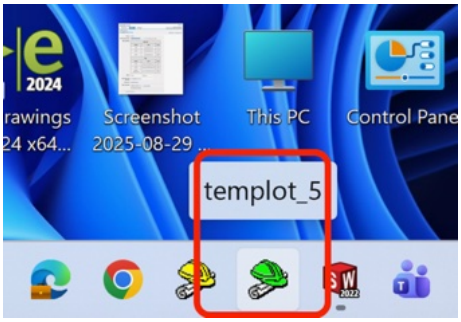
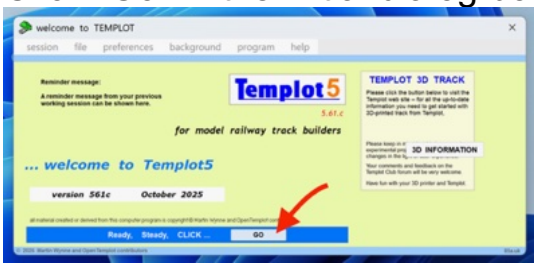
A concise guide for producing a 7mm COT/CARROT turnout 3D .stl file compatible with any 3D printer using Templot5 version 5.61.
Printing using a Neptune 4 with a 0.4mm nozzle

To start Templot 5, simply click the green hard hat icon located on your Windows taskbar.

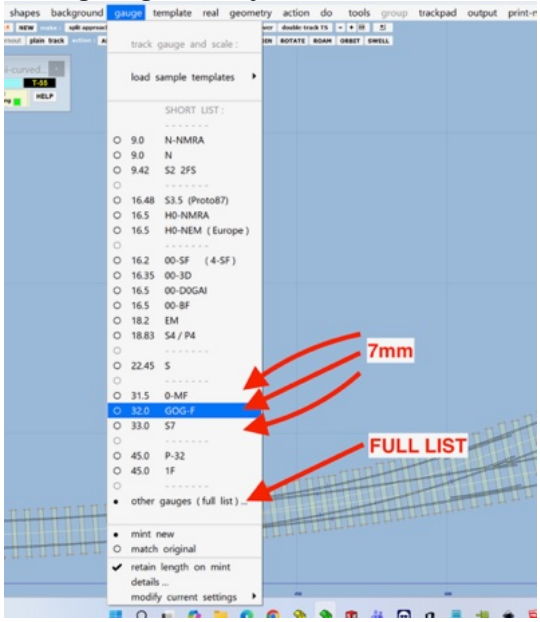


Click "Go" in the initial dialog box at startup.

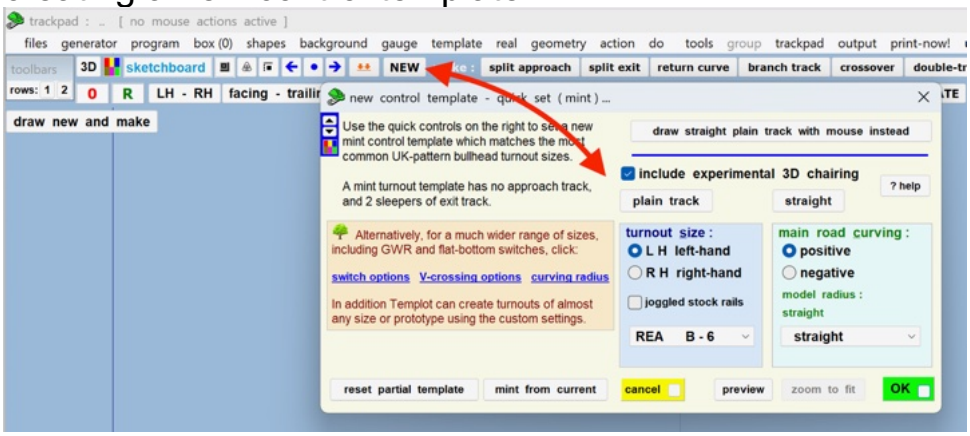


Tap any spot on the Track Pad in the following dialogue box.

Click "gauge" on the top toolbar, choose your preferred gauge from the options. Templot starts without a preset gauge, so you must select one.

