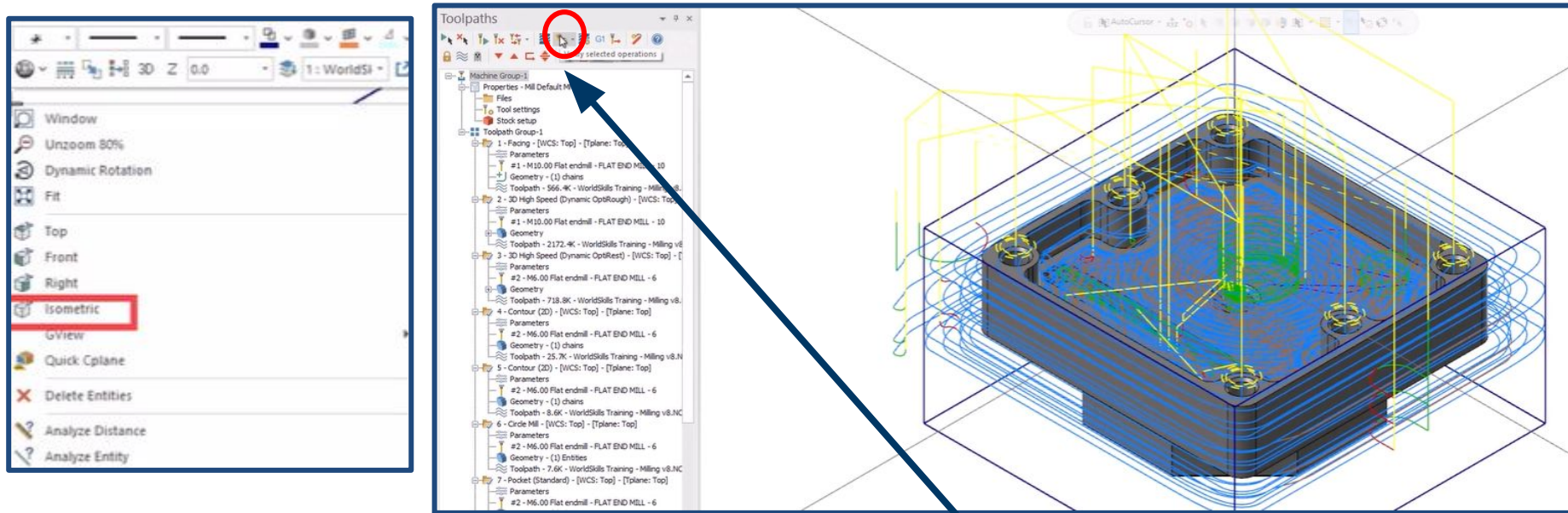


Mastercam Training Video Series

Video 5 Setting Up the Second Side

[Video Link](#)





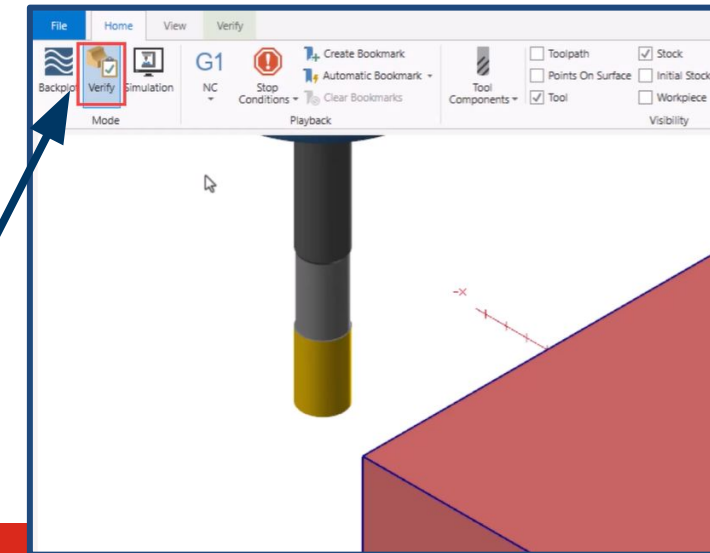
Before we start with the Side Two set-up lets verify Side One toolpaths.

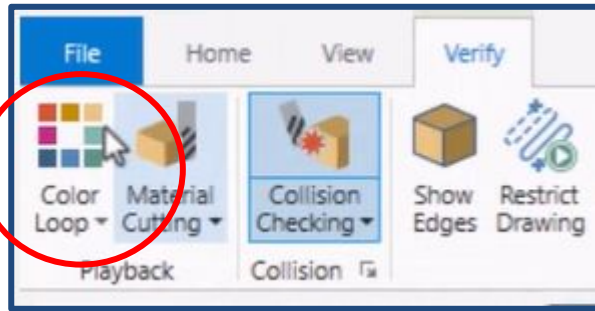
You can adjust the view to Isometric by right clicking the mouse in the graphics window and selecting 'Isometric'

Now click on 'Machine Group 1' to select all toolpaths in this group.

