Matching Nylon Braid to Pen Components

By
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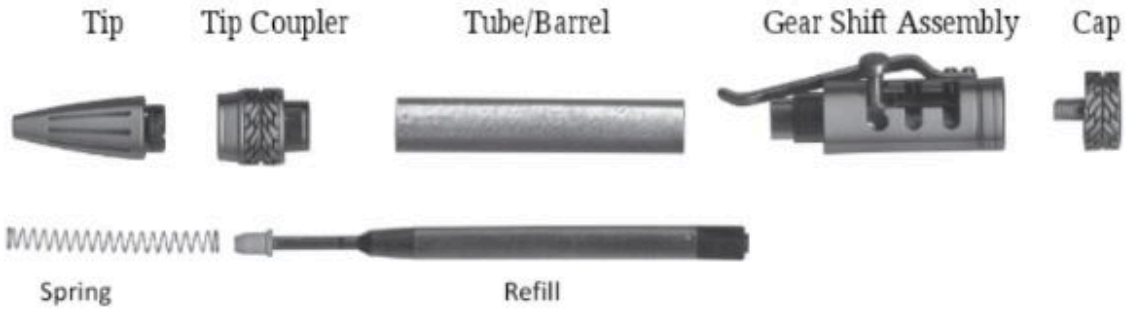
Matching Nylon Braid to different sized pen components can be tricky. Due to the flexibility of the braid it can be used on various sized brass pen tubes.

In this case this case I will be making a Gear Shift pen using Nylon Braid on the barrel section.

In order to match the braid to the pen components material will be required to build up around the 3/8" brass tube:

Required Materials and Tools:

- Gear Shift Pen Components



- 3/8" OD Faucet Connector with Braided Nylon (Polymer) Covering
  - Can be Purchased at outlets that sell plumbing supplies like Home Depot, Rona or Totem.

3/8" Faucet Connector

Required Materials and Tools Continued:

- Pair of Large Scissors
- Set of Vernier Calipers
- Set of Tin Snips
- Thin & Med CA
- 1/2" Maple Dowel
- 3/8" Drill Bit
- Black Spray Paint
- Paste Wax
- Collet Chuck c/w 1/2" Collet
- 1/2" Drill Chuck
- 320 Grit Sand Paper
- Wood Lathe
- Turning Chisel
- Band Saw
- Small Bench Vise

Making the Braided Pen Barrel:

- Using a pair of large scissors cut the metal fittings off the connector. Slide the nylon braid off the plastic tube.

Connector with fittings and tube remove

- Measure the Gear Shift Assembly with calipers and record the measurement which in this case is 0.495”

Finial Section Measurement at 0.495”

- Measure the Tip Coupler with calipers and record the measurement which in this case is 0.495”

Nib Section Measurement at 0.495”

- Take the 3/8' brass tube and slide it into a piece of braid. Pull the braid to be snug on the brass tube and measure with calipers which in this case is 0.447".

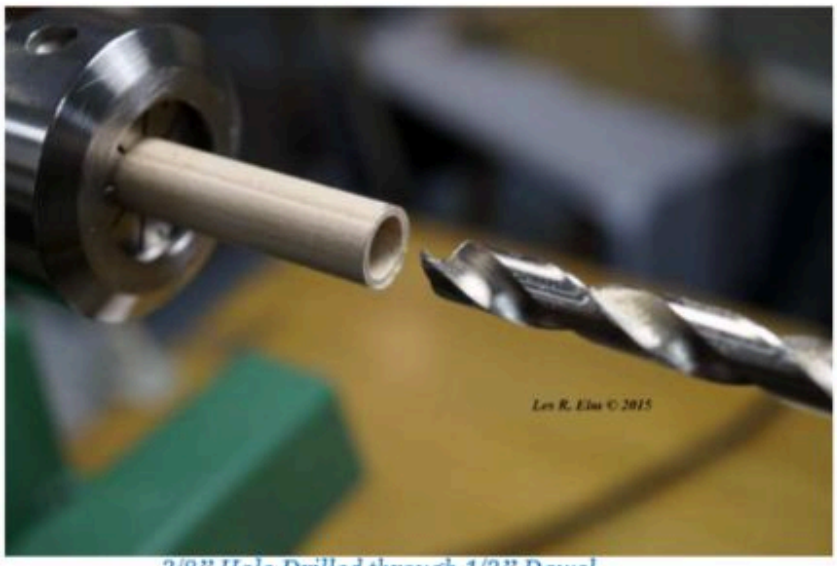
3/8" Brass Tube Plus Braid

- With the Gear Shift Assembly and Tip Coupler both measuring 0.495" and the brass tube with the braid measuring 0.447" the brass tube will have to be built up by 0.048".

