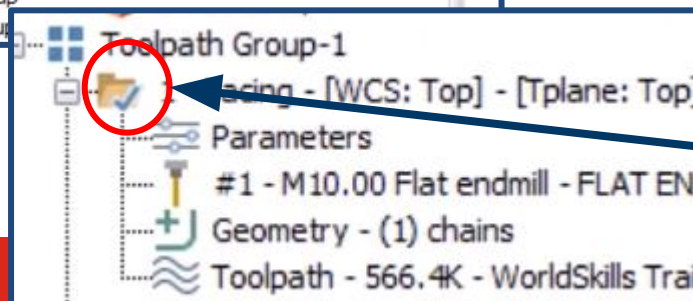
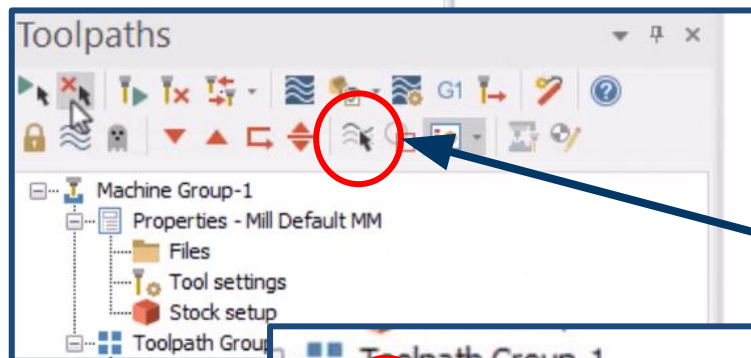
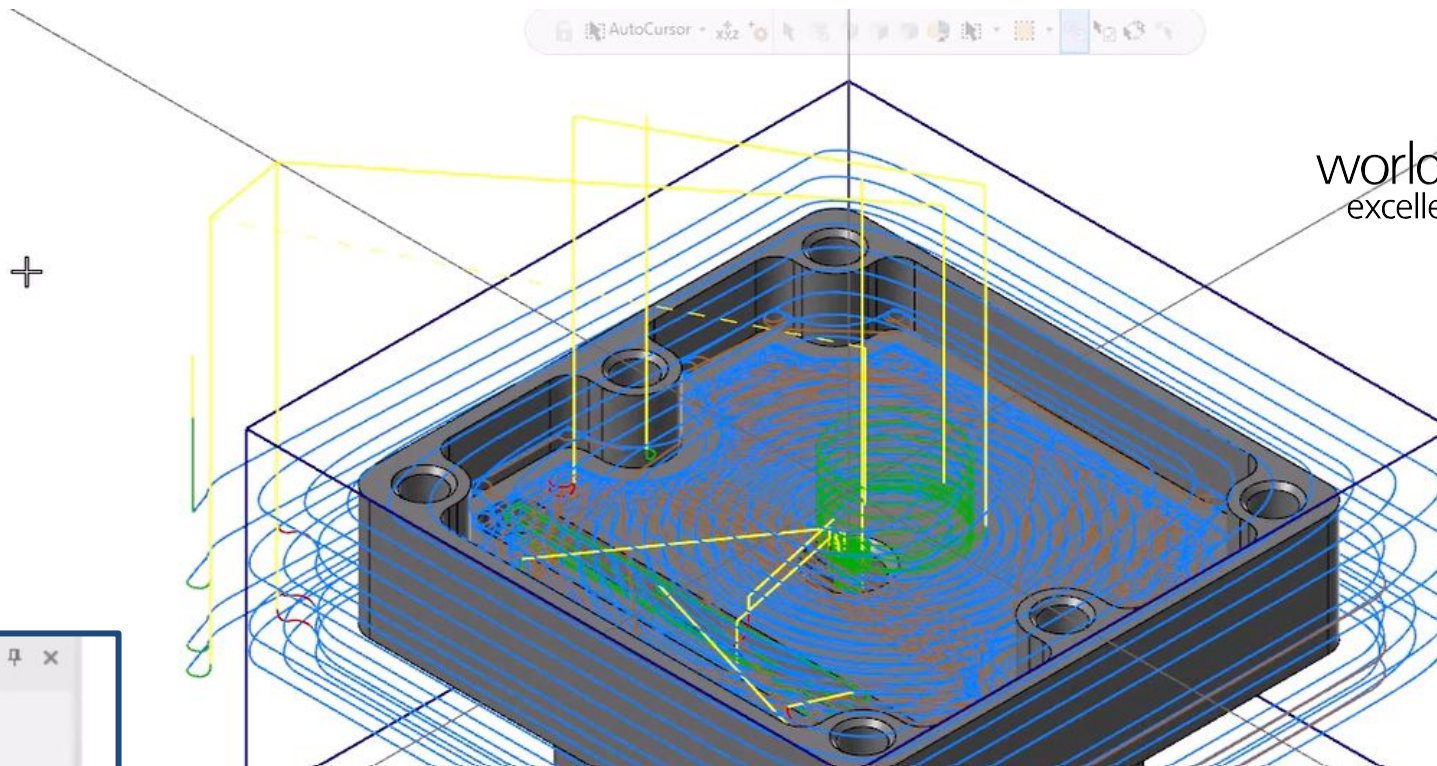
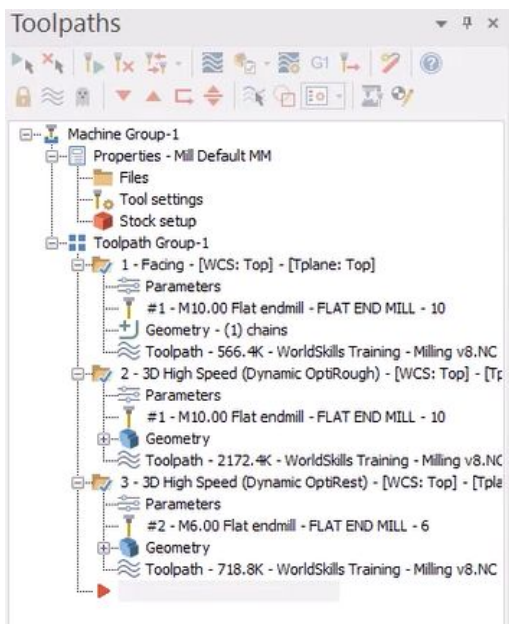


Mastercam Training Video Series

Video 3 - Finishing operations - Side 1

[Video Link](#)