Then press the 'Verify Selected Operations' icon

The machine verify page opens in a new window - We will use the 'Verify' Option as shown

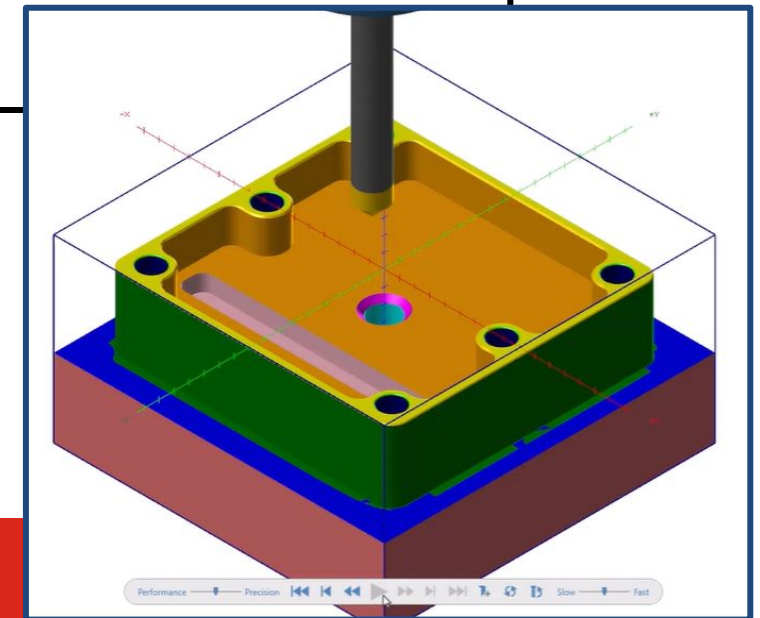
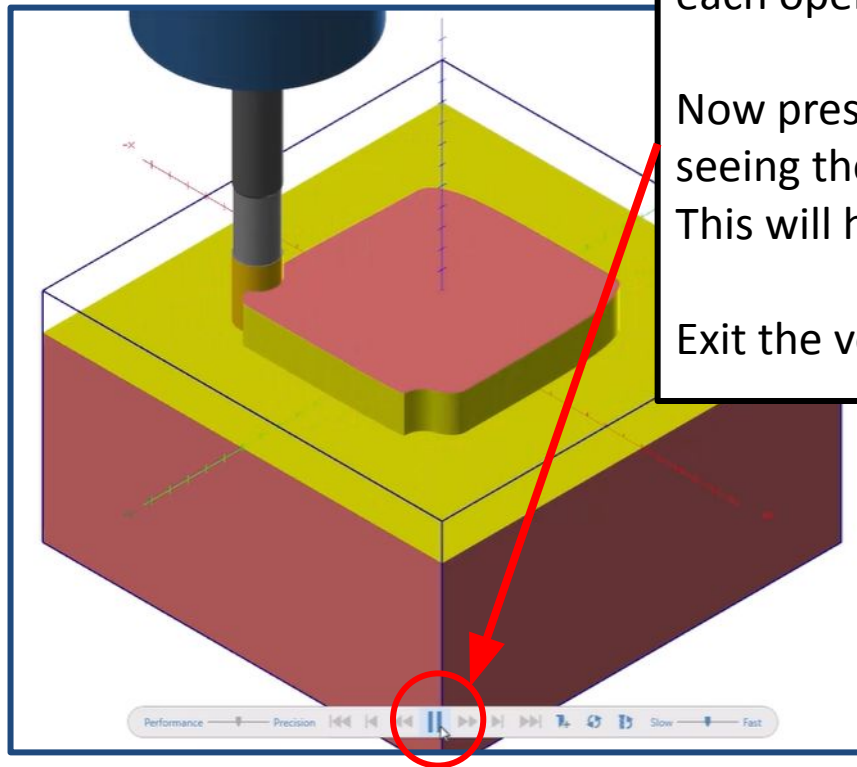




On the 'Verify' tab select 'Color Loop' this assigns different colours to each operation on the playback bar and simulation.

Now press 'Play' button and watch the simulation of the toolpaths, seeing the material being removed from the stock definition. This will help you analyse the toolpaths effectiveness.

Exit the verify page to return to Mastercam.



