowmen Beginners Course

Training Record Form (First three Weeks)

Name:

Week 1

Objectives:

Archers will be able to:

- Understand the safety requirements
- Understand the need for warming up
- Understand “dominant eye”
- Use bracer and tab
- Stand correctly
- Nock, draw and loose an arrow safely
- Understand the use of a reference point
- Repeat draw position
- Safely withdraw arrows from target and ground

Week 1

0000	Introductions Assess students physical ability and appropriate draw weight Check for dominant eye and issue bracers and tabs	Comments
0015	Basic safety rules including problems with jewellery and glasses etc. / shooting line / brief outline of NFAS safety rules / meaning of **"STOP**"	
	Warm up	
	Draw position muscle memory (no bow)	
	Explain correct arrow length while students practice drawing	
0030	Demo nocking and drawing (3 fingers under) Issue them 1 arrow each Demo nocking, drawing and loosing into target at 5yards Demo correct way to withdraw arrow from Boss and from the ground (safety note: beware walking onto arrows) Demo coming down from full draw. (safety note :use of command "Stop") Repeat; No one shoots until told to. No one crosses shooting line until told to. Answer any questions	
0045	Demo a standard shot with bow vertical (complete cycle) Emphasize finger, thumb and elbow position Discuss Muscle Memory	
	All students to try 3 arrows using vertical bow position from 15 yards Establish Bow down after shooting. Command to move forward and withdraw	
	Demonstrate correct method of withdrawing arrows. Students withdraw their own arrows	
0050	Demonstrate correct stance. Repeat safety rules referring to shooting line	
	Students to stand at the shooting line and align shoulders with target with both arms outstretched. (adjust foot position to align bow hand with target)	
	Students to shoot 6 arrows noting stance from 15 yards Instructor to note safe withdrawal of shafts	
0100	Demonstrate draw using simultaneous push pull. Students shoot 6 arrows from 15 yards and withdraw Check thumbs, check bow arm for string clearance Review safety rules using question and answer	
0110	Demonstrate a reference point (remind students to practice in front of mirror) Review reference point usage Students shoot 6 arrows from 15 yards focusing on their reference point	
0120	Break.	
0130	Review learning so far; dominant eye; arrow/draw length; bracer use; tab use; stance; push pull draw, reference point	
0135	Students shoot 6 arrows and withdraw	
0140	Discuss parts of Recurve Bow and arrow (hand-outs)	
0145	Demonstrate "T" draw. Discuss advantages/disadvantages	
0150	Allow students to shoot up to 12 arrows. Circulate and give individual instruction	

0155	Final recap on learning. Demonstrate use of stringer and step through Next week we will be looking at the loose.	
0200	Half hour practice for those who wish to stay on	

Week 2

Objectives

Archers will be able to:

- Review their understanding of the safety rules
- Recap the draw types
- Understand the complexities of the loose in general
- Understand the "paradox"
- Understand arrow grouping
- Understand the differences between different types of arrows

0000	Introduce the session as covering the reference (anchor) point and loose	
0005	Issue equipment. Oversee use of stringers	
0010	Review safety rules	
0015	Recap last week's learning: stance / push pull draw / bent arm / thumbs / 3 fingers under / reference point	
0020	Warm up	
0025	Students to shoot 6 arrows at 15 yards	
0030	Introduce target pins as focus targets (watch for arrow grouping) Students shoot 6 arrows 5 times at 15 yards Circulate and advise	
0100	Break	
0115	Discuss distance / cast / trajectory / power and the reference point / the paradox	
0125	Students to shoot 6 arrows. Circulate and lay emphasis on: bow arm; good stance; repeatable reference point	
0130	Students to shoot for 10 mins	
0140	Show various types of arrows. Briefly discuss merits of aluminum, carbon and wood and their use in competitions. Describe the Archer's Paradox	
0045	Students shoot 6 arrows x 2	
0150	Review student's perception of their shooting: how do they feel; are they tired; suggest what exercises could be used during the week to improve performance	
	Half hour practice for those who can stay	

Week 3

Objectives
Archers will be able to:

- Practice the linking of all actions in the shoot routine together
- Understand the difference between the dynamic loose and the dead loose
- Understand the principals of gap shooting
- Use the Mediterranean loose
- Apply a dynamic loose
- Understand differences between different types of bows and their arrows

0000	Recap last week's learning	
0010	Issue equipment	
0015	Warm up	
0020	Archers shoot 6 arrows focusing on Med loose and reference point	
0025	Demonstrate the dynamic loose	
0030	Archers shoot 6 arrows @ 15 yards using a Dead Loose	
0035	Archers shoot 6 arrows @ 15 yards using a Dynamic Loose	
0045	Demonstrate the whole procedure again; standing / nocking / T drawing / arm bent / thumbs down / Dynamic loose Students to shoot 6 arrows @ 15 yards concentrating on smoothness, linking actions together and focusing on their loose	
0050	Introduce Gap shooting (including an explanation of aiming) Ask students to shoot at 30 yards and observe gap between pile and target. Each student to place markers (target pins) on ground or target to use as gap positioner. Remove markers and shoot again for	
0055	Shoot 6 arrows at 15 yards	
0100	Shoot 6 arrows at 30 yards	
0105	Shoot 6 arrows at 15 yards	
0110	Break Input from Committee member about club, membership & expectations	
0125	Shoot for 10 mins from three different distances (moving forward each time (possibly use focus targets see below) Introduce shooting from a height using the platform	
0135	Introduction to the course	
0155	Brief review. Next week shooting the course	

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Change the targets used this week to introduce archers to the idea of constantly shooting different targets. Some suggestions could be:		
Paper plates	Balloons	3Ds
"Focus" targets such as Target Pins or playing cards could be used		
During this session try to introduce the idea of focusing on a small part of the target		

Additional Useful Information

Recurve Bow initial Setup (Take down bow)

It is important that equipment to be used must be set up correctly to allow the archer to obtain maximum accuracy and performance.

This article assumes a person has just purchased a new recurve bow and wants to set the bow up. This process is very straight fon/vard and set out in clear steps that should be followed.

1. STRING LENGTH AND BRACE HEIGHT
Ensure the correct string length is being used. Usually these are purchased in lengths to match the bow length. By using the correct string this ensures the right amount of string is sitting around the recurve on each limb and the brace height is within the manufacturers specifications. Check the handbook that comes with the bow to ensure for the recommended brace height for a given bow length.
This measurement can vary between brands and models.

The brace height of recurve bows is measured using a bow square. The brace height is the measurement between pivot point of the bow and the string measured at 90°.
The process for checking and adjusting the brace height is —

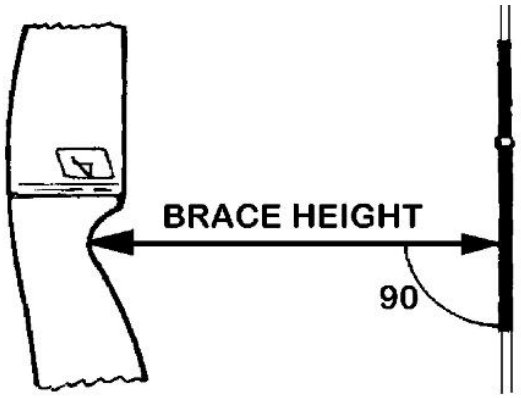
a. Place the bow square into the pivot point of the bow (the throat or narrow part of the bow grip)and measure the distance to the bow string. keeping the bow square at right angles to the string for this measurement.

b. Measure the brace height.

c. if the brace height is too low (most common) unstring the bow and increase the brace height by putting 5 to 10 turns in to the string in a clockwise direction.

d. Restring the bow and recheck the brace height. Repeat this procedure until the minimum recommended brace height is reached. Never put more then 20 to 30 twists into a string. If greater than this number is required you will need to replace with a shorter string.

e. if the brace height is too high and the string has a large number of twists. you can lower the brace height removing a few twists thereby increasing the strings length. If the brace height is too high you will need to replace it with one which is longer.



Bow manufacturers recommend a brace height for each model and length of bow, but as a guide most bows fit within the following tolerances in brace height.

62” Bow	73/4 to 81/4	197mm to 210mm
64” Bow	8” to 81/2”	203mm to 216mm
66” Bow	81/4” to 83/4”	210mm to 223mm
68” Bow	81/2” to 9”	216mm to 229mm
70” Bow	83/4” to 91/2”	223mm to 242mm

Another method to determine the appropriate brace height is to measure the length of the bow and divide by 8.

Never use a bow with a brace height lower or higher then the tolerances specified. If you use a low brace height, this can damage the bow but most importantly can cause the string to hit the bow arm around the wrist. A bow with a high brace height can over stress the bow and cause damage.

