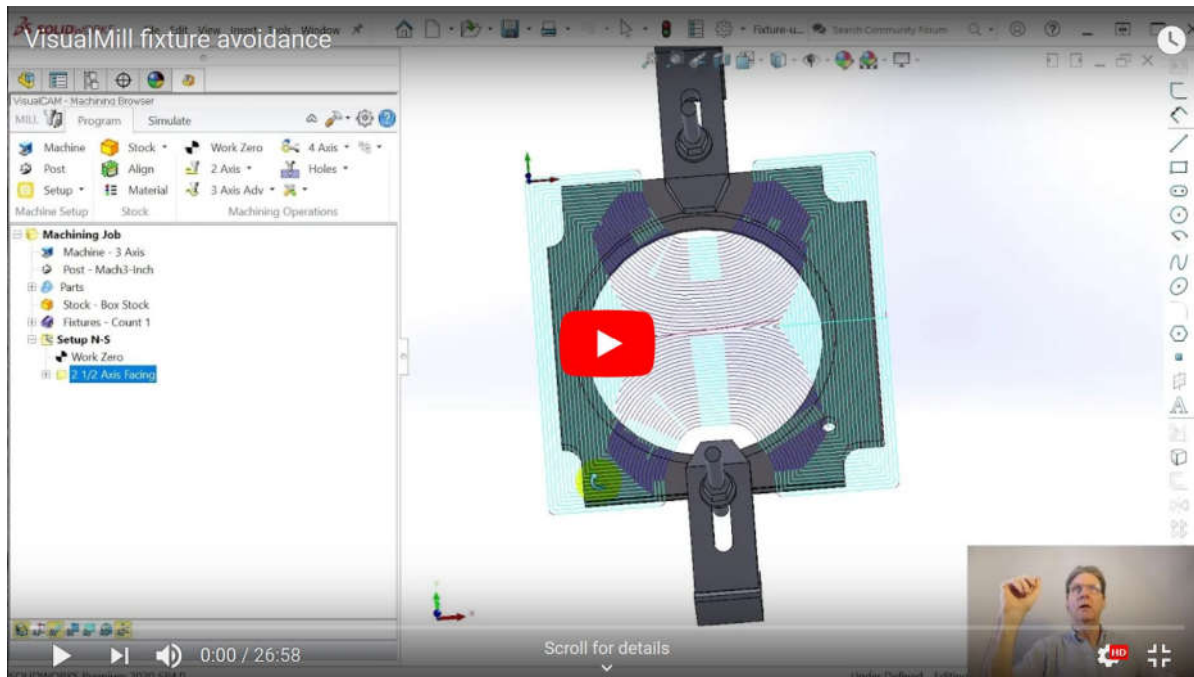Rako Studios » Media » Suffering-with-software » VisualMill fixture avoidance

VisualMill fixture avoidance

VisualMill added fixture avoidance in 2020. It needs a little more refinement, such as rest (remaining stock) machining.

Start pack-and-go zip part file here.

The VisualMill demo program will not allow saving, so the file above is just the starting assembly.

VisualMill lets you specify fixture solid objects in each setup. You select and name them in the "Fixture" line item in the CAM tree. Then you edit the particular setup and use the fixtures tab to add the named fixtures to that one setup.

Fixtures work in a facing operation. You use the "Stock" allowance in the Roughing tab of the facing operation to provide clearance to the clamps or vise or fixture.

The problem I see with this is trying to machine a pocket where clamps are overhanging the edge, like in this setup. To machine the circular pockets you can't have a stock allowance since you want accurate side-walls. But if you zero out the stock allowance, there is no clearance to the clamps and you are sure to break a tool.

Another issue is the lack of rest (**re**maining **st**ock) machining for the second operation. When you remove the original clamps and put them on the machined surface, you don't want to have to face off the entire part again, most of it is done by the first operation. To see a great implementation of fixture avoidance, you can watch the SolidCAM video on fixtures.