



Traditional Archery Skills

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A beginners' guide - How to assemble your wooden arrows in 7 steps!

Most Traditional Archers are familiar with the romance a well-made set of wooden arrows projects, they will appreciate how beautiful the Arrow is in flight as it arches towards its target. Assembling them from store bought components is not as much effort as hand planning your shafts or processing your feathers from scratch, it is very satisfying and will save you money. I've broken the process down to 7 steps.

1 - Select and Buy your wooden arrow shafts.

To ensure consistency and accuracy, all Arrows must be Spine matched to the Bow they are shot from. It can be confusing for the beginner to select and match Arrow Shafts to their Bow.

I have chosen not to explain how Arrow Spine is measured by Deflection or include an Arrow Spine Chart in this Beginners Guide to assembling Wooden Arrows because there is a lot of variables to consider that will muddy the waters.

This is where it is vital to talk to a reputable Traditional Archery Dealer or an experienced Traditional Archer. If you're not aware of a reputable Traditional Archery Dealer or are not a member of or aware of a local Club, no problem - phone me on 07 5432 4341 or Email me on perryjackson@outlook.com.au and I'll do what I can to assist you.

You can rely on a reputable Traditional Archery Dealer to set you up with matched Arrow Components if you visit his Shop. If you can't visit a good way to end up with the correct Wooden Arrows is to talk to your Traditional Archery Dealer over the Phone. Tell him your Bows Draw Weight at your Draw Length, he may know off the top of his head what you need or he may recommend you buy a test kit from them that includes Shafts of various lengths, diameters and Spine. The idea being you shoot them to see which Test Kit Arrow fly's best from your Bow.

You could also talk to experienced members of your Club who may also be able to help you with the correct Arrow Spine or be able to arrange a Test Kit from their personnel Arrows. Once you find the right shaft for your bow, buy a dozen [or more] that match and begin assembling your Arrows.

2 - What do you need to assemble your arrow components?

*Wooden Arrow Shafts	*Fletching Jig.
*Feather Fletching	*Arrow Straightening Tool.
*Glue-on points that match your shafts diameter	*Fletching Glue, Fletching Tape or Super Glue.
*Glue-on Nocks that match your arrow shafts' diameter	*Quality Poly Finish, Gloss is harder and more durable, it's easily rubbed back to a Satin or Matt Finish if you prefer.
*Tape Measure and Pencil	*Hack Saw or small Hand Saw.
*Nock and Point Taper tool	*Good Paint Brush or Lint free Cloth.

Tech Tip: Dip Tubes are great, see your local Traditional Archery Dealer or do a little research and make your own.

Other options to add a little Bling is to Stain or Spray Paint your Arrow Shafts. There's no hard and fast Rules here, do what you reckon looks good. One thing to consider, the front half of your Arrows can get dirty quickly from use, some people like to stain the front of their Arrows to disguise the discolouration. There is also PVC Arrow Wraps, for many they are an attractive, practical and expedient means to add Bling to your Arrows. Give me a Hand Crested Arrow for the ultimate in Bling and personalisation.

3 - Straighten your arrow shafts before assembling them.

Good quality Wooden Arrow Shafts should arrive pretty straight when they are delivered from a reliable Traditional Archery Dealer. It's not unusual for the Shafts to need a bit of straightening after you buy them, it is the nature of natural materials. To straighten Wooden Shafts, sight along the Shaft and slowly rotate it while looking for a wobble, this indicates it is bent. Another method to check for straightness is to lay the shaft on a flat surface such as a Table Top and then roll the shaft to look for a bend. When you find a Bend, flex the Shaft in the opposite direction gently with an arrow-straightening tool or by gently bending the shaft in the opposite direction over your Hand.



Tech Tip : You can buy expensive Arrow Straightening Tools as pictured or make your own from a slotted piece of Timber with a Steel Roller bolted in place, a piece of Dowell and a Cup Hook or a simply use the Shaft of a Screwdriver to gently stroke the Bend. Be careful, you are relying on Wood Fibres being compressed at the Bend Site to keep the Arrow Shaft straight. Take your time, be gentle, and don't crush the Timber Fibres.

If you're not sure how to use an Arrow Straightening Tool ask your Traditional Archery Dealer or an experience Traditional Archer. There is plenty of Videos on YouTube also.

4 - Cutting the shaft's to length and cutting the nock and point taper.

You have taken your time to straighten your Arrow Shafts, now take the time to ensure you cut them to your desired length. Some Archers use small Cut off Saws you can buy off eBay, some Archers use a Hacksaw, and other devises such as a Jig to ensure they cut the Shaft off square and the same length each time. Experience will guide you here.

You need to determine your Draw Length before you cut your Arrow Shaft. If you draw, say 28" you need to consider the length of the Taper for your Plastic Nocks and Arrow Heads and add this to your Draw Length to arrive at the length to cut your Arrows off. I think it's a good idea to add an extra inch or 2 of OAL to your Arrow Shaft also ie 28" Draw + 1" extra shaft length + 1" for Point Taper+ 3/4" for Nock Taper = 30- 3/4".

Use scraps of Arrow Shaft to practice with your Taper Tool, in short order you will have determined how long to cut you're Tapers and the intricacies of your individual Taper Tool. You will note that the Nock Taper is steeper [11 degree's] and the point Taper is shallower [5 degree's].