2. TILLER AND BOW WEIGHT SET UP

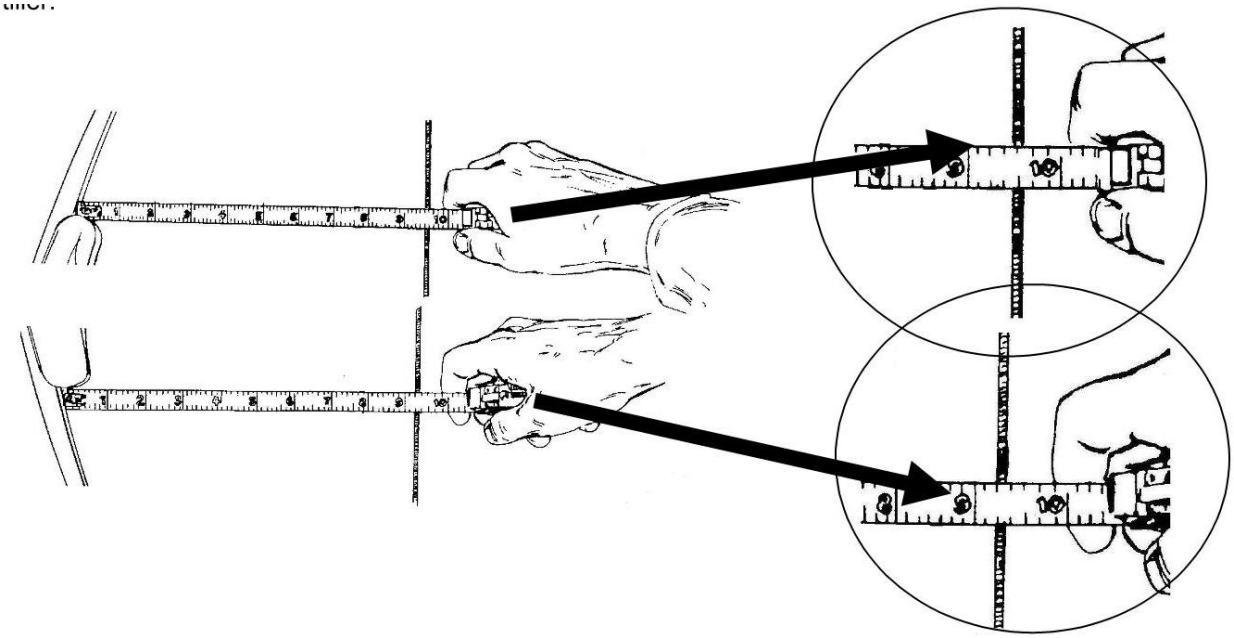
Most modern bows have the feature where you can vary the bows draw weight which in turn can change the bows tiller. To change the bow weightl tiller you simply use an “Allan” key and screw in or out each limb. In to increase bow weight and out to decrease bow weight.

Ideally bows should be set up with the bow weight set in the mid setting.

The tiller is a measurement which indicates the weight difference between the top and bottom limb. it is
important as the grip (pivot point) of the bow is usually in the centre of the bow but the arrow rest and nocking point are positioned above the centre. This means the bottom limb is longer then the top and should be set slightly heavier in weight to give a consistent bend at full draw.

The amount of tiller difference between top and bottom has an effect on the bows reaction upon release
and the archer's ability to aim and hold steady at fully draw.

The amount of tiller difference will vary from archer to archer depending upon factors such as grip pressure, finger pressure etc. As a starting point, set the top tiller about 1/8" greater than the bottom tiller.



To set the tiller, firstly set the bow weight to the mid setting and then check the tiller measurement as shown above, remember we want the top limb measurement to be greater than the bottom limb.

Now screw the limb bolts either in or out until you obtain the required tiller (measurement). When doing
this you may change the draw weight of the bow, to maintain the same draw weight, then make equal and opposite adjustments to the bottom limb, for example take one turn off the top limb and add one turn off the bottom limb.

This will change the tiller measurement but retain the same bow weight as you removing weight from the top limb and adding weight to the bottom limb.

Ensure you follow the manufacturers instructions when carrying out this adjustment. Some bows can be adjusted when strung while others must be unstrung to make adjustments.

3. LIMB ALIGNMENT

Most modern recurve bows come with the ability to adjust the bow weight/tiller and to adjust side-to side
alignment of the limbs.

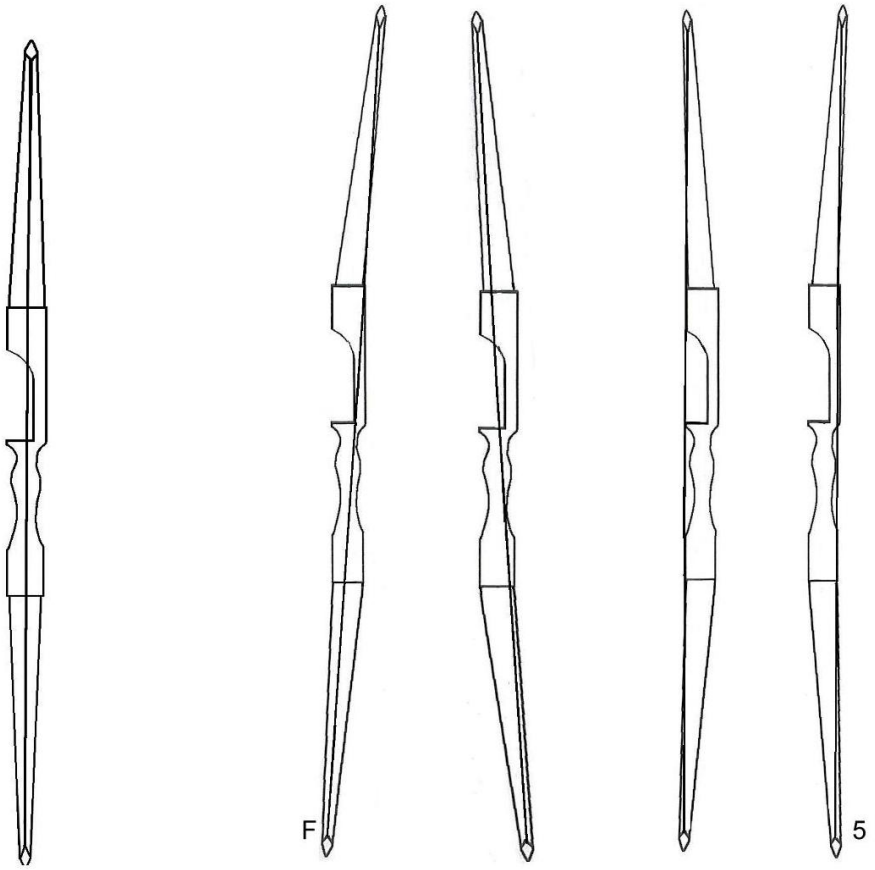
Most brands and models of recurve bows currently on the market have interchangeable limbs and risers. You can mix brands of limbs and risers, that is to say you can use one brand of riser with another brand of limb, as you need the ability to align the limbs and riser.

This ability to adjust side-to-side alignment of the limbs gives you the ability to accurately align of the limb and riser with the grip, increasing the bows accuracy. As part of the initial bow set up you should check this to ensure the bowstring sits down the centre of the each limb and (most importantly the centre of the grip) and that the riser is square to the bow string.

Each brand and model of bow comes with their own unique methods of aligning limbs and riser so you should carefully read the instructions which come with the bow.

To start, locate the centre of each limb. There are tools on the market for doing this or simply place a piece of tape on the face of each limb as it enters the riser, then measure finding the limbs centre and mark with a pen.

Align the limbs so the string passes through the centre of the upper/lower limb (using the marking on the limb) and the centre of the grip (fig 1). It is very important that you give special attention to ensure that both limbs are not aligned so each limb is opposite each other (fig 2 and 3) or aligned equally or off to one side (fig 4 and 5).



It is very important that limbs are aligned straight and that both limbs are aligned with the centre of the grip.

You can also check this by placing a straight edge (arrow shaft, ensure it's a parallel arrow shaft and not a barrelled shaft) along the side of the bow window and the string. The straight edge should sit just inside the bow string (this is due to the fact that in most bows the sight window is cut just inside centre).
If the straight edge is not square or sitting just inside the string this indicates the limbs are not aligned down the centre of the bow and grip.

You can also use the front stabiliser to assist in aligning the limbs and riser. The stabiliser mounting hole should be square to the riser so by fitting a stabiliser you ca use this as a straight edge reference point for aligning the string

The process for checking and aligning the limbs is —

1. Stand the bow up (vertical as possible) on the lower limb supporting the bow by the front stabiliser. Stand behind the bow and align the string with the centre marks you have placed on each limb and the centre of the grip.

2. Align the limbs using the instructions provide by the manufacturer (this will vary from brand and model of bow)

3. Check that the string is aligned with the stabilizer and using a straight edge check the string is square to the riser (sight window).

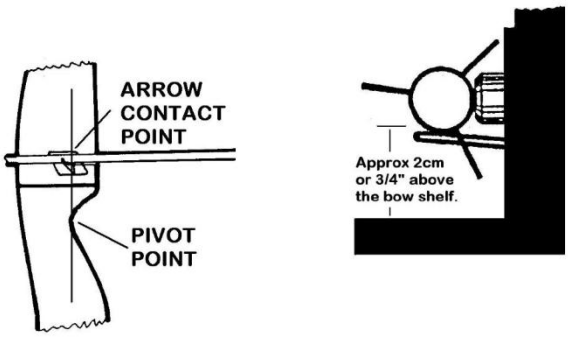
By following the previous two steps listed, you will be able to adjust the-alignment of the limb

and riser easily.

4. ARROW RESTS

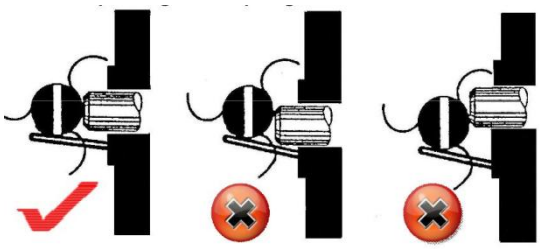
Arrow rests should be fitted to the bow window so the contact point of the arrow onto the rest is directly
above the “pivot point” of the bow. Recurve bows usually come pre-drilled with a hole in the riser for the plunger button. If the riser comes with two holes always use the rear hole for the plunger button (the hole directly above the bows pivot point).

Always install the arrow rest before installing the “nocking points".

