

## INTRODUCTION TO ARCHERY AUSTRALIA

### **TARGET ARCHERY**

This the most commonly practiced form of archery worldwide and is practiced at most Archery Australia clubs.

Target tournaments are conducted regularly and held both indoors and outdoors.

Shooting distances vary from 18 metres (indoor) to 90 metres (outdoor), with target sizes being 40 centimeters for indoors and either 80 or 122 centimeters for outdoors.

Targets are five colours with each colour being divided into 2 to provide 10 scoring zones. The innermost ring is given a point value of 10, down to the outermost ring with a value of 1.

Target rounds involve shooting a set number of arrows over several distances and target face sizes. Indoor events involve shooting a total of either 30 or 60 arrows, with outdoor events shooting either 72, 90, 120 or 144 arrows

### **FIELD ARCHERY**

Field archery is a challenging outdoor discipline in which the archer takes on the terrain as well as the target. Field archery is a combination of archery, golf, and bush walking. A course is set up in a bush land setting taking advantage of hills, slopes, angles and light and shade.

A field course is made up of either 24 or 28 targets. Depending on the round being shot the archer is required to shoot either three or four arrows at each target.

Distances range from 10 to 60 metres and target sizes vary from 20 to 80 centimeters.

### **CLOUT ARCHERY**

Clout archery is another popular discipline in Australia because of its fun aspect. Clout archery is derived from medieval warfare where archers would lob arrows onto the advancing army. A target measuring 15 metres is diameter is marked on the ground, with a triangular marker placed at its center. The archer's task is to lob arrows into this ground-target from distances up to 180 metres.

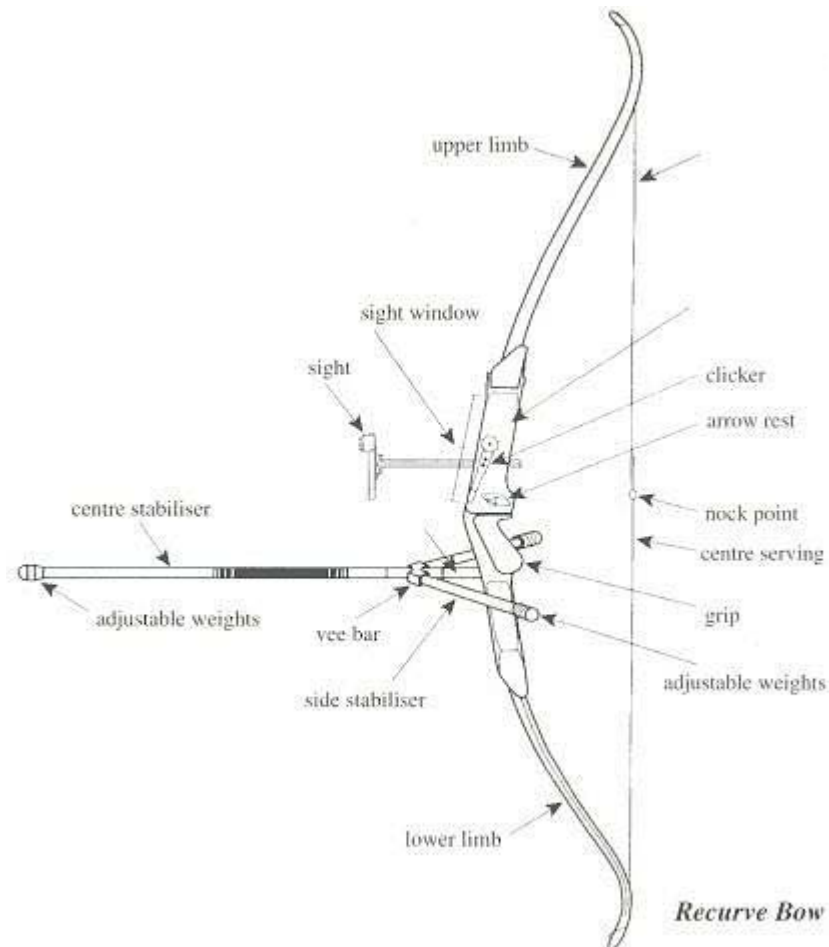
### **ARCHERY EQUIPMENT**

There are two main styles of bow used; compound and recurve. Also used in Archery Australia but not as popular are traditional longbows and crossbows.

