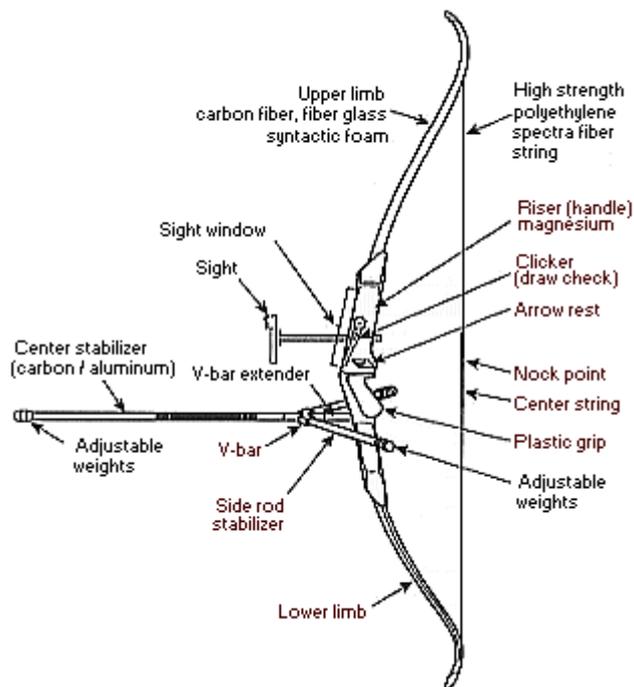




BLUNDELLS SANDS ARCHERS Est. 1876

The Recurve Bow

The only type of bow allowed in Olympic competition, as yet. Its limbs curve away from the archer. This is the direct descendant of the bows of antiquity, differing only in the materials used and refinements. The force required to pull a Recurve bow increases directly with the distance pulled. Beginners are often referred to the Recurve bow to start with, because it is deemed more difficult to master. The force required to hold the bow while aiming is considerable, sometimes requiring an archer to "let down" the bow without firing in order to rest the back and arm muscles. Mastery of the Recurve bow results in better muscle tone and overall archery habits; once that is accomplished the Compound bow represents a leap forward in accuracy and force. Also, a Compound bow is built for a particular draw length, which may not be easily changed. Growing bodies will grow out of compound bows swiftly in the teen years.



Bow handles (risers) are made of aluminium alloys and are machined for a combination of strength and lightness. Some bow handles are made of a magnesium and aluminium mixture, which is heated to liquid form and poured into a mould. Once cooled, it is cleaned, final machined and painted. Some lower cost, children's bows have wood risers, as do some rather expensive, hand made bows. Modern materials such as carbon fibre are being introduced for competition bows.

Bow limbs are generally constructed of man-made materials, such as fibreglass, carbon and syntactic foam. The limbs store the energy of the draw and release it to the arrow. The string and the limbs are commonly removed from the riser when the bow is not in use, allowing for easy storage of the "knocked-down" bow.

Bows have stabilizers to reduce torque (twisting) in the arrows upon release. They also have sights to aid in aiming and rests to help align the shot.

Most bow strings are made of either "Fast Flight", a hydrocarbon product that also has medical and other uses, or "Kevlar", the material used to make bullet-proof vests. The important point to be made about the string is that it must not stretch under normal environmental conditions, as that would change the bows pull weight and make consistency impossible. A layer of string material called the serving is placed where the arrow is nocked to snugly match the notch on the arrow, and a small ring is permanently placed on the serving to mark where the arrow rests when nocked.

An arrow is pulled back to the anchor point using the middle three fingers of the draw hand. These fingers are often covered with a leather "tab" which protects the fingers. A tab may have a metal shelf built in so that the two fingers on either side of the arrow do not squeeze it.

