



# BACK<sup>2</sup> BASICS

**THIS ISSUE:** TARGET ARROW CHOICE

**START >>**

In this article, we are going to look at the advantages and disadvantages of aluminium, carbon, aluminium carbon and wooden arrows.

### **Aluminium**

The aluminium parallel shaft is the most common arrow shaft material used. Owing to the material used, it is affordable and offers fantastic tolerances in terms of straightness. The downfall to this arrow is that depending on the quality of the shaft the arrow weight can fluctuate between shafts considerably, and the shaft itself is heavy when compared to other types on this list.

### **Carbon**

An all-carbon parallel shaft, depending on the manufacturer's tolerances, can be both lightweight and strong, allowing it to take some considerable punishment; the downside is that some clubs don't allow the use of an all-carbon arrow due to it being hard to find in the grass.

### **Aluminium carbon composite**

The next arrow in line would be a parallel aluminium carbon composite. The straightness of machined aerospace aluminium is used as a core tube, then the carbon is bonded to the tube for extreme straightness and reduced weight, allowing for much tighter groupings. The other benefit to this kind of arrow is that unlike an all-carbon arrow, this can be found easily in the field with a metal detector.

### **Aluminium carbon composite – Taper**

A tapered shaft is thinner at the back of the shaft, resulting in reduced drag, while a greater front of centre offers a more forgiving release. A by-product of the tapering is a reduction in arrow weight which in turn increases speed. This is the ultimate arrow set-up for compound archers shooting with a release aid.

### **Aluminium carbon composite – Barrelled**

As good as a tapered shaft is for finger shooting, the barrelled shaft offers even greater advantages. By making the rear half of the shaft less stiff and much lighter in mass than the front of centre, clearance for finger shooters is improved for recurve bows. Not only do you get all of the advantages from a tapered shaft but also by shifting the shaft balance forward, front of centre is improved which allows for improved wind performance and an even greater forgiveness in the release. This is the ideal arrow for freestyle recurve and barebow.

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*Left: Tapered, barrelled, carbon, wooden, aluminium – which is right for you?*



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### **Easton X10**

Although the Easton X10 is an aluminium carbon-barrelled shaft, it does differ from other arrows in that group. The biggest difference is that the arrow has been designed with 70-metre rounds in mind. The difference from this shaft to a traditional barrelled shaft, such as the Easton ACE, is that the X10 is not only thinner again but also heavier due to a higher modulus carbon used. This allows the arrow to fly much better in windy conditions and provides even better clearance, resulting in increased forgiveness. It's the ultimate 70-metre arrow.

### **Wooden arrows**

One of the most important considerations for wooden shafts is that they all weigh as close as possible to each other. I would recommend weighing your wooden shafts and getting them to within a ten-grain range. The reason for this is that fresh from the box there can be as much as 120 grains difference from one shaft to another, which in turn will make it virtually impossible to group consistently.

Tapering, and more importantly, barrelled a wooden arrow dates back to ancient times. It allowed archers to get more accuracy and reach further distances than was thought possible.

This practice is still performed today and the reason it is so effective is that wooden arrows are very heavy when compared to modern materials such as aluminium or carbon; sanding down the shaft removes considerable weight.

The last option that can be done on a wooden arrow is to use a footing on the front of the shaft. This is a hardwood that increases the front of centre weight for better flight as well as reinforcing the strength of the shaft against impact.

For safety reasons, you should always inspect your arrows for damage but especially on carbons and woods as they can splinter or even snap if they are damaged and are then shot.

▶ **If you have any questions, please drop Adam a line at [AdamL@walesarchery.com](mailto:AdamL@walesarchery.com) or [www.walesarchery.com](http://www.walesarchery.com)**

**Above:** Easton X10 arrows are known to handle windy conditions well

**Below:** Selecting the right arrow can make a huge difference to your performance