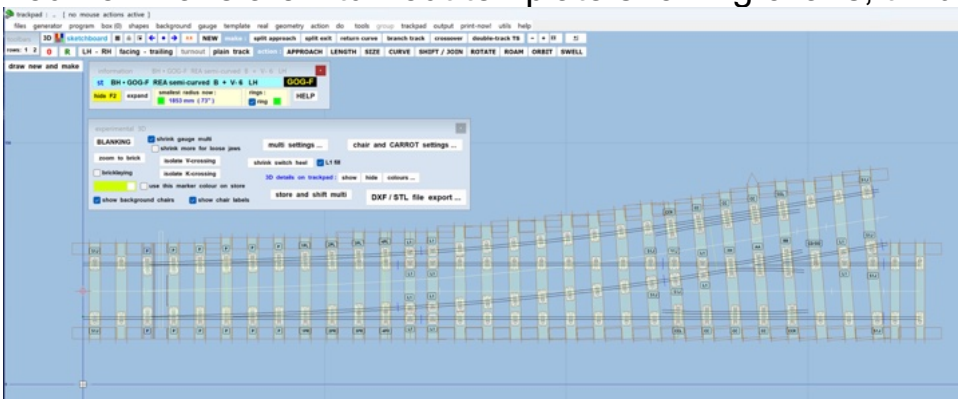


Select the "New" button located at the top of the screen to open the dialogue box for creating a new control template.



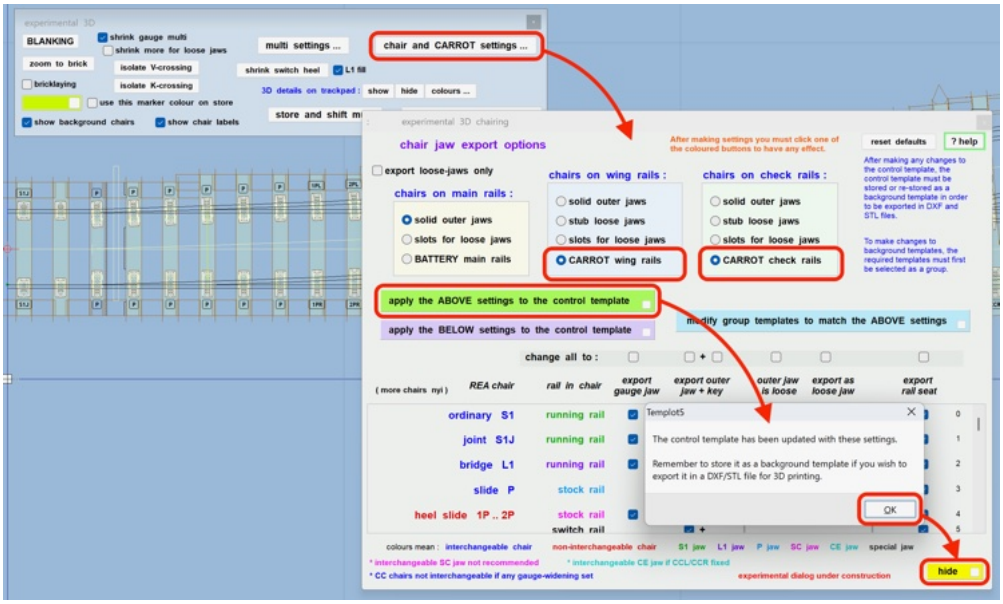
Choose 'include experimental 3D chairing', pick left or right hand, straight or curved, then click OK.

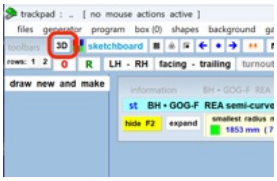
You now have a 3D turnout template showing chairs, timbers, rails and webs.



Click the chair and CARROT settings button in the experimental 3D dialog box. If you don't see this box, click the 3D button at the top left to bring it back.

