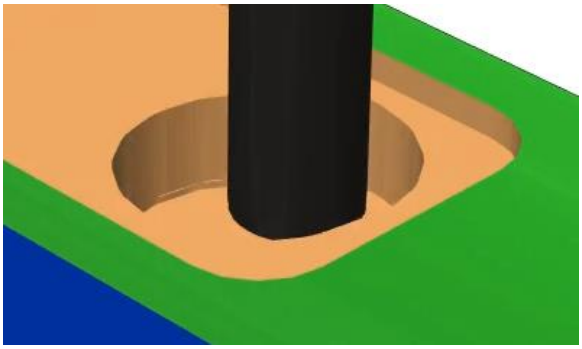
Lesson: Rough a Closed Pocket

In this lesson, you'll create a closed pocket's geometry using a 2D Adaptive operation.

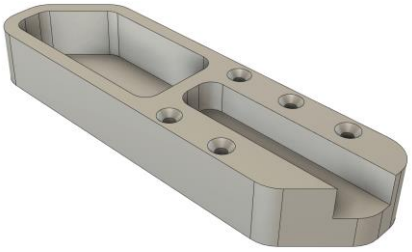


The completed exercise

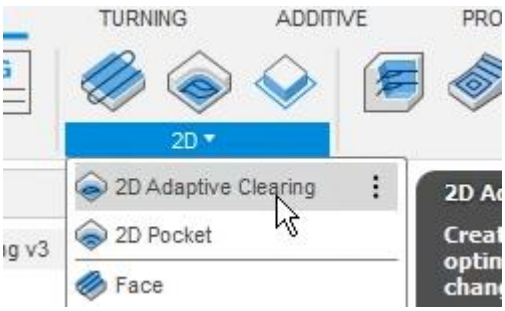
Learning Objectives

- Use an adaptive motion toolpath.
- Demonstrate how to rough a closed pocket.

1. Continue with the *Introduction to Milling* file from the previous module.

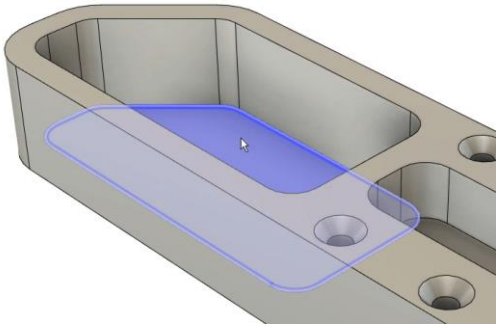


2. To create an operation for cutting the closed pocket's geometry, click 2D> 2D Adaptive Clearing.

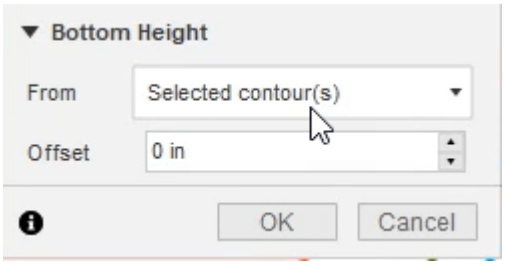


3. Inside the 2D Adaptive dialog, make sure Tool 5 is selected for the operation.

4. Continue to the Geometry tab and select the closed pocket's floor as the Pocket Selection.

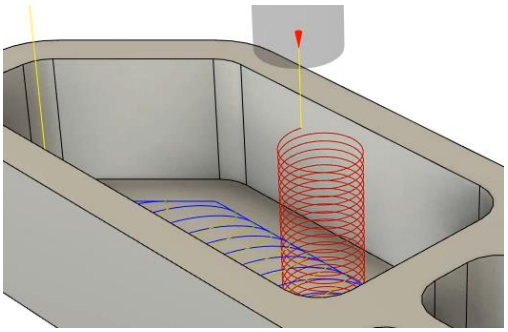


5. Continue to the Heights tab and make sure the Selected contour(s) is selected from the Bottom Height section's From menu. This will ensure that the operation will cut down to the geometry you selected in Step 4.

