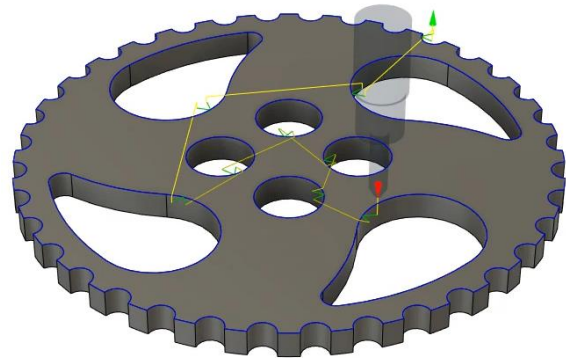


Lesson: Select Edges and Faces for an Operation

In this lesson, you'll create an operation to cut a waterjet part's geometry.

Learning Objectives

- Use face and edge selections for an operation.
- Modify toolpath parameters.

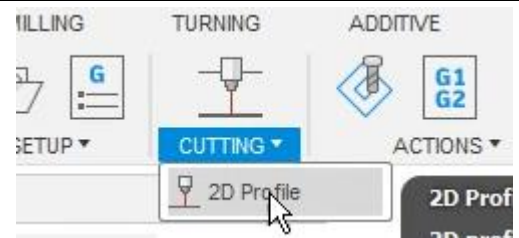


The completed exercise

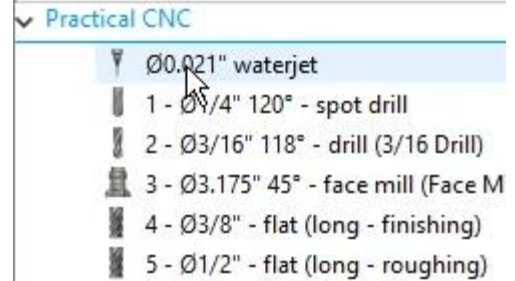
1. Continue with the *Waterjet Baffle Plate* file from the previous module.



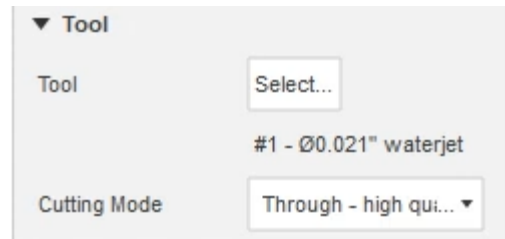
2. Click Cutting> 2D Profile.



3. To choose an appropriate tool for this cutting operation, click the dialog's Select. Navigate to the Practical CNC library and choose the waterjet tool. Click OK to accept the selection.



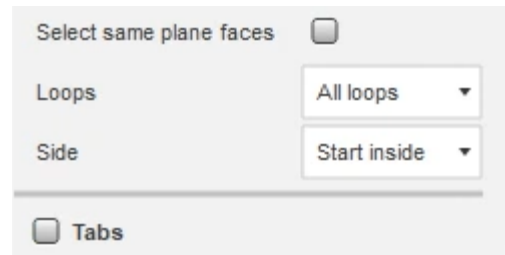
4. In the dialog's Tool tab, choose the Through - high quality option from the Cutting menu.



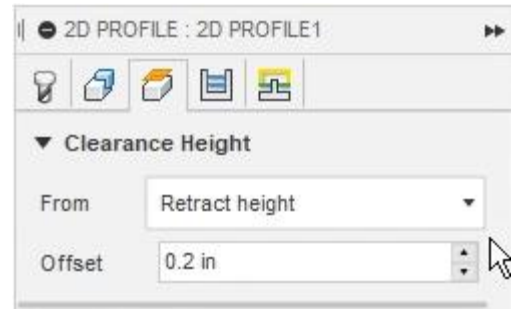
5. Continue to the dialog's Geometry tab, then choose the model's top face as the Contour Selection. Selecting the face will automatically select all of the face's internal and external contours.



