Create a setup sheet
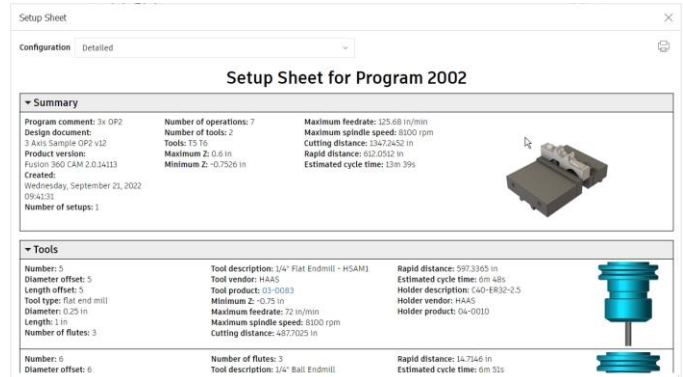
In this module, you'll create an NC program and setup sheet for each set up, then explore the information in the setup sheet.

Learning objectives:

- Create an NC program.
- Produce a setup sheet for each operation.

The completed exercise

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1. Continue with the *3 Axis Sample OP2.f3d* file from the previous document.
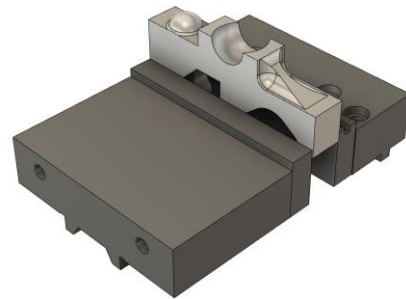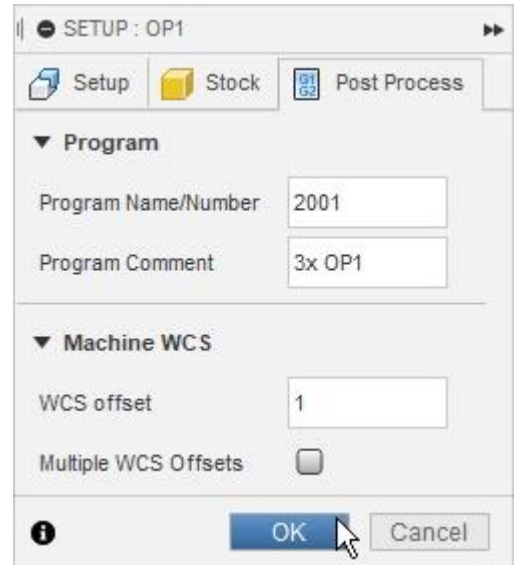

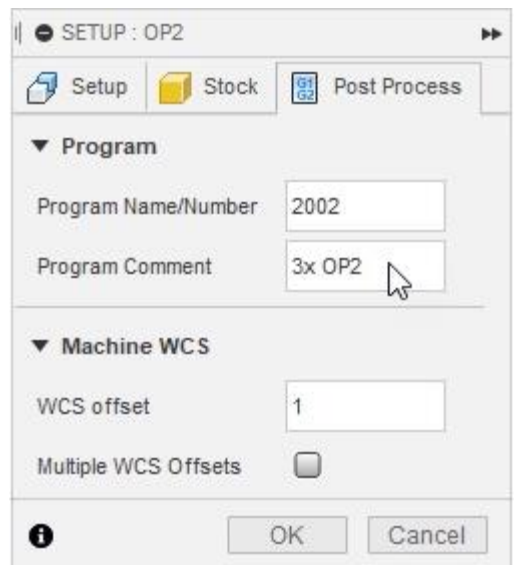*Figure 1. Continue with the file from the previous document*

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2. In the Browser, edit the OP1 setup. Remind yourself of the information you entered in the Post Process tab, then OK the dialog.

Figure 2. Inspect OP1's Post Process information

3. Edit the OP2 setup and navigate to the Post Process tab. Notice that the Program Comment box is empty; enter **3x OP2** into this box. OK the dialog.