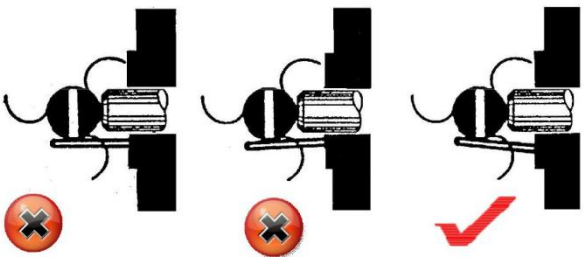


The arrow rest must be positioned correctly to ensure the arrow sits on the arrow rest square to the plunger button, this ensures even side pressure against the plunger upon release.

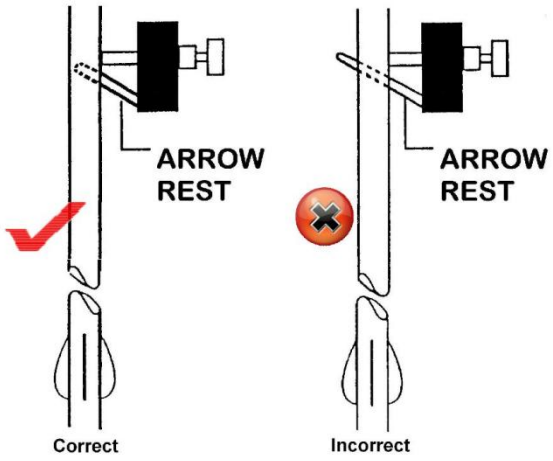
Install the arrow rest to ensure the arrow sits
square againt the plunger.



The arrow rest must also be positioned to ensure the arrow remains on the rest upon release and does
not fall off the rest.



It is also important that a minimum amount of arrow rest arm protrudes out from the arrow; excess arrow arm may cause a clearance problem as the arrow moves forward.



5. NOCKING POINT AND NOCK FIT
To obtain consistent arrow flight, a point on the bowstring must be found at which the force of the string
will act directly along the shaft of the arrow.

The archer holds the bow in the grip which is generally around centre of the bow with the arrow rest mounted above centre of the bow. For this reason the bottom limb is usually heavier than the top limb, this is called the “tiller”. So the nocking points are positioned slightly above square to the arrow rest to balance the stresses on the limbs.

To determine the starting point for the nocking points, the bottom of the nock should be positioned the same distance above square as the bows tiller.

If the points are positioned too low the arrow will be forced down on the arrow rest upon release and cause the passage past the bow to be further complicated and cause undue wear on the arrow rest. It is therefore desirable to have a nocking point slightly higher than the arrow rest to avoid interference.

Setting the Nocking Points

a. String the bow and set the string or brace height to within the manufactures recommended tolerances.

b. Determine the bows tiller.

c. Place a “Bow Square" onto the string and arrow rest.

d. Using a marking pen, place a mark on the sen/ing which is the same distance above square as the bows tiller, this represents the bottom of the arrow nock.

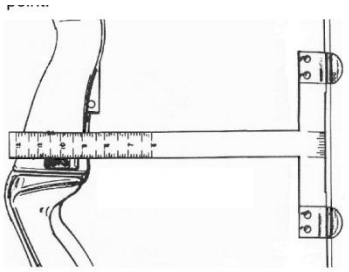
e. Place an arrow on the string, locating the bottom of the nock on the pen mark and, using the marking pen, make another mark at the top of the nock. This represents where you will place the top nocking point.

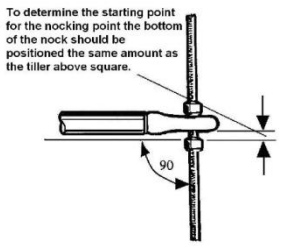
f. Now attach a top nocking point to the string.

g. Remove the arrow and place a second nocking point onto the string leaving a gap of about 2mm between the bottom of the nock and the top of the bottom nocking point. This allows for

movement of the nock as the string closes up when drawn back to full draw. You do not want the bottom nock point making excessive contact with the arrow nock.

h. It is highly recommended that two nocking points always be used, a top and bottom nocking point.





There are two common types of nocking points used. A commercially available product called “Nok Sets" and a tie on type that only requires a length of bowstring serving material. Nok Sets are great for setting up the bow as they are easy to adjust but should not be used permanently, always us the tie on ype of nocking points.

When setting up a bow it is important that the arrow fits correctly onto the string. Most nocks made are designed to snap onto the bow string but it is important the fit is not too tight or loose.

The nock should fit in such a way that it snaps onto the string but still has enough movement to freely slide up and down the string. As you draw a bow back, the string can rotate as you draw. The nock fit should be such as to allow this rotation without placing excess side force on the arrow.

You can carry out a simple test to determine correct nock fit. Firstly, place an arrow on the string and hold the bow in one hand so the arrow hangs down towards the ground. Now with your other hand using your thumb and first finger, rotate the string. The arrow should not move with the strings rotation but remain hanging. If the arrow moves with the rotation of the string then the nock fit is too tight.

Many brands of nocks come in two hole sizes - .88 mm and .98 mm also called small or large holes. Ensure you have selected the appropriate hole size that gives you a good nock fit.

You can also tighten the nock fit by using different size sewing material. Alternatively, you can increase the strings diameter by laying additional strands of string under the serving.

Never wrap material (usually dental floss or cotton thread) around the nocking point to build up the serving. This should be used as a temporary measure only and should never be used permanently. This material can quickly wear giving you a poor fitting nock.

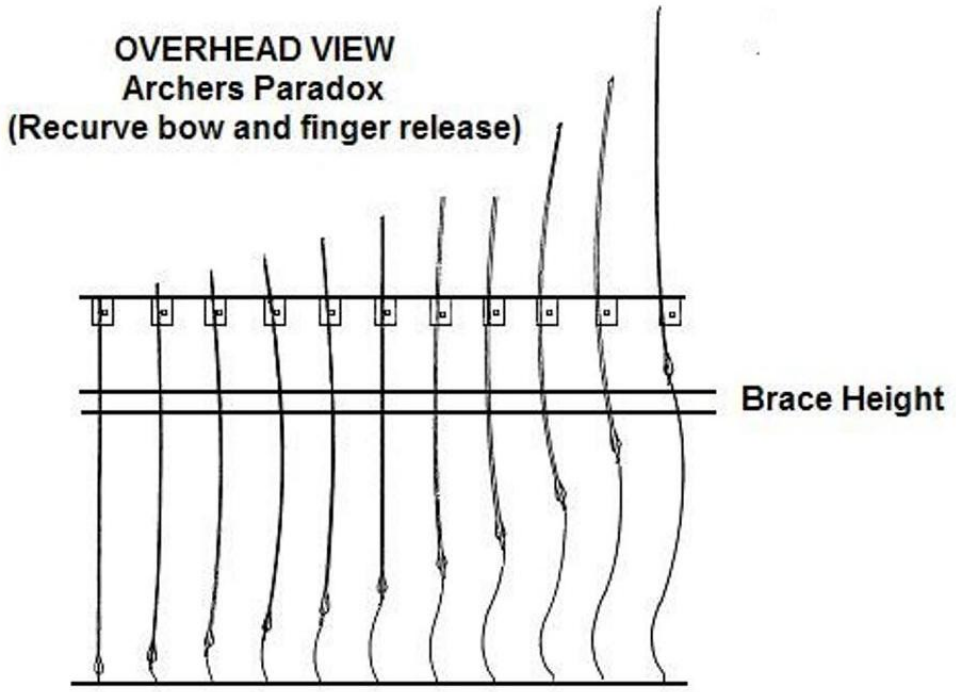
6. CENTRE SHOT

Centre shot refers to the arrow sitting attached to the string and sitting on the arrow rest in the centre line of the bow.

As you shoot you want the arrow to travel forward in a straight line from the bow to the target. To achieve this, the arrow is not set up in centre shot, but initially set up with the point of the arrow positioned slightly outside of centre shot.

As you shoot and the arrow starts to move forward, the arrow initially places side pressure on the side of the bow. This is caused for two reasons, one is the rotation action of the release and the second is the flexing action of the arrow as it moves forward, this flexing action is know as the “Archers Paradox“.

The Archers paradox initially pushed against the side of the bow for about the first 20 mm to 40 mm of the arrows travel. The arrow then moves away from the arrows rest and bow and it continues forward movement and clears the bow.

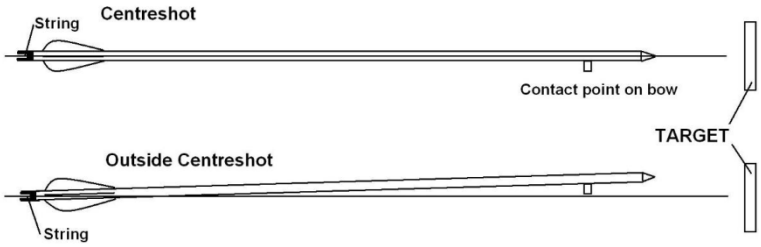


Most bows are fitted with a plunger button which is designed to initially absorb this side pressure allowing the arrow to move into centre shot as it commences its forward movement.

To achieve this, the arrow is set up so as at brace height it sits just outside (1/2 an arrow width) of Centre shot as the arrow starts to move forward.

This is the best location to initially set up a recurve bow particularly for a new archer who is not skilled enough to undertake a detailed tuning process.

How you achieve the final set up and position of centre shot will depend upon the method you use.



To set centre shot

1. Stand the bow up with an arrow on the string and rest. Place under the clicker if one is being
   used.

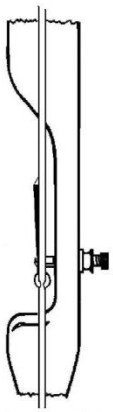
2. Standing in front of the bow line the string down the centre of the bow, it may be necessary to measure centre and mark on the bow limbs. To do this place a piece of tape on the top and bottom limbjust above and below the handle. Measure the centre of the bow and mark.