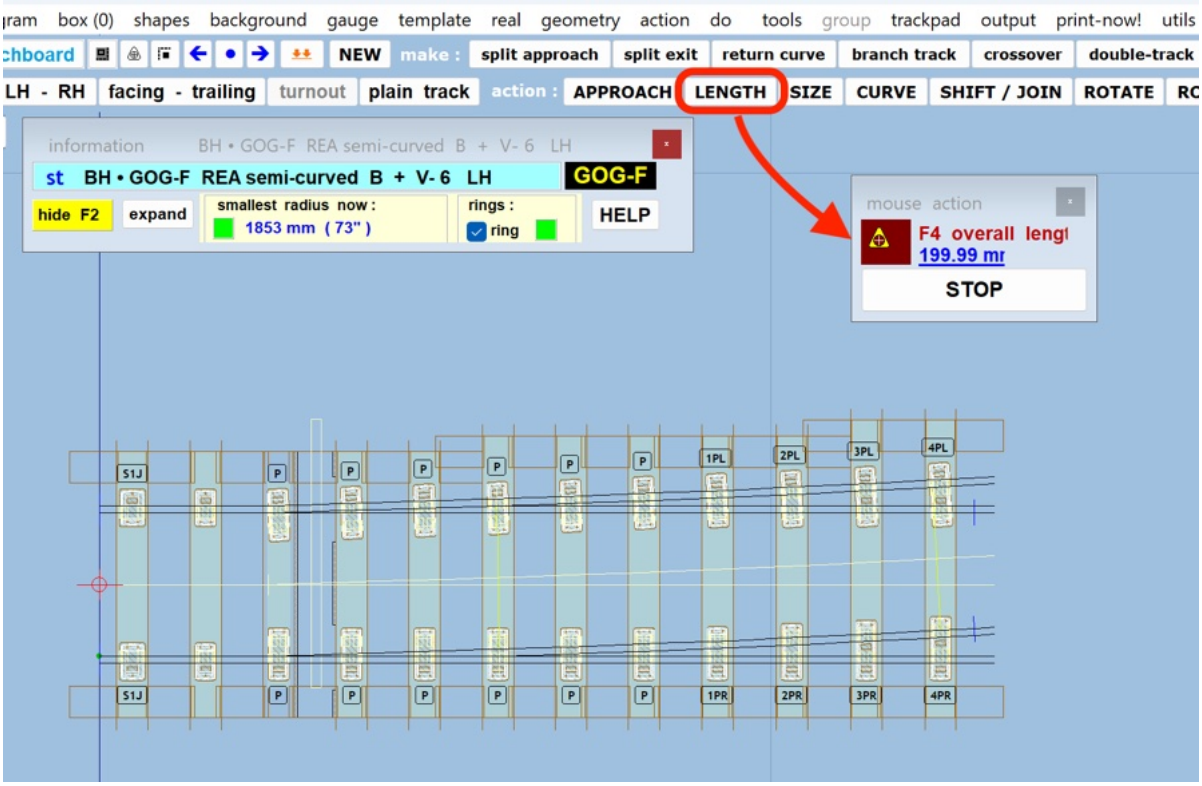
In the experimental 3D chairing dialogue window, select CARROT wing rails and CARROT check rails, then proceed by clicking "Apply the above settings to update the control template". A dialogue box will appear; select "OK" to confirm your choices. To conclude, click "Hide" to close the experimental 3D chairing dialogue box.



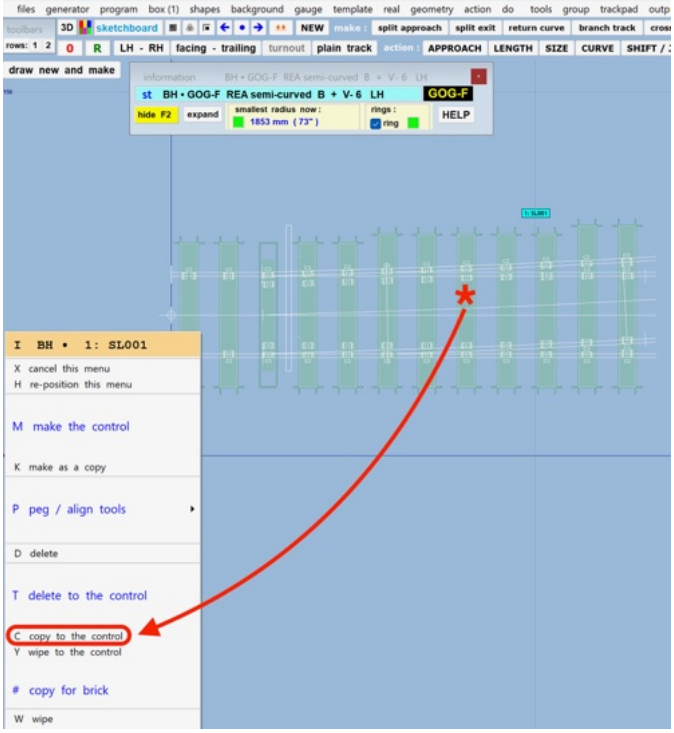


The next step is to break the template into smaller sections that your 3D printer can handle and print individually.

