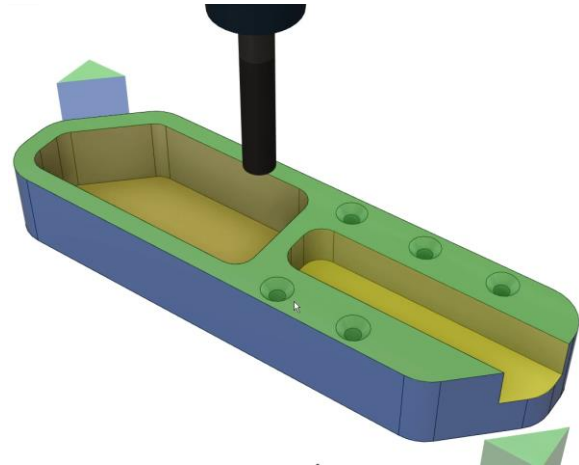


Lesson: Rest Machining Pockets

In this lesson, you'll explore three different strategies for finishing pocket walls.

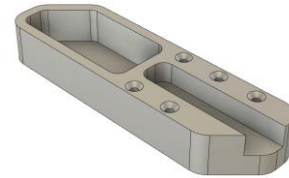
Learning Objectives

- Use 2D contour to finish a pocket.
- Modify a toolpath parameter.



The completed exercise

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



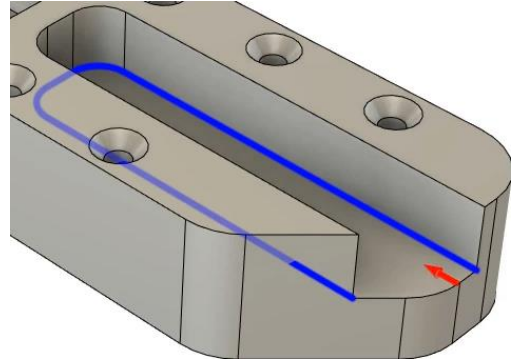
2. Now that both of the part's pockets have been roughed, they need to be finished by removing the extra material on their walls. Click 2D Running> 2D Contour.



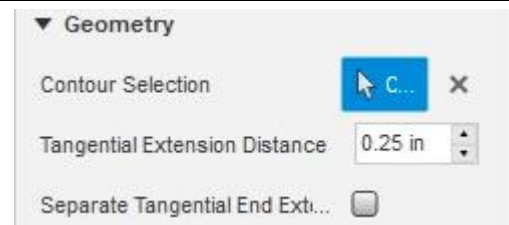
3. To choose an appropriate tool for the operation, click the dialog's Select. Navigate to the Practical CNC library, then choose Tool 4. Click OK to accept the selection.



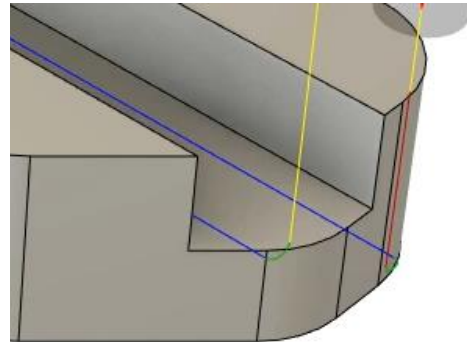
4. Continue to the dialog's Geometry tab and choose the open pocket's bottom edge shown in the image on the right.



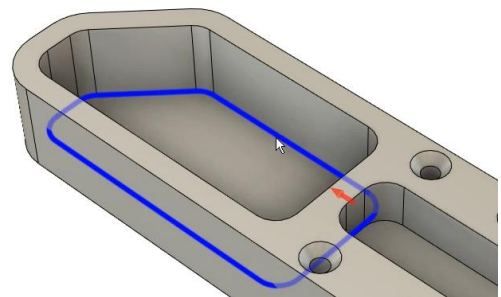
5. Specify a **0.25 in** value for the Tangential Extension Distance. OK the dialog to generate the toolpath.



