BFB Axon software manual

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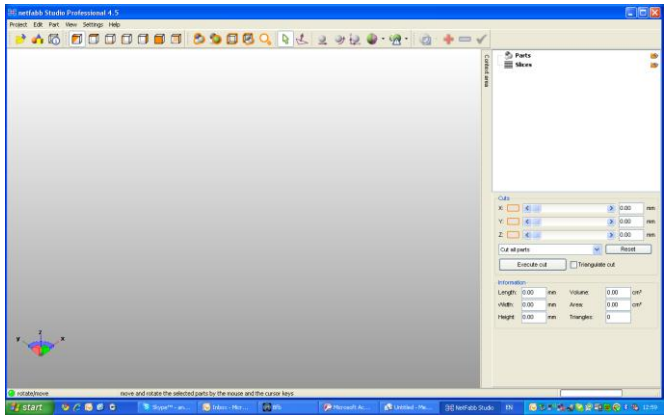

Install BFB Axon on your computer from the website for the latest version: www.bitsfrombytes.com > Downloads> Software. (Or from the SD card if supplied).

- If you are using Vista or windows 7, you must install the program under "run as administrator".
- If you are upgrading from a previous version, please uninstall the previous program through add/remove programs in the control panel.

Download Netfabb studio from http://www.netfabb.com/download.php

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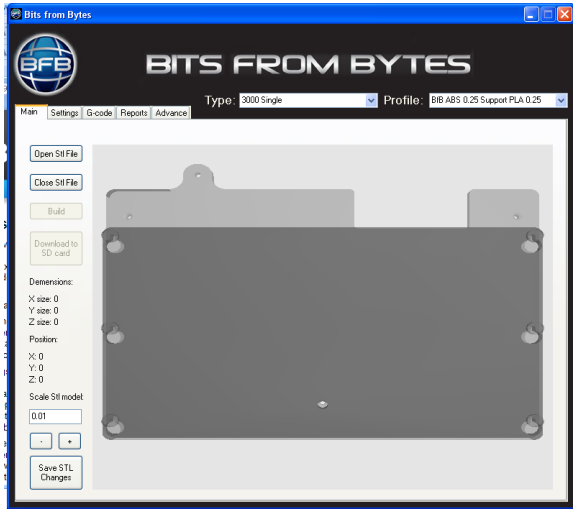

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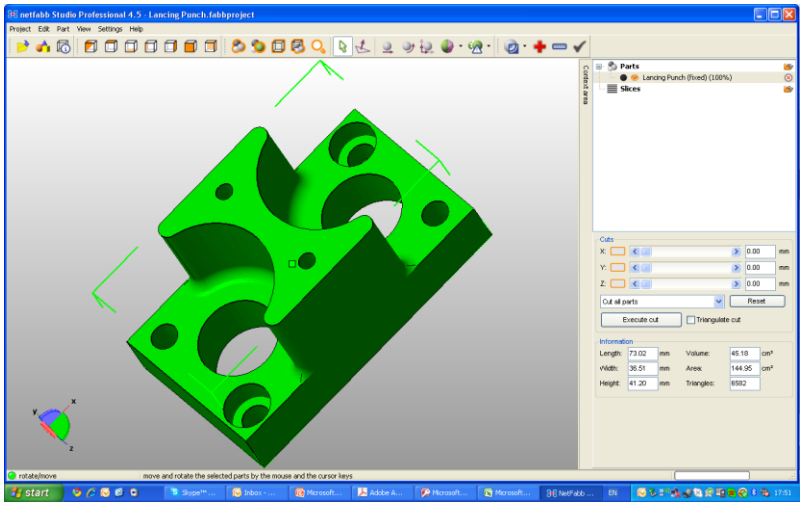
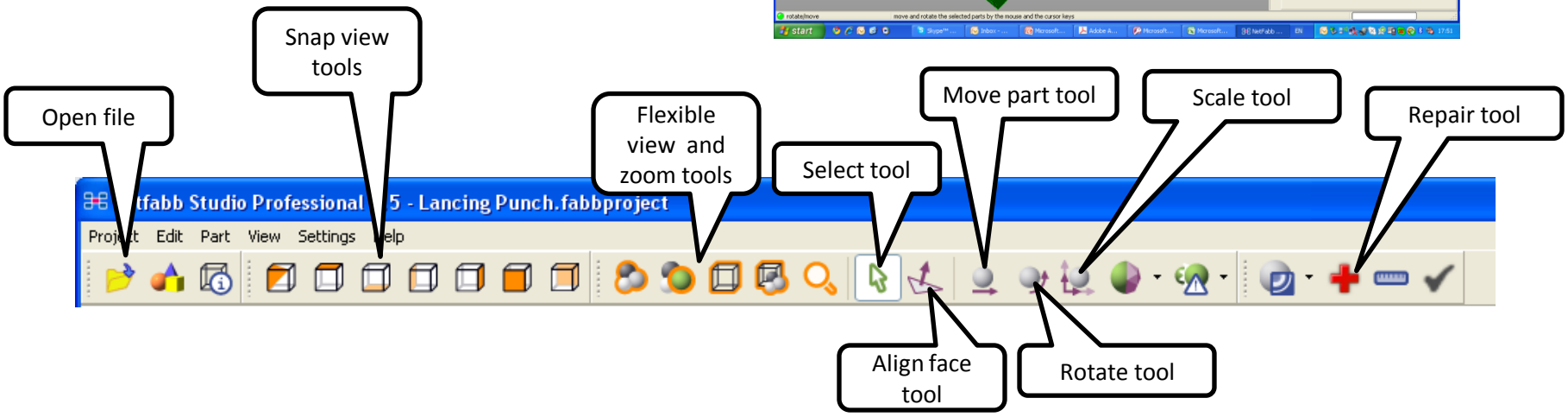
Preparing STL files for processing

Basic settings and operation

- Open your file using the **open file** icon, choosing your file from the dialog box and clicking OK
- To rotate the object click and hold the right mouse button and rotate the part.





