

Turning an Artisan Lighter Kit

Supplies Needed

- 37/64" Drill Bit
- 3/4" x 3/4" x 2 1/2" Blank
- Pen Mandrel
- Artisan Lighter Bushings
- Glue (Thick CA or Epoxy)
- Sandpaper/Finish
- Drill or Drill Press
- Barrel Trimmer/
- Pen Press or Clamp
- Eye and Ear Protection

Cutting and Drilling the Blanks

1. Cut the blanks 1/4" longer than the brass tubes.
2. Using a drill press with the blanks secured in a vise or clamp, drill a hole through the center of the blanks stopping an 1/8" short of the bit exiting the blanks. Drill at 2,000–3,000 rpm backing the drill bit partially out of the hole every 1/2" to clear chips. When using larger bits or drilling plastics drill at 250–500 rpm.
3. Trim away the small amount of wood from the end of the blanks to expose the hole. The blanks should remain slightly longer than the brass tubes. This technique prevents cracking caused when the bit exits the blanks.

Gluing the Brass Tubes Into the Blanks

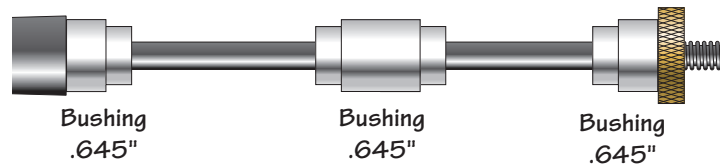
1. Lightly scuff the exterior of the brass tubes with 220 grit sand paper to prepare it for gluing.
2. For a fast bond, use thick cyanoacrylate adhesive (super glue) or 5 minute epoxy. Apply a thin layer of glue to the tubes and inside the wood blanks. Insert the tubes into the blanks rotating it as you go to spread the glue evenly. Position the brass tubes in the blanks so that the wood extends beyond the tubes on both ends to allow for trimming.

Trimming/Truing the Blanks

1. Square the ends of the wood blanks with the tubes using either a barrel trimmer or disc sander. This step is critical for the components to fit together properly. **Do Not** trim the brass tubes as this may result in an improper fit when the lighter is assembled.

Mandrel Setup and Turning

1. Place the bushings and blanks (not shown) on the pen mandrel.



2. Advance a 60° revolving cone center into the dimpled end of the mandrel and tighten using light pressure. **Do Not** over tighten the tailstock or mandrel nut as this may cause the mandrel to flex resulting in an off-center barrel.
3. Turn the blanks to the desired shape leaving the blanks slightly larger than the bushings.
4. Sand the blanks using progressively finer grits of sand paper, then apply the finish.

Assemble the Parts

Layout the parts as shown. Use a vise or clamp with wood or plastic jaws to prevent damaging parts during assembly.

1. Press the end cap into one end of the long tube. Roll up the retainer spring and fit it into the spacer. Place the spacer into the long tube.
2. Press the coupler with o-ring into the opposite end of the long tube.
3. Press the threaded coupler into the short tube.
4. Press the lighter cap into the opposite end of the short tube.
5. Insert the flint and then spring then secure them by installing screw in the lighter cartridge. Remove the felt pad from the lighter cartridge and use Zippo or Ronson lighter fluid to fill the lighter cartridge being careful to not overfill. Replace the felt pad.
6. Slide it into the long tube till it is flush with the o-ring coupler. Attach the key ring to complete your lighter.

