

## “Homemade Fletching... Cheaper by the Dozen”

Photos and article by Jason Jelinek

You can make your own fletchings at almost no cost, provided you have the time and desire.

### Terms

A person who assembles the arrow components is called a **fletcher**. An **arrowsmith** is actually a person who makes the metal points for the arrows. Arrowsmiths are specialized blacksmiths. A **fletching** is a feather that has been prepared for a shaft/arrow. The **pile** is the metal (or stone) point of the arrow. The **nock** is where the arrow attaches to the string. The **quill** is the stiff, hard part of the feather where the feather fibers are attached. The **oil line** is the shiny area of the feather near where the fibers attach to the quill. The oil line is oil from glands on a bird, which give the feather water repellency.

### Acquiring Feathers

Most any feather that is tall enough will work as a fletching, however, some work better. Primary wing feathers, the 8-10 feathers on the end of the wing, work the best. They are the stiffest, have the highest oil line, and are the easiest to strip from the quill. A stiffer fletch is usually more durable. A fletch with higher oil lines won't flatten in the rain. Wild turkey and Canadian Goose feathers are good choices for fletching because they are reasonably easy to obtain and are proven fletchings. Canadian Goose fletchings are very weather resistant, especially to moisture. Many Asian cultures use pheasant feathers for low-



profile fletchings. Be careful which type of feather you use for fletching. Raptors or hawks are protected and feathers are best left where found.

There are many ways to obtain primary wing feathers. The best way is to get them from the birds you harvest in the field. The next best way is to ask your hunting friends or neighbors to save the wings for you. You might be able to get them from turkey growers, but it might cost some money. You cannot die the feathers from wild birds, but the domestic white turkey feathers can be dyed.

It has been said that right handed shooters (those that shoot arrows on the left side of the bow) shoot left wing feathers the best. Conversely, right wing feathers work best with left-handed shooters (again those who shoot arrows on the right side of the bow). There are others who say it doesn't matter and that the fletching lies down when it meets the shelf or the bow. I seem to shoot left wing feathers better, but

that may be completely in my mind.

### Making the Raw Fletch

All of the fletching that can be bought in the sporting goods stores or specialty stores are ground feathers, usually from domesticated turkeys. The quill is separated and the base of the feather is ground with sandpaper to get the desired thickness. This can be done by placing the feather in a fletching clamp and using a small belt sander. Care must be taken to go slow and easy, otherwise the base of the feather can be ground completely through.

Stripping is a very ancient method for getting fletchings and was practiced in the Red River Valley not too long ago (by Native Americans). It's very fast and the fletchings lay very nicely on the shaft. I use fletching tape and it compliments the stripped fletchings very well. To strip a fletch from a feather, just grip the feather on the side you want about ¼ of the way down from the end of the feather and pull down. I like to

grip the feather fibers right near the quill and pull a little at a time. The primary wing feathers (the long ones near the end of the wings) strip the easiest and generally make the most durable fletching. Once the fletching is stripped, trim the sides a bit with a sharp scissors and cut to length. If you practice, you can strip 3 dozen fletchings (enough for 1 dozen arrows) in less than 10 minutes. Stripped fletchings tend to curl up when off of the quill, but they can be placed in a clamped with just a little bit of care and patience.



Fletchings can also be cut from the quill with a knife. Just split the quill in half with a sharp knife, place in a clamp and carefully use either a block plane, spokeshave, or a sharp rounded knife and shave away the quill until the desired base thickness is attained. Fletching in England in medieval times was prepared this way. It must have been pretty efficient, because they produced a million arrows (3 million fletchings!) some years.

### ***Attaching the Fletch***

The oldest method of attaching the fletching to the shaft was tying it on with some type of thread and using animal glue. The Native Americans used sinew from the backstrap of bison and deer (it makes 12-15" long strands) and soaked them in hide glue to lock them down. The English used silk or fine linen threads to tie the fletchings onto the shaft. In fact, the English would wind string through all of the fletchings in a spiral fashion to make sure they didn't come off. The English used their very best bone/hide glue to attach the fletchings and often attached the fletchings while sitting near a warm fire so the glue wouldn't set quickly.

