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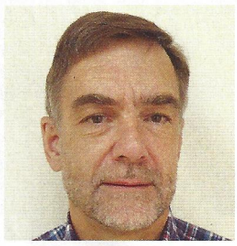
A Visit to NYC CNC



Alan Wood reports on a CNC Training Course and Open Day at NYC CNC – in Ohio.

I am one of many readers of MEW that follow John Saunders at NYC CNC on Patreon and YouTube. As a viewer you cannot help but get sucked in by his enthusiasm for all things mechanical and electronic engineering and in particular CAD and CAM centered on Fusion 360. He has an amazing history and story to tell and those who are not familiar with him should look him up.

Last year John held an Open House at his shop in Zanesville, Ohio. It was attended by some 400 or more of his followers. While recently browsing his site, I noted that there was to be another such event in May 2017. I also noticed that in the week leading up to the event there were to be 3 training courses held at his shop. These would focus on how to get to grips with Fusion 360 as a CAD package and then how to transform a CAD design into a real product through the integrated Fusion CAM package. Course details can be found at www.nyccnc.com/training

It seemed to me to be a golden opportunity to kill two, if not three, birds in one single visit - train on CAD, train on CAM and attend the Open Day.

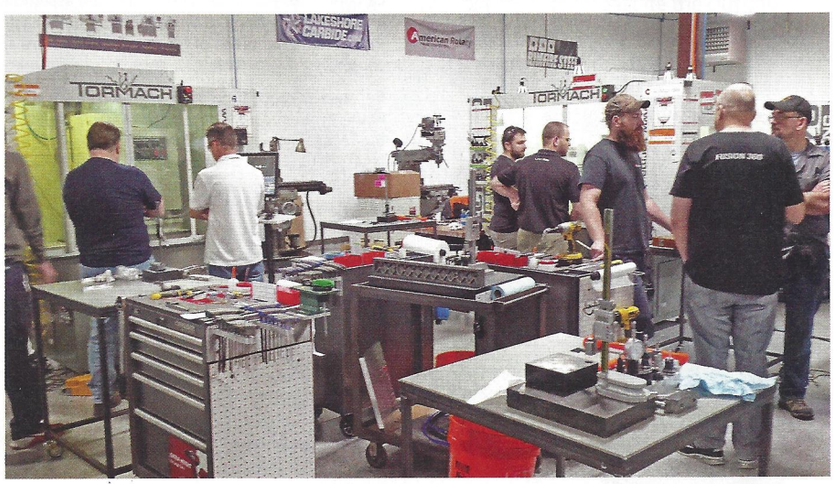
I have never experienced CAM first hand before and had always figured G-Codes simply related to underwear protocols. Clearly there was going to be some re-education. With it also would be some degree of trepidation on whether my grey matter could absorb and keep up. Nevertheless, a booking was placed with John and my logistics team (a.k.a. my wife) got me booked to Columbus Ohio via JFK to arrive Friday afternoon before the course. Zanesville is around 60 minutes east of Columbus. John had arranged a group booking for all attendees at the local Holiday Inn with a 10-minute commute to his shop.

The first two-day course started on Saturday morning and with hindsight arriving in the US the day before was probably not the best acclimatization period for a 5 hour time shift. Let's just say I was not best rested when I arrived in the classroom.

John employs a regular external training contractor called Kevin Ellingson and the courses are run once per month. Kevin is great communicator who knows Fusion inside out. He understands the CAM implications of clicking or not clicking the right boxes. Class size is kept to around 10 to allow Kevin to give greater individual attention.

The first day was an intense introduction to Fusion through a number of example

Saunders Machine Works



CAM workshop

John and his Haas

drawings. These highlighted all the techniques that you might need in your Fusion drafting. Kevin was patient and supportive and everyone came away on the first evening feeling much more confident with Fusion if not a little brain dead.

Sunday was more of the same leading leaving us keen and prepared for the CAM course which began on Monday.

With the change of course came a change to some of the faces in the class. A couple of real machining examples were drawn, coded and then created over the next 3 days. This meant we got to use the Tormach milling machines in the training area. John has two 1100, one 770 and two 440 machines. He also has a very large Haas - a very, very large Haas.

The Tormachs all have compressed-air powered tool bars which made tool change very slick. We learned how to measure tool height and how to reference and center our stock blank. With all the set up completed and our programs loaded into Path Pilot we hit go to cut metal (most of us with our hands hovering over the emergency stop button ...) There is an intense feeling of elation when the job comes off complete to drawing with no 'dings' or 'pings'. We produced a general test piece, a vice handle and to aid the machining of the vice handle we designed and machined soft jaws.

The Classroom

The Open Shop Event

Thursday and Friday took us back into the classroom with a further change in faces. These final two classroom days took us into a much deeper investigation of the CAD and CAM aspects of Fusion. It included creating templates and shortcuts to make both input and output more streamlined. We also touched upon fourth axis machining and CNC lathe operations.

Throughout the seven training days John and his team would drop in and out of the classroom and shop. There was no opportunity to be left floundering with such experienced support on hand. Each lunch time everyone investigated a local fast food emporium to talk shop and eat whatever was flavor of the day.

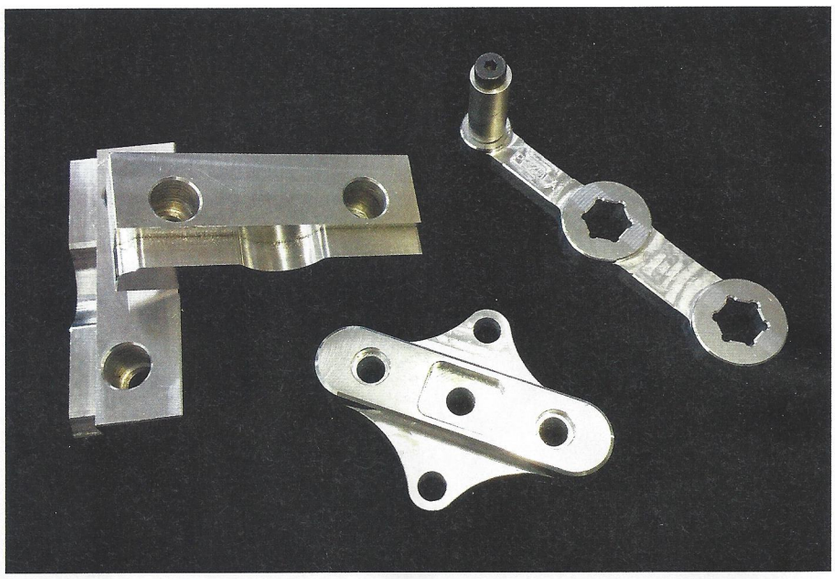
All too quickly the course came to an end and the shop took on a transformation ready for the Open House on the Saturday morning.

The head count through the door was

close to 600 visitors. On show was an interesting mix of presentations and sponsor demonstrations. It was an amazing day and what impressed me most of all was the open acceptance of everyone by everyone, no matter what their background or experience. As you wandered round you were rubbing shoulders with the likes of Mr. Pete (aka Tubal Cain), Jimmy Diresta and Abom.

Looking back on the week it was an intense watershed moment for me to overcome my inhibitions about 3D CAD and CAM. It tipped the balance on whether I could feel comfortable making the move to CAM and the investment that would be needed.

I would fully recommend the experience to anyone who wants a fast track confidence builder to Fusion 360 and associated CAM operations. There is no requirement to attend all three courses but if you are travelling a long distance to attend it makes good sense to book all three and see a fuller picture. ■



The practice items made on the course