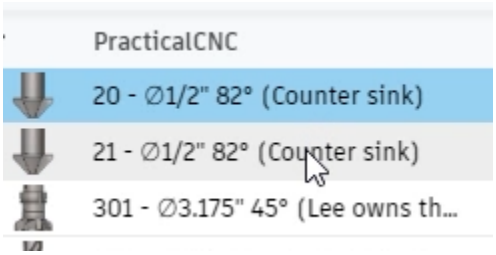
Create a custom tool

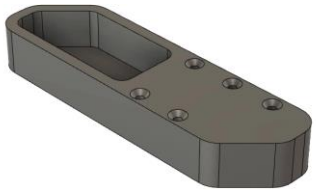
Learning Objectives

- Create a custom tool.
- Create a cloud tool library.
- Modify a copied tool's parameters.

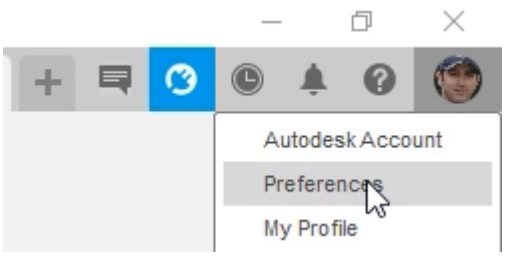


The completed exercise

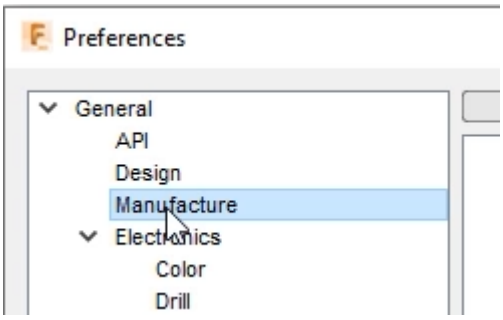
1. Continue with the *CAM milling setup.f3d* file from the previous module.



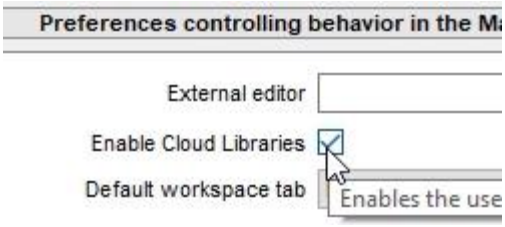
2. Click your photo or initials in the screen's top right corner, then choose Preferences from the menu.



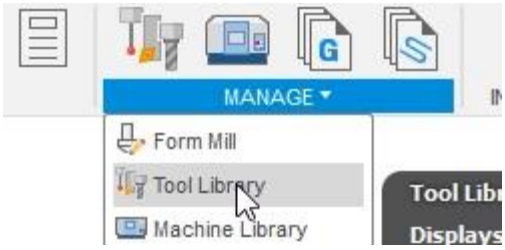
3. Navigate to the General> Manufacture section of the Preferences dialog.



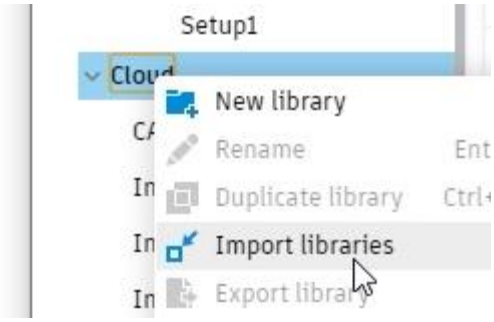
4. Make sure the Enable Cloud Libraries option is checked, then OK the Preferences dialog.



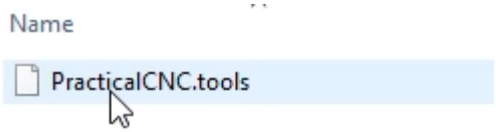
5. Click Manage> Tool Library.