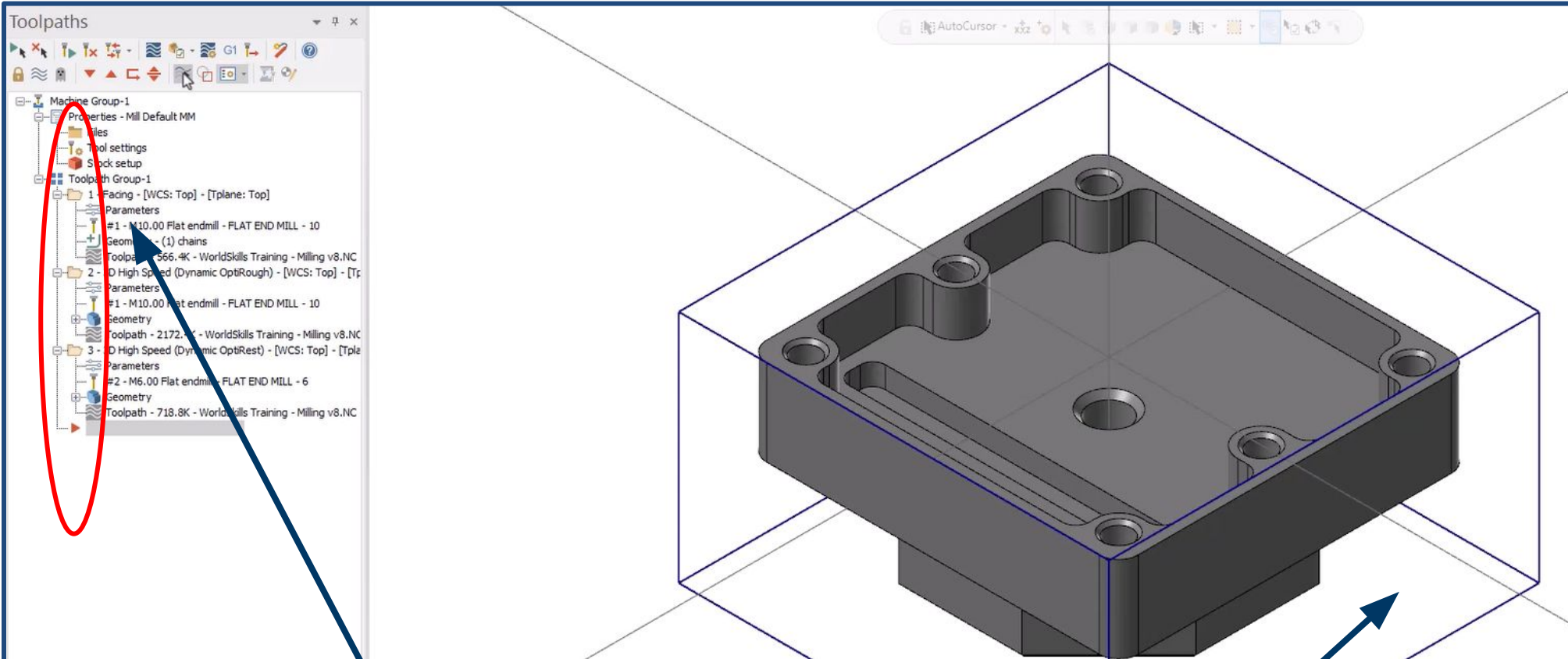




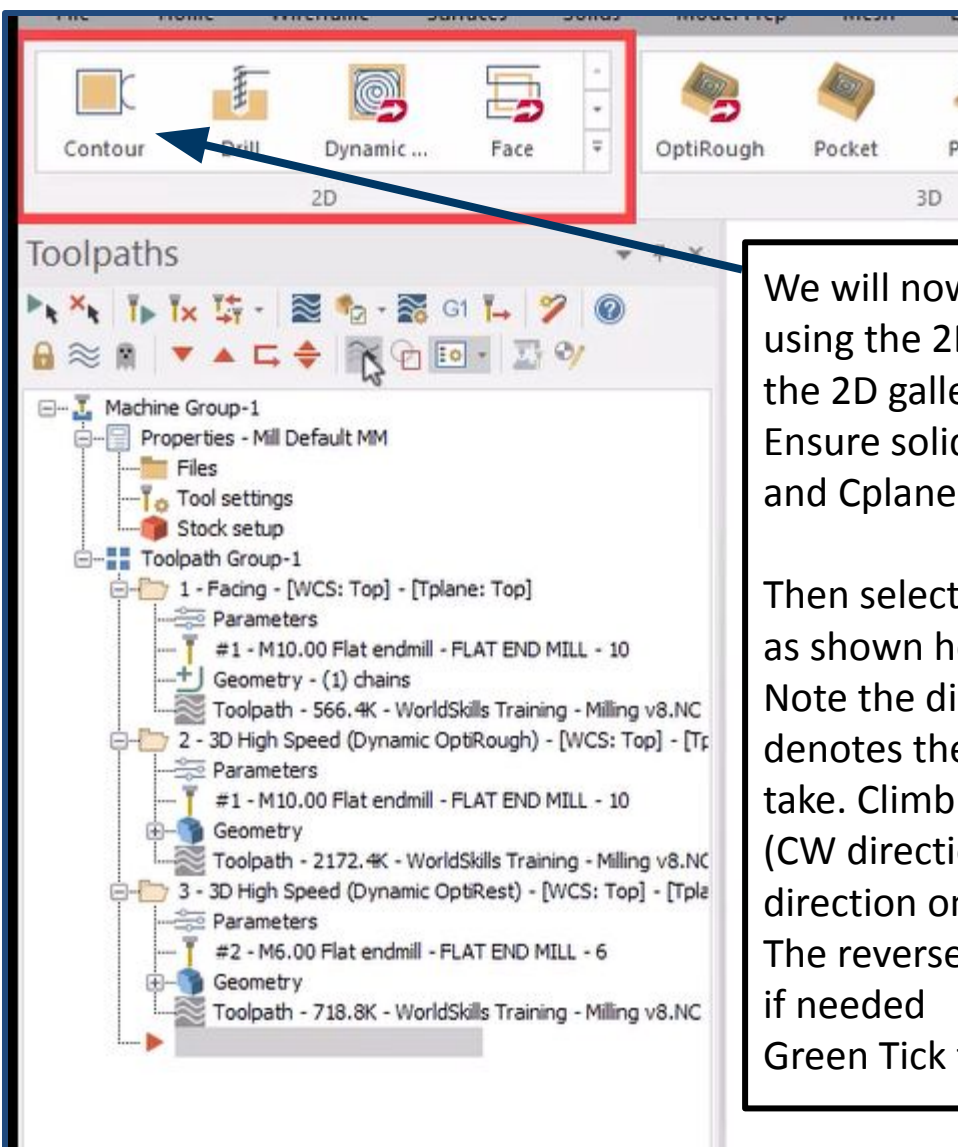
The graphics area can get busy and confused with many toolpaths visible, to make things clearer use the “Only display selected toolpaths” button to toggle toolpath display on/off. With this button switched on, only selected toolpaths (Those with a green tick) will be visible



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excellence at work



For example - there are no selected toolpaths here, so no toolpath motions are visible around the part in the graphics area, making selecting new geometry easier.



We will now finish the outside contour using the 2D contour toolpath found in the 2D gallery

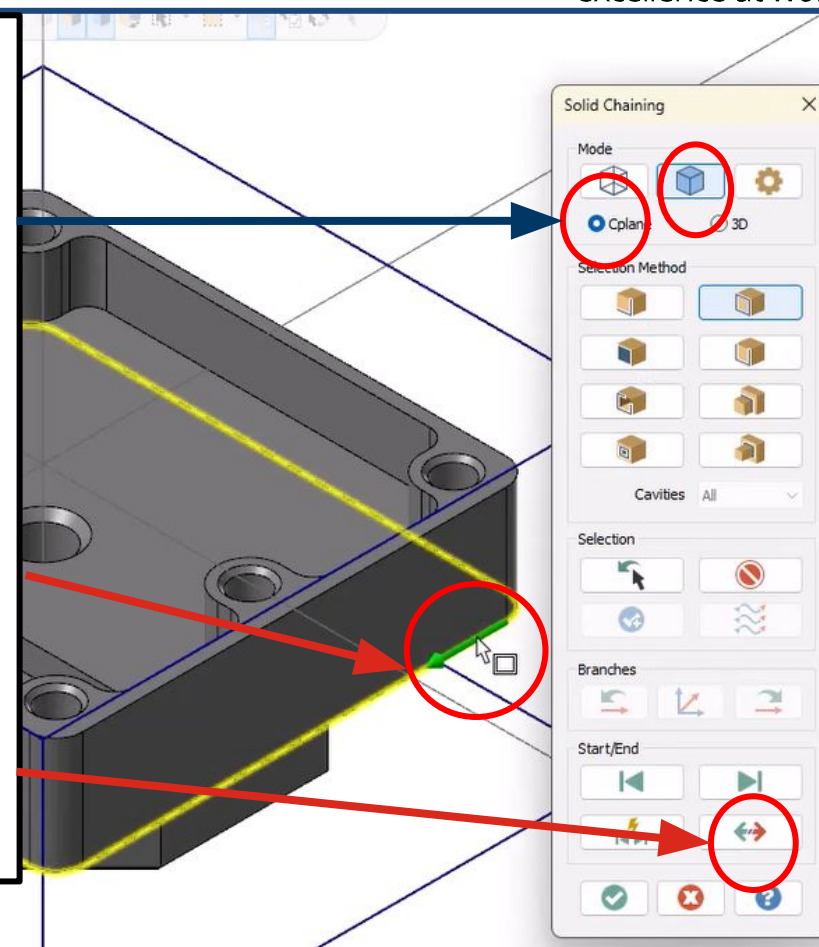
Ensure solid selection mode is enabled and Cplane is selected

Then select the bottom loop of the side 1, as shown here

Note the direction of the green arrow, this denotes the direction of travel the cut will take. Climb milling is preferred (CW direction on external features, CCW direction on internal features)