Good glue to use today for attaching fletchings in this style is Knox Gelatine (it is very refined hide glue, making it very strong). Just soak the sinew in water to soften and dip the sinew in the glue for a second or two, then wrap the end of the feather base with the sinew a couple of times and add another feather until all 3 or 4 are on. Then repeat for the ends. The glue will hold the end of the sinew down. Finally, take another feather and dip it in the glue and run some glue down the length of the fletchings on the shaft. The glue will pull the feather down onto the shaft as it dries.

Fletchings can be glued down onto the shaft using a variety of synthetic glues. Fletch-Tite, Duco, Super glue, and others can be used with fletching jigs. Some set slower, but allow more time for adjustment. Others set very quickly and require preparation and precision. I would suggest putting a dab of glue at the front of the arrow to make a good transition from the shaft to the leading edge of the fletch base.

Fletching tape is by far the quickest and most versatile method of attaching a fletch to the shaft. Its not as cheap as the fletching glue, but it is quick and one roll will work for about 3 dozen

arrows. It stays on well (I've only had a couple fall off stump shooting in -10 Fahrenheit weather), especially when you put a dot of fletching glue on each end of the fletch. It also allows the fletcher to reposition the feather if the fletch didn't get seated in the jig correctly. This advantage alone can allow the fletcher to just use a clamp to fletch freehanded and adjust accordingly.

The tools required to fletch can range from expensive fletching jigs (which are worth the expense if you fletch many arrows) to your hands. I've even fletched arrows using pine/cedar building shims. If you lay the tapers opposite each other you have a built in helical if you lay the shims parallel with the shaft.

### ***Fletching Styles***

Fletching is used on the arrow to help keep the tail end of the arrow following the point. The larger the fletching (longer or taller) the more stable the flight, larger fletching also means more drag and slower arrows down range. There are many styles of fletching, so many that I'll only cover a few. The first style most archers are familiar with is the parabolic style. It provides some stability with little drag. The

shield cut is very popular with recurve and longbow archers because it has more stability. The traditional cut (I'm sure there are better names) has even more stability, but has the disadvantage of making a high-pitched humming sound when shot. It can also be noisy when the fingers brush against the ends of the fletching. The banana cut (or hog-backed cut) is nearly as stable as the traditional cut, but doesn't make much noise. The flu-flu style is simply an uncut fletching. It has the most stability, but is loud and really reduces the range of your arrow. Many people use this disadvantage to their advantage when bird hunting. The best thing about making your own fletching is

that you get to experiment with the style that works for you. You can even invent a new one or tweak an existing style.

### ***Shaping the Fletch***

The chopper is a device with a set of blades that are formed to cut a fletch in a certain style. To operate a chopper, place the fletch in the chopper, rest the blades on the fletch and pound the top down, cutting the fletch in the desired style. You can get choppers for parabolic, shield, traditional, banana, and others. Ground fletchings work the best in a chopper, but stripped or cut fletchings will work with a little

more care.

A feather burner is a wire that is heated using electricity and cuts the feather by burning/melting it. The shaft is rotated and the wire cuts the fletching in the desired style. This process is very bad smelling and should be done in a garage and not inside the house.

The oldest method is the scissors method. Just take a sharp set of scissors and cut the fletching in the style you want. The easiest style to cut with a scissors is a triangle. All you have to do is cut a straight line at an angle. I've created a few templates of the banana style. They are pretty easy to make. To make a high-backed banana fletch, take an 8" can and trace out a circle. Then draw a 5" line on the circle. That small area of the circle is your template. To make a lower profile, just use a larger circle. The 8" circle will make a fletching  $\frac{3}{4}$ " tall. A 12" circle will make a fletching  $\frac{1}{2}$ " tall. I like to experiment when I make fletchings for my son's arrows. In fact, I let my son cut his own fletchings sometimes to involve him in the process. Remember, the leftovers from the full-length fletchings that were cut into the 5" fletchings will work well for youth arrows, so don't throw them away.

Making fletchings can save you money, is a valuable skill, and allow you to personalize your arrows. It is worth a try if you have the time, like to save money, and would like to try craft some of your own equipment.

### **Banana Fletch**

