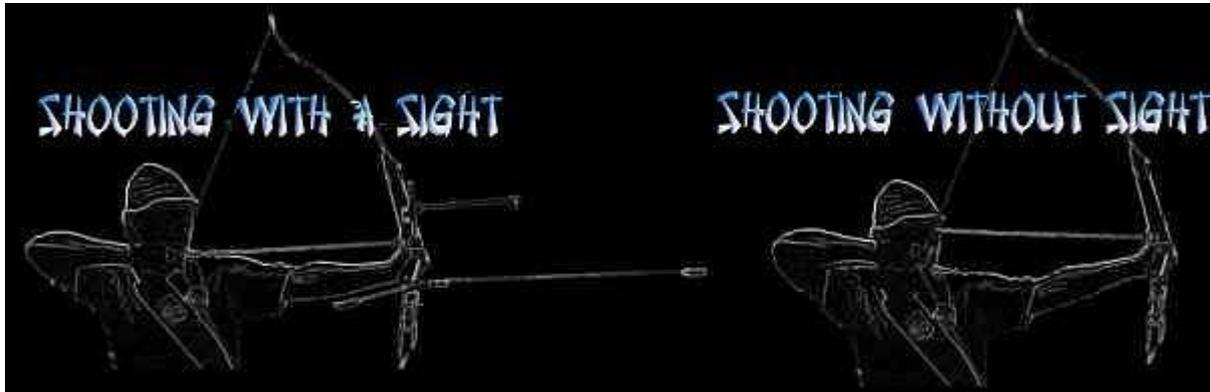


ENCYCLOPEDIA OF CLASSIC ARCHERY

Aiming (visée) :

Step during the shooting sequence when the archer chooses a visual reference mark in order to hit a target.



Anchor point (repères au visage) :

After completing the drawing, the archer uses tactile points on his face and makes contact with the [string](#) and the [tab](#). This results in the anchor of the drawing hand.

The points the more often used are light contacts with the tip of the nose and the chin. The tab is put under and in contact with the jawbone.



A Points: nose / middle of the chin

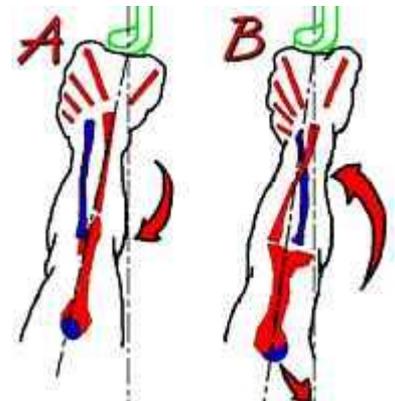
B Points: nose / lateral anchor on the jaw bone

Arm, bow (bras d'arc):

Arm wielding the bow.

Opposite, drawing **A** shows a correct positioning of the bow arm. The forearm or the wrist are not twisted and the axis formed by the bow is going outside but against the bow arm.

Drawing **B** shows a bad aiming; the arm twists toward the bow axis. This position may results in bruises because of the string hitting the arm. This defect is more often seen with women than men. One shall reacts by forcing the rotation of the forearm and of the humerus like shown in drawing A.

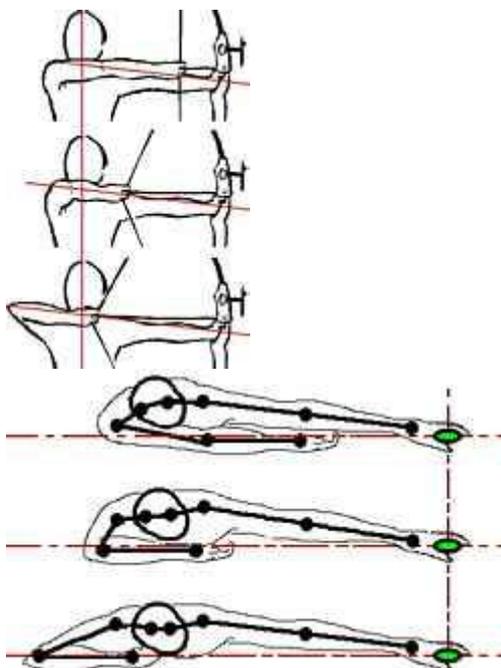


Arm, drawing (bras de corde):

Arm drawing the string.

After [the drawing](#), the position of the arm in relation with the shoulder and the bow arm is critical.

The drawing arm elbow shall neither be too high (poor alignment with the arrow), nor too low (misalignment and shoulders are not used). Drawing shall come from back tension and results in shoulder blades getting closer.



Back muscles are much more powerful and provide more stamina than arms muscles. You shall then focus on working with these muscles.

Arm guard / bracer (bracelet) :

Synthetic or leather accessory that prevent the bow string from injuring the bow forearm.



Arrow (flèche) :

[Shaft](#) holding a [point](#), a [nock](#) and [vanes](#).

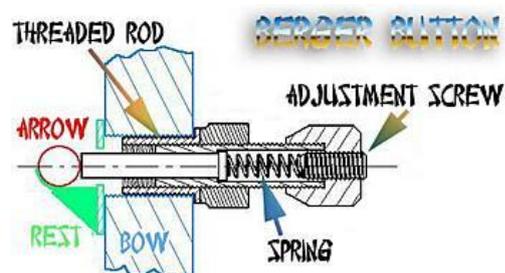


Arrow rest (repose-flèche) :

Accessory used to hold the arrow when it is nocked on the string.

Berger button / cushion plunger (bouton pression / bouton berger):

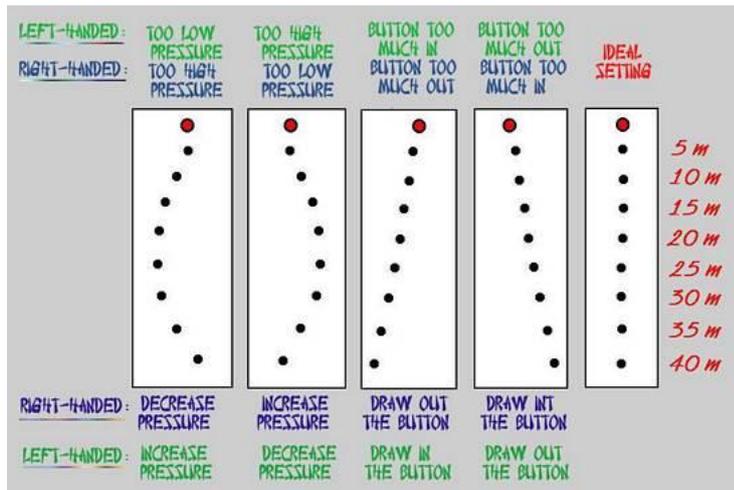
Accessory helping minimizing the bending of the arrow that has just been [released](#). And thus, it helps minimizing the [paradox](#).