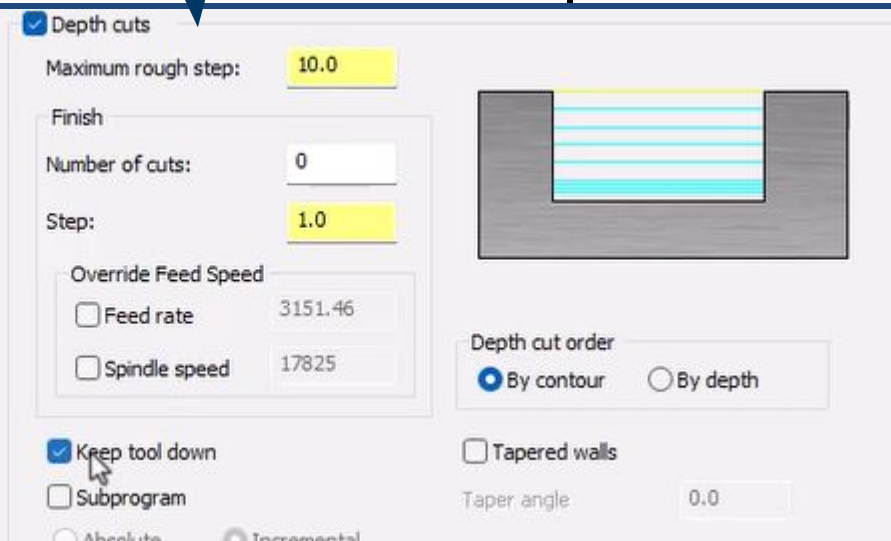
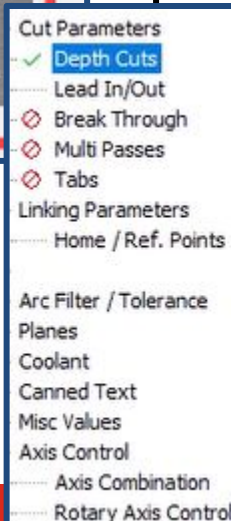
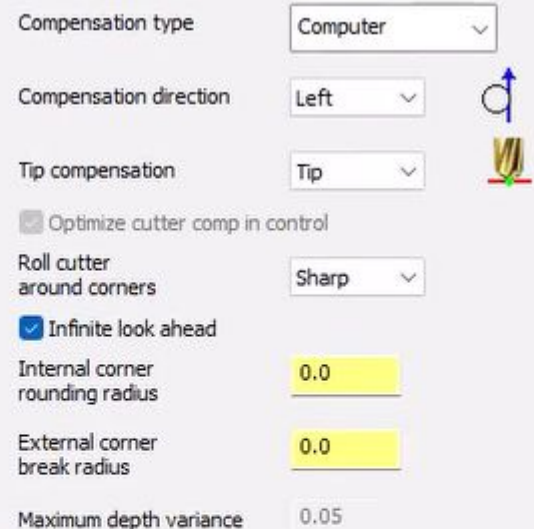
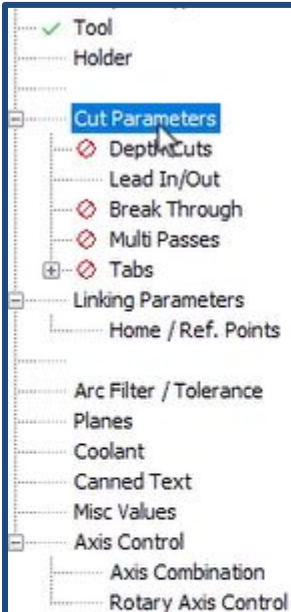
The reverse direction button can be used if needed

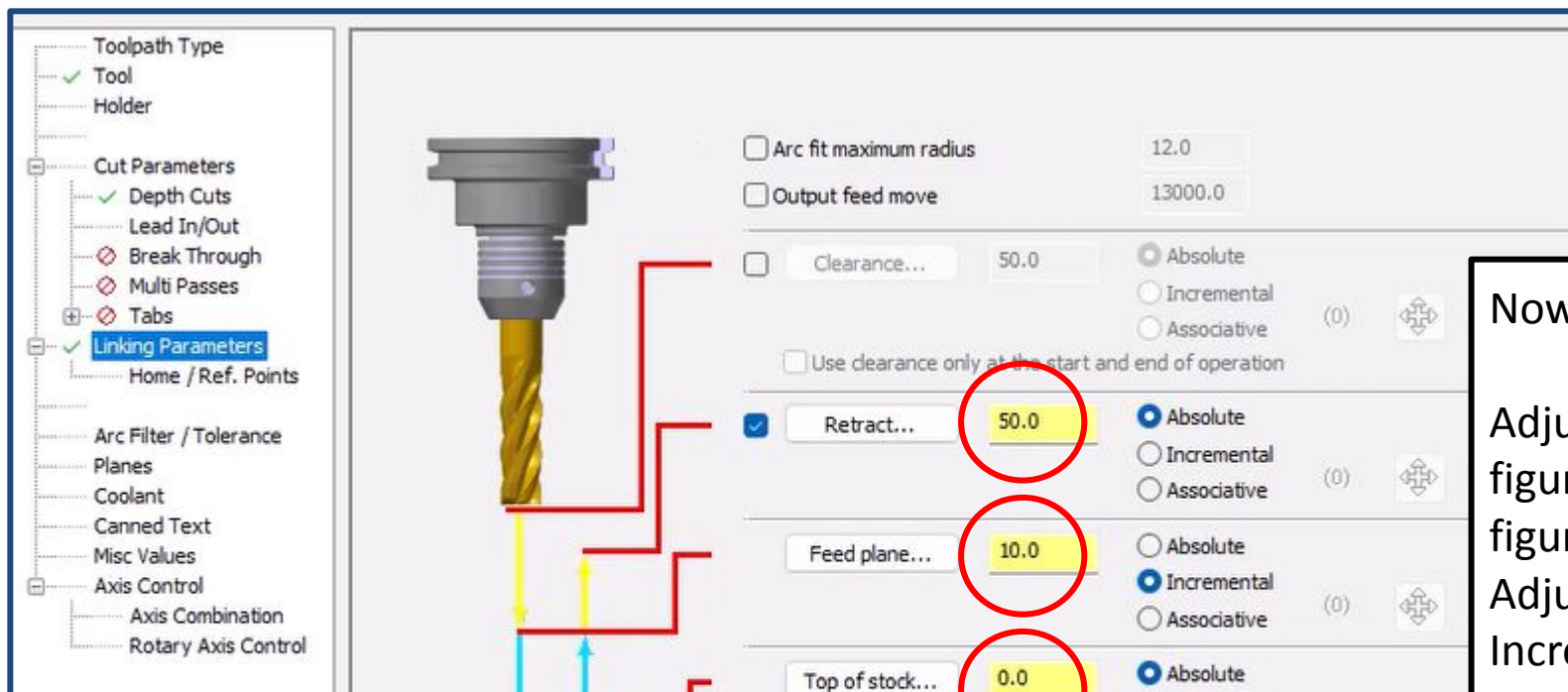
Green Tick to accept



For the tool, Select the 6mm Flat endmill,
Then go to the Cut parameters and
ensure Stock to leave is set to 0.0

Next enable Depth cuts and set the
maximum rough step to 10mm and check
the “Keep tool down” box