- Take a piece of .500" dowel and slide a piece of braid over the dowel. The measurement with calipers is 0.565"

- The difference between the braid with the dowel at 0.565" and the Gear Shift Assembly and Tip Coupler at 0.495" means that the diameter of the 0.500" dowel will have to be reduced by 0.070" to a measurement of 0.430".

- Cut a piece of 1/2" maple dowel a 1/4" longer that the brass tube and drill a 3/8" hole all the way through the dowel

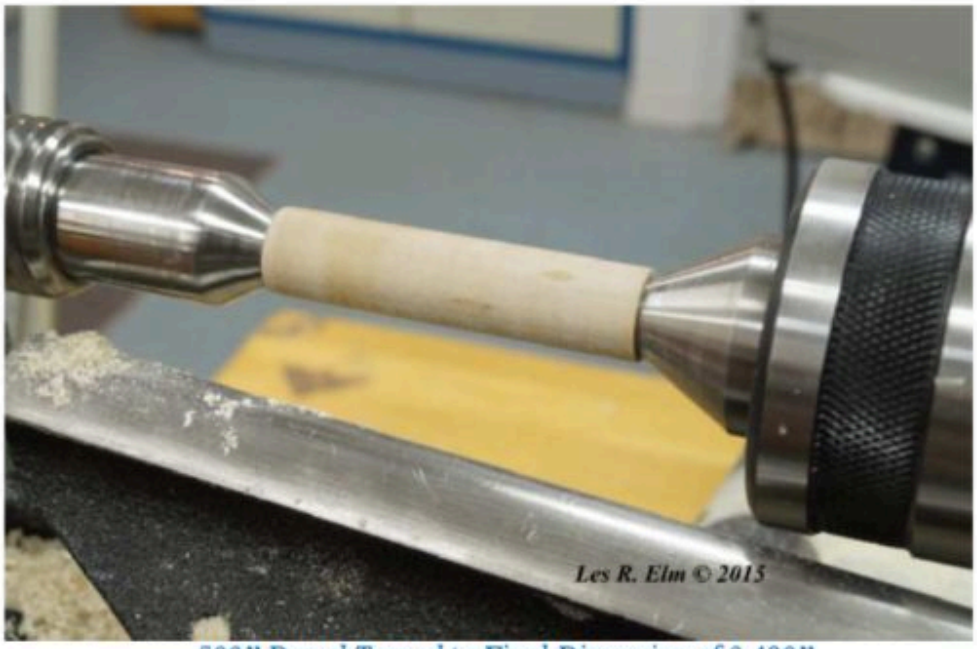


3/8" Hole Drilled through 1/2" Dowel

- Scuff the 3/8" brass tube with a piece of 220 grit sand paper and glue into the dowel with Med CA and square the ends to the brass tube.

Brass Tube Anchored in Dowel

- Install the dowel between centers on the lathe and turn the 0.500" dowel down frequently checking the dimension with the braid on the dowel until the measurement is at 0.430"



.500" Dowel Turned to Final Dimension of 0.430"

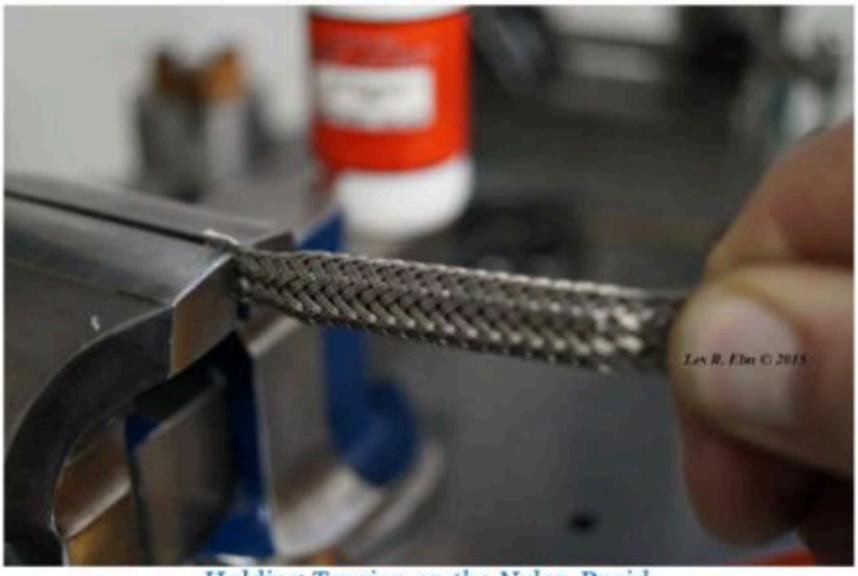
- Lightly sand and remove the dowel from the braid and spray paint the dowel Flat Black.