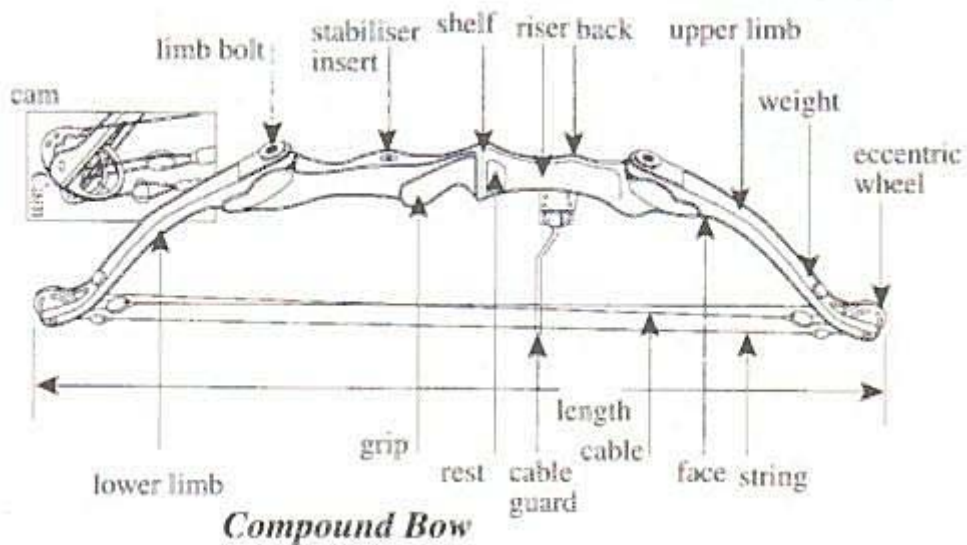
Modern recurve bows are sophisticated devices. Typically made in three sections with a handle made from cast or machined aluminium, with flexible limbs on each end

made from laminates of carbon, fiberglass, and wood.

Space age, non-stretch materials are used for bowstrings.



Recurve equipment is the classic archery style and the only equipment use at the Olympic games. In the recurve style, few technical devices are permitted to enhance accuracy, assuring that the archer's strength and skill become the main factors that determine performance.



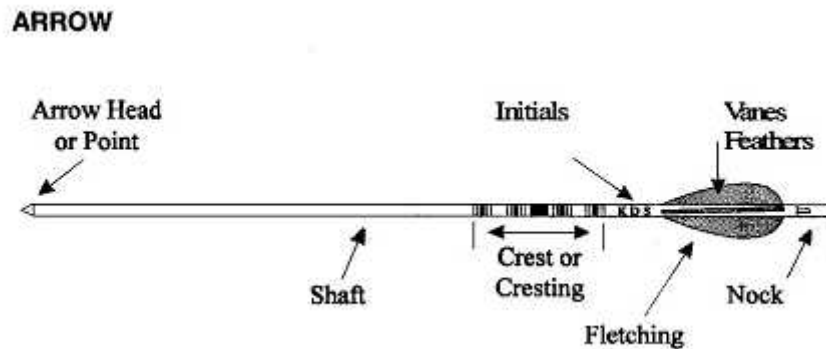
Compound bows are much more technically sophisticated than recurve, with the bows employing wheels or 'cams' at the tip of the limbs. Acting on a lever principle, these

wheels allow an archer to draw and hold a bow with relative ease.

The compound style also permits the use of aids to assist with accuracy such as hand-held 'triggers' for releasing the bowstring, and magnifying sights.

So what is the best equipment to use? It is the archer's choice of recurve or compound equipment; some prefer the graceful yet demanding aspect of recurve archery, and others prefer the intensity and deadly accuracy of compound equipment.

Modern archery caters for both styles, as well as the other traditional styles such as crossbow and traditional longbow.



Arrows are made from either aluminium or carbon tube or a combination of aluminium tube wrapped in carbon fiber. These arrows provide a combination of both strength and lightness that allows them to reach speeds of up to 70 metres or 300 feet per second.