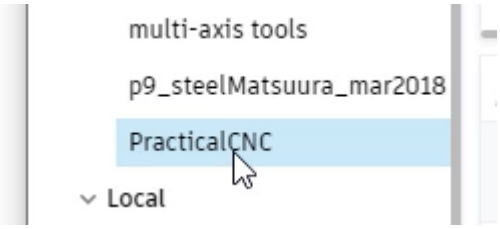
6. Tool libraries can be created on the Cloud or on your local machine. If you create a Cloud tool library, it will be available on any machine you log into. Right-click the Cloud tool library, then choose Import libraries.



7. Locate the supplied *PracticalCNC.tools* file and open it.

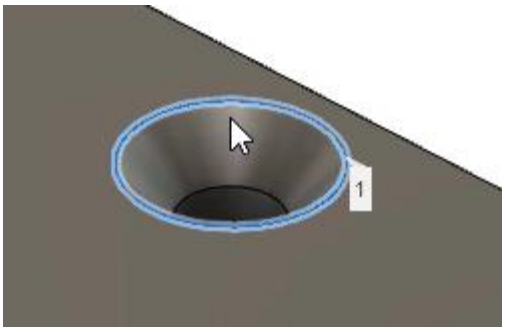


8. Locate the new tool library and click it to open it in the dialog. This tool library has most of the tools needed to cut the model's geometry.

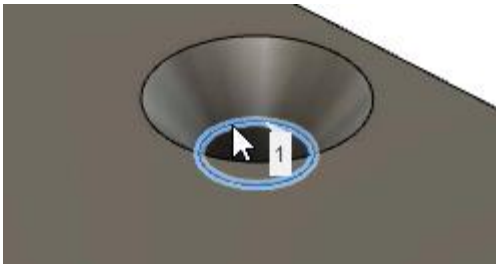


9. Explore the tools available in the tool library, then click the Tool Library dialog's Close.

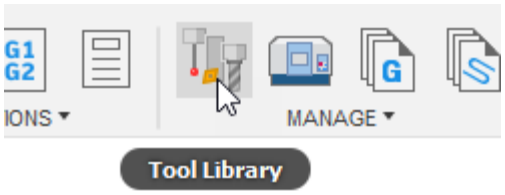
10. Open the measure tool by clicking Inspect> Measure, then choose edge shown in the image on right. Note the edge's measurement.



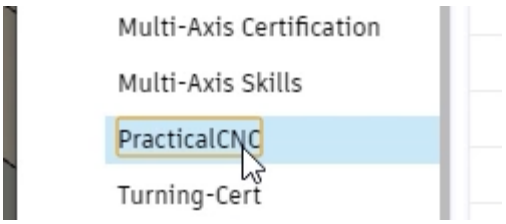
11. Continue to measure the countersink's attributes to determine the tool needed to cut the geometry. Close the Measure dialog after you finish.



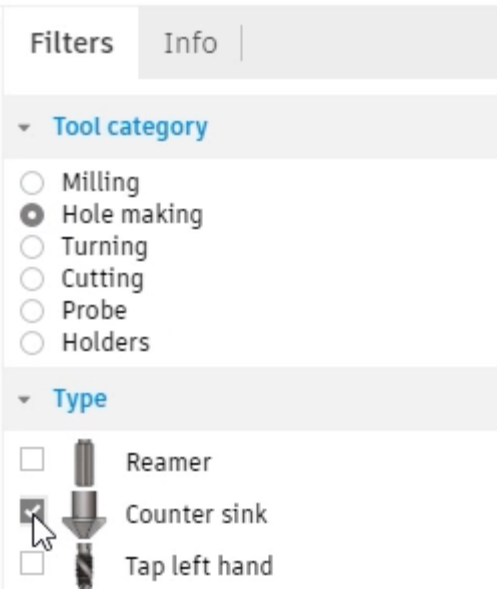
12. Open the Tool Library by clicking Manage> Tool Library.



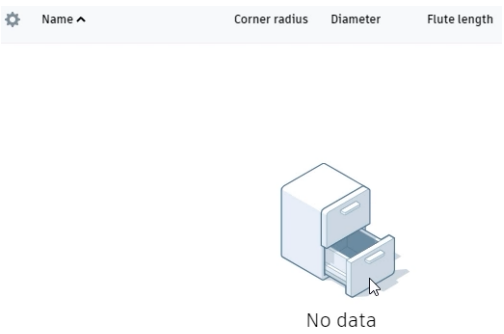
13. Select the Cloud> PracticalCNC tool library.