Setting of the button (see also: [tuning](#) order):

Make a mark 10 to 20 cm below the top of a target; it will be used for aiming. Then, while aiming the [sight](#) at the mark, shoot one arrow at the following ranges: 5 m, 10 m, 15 m, 20 m, 25 m, 30 m, 35 m, ..., until arrows reach the bottom of the target.

Check the results with the following graph:



Beursault:

French traditional shooting done with a 50m range in a special place. See also, in my club website: [Beursault shooting](#), or [Archery Focus magazine](#) volume 6, number 5 for a complete description of Beursault in English.

Beursault faces (cartes Beursault):

Card paper face printed in back an white and used specifically for Beursault shooting.

See also, in my club website: [Beursault shooting](#), or [Archery Focus magazine](#) volume 6, number 5 for a complete description of Beursault in English.

Beursault shooting place (jeu d'arc):

Special place for [Beursault](#).



Bow (arc):

Weapon made of a long and thin piece of elastic material, recurved by a string secured at each end and designed to throw arrows

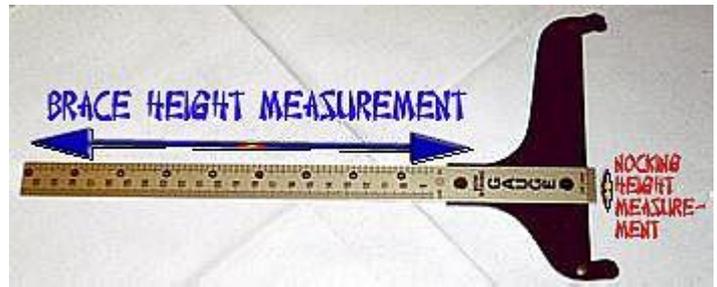
Word also used to describe things that have its general shape.

Bow-scale (peson):

Device used to measure the [draw weight](#) of a bow.

Bow-square (équerre):

Tool used to measure the [brace height](#) and the [nocking points](#).



Bow tip (poupée):

The bow tips at the end of each [limb](#) have a groove designed for the adjustment of each loop of the string.

Bowyer (facteur d'arc):

Craftsman who makes bows.

Brace height (band):

Distance from the hallow of the grip to the string.

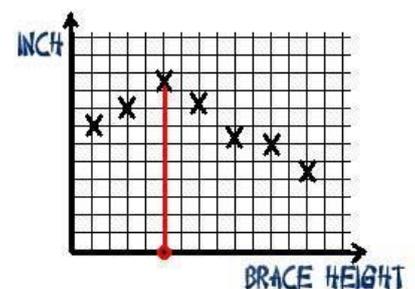
The brace height depends on the type of bow, the limbs and the string material.

Following are some approximate values of brace heights for different [heights of bows](#):

- 70 [inch](#) bow: 8.50 to 9.75 inch / 21.5 to 25 cm
- 68 inch bow: 8.25 to 9.50 inch / 21 to 24 cm
- 66 inch bow: 8.00 to 9.25 inch / 20.5 to 23.5 cm
- 64 inch bow: 7.75 to 9.00 inch / 19.5 to 23 cm

The best brace height will produce the lowest amount of [vibration](#) on the bow. It may be set (see: [tuning](#)) by the sound the bow makes. If the noise is loud (banging), you'd better set a better brace height. Begin with the minimum brace height, then expand it. The good brace height is the one that make no banging.

The bow is less efficient with a bad brace height. It may be set more precisely with shots at long ranges where you have consistent groups of arrows. Observe the height at which arrows hit the target. Don't adjust the sight and just check you have good [nocking points](#). Measure each impact on the target and do a graph as shown opposite. The best brace height corresponds to the highest point on the graph.



Brace the string (bander l'arc):

Drawing the string of the bow.

Butt (butte):

Targets made of pressed or tied straw, foam, movable or fixed on which faces are pinned.



Center shot (*alignement de la flèche*):

A good arrow-to-bow alignment permits a good flight of the arrow in straight line with the target.

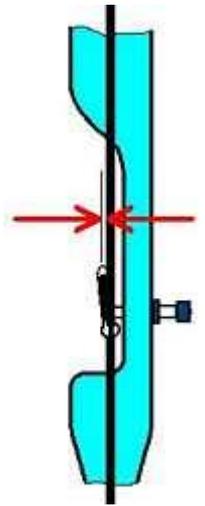
This is one of the first thing to do for the [tuning](#) of the bow.

Here a simple method to check and correct the alignment:

Put adhesive tape on each limb and mark the center of each limb on it. Position the bow so that there is no pressure on the limbs (fastened by the central [stabilizer](#) to a chair or a table). Nock an arrow and look the bow making the string to be aligned with the marks on the tapes. Check the position of the arrow towards the string.

The arrow shall point a little out of the string (toward left for a right-handed, toward right for a left-handed). This is important because the fingers, while releasing the string, transmit [oscillation](#) to the arrow.

The [berger button](#) shall be adjusted so that the arrow points out about half the width of the shaft.

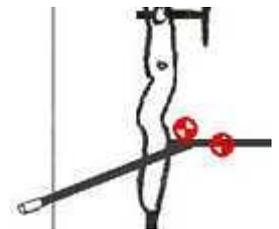


Center of gravity (*centre de gravité*):

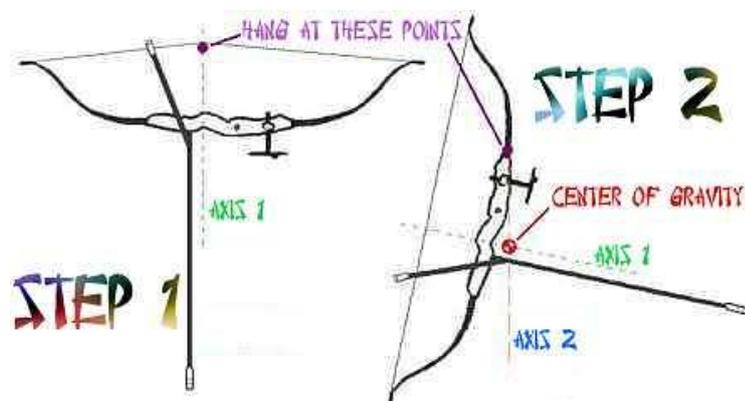
The center of gravity is the center of the weight of an object. This is a pivot point on which an object may be in a perfect balance.