Select the length button located on the top toolbar. A dialog box will appear displaying the turnout length in millimeters. Adjust the length within the control template as needed; for example, set it to 200mm if required.



To create the other half, click the template to open the side menu, then select "C" or press "C" on your keyboard to copy.

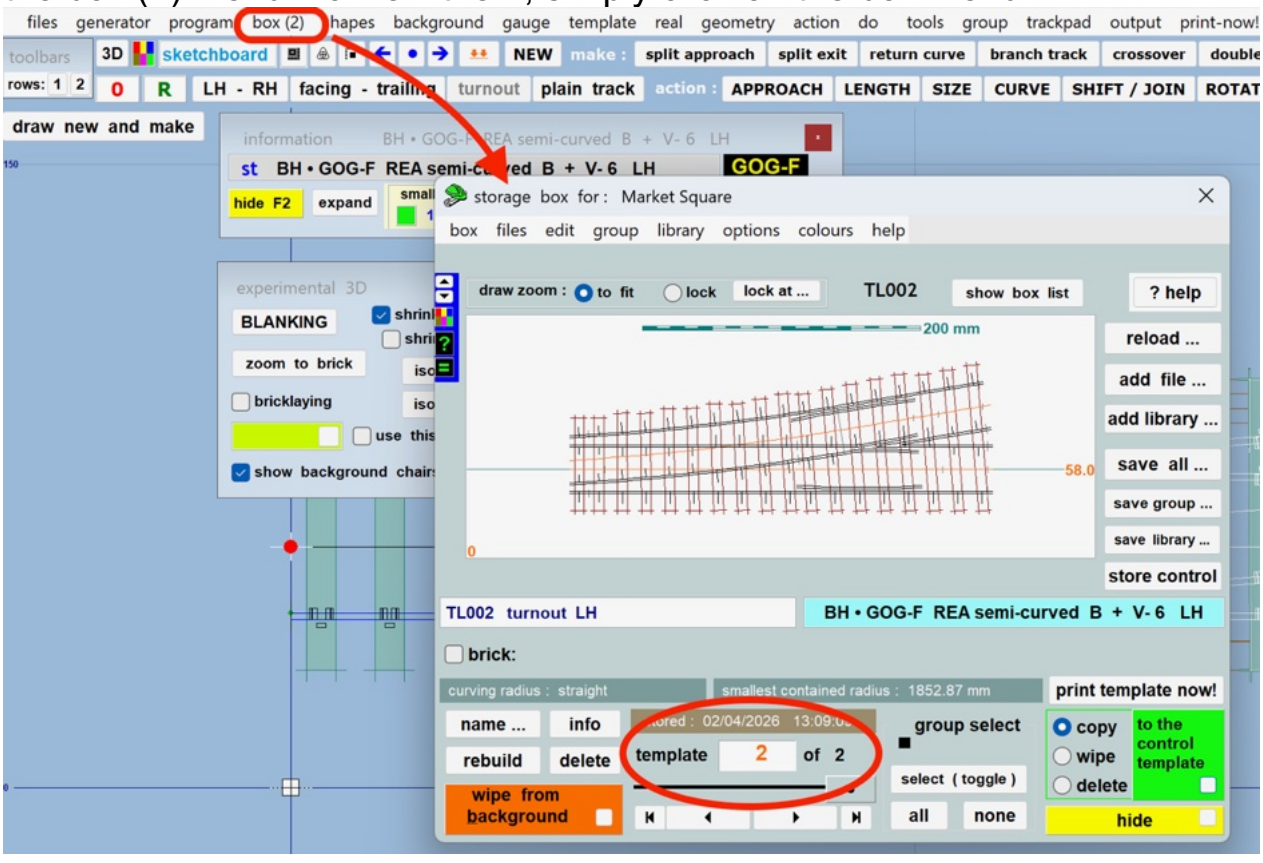


Please note that the new template is applied on top of the existing one. To adjust the length back to original length, use the LENGTH button as previously instructed. To reduce the approach length, launch the experimental 3D dialogue by clicking the 3D