## GETTING STARTED

The most important part of getting started in archery is to obtain correct advice and instruction.

Each archer's natural eye dominance, strength threshold, draw length, and required arrow length have to be worked out in advance in order to guarantee an equipment set-up that is sensible, safe and comfortable to use.

You should consult your local Archery Club who can provide instruction given by an accredited archery coach. Most clubs provide equipment for instruction so you don't require your own equipment although you will be expected to obtain your own equipment if you wish to continue following the instruction class.

How long is an Instruction Classes? This is up to the club, some clubs provide "Come N Try" instruction, which is a quick session of about one to two hours while others clubs provide formal instruction which could go for 3 to 4 weeks of 2 to 3 hours a session.

## Eye Dominance

The dominant eye is that which focuses on the target (while the non-dominant eye gives depth of field to one's vision).

To shoot correctly the arrow should be located directly below the dominant eye.

Eye dominance therefore determines which hand the archer should hold the bow with, and which hand the string should be drawn with. If the right eye is dominant then the bow must be held with the left hand and the string drawn with the right hand. Right eye dominance means that the archer should use what is called in archery right-handed equipment. If the left eye is dominant then the bow must be held with the right hand and the string drawn with the left hand. Left eye dominance means that the archer should use left-handed equipment.



A simple method of determining eye dominance;  
Extend both arms directly to the front at shoulder height, fingers together and palms facing away. Link the hands together so that the V's formed by the index finger and thumb form a small opening.

With both eyes open, look at a distant object through this opening. Now, close the left eye. If the object is still visible then the right eye is dominant. If not, then open the left eye and close the right eye. If this procedure allows the object to remain visible, then the left eye is the dominant eye. Bows come in left and right-handed models. The archer must specify the model that suits his or her eye dominance.

### **Strength Threshold**

The physical part of archery - drawing the bowstring against the pressure of the bow's limbs - is essentially a weight lifting exercise. The amount of force required to draw the string fully is measured as a weight, in pounds of force.

The stiffness of a bow's limbs and the length of draw determine this draw weight. Since in archery event the archer may be required to draw up to 150 repetitions of this weight, a sensible draw weight is important.

Recommended Draw Weight (in pounds) at the archer's full draw length for your first bow:

	Recurve	Compound	Recurve	Compound
Juniors(under 13)	10-15 lb	20-30 lb	Average Women	20-25lb 25 - 35 lb
Adolescent Girls (13-17)	15-20lb	25-30 lb	Average Men	25 - 30 lb 35 - 45 lb
Adolescent Boys (13-17)	20-25 lb	30- 35 lb	Strong fit men	30 - 35 lb 40 - 50 lb

Most modern compound bows have adjustable draw weights that allow the archer to set the bow within a 10-pound range. For example, an average sized 14 year old boy would get good service from a compound bow marked "25-30 lb Adjustable" by setting the bow on 25lb as a beginner, then increasing the draw weight a few extra pounds as his size and experience grows.

Recurve bows on the other hand are typically adjustable to within only two or three pounds of draw weight. Selection of a sensible draw weight at the beginning is therefore very important.

As a rule of thumb, the higher-end weight ranges listed in the above recommendation chart should only be selected by recurve archers who are either naturally very fit and strong, or who are prepared to train regularly.



### **Draw Length**

'Natural draw length' is a term used to describe how far the archer draws back the bowstring to a fully extended shooting position. To determine an archer's natural draw length a light poundage bow fitted with a long arrow should be drawn to a comfortable 'full draw' position, with the arm holding the bow fully extended, the head held straight and upright, and the string drawn straight back until it touches the nose.

The arrow is marked at the back (far side) of the bow. The archer's 'draw length' is measured (in inches) from this mark to the bottom of the arrow's nock groove (i.e. where the end of the arrow clips onto the bow string). When purchasing a bow, this draw length must be specified.

### **Arrow Specifications**

For the archer's safety the length of the arrows used must always be slightly greater than that of the archer's draw length -otherwise the archer may end up pulling the arrow right back off the bow which is very dangerous.

