

But I digress.

I started off with a .5" dia. rod of tool steel. Annealed it enough so I could begin to cut it on the lathe. Turned about 1" from the end down to the maximum diameter of .3950"



Next turned down .1508" from the front to .3580" for the case mouth, and start of the throat.



I then turned down the step as in the stepped chamber drawings.



Decided I would just go with the traditional tapered reamer and adjusted my lathe compound to $.5^\circ$, that is one half of a degree. Cut the taper on the main body of the reamer.



Also adjusted the lathe to 2° for the taper on the throat area.(I'm not even sure I'm describing that right?)



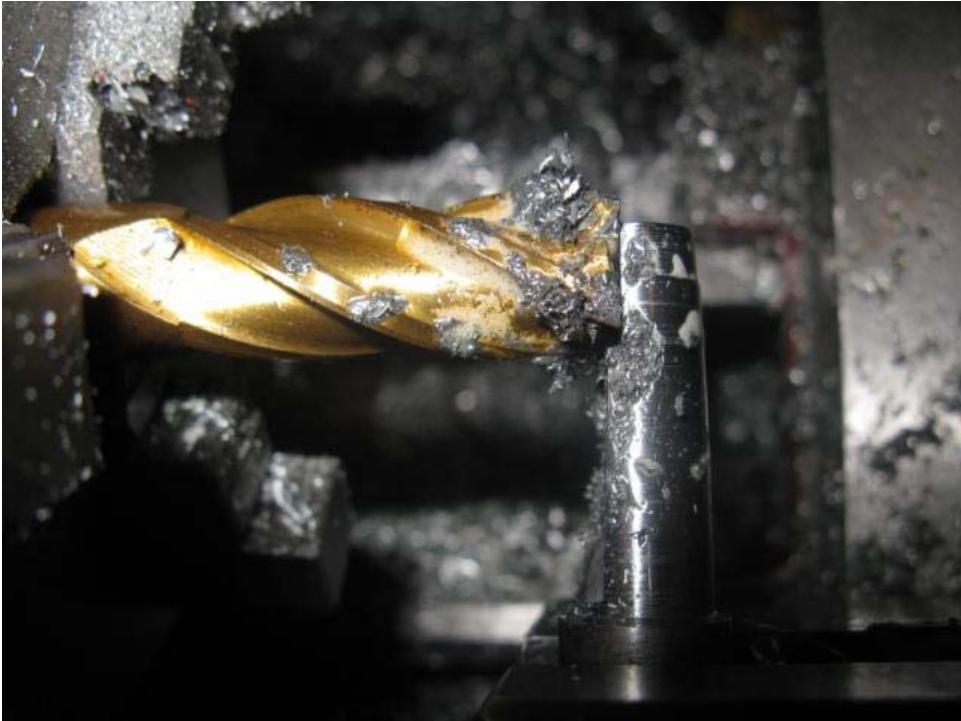
Got the basic shape turned, and sanded with some 400, 500, 1000 grit sandpapers to smooth out the tool marks. Now it still needs half the diameter removed, and heat treated.

Took me a little time to figure out how I wanted to remove half the diameter for the reamer. On my .22LR reamer I just ground it down on my bench grinder and "eyeballed" it to the half way mark. It worked fine but I wanted to be a bit more precise this time. Finally an idea popped in my head, hold it in the tool post and put a cutter in the 3-jaw and Presto! Instant mill! I could use the cross slide to cut exactly as I needed.

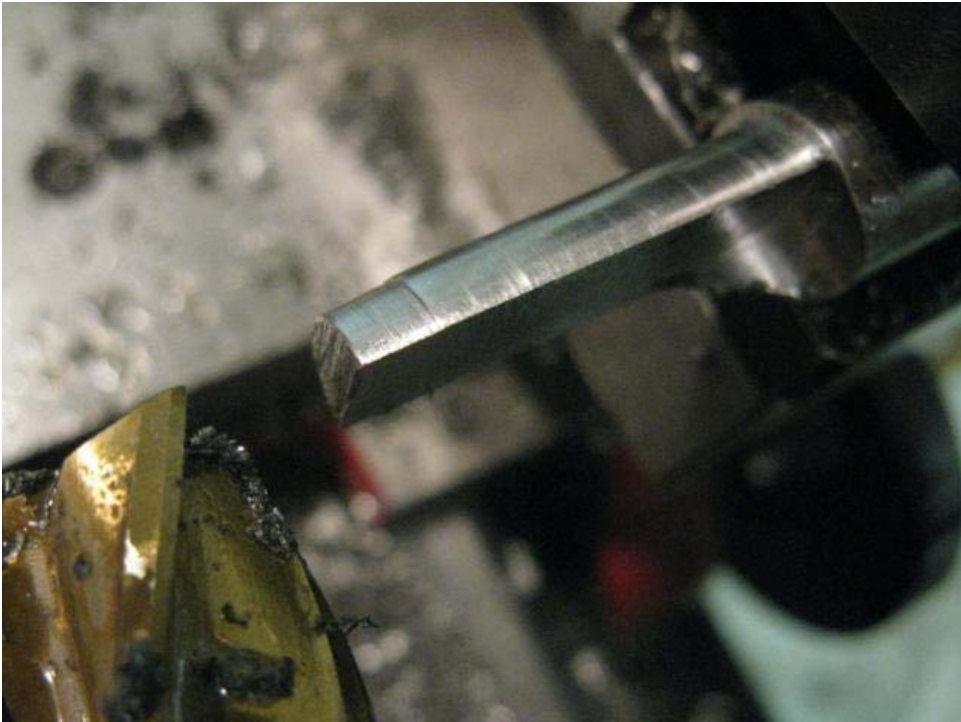
Here is the reamer held in the tool post, and a 9/16" 4 flute cutter in the chuck. The cutter has chips in it from a test I did with .5" aluminum round bar to verify my idea before cutting steel.