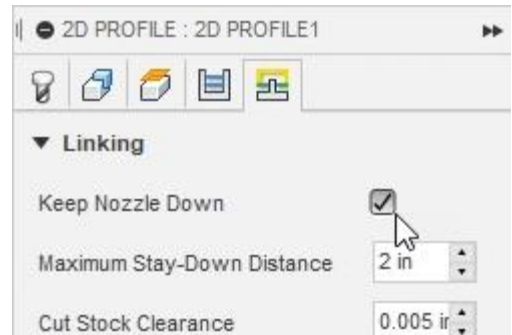
6. The selection can be refined by choosing one of the options in the Loops menu. Leave the selection set to the All loops option. Choose the Start inside option from the Side menu.



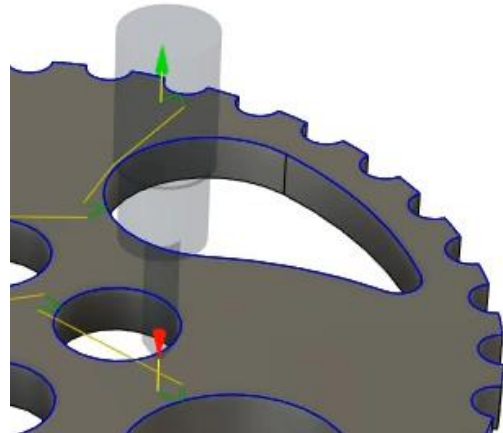
7. Continue to the Heights tab and reduce the Clearance Height section's Offset value to **0.2 inches** so that the tool will not lift as high above the part.



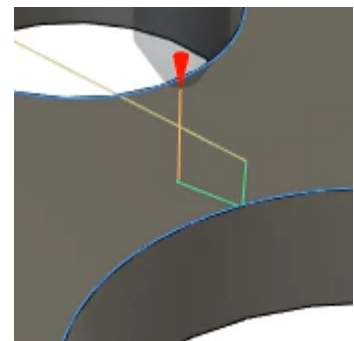
8. Continue to the Passes tab and inspect the tab's options. For example, if the geometry has broad curves but few control points, the Smoothing option might need to be activated. Don't make any changes. Continue to the Linking tab and activate the Keep Nozzle down option. Click OK to generate the toolpath.



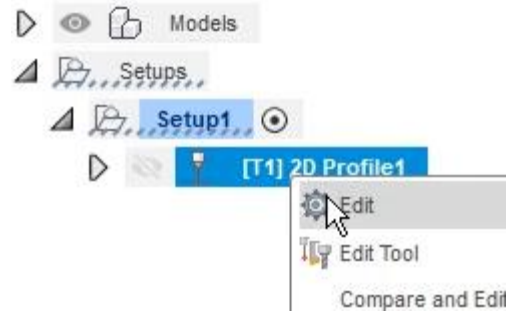
9. Inspect the new toolpath and notice the path that the tool takes as it cuts the part's geometry.



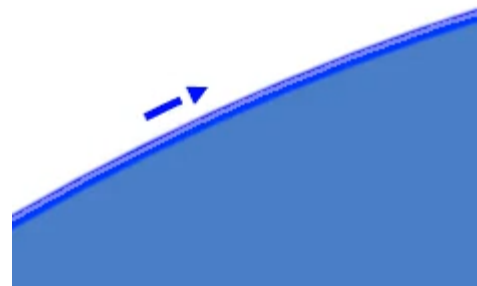
10. Notice that the tool begins cutting in the part's geometry instead of inside the material that will be removed.



11. Edit the operation.



12. Navigate to the dialog's Geometry tab and clear the current Contour Selection. For the new selection, select the part's top face, then choose the Start outside option from the Side menu. The arrows are now shown outside the part's profile. Click OK to update the toolpath.



13. The tool's entry and exit points are now outside the part and do not affect the geometry that needs to be kept. The scars created by the tool's entry and exit will only affect the stock material that is not kept. Save the file and continue to the next module.