Equally important is the stiffness of the arrows used by the archer. Arrow shafts are available in a huge range of strengths designed to match the draw weight of different bows. This is very important since, if excessively weak arrows are shot from powerful bows they may snap when the string is released. At the same time, slight mismatches between arrow strengths and bow strengths will tend to cause poor arrow flight and thereby reduce accuracy. 'Matching' arrows to different bows is quite a science.

Beginning archers should always consult a coach, experienced archer or archery shop professional before purchasing arrows.

### **COST OF ARCHERY EQUIPMENT**

Most archery equipment used in Australia is imported from within the USA, Korea or Europe. The equipment is high-tech, reliable, extremely safe, and accurate. The price of equipment is roughly equivalent to new golf gear.

A considerable second hand market for archery equipment exists within most archery clubs, with trade at prices typically 50%-75% of the original cost. Some retail archery shops also sell second hand and reconditioned equipment, and occasionally offer good deals on superseded bow models.

Before buying any archery equipment though, it is worthwhile consulting an accredited archery coach in order to work out all of your archery measurements and specifications. For more information contact your local archery club.

## **A TYPICAL ARCHERY ROUND**

The program for a typical target archery round might run something like this

- 30 arrows shot at a distance of 60 metres.
  - oFollowed by a 10-minute break.
- 30 arrows shot at a distance of 50 metres.
  - oFollowed by a 10-minute break.
- 30 arrows shot at a distance of 40 metres.

This round is called a Canberra (or FITA 900) and is a very popular round shot regularly in most clubs.

In the Canberra round arrows are shot in groups of 6 arrows, which is called, an end.

The scoring and retrieval of arrows takes places after each end. A number of consecutive ends (5 in a Canberra round), each shot to a four minute time duration completes each distance.

Such a round would take around three hours to complete. Archery Australia has devised a number of rounds that are shot in clubs. These rounds involve various combinations of arrows at various distances and provide both variety and a challenge.

## **TOURNAMENTS**

Many of the rounds recognised by Archery Australia are shot at tournaments There are 3 types of tournaments Open, Divisional and Handicap.

Tournaments also cater for the various types of equipment and sub equipment categories.

Recurve

- Freestyle (using a sight and accessories)
- Barebow (not using a sight or accessories)

Compound

- Freestyle (using a sight and accessories)
- Barebow (not using a sight or accessories)

Longbow (always shot Barebow)

Crossbow

Open Tournaments

Open tournaments cater for people of all standards although people shooting in a particular equipment and sub equipment category compete against all comers in the category irrespective of ability.

These tournaments do cater for gender (male and female) and age sections such as

Open All competitors (usually aged from 18 to 50 years)  
Veteran (two categories) Archers aged 50 to 60 and 60 plus  
Juniors (4 categories) Under 12 Years  
Under 14 Years  
Under 16 Years  
Under 18 Years

#### Divisional Tournament.

There are many Divisions tournaments. These divisions relate to score levels within a given gender and age section.

Such as Men Recurve Division 1, Division 2 and Division 3

Careful categorization by age, gender, and bow style aims for a situation in which archers possessing the same skill level and equipment are allowed to compete between themselves for the prizes. In a tournament, the highest overall place getters in each Division win the Divisional trophies or medals.

#### Handicap Tournament

In this type of tournament, a handicap system similar to that used in golf is used. In a 'Handicap Tournament' each archer's pre-set handicap determines a certain number of 'bonus points' that are added to the total score shot in the event.

A Handicapper sets and adjusts these handicaps according to a formula provided by Archery Australia Inc. In a handicap tournament there are no Divisions. Typically, the tournament winner will be the archer who shoots best relative to his or her existing handicap.

### **AWARDS**

Archery Australia provides a number of awards for an archer's performance at club state and national events. These awards are like progression through the 'belts' of martial arts, although instead of 'black belts' or 'green belts' (etc), archers are awarded classification medallion.

The Classes in target archery, in ascending order, are Third Class, Second Class, First Class, Master, and ultimately Grandmaster. An archer improves his or her Classification by recording certain minimum scores several times over the course of a calendar year. The archer's Division and the distances shot determine these minimum score requirements.