Toolpaths

The screenshot shows the Mastercam software interface. On the left is the 'Toolpaths' tree, which is organized into a hierarchy. At the top is 'Machine Group-1', followed by 'Properties - DMU50ECO-Siemens-840-5EDXOS-BC-2022'. Below this are 'Files', 'Tool settings', and 'Stock setup'. The main section is 'Toolpath Group-1', which contains several toolpaths. The first toolpath is '1 - Facing - [WCS: side 1] - [Tplane: side 1]', which includes parameters, geometry, and toolpath data. The second toolpath is '2 - 3D High Speed (Dynamic OptiRough) - [WCS: side 1] - [Tplane: side 1]', which also includes parameters, geometry, and toolpath data. The third toolpath is '3 - 3D High Speed (Dynamic OptiRest) - [WCS: side 1] - [Tplane: side 1]', which includes parameters, geometry, and toolpath data. The fourth toolpath is '4 - 3D High Speed (Horizontal) - [WCS: side 1] - [Tplane: side 1]', which includes parameters, geometry, and toolpath data. The fifth toolpath is '5 - Contour (2D) - [WCS: side 1] - [Tplane: side 1]', which includes parameters, geometry, and toolpath data. The sixth toolpath is '6 - Contour (2D) - [WCS: side 1] - [Tplane: side 1]', which includes parameters, geometry, and toolpath data. At the bottom of the tree are 'Recent Functions', 'Solids', 'Planes', 'Toolpaths', and 'Levels'. The main view on the right shows a 3D model of a part with various toolpaths overlaid in yellow and green. A context menu is open over the 'Viewsheet-1' tab at the bottom, which is circled in red. The context menu options are: 'New viewsheet', 'Group', 'Ungroup', 'Copy', 'Rename', 'Delete', 'Save viewsheet as bookmark', 'Delete viewsheet bookmark', 'Restore from viewsheet bookmark', 'Settings', and 'Viewsheets Help'.

Machine Group-1

Properties - DMU50ECO-Siemens-840-5EDXOS-BC-2022

Files

Tool settings

Stock setup

Toolpath Group-1

1 - Facing - [WCS: side 1] - [Tplane: side 1]

Parameters

#1 - M12.00 Flat endmill - 12 Flat Endmill

Geometry - (1) chains

Toolpath - 9.8K - Skills Wales CNC Milling Final 2023 v7.MPF

2 - 3D High Speed (Dynamic OptiRough) - [WCS: side 1] - [Tplane: side 1]

Parameters

#1 - M12.00 Flat endmill - 12 Flat Endmill

Geometry

Toolpath - 246.1K - Skills Wales CNC Milling Final 2023 v7.MPF

3 - 3D High Speed (Dynamic OptiRest) - [WCS: side 1] - [Tplane: side 1]

Parameters

#2 - M6.00 Flat endmill - 6 Flat Endmill

Geometry

Toolpath - 548.3K - Skills Wales CNC Milling Final 2023 v7.MPF

4 - 3D High Speed (Horizontal) - [WCS: side 1] - [Tplane: side 1]

Parameters

#2 - M6.00 Flat endmill - 6 Flat Endmill

Geometry

Toolpath - 403.4K - Skills Wales CNC Milling Final 2023 v7.MPF

5 - Contour (2D) - [WCS: side 1] - [Tplane: side 1]

Parameters

#2 - M6.00 Flat endmill - 6 Flat Endmill

Geometry - (1) chains

Toolpath - 24.4K - Skills Wales CNC Milling Final 2023 v7.MPF

6 - Contour (2D) - [WCS: side 1] - [Tplane: side 1]

Parameters

#2 - M6.00 Flat endmill - 6 Flat Endmill

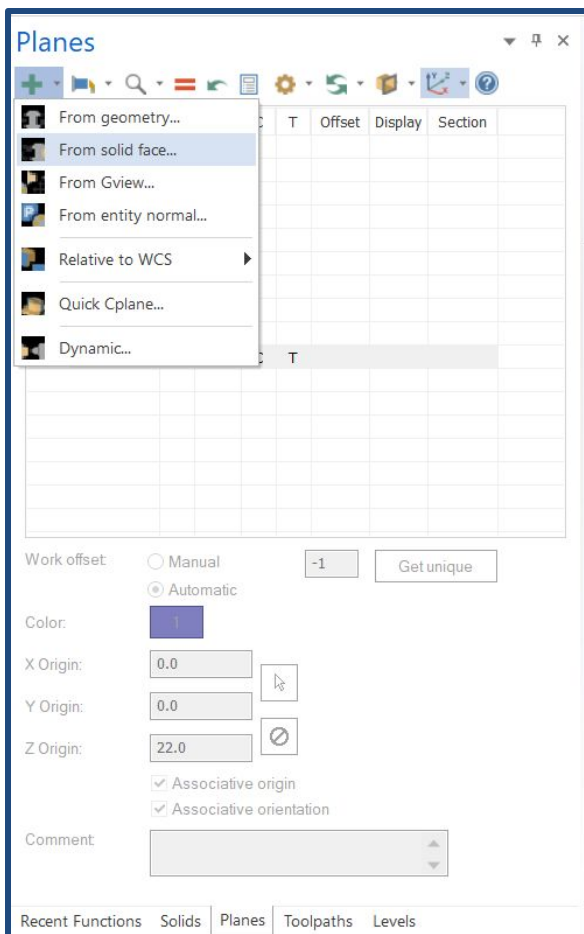
Recent Functions Solids Planes Toolpaths Levels