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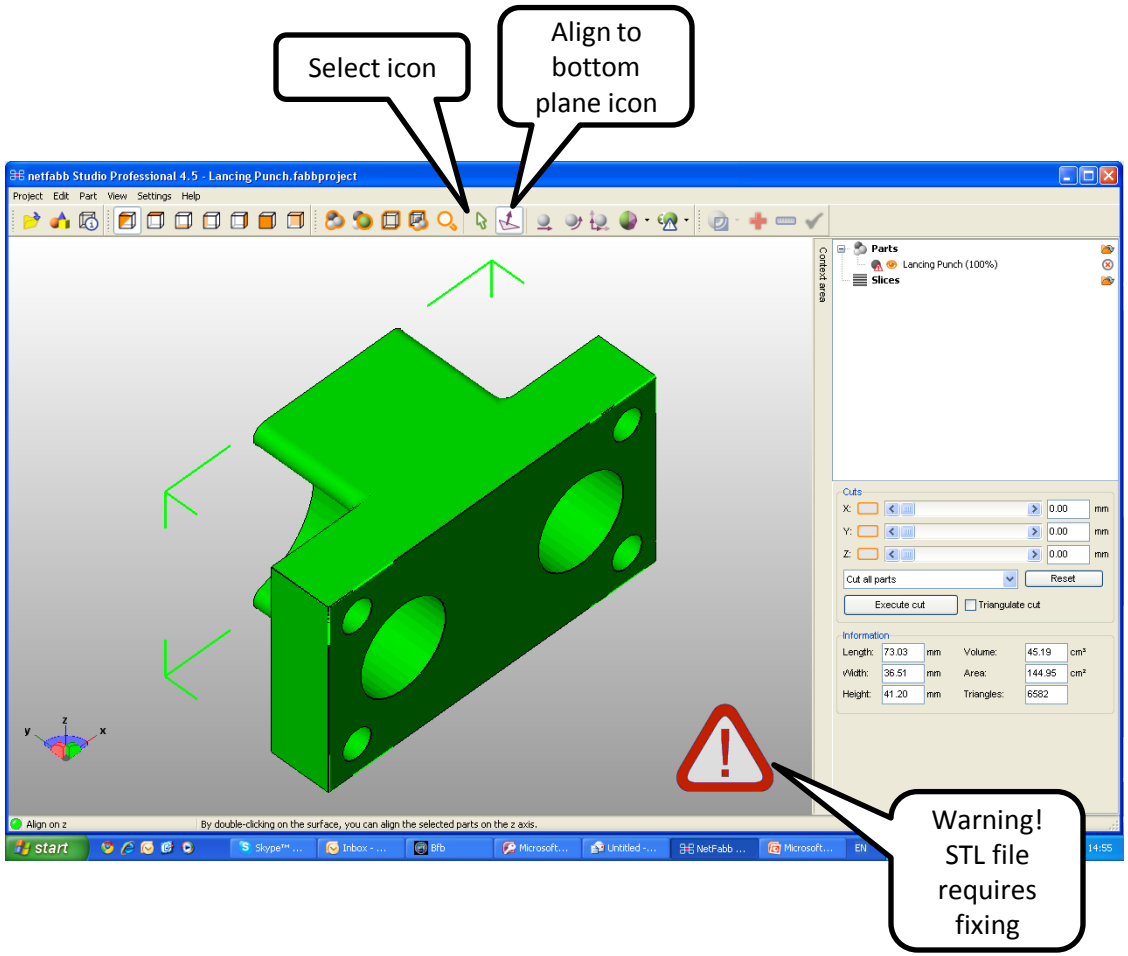
Preparing STL files for processing – Aligning a face to the print bed

Aligning a face to the print bed

- Open your file using the **open file** icon, choosing your file from the dialog box and clicking OK
- To scale the file it must be selected, this is shown when the image turns green
- If it is not selected or green, click the **select** icon on the top of the tool bar and then click the file
- With the file selected, click the **align to bottom plane** icon on the tool bar at the top of the page
- Simply double click the face you wish to place on the print bed and the model will automatically re-orintate itself
- Make sure you re select the select icon on the top tool bar to carry on with other functions



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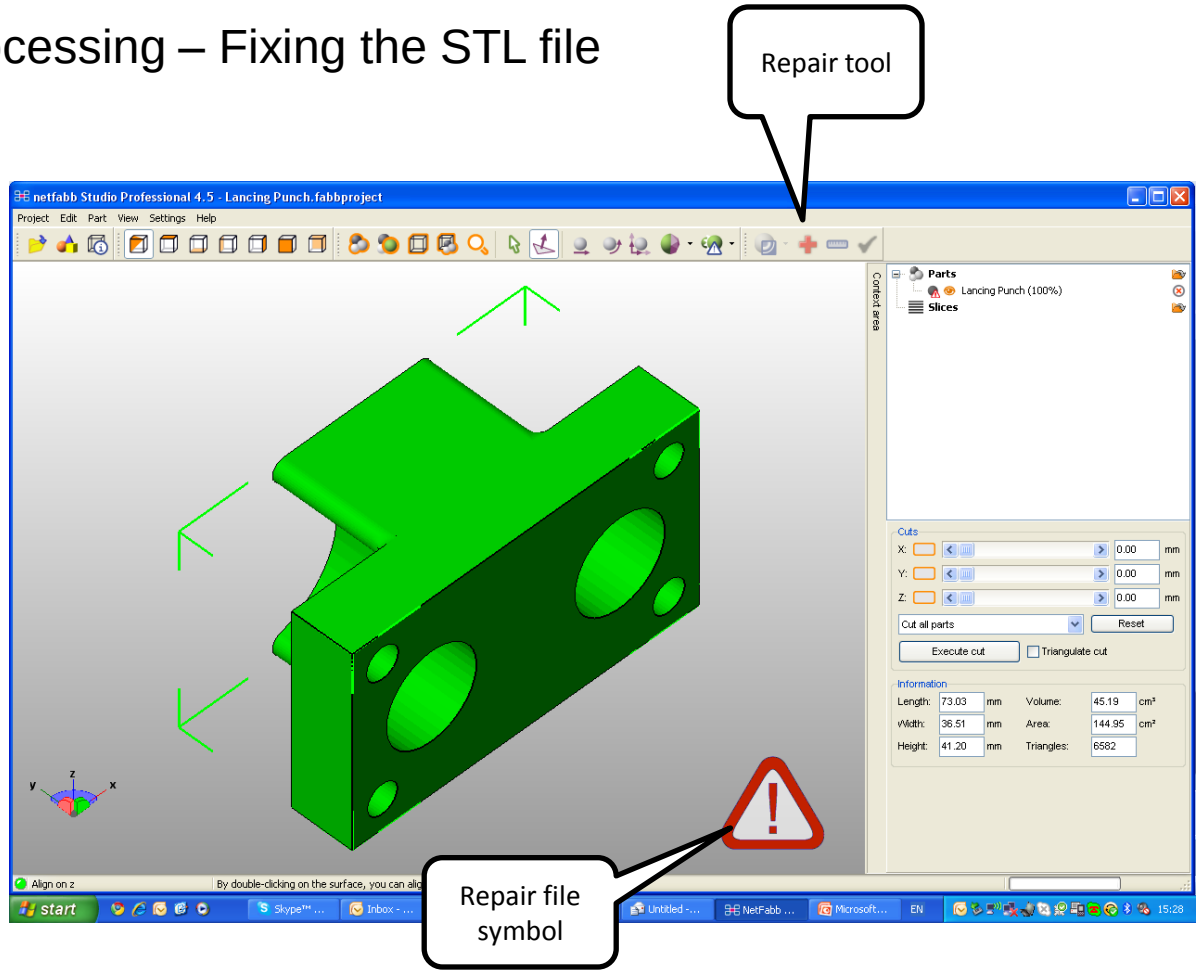
Preparing STL files for processing – Fixing the STL file

