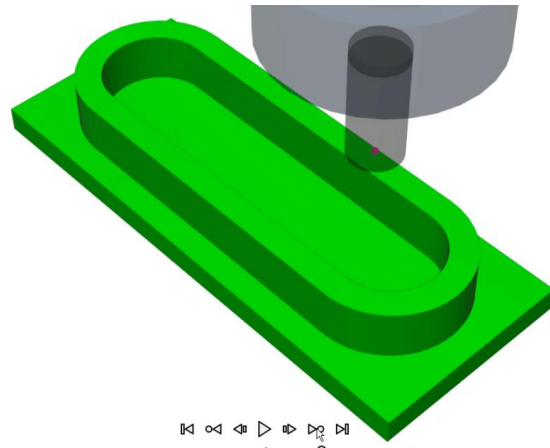


Practice exercise**How to create 2.5 axis milling toolpaths**

Learn to create 2.5 axis toolpaths to rough and finish mill a part.

Learning objectives:

- Create a CAM setup.
- Create toolpaths to rough a part.
- Create toolpaths to finish a part.



The completed exercise

1. Open the supplied dataset *Simple Part CAM Practice.f3d*.

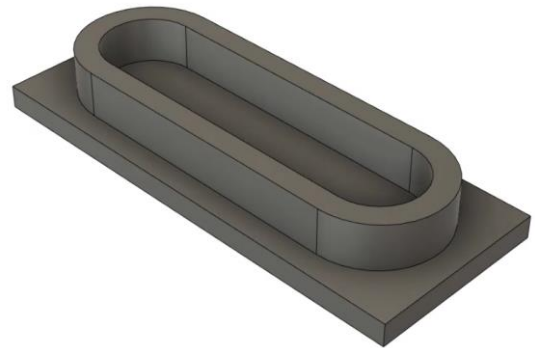


Figure 1. Open design

2. Navigate to the Manufacture workspace, set the document units to INCH. Select Setup > Setup.

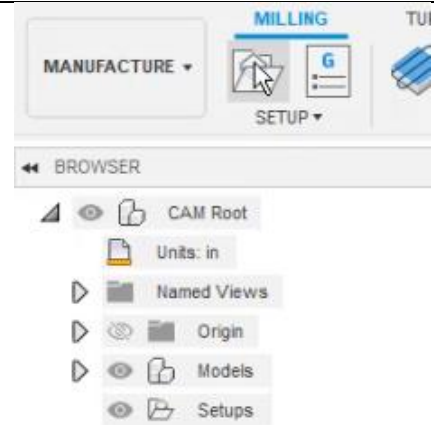


Figure 2. New setup

3. Select the Stock tab in the Setup dialog and change the stock side offset to 0.

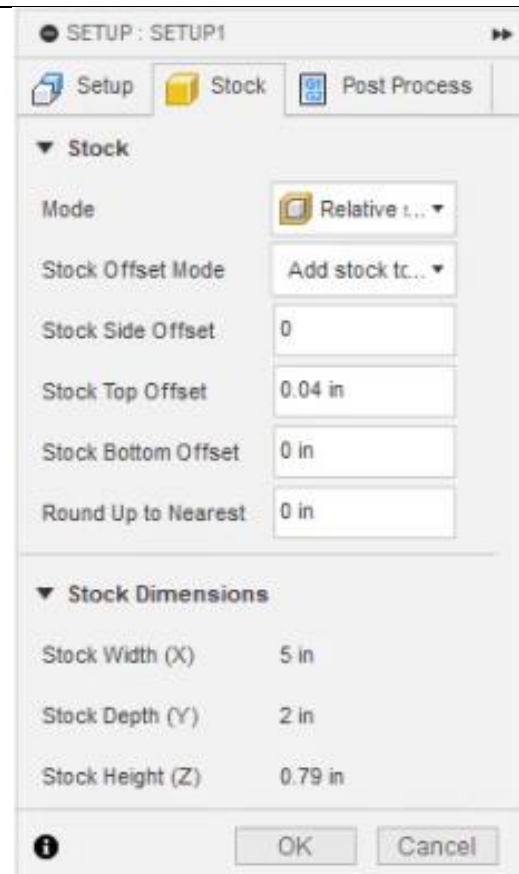


Figure 3. Stock definition

4. Select the Setup tab in the Setup dialog and set the stock point in the upper left corner.