3. Lining up the centre lines with the string, observe the position of the arrow point in relationship to the string.

4. Depending upon the tuning method you plan to use, either set the bow in centre shot or ½ arrow outside of centre shot

5. Now carry out the process of tuning following the recommended tuning method.

Arrow set up in centreshot

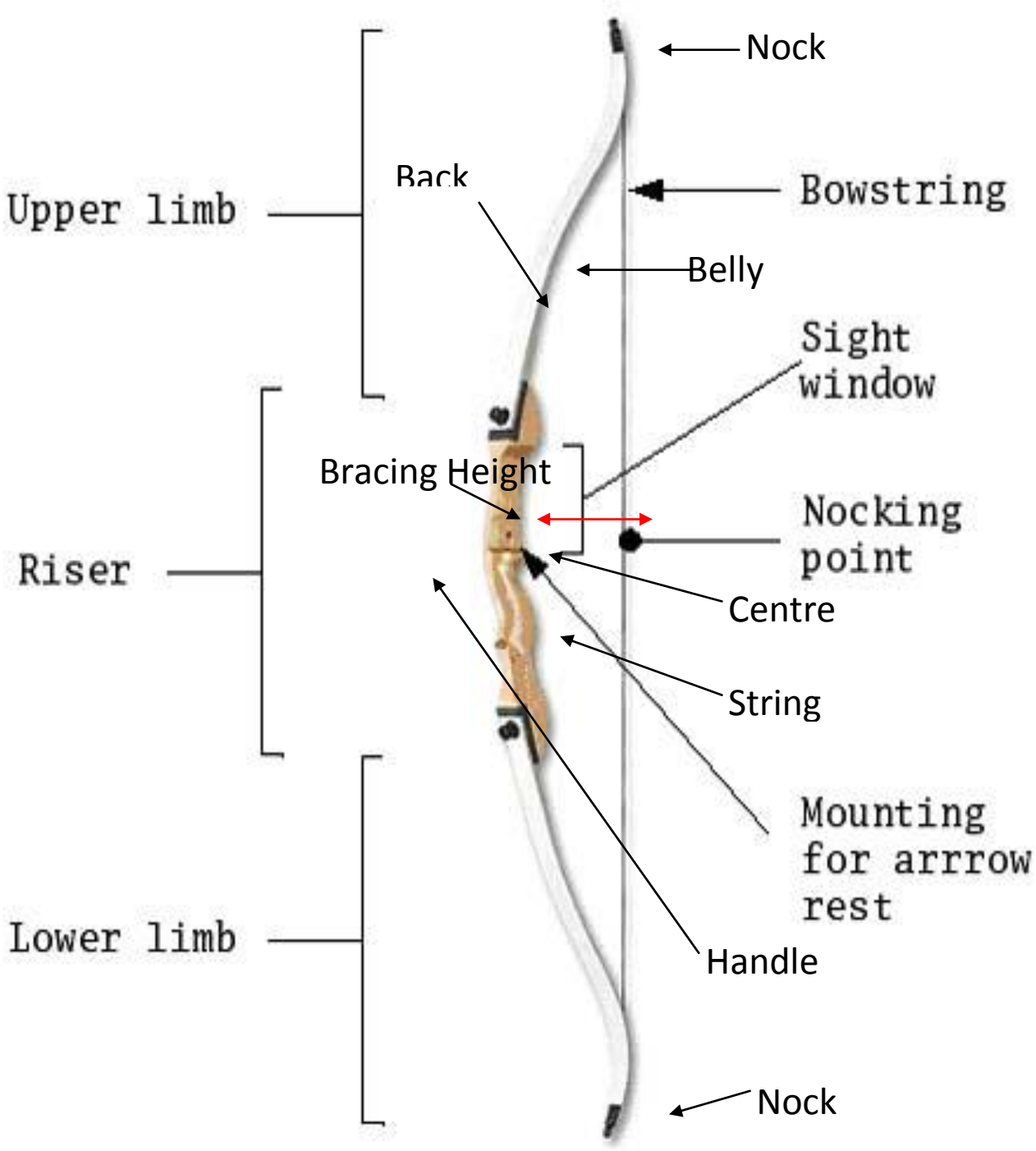


Arrow set up 1/2 arrow outside of centreshot

The release should be a surprise and there should be no conscious thought in executing the release.

Different types of equipment.

RECURVE

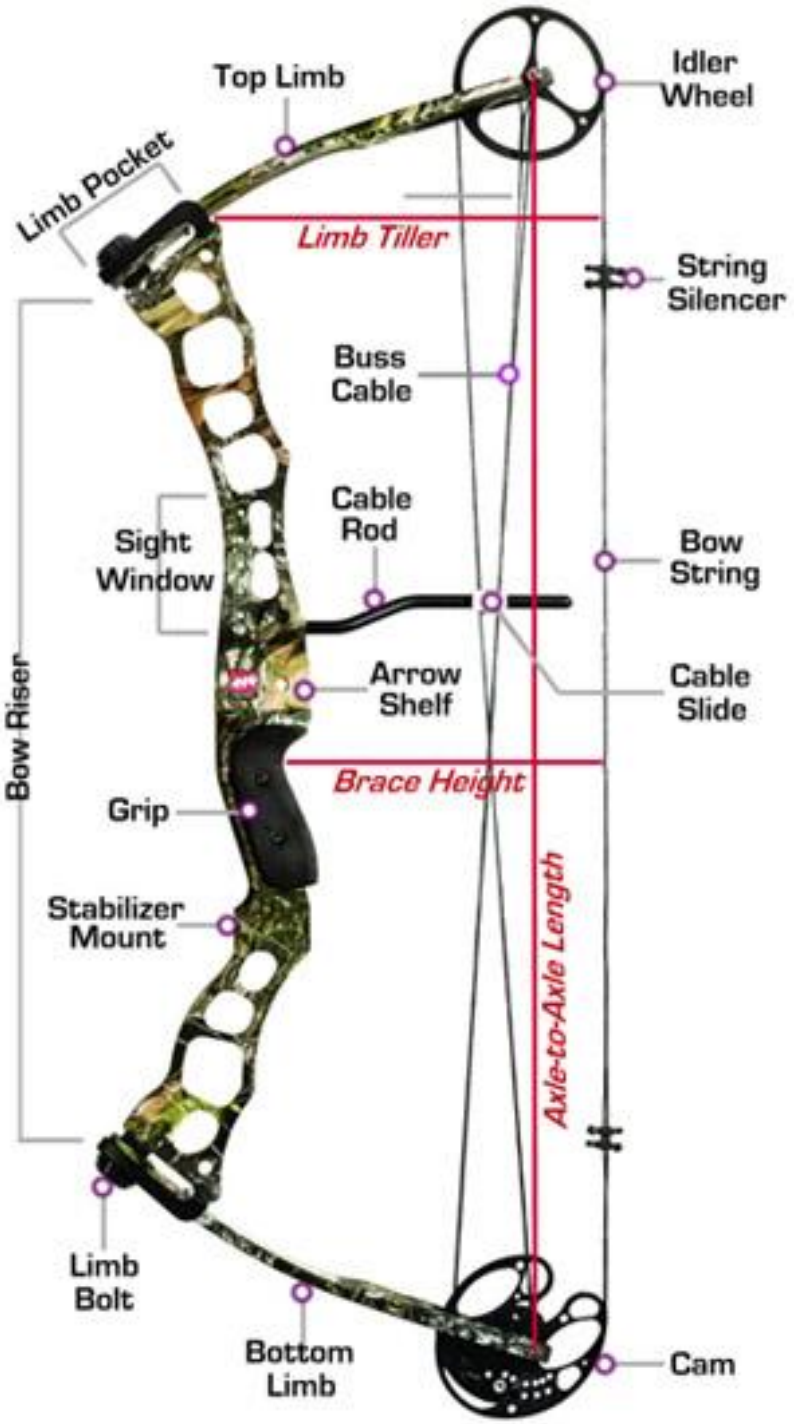


International Limb Fitting, or bolt on.
Need for bow stringer essential
Limb tiller system, allows for removal of limb twist and draw weight variation
Pressure button - Allow for small alteration to arrow flight
Arrow rests - Many different types, KISS (Keep it simple Stupid)
Check the following. - Condition of riser looking for paint condition, cracks, general wear & tear
Condition of limbs, damaged, cracked, twisted and the limb tips.

