

▶ CASE STUDY

SMALL BUSINESS

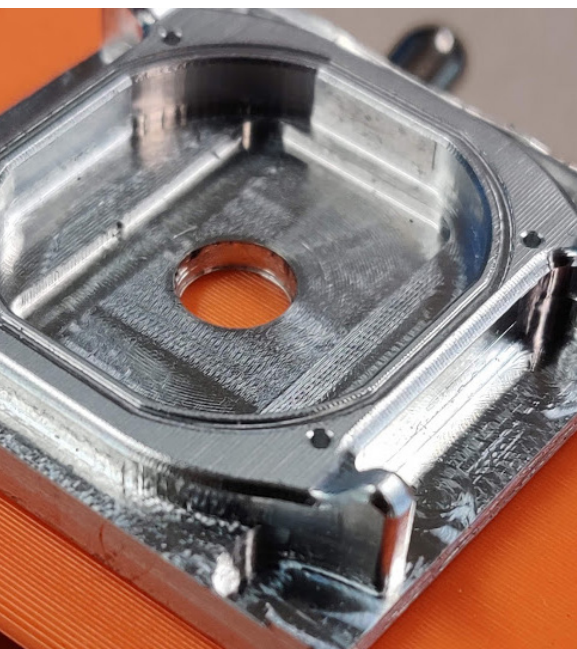
DESIGN THE EVERYTHING



Design the Everything is a small business building itself around designing and making everything from custom branding irons to pens to the nonsense cube. Scott and AJ share their successes, failures and lessons learned along the way on Instagram (@designtheeverything) and YouTube and have become an active part of the Pocket NC community. We've loved following them since they added the Pocket NC V2-10 to their shop in March 2020, adding some excitement to quarantine times.

Some background on Design the Everything from co-founder AJ: "Our stated mission is "We make beautiful things that people love to use every day". Most of our previous products have been small items like pens, or tops (like the kind you spin), we're even partnering with a leather worker on a wallet. The branding irons will probably continue to be a bread and butter product for a while, but we're also in the process of developing some more products that will hopefully start to dominate our Pocket NC's time."

AJ indicated that the Pocket NC is used to cut brass branding irons for leather and woodworkers in custom sizes ranging from one inch square up to the largest size the Pocket NC travel can accommodate. He shares, "As far as I know we are the only branding iron makers in the world using a 5 axis CNC."



ORIGINAL WORKFLOW & CHOOSING THE POCKET NC

The workflow to produce parts for DTE products prior to procuring a Pocket NC was unreliable and time intensive: "We had used several different small desktop machines before investing in the Pocket NC. We constantly had reliability issues with the other machines, and spent far more time repairing them than actually using them. Admittedly, most of the issues were due to having bought cheap, used machines, and not because of any manufacturer flaws, but it was still slowing us down. We also found we wanted to make difficult parts that just weren't suited for the machines we had and we spent a lot of time developing fixtures instead of making parts."

Like many Pocket NC users AJ was looking for a reliable, flexible and space conscious CNC option that could cut complex parts: "We wanted the ability to seamlessly move from CAD to finished part, without the interruption of developing custom fixtures."

WE ALSO WANTED A MACHINE THAT MINIMIZED HUMAN INTERACTION, AS WE ARE FAR MORE LIMITED IN TERMS OF MAN-HOURS COMPARED TO MACHINE-HOURS.

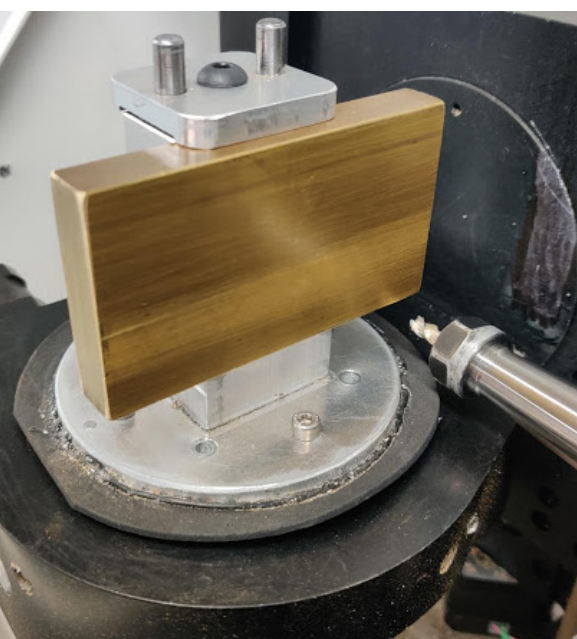
"I bought a Pocket NC because I needed to maximize my time in the shop. I have two kids, a wife, and a full time job, so time is limited. The 5 axis ability of the Pocket NC lets me make parts without wasting my time making custom fixtures, or flipping it five times to machine all the sides. I also work in a really small shop. My shop is literally a large closet in my basement measuring 8'x12'."

IN TERMS OF ABILITY PER CUBIC FOOT, THE POCKET NC WAS HARD TO BEAT.

LEARNING MACHINING AND THE POCKET NC

AJ has a similar experience learning machining as many Pocket NC customers, a strong mechanical engineering background with some machining opportunities mixed in. He shares:

"While I do have an engineering degree, it didn't involve any practical machining training. But while attending college I took a job as a machinist





in the machine shop for the mechanical engineering department. I was woefully unqualified, but they were desperate for help, and really the shop manager just needed an extra pair of eyes to watch the students who were using the equipment. Despite getting paid minimum wage, it was one of the best jobs I ever had, as it came with free reign of the shop, any time I wanted, and access to all the free scrap a budding maker could ever need. I only started six months before I graduated, but I was able to pick up the fundamentals of machining while working there."

"After working in the college shop all of my experience has come from the University of Youtube and trial and error. I'm self taught on everything CNC, learning from guys like John Grimsno, and the other John at NYC CNC."

On moving from 3-axis CNC to 5-axis CNC on the Pocket NC:
"Transitioning to the PNC from my previous 3 axis was basically seamless. It took me a little practice to understand the travel limits of the machine (particularly the Z axis negative limit) and how to set up my parts efficiently, but 90% of 5 axis programming is just 3 axis programming. The Pocket NC and its controller interface is much easier to use than any of the ones I've used in the past."

POCKET NC ADVANTAGES

AJ shares some of the advantages to the Pocket NC for his workflow and business:

"I'm a big fan of the tool probe. The Pocket NC was my first machine with that feature, and it's been a huge asset. Again, I'm all about minimizing human time in the manufacturing process, and while a tool changer would be the holy grail upgrade, an automated probe is definitely the next best thing."

I WAS SURPRISED TO FIND MYSELF USING THE POCKET NC SIMULATOR MORE THAN I HAD EXPECTED. MAKING MISTAKES CAN EASILY DOUBLE OR TRIPLE THE TIME A PROJECT TAKES, BEING ABLE TO DO A FULL MACHINE SIM UPFRONT IS A HUGE FORCE MULTIPLIER.

HANDS DOWN MY FAVORITE PART OF THE POCKET NC IS ITS RELIABILITY. AS LONG AS YOU KEEP IT CLEAN AND GIVE IT GOOD G-CODE IT JUST RUNS AND RUNS AND RUNS WITH VERY LITTLE MAINTENANCE AND ZERO TINKERING.

Thanks to Design the Everything for giving us insight into their business that surely mirrors some of the challenges experienced in other small businesses.

Where you can find Design the Everything:

You can find their product line and more about Design the Everything on their website. Pocket NC footage making their products and some clever workholding solutions for their branding irons on their Instagram page. Finally, the Design the Everything YouTube channel.

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