Fixing your STL file

- Once you have carried out all the preparation of your STL file and if there is a red warning flag in the bottom right corner, you will need to fix your STL file.
- If you don't have a file already open, Open your file using the **open file** icon, choosing your file from the dialog box and clicking OK
- If the file requires fixing click the repair button in the top tool bar



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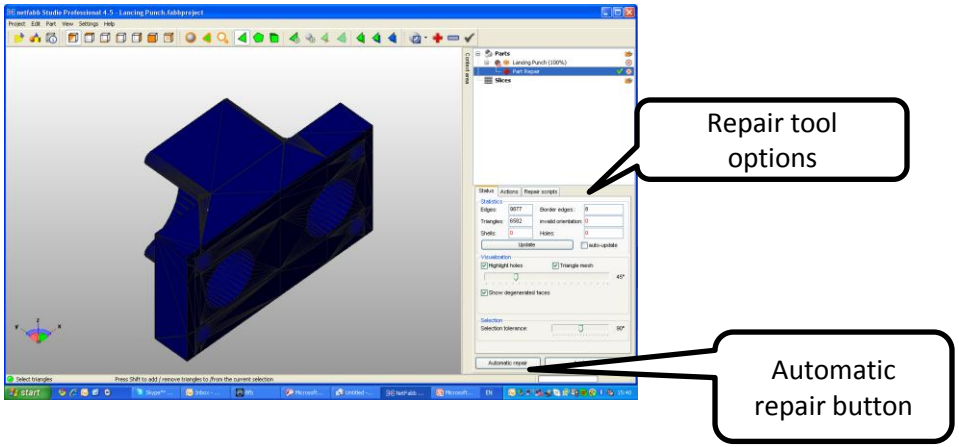
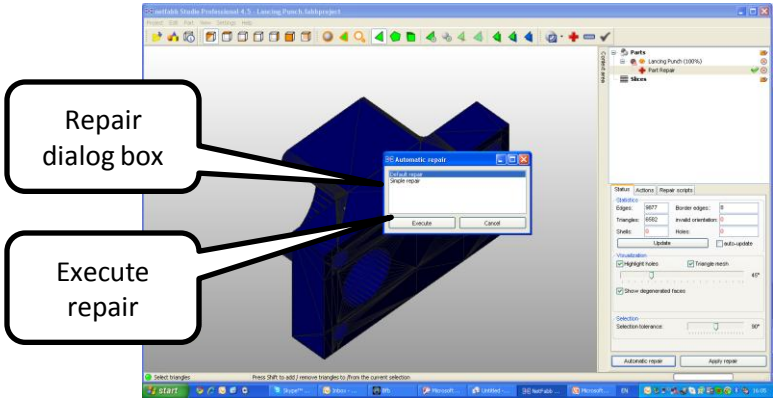
Preparing STL files for processing – Fixing the STL file

Fixing your STL file

- The file will turn blue and the righthand side of the screen will change to file fixing mode
- You have the ability to perform a manual repair or an automatic repair. We suggest you just perform the automatic repair.
- Click the automatic repair button.
  The repair dialog box will apear.
  Select the repair you wish to carry out
  Click the execute button





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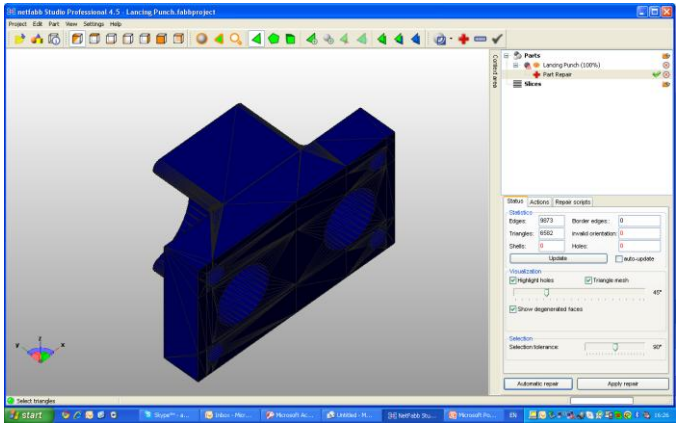
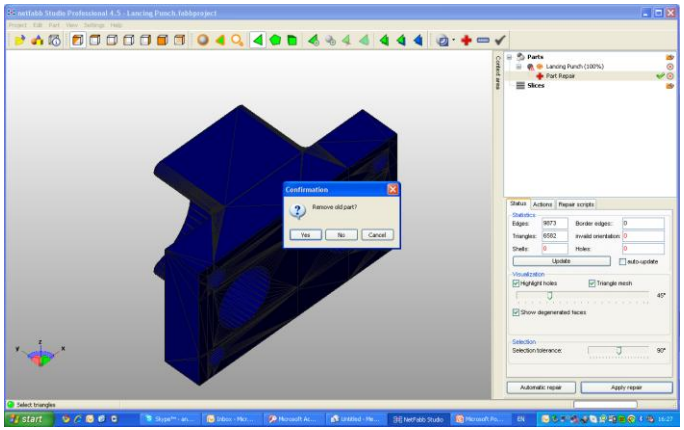
Preparing STL files for processing – Fixing the STL file

Fixing your STL file

- To finish the fix process click the apply repair
- Choose yes to remove old part
- Your file will return to its green colour





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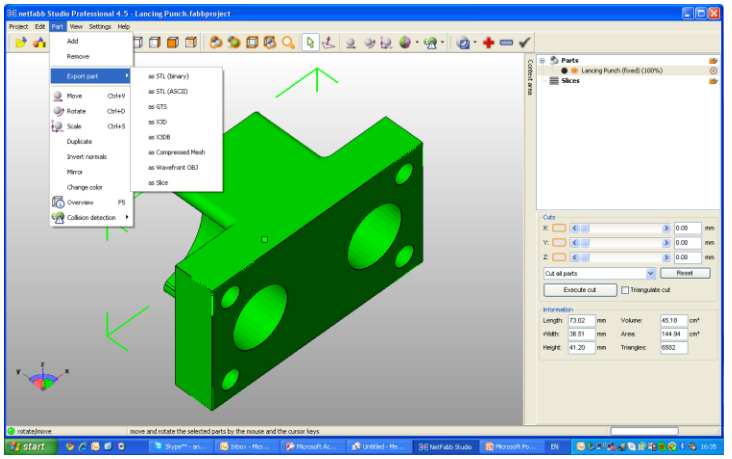
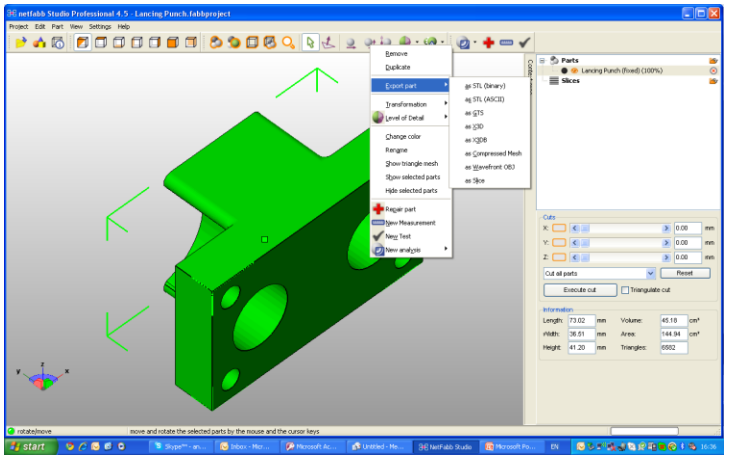
Preparing STL files for processing – Exporting the prepared STL file