0.430" Diameter Dowel Painted Black

- Cut a piece of braid 2-1/2" longer than the dowel. Insert the painted dowel centered into the nylon braid. Pull the braid snug on the dowel. It should measure 0.495" at each end of the dowel in order to match the Gear Shift Assembly and Tip Coupler.

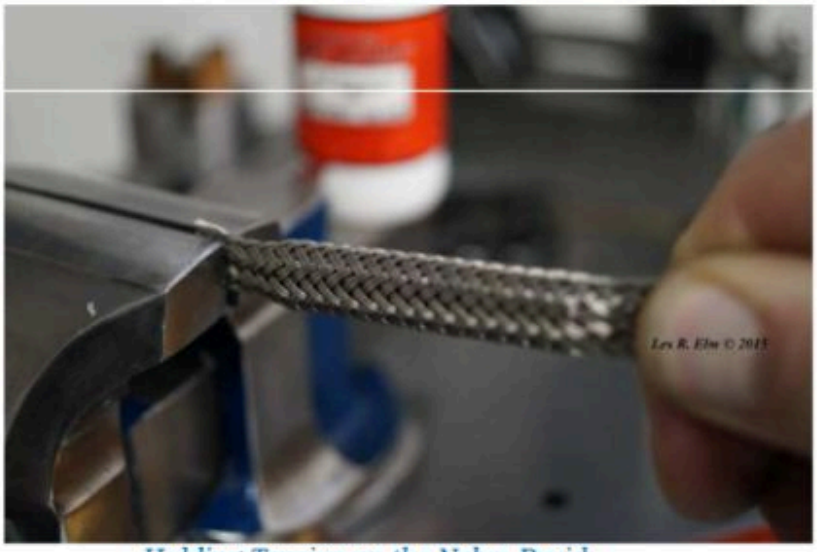
Insert the Tube Centered into the Nylon Braid

- Apply some paste wax on the vise jaws to avoid gluing the braid to the jaws. Clamp one end of the nylon braid in a small vise. Apply liberal amounts of Thin CA on the loose nylon braid which will allow the Thin CA to flow around the dowel end
  Pull the nylon braid tight and wipe off any Thin CA from around the nylon braid.
  Hold tension on the nylon braid until the Thin CA has had a chance to set.



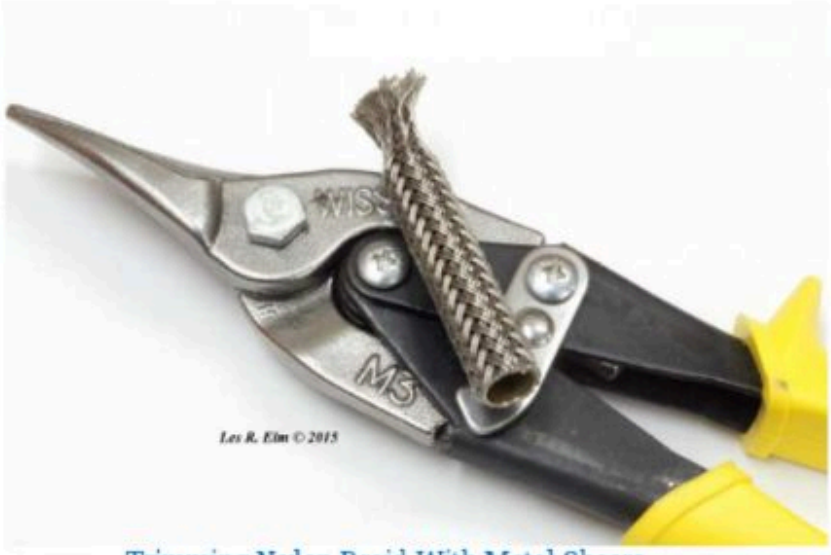
Holding Tension on the Nylon Braid

- Remove the glued end of the nylon braid from the vise. Apply some paste wax on the vise jaws to avoid gluing the braid to the jaws. Clamp in the opposite end of the braid. Apply liberal amounts of Thin CA on the loose nylon braid which will allow the Thin CA to flow around the dowel end.
  Pull the nylon braid tight and wipe off any Thin CA from around the nylon braid.
  Hold tension on the nylon braid until the Thin CA has had a chance to set.



Holding Tension on the Nylon Braid

- Remove the nylon braid from the vise and let sit overnight to cure.
- The Thin CA applied to the nylon braid on the dowel ends will keep it anchored to the dowel and prevent it from fraying when trimming proud with the dowel ends.
- Stick the point of the snips into the end of the braid and cut down and around stopping just proud of the tube ends.



Trimming Nylon Braid With Metal Sheers

- Use a Disk Sander to remove the proud nylon braid flush to the tube ends.

***Do not use a Pen Mill as it will rip the nylon braid from the blank ends!**

Nylon Braid Pen Blank Ready for Components

Completed Chrome Gear Shift Pen