

Hello all,

A few of you asked for a bit of an aluminum turning tutorial. I had a chance today to make a new aluminum cigar, and thought I would take some photos along the way. Here is a down and dirty tutorial:

This is a photo of the tool that I made for the job. A Standard HSS scraper of skew would work just fine. However, it should be noted that the amount of heat aluminum gives off when turned is quite high. The extra heat can change the tempering of even the best HSS tools, making them unable to hold an edge. I would highly recommend getting a HSS heavy gage scraper from a place like HF for about 10 bucks and making a handle for it like I have. The extra weight from the scraper makes the turning much easier (Less vibration, more control).



My homemade scraper next to my Crown HSS scraper.



My homemade scraper next to my Crown HSS scraper.



I have precut and drilled a bunch of cigar blanks. I use t6061 5/8" aluminum rod. I find it easier to take a ride out to my old man's place to use his steel lathe for the

drilling and surfacing of the edges. It can be cut with a simple hack saw, or band saw, drilled on a press, with a little patience, and sanded flat on a bench grinder, or disc sander. The blanks are drilled with a 23/64" bit, allowing the fittings to be pressed directly into the aluminum barrels without tubes.



This photo shows the blanks mounted on the mandrel and ready to turn. Note the small amount of material near the largest of the bushings. This is nice so you don't have to spend all day taking a 3/4" rod down to the correct inner bushing size.



Let's get crackin! I wear gloves (Normally a no no for me) due to the amount of heat that the shavings toss at me. Also, the filings are quite sharp. The higher speed the better with aluminum. My Jet Mini tops out at just over 3900 rpm if I recall. That is where I turn it.





Once the first barrel is to shape, I move to the second. This photo demonstrates how sharp and well the homemade scraper cuts. With a little more pressure, see the ribbons:



A close-up of the ribbons:



Now that both barrels have been turned to size, you can take a look at this close-up. You can see that the barrels are not real smooth. This is because, I don't take the time to smooth them with the chisel. They are much easier to sand smooth with some 240-grit sandpaper. Also note the bushings. They get torn up when you get near them with the heavier scraper. I use this set only for my aluminum cigars. I usually mic my ends anyway.





I sand with two grits only. 240 and then 400. It takes only about 1 minute of sanding with both grits to knock the bumps out. Then I use a piece of 3200 MM for the final sand. If I was going to leave this pen with a brushed finish, this is where I would stop:

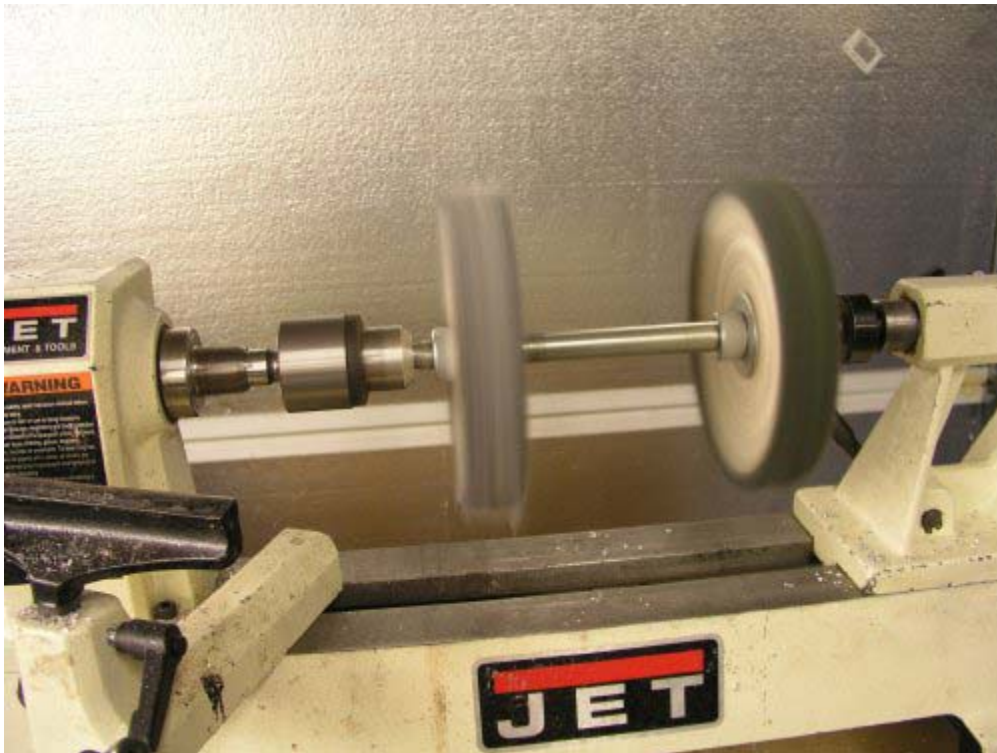


But this pen is going to be polished. I use simple soft metal polish that I get from Lowe's. 1 wheel gets "Light Polishing" compound, and the other gets, "High Polishing" compound:



I apply these to my homemade wheels. Note: Don't forget to reduce the speed of your lathe back down for the buffing. 3900+ rpm is too wild for me:





Polish away.



Only takes a short time to get it looking like this:



And here is the final product with the chrome cigar kit. This is the hardest pen for me to photograph. It is hard to tell, but it is the same polish as the chrome kit:



I hope that this gives someone the push to try out some aluminum. It really is not as drastic as it seems. It should be noted, that I always wear eye protection, and a respirator. It is especially important when turning aluminum, as the dust is very fine, becomes airborne very easily, and is not good for the lungs. Always turn safely.

Cheers,

James