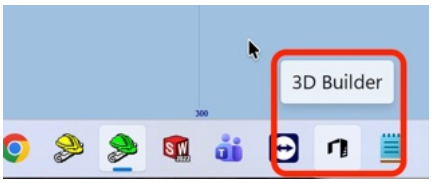
button. Afterward, select the BLANKING button and modify the initial length of the template to correspond with the underlying template and click STOP.

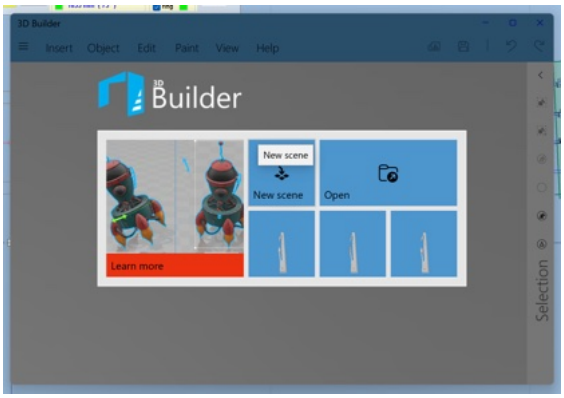
To save the new template in the storage box (where saved templates are listed), click the orange button with double down arrows. Then click continue.

There are now two templates stored in your box, as indicated by the number beside the box (?) menu. To view them, simply click on the box menu.



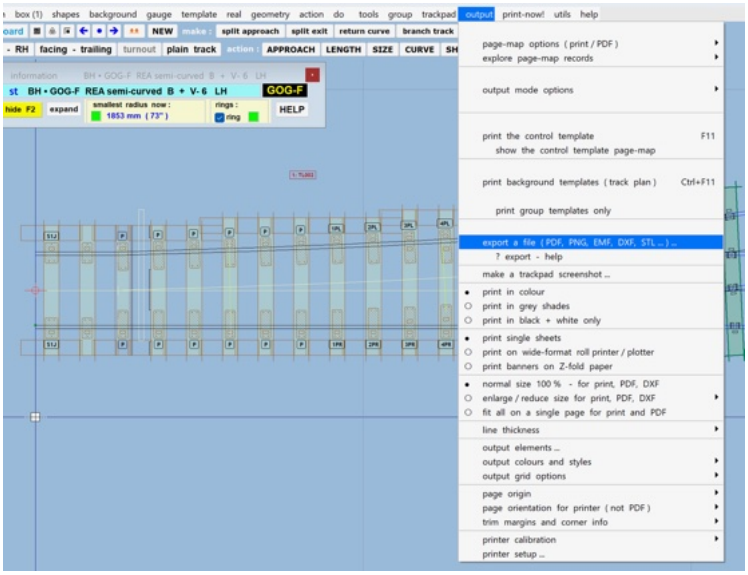
While 3D .stl files are generated by Templot5, it is necessary to process them using 3D Builder or other compatible slicers or online repair tools to ensure their integrity. Therefore, it is recommended to launch 3D Builder, create a New Scene, and minimise the application to the task bar for future use.