Figure 3. Inspect OP2's Post Process information

4. With OP1 selected and activated, click Setup> Create NC Program.

Figure 4. Create an NC program

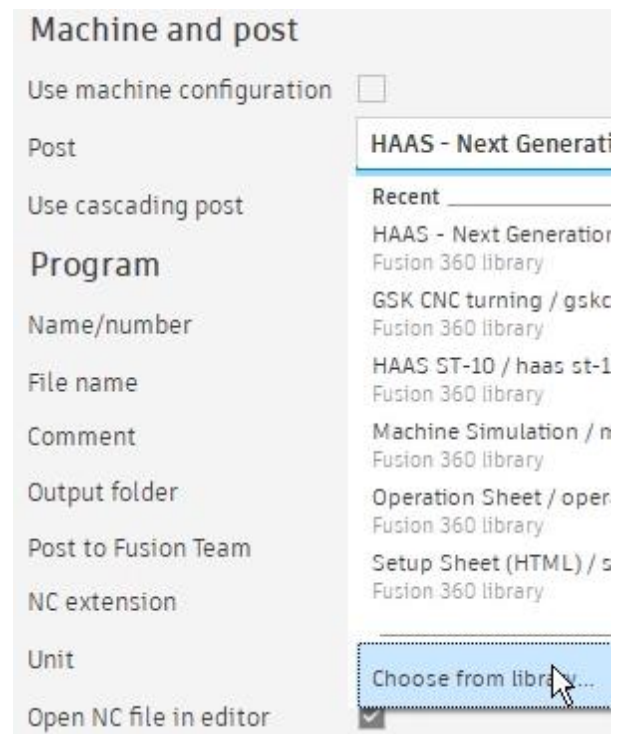**5.** In the dialog's Post menu, select the Choose from Library option.

Figure 5. Choose the post

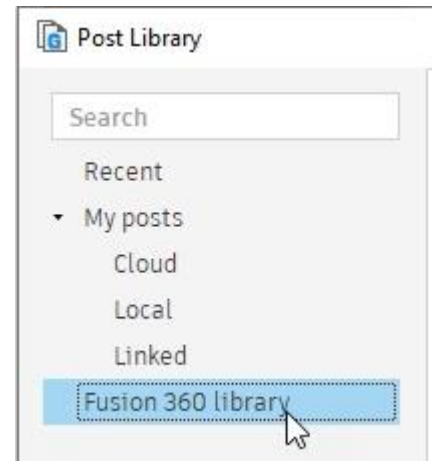**6.** In the Post Library dialog, navigate to the Fusion 360 Library.

Figure 6. Open the Fusion 360 library

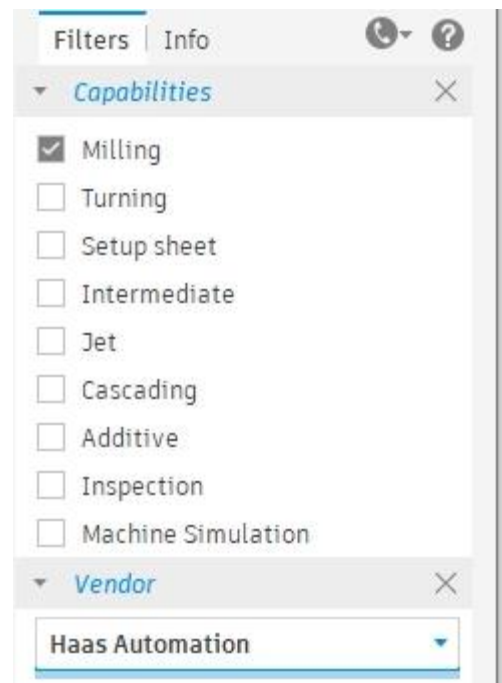**7.** Use the options in the Filters tab to filter the available posts.

