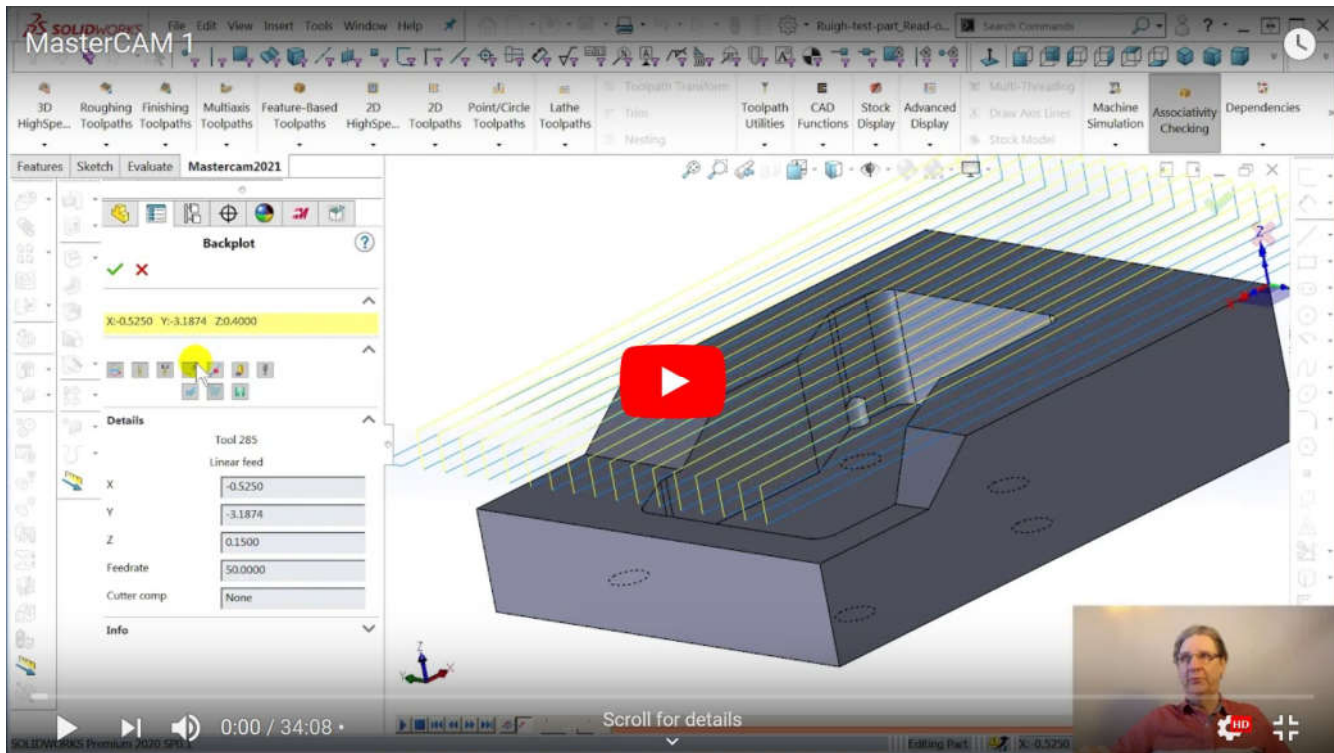─RAKO STUDIOS─

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MasterCAM first impression

It was very hard to learn and convoluted, with tool planes, construction planes, and a "Work Coordinate System".

Beginning part file here.
Finish part file here.

My first impression of MasterCAM was not a good one. Every other program I could fiddle about and get things done with barely looking at a help file, much less watch tutorials on YouTube. Not so with MasterCAM. The first issue was setting up part-zero on the stock. I looked and looked for some simple way to do this, and it is nowhere near the "Stock" dialog box. You have to go to the "Planes" tab, which apparently has moved from the Command Manager ribbon bar to a tab on the tree panel next to the MasterCAM tab.

