

Welcome to the world of bow building! You have made a good choice starting with a bow blank to simplify the process of learning the art of the bowyer. The blank you have purchased is a mild reflex/deflex longbow with an American walnut handle featuring a maple stripe and built with .040 Gordon fiberglass and three tapered laminations of engineered bamboo for the core. The bamboo laminations taper .001 of an inch per inch of running length from the handle to the tip yielding a total of .003 taper in the limb, producing a smooth draw.

Let's first discuss some terms that will help you understand the process you are about to undertake. The part of the bow that faces away from you, towards the target is the back of the bow. The part of the bow that faces you as draw the bow is called the belly. Reflex/deflex, if you think of the bow as lying in a flat straight line, reflex is the tips pushed in front of this line and deflex is the handle pushed in front of this line.

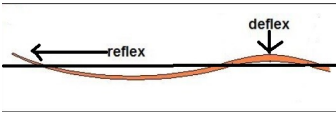
Reflex adds speed to a bow and deflex reduces felt hand shock. The amount of reflex/deflex to put in to get a smooth shooting bow with good speed that is easy to tune is a delicate balance that has been taken care of for you. Brace— brace is when the bow is strung and at rest. Tiller-tiller is the measurement taken at an equal distance from the center on both the top and bottom limbs from the belly to the string when the bow is braced. Your blank comes “floor tillered” which means the limbs are bending even and the tiller is near neutral. The actual tiller measurement is marked on the back of the bow. Tiller is expressed as positive, negative, and neutral. Positive tiller is when the top limb measurement is greater than the bottom limb, negative tiller is when the bottom limb has a greater measurement than the top limb, and neutral tiller is when the limbs measure the same. The most common tiller is positive; generally on a longbow tiller is 3/16” positive for split finger shooters and 1/4” positive for three fingers under shooters. Draw length— draw length is measured from a point 1 3/4” ahead of where the web of your hand is on the handle to your anchor point. On a longbow this is generally the back of the bow to your anchor point.

Now you have the basic terms you need to finish your bow blank. To begin with cut in your sight window/arrow shelf. The blank is marked for either a left or right hand shelf but you cannot cut in a dual shelf, one side only. There is a line marked on the back of the bow above the shelf mark. Draw a line from the edge of the bow at the upper line to the centerline marked at the shelf. You can use a wood rasp to remove the wood and fiberglass in the sight window area, but remember to always rasp from the fiberglass towards the wood to avoid tearing the fiberglass. Traditionally longbows are cut to center, but you can cut go slightly past center to allow the use of a heavier spine arrow if you prefer. I like to crown my shelf just above where the web of my hand is and radius the sight widow belly to back for minimal arrow contact.

After cutting in your shelf/sight window you can work on your grip. I like to add overlays to the back of the bow in the grip area so that I can round the front of my grip more without violating the fiberglass on the back of the bow. This step is not necessary but when shaping your grip do not sand through the fiberglass on the back of the bow in the front of the grip. There is ample handle material to accommodate any size hand, use a half round rasp and sand paper to shape your grip to make it comfortable to your hand.

Your blank comes with a B-55 string so it does not need tip overlays, but you can apply overlays of phenolic or G-10 to protect the tips should you decide to use high performance string in the future. I use bowyers superglue to attach the overlays, but you can use epoxy. Clamp the overlays down tight when gluing because you want the bond to be perfect as this is where most of the stress of shooting the bow is experienced. You can dress up your bow by adding a cap of wood, antler, or horn to your tip overlay, but put a base layer of G-10 or phenolic that is not sanded through for strength. Shape your tip overlays with files and sandpaper and cut the string grooves in with a nock file and sand smooth, you can wear through a sting quickly if you do not smooth out your grooves well.

Now it is time to final tiller your bow. Adjust the tiller of your bow to your shooting style by sanding the sides and belly of the upper limb and then exercising the limbs, checking the tiller often.



Your blank comes slightly heavy Because sanding ,smoothing and tillering your bow will cause the bow to lose 3 to 5 pounds minimum. If you need to increase the draw weight of the bow you can pike the length down to 62” and this should increase the draw weight by 5 pounds or so. When sanding your limbs do equal sanding to both top and bottom limbs to remove tooling marks and sanding scratches. Start with 120 grit and smooth out the entire bow. Raise the grain on the handle and bamboo by wetting with water between grits and then allow the bow to dry and progress to 180 grit and smooth the entire bow out again. Raise the grain again and then use 220 grit paper to achieve final smooth. Inspect your bow very carefully after each step of sanding to make sure you are removing all defects. After the 220 grit step you are ready for a final tiller check, see what the final weight is at your draw, and wipe the bow down with acetone, alcohol, or lacquer thinner to remove all dust and oil from your bow before applying finish. Remember that any tooling marks or scratches left on the bow will be amplified when finish is on the bow. You can use a grain filler on the handle and sides of the bow or just apply finish to your bow. You can letter your bow with the draw weight and anything else you would like with an India ink pen available at a hobby store. You can use any type of finish you're comfortable with, polyurethane, acrylic, or epoxy. Some bowyers have great success with automotive finishes. You can spray, wipe, or brush your finish on. There you have it, you have built your own bow. Now you can enjoy the fruits of your labor and impress your friends.

Keep your stick bent!

Vince Smith

Lonesome Wind Custom Bows