Figure 7. Filter the posts

8. Choose the HAAS - Next-Generation Control option, then click the dialog's Select.

Figure 8. Choose the post

9. When a dialog warns you that the post will receive automatic updates, click Use anyway.
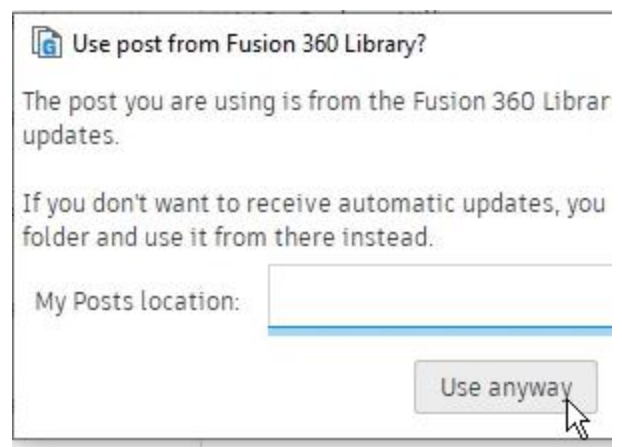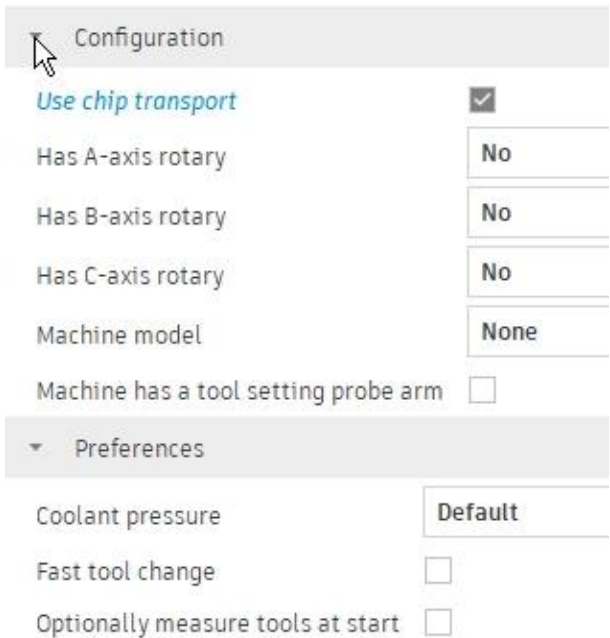

Figure 9. Accept the dialog

10. The options in the Post properties section can be configured to match your machine's capabilities. Explore the options and activate any that you want to use.
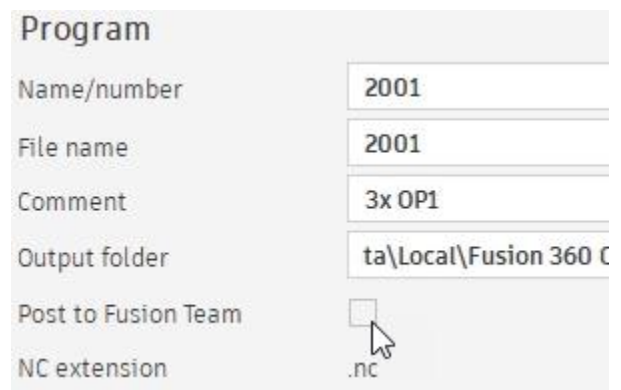

Figure 10. Explore the Post properties options

11. The Program section has an option that allows you to post the NC program to the Fusion Team hub. Activating this option will allow other team members to see the NC program. Also notice that the program number and comment that you noted in Step 2 are automatically entered into this Program section.