AFB

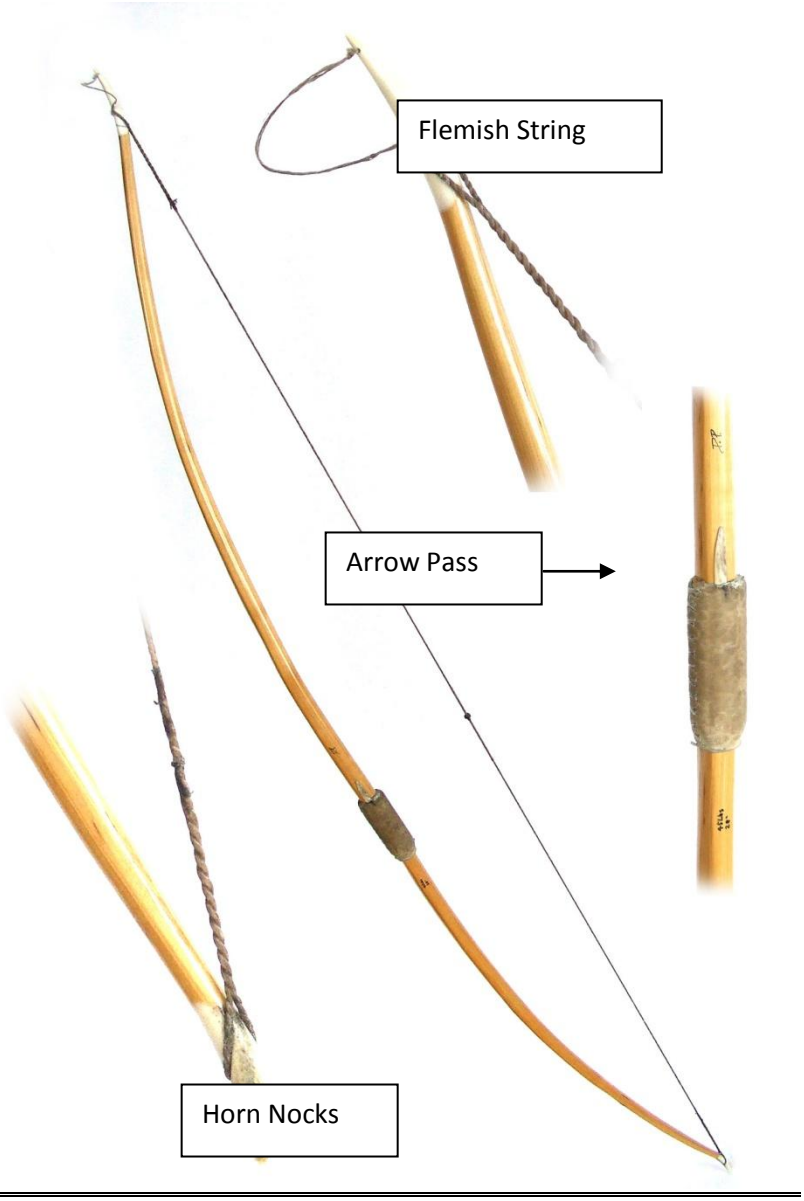
Check AFB's for:
Limb damage, cracks, wear & tear, limb tip damage
Arrow shelf damage
Riser damage, cracks, deep scratches etc.

COMPOUNDS



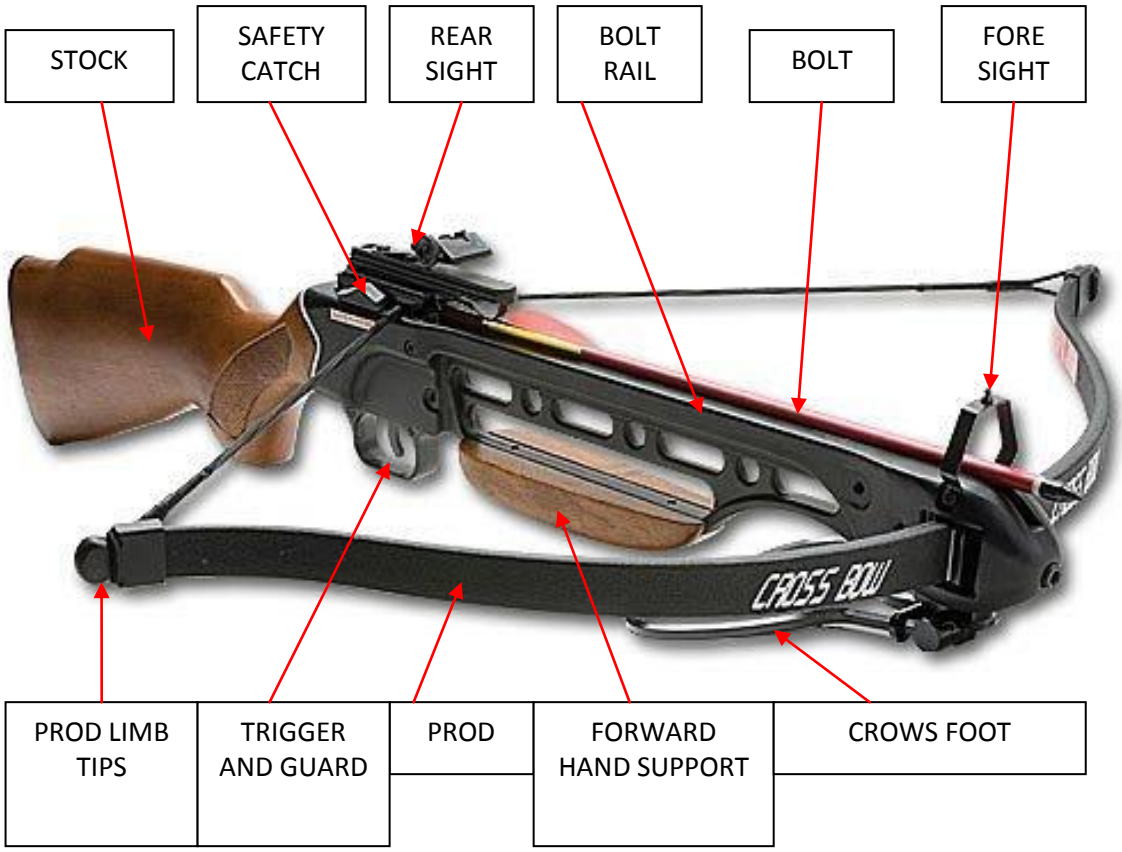
Check the following.
Damage to limbs, twisting, cracks general wear and tear and paint condition, particularly important with magnesium risers.
Wheels & pulleys, check condition, alignment and condition of pins and axle.
Bow bracing height should be constant from adjustment bolts on both sided.
Arrow size – Be aware that no arrows under 5 grains in weight per Lb (Total arrow weight inc. piles etc.) of bow weight i.e. no arrow under the total weight of 225 grains should be shot from a 45Lb compound or the result is very close to that of a dry shot bow.

LONGBOWS



Check the following.
Condition of wood i.e. scratches, frets, grain lifting, delaminating
Arrow pass point not damaged i.e. usually pearl or very hard wood if this is damaged the arrows could have damaged the bow.
Is the bow single length or is it joined in the handle? If it is joined does it creak in the handle when drawn?
Excessive string follow
Limb twist

CROSSBOW.



Check the following.
Plastic limb tips, are they removable? If removable are the tips in good condition?
Prod is usually removed when not in use for long periods of time.
Aluminium prods are illegal in the NFAS
Crossbow manufacturers recommend that no wooden bolts should be used with there crossbows.
Check prods for twist, damage and general excessive wear and tear.
Crossbow Draw length (Stroke) MUST be at least 12” long and MUST NOT exceed 16”
Crossbow bolt MUST be at least 14” long
Mechanical drawing devices on crossbows are illegal in the NFAS.
Bolt Speed must not exceed 300 ft/s.
All crossbows in the NFAS MUST be fitted with a bolt retainer.
In the NFAS, all crossbows are to be fitted with a safety mechanism that prevents accidental firing.
All bows must have a trigger guard.

THE CROSSBOW SAFETY CHECK

It is not mentioned in the crossbow class rules for the NFAS.
However carrying out this test could well prevent you from having a very serious accident.
This test is to determine whether the trigger mechanism is safe and not likely to shoot or misfire without the trigger being operated.

Test method that can be adopted is as follows:-

- Get close to a target boss, say 2ft to 3ft away at the maximum.
- You need to cock the bow, and because you are going to try and make it shoot on its own you need to load it with a bolt. After all you do not want a dry fire with a crossbow any more than you do with any other type of bow.
- Hold the bow in the left hand as near the balance point as is practical with that particular bow.
- Make absolutely certain that the fingers or thumb of the left hand are below the level of the bolt track, so that they cannot be hit by the string should the bow misfire.
- With the palm of the right hand, and in no particular order make sure that you do all of the following.
- Make absolutely certain that the bow is aimed at the middle of the boss while doing this.
- Tap the stock near to where it contacts the shoulder, on the top, then on the underside, followed by on the right then the left sides and finally on the end where it would contact the shoulder if it was being shot.
- If the bow does not misfire repeat the above instructions but this time, give the stock a firm slap.
- Finally if the bow is still safe repeat the above again but this time increase the blows on the stock to a vigorous slap.
- While you are slapping the stock with your right hand your left hand cannot hold the bow steady but if you have obeyed item 1 above and the bow does misfire the bolt will hit the boss. Although the syrup of figs will have worked you and everyone else will be safe.

Please note! The above is written for right handed persons if you are left handed then the opposite hands apply.

COMMON EQUIPMENT FAULTS

We can categorise equipment faults into three main headings:

- Fair wear and tear.
- Manufacturing Faults
- Misuse.

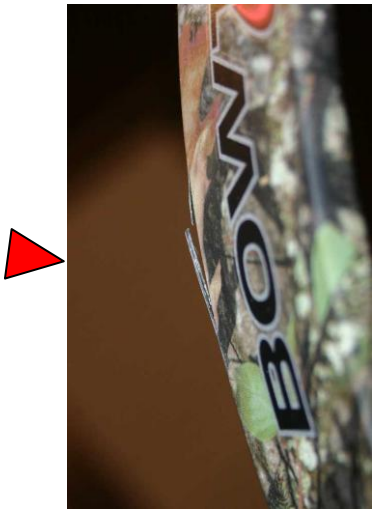
As a coach it will be your responsibility to check all equipment before your students use it. It is however good practise to explain what you are checking for and why, so in the future we can be confident that bows and equipment on our courses are fit for purpose and unlikely to fail and injure the archer or a bystander.

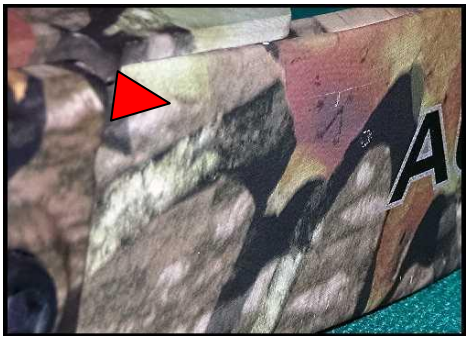
Fair Wear And Tear
Regardless of how equipment is stored and used, over time parts will wear and a coach needs to spot these before they become critical.
Particular attention should be given to any anchor points, i.e. limb bolts, sight mounts rests and bushings.
Strings should be kept in good condition with regular waxing and replace when signs of fraying appear.