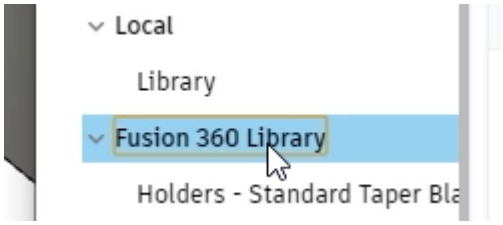
14. Navigate to the dialog's Filters tab and select the Hole making option in the Tool category section. Activate the Counter sink option in the Type section.



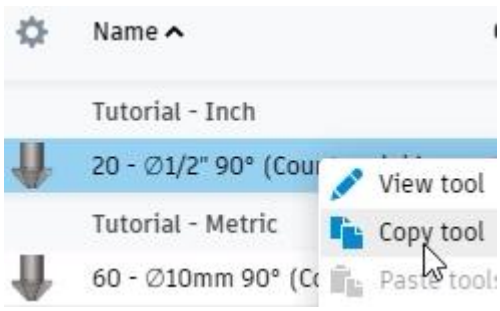
15. Any tools that match the filters will be displayed in the dialog's main section. Notice that there aren't any countersink tools in this tool library.



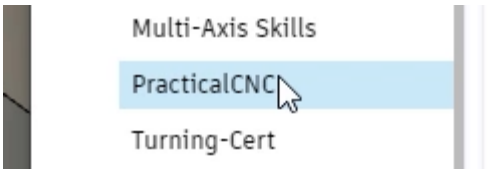
16. Navigate to the Fusion 360 Library and notice that the filters are still active.



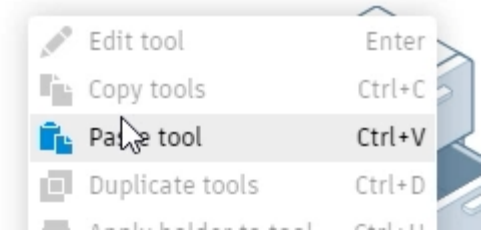
17. Select Tool 20, right-click it, then choose Copy tool.



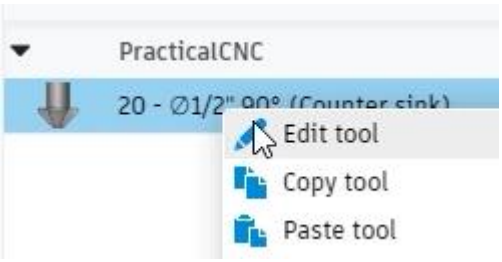
18. Return to the Cloud> PracticalCNC tool library.



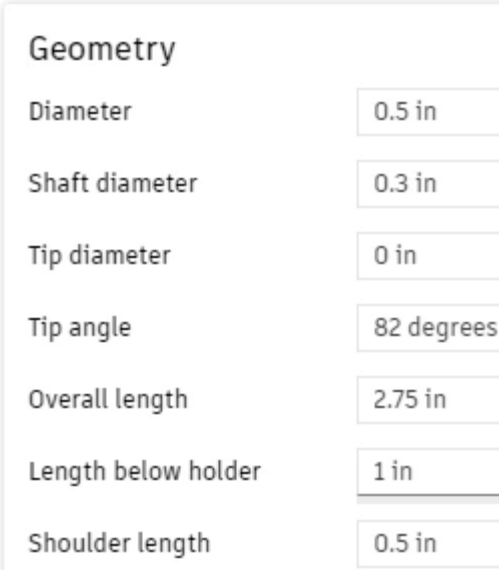
19. Right-click in the tool library and choose Paste tool.



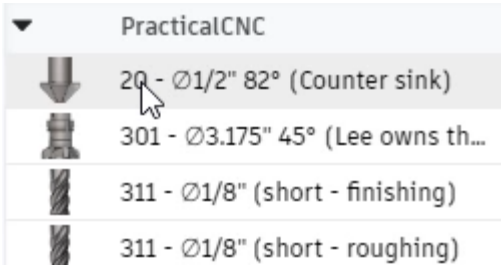
20. The tool and its parameters are pasted into the PracticalCNC tool library. Right-click the tool and choose Edit tool.