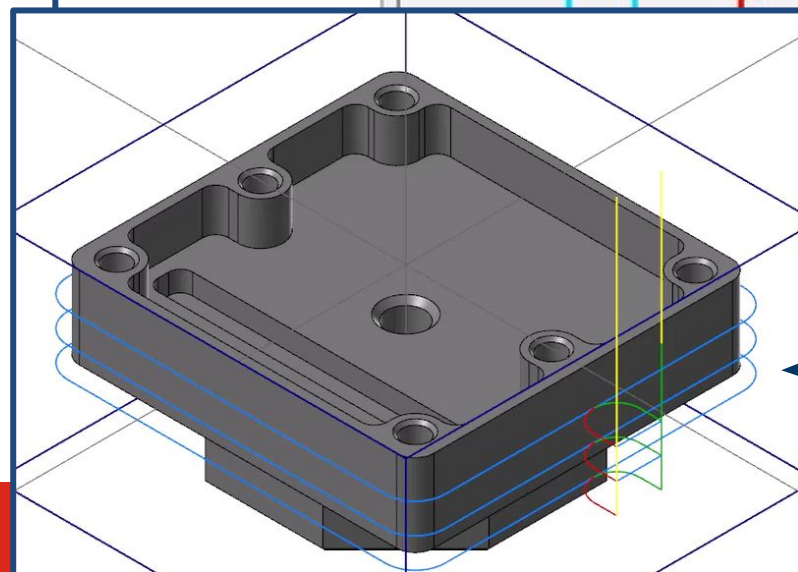
Now on the Linking Parameters page

Adjust the Retract and Top of Stock figures so they are using Absolute figures

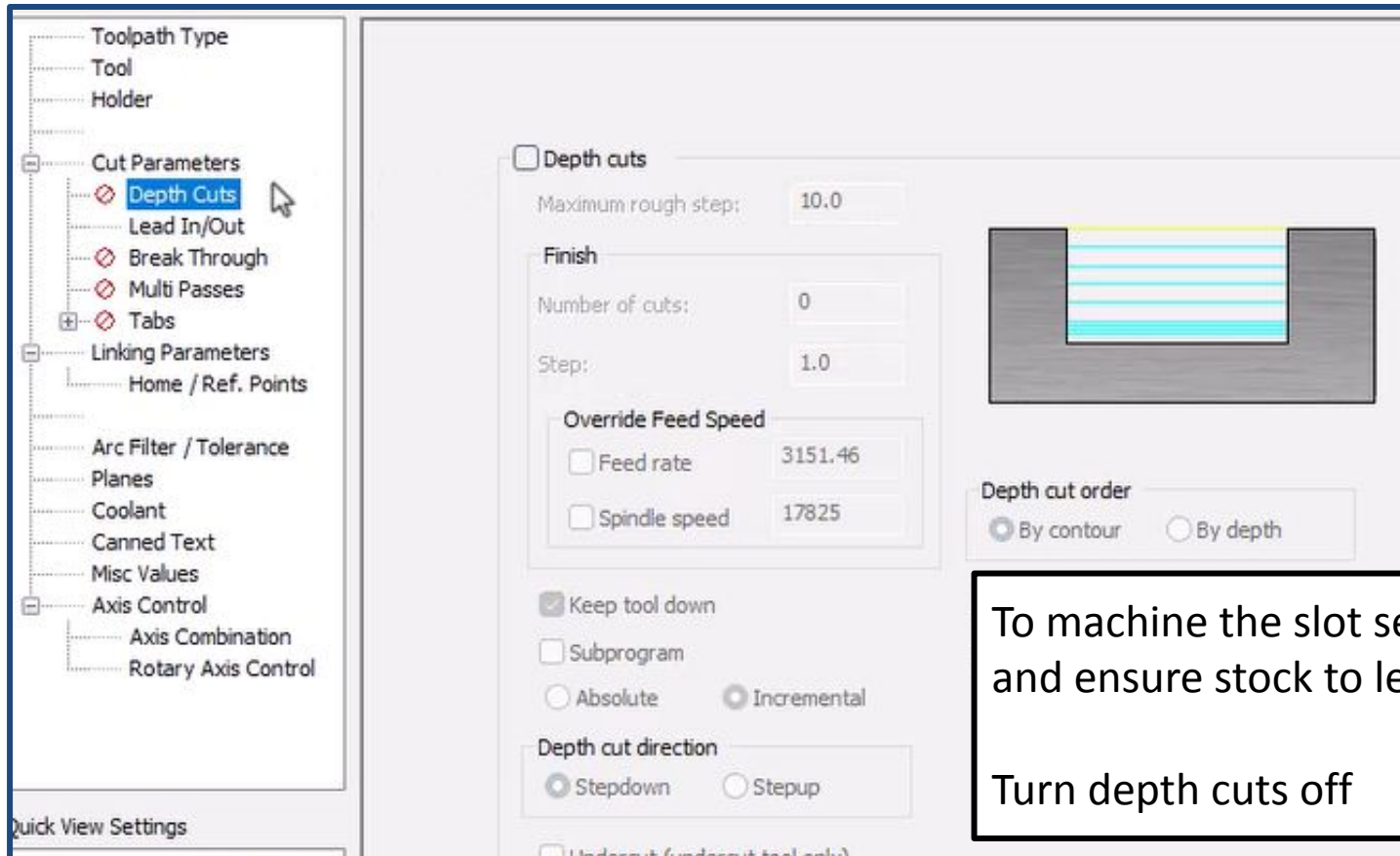
Adjust Feed Plane and Depth to Incremental figures

Change the figures to match the ones shown in the diagram

Check the Green Tick to accept
Toolpath should resemble the one shown

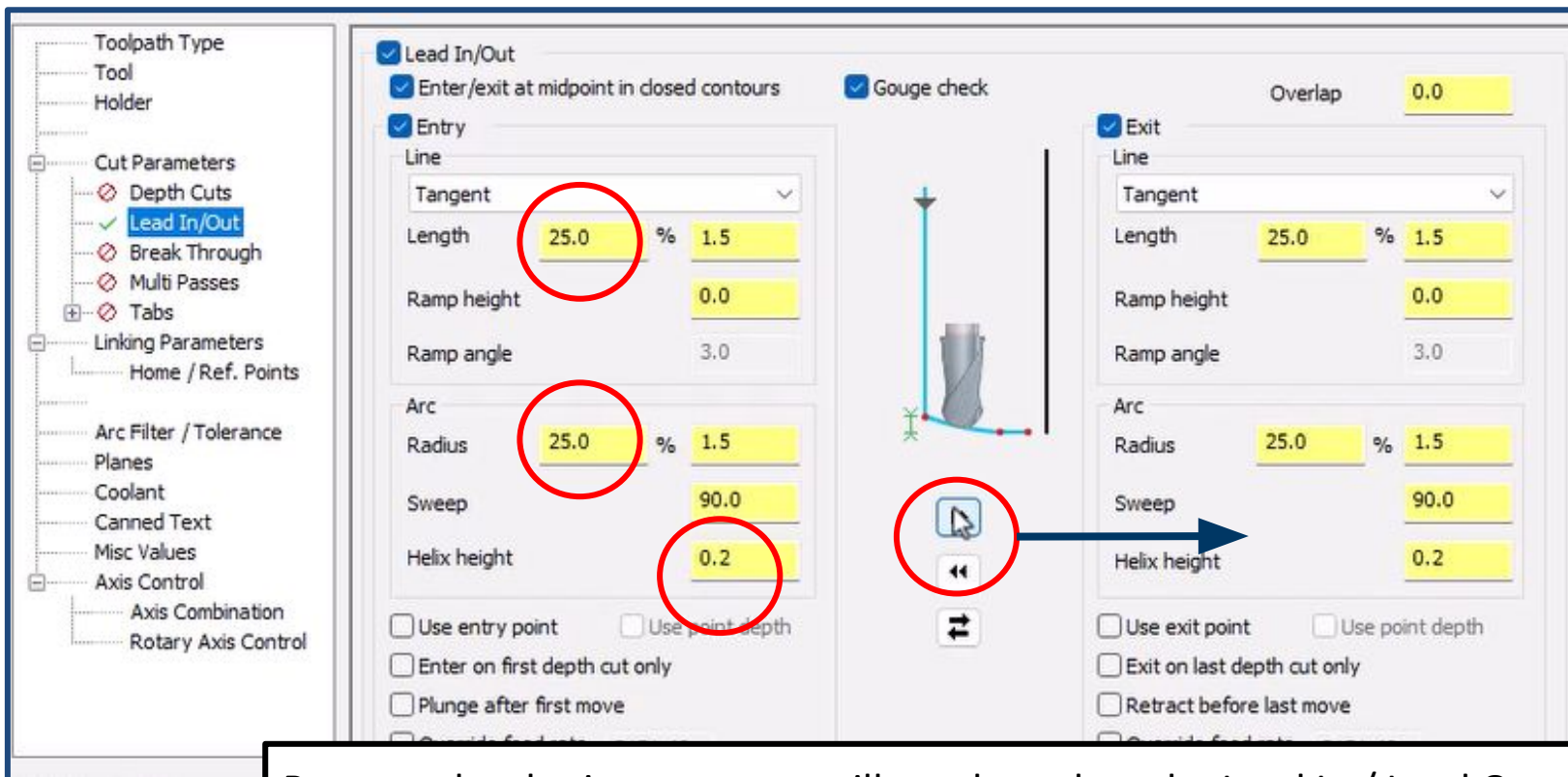






To machine the slot select the same 6mm Flat Endmill and ensure stock to leave is set to 0.0

Turn depth cuts off

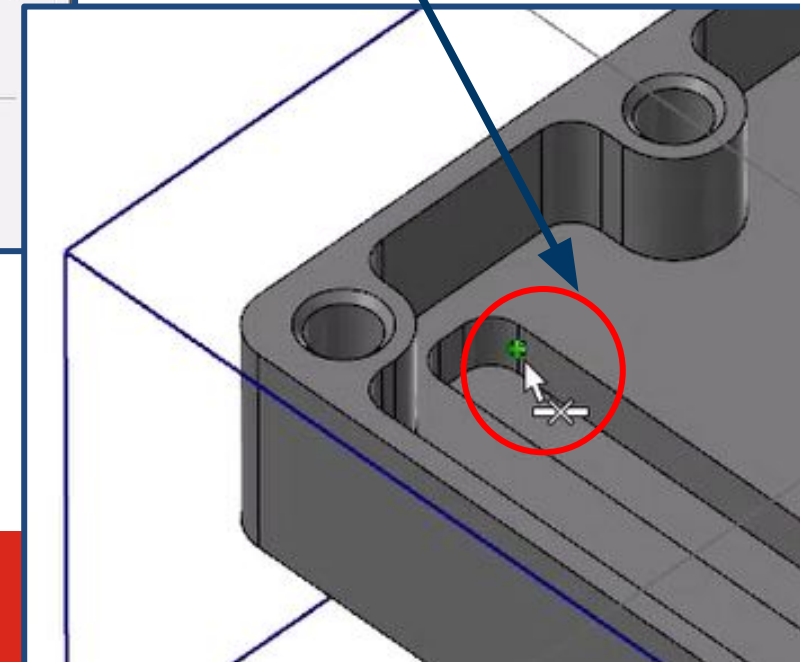


Because the slot is narrow we will need to adapt the Lead In / Lead Out to suit.
Click Lead In/Out and change the Entry motion to:
Length 25%, Arc Radius to 25% and Helix Height to 0.2
Use the center arrow to copy the parameters of the Entry Motion to the Exit motion