Exporting your STL file

- To export your prepared file you can either right click the selected part or choose export part from the part menu.
- Choose STL Binary in the file option list.
- For the BFB software the best STL format to export out to is Binary
- Save your prepared file in the directory of your choice.
- You are now ready to bring the prepared STL file into the BFB conversion software





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BFB Axon software manual

Processing STL files

BFB Axon overview

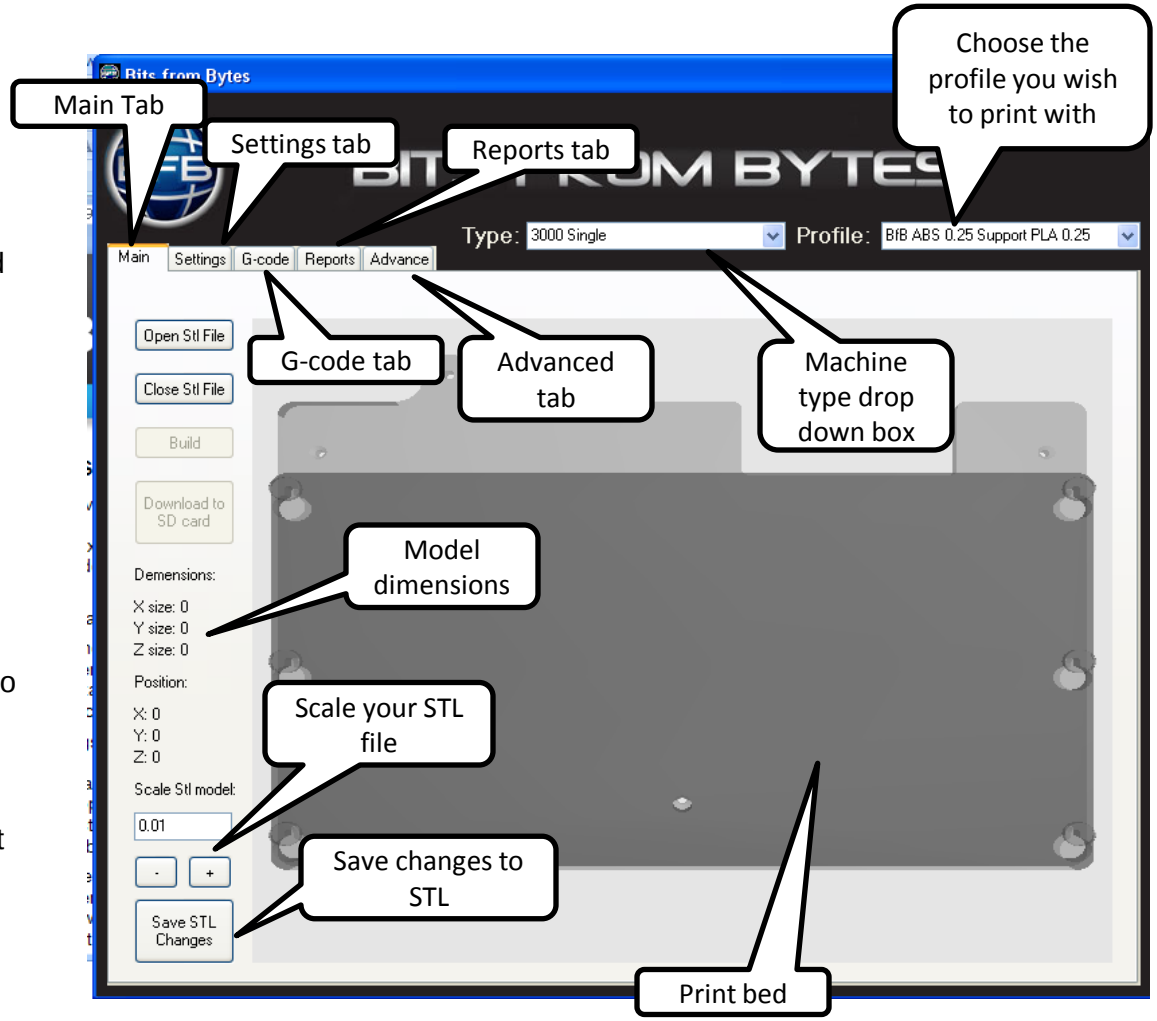
Main tab allows you to:
- Open and close STL files
- Rotate your STL file in the 3d viewer
- Reposition your STL file on the print bed
- Scale your STL file
- Process the build of your STL file

Settings tab allows you to:
- Set extruder temperatures and fans
- Fill and object settings
- Support settings
- Cost settings
- Calibration settings

G-code tab allows you to:
- Open and close G-code files
- View your G-code layer by layer and also rotate in 3d

Reports tab allows you to:
- View the progress of your build
- See the approximate build time and cost