Bent arrows should always be straightened and dented and twisted shafts discarded.

Manufacturing Faults
Regardless of modern systems within the manufacturing industry faults do occur. Most reputable companies will issue a recall in a problem occurs however as a coach I would suggest that should you find a fault that you believe is a manufacturing error it should be reported.

Misuse
By far the most common faults with equipment come from misuse. The number one of this group is damaged caused by the 'DRY FIRE' (Loosing a bow with no arrow fitted).
When a bow is drawn kinetic energy is stored within the limbs for the sole purpose of transferring it to the arrow to propel it down range.
When the arrow is absent and the bow loosed the kinetic energy must be dissipated. This is a fact of science; it is achieved through converting the energy into movement and heat which the archer will feel as excessive vibration.
Not all bows will show an effect but it is a timely reminder when buying second hand bows. Do you know there history?
Below are a few examples of bow damage caused by dry firing.





NB: When checking limbs for cracks and splinters do not use bare hands run a piece of cloth over the limb. This will catch on any imperfections.

STABILISERS.

Rules within the NFAS prevent the use of certain size stabilisers for certain styles.
Barebow MUST not exceed the length of the archer's arrow or his/her draw length.
Bow Hunter MUST not exceed 12" – Needs to be checked.
C/L, U/L & F/S are permitted to use any length of stabiliser.

ARROWS.

Arrow selection is a very complex process. Simplistically there are arrow charts produced by Easton, Quick's etc. that take some of the guesswork, out of arrow selection. To use arrow charts you need to be able to identify the following:

Bow draw weight to be used by a specific archer.
Arrow length, to be used by specific archers.

A word on Traditional BODKIN Piles

NFAS ACCEPTABLE	NOT NFAS ACCEPTABLE
	
	
	

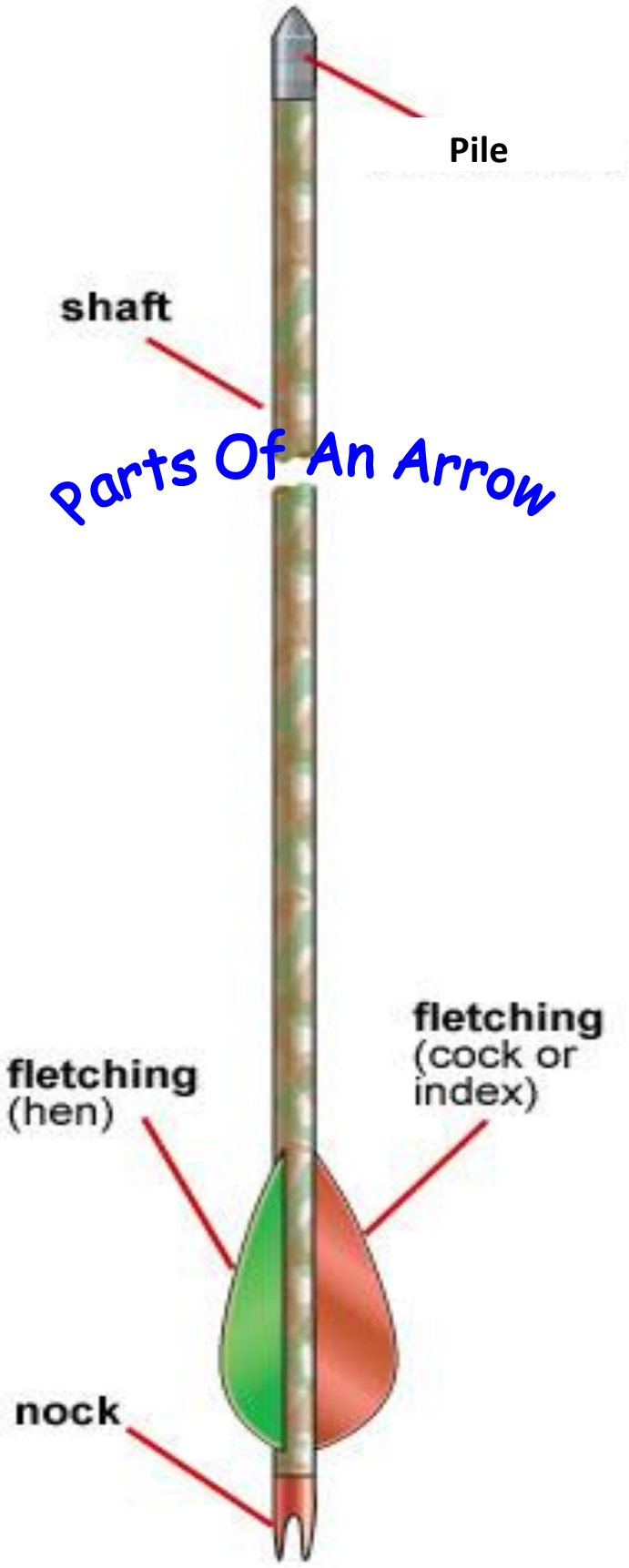
Some General Equipment

Bracer

Bow Stringer

Tab

Shooting Glove



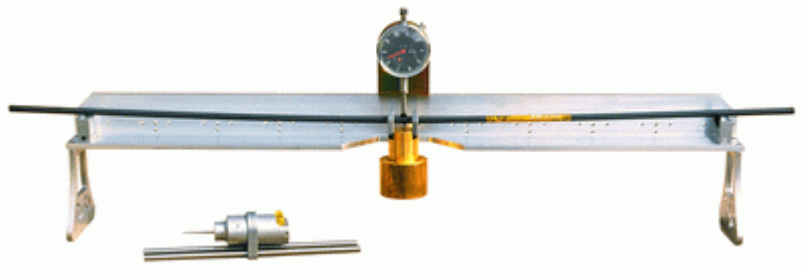
When a beginner is ready to move on from club practice equipment, they will probably feel that they are ready before the coach does. It is important that they start off with something they are able to shoot without strain. It is very bad practice for beginners to over bow themselves; as this can lead to a lot of problems. They will probably develop to be able to handle a heavier bow in time.
If a beginner's equipment box boasts a simple composite bow of reasonable light weight, let them move onto this for a while first. Try as many bows belonging to fellow Club members as possible provided there is no risk of damaging the bow and you have the permission of the owner. The beginner will then realise how different bows are one from the other.

When the beginner is ready to buy their equipment, It is recommended they buy a reasonably simple second hand bow first (this can be sold again when they have outgrown it).

Less money will be lost than if they buy an unsuitable one. It will be some time before the beginner really knows what will suit them in the long term. Try to avoid the purchase of a compound bow in these early stages as beginners will have great difficulty in the future of holding a full weight bow for other styles. The beginner who progresses steadily is far more likely to enjoy their shooting and see a reasonable rate of success than will those who are fighting heavy equipment (or shooting quite high peak weight compound bows) and losing arrows that bury themselves into the ground. Even the most selfless of groups finds that the novelty of digging for arrows after every shot wears off rapidly and also the fear of losing their arrows will affect their shooting. So, a reasonably weighted second – hand bow that they can handle easily is better to start off with. They can always move onto a compound bow later if they want to, after they have really learned to shoot well and hold properly. Many people go onto compound bows far too early.
Keep a set of dealer catalogues to hand to refer to but steer clear of buying high cost equipment initially. If the beginner seems committed to the sport they can buy themselves a decent quality quiver should they so wish. However, if money seems tight one can be made out of a covered cardboard tube with some straps through which they can thread their belt. A good tab (or whichever finger protection they prefer) is essential
With regard to arrows (which must be matched to the bow) there can be a saving if a set of metal or wooden arrows is bought ready to make up. Your coach could instruct you on how to do this and it would be a good introduction to the craft side of the sport. If of course, the beginner has no skills in this area, then, they will have to be purchased made up. Although arrows are perhaps the most important part of equipment, beginners should be discouraged from buying top quality initially, as they are unlikely to be at the stage where the difference between, say, XX 75's and X7's is likely to show up. Be aware that once beginners go onto a heavier weight competition type bow, their draw length initially may appear to go down, however do not be tempted to buy shorter arrows as, once you develop into the new bow, you will very likely be able to draw fully again.
Beginners should be discouraged from shooting different arrows that others may give them. It's hard enough to shoot well when all your arrows are the same weight and spine without the added complication of lots of different arrows.

Arrow spine.

Spine is one of those things that everyone talks about, but few completely understand. I'll try to provide some basic information and hopefully won't make too many mistakes.



SPINE IS BASICALLY A MEASURE OF STIFFNESS OF AN ARROW SHAFT. MORE ACCURATELY, IT IS A MEASURE OF THE DEFLECTION A SHAFT EXHIBITS WHEN A TWO-POUND WEIGHT IS SUSPENDED FROM THE MIDDLE OF THE SHAFT, WHEN THE SHAFT IS SUPPORTED AT TWO POINTS 26" APART AND THE SHAFT IS ROTATED SO THAT THE GRAIN OF THE WOOD IS VERTICAL. YOU MAY BE SURPRISED TO LEARN THAT THIS MEASUREMENT IS MADE ON A DEVICE CALLED A "SPINE TESTER". IT IS IMPORTANT THAT THE GRAIN OF THE SHAFT BE ORIENTED PROPERLY SINCE A GRAINED MATERIAL EXHIBITS DIFFERENT STIFFNESS WITH AND AGAINST THE GRAIN. ARROW SHAFTS ARE MEASURED TO DETERMINE THE GREATEST STIFFNESS AND THAT MEASUREMENT IS ACROSS THE GRAIN. NOTE THAT THIS IS IMPORTANT BECAUSE IT TELLS YOU HOW TO ORIENTATE THE FLETCHING ON THE SHAFT.