The center of gravity of a bow is an important parameter for its stability. It may be moved and set by using [stabilizers](#) so that the bow will have a better behavior after the release of the arrow. This is around this point that the bow will tip up when it escapes from the hand because of the reaction of the [limbs](#) when the string is released.

The bow will behave correctly if its center of gravity is placed within an area in front and below the [grip](#), not farther than 20 cm from it.



The exact spot where the center of gravity is may be determined in two steps:



Step 1:

First, hang the bow by the string near the [nocking point](#) and find out the vertical line going through the center of gravity.

Step 2:

Then, hang the bow by the upper part of the [riser](#) and find a second vertical line going through the center of gravity.

The center of gravity spot is at the intersection of the two lines.

Chest-guard (*plastron*):

Accessory used by the archer to prevent the string from catching the clothes around the chest.



Clicker (*clicker, contrôleur d'allonge*):

Accessory used to indicate to the archer that, as he draws the string, he has reached his [draw length](#). This is a steel strip or a steel rod placed in front of the [arrow rest](#).

Dominant eye (*oeil directeur*):

The eye ruling the vision. Generally, the dominant eye corresponds to the manual dexterity. A [simple test](#) may be performed in order to check rapidly which eye it is.

Draw (*armer*):

Act consisting pulling the string of the bow before releasing the arrow.

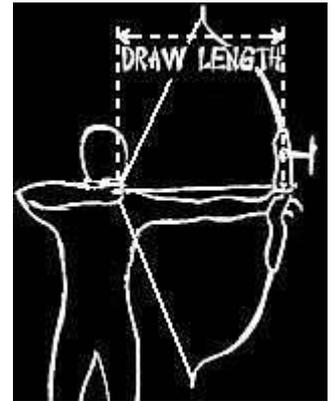
Draw-weight (*puissance de l'arc*):

This is the force provided by the bow; it is expressed in [pounds](#). The draw-weight written on the lower [limb](#) corresponds to the draw-length written. The true draw-weight is determined at the exact draw-length of the archer. It may be done by a [bow-scale](#).

Draw length (*allonge*):

The draw length is the distance from the [nock](#) of the arrow to the place where the [berger button](#)s, when the bow is at full draw. It is expressed in cm or in [inch](#).

The draw length is directly related to the morphology of the archer. The [height of the bow](#) depends also on it.



Draw length overdeveloped (*sur-allonge*):

The archer has an overdeveloped draw length when he pulls too much the string: because he cants his head backward, or because he goes beyond his anchor points. Generally, the draw length becomes overdeveloped when the [clicker](#) is too near the [arrow rest](#).

Draw length underdeveloped (*sous-allonge*):

The archer has an underdeveloped draw length when he does not draw his normal draw length: because he does not reach his [anchor points](#), because he cants his head forward (see: [posture](#)), or because he bends his [bow arm](#).

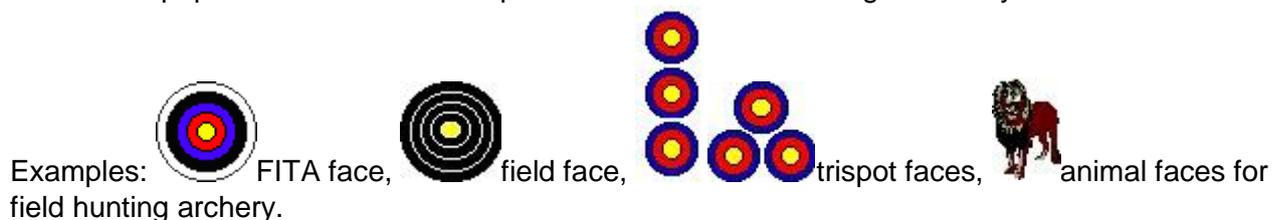
End (*volée*) :

Set of arrows shot on the same [target](#).

During competition, an end has 3 arrows for indoor shooting and in French [federal tournament](#). In [FITA tournament](#), ends are composed of 6 arrows. In [Beursault shooting](#), ends are composed of only one arrow.

Face (*blason*):

Reinforced paper sheet on which are printed several areas scoring differently.



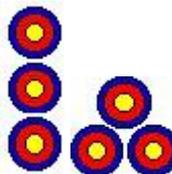
Examples:



FITA face,



field face,



trispot faces,



animal faces for

field hunting archery.

English faces, or FITA faces, are composed of 10 areas and have different diameters depending on the range:



Field faces are composed of 5 areas:
Center >>> 5 points
Outer areas >>> de 4 à 1 points

Field hunting faces are composed of 2 areas:
'Killed' area
'Wounded' area

Federal tournament (*tir fédéral*):

French outdoor target tournament that takes place at the ranges of 50 and 30 m. The 50 cm range face is a 122 cm diameter [FITA face](#). The 30 m range face is a 80 cm diameter FITA face.

FFTA :

Fédération Française de Tir à l'Arc - French federation of Archery (web site: www.ffa.fr).

Field (*jardin d'arc*):

Field laid out for the practice of archery.



Field archery / shooting (*tir campagne*):

Shooting performed on [faces](#) put at different ranges some known, some unknown along a marked out course in countryside.

Fingers (*doigts*) :

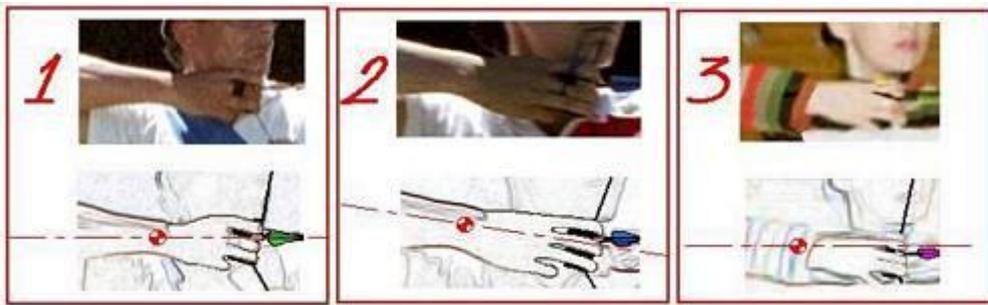
Fingers are not positioned randomly.