Advanced tab
- Go to advanced profile settings
- Program information



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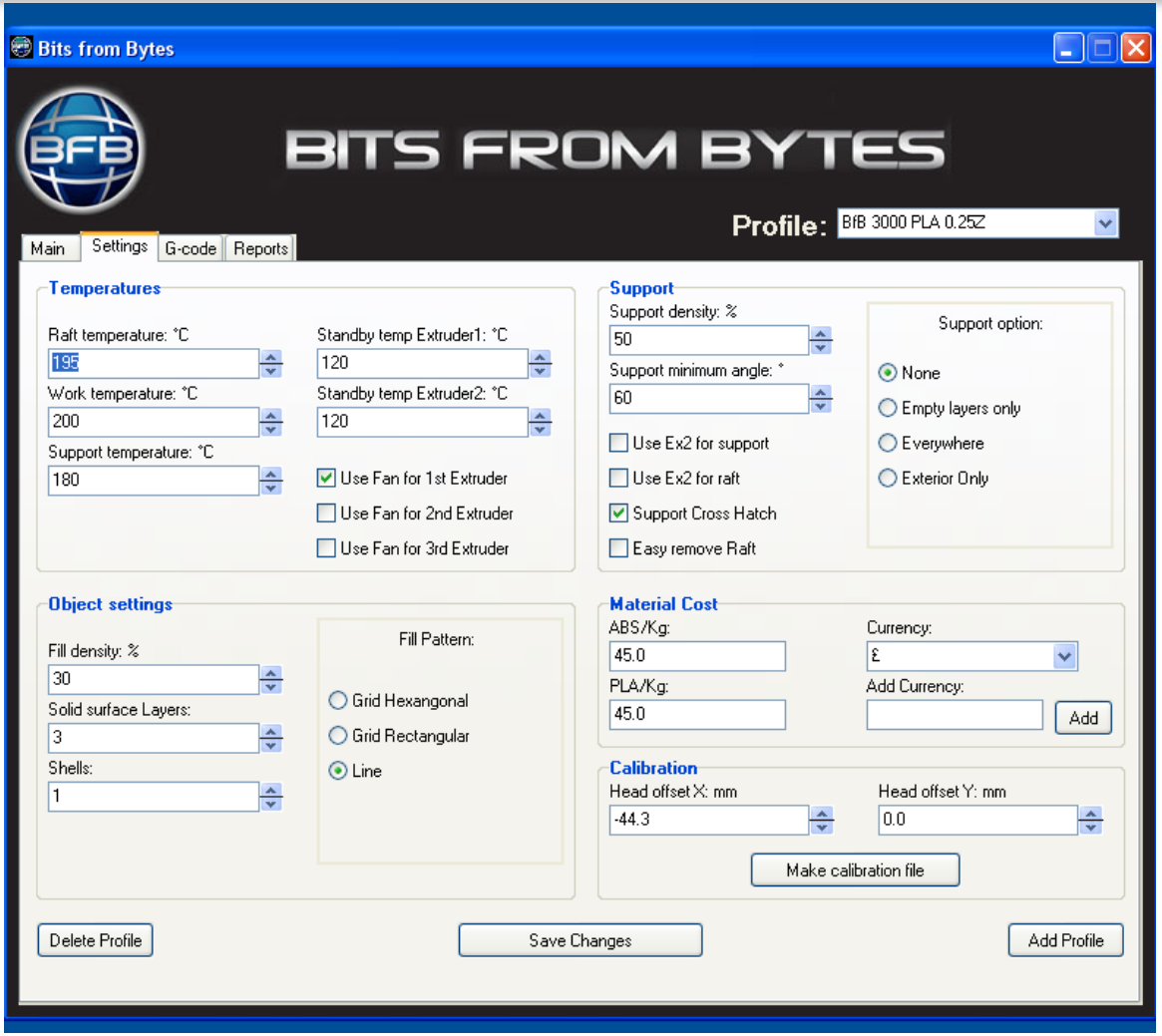
Processing STL files

Settings

Temperature settings

- Raft – Sets the print temperature of the raft
- Work – sets the print temperature of the main model material
- Support – sets the print temperature of the support material.
- Standby temperatures – the temperature the extruders are held at when not printing, if you hold them too high you may risk ouse of material from the extruder head
- Use fans – turns the fans on and off and is used for certain materials that need cooling quickly to improve the quality of the print.



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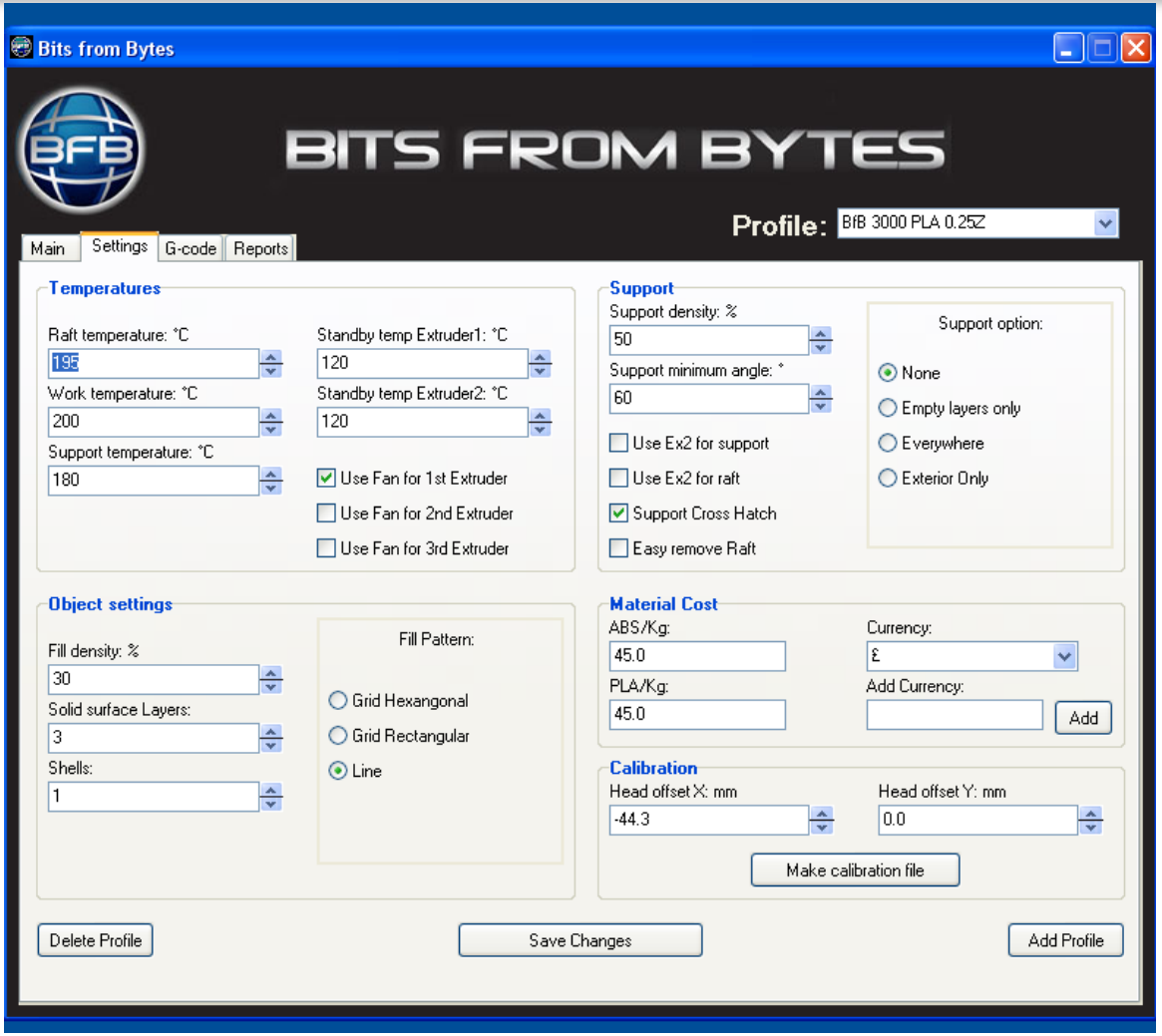
Processing STL files

Settings

Object settings

- Fill density – Sets the density of the fill within the model. The less the fill the shorter the print time, the more the fill the longer the print time.
- Solid surface layers – number of solid layers on surfaces
- Extra Shells – number of surfaces
- Fill Pattern – hexangonal grid pattern will give Rectangular grid will give Line fill will speed up the print.