Viewsheet-1 +

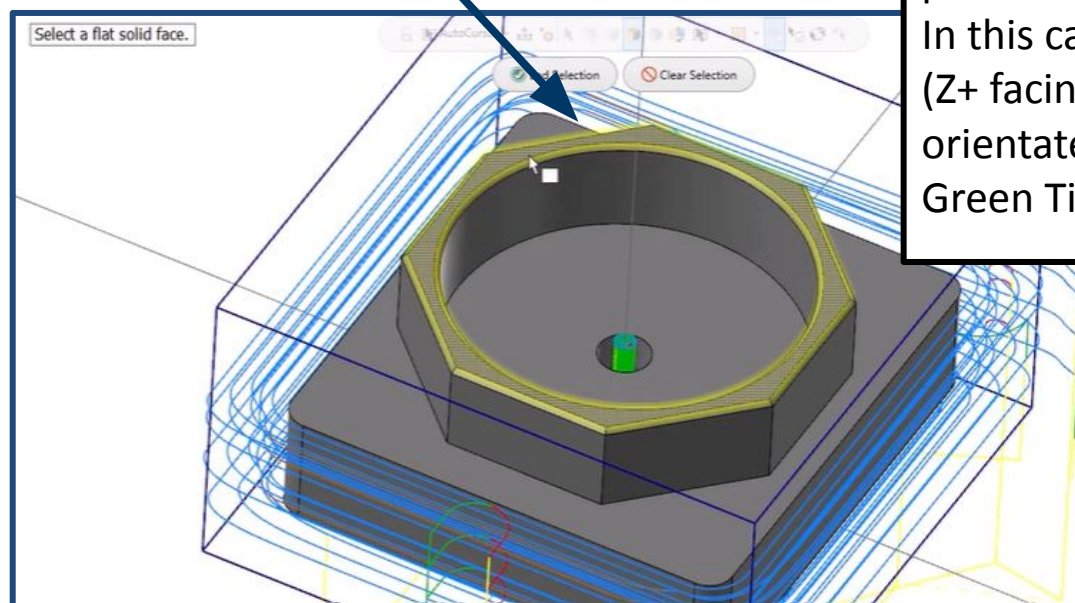
Back on the Mastercam main viewpage.
Ensure the view is set to 'Isometric' by using
the right mouse button selection as before.

Save the current Op 1 as a viewsheet
Right Click on the bottom Viewsheet tab and
select 'Save viewsheet as bookmark'.

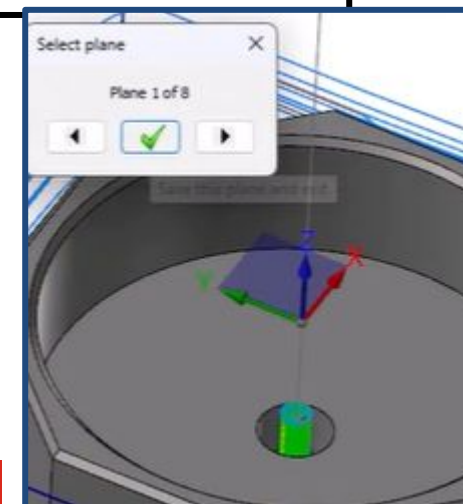
Right click again on Viewsheet 1 and select
'New Viewsheet'. Rename this as Side Two.