Fingers of the [bow hand](#) shall be as relaxed as possible. They shall not clutch the [riser](#), otherwise, the bow may be move unconsciously during the [release](#). Fingers may not clutch the riser but be tensed all the same. In this case the hand is also tensed and the same troubles as with a clutched riser may occur.

A [finger sling](#) may induce tensed fingers if the archer does not master the relaxation of the hand. In this case, the finger sling shall not be used. Instead, a wrist sling will fit better.

Relaxing the bow hand fingers has another advantage: the body will react by symmetrically reproduce the relaxing to the [drawing hand](#); thus, it will be much easier to relax the fingers during the [release](#) of the [arrow](#).

The location of the fingers on the [string](#) may vary from an archer to another. Whatever the the location, it is highly recommended that the string is located over the last interphalangeal joint (see: [release](#)).



Above, three different fingers-to-wrist alignments are shown:

1. This is a common alignment for which the [nock](#) of the [arrow](#) is on the force axis passing through the wrist. The middle finger is deeply hooked on the string, whereas the third finger grips very little the string. With such an alignment, archers shall be aware to have a good hook with the third finger (as this is the case on picture 1) with equal pressure on the forefinger and the third finger.
2. This alignment is far from perfect because the force axis passes along the middle finger and not through the nock. The third finger do more work than the forefinger. The solution is to balance the pressures on both fingers so that the archer tends to do as is in picture 1.
3. This alignment is the best. The pressure of the string on the fingers is equally shared between the forefinger and the third finger.

FITA :

Fédération Internationale de Tir à l'Arc - International Federation of Archery (web site: <http://www.archery.org/>. 72 arrows are shot during a FITA Olympic tournament: 2 times 70 m range. Old FITA tournament had 4 ranges (90 m, 70 m, 50 m et 30 m for men, and 70 m, 60 m, 50 m et 30 m for women).

Fletching (*empennage*):

[Vanes or feathers](#) that are used to stabilize to flight of the arrows.

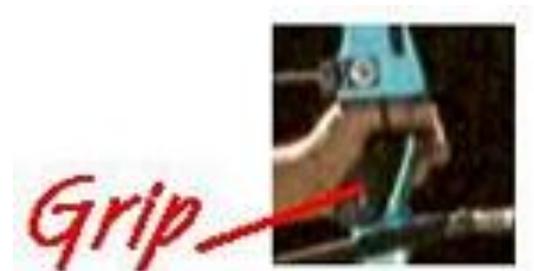
Grain:

Weight unit: 0,0648 g.

This unit is used to measure the weight of the [points](#) of [arrows](#).

Grip:

This is the part of the handle on which the [bow hand](#) presses.



Hand, bow (main d'arc):

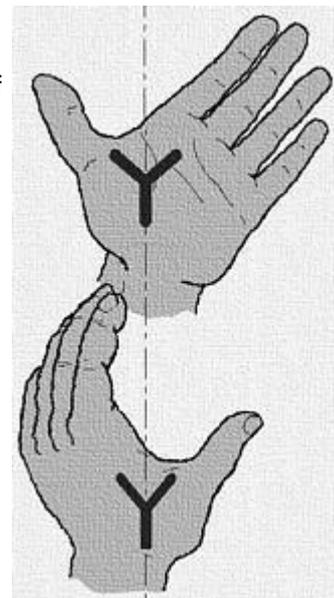
The bow hand presses on the [riser](#) through the [grip](#).

The most common location of the hand on the grip, and certainly the best one, consists in pressing the grip along the Y running trough the hollow of the palm between the forefinger and the thumb.

The pressure of the bow applies at the basis of the thenar eminence and in direct line with the wrist. Fingers must stay relaxed.

If the archer uses a **medium or a low shaped grip**, the complete relaxation of the hand is possible. If the pressure of the bow does not exist, the hand would, ideally, drop softly without any contraction. Thus any undesirable move of the riser will be avoided: the hand or the wrist may move with a contraction of the palm and thus make the riser turns or cants.

If the archer uses a **high shaped grip**, it will provide him with a perfect alignment of the pressure zone, the wrist and the bow arm. However, the archer will need enough strength in order to keep the position without getting tired. The risk is that the wrist drops.



Hand, drawing (main de corde):

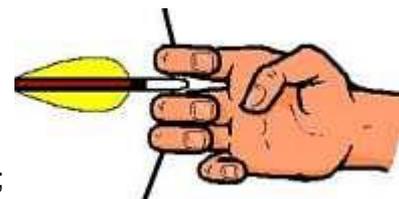
The drawing hand holds using the forefinger, the middle finger and the third finger with the string located over the last interphalangeal joint.

See: [drawing arm](#).

Finger must be placed as following if you use a [sight](#):

The forefinger is placed above the [nock](#),
the middle finger hooks just below the nock,
and the third finger hooks under the middle finger.

Both the forefinger and the middle finger shall not exert a pressure on the nock, otherwise, oscillations may be transmitted to the arrow; a light contact of the forefinger is admissible.



Height of the bow (hauteur d'arc):

Distance in inch from one tip of a [limb](#) to the other.

Frequent heights are: 70 [inch](#), 68 inch, 66 inch, 64 inch. This value corresponds to a standard [riser](#) and is written on the lower limb.

Inch (pouce):

Length unit often used in Archery. 1 inch is 2.54 mm long.

Insert (insert):

Some points can be screw on inserts that are glued in the shaft of the [arrow](#). Various weight of [points](#) may be used with such inserts.

Jig, fletching (empenneuse):



Tool used to stick [vanes](#) on the shafts of the [arrows](#) with precision.

Opposite: vertical fletching jig.