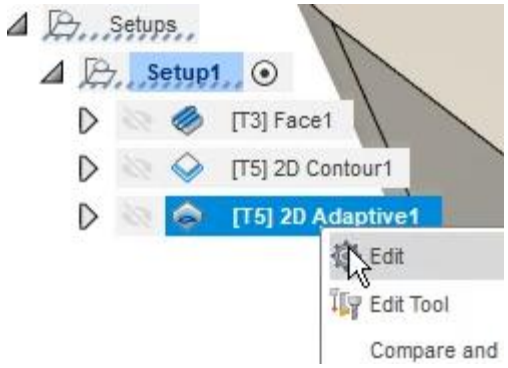


6. Continue to the Passes tab and make sure the Stock to Leave option is activated. Choose to not leave any stock on the pocket's floor by entering **0** into the Axial Stock to Leave field. Click OK to generate the toolpath.

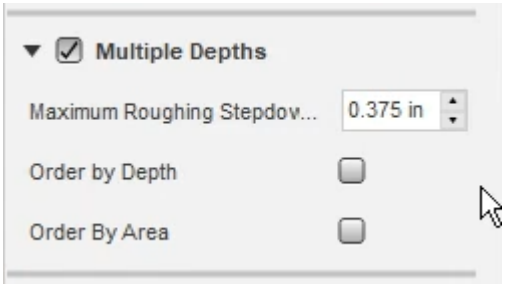
7. Inspect the new toolpath and notice the strategy it uses to clear the material. The tool spirals downwards until it reaches the pocket's floor, then spirals outwards to clear the pocket's material. This means that the pocket's material is removed in a single pass.



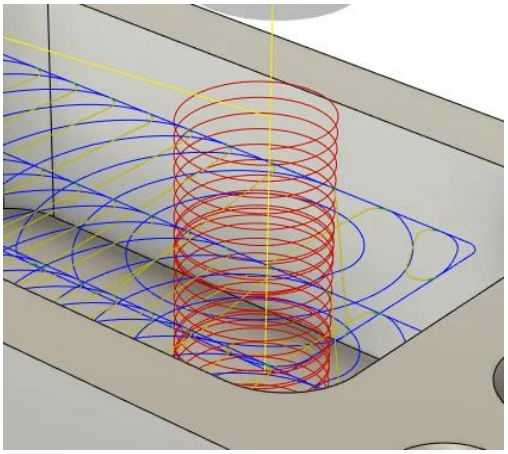
8. Edit the 2D Adaptive operation and navigate to the dialog's Passes tab.



9. Activate the Multiple Depths option, then enter **0.375 in** into the Maximum Roughing Stepdown field. This will ensure that the material will be removed using multiple passes. Click OK to regenerate the toolpath.

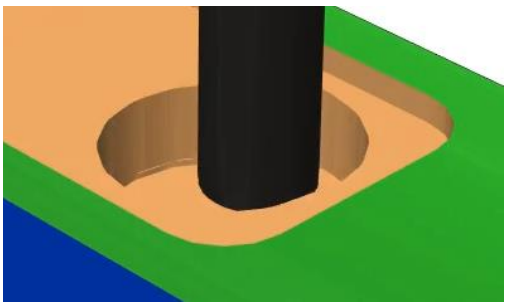


10. Inspect the new toolpath and notice that the tool removes material at multiple heights.



11. Simulate the setup to verify that the operations look correct. To do this, select Setup1 in the Browser, then click Actions> Simulate.

12. Press play at the bottom of the screen and watch the simulation. Deactivate the dialog's Toolpath option to remove the toolpaths from the simulation. The 2D Adaptive operation's multiple depths can be clearly seen.



13. Activate the Transparent option in the dialog's Stock section. Notice the small amount of material remaining on the part's walls. Because of the tool's radius, more stock is left in the corners than on the walls. Click Close to end the simulation. Save the file and continue to the next module.