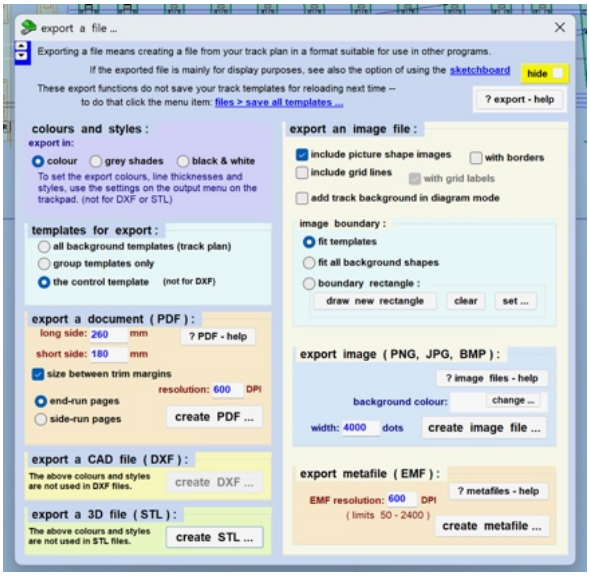




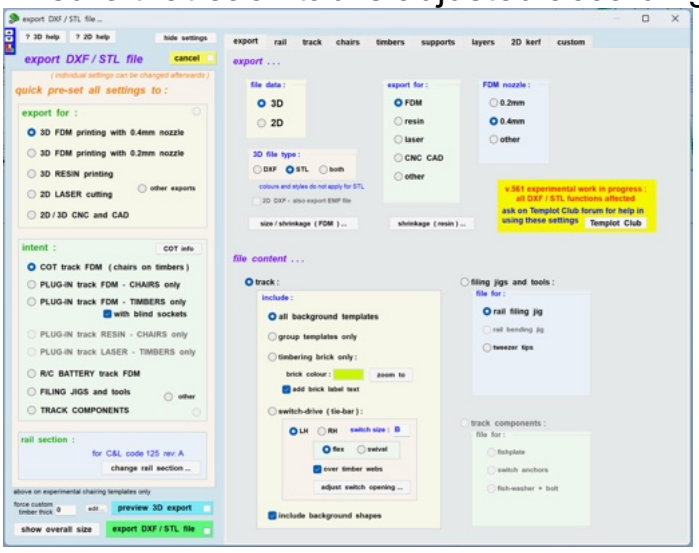
To start, we'll create the 3D .stl file for the left hand/approach template. Select the template, then either press T or use ‘T delete to the control’ from the left menu. Once chosen, the template becomes the control template, which will appear highlighted in bold brown.

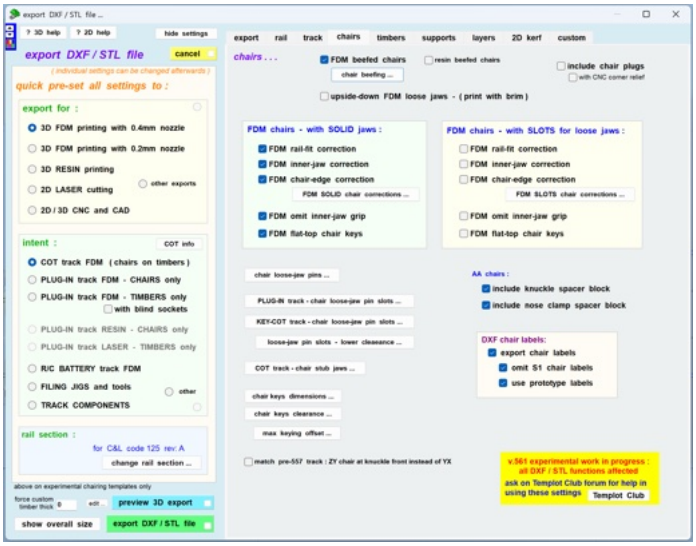
Select the output menu and choose the option to export a file. This action will open the "Export File" dialogue box. Confirm that all settings match those indicated below, then click the "Create STL" button at the bottom of the window.

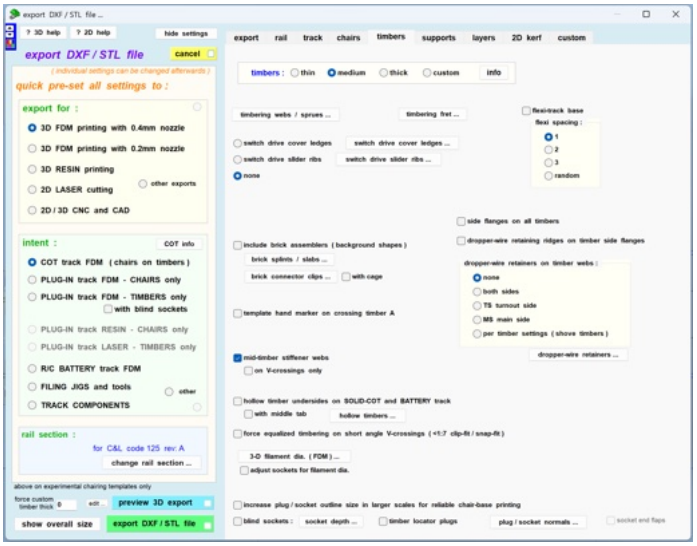




The export DXF / STL file… dialogue box appears.
Utilise a 0.4mm nozzle for FDM printing to produce a 7mm FDM CARROT Turnout.
Ensure that each tab is adjusted according to the specified settings below.