Start cutting away...



Nice, straight cut...

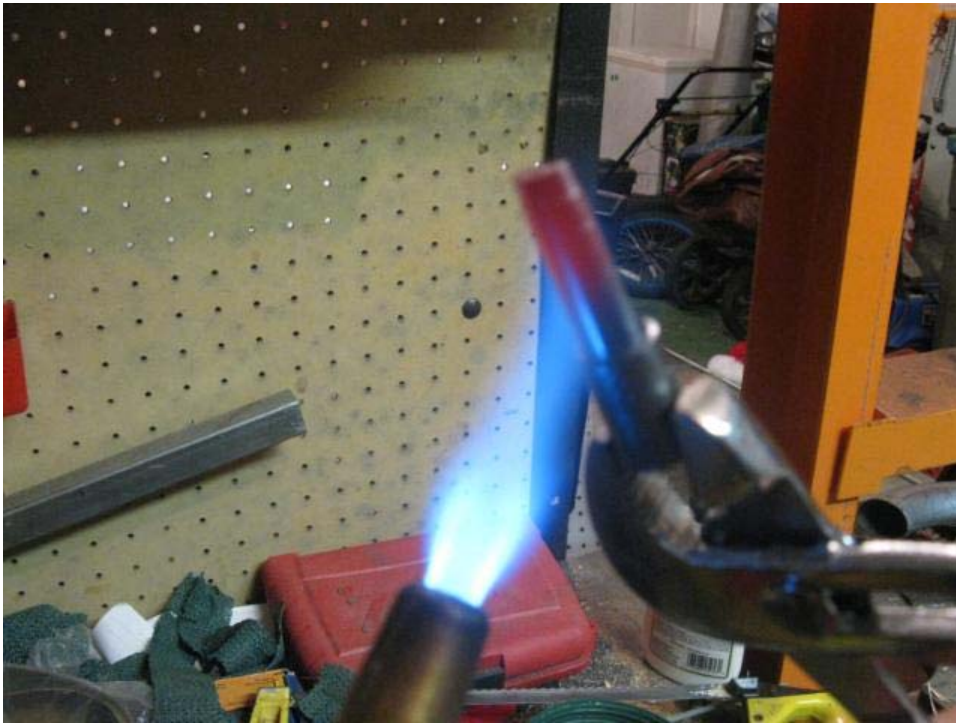
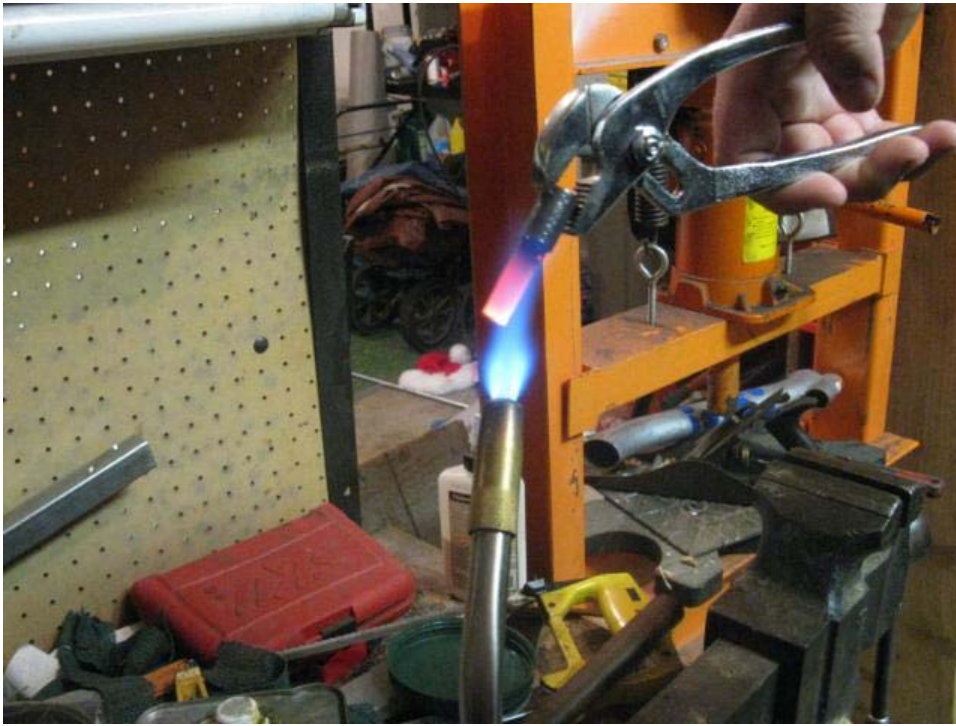




I marked it with a HF stamp set, so I would always know what it is.



Time for heat treat!



Didn't get any pictures of quenching, but it happened.

Here it is after hardening, and removing a bit of scale.



Looks like a finished reamer.