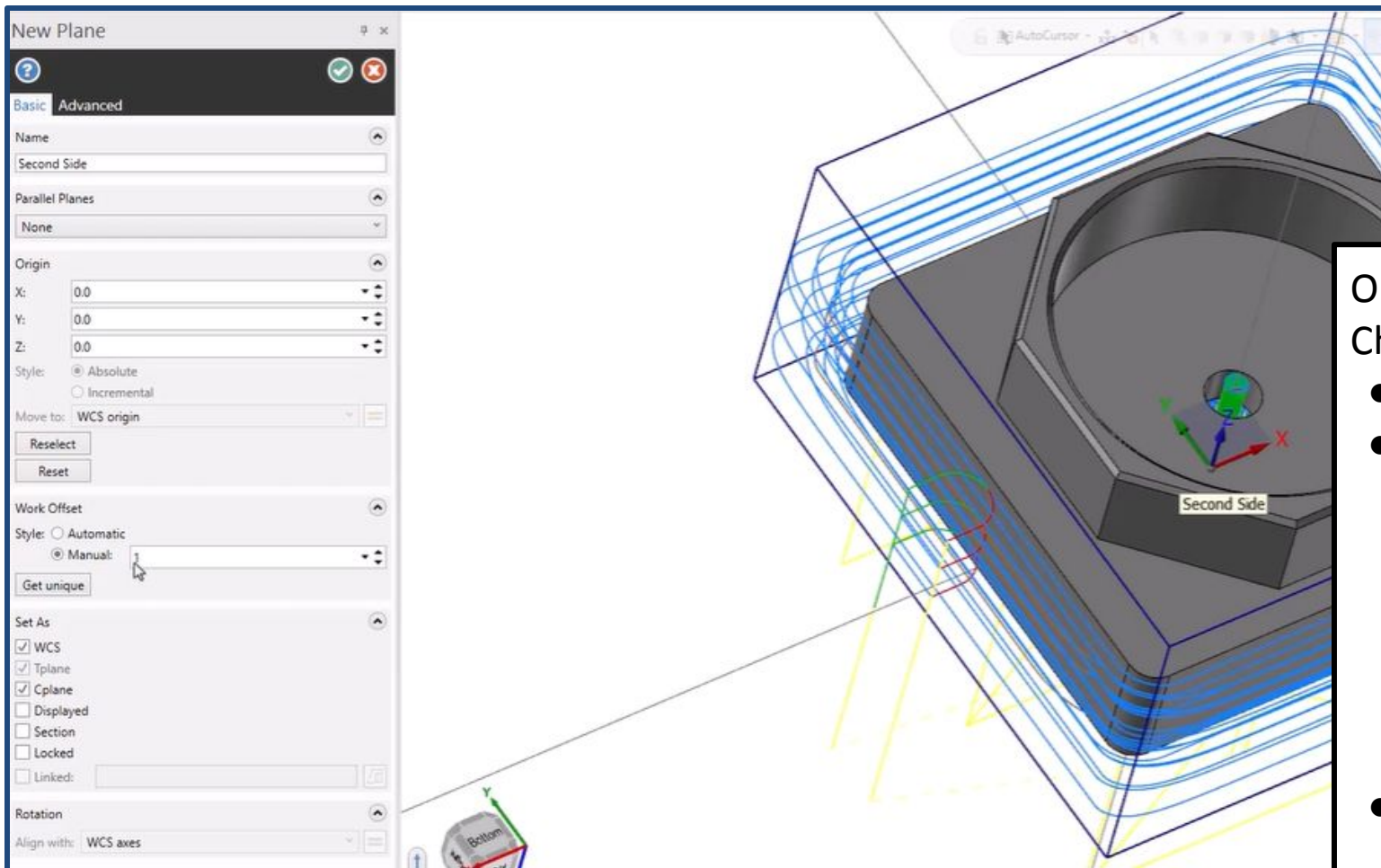


- Select the 'Planes' manager tab
- Then select 'Create new plane' button
- Select the 'From Solid Face' option from the dropdown.
- Orientate the view to see the second side - select the top flat face, as shown:



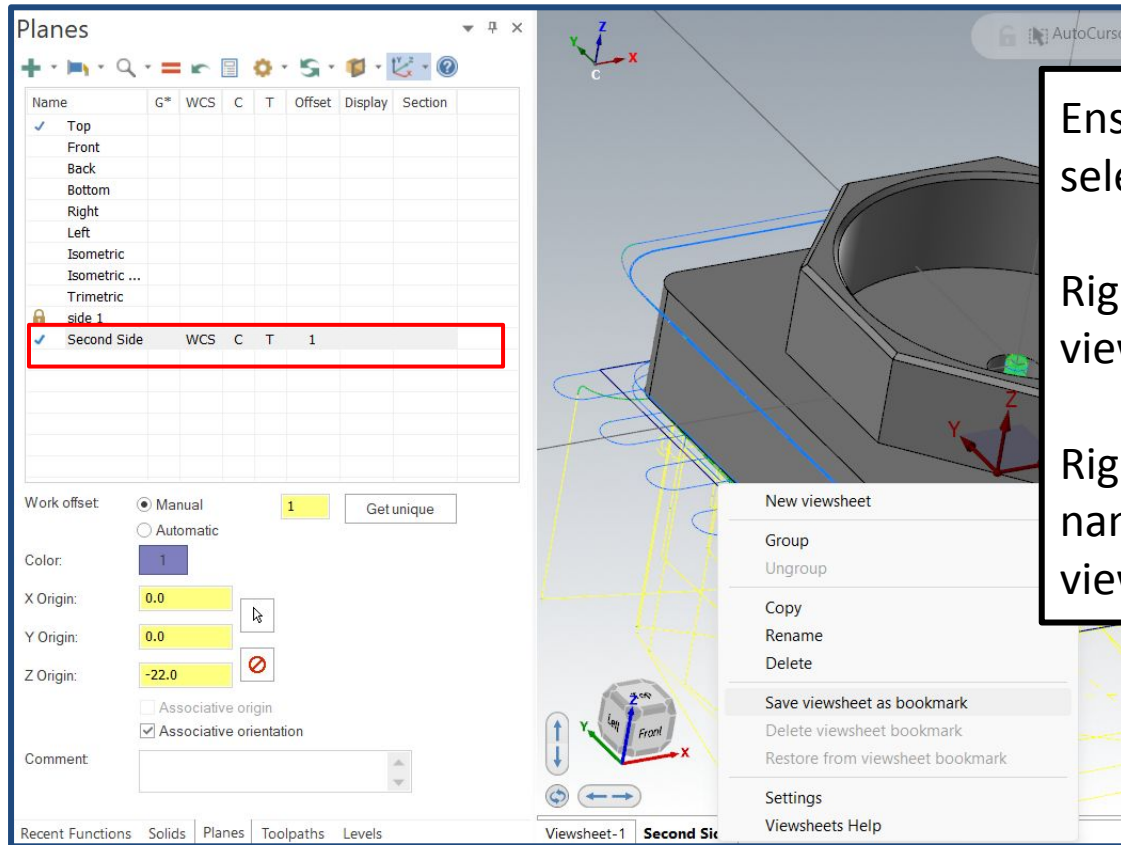
The plane selection box appears, this can be used to scroll through different possible planes.
In this case Plane 1 is correct.
(Z+ facing up and X and Y axis orientated correctly)
Green Tick to accept





On the 'New Plane' manager
Change the Name to 'Second Side'

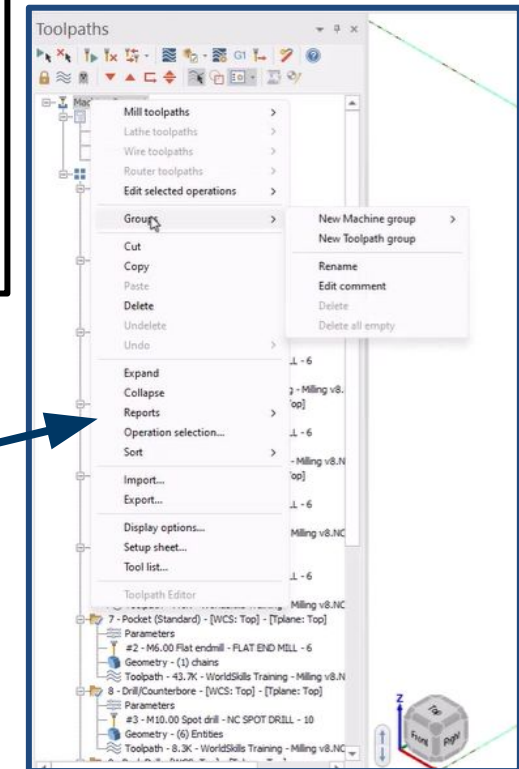
- Adjust the origin
- In the video example the Z zero position has been moved to the bottom face. Remember - wherever you set it, you will need to replicate this position when setting your Work Offset on the CNC Milling machine
- Setting the Work Offset number to +1 on the Mastercam Plane manager will output the work offset as G55
- Green Tick to accept