A number of other 'conspicuous performance' medals are also available from the Archery Australia. These include awards for the achievement of 6-out-of-6 'GOLD' (i.e. scores of 9 or 10) in and 'end', or 6 out of 6 arrows in the 'TEN" (called a Perfect) at all distances from 18 to 90 meters.

Archery Australia also awards medals for achieving scores at various events such as Australian Stars and FITA Star, FITA Arrowhead for field and FITA Performance Awards for many other events.

## Matchplay Tournament

Another exciting tournament is Matchplay. These are knockout competitions based on the system used by in the Olympic games.

Archers first shoot a 'ranking' event to determine the draw for the competition, and then compete head-to-head in consecutive knockout matches to determine medal placing's. 'Ends' are usually reduced to 3 arrows to further intensify the competition.

### **SHOOTING CONTROL AN SAFETY**

Archery Australia Archery Clubs take pride in their safe conduct of shoots tournaments and club activities. Special rules and procedures have been developed for the safe conduct of archery - a care that has assured archery an injury-free record since its introduction as a public sport.

An outline of the rules and procedures governing safety and shooting control follows. Prospective archers must be thoroughly familiar with these rules before taking part in an archery activity.

Control of all activities is in the hands of a 'Director of Shooting" sometimes called the "Range Captain'. Archers must obey their instructions at all times.

Archers may not take the field with equipment deemed unsafe and all equipment should be checked regularly.

Tight fitting clothing should be worn to prevent fouling by bowstrings.

Long hair should be tied back for the same reason.

A drawn bow must only be pointed towards the designated target and only then if it is intended to be shot.

No person may go forward of the shooting line unless the Director of Shooting has signaled that it is safe to do so.

Before each 'end' archers must remain at or behind the designated waiting line. The signal to move to the shooting line is two blasts of a whistle or horn.

Archers must exercise care during shooting to assure that their equipment at no time obstructs or interferes with the equipment of other competitors.

When satisfied that the field is clear, the Director of Shooting signals the commencement of shooting for that 'end' with a single blast of a whistle.

After shooting each 'end', each archer must quietly vacate the shooting line and retire to a position behind the waiting line. The signal to cease shooting and retire to the waiting line is two whistle blasts.

Any arrow shot after the cessation whistle brings a penalty: the archer must forfeit the highest scoring arrow for that 'end'.

When the Director of Shooting has ascertained that all archers have retired beyond the waiting line, three whistle blasts are signaled to allow archers to proceed to the targets to score recover their arrows.

Archers score and collect their arrows simultaneously.

If there is an emergency or 'danger' a signal to cease shooting of four or more whistle or horn blasts is given. All archers must immediately cease shooting and retire to the waiting line upon the emergency signal.

Archers must not run to the target to collect arrows, and should look for arrows lodged in the ground short of the target (in order to avoid leg injuries when approaching the target).

When drawing arrows from the target care must be taken to see that no person is in the path of the rear end the arrow as it is removed.

After each 'end' archers should carefully inspect their arrows for damage. Damaged arrows must be discarded.

### **RULES FOR SCORING**

Scoring takes place after each 'end'. The arrows and the target face must not be touched by any competitor until the scoring values of all arrows on that target been recorded.

The scoring zone values are 10, 9, 8, 7, 6, 5, 4, 3, 2, & 1 from the center outwards.

Arrows are scored according to the position of the shaft in the target face. Should the shaft of an arrow touch two colours, or touch or intersect any dividing line between two scoring zones, that arrow always scores the higher value of the zones affected. Should a missing fragment of a target face make scoring difficult (e.g a fragment that includes a dividing line) then an imaginary line is used for judging the value of this arrow.

An arrow hitting a scoring zone in the target and then rebounding to the ground, scores according to its impact on the target, provided that all arrow holes have been previously marked and an unmarked hole can be identified (it is recommended that competitors mark all new arrow holes with a pencil at the conclusion of scoring for each end).

An arrow hitting another arrow already in the target and then rebounding to the ground, scores the value of the arrow struck, providing damage on the struck arrow can be identified to determine this event.

### **Judging**

In most tournaments accredited judges are available to determine close arrow calls and answer any disputes.