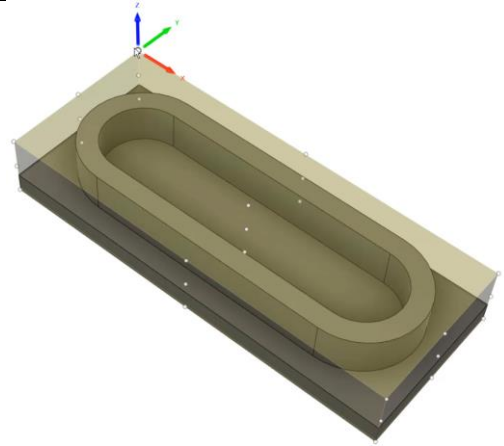


Figure 4. WCS location

5. Select the Post Process tab in the Setup dialog and set the Program Name/Number as **20001**, the Program Comment as **Simple 2.5d**, and the WCS offset as **1**. OK the setup creation.

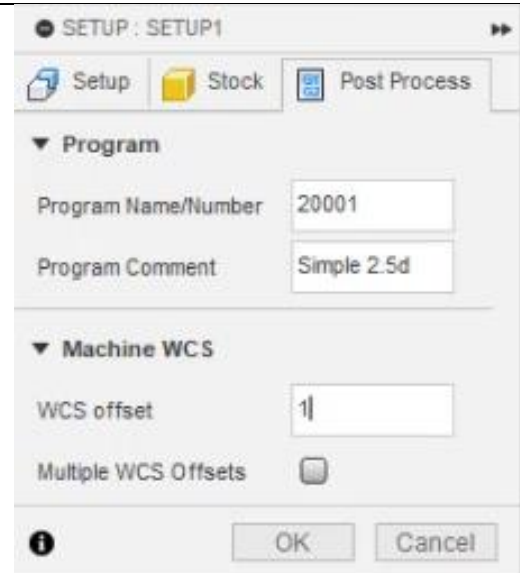


Figure 5. Post process

6. Select 2D > Face and select a 1/2in flat endmill from the Fusion 360 tool library. Choose the Aluminum Finishing tool data preset and OK the toolpath.

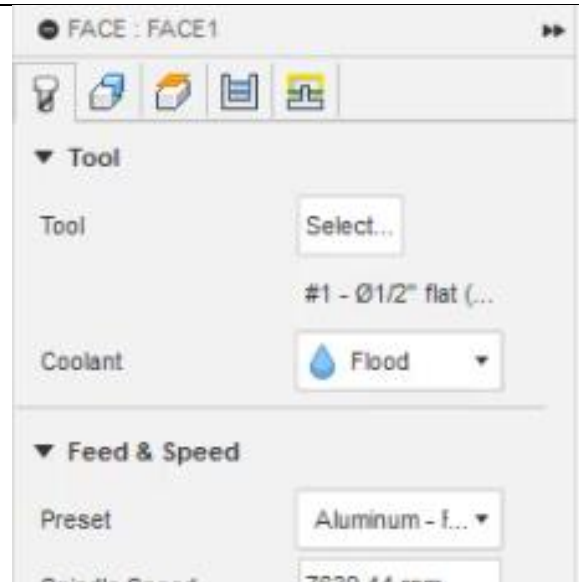


Figure 6. Facing toolpath

7. Review the toolpath, edit and adjust the Passes Stepover to **0.25in**.

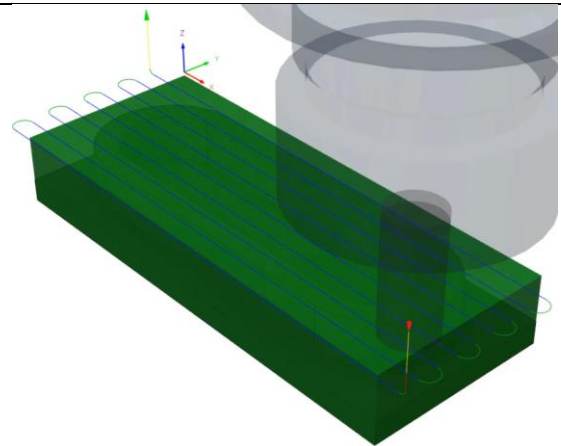


Figure 7. Edit toolpath

- 8.** Select 2D > 2D Adaptive Clearing. Use the same 1/2in tool, select the lower flat face, and OK the toolpath creation.