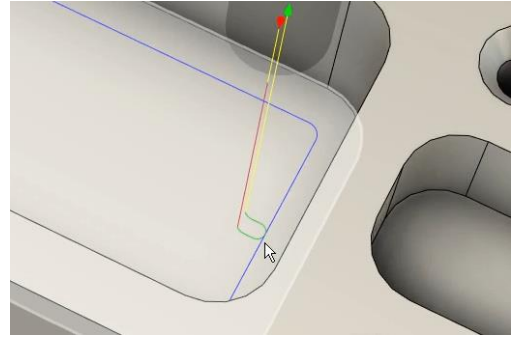
6. Inspect the toolpath to make sure it looks appropriate for the geometry.



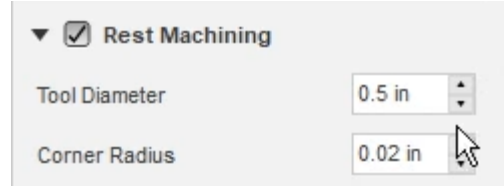
7. To finish the closed pocket's geometry, click 2D> 2D Contour. In the dialog's Geometry tab, select the closed pocket's bottom edge as the Contour Selection. OK the dialog to generate the toolpath.



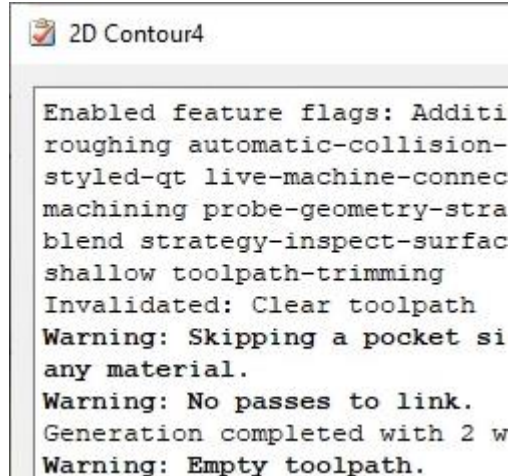
8. The tool plunges to the final depth, leads into the cutting portion of the toolpath, clears the remaining material from the walls, then leads out of the toolpath.



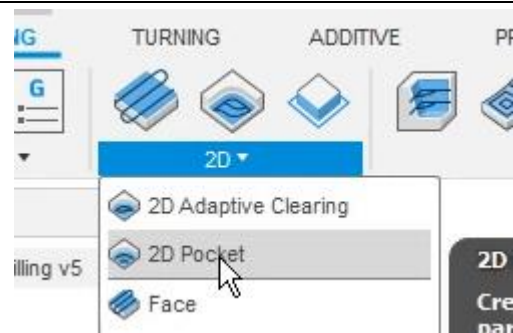
9. Edit the new 2D Contour operation and navigate to the Geometry tab. Activate the Rest Machining option so that the material removed by previous operations is taken into consideration. Specify that the previous geometry was created using a **0.50 in** tool, then enter **0.02 in** into the Corner Radius field. Click OK.



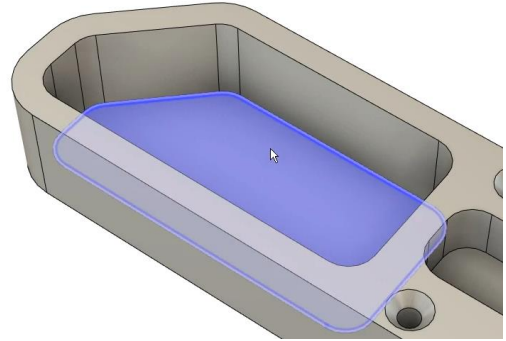
10. Notice that the Browser displays a warning icon next to the operation. Click the warning icon to learn more about the warning. Click the warning's Close. Rest machining is more effective with operations such as 2D Pocket. Delete the latest 2D Contour operation from the Browser.



11. Click 2D> 2D Pocket.



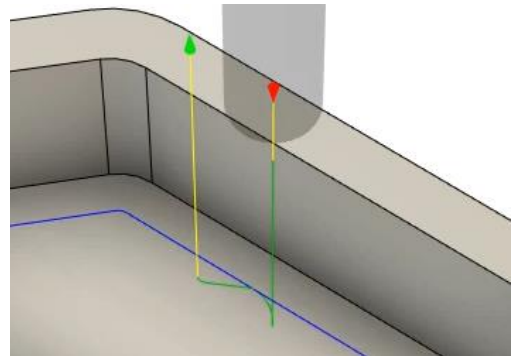
12. Navigate to the dialog's Geometry tab and select the closed pocket's floor as the Pocket Selection.