Limb (branche):

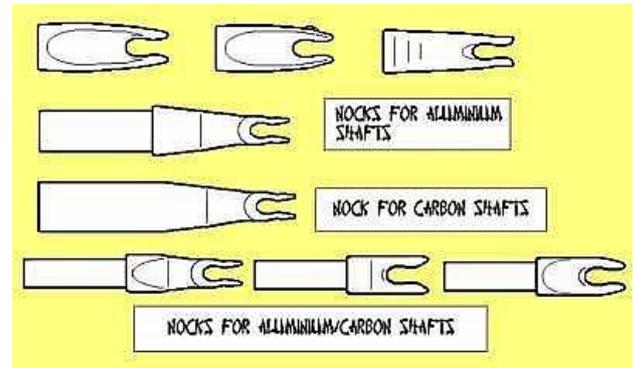
Elastic parts of the bow used to propel the [arrow](#).

3 types of limbs are available:

- laminated with wood and glass fibers,
- laminated with wood, glass fibers and layers of carbon fibers,
- carbon fibers and core made of hard foam or ceramics.

Nock (encoche):

Plastic accessory for the modern [arrows](#) put at one end of the arrow and that get the string.



Nocking point (détalonnage):

The nocking point is measured by comparison with zero point.

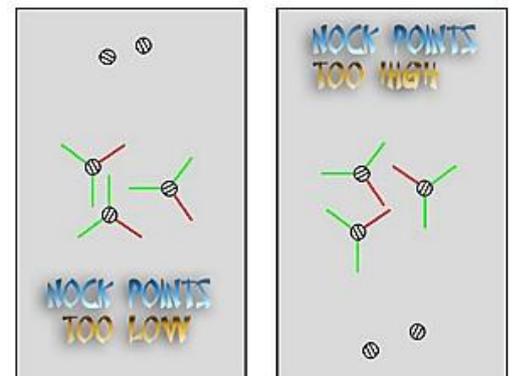
See: [classic bow](#).

In order to check the validity of the nocking point the following test may be performed (see: [tuning](#)):

Shoot on a target arrows without vanes and fletched arrows.

The arrows without vanes are supposed to fly without the action of vanes that would stabilize their flight; they can show then any deviation due to the bow

This test is performed with a target 15 m away, and allows to set the nocking point according to the hits of arrows with and without vanes. See opposite sketch.



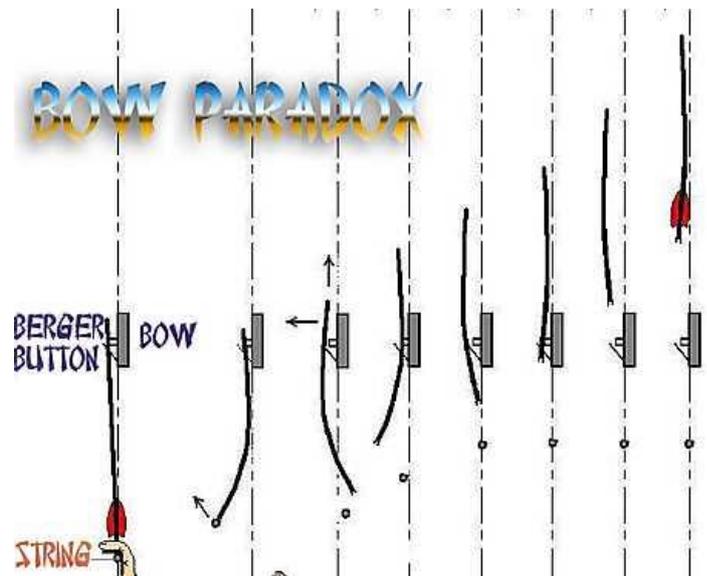
Nock set (repère d'encoche):

Accessory, more often metallic, that is fixed on the [string](#) in order to define the area where the nock of the [arrow](#) will fit. Some archers use knotted threads or a specific device in plastic that is fixed on the [serving](#).

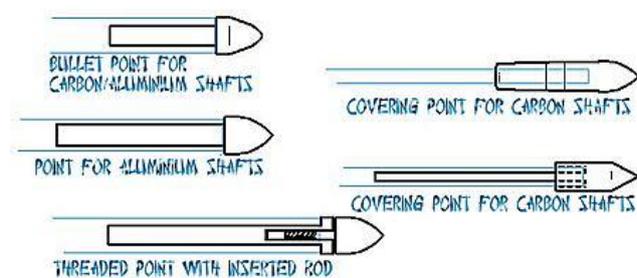
Paradox (paradoxe):

Reaction of the arrow after the [release](#) also called the 'bow paradox'.
Despite the oscillations induced by the deviation of the string due to the fingers, the arrow fly to the target.

The [berger button](#) helps to minimize this phenomenon.



Point / nib / pile (pointe):



End of the [arrow](#) which is pointed or bullet-shaped for target shooting. Its weight is measured in [grain](#).

Pound (livre):

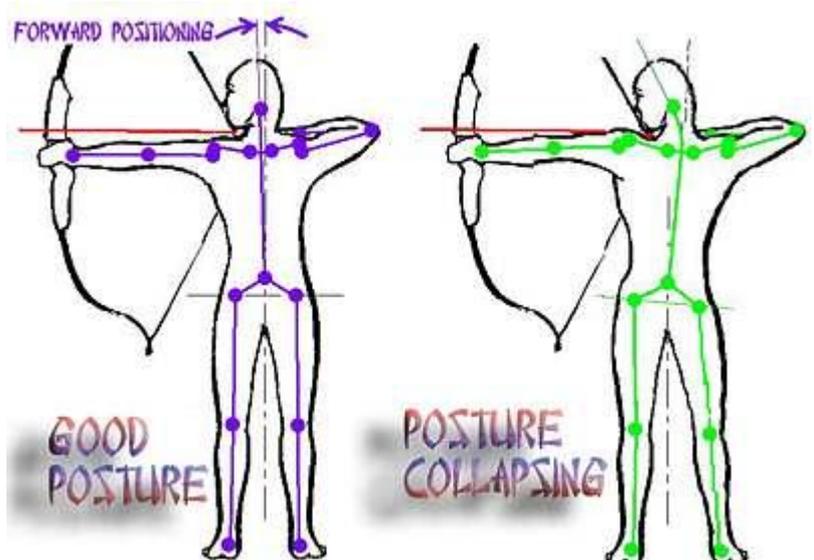
Unit used to measure the [draw-height](#) of a bow. It is usually quoted as: lbs or #.

Posture (posture):

The posture of an archer is very important if he wishes to make progress. The sooner he has a good posture the better he will make progress.

One of the major drift in the posture is if it collapses. Unbalanced by the weigh of his bow or because he draws a too strong bow, the archer may collapse (see opposite). The upper part of the body tilts backwards and the archer try to correct that by moving forward his head.