Ensure Second Side plane has been selected as shown

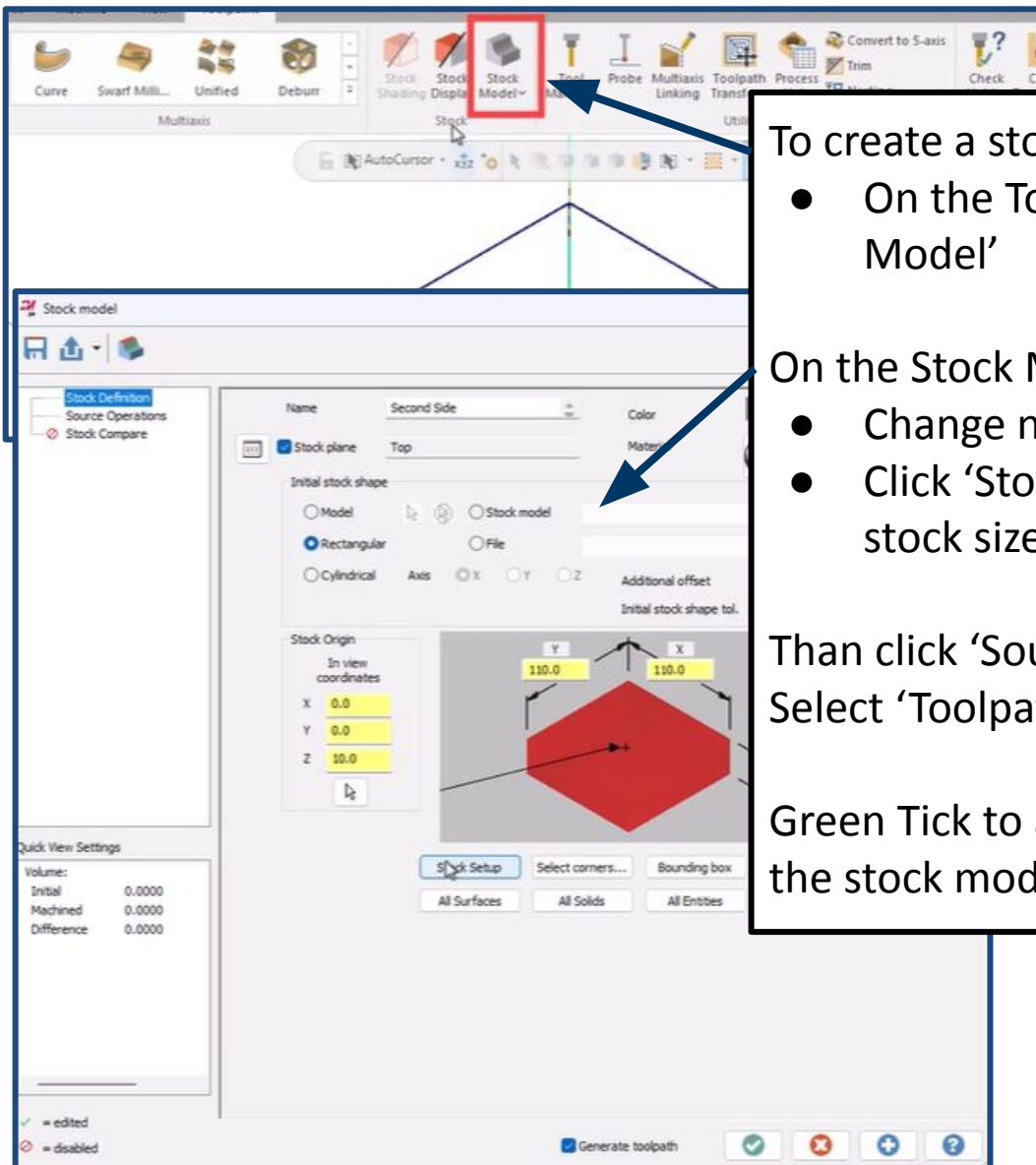
Right click in graphics area and select view as 'Isometric'

Right Mouse click on the viewsheet named 'Second Side' and select 'Save viewsheet as bookmark'



Now create a new 'Toolpath Group'

- Right Click on 'Machine Group 1'
- From the menu Click on 'Groups'
- Then select 'New Machine Group'



To create a stock model

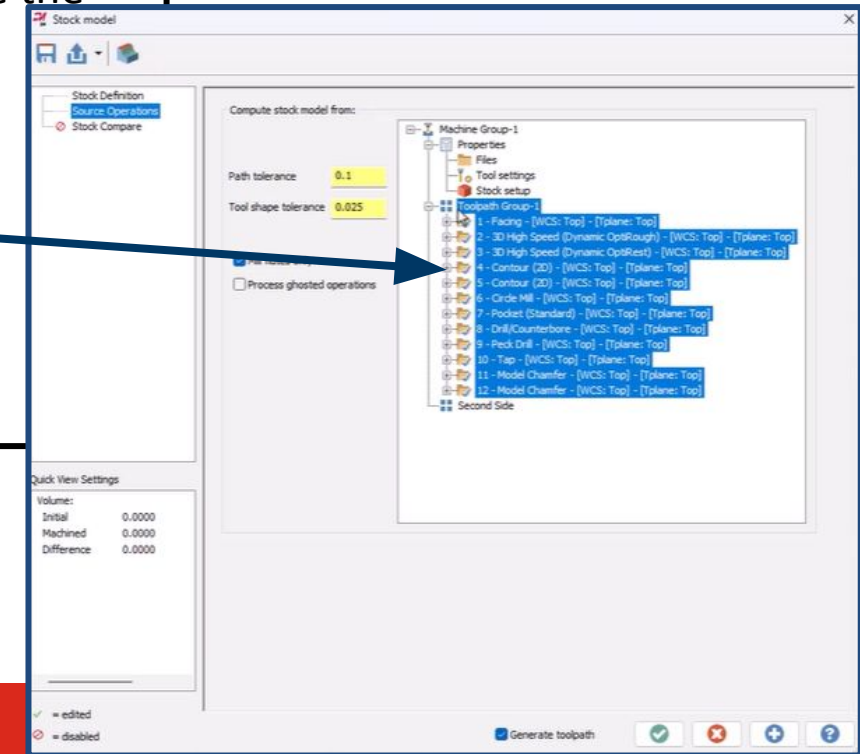
- On the Toolpaths Tab Select 'Stock Model'

