**Inlaying a Celtic Knot in a Pen Blank**

# **Keys to Inlaying a Celtic Knot**

1. **Squared blanks --** For Celtic Knots, it is important that the blank be as square as possible and the top and bottom cut and squared as well.
2. **Dimensions --** For 7mm pens (e.g. Slimline, Designer/Euro etc.) blanks should be **5/8” x 5/8” x 5”** – going larger is generally a waste of material.
3. **Blade Kerf**--The material you inlay must match the kerf of the blade used to make the cut. Measure this in a scrap piece of wood before proceeding. *Kerf for the Small Bandsaw in class will accommodate 2 standard sheets of veneer (or 2 pieces of 26 gauge metal).*
4. **Inspect Blank** -- Take a moment to inspect the blank and decide where you want to place the knot and how long it should be.
5. **Setup Jig** – Use a simple jig that attaches to your Bandsaws Miter Gauge to accurately make the Inlay Cuts.
   1. Setup a stop on the jig so that you can accurately register the blank for each cut. *Set to ½” on the jig used in class.*
   2. Adjust the length of the knot by changing the angle of the Miter-gauge. ~~Smaller~~ Greater the angle the longer the knot will be. *Jig in class is set to 37o which will give a knot about 1” long. Setting to 20 o will make the knot ~~longer~~ shorter, setting to 50 o will make it shorter longer.*
6. **Inlay Cuts** -- Celtic Knot requires 4 inlay cuts using the following sequence for each cut.
   1. Place blank in jig and register against the stop.
   2. Make cut – do not cut all the way through, leave about 1/16” uncut.
   3. Glue inlays (wood glue for veneers, epoxy for metals) into cut. Trim inlay as required for accurate gluing.
   4. Use gluing jig and a clamp to allow the glue to dry (about 25 minutes).
   5. Trim inlay so blank is again square. Sharp chisel works well for veneers, Bandsaw for cutting aluminum veneer. (Be sure to support the aluminum against a ridged backing such as plywood for support.)
   6. Rotate blank for next cut.
7. **Turning** – The Celtic Knot inlay can be a bit delicate so a light touch is required. *Tip: Use some thin CA glue to strengthen the knot and re-apply as you continue to turn the section down. Complete pen with a CA finish.*

# **Notes:**

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| Jig to accurately cut a Celtic Knot using a 37 *o* angle, attached to my bandsaw’s miter gauge. |  |
| Blank ready for the 1st cut. Small clamp is acting as a stop to insure accurate registration. |  |
| Don’t cut all the way through the blank, leave about 1/16” of wood to insure accurate gluing. |  |
| Best to have inlay pre-cut to match the width of the blank. In this example the inlay is 1 piece of veneer and 1 piece of 26 gauge aluminum. Glue-up will use a 5m epoxy. *Previously measured to match the kerf of the Bandsaw blade.* |  |
| Gluing jig to insure an accurate glue-up. *Jig is waxed to avoid gluing the blank to the jig.* |  |
| Trim inlay so blank is square. |  |
| Ready for the next cut. |  |
| Rotate blank and repeat process – a total of 4 cuts are required. |  |
| Completed Blank – Note, both sides of each **X** should line up on each side of the blank. The bottom of the Celtic Knot cuts should also line up and form a continuous line across each side of the blank. |  |