Tech Tip: The more expensive Taper Tools have adjustable depth gauges to ensure uniform length of your Tapers, these Tools are a sound investment. The cheaper Tools can work very well but you need to mark the length of your Taper on your Arrow Shafts. If you have different length Tapers you will get inconsistent OAL length Arrows.



The more expensive Taper Tools come with a variety of Collars to match the variety of Arrow Shaft diameters and the cheaper Taper Tools come in individual sizes. Taper Tools have replaceable Blades, they can be re-sharpened.

5 - Seal your arrow shafts.

This is vital, you must seal the shafts to prevent them from absorbing moisture. Many Archers use Dip Tubes filled with a sealer, which applies an even, consistent coating. Other Archers paint or wipe on Polyurethane. Don't be heavy handed, numerous light coats with diluted Poly are better than a few heavy coats.

Some Archers lean their Arrow Shafts at an angle against the Wall to dry but many Archers have devised methods to hang them to dry.

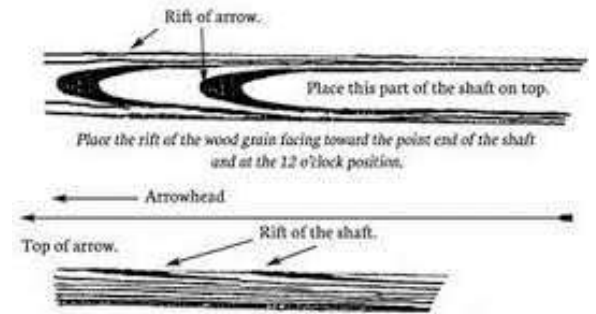
Tech Tip: use High Gloss Polyurethanes, the High Gloss is a harder more durable surface. You can rub the gloss back with OOOO Steel Wool. It pays to rub back the front half of your Arrows to clean and reseal them from time to time.

6 - Gluing on points and nocks.

Many Archers use Epoxy Glue for the Arrow Points and Super Glue or Fletching Glue for the Plastic Nocks. I prefer Hot Melt Glue for Arrow Heads and Super Glue for Nocks. I won't go into the pros and cons of different Glues, try them all and make your own mind up.



It is important to glue on your Nocks in the same orientation as the image, see my Article in Sticks and Strings 2 for a detailed explanation of why the Nock needs to be glued on perpendicular to the Rift of the Arrow Shaft. Note the direction the Shafts Grain feathers out in the 2nd image - towards the Point end of the Shaft. Its good practice to assemble your Arrows as pictured in case of breakage the Shaft will splinter away from your Forearm.



WARNING: I have had to apply First Aid to an Archer who had his Wooden Shaft driven through his Forearm after it splintered in the Bow on Release of the String. He had not aligned the Rift so it pointed towards the Point and failed to inspect his Arrow after a substantial impact. If you align the Shaft as per the illustrations, if the Arrow does break on Release the Shaft will fall away from your Forearm instead of towards it.

7 - Fletching your arrows.

Good Fletching Jigs are fully adjustable for different degrees of Arrow Shaft Alignment, Fletching Offset and for 3 or 4 Fletches. Generally they come with a Right Wing Helical Fletch Clamp. You should be able to buy Straight Fletching Clamps and Left Wing Helical Clamps if that's what you need. Take your time to adjust your Jig so the base of the Fletch sits flat for optimal surface area before you start to glue the Feathers on.

Place an Arrow Shaft in your Jig, taking care to align your Nocks Cock Feather Indicator in the Jig. If you are using a different colour Cock Feather place it in the Clamp, if you're not using a different colour Feather it is not necessary to align the Nocks Cock Feather Indicator. Run a thin glue line along the length of the Feather.

If you got a little heavy handed with the Glue carefully dab it on a Rag to remove the excess, take care not to force Glue between the Clamp and the Feather. Place the Clamp on the Fletching Jig, applying slight pressure to seat the Feather on the shaft. Let the glue dry, rinse and repeat with your next fletching.

Once you complete these steps you'll have simple, beautiful wooden arrows that are ready to shoot.

Tech Tip : A Bitzenburger Jig as pictured is a quality product, no need to spend this sort of Money though, the numerous Plastic Fletching Jigs on the Market are very good Tools. A Jo Jan Multifletch is a worthwhile investment if you want to make a lot of Arrows quickly.



Regularly check your new wooden Arrows.

Check Arrows regularly for loose Fletching, damaged Nocks and damage to the Shaft, especially after impacts.

Timber Arrows can develop Bends through use or over time, weather conditions can affect Wooden Arrows that are not sealed well. Its good practice to occasionally rub the high wear areas of your Arrows down with 0000 Steel Wool and apply a fresh coat of Gloss Polyurethane Finish.

Before every shooting session you should check and restraighten your Arrows as necessary. Check them for damage from impacts or fair wear and tear, set aside suspect Arrows from your Quiver.

Please don't hesitate to contact me if you wish to expand your Arrow making Skill Set to include Hand Planing your own Wooden Arrow Shafts, processing your own Wing Feathers, Cresting and the myriad of other Skills associated with making fine Wooden Arrows, be they Tournament Arrows, Hunting Arrows or Historical reproductions. If I can't help you I will endeavour to steer you to someone who can.

In the next Article we'll talk about repairing broken Wooden Arrows, perhaps there's no need to throw out that lovingly crafted Arrow you just shot into a Rock or Tree!

DO YOU NEED a specific question answered or want to see a specific traditional Archery Related CRAFT or skill featured in STICKS AND STINGS?

Email me at perryjackson@outlook.com.au I will respond as quickly as possible.