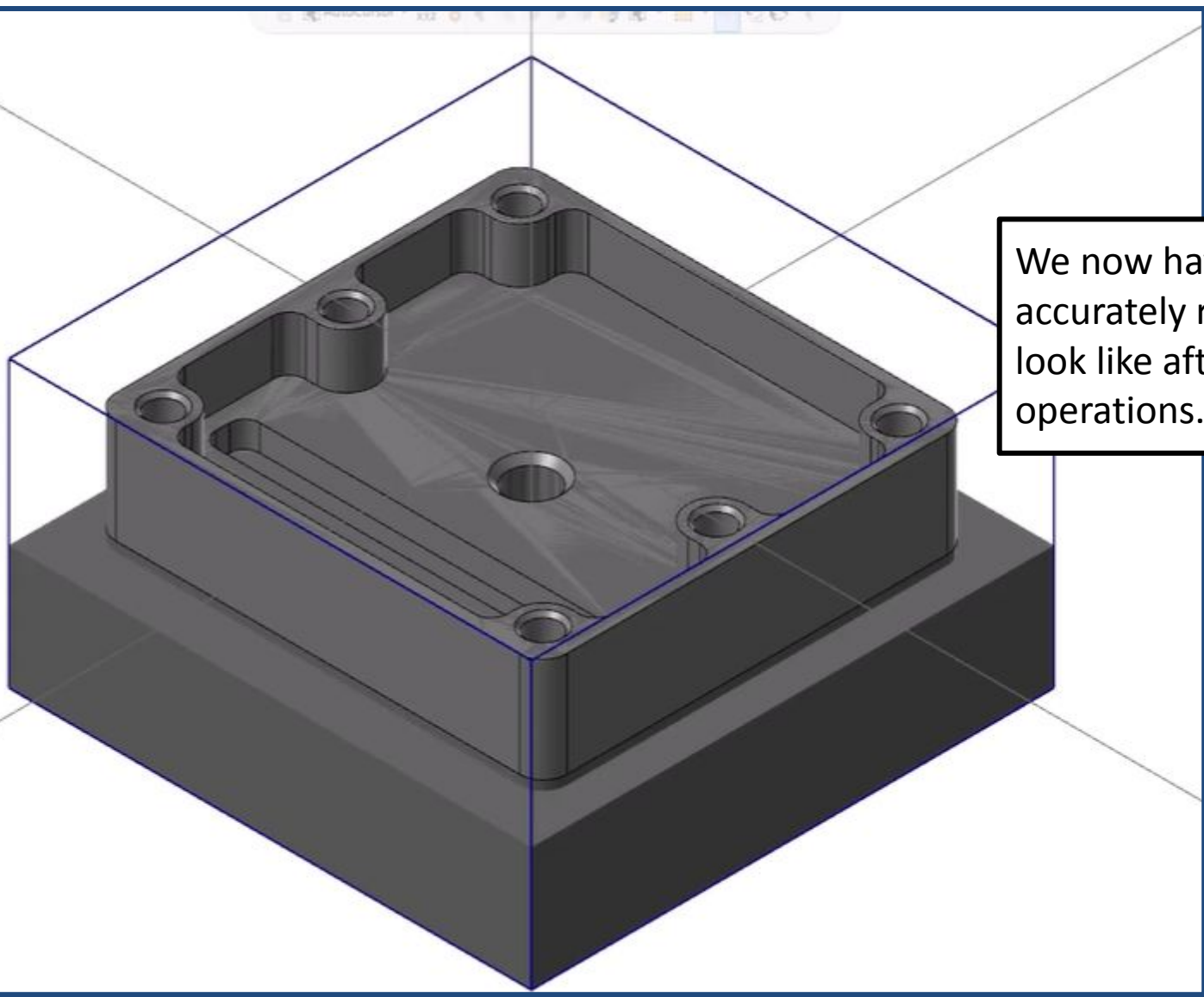
On the Stock Model parameters

- Change name to 'Second Side'
- Click 'Stock Setup' to reference the stock size from initial set-up

Than click 'Source Operations'
Select 'Toolpath Group 1'

Green Tick to accept and generate
the stock model





We now have a stock model that accurately represents what the stock will look like after Side 1 machining operations.

End of Session - Save Your Work