There are tables that convert shaft deflection into pounds, a more usual description of stiffness. This conversion can also be done using the simple formula, "Spine (in pounds) equals 26 divided by the deflection in inches. This says that if a shaft under test bends ½" then it has a 52pound spine measurement. I suspect that the formula is simple because of the selection of the measurement method (the two pound weight seems to be the item most easily used to tune the conversion). In any case, the above information should be enough to allow a handy archer to jury rig a spine tester if one was needed.

The spine of an arrow is important because of a phenomenon called Archer's Paradox. Archer's Paradox is essentially the process by which an arrow shaft bends around the bow and shoots straight. Note the word bend. The force of the bowstring on the arrow causes the arrow to bend during the process of accelerating the arrow off the bow. The amount of bend affects the flight of the arrow and the accuracy and consistency of the shot. This is particularly important when the arrow rest is significantly offset from the path of the string such as with longbows shot off the hand. It is less important in centre shot bows where the motion of the arrow is essentially along the path of the bowstring upon release.

For the bow and arrow combination to work well, the arrow must bend just enough to get round the riser of the bow. If it doesn't bend enough, the back end of the arrow will impact the riser and the arrow will deflect. If it bends too much, the back end of the arrow will fly off to the side and the arrow will deflect. Just right and the arrow goes straight and everyone is happy.

Selecting arrow shafts for your bow is a little more complicated than simply buying shafts with the same spine rating as your bow weight. There are a couple more things that affect the effective spine of a completed arrow. The first is the weight (mass) of the arrowhead or point. The heavier the point of an arrow, the lower the effective spine of the shaft. This is because of the increased inertia provided by the greater mass. With a heavier point acceleration of the arrow will be slower, and more energy will accumulate in the arrow shaft reflected in greater bending and a lower effective spine. All other things being equal, an arrow with a 30 grain target point on it will act like a more heavily spined arrow than the same arrow with a 125 grain field point.
The second thing that affects the effective spine of an arrow is the efficiency of the bow. All bows of the same draw weight are not equal. A 35lb 70" Wing recurve will put significantly more of its stored energy into an arrow shot from it than someone's 35lb "D" section hickory selfbow. Once again more energy, means more bending under acceleration and a lower effective spine.

One more thing to remember is that spine is measured over 26" of the arrow shaft. If your draw length , and consequently your arrow length, is significantly different than 28", the effective spine of your arrow shafts will be different. The rule of thumb here is that you require about three to five more pounds of spine for every inch increase in arrow length over 28". You will require two to three less

pounds of spine for every inch decrease in arrow length under 28”. Stiffness increases faster as a shaft is shortened.

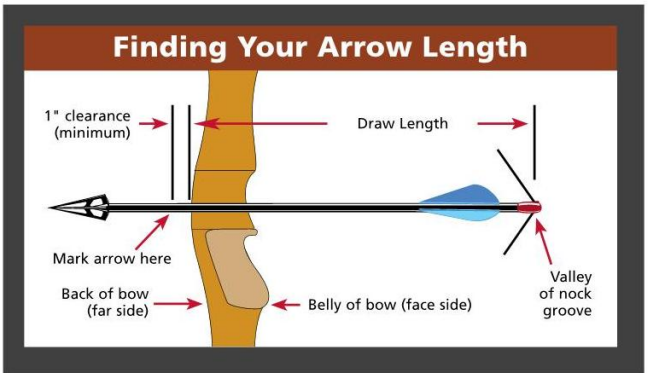
All this said, however, the best way to select shafts with the correct spine for your bow and shooting style is through bars bow testing. Here you shoot unfletched arrows of differing spines while observing the flight of the arrows. The ones that fly straight and true even without fletching are correctly spined for your shooting. If you must err, err on the side of stiffer arrows. It’s safer and allows easier archer adjustments.

HOW TO FIND THE RIGHT ARROW SPINE FOR YOUR BOW
Spine Selection Charts are a great starting point, BUT it is only a reference point, not guaranteed to be an EXACT match for your bow.

STEP 1:
Find your Arrow Length and Draw Length.
The Correct Arrow Length is best determined by drawing back an extra-long arrow to full draw and having someone mark the arrow right in front of the handle. Measure the arrow from the mark to the valley (deepest part) of the nock groove. This is your DRAW Length.
Be sure to leave enough arrow so it does not come off the inside of the bow shelf.

STEP 2:
Determining Actual Peak Bow Weight
This is measured at your draw length, not by what the bow has written on it. The reason is a bow will be roughly 2-3# different for every inch = the rated draw length. Even if you draw at your bow's rated draw (normally 28") the industry standard allows a bow manufacturer to be :2# from rated bow weight and still mark/sell at the rated weight. So your marked 45# @ 28" bow could actually be 43-47# @ 28". Using an accurate scale, draw the string until you hit your draw length and hold. Observe the weight on the scale. Repeat as you see fit.

Arrow Selection Chart
Once you have your Arrow Length and Actual Bow Peak Weight, you are ready to select your correct arrow spine. Find your bow type and bow weight in the point weight you plan to use. Most common is 125 grains. Now move across the chart until you find your arrow length. Note: The 1/2 " marks over lap on the chart. Remember, these are only recommendations, the final decision is up to you.



TECH TIPS

- Carbon shafts usually come with nocks installed and inserts included.
- For determining the point diameter of aluminium shafting take the first two numbers of the model and divide by 64. i.e. 2018 = 20/64" or 5/16“.
- Most wood shafting is factory spined and not weight matched unless otherwise specified

ACTUAL PEAK BOW WEIGHT - Lbs.

Point Weight

100 (grains)	125 (grains)	150 (grains)	175 (grains)	200 (grains)
32-36	29-33	26-30	23-27	20-24
37-41	34-38	31-35	28-32	25-29
42-46	39-43	36-40	33-37	30-34
47-51	44-48	41-45	38-42	35-39
52-56	49-53	46-50	43-47	40-44
57-61	54-58	51-55	48-52	45-49
62-66	59-63	56-60	53-57	50-54
67-71	64-69	61-65	58-62	55-59
72-76	70-75	66-70	63-67	60-64
77-81	76-81	71-75	68-72	65-69
82-86	82-87	76-80	73-77	70-74
87-91	88-93	81-85	78-82	75-79

Sizing refers to Easton spines

22½" 23½	23½" 24½	24½" 25½	25½" 26½	26½" 27½	27½" 28½	28½" 29½	29½" 30½	30½" 31½	31½" 32½
			600	600	600	600	600	500	500
		600	600	600	600	600	500	500	500
	600	600	600	600	600	500	500	500	400
600	600	600	600	600	500	500	500	400	400
600	600	600	600	500	500	500	400	400	400
600	600	600	500	500	500	400	400	400	340
600	600	500	500	500	400	400	400	340	340
600	500	500	500	400	400	400	340	340	300
500	500	500	400	400	400	340	340	300	300
500	500	400	400	400	340	340	300	300	300
500	400	400	400	340	340	300	300	300	300
400	400	400	340	340	300	300	300	300	300
400	400	340	340	300	300	300	300	300	300
400	340	340	300	300	300	300	300	300	

ACTUAL PEAK BOW WEIGHT - Lbs.

Point Weight

100 (grains)	125 (grains)	150 (grains)	175 (grains)	200 (grains)
38-43	35-40	32-37	29-34	26-31
44-49	41-46	38-43	35-40	32-37
50-55	47-52	44-49	41-46	38-43
56-61	53-58	50-55	47-52	44-49
62-67	59-64	56-61	53-58	50-55
68-73	65-70	62-67	59-64	56-61
74-79	71-76	68-73	65-69	62-67
80-85	77-82	74-79	70-75	68-73
86-91	83-88	80-85	76-81	74-79
92-97	89-94	86-91	82-87	80-85
98-103	95-100	92-97	88-93	86-91
104-109	101-106	98-103	94-99	92-97
110-115	107-112	104-109	100-105	98-103
116-121	113-118	110-115	106-111	104-109

RECURVE/CENTER SHOT LONGBOW Finger Release — Aluminium Arrow Length — LONGBOW / SELF BOW Finger Release

ACTUAL PEAK BOW WEIGHT - Lbs.

Point Weight

100 (grains)	125 (grains)	145 (grains)	160 (grains)	190 (grains)
31-35	26-30	21-25	16-20	
36-40	31-35	26-30	21-25	16-20
41-45	36-40	31-35	26-30	21-25
46-50	41-45	36-40	31-35	26-30
51-55	46-50	41-45	36-40	31-35
56-60	51-55	46-50	41-45	36-40
61-65	56-60	51-55	46-50	41-45
66-70	61-65	56-60	51-55	46-50
71-75	66-70	61-65	56-60	51-55
76-80	71-75	66-70	61-65	56-60
81-85	76-80	71-75	66-70	61-65
86-90	81-85	76-80	71-75	65-70

22½" 23½	23½" 24½	24½" 25½	25½" 26½	26½" 27½	27½" 28½	28½" 29½	29½" 30½	30½" 31½	31½" 32½
							A	B-C	B-C
						A	B-C	B-C	D
					A	B-C	B-C	D	D-E
				A	B-C	B-C	D	D-E	E-H
			A	B-C	B-C	D	D-E	E-H	F-H
		A	B-C	B-C	D	D-E	E-H	F-H	G-I
	A	B-C	B-C	D	D-E	E-H	F-H	G-I	J-L-O
A	B-C	B-C	D	D-E	E-H	F-H	G-I	J-L-O	K-L-O
B-C	B-C	D	D-E	E-H	F-H	G-I	J-L-O	K-L-O	M
B-C	D	D-E	E-H	F-H	G-I	J-L-O	K-L-O	M	N
D	D-E	E-H	F-H	G-I	J-L-O	K-L-O	M	N	N
D-E	E-H	F-H	G-I	J-L-O	K-L-O	M	N	N	N

ACTUAL PEAK BOW WEIGHT - Lbs.