For “Top of Stock” select the top of the slot

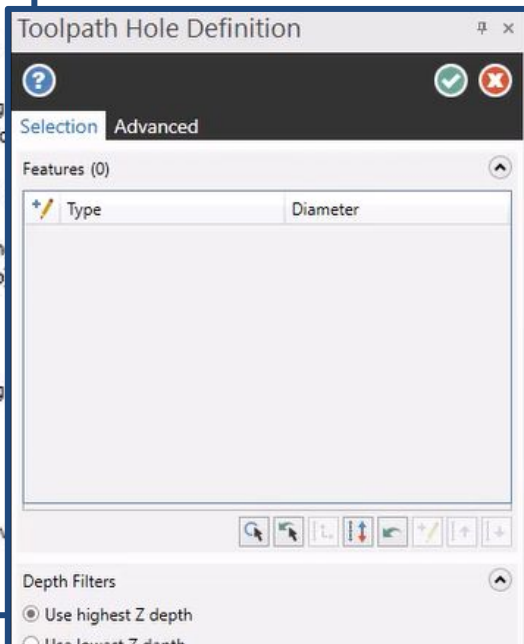
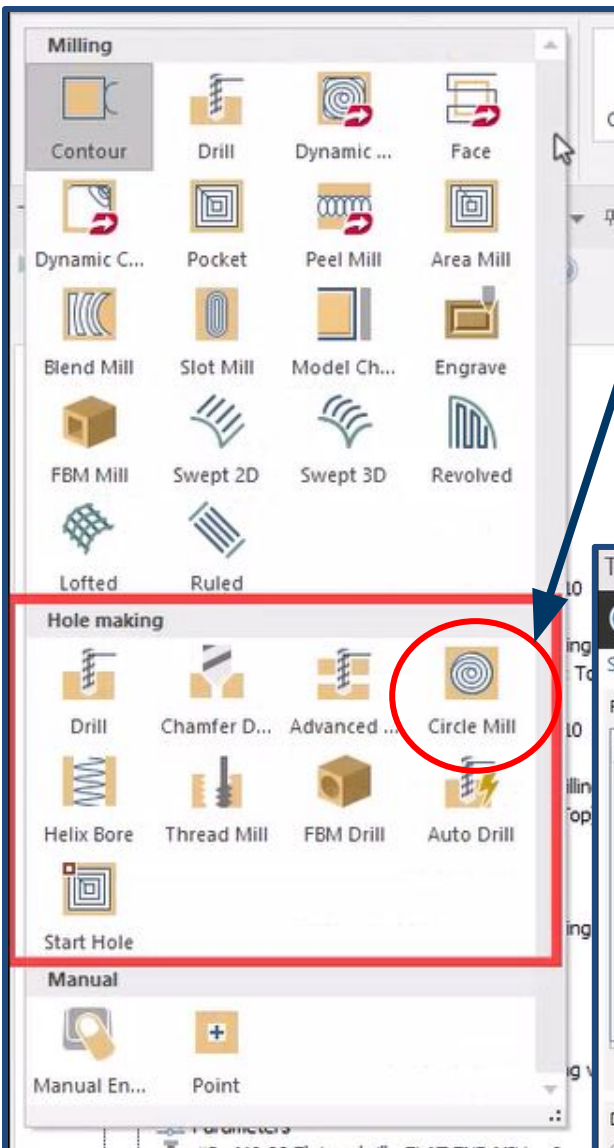
Change “Depth” from Incremental -2.0 to 0.0 to ensure the slot depth is correct.

Click OK to create the toolpath.

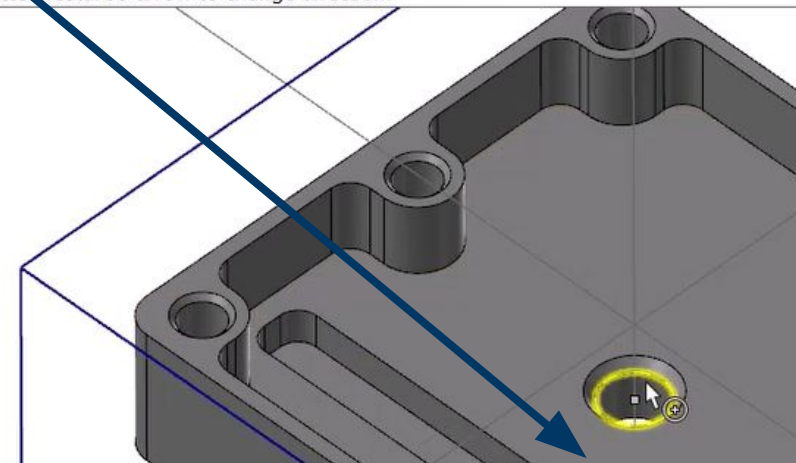


To machine the centre hole use the Circle Mill toolpath from the dropdown in the 2D toolpath gallery

When the Toolpath hole definition box appears, select the top centre of the hole as shown
Select Green tick to accept and enter the toolpath parameters page