This results in less efficiency (distance between the eye and the fingers is shorter) and in an [underdeveloped draw length](#).



Progress badges (*flèche de progression*):

The progress badges helps the archers to evaluate his progress. They are won if a minimum score is performed during a supervised shooting. The archer will receive a colored metal badge with the shape of an arrow corresponding to the distance he was successfully tested.

White, black, blue, red, and yellow arrows : The archer shall score 140 or more after having shot 6 ends of 3 arrows each on a 80cm diameter face Ranges are as following:

White arrow -> 10 m

Black arrow -> 15 m

Blue arrow -> 20 m

Red arrow -> 25 m

Yellow arrow -> 30 m

>Bronze, silver and gold arrows: The archer shall score 430 or more after having shot 6 ends of 3 arrows each at each range and on a 80 cm diameter face. Ranges are as following:

Bronze arrow -> 45 m, 35 m and 25 m

Silver arrow -> 55 m, 45 m and 35 m

Gold arrow -> 65 m, 55 m and 45 m

Quiver (*carquois*):

Accessory used to carry the arrows.



Recurve bow (*arc classique*):

Recurve bows have always been the more efficient bows. However, the more recent models are still less efficient than the compound bows.

There are many different type of recurve bows: from beginners bows made of wood and glass fiber to the light alloy (magnesium, aluminium) risers with limbs made of carbon fiber or other high technology composite material.



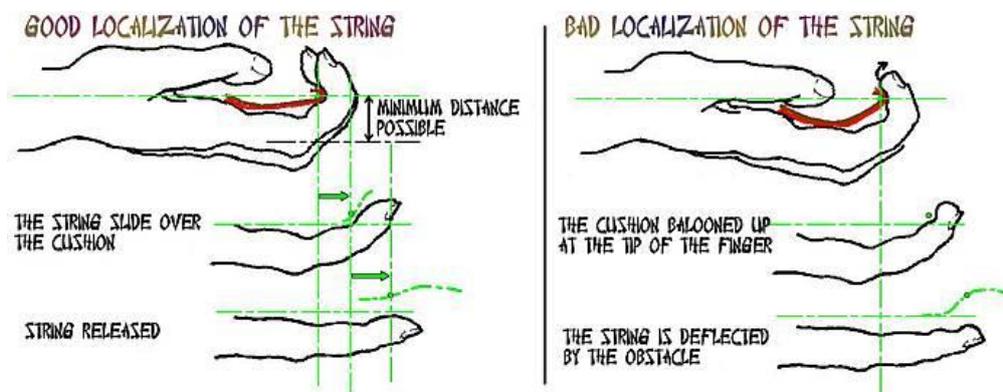
Release / loose (*décoche*):

Step of the shooting sequence when the string is released and the arrow leaves the bow.

The release shall be considered as a relaxation of the fingers.

If fingers are deliberately open (extensor muscles are used), they will never open as rapidly as the string will leave. In fact, the action of the archer is far less rapid than the string leaving and fingers will alter the course of the string and amplify the paradox of the bow.

On the contrary, the relaxation of the fingers will allow the string to push out the fingers from its course, preventing them to have much effect on it.



Riser / handle (*poignée*):



Part of the bow holding the [limbs](#)

Opposite, you may see a metallic machined riser, a cast riser, and a wood riser. Some risers are forged. Some beginner's risers are made of plastic, others of high technology materials such as composites (carbon fiber, Kevlar fiber and epoxy resin.)

Salute (*salut*):

French archers often salute before shooting their first [arrow](#). This helps warn the other that a new archer is about to shoot and this permits to greet everybody at the same time:

'Ladies an gentlemen, I salute you' or 'Archers, I salute you' or simply 'Salute'.

Score card (*feuille de marque*):

Card used to record the scores during a competition. The name of the archer and of his club are recorded, and also his license number and his category. Tables are filled with the scores for each range of the competition. This card must be signed in order to validate the scores.

Serving (*tranche-fil*):

Thread used to hold tight the [strands](#) of the string where the fingers hook it and where the [nock](#) is set.

See also: [classic bow](#).

Shaft (*fût / tube*):

Tube or wooden rod used to make the main part of the [arrow](#).

Materials:

- glass fiber: heavy shafts, to be used only for training.
- wood: mainly used for shooting traditional bows.
- aluminium: heavier than carbon shafts, these shafts are often used for indoor shooting; generally they are named using 4 digits meaning the diameter and the thickness of the shaft. For example, 2013 is for a shaft with a diameter of 20/64 [inch](#) (7.94 mm) and has a thickness of 13/1000 inch (0.33 mm).
- carbon: these light shafts are designed to be rapid. However, choosing them may be difficult, depending on the bow you use.
- carbon/aluminium: these shafts are made of an aluminium shaft covered with carbon fiber. They may be cylindrical or, for the more efficient ones, they may have a parabolic shape. These last ones are characterized by their [spine](#).

Sight (viseur):

Accessory sets on the [riser](#) and used to aim a target.



See also: [classic bow](#).

Sight marks (trait):

Marks made on the sight in order to set it according to the range at which the archer shoots.

Sight ring (oilleton):

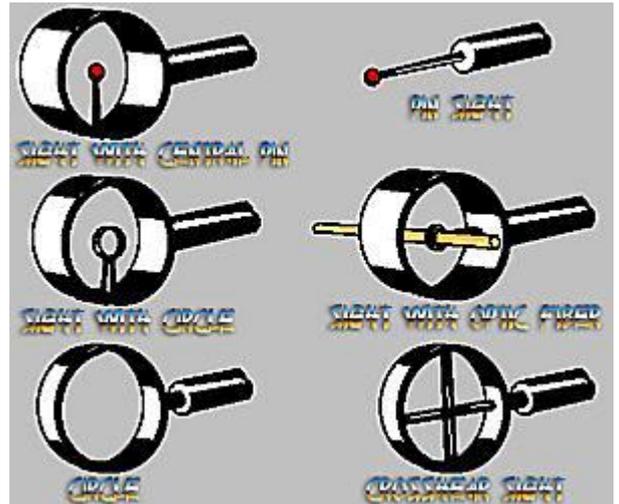
Piece of the [sight](#) that is used to aim the target.

The pin of the sight shall be aligned with the center of the target.