I ended up editing the plane I was on, to move the origin to the corner of the part and re-align the X-Y-Z axis to the way my mill has them, with positive X to the right, and positive Z to the back.

What I wanted is for part-zero to be on the back left corner of the stock, but when I tried so select a new origin point, the stock disappeared. I am pretty sure I got this working in the dozens of hours of rehearsals, but dang if I can remember how. It may be that I created a plane last time, rather than modify an existing MasterCAM plane.

It seems that having come from a stand-alone package, MasterCAM thinks that you are going to insert some dumb Boolean chunk from an IGES file and then spend a few minutes aligning it to the MasterCAM axis world. I watched a video on doing that, and I doubt if I could recreate it, it was that complicated.

I am using SolidWorks. I don't need my CAM package to do any drawing or geometry. And I don't want to move and align my part to MasterCAM, I want to align MasterCAM to the part. There is a tool plane, a construction plane, and the WCS is not "world coordinate system" like in every CAD package I have used since the 1980s. It means "work coordinate system," the exact opposite of a world system.

This kind of thing happens in "legacy" programs that are old enough so that the programmers would just invent their own terminology, since they could not bother to see what other programs were using for jargon.
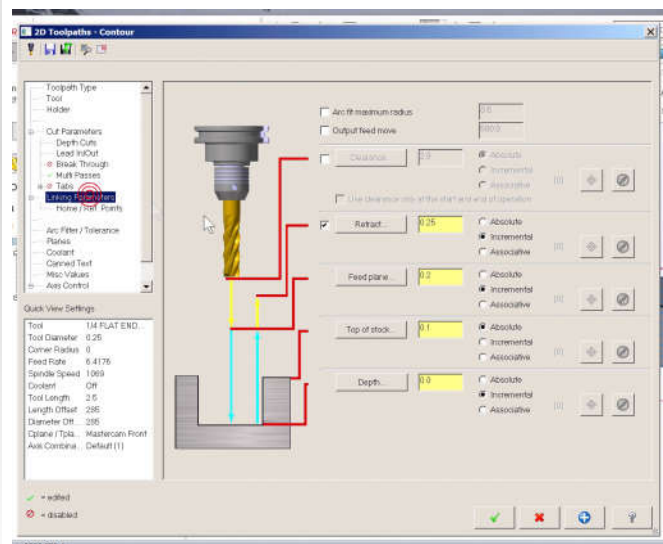
My machinist friend that has used MasterCAM for 20 years said that the WCS is what sets part zero. I hope he is right. That means that the "Toolplane" is what should set where the toolpaths start the cut. I have not found that said anywhere, MasterCAM just points out that the toolplane is a plane normal to the tool.

There is also the "Construction Plane" and my buddy had no good reason why they needed two planes, much less any planes at all. He said his old boss told him you might have some goofy horizontal mill with an angled tool, and you want to map the coordinate system to this absurd setup.

None of the other CAM programs make me worry about planes. VisualMill lets you pick the starting depth of the toolpath and the end depth. Simple. Direct.

Another confusion arose for how to set the depth of the cut. Now there is a "Planes" tab in the "Parameters" dialog box so you can re-assign the planes for each operation. I looked and looked for "Depth" and could not find it. It turns out it is in the "Linking Parameters" tab of the "Parameters" dialog box.

I must have looked at that tab five times searching for the depth setting, but passed it over since the diagram makes it look like a step-over and clearance setting, similar to the other programs I have been learning. I would never guess that depth of cut would be under Linking Parameters. I was not under "Depth cuts" and that was completely bewildering to me.

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This reminds me of circuit board layout programs like Allegro that are very hard to learn but have a passionate following, amongst people that use it eight hours a day five days a week for 20 years.

I do occasional prototype milling. I can't have a package so convoluted that I forget how to use it after a few weeks. Heck, I forgot how to do things in MasterCAM after a few days. I will keep learning, and see if it gets any better.