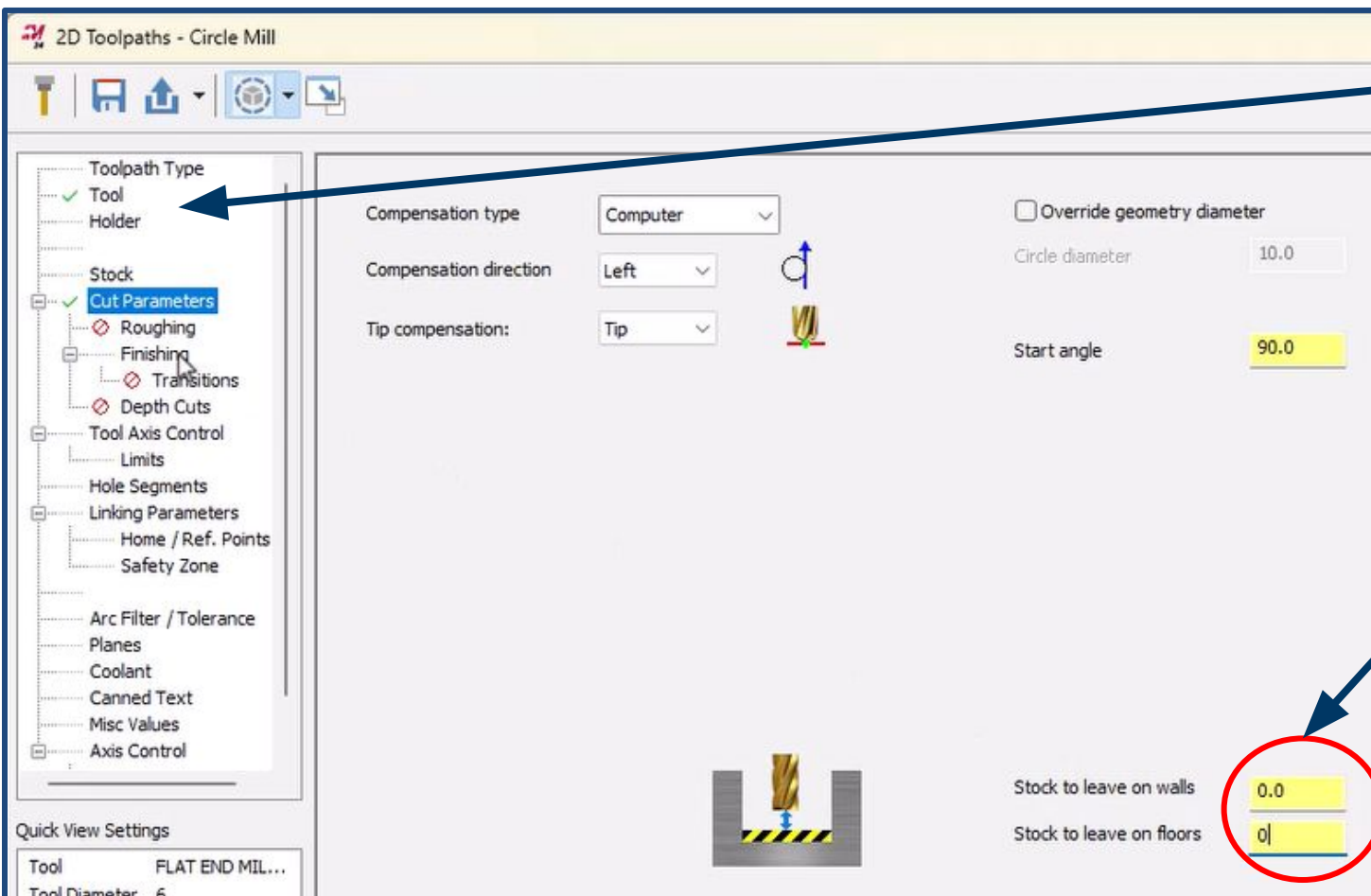


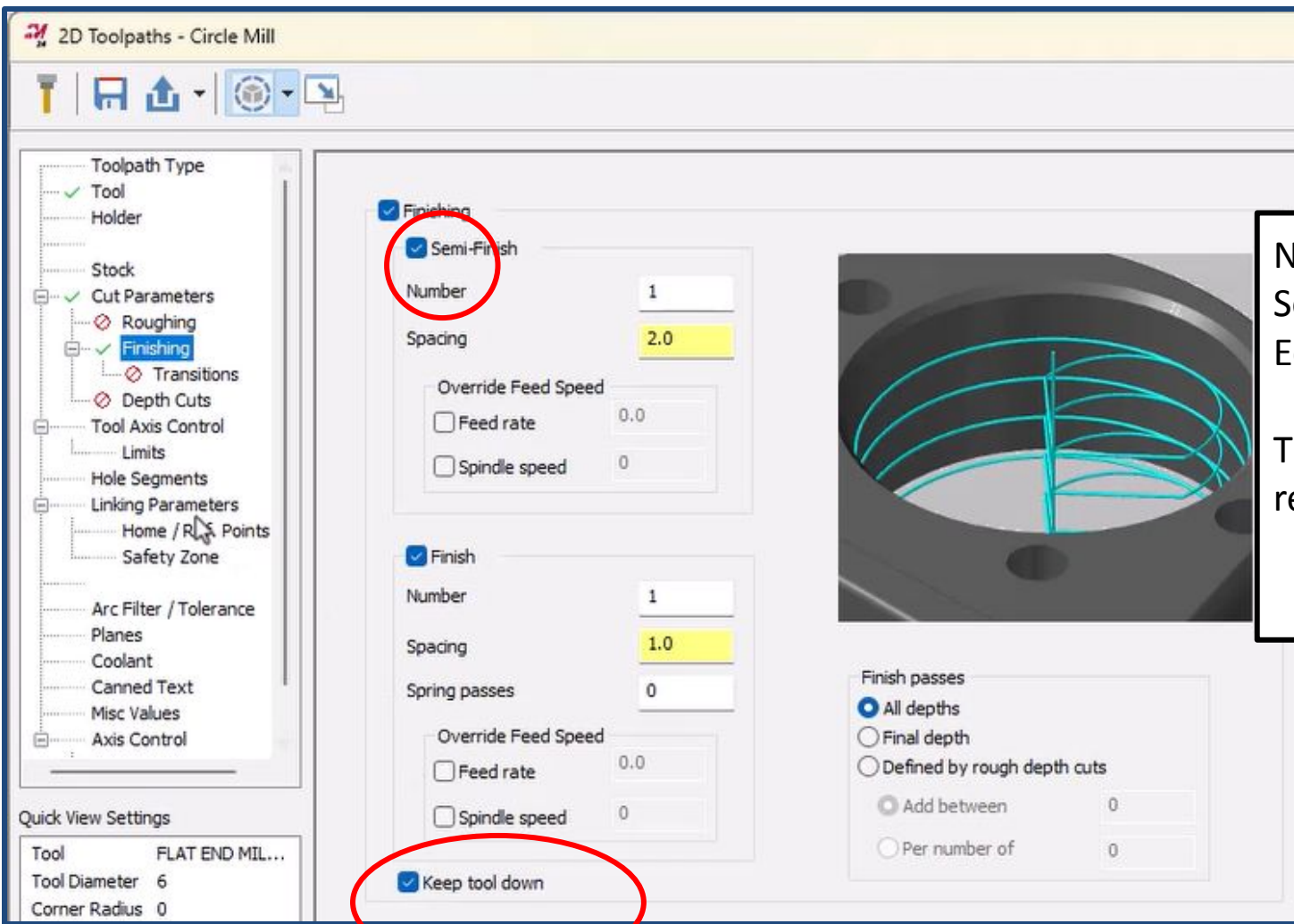
Select one or more entities to add to or remove from the Features list.
Click or window select solid faces, solid arc edges, wireframe arcs, lines, points, or AutoCursor points.
- [Ctrl+click] to select all matching radius solid features.
- [Ctrl+Shift+click] to select all matching radius solid features on the same vector as the initial selection.
- [Double-click] to select a solid hole feature (created using the Solids Hole function).
- [Ctrl+Double-click] to select all solid hole features of the same type.
- Click on a selected feature's arrow to change direction.



On the tool selection -
select the Ø6 Flat
endmill

On Cut parameters :
Change Stock to leave to 0.0
On both Walls and Floors





Now on the finishing parameters

Select Semi-Finish

Edit the number and spacing to suit

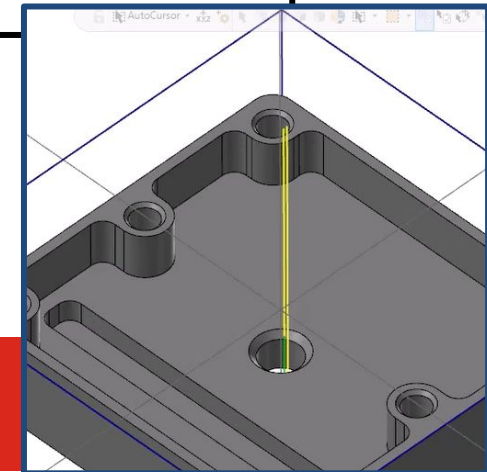
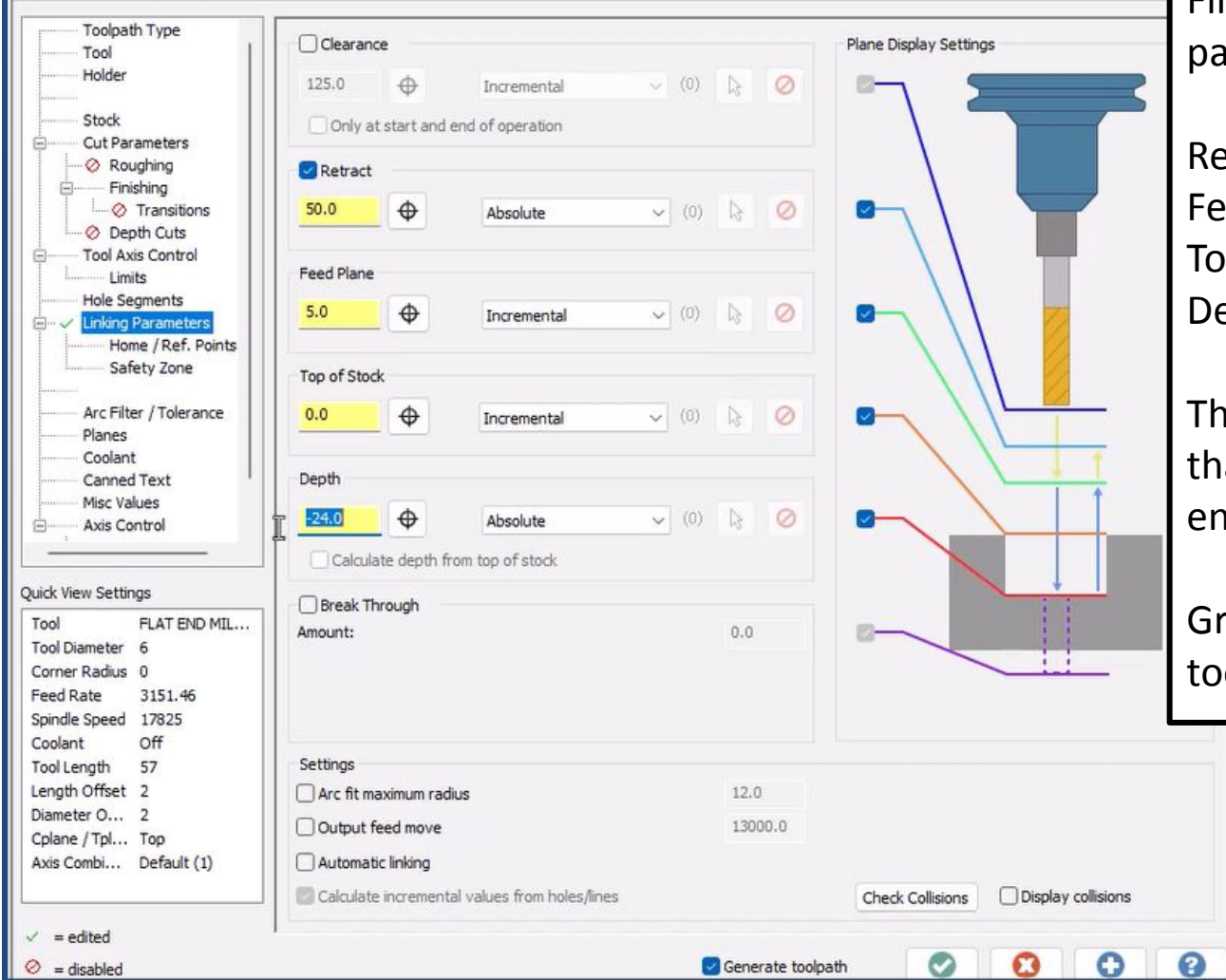
Tick "Keep Tool Down" to stop the tool retracting out of the hole between passes