Point Weight

100 (grains)	125 (grains)	145 (grains)	160 (grains)	190 (grains)
41-45	36-40	31-35	26-30	
46-50	41-45	36-40	31-35	26-30
51-55	46-50	41-45	36-40	31-35
56-60	51-55	46-50	41-45	36-40
61-65	56-60	51-55	46-50	41-45
66-70	61-65	56-60	51-55	46-50
71-75	66-70	61-65	56-60	51-55
76-80	71-75	66-70	61-65	56-60
81-85	76-80	71-75	66-70	61-65
86-90	81-85	76-80	71-75	66-70
91-95	86-90	81-85	76-80	71-75

1816 = A	1916 = B	2013 = C	2016 = D	2018 = E	2020 = F	2117 = G	2213 = H	2215 = I	2216 = J	2219 = K	2314 = L	2315 = M	2317 = N	2413 = O

RECURVE/CENTER SHOT LONGBOW Finger Release — Wood Arrow Length — LONGBOW / SELF BOW Finger Release

ACTUAL PEAK BOW WEIGHT - Lbs.

Point Weight

100 (grains)	125 (grains)	145 (grains)	160 (grains)	190 (grains)
31-35	26-30	21-25	16-20	
36-40	31-35	26-30	21-25	16-20
41-45	36-40	31-35	26-30	21-25
46-50	41-45	36-40	31-35	26-30
51-55	46-50	41-45	36-40	31-35
56-60	51-55	46-50	41-45	36-40
61-65	56-60	51-55	46-50	41-45
66-70	61-65	56-60	51-55	46-50
71-75	66-70	61-65	56-60	51-55
76-80	71-75	66-70	61-65	56-60
81-85	76-80	71-75	66-70	61-65
86-90	81-85	76-80	71-75	65-70

22½" 23½	23½" 24½	24½" 25½	25½" 26½	26½" 27½	27½" 28½	28½" 29½	29½" 30½	30½" 31½	31½" 32½
						30-35	35-40	40-45	45-50
					30-35	35-40	40-45	45-50	50-55
				30-35	35-40	40-45	45-50	50-55	55-60
			30-35	35-40	40-45	45-50	50-55	55-60	60-65
		30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70
	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75
30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80
35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85
40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90
45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95
50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	95-100
55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	95-100	100+

ACTUAL PEAK BOW WEIGHT - Lbs.

Point Weight

100 (grains)	125 (grains)	145 (grains)	160 (grains)	190 (grains)
41-45	36-40	31-35	26-30	
46-50	41-45	36-40	31-35	26-30
51-55	46-50	41-45	36-40	31-35
56-60	51-55	46-50	41-45	36-40
61-65	56-60	51-55	46-50	41-45
66-70	61-65	56-60	51-55	46-50
71-75	66-70	61-65	56-60	51-55
76-80	71-75	66-70	61-65	56-60
81-85	76-80	71-75	66-70	61-65
86-90	81-85	76-80	71-75	66-70
91-95	86-90	81-85	76-80	71-75

A Beginner's first open shoot

For your first open shoot, ask the organisers (well before time) to put you in a group with your coach, or experienced archers and explain to them why. Very few shoot organisers object to putting a beginner in the same group as their coach on their first shoot but if you do not tell them the reason for your request, they may feel that this is yet another "I want to shoot with my friend" type of request / demand and are within their rights to ignore it.

It is often good practice for beginners to enter as a non – competitor..

Ensure that you have joined the NFAS before you attend a shoot and also ensure that you have suitable clothing for the weather and the terrain. You won't enjoy yourself very much if you are getting wet feet through your natty town shoes.

As you proceed around the course, do not be afraid to ask questions of the experienced archers. especially about the safety rules. it will mean more to you in situ than in theory.

Also, as you approach some more interesting stances, after others in your group have shot; talk about your arrow trajectory (and others) and discuss how to tackle the shot (providing you are not holding up another group of course). If you feel that the shot is beyond your present capabilities, move to the next peg. There is no pleasure in breaking, bending or losing arrows for the sake of it, is there?

Make sure that you introduce yourself to others in your group. Take a look at the equipment of people that you know and ask questions about it.

Points for guidance

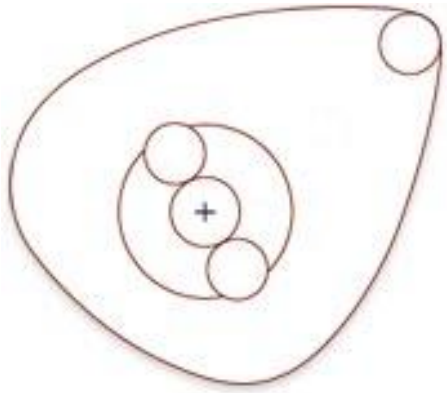
- Ensure that you have been signed off and have a full NFAS membership card and you bring it with you to the shoot
- Book in to shoot with your coach or another experienced archer that will help and look after you.
- Is the shooting ground appropriate for you? – physical capabilities etc.
- Etiquette
- Ensure you have the means to get to the shoot – Transport – Know where the shoot is.
- Ensure you have any prescribed medication with you, if required i.e. diabetic etc.
- Emergency contact Numbers.
- Pens for scoring.
- Make sure you bring your own equipment.
- Arrow rakes, arrow retrieval tool.
- Whistles
- Ensure you understand the shooting rules. Which peg do they shoot from?
- Ensure you understand how to score. What do you score with 1^{st}, 2^{nd} and 3^{rd} arrows?
- Bring sufficient money for entrance fee (if not pre-pay).
- Appropriate footwear –Sturdy walking boots.
- Hat etc. heat loss through the head, shade for sun.
- Sun cream
- Mosquito repellent.
- Food/drink or money to buy food/drink
- Appropriate clothing, warm for winter etc. water proofs.
- Hiking stick
- Umbrellas.

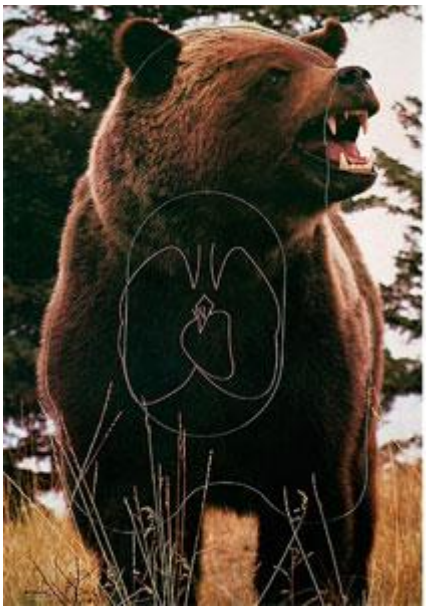
Scoring in NFAS Competitions

Line Cutters
What Counts….and what doesn't?

If the arrow shaft touches the outer edge of the line the higher score counts.

Multi Scoring Zones and True Vitals





On many of today's targets we are presented with multi scoring zones, it will become incumbent on you as coaches to explain how they are scored and which ones count. At all shoots it is the responsibility of the organisers when using such targets to state which zones are being scored, however this is not always the case and as coaches you should always check if it is not mentioned.

On some paper faces inner kills have been replaced by representations of heart and lungs. The heart counts as the inner kill (24) when used and includes the ventricles.

NFAS PEG SHOOTING ORDER

AGE GROUP	1st Arrow Peg	2nd Arrow Peg	3rd Arrow Peg
ADULT	RED	WHITE	BLUE
JUNIOR 14 & 15 years inclusive	WHITE	BLUE	BLUE
JUNIOR 12 & 13 years inclusive	BLUE	YELLOW	YELLOW
CUB Under 12	YELLOW	YELLOW	YELLOW
CUB Under 9	ORANGE	ORANGE	ORANGE

NFAS BIG GAME SCORING

ARROW	SPOT	INNER (KILL)	OUTER (WOUND)
1st	24	20	16
2nd	0	14	10
3rd	0	8	4

Bit Box

From time to time it will be necessary to make running repairs to equipment whilst practicing or competing. Below is listed a typical bit box, containing items that may be required to make running repairs:

- Fletching glue or fletching tape
- Fletchings
- Fletching jig
- Spare bow strings
- Serving material
- Epoxy resin
- Insulation tape
- Dental floss
- Brass nocks
- Craft knife
- Scissors
- Piles
- Arrow nocks
- Arrow rests
- Bracers (Arm guards)
- Finger tabs

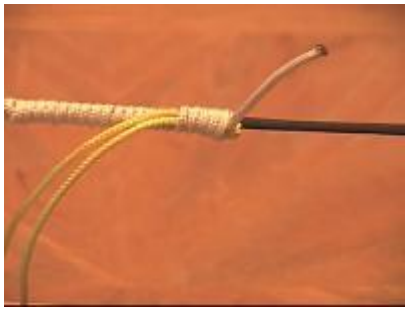
Above are just suggestions and the list can be modified for your particular bow style and needs.

Repairing String Serving

This demonstration shows how to serve a bowstring centre serving, however the procedure is the same for serving endless bowstring loops and for serving closed those loops. In the images, the black cord represents the bowstring, the white cord is the serving thread and the yellow string is the whipping thread.

First, begin by wrapping (and locking in) the beginning of the serving.

After you've finished the length of serving you want,
take the whipping thread loop and begin wrapping the serving over it.



After 4 to 8 wraps over the whipping thread,
pass the end of the serving through the whipping thread loop.

Pull the whipping thread loop tight....
and right under those last wraps you just made over the whipping thread, and pull that tag end tight.

Now snip off the protruding tag end of the serving. DONE!
Wasn't that easy?!