The optic fiber allows a bright point. The rules allow no more than 2 cm long straight fibers, but a lot of archers use flexible optic fibers that may be much longer.

The crosshair sight is also designed to aim directly the center of the target.

The circle, however, allows the archer to surround the target or the highest point zones. This is a good way to aim because we naturally position things in the center of a circle. Some sight rings are equipped with an aperture that may be set to the archer convenience.



Sling (dragonne):

Accessory used to prevent the bow from falling after the [release](#).



Wrist sling - Fingers sling

Spine (rigidité du tube):

Express the stiffness of the [shaft](#).

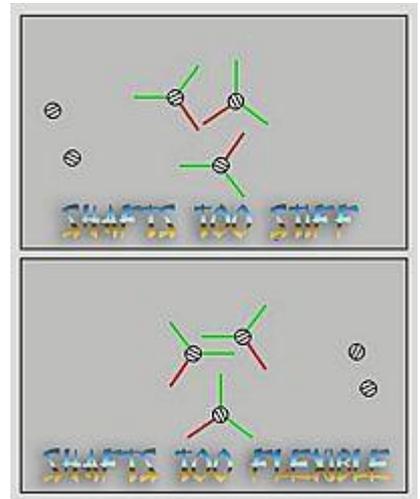
This is a very important characteristic of the [arrow](#). If the spine is not good, the arrows will have exaggerated oscillations.

In order to check and to compensate a not appropriated spine, you may perform the following [tuning](#):

fletched and unfletched arrows are shot at 15m range.

According to the result (see below for a RIGHT-HANDED archer; for a LEFT-HANDED archer, invert the conclusions), do as following:

- If the shafts are too **FLEXIBLE**: the unfletched arrows go to the right of the fletched arrows; you may increase the stiffness of the [berger button](#), or decrease the [draw height](#), or use lighter [points](#). You may also make some compensation by adding more [strands](#) to the string or by reducing the [brace height](#).
- If the shafts are too **STIFF**: the unfletched arrows go to the left of the fletched arrows; You may decrease the stiffness of the berger button, or increase the draw height, or use heavier points. You may also compensate by reducing the number of strands of the string or by increasing the brace height.

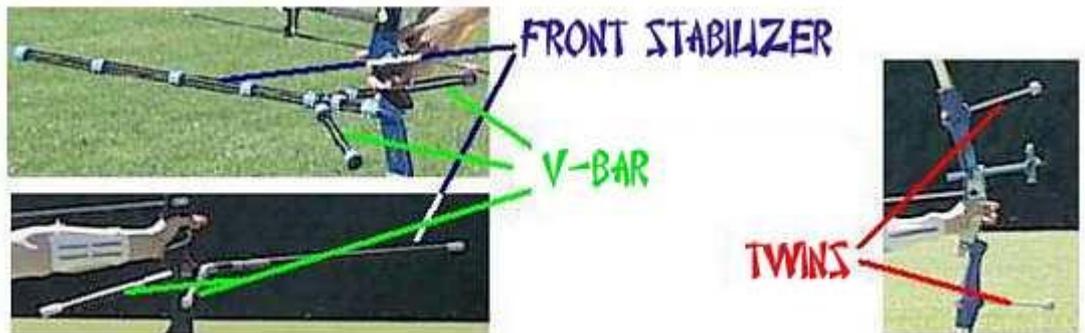


If both fletched and unfletched arrows group, the spine of the shafts are good for your bow.

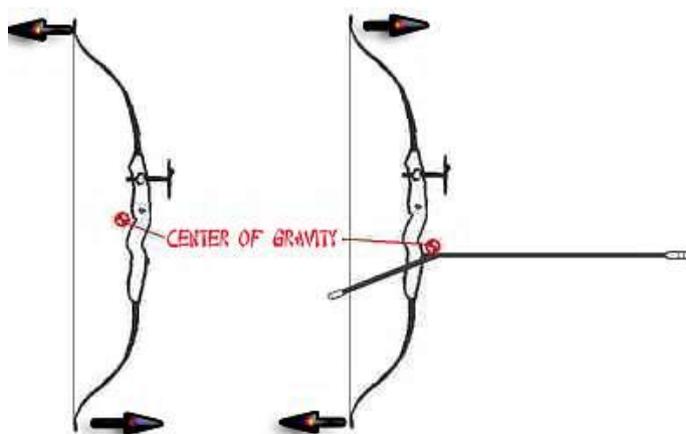
The spine of a parabolic [shaft](#) is a critical factor. For example, an ACE shaft 720 has a spine of 720 thousandth of [inch](#) for a draw length of 29 inch. This corresponds to the hollow formed by the shaft when put on two block 29 inch from each other and under the load of 2 [pounds](#) at its center.

Stabilizer (*stabilisateur*) :

Accessory used to balance the bow in horizontal and vertical planes.



With stabilizers, the archer has a feeling of balance when he wields his bow, and this makes the [aiming](#) easier. The stabilizers compensates the natural tendency of the bow to tilt backward after the [release](#): they move the [center of gravity](#) of the bow forward.



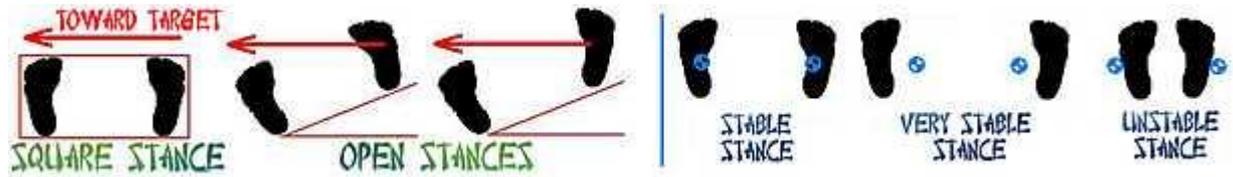
The stabilizers increase also the inertia of the bow: reduction of the torque, stabilizing in the wind are some of the benefits. Finally, the stabilizers reduce the [vibration](#) of the bow after the release. You may test the absorption of the vibration as following: hold horizontally the bow with a light contact and hit the string. The limbs will ideally stop vibrating very rapidly. You may add vibration dampers: rubber piece holding weights and screwed at the end of the central stabilizer, or mushroom shaped rubber pieces glued on the limbs (be careful with this last accessory that may reduce a little the efficiency of the limbs), etc.