Figure 11. Explore the Program section's option

12. Continue to the Operations tab and notice that the suppressed operations are included in the OP1 setup.

Figure 12. Notice the suppressed operations

13. Notice that the suppressed operations are not included in the NC program.

Figure 13. Suppressed operations are not included in the NC program
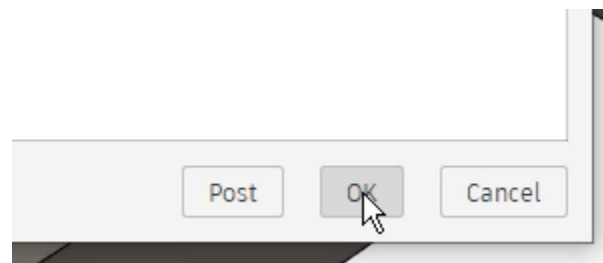
14. OK the NC Program dialog.

Figure 14. OK the dialog

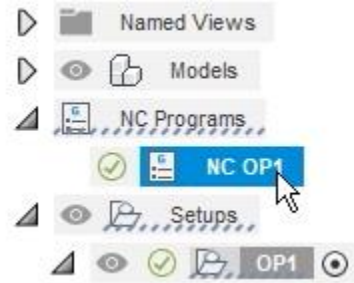**15.** Notice that NC Program1 is added to the NC Programs folder. Rename the new program as **NC OP1**.

Figure 15. Rename the new NC program

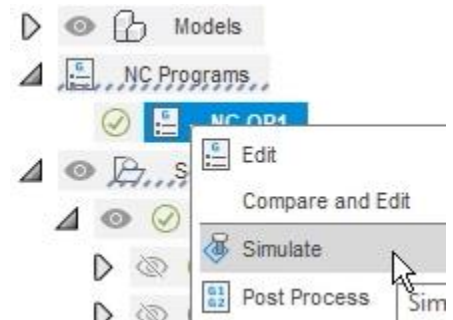**16.** Right-click the NC OP1 program, then choose Simulate from the menu.

Figure 16. Simulate the NC program

17. Press Play and notice that the suppressed toolpaths are not simulated. Click the dialog's Exit Simulation.
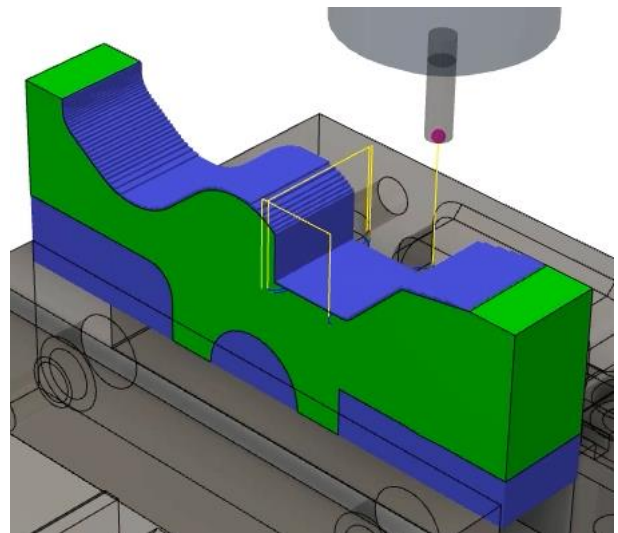

Figure 17. Watch the simulation

18. Select and activate the OP2 setup, then click Setup> Create NC Program to create a new NC program. Continue to the Operations tab and notice the option to reorder the toolpaths. Toolpaths that use the same tool can be grouped together to reduce the number of tool changes and reduce the machining time. OK the NC Program dialog to create the second NC program.
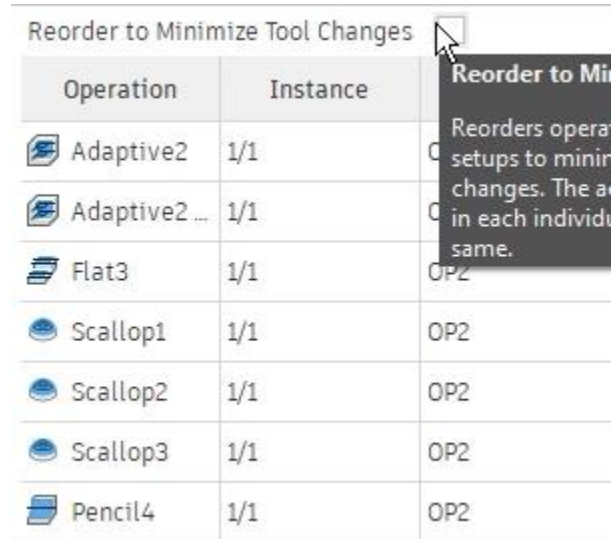