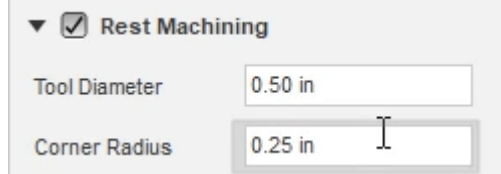
13. Activate the Rest Machining option and enter **0.50 in** into the Tool Diameter field. Enter **0.27 in** into the Corner Radius field.



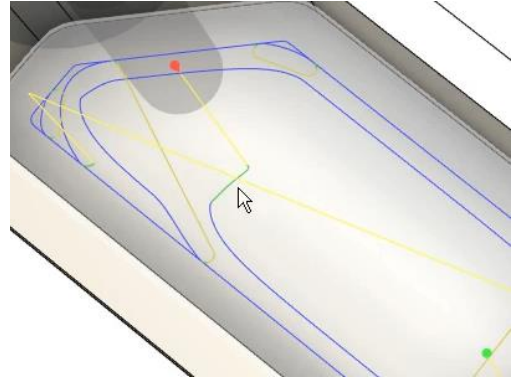
14. Continue to the Passes tab and deactivate the Stock to Leave option. OK the dialog to generate the operation's toolpath. The tool plunges to the final depth, then clears the pocket's remaining material on the walls. Delete this operation from the Browser.



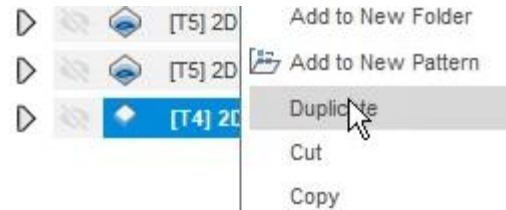
15. Click 2D> 2D Adaptive Clearing, then navigate to the Geometry tab. Choose the pocket's floor as the Pocket Selection. Activate the Rest Machining option and enter **0.5 in** into the Tool Diameter field. Enter **0.25 in** then into the Corner Radius field, then click OK.



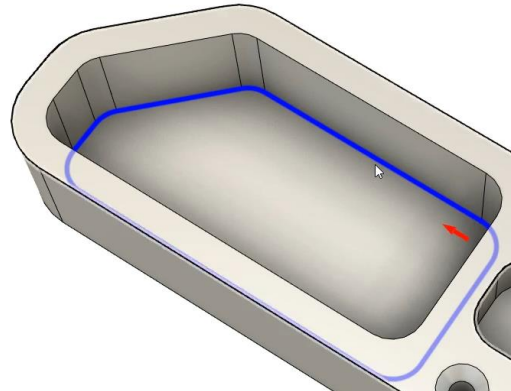
16. Inspect the new toolpath and notice this operation uses a much different strategy than the 2D Contour or 2D Pocket operations. Delete this operation from the Browser.



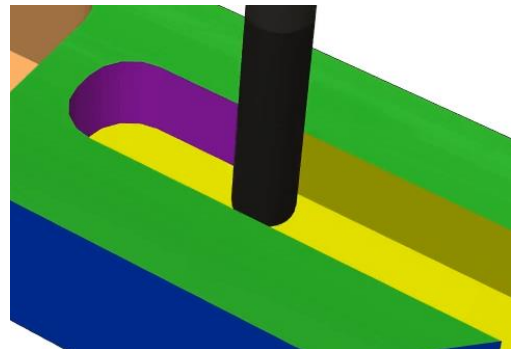
17. In the Browser, duplicate the 2D Contour operation that finished the open pocket. To do this, select the 2D Contour operation, right-click it, then choose Duplicate from the menu.



18. Edit the newest 2D Contour operation and navigate to the Geometry tab. Clear the current Contour Selection, then select the closed pocket's floor as the new Contour Selection. Enter 0 in into the Tangential Extension Distance field, then OK the dialog.



19. In the Browser, select Setup1 and simulate it. Deactivate the dialog's Transparent option in the Stock section, then press the play button and watch the animation.



20. Activate the dialog's Transparent option again to check the cut geometry against the modeled geometry. The pockets appear to be cut correctly. Only the holes remain to be machined. Click the dialog's Close to end the simulation, then save the file and continue to the next module.

