

BUILDING ARROWS 101

By Tracy Breen

If you are a bowhunter or an archery retailer, you know the importance of having a properly built arrow that flies like a dart every time it is shot - whether it's in your backyard at the 3D tournament or in the woods. After all, it doesn't matter how state-of-the-art your bow and accessories are; if your arrow isn't built and tuned properly, hitting a small dot at a great distance is going to be difficult. Hitting a whitetail in the vitals when your palms are sweaty and your knees are shaking is going to be nearly impossible.

The good news is building arrows isn't like building a skyscraper. With the right tools and a little knowledge, you can custom build arrows that you or anyone you are building them for would be proud to shoot.

Just like in any hobby or trade, building quality arrows requires the right tools. First and foremost, you will need a high-quality arrow cutoff saw. Other necessary gadgets include an arrow spinner for spin testing the arrows after they're built, an arrow cleaning prep tool, an insert extractor tool and a nock alignment tool. Other required tools include a fletching jig, inserts and of course Duravanes. The Fusion or predator vanes are a great choice. You will also need a good adhesive like Duraloc Gel.

The first step is cutting your arrows to the correct length. Everyone has a preference of how long they want their arrows based on their draw length. If an overdraw is preferred, cut them short. Most shooters prefer to have an inch or two hanging over the end of an arrow rest. Most arrow saws come with an installed measuring tape on the saw, which makes cutting them to length simple and quick. If you are cutting an economical shaft - one that has straightness tolerances of only .005 or .006, you may want to consider cutting the shaft at both ends. Most variances of straightness in a shaft occur at the ends of the shaft. By taking a little off both ends, you end up with a straighter shaft.

After your arrow is cut to length, it is time to insert your nocks into the end of the arrow. Some nocks need to be glued in. Some arrow shafts come with them already installed. Many companies are offering high speed nocks that promise to increase arrow speed. Many of these nocks simply push into place. Most push-in nocks hold up extremely well and can be rotated after they are installed, giving the shooter the ability to rotate the direction the cock feather is facing when they shoot the arrow. If a snap-in nock comes loose, it can be pushed back into place. Glued-in nocks require more time to install and if they come loose, they will need to be glued back in.



The next step is gluing the fletching onto the arrow. Make sure the shaft is clean before you glue on the fletching. There are several fletching jigs on the market - from single arrow jigs to jigs that fletch up to six arrows at a time. Fletching one arrow at a time is easier and less stressful if you haven't fletched arrows before. Before you put the first fletch on, determine if you want your vanes to be straight or offset (helical). Many bowhunters choose to have their fletching offset because it has proven to steer arrows tipped with broadheads better than straight fletching. There are three options: straight, right helical, and left helical.

Most jigs come with a clamp that the fletching is placed in. The clamp that holds the fletching is applied to the arrow and the jig until the glue dries. Some jigs allow you to fletch an entire shaft at once; others allow one fletch to be applied at a time. Applying the clamp that is holding the fletching to the arrow and getting it in the right place can be tricky. Before putting glue on the fletching, place the clamp holding the vane onto the arrow while it's in the jig. This allows you to get a feel of how the clamp lines up on the jig. Place your vane in the clamp so the rear of the vane will be between $\frac{1}{2}$ and $\frac{3}{4}$ of an inch in front of the nock. Adjust your clamp inward or outward to get the amount of helical you desire. If you are using small broadheads, a slight amount of helical is all that's needed. If you use larger broadheads, a more severe helical will be needed. When you understand how to apply the clamp to the jig, apply your glue to the fletching and put the clamp in place. The key to success when gluing on fletching is using enough glue so the fletch will stay on for a long time, but not so much so that you will have gobs of glue on your arrow.

After your first vane is dry, rotate the arrow in the jig and repeat the process with the next vane.

Once all of your fletching is glued on, it is time to glue in your insert. Use your prep tool to rough up the inside of the shaft. Roughing up the shaft will cause the glue to bond to the shaft with greater strength, reducing the chance of pulling out an insert when removing an arrow from a target. Next, put glue on the insert and glue it in. Before the glue dries, screw a broadhead into the insert and line up the vanes with the broadhead blades and let the insert dry in place. Having the vanes and broadheads aligned properly will result in a more accurate-flying arrow. Once the arrow is dry, spin test the arrow on an arrow spinner to ensure that it flies perfectly. If the arrow spins perfectly, it is ready for the woods.

To find out more about the author, visit
www.tracybreen.com