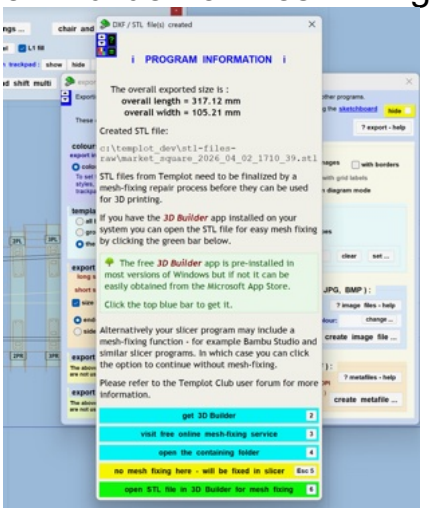


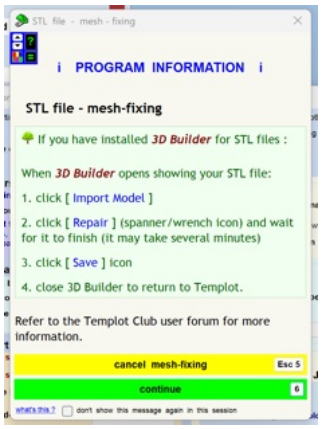




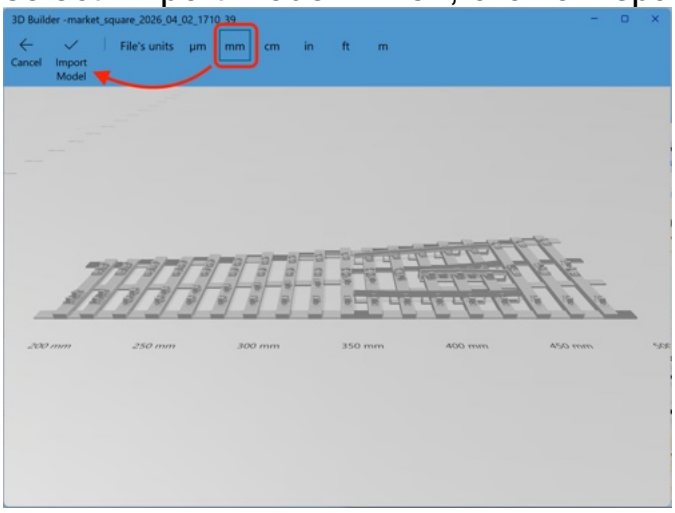
Once you've checked everything, click the green ‘export DXF/STL file’ button, then confirm the filename and location by clicking Save.

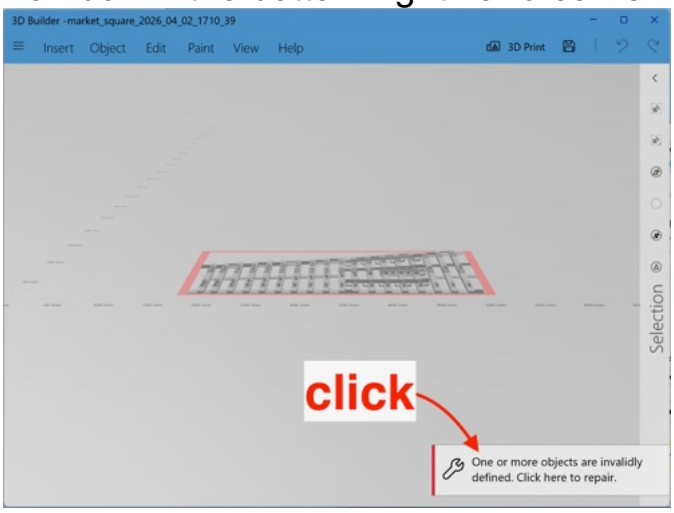
When the PROGRAM INFORMATION box opens, select the green ‘open STL file in 3D Builder for mesh fixing’ button, then click continue when the next box appears.