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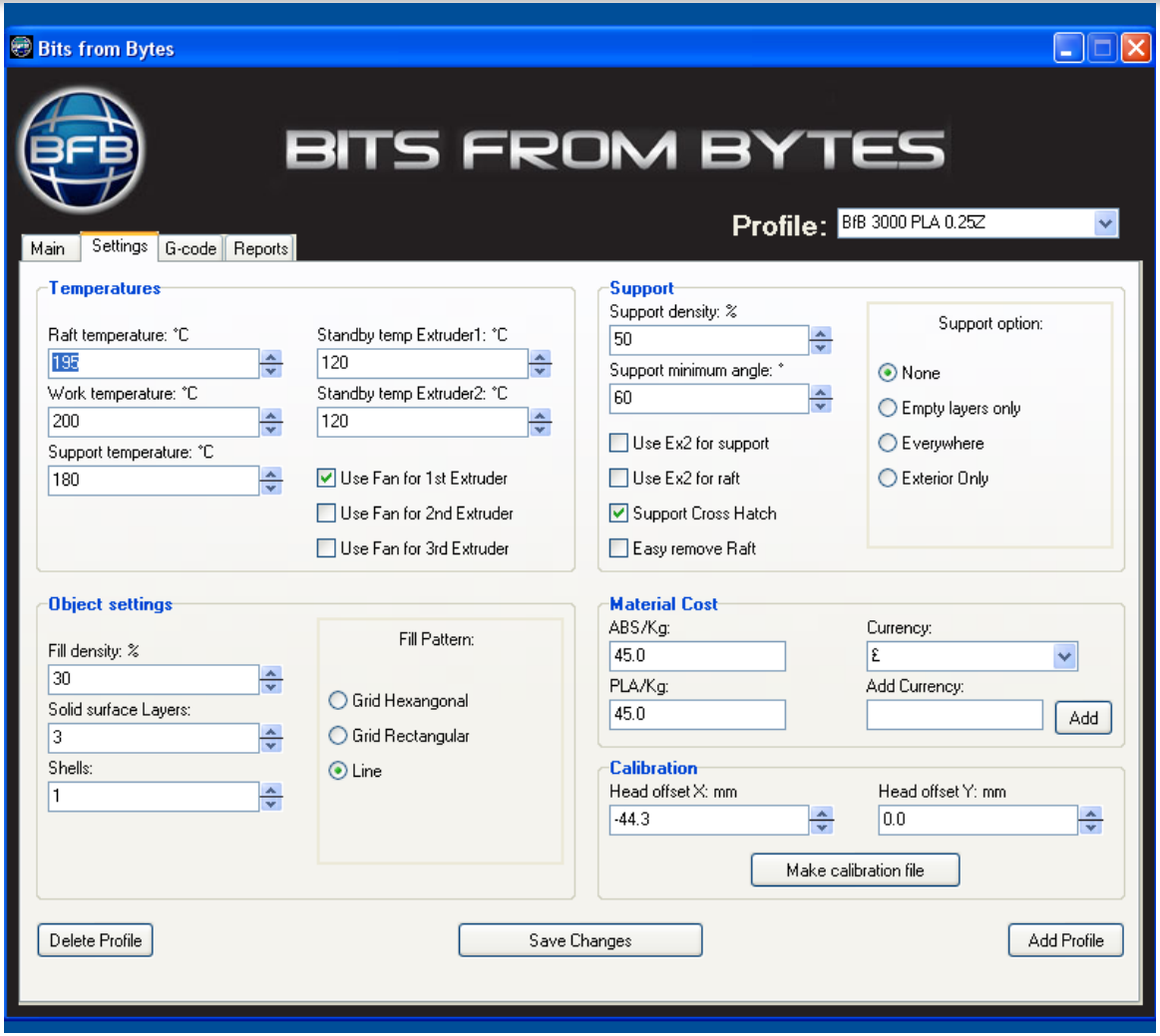
Processing STL files

Settings

Support settings

- Support density – set the density of the support you are printing
- Support minimum angle– the angle of the model geometry off vertical that the software will make support.
- Support options –
- Extruder 2 for support – Use the 2nd extruder for support.
- Extruder 2 for raft – Use the 2nd extruder for the raft
- Support type – The type of support pattern
- Easy remove raft – A pillar raft for easier removal