Finally, move to the linking parameters set:

Retract: 50mm Absolute
Feed Plane: 5.0mm Incremental
Top of Stock: 0.0 Incremental
Depth: -24.0 Absolute

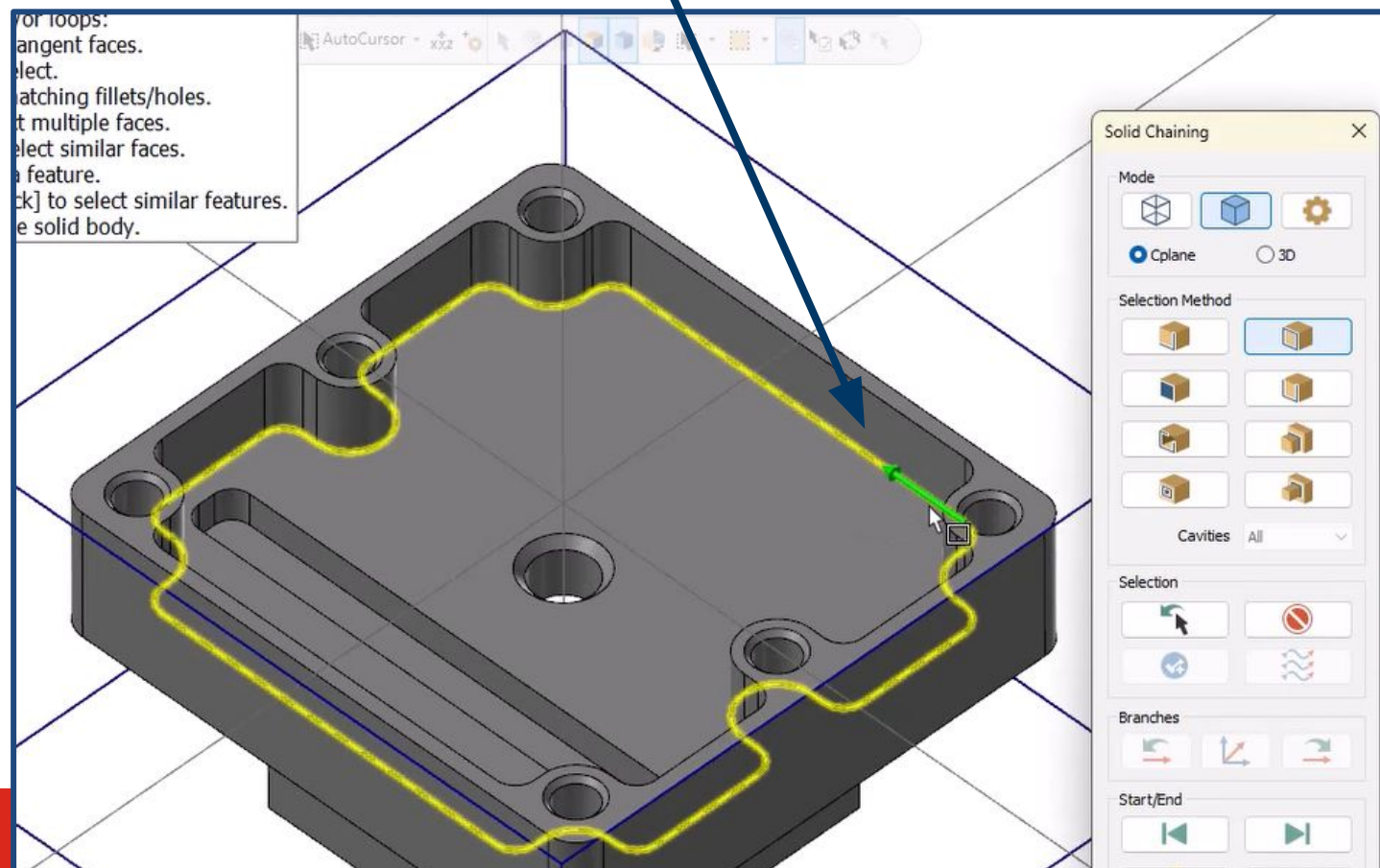
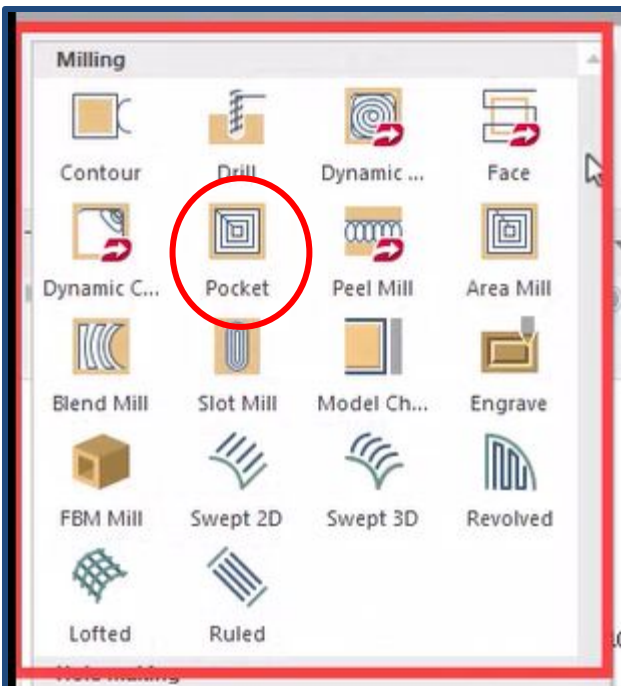
This depth should match the depth that the part was rest roughed to, to ensure the tool does not crash.

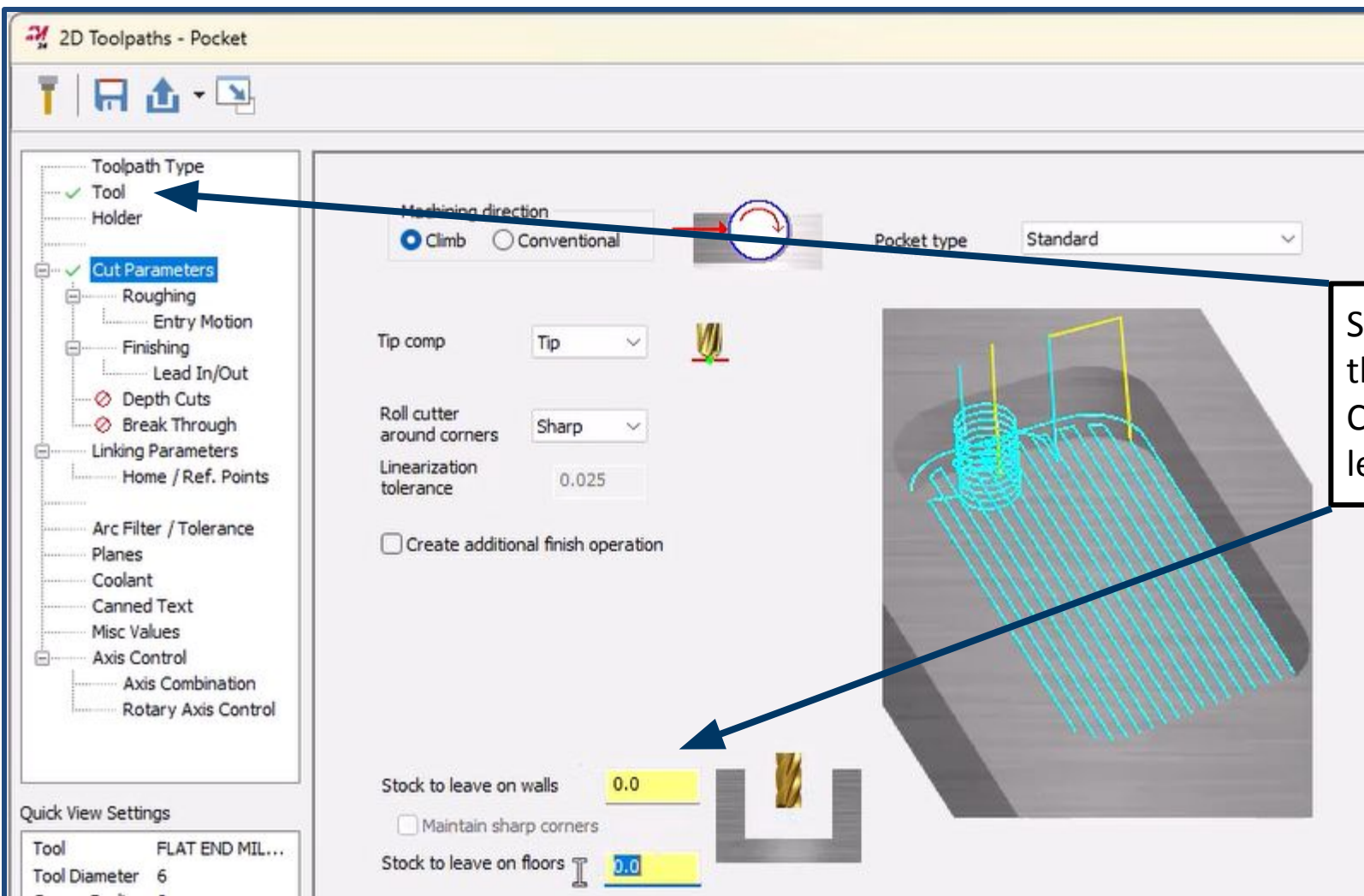
Green Tick to accept and create the toolpath.