Figure 18. Notice the option to reorder the toolpaths

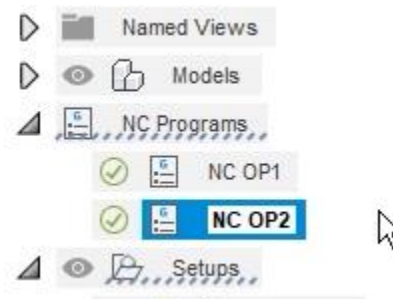**19.** Rename the new NC program as **NC OP2**.

Figure 19. Rename the new NC program

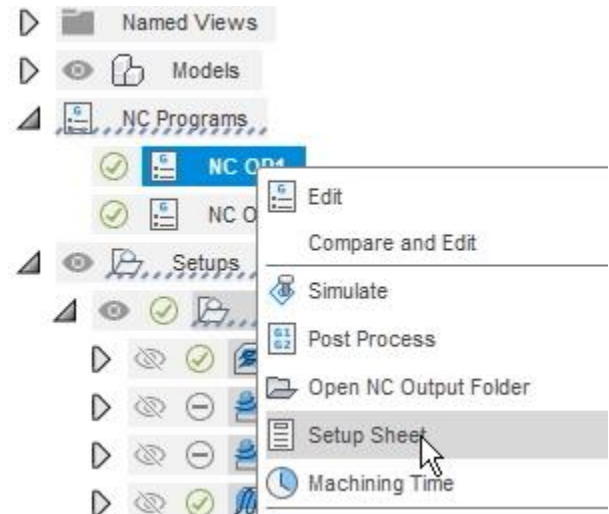**20.** Right-click the NC OP1 program and choose Setup Sheet from the menu.

Figure 20. Create a setup sheet for OP1

21. Choose the setup sheet's name and save location, then click the dialog's Save.

Figure 21. Save the setup sheet

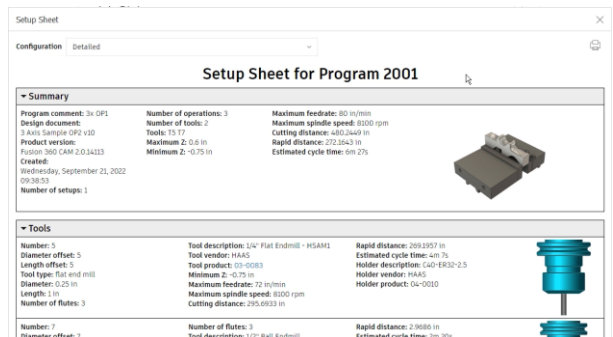**22.** The new setup sheet will open in a separate window.

Figure 22. Inspect the new setup sheet

23. Notice the printer icon allows you to print a PDF or hard copy of the setup sheet.
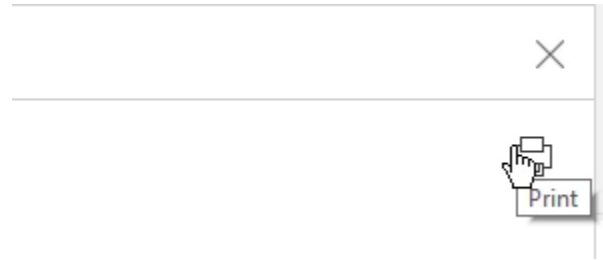