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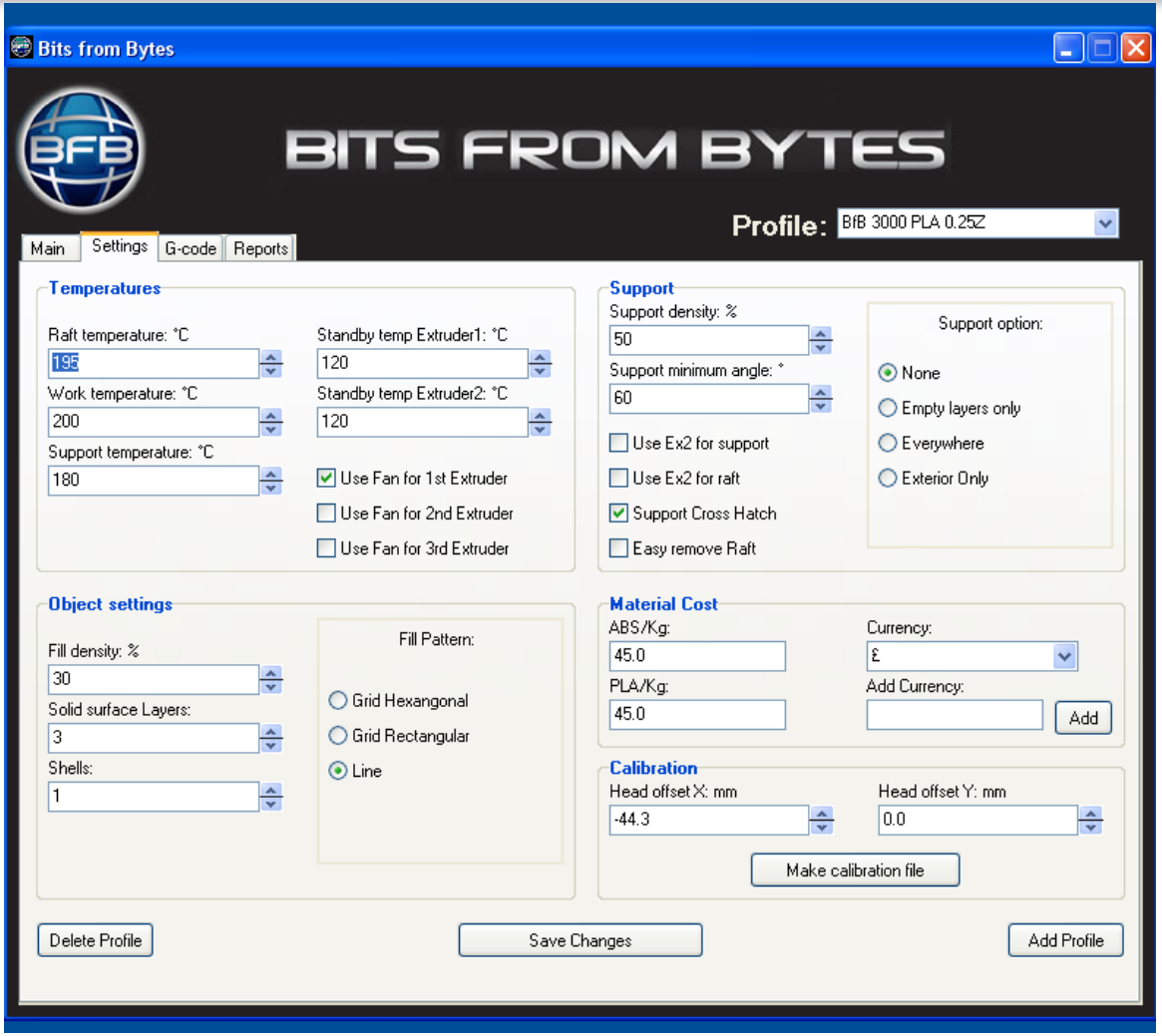
Processing STL files

Settings

Cost settings

- ABS/Kg – Input the cost of the ABS
- PLA/Kg – Input the cost of the PLA
- Currency – Allows you to reflect local currency's
- Add currency – Allows you to add local currency if your particular currency does not appear in the drop down list. To add a currency you have to click the add button.



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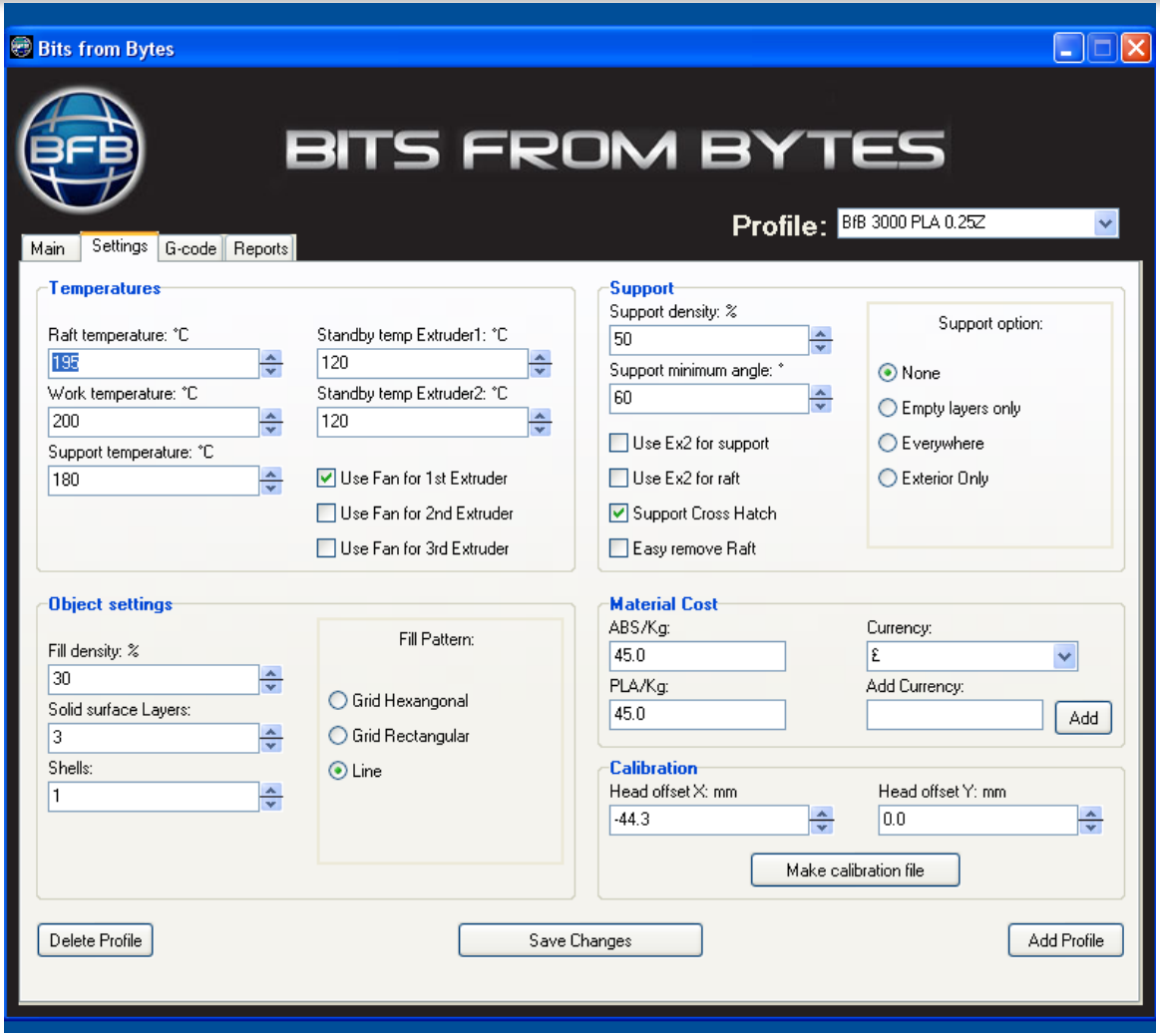
Processing STL files

Settings

Calibration settings

- Input x axis offset – Input your x axis off set here after you have printed and measured the calibration print. The standard drawn offset is set as the default value you will see.
- Input y axis offset – Input your y axis off set here after you have printed and measured the calibration print. The standard drawn offset is set as the default value you will see.
- Make calibration file – Click the button and choose the file you wish to print