The archer shall not overload his bow with stabilizing accessories; it will be not efficient and make the bow heavy and difficult to wield.

Stance (base de sustentation):

A good location of the feet on the ground is a good guarantee of consistency and stability for the archer.

The best stances are often open stances with the feet apart a little wider than the pelvis.



Strand (brin):

Fibers forming the threads that are used to make the string.

A string made of Dacron B66 will be composed of:

- 8 strands: for a [draw height](#) of 20 to 30 [pound](#)
- 10 strands: for a draw height of 25 to 35 pound
- 12 strands: for a draw height of 35 to 45 pound

String (corde):

The string has become a very performing piece of the bow since the synthetic fibers exist:

- Dacron: polyester fiber, with a long life span but they are slow because of their elasticity,
- Kevlar: aramide fiber, very tough but they shear easily and thus have a short life span,
- fast flight: polyethylene, tough and with a long life span, this fiber replaced the Kevlar.

Compared properties:

- Dacron B50: max load per strand = 22.5 kg, extension = 2.6 %
- Kevlar 7-11: max load per strand = 31.8 kg, extension = 0.8 %
- Fast flight: max load per strand = 45.5 kg, extension = 1.0 %
- Fast flight S4: max load per strand = 73 kg, extension = less than 1 %

The length of the string determines the value of the [brace height](#).

For a full description of a string, see: [classic bow](#).

Stringer (fausse corde):

Accessory used to set the string on the bow.

Tab (palette):



Accessory made of leather and eventually other materials. It protects the fingers of the archer from the friction of the string. It also provide a wider contact area than with bare fingers.

Target (cible):

Visual target that the archer [aim](#) at.

See : [face](#).

Tiller:

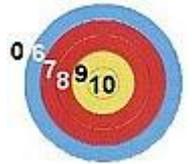
The tiller measures the balance between the [limbs](#) of the bow. The [riser](#) and the [grip](#) are not symmetrical, thus the limbs are not neither and thus the tiller shall be appropriately set. The tiller may be split in two:

- Dynamic tiller: this is the force applied on the string by the limbs after the [release](#). It is set by adjusting the [nock point](#).
- Static tiller: this is the force applied on the string by the limbs during the [drawing](#). It is set by adjusting the angle made by the limbs. This tiller is a length in mm or in fraction of an [inch](#). It is measured by subtracting the distance: base of the upper limb / string, from the distance: base of the lower limb / string, the bow not being drawn. Most frequently, the lower limb is 3 to 5 mm nearer to the string than the upper limb.
In order [to set](#) the tiller, shoot from 15 m on a target. The drawing must be **VERY SLOW** until the [anchor points](#) are reached. The [bow hand](#) shall draw directly to the anchor points. If the sight moves up during the drawing, you shall increase the tiller (increase the pressure on the lower limb and decrease the pressure on the upper limb). If the sight moves down during the drawing, you shall decrease the tiller (decrease the pressure on the lower limb and increase the pressure on the upper limb).

See also: [classic bow](#).

Trispot:

A trispot [face](#) is mainly used for indoor shooting. Each spot have only the zones of 10 to 6 points. A face has 3 spots either arranged vertically or forming a triangle (Vegas).



Tuning (règlage de l'arc):

The tuning of the bow is the preliminary step before any optimum use of ones equipment. It is performed in the following order:

1. setting of the [brace height](#),
2. setting of the [center shot](#),
3. setting of the [nock point](#),
4. setting of the [arrow spine](#),
5. setting of the [tiller](#).

Vane / fletching (plume / empennage):

The vanes are used to stabilize the flight of the [arrows](#). They may be made of natural feathers or of synthetic material (plastic, Millar); they may be flat or curved.



Curved vanes (Spin Wing, Kurly Vane, ...) are not hazardly chosen. See opposite their positioning for left-handed or right-handed archers.



Vane, index / cock vane (plume coq):



Vane are carefully set on the [shaft](#) of the arrow.

One of them, sometimes of a different color from the others, is set perpendicularly to the axis of the [nock](#). It is called the index vane or the cock vane. The two other vanes (most fletching are made of 3 vanes), are set 120 ° from the index vane.

This positioning prevent the arrow from being disturbed when it flies out of the bow [window](#).

V-bar :

Lateral [stabilizers](#) forming a 'V'.

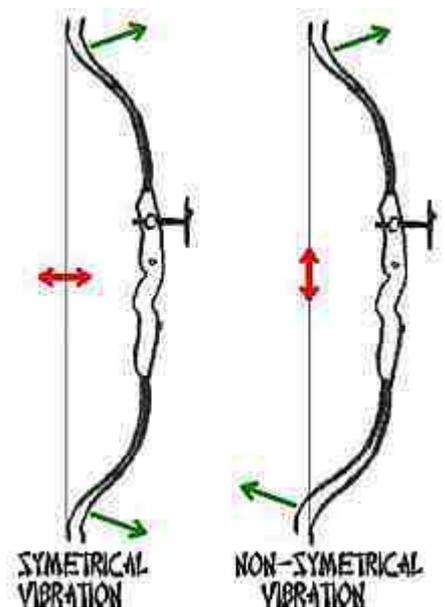
Vibration (vibration):

The bow is subject to a lot of vibrations generated by: the [limbs](#), the [string](#), the archer and the [riser](#) when the string is released.

If limbs are not balanced, they will generate asymmetric vibration to the bow. It may be necessary, in this case to set the [tiller](#).

The string will transmit vibration if the archer is not relaxed during the [release](#). In order to minimize this horizontal and vertical effect, the archer shall completely relax his fingers when he releases the string. The string will be naturally freed. Forcing the opening of the fingers or 'pull out' the string will always generate undesirable vibration.

The archer may also generate low frequency vibration during the [drawing](#) step and the [aiming](#) step. These shakings may come from the difficulty to draw the bow, the weigh of the bow, the tiredness, but also the natural movements induced by breathing, muscular tension, ...



Vibration may be reduced by [stabilizers](#).

Opposite, this table might help archers to choose an appropriate front stabilizer according to the vibration he wishes to reduce.

Movement	Frequency	Length of the front stabilizer
Shaking of the archer	Low	Medium/long
Limbs vibration	Medium	Medium/long
Release vibration	High	Short

Window (fenêtre d'arc):

Hollowed part of the [riser](#) in which is set an [arrow rest](#), the [berger button](#) and the [clicker](#).



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