We will now finish the floors and walls of the inner pocket
To do this select the “Pocket” toolpath from the 2D Gallery

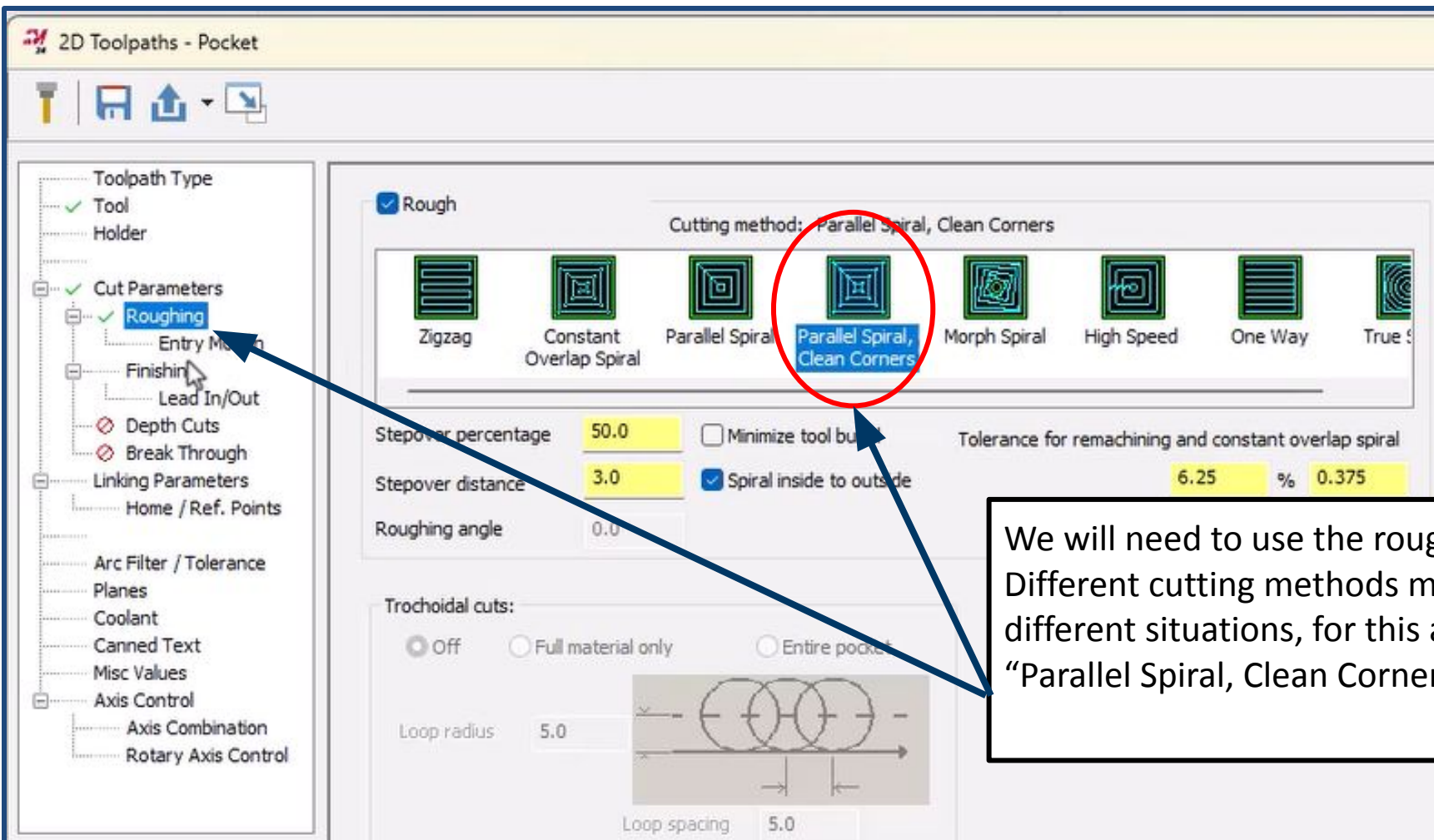
Then using the solid chaining tool and loop function select the
bottom loop of the pocket as shown



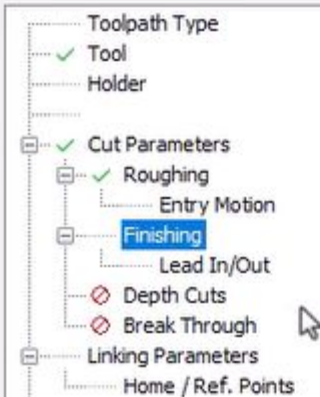


Select the $\varnothing 6$ mm Flat Endmill on the tools

Cut parameters set the Stock to leave to 0.0 for Walls and Floors



We will need to use the roughing option
Different cutting methods may work better than others in
different situations, for this attempt we will use the
“Parallel Spiral, Clean Corners” Method

☒ Finish

Passes

1

Spacing

2.5

Spring passes

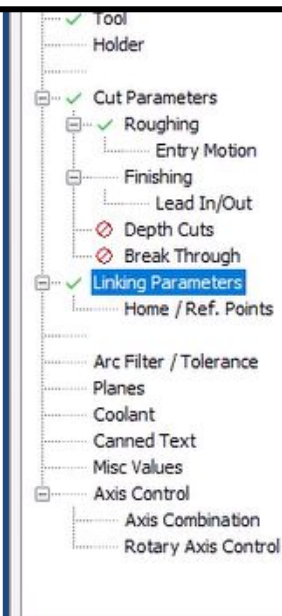
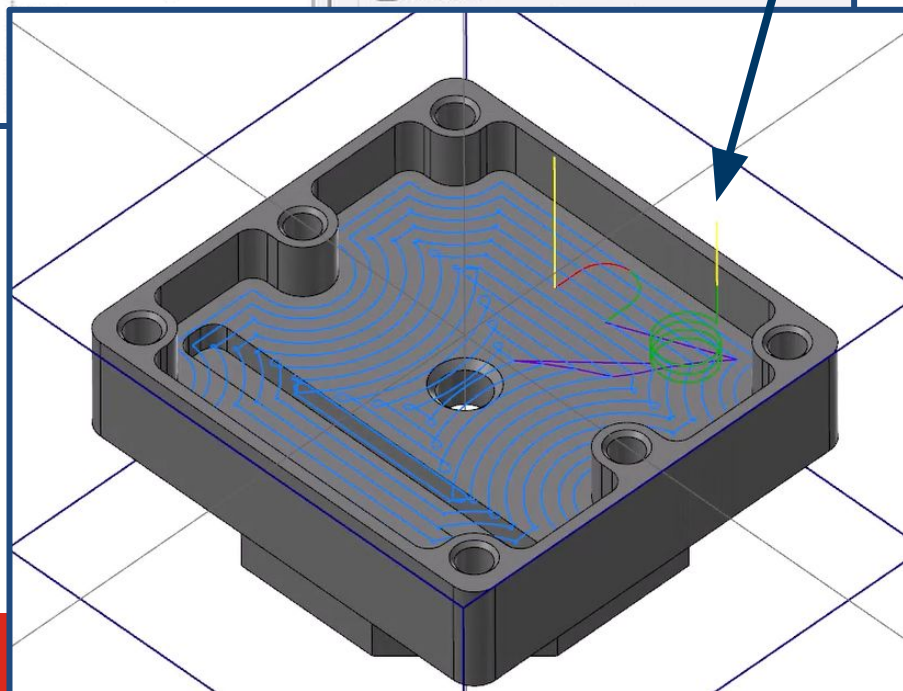
0

☒ Finish outer boundary☐ Start finish pass at closest entity☒ Keep tool down☐ Thin wall

Ensure finishing is turned on
Select “Finish outer Boundary” and “Keep Tool Down”
check boxes

On the linking parameters page ensure the figures match
those shown below

Green tick to accept and generate the toolpath
End of Session - Save Your Work



Quick View Settings

Tool FLAT END MIL...
Tool Diameter 6
Corner Radius 0
Feed Rate 3154.46