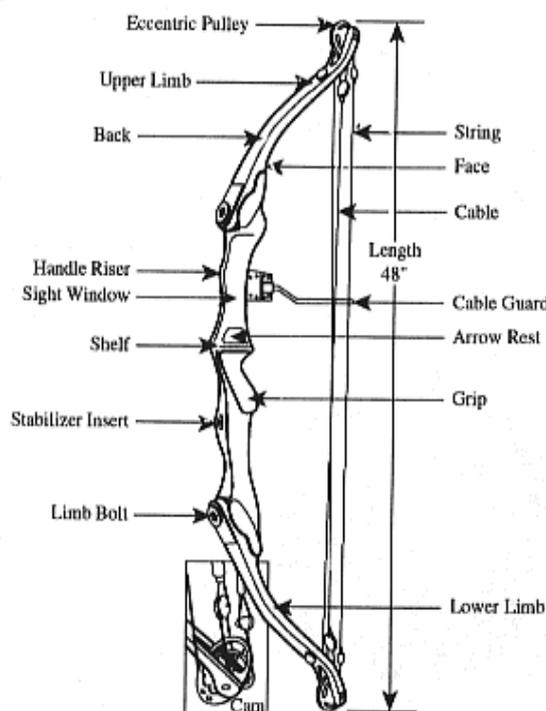
On Recurve bows a clicker is a small, spring-loaded lever that is held out away from its resting point by the arrow. When the arrow is drawn back to exactly the same point each time, the clicker slips past the tip of the arrow, producing an audible "click", which tells the archer he has the arrow at the same, repeatable release point. This causes very close to the same amount of tension to be used on every shot, so the arrow flight is the same.

A sight allows the archer, when the arrow is properly drawn, to line the bow up with the centre of the target by eye. The sight generally has adjustments in up-down and left-right dimensions with calliper-style read outs so that ageing equipment, weather, temperature and distance to the target may be accommodated.

The Compound Bow

This bow uses cams and cables to make the holding weight less than half of the draw weight.

These bows are favoured by bow hunters because of their greater accuracy, flatter arrow trajectory and their ease of use.



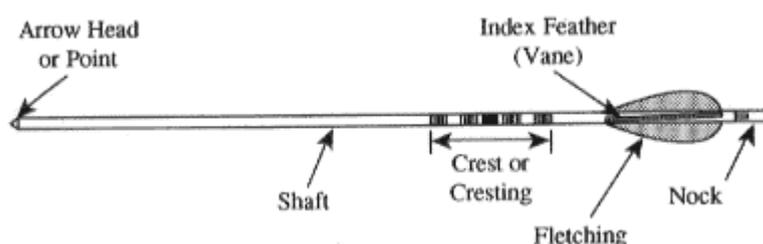
The Compound bow, unlike the Recurve bow, is never knocked-down between uses. The great tension preset into the limbs can only safely be countered when the bow is couched in a piece of

equipment called a bow press. The cams are synchronized when this is done, and are held in place by the tension. Compound bow cases must be able to accommodate the entire bow.

Because the Compound bow's forte is accuracy, equipment which increases the accuracy is deemed fair for compound use while it is not for a Recurve bow. The sight may include electronics and/or lenses to increase accuracy, and a release, rather than fingers, may be used. A release is a mechanical "finger" that grips the string and releases it when the trigger is pressed by the draw hand.

The Arrow

Arrows in the recurve bow events can travel in excess of 150 miles per hour, while compound arrows can fly in excess of 225 miles per hour. The shafts are made of either aluminium or aluminium with carbon fibres. Aluminium arrows are more uniform in weight and shape, while carbon arrows fly faster and provide less cross-wind resistance, and are therefore more useful in long distance outdoor archery.



The business end of the arrow is weighted and tipped with a (target point or) pile, designed to penetrate a short distance in the target butt. The other end features a nocking point, a plastic cap glued or otherwise attached to the end of the arrow. Its fingers grip the string until flung loose, and it provides a protection for the shaft by deflecting hits from later incoming arrows. This generally destroys the nock, but leaves the arrow reusable. Sometimes, of course, the aim is too perfect to deflect; the resulting "Robin-Hood" is both spectacular and expensive, as both arrows are usually destroyed.

On the shaft itself fletchings are glued to stabilize the arrow's flight. Sometimes they are glued in such a way as to cause the shaft to spin around its long dimension, further stabilizing its flight at a cost to its flat trajectory. The fletching are generally three in number, one of which (the cock feather) has a different colour than the other two. The nock is installed gripping the string perpendicular to the odd fletch, so that it's friends both brush the riser equally, minimally disturbing the arrow's flight.

Fletching may be plastic "feathers" or solid vanes, in a variety of shapes, lengths and, of course, colours. Markings, called crests, may be drawn on the arrows at the owner's discretion.

Arm guards and chest protectors, etc.

Arm guards and chest protectors protect the skin from string burn, as well as provide a low-resistance surface that the string may skim over easily upon release. A pair of binoculars or a sighting scope allows the archer to see the arrows in the target, and thereby make corrections to the sight as required. A quiver to hold arrows and other paraphernalia completes the archer's accessories. GNAS, in accordance with FITA rules, has established a dress code that is used at all GNAS tournaments competitors shooting in their registered club colours.