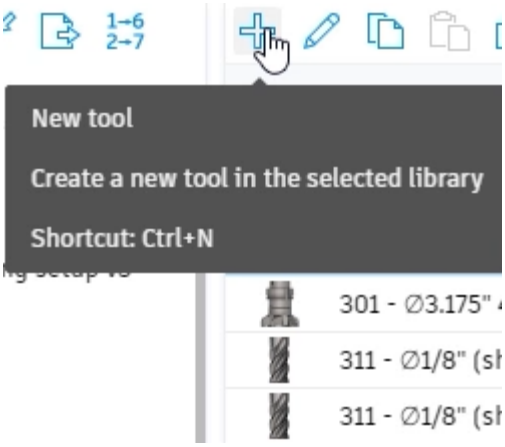
21. Navigate to the Cutter tab and inspect the tool's geometry. The model's countersinks have an angle of 82°. Modify the tool's Tip angle value to **82 degrees**, then reduce the Length below holder value to **1 inch**. When modifying a tool's parameters, the new parameters should always match a physical tool that you have in your tool library or that you can buy from a manufacturer. You should not invent tool parameters that cannot be physically replicated because you might not be able to correctly machine your part. Click the Tool Library dialog's Accept, then click Close.



22. Open the Tool Library again and navigate to the PracticalCNC tool library. Tool 20 has been added to the PracticalCNC tool library.

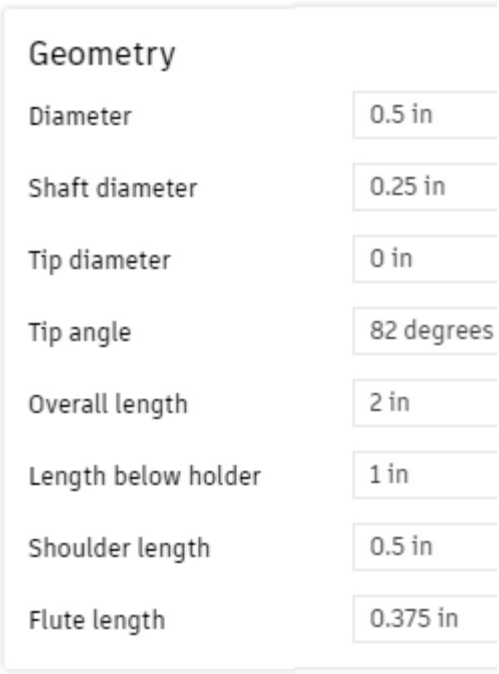


23. A new tool can be created from scratch by clicking New tool.

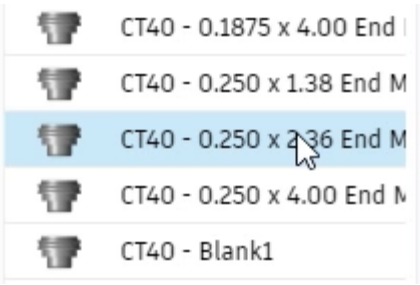


24. Select the Counter sink tool.

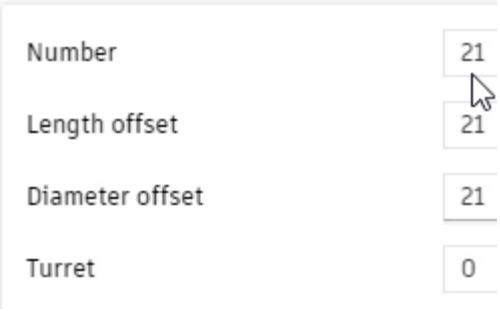
25. Navigate to the Cutter tab, then use the image on the right as a guide for creating the tool's parameters.



26. Continue to the Holder tab and select the CT40 - 0.250 x 2.36 End Mill Holder from the left column.



27. Continue to the Post processor tab and enter **21** into the Number box. Click the Tool Library dialog's Accept.



28. Notice that you now have two options for Counter sink tools. Close the Tool Library dialog. The file does not need to be saved because information is already saved to the Cloud tool library. Continue to the next module.