

Laboratory 5 Automated CNC Tool Path Generation and Machining

Mar 21 – April 4

Objectives

Get familiar with the automated NC tool path generation and simulation functions of NX/Manufacturing by

- creating the NX part model and workpiece model
- learning the process of manufacturing operation specifications
- getting familiar with the process of NC sequence generation
- testing various NX/Manufacturing Cut Pattern options

In addition to mastering the use of the NX/Manufacturing application, this laboratory will enable on to further understand the concept of CAD/CAM integration.

Instructions

In this assignment, the NC sequence and code for machining a simple rectangular block with raised letter(s) similar to the letter *E*, as shown in Figure 1, is to be carried out. You can produce the two first letters of the last names of two from the group members, or your first and last names for individual lab. Follow steps introduced in Chapter 10 of NX for Engineering Design. Use Tool Path Visualization to see the working process of NC machine. And try different paths.

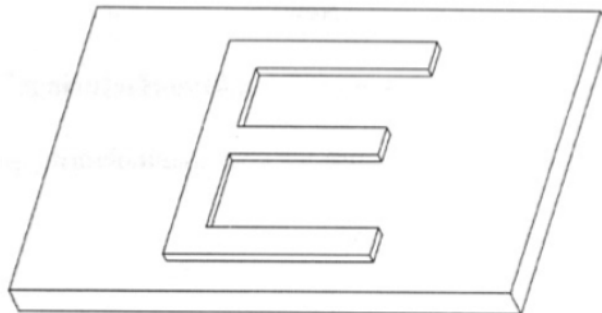


Figure 1. Part Geometry

The size of the rectangular block is 8"×4"×1". The two raised letters are 3"×3"×0.25".

Apply following parameters to create a new cutter for this manufacturing:

- Cutter diameter: 0.25", cutter length: 2" and flute length: 1.75".

Report

Submit your lab report and NX files by emailing them to: mech410@me.uvic.ca, named as: Group#_Lab5(.doc) for undergraduate students, Name_Lab5(.doc) for graduate students, same for NX files.