Figure 23. Notice the printer icon

24. Notice that the Configuration menu at the top of the setup sheet allows you to customize the information displayed inside the sheet. Choose the Detailed option.
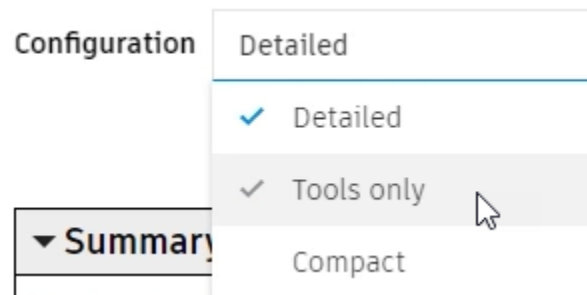

Figure 24. Note the options in the Configuration menu

25. The information in the Summary section describes the file's name, number of setups, number of tools, minimum and maximum Z axis distance, cycle time, and much more.
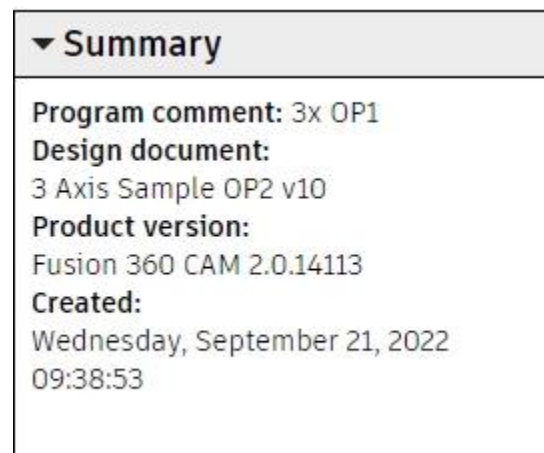

Figure 25. Explore the Summary section

26. Continue to the Tools section and notice that each tool's information is described in depth. All the information a machine operator needs to set up each tool is included in the section.

Figure 26. Explore the Tools section

27. If you included links to a manufacturer's website when you set up your tools, these links will be active inside the setup sheet.

Figure 27. Notice the active link

28. Continue to the Setup section and notice that this section describes the setup's name, WCS location, stock dimensions, and more.

Figure 28. Explore the Setup section

29. Continue to the Operations section and notice that each operation is described in depth. This section describes the spindle speed, feedrates, cycle time, tool, and more. Close the Setup Sheet window after you finish exploring all of its information. Also close the Job Status dialog.

Figure 29. Explore the Operations section

30. Activate the OP1 setup.

Figure 30. Activate the OP1 setup

31. The view that is currently visible in the Canvas area is the view that will be added to the setup sheet's Setup section.
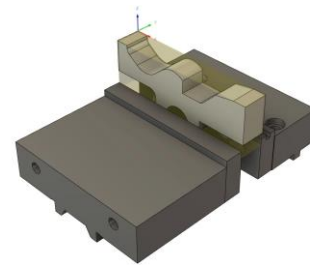

Figure 31. Notice the view in the Canvas area

32. Create a new setup sheet and notice that the current view is added to the Setup section. Choosing a logical view will help the machine operator understand their task. Close the setup sheet.
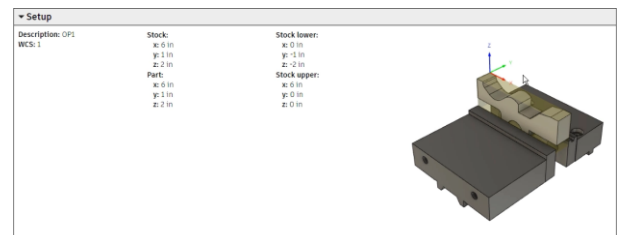

Figure 32. Notice the Setup section

33. Create a setup sheet for OP2. Close the setup sheet and Job Status dialog, then continue to the next document.

Figure 33. Create a setup sheet for OP2