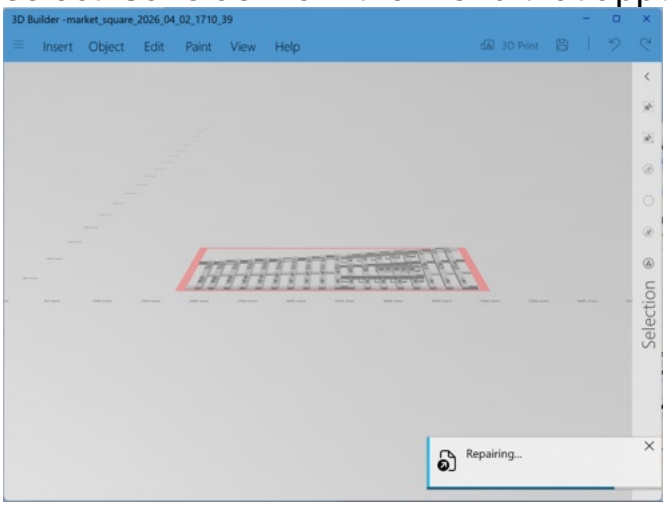


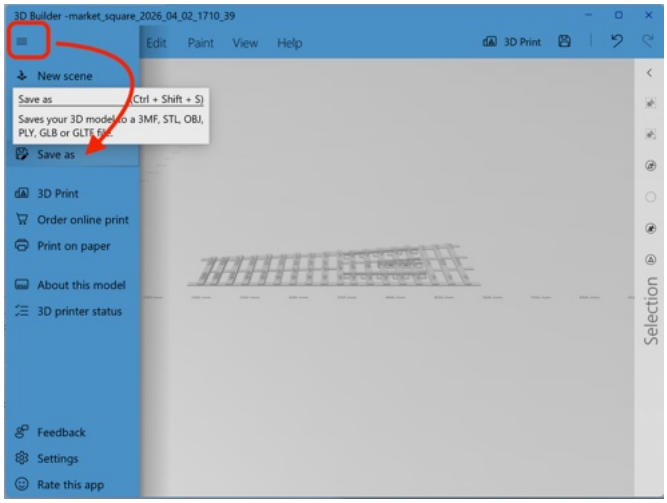
Once the 3D Builder window displays your .stl file, make sure 'mm' is chosen, then select 'Import Model'. Then, click on ‘spanner’ box in the bottom right hand corner.



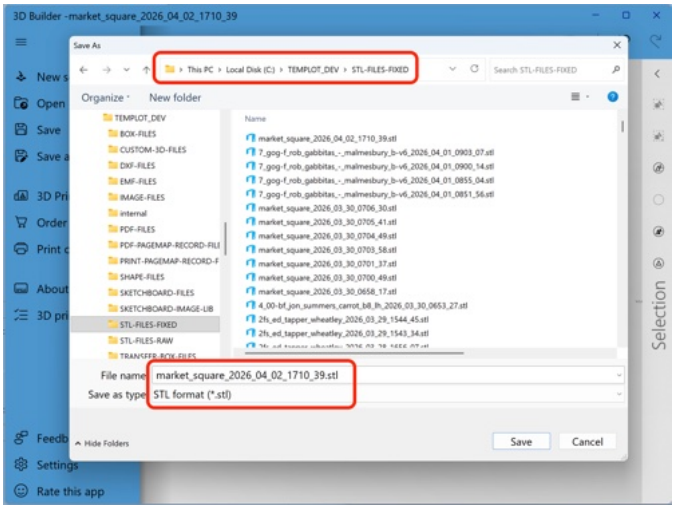


3D Builder will initiate the repair process for your .stl file. The duration of this procedure may vary based on your computer's specifications and the file size. Once the repair is complete, click the three horizontal lines in the upper left corner, then select 'Save as' from the menu that appears.





Once the save as dialog pops up, select STL format (*.stl) under ‘Save as type,’ then choose the destination folder and file name before hitting save.



Follow the same steps to generate the .stl file for the other half of the turnout.