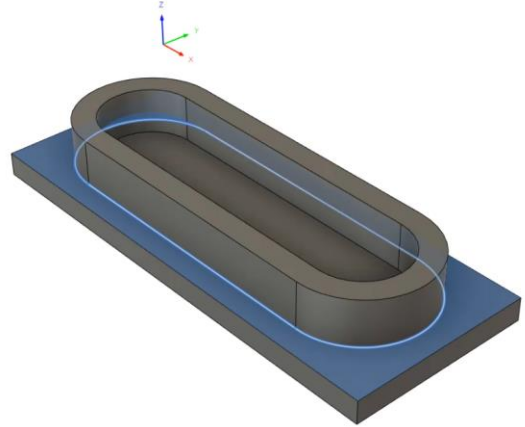


Figure 8. 2D Adaptive Clearing

- 9.** Select 2D > 2D Pocket. Use the same 1/2in tool, then select the lower face again. Navigate to the Passes section and ensure that no stock is left.

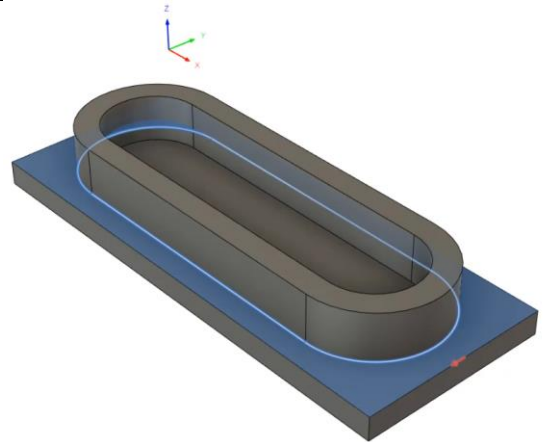


Figure 9. 2D Pocket

- 10.** Select 2D > 2D Adaptive Clearing. Use the same 1/2in tool, select the lower face of the pocket, then OK the toolpath.

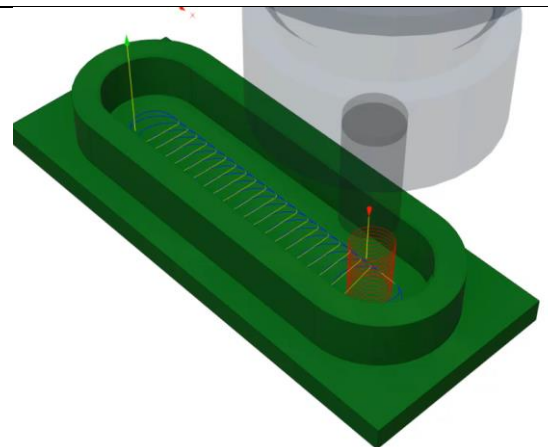


Figure 10. 2D Adaptive Clearing

- 11.** Select 2D > 2D Pocket. Use the same 1/2in tool, then select the lower flat face of the pocket. Navigate to the passes section and ensure that no stock is left; OK the toolpath creation.

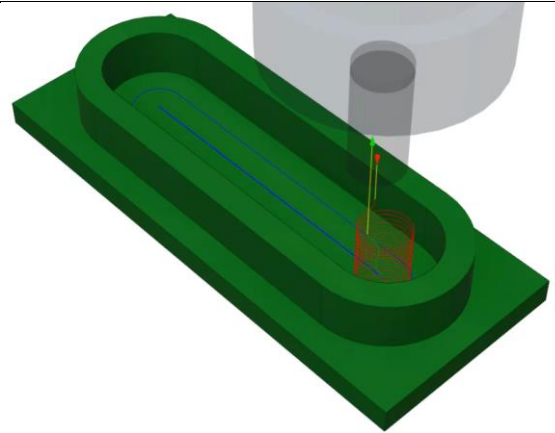


Figure 11. 2D Pocket

- 12.** Select the entire setup and select Actions > Simulate. Simulate the toolpaths using the Comparison colorization to ensure all material has been removed. Save the design.

NOTE: You can practice creating an NC program, setup sheet, and post processing G-code.

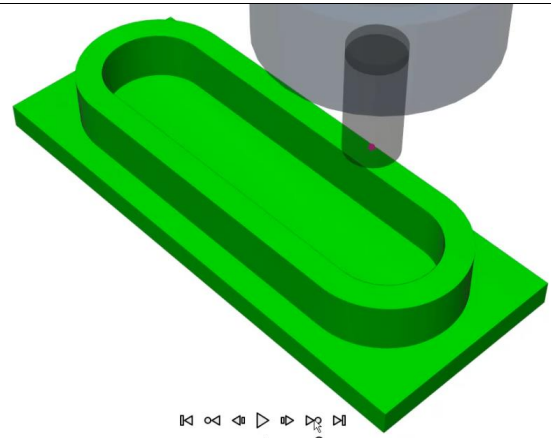


Figure 12. Simulate