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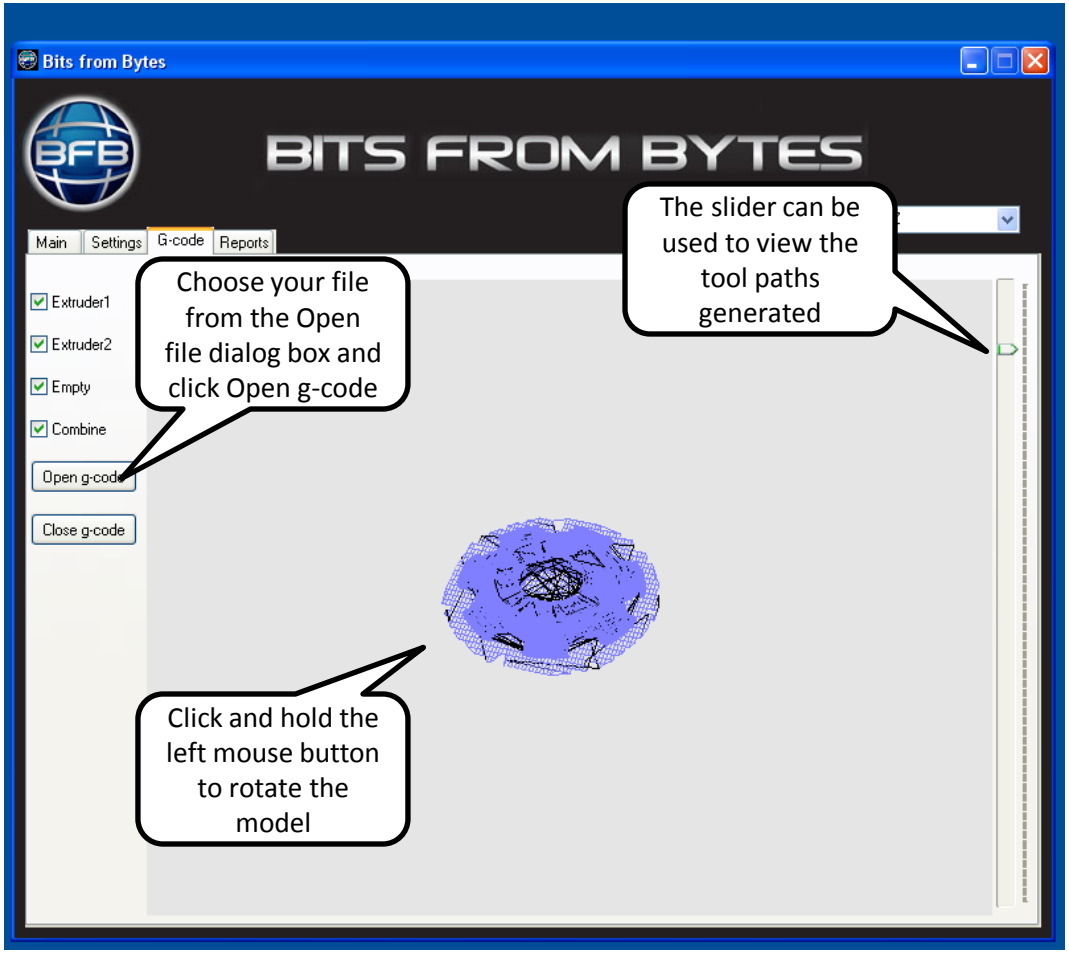
Processing STL files

G-code

The G-code screen allows viewing of the G-code you have just processed or any G-code files previously processed

Using the slider on the right hand side of the screen you are able scroll up and down the build, looking at the tool paths for each layer.

You are also able to rotate the object by clicking and holding the left mouse button, move the object around the screen by clicking and holding the right mouse button and zoom in and out on the object by rolling the mouse wheel.



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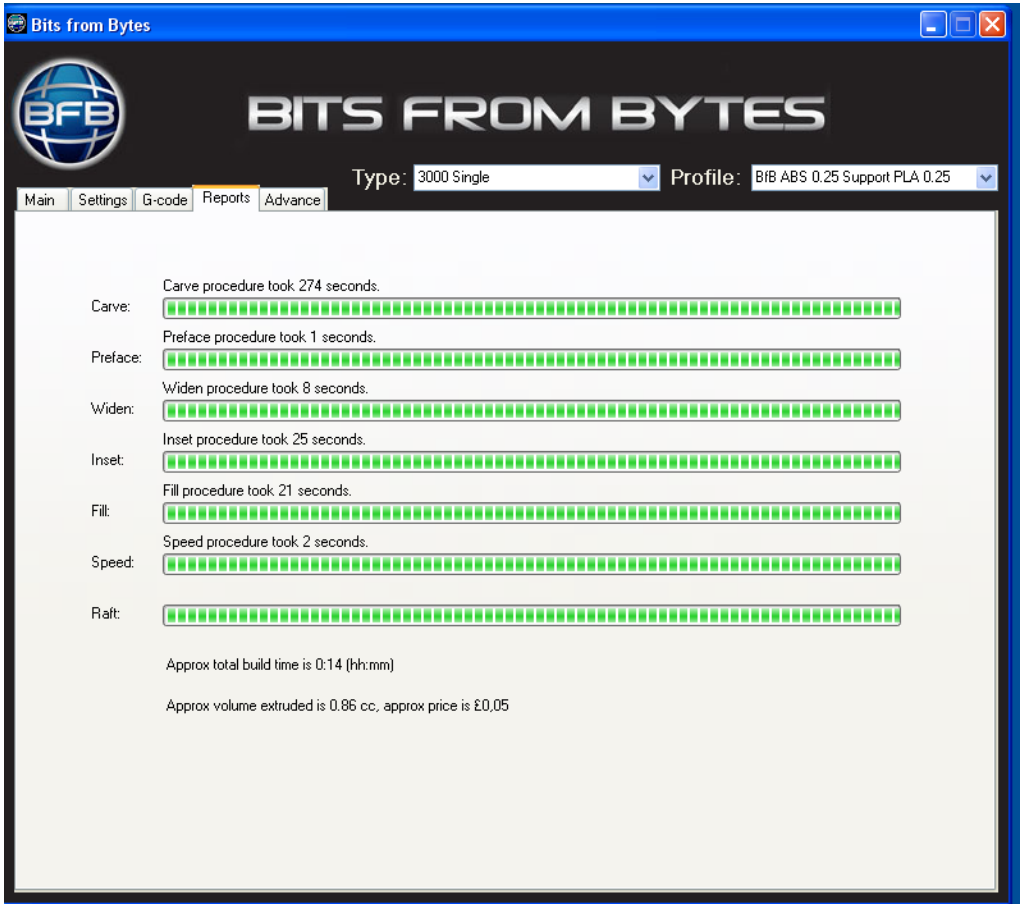
Processing STL files

Reports

The reports screen shows the progress of the build and also after the build has finished the approximate build time and cost.



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