

# Archery Basics

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## Introduction

In order to get to the tips, it will be necessary to make sure we are all starting from somewhere near the same reference point, so allow me to go through some basic discussion of equipment.

### 1) Beginners

The question of the right equipment is based upon many factors. What type of archery do you plan to participate in? The answer to this question will determine many answers about equipment. As a beginner, let's assume that you want to start out with some target archery. Most target archers shoot a recurve bow, however if your intent is to hunt once you become proficient, then a compound bow may be your choice. Since compound bows are pretty expensive, it still might make sense to start with a recurve and then move on to the compound later, after you have had time to determine if you like the sport.

The recurve bow is the only type recognized in the Olympic Games, and is the most widely used in tournaments. Most beginning archers shoot a recurve, and many enthusiasts never shoot anything else. Most recurves are five to six feet in length, and tend to be of a 'take down' design; that is, they can be dismantled for transport.

### 2) Recurve Bow

All bows have largely the same essential components.

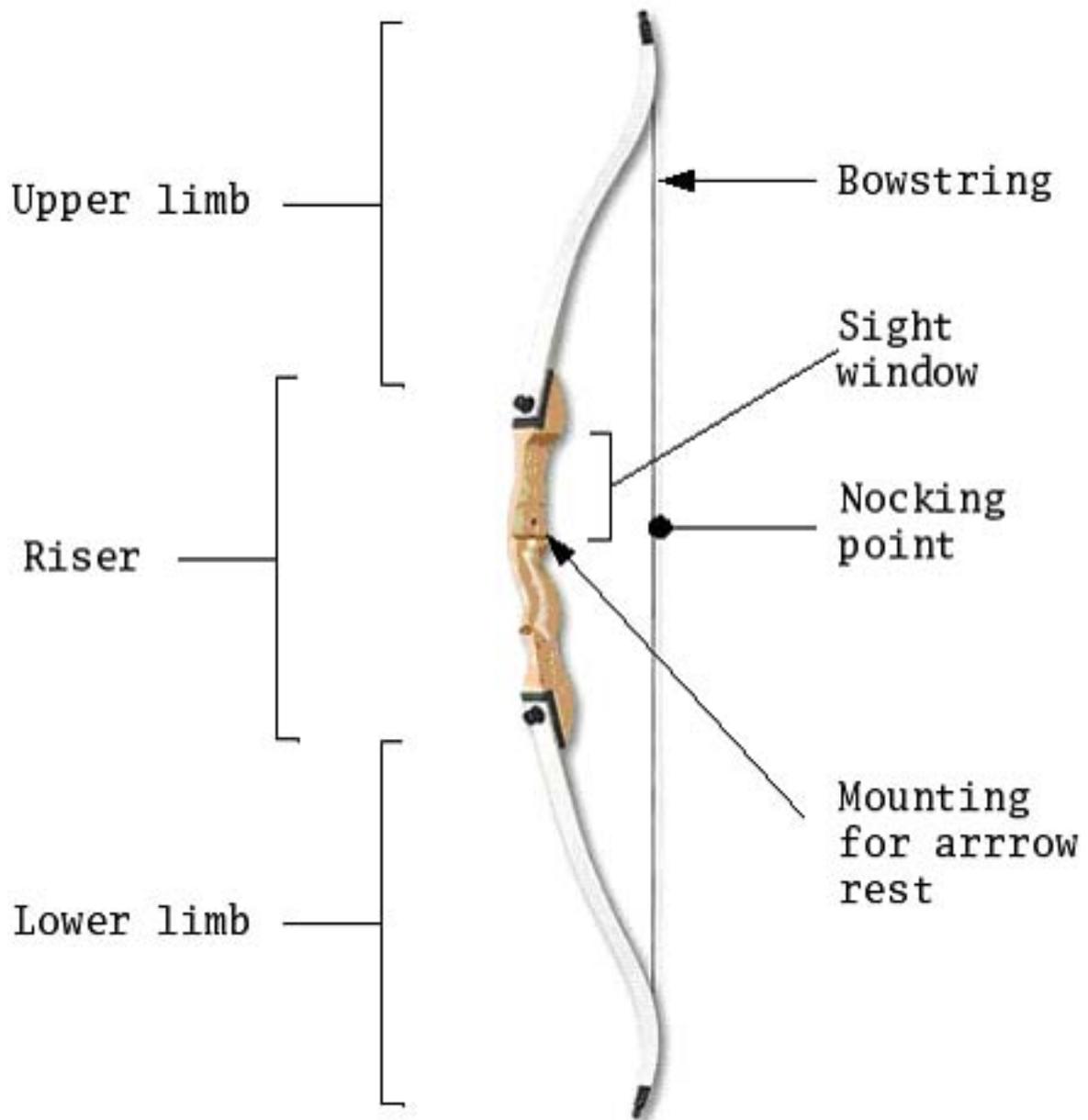
Limbs which bend when the string is drawn, and store the energy used to propel the arrow. The limbs are usually made of wood, fiberglass, carbon fiber, or some composite of these.

A riser -- this is the handle part between the limbs. In a one piece bow, the riser and the limbs are, of course, the same piece of material. The riser will usually be made of wood or metal.

A string, usually made of Dacron. The reinforced bit in the middle is called the serving. Near the middle of the serving is the nocking point, where the arrow is mounted.

An arrow shelf or arrow rest on the riser. This supports the arrow while it is drawn. A shelf is a cutting into the bow riser itself, while a rest is something mounted on the side of the riser. An extended shelf cutout is sometimes referred to as a sight window. Some bows have both shelf and riser; traditional longbows have neither.

A sight (maybe). More about sights later.



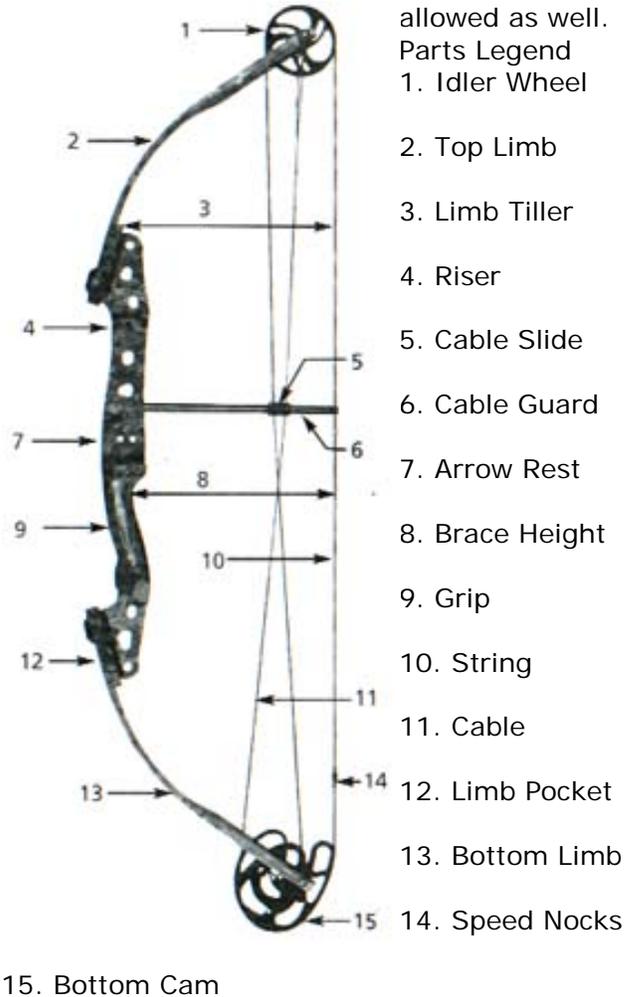
### 3) Compound Bows

The compound bow is characterized by a system of cams and pulleys, which have the effect that the draw weight decreases as you come to full draw. This makes it much easier to aim, because you aren't holding the full weight of the draw while you're sighting. In addition, because you don't have to hold the full draw weight, the peak draw weight of a compound can be higher than that of a recurve, leading to a faster arrow with a flatter trajectory (but see the discussion of draw weight below -- it isn't quite as simple as that).

Because a compound offers such an advantage over a recurve or traditional bow, most archery organizations recognize compound archery as a completely separate discipline with its own rules. In most cases, any kind of technological aid is permitted, including two-point sights. Most compound archers use a 'peep' mounted on the bowstring as the back sight, and a traditional one-point sight at the front.

However, telescopic sights and spirit levels are usually allowed as well.

Parts Legend



- 1. Idler Wheel
- 2. Top Limb
- 3. Limb Tiller
- 4. Riser
- 5. Cable Slide
- 6. Cable Guard
- 7. Arrow Rest
- 8. Brace Height
- 9. Grip
- 10. String
- 11. Cable
- 12. Limb Pocket
- 13. Bottom Limb
- 14. Speed Nocks

15. Bottom Cam

#### 4) Longbows

The traditional longbow is at the opposite end of the complexity spectrum from the compound. It is a stick of wood with a string tied between its ends. Most archery organizations impose strenuous restrictions on what can be done to make the longbow more accurate -- basically nothing. Sights, even one-point, are usually forbidden, and in many cases you'll have to shoot 'off the knuckle', as even arrow rests aren't allowed. Arrows usually have to be of wood and feathers, but most governing bodies stop short of requiring the feathers to be hand-tied to the bow. Shooting a longbow can be a lot of fun because nobody expects you to hit much of anything.

Longbows are made of various types of wood; the most traditional is yew, although

teak and maple are also used, either singly or in laminations.

## 5) Other Types of Bows

Short, one-piece "hunting bows" have always had a certain following, particularly among field archers. These have the same recurve shape, but are shorter and usually have a much heavier draw weight. In addition, there has recently been an increase in interest in traditional bows other than the English longbow. For example, short "Mongolian" bows have started to appear in archery retailer's catalogues, as have American-style flat bows.

Cross Bows are a whole separate animal that is beyond the scope of this site.

## 6) What are the parts of an Arrow?

Arrows are made up of four primary components; the shaft, the nock, the tip or point with insert, and finally the fletching. Please see the illustration below:



The foundation of every arrow is the SHAFT. The shaft of the modern arrow is a long hollow tube usually made of aluminum or carbon/graphite composite materials. Wooden shafts may still be found, but are not as popular due to differences in weight and straightness. The rear of the arrow is fitted with a small piece of molded plastic called the NOCK. The nock allows the arrow to click onto the bow's string. At the front of the modern arrow is a small sleeve (usually aluminum) called an INSERT. The insert is glued into the end of the shaft and is threaded on the inside which allows the arrow's TIP to be screwed in. The tip may be a practice point (as pictured above), or it could be a broad head, a judo-point, a blunt-tip, a field point, a fishing tip etc. A standard insert allows you to screw-in and use a variety of tips in the same arrow. A wooden shaft arrow does not have an insert. The tip is a slightly different type that fits over the end of the wood shaft. The final component is the arrow's FLETCHING. The arrow's fletching is usually made up of colorful parabolic shaped pieces of soft plastic (vanes) or feathers. Some arrows still use actual feathers, but the modern arrow usually has the more consistent plastic vanes. In most cases, the three fletches are glued onto the shaft in an equally spaced circular pattern, with two fletches one color and the third fletch a different color. This third fletch is called the cock-fletch. The fletching is very important, as it provides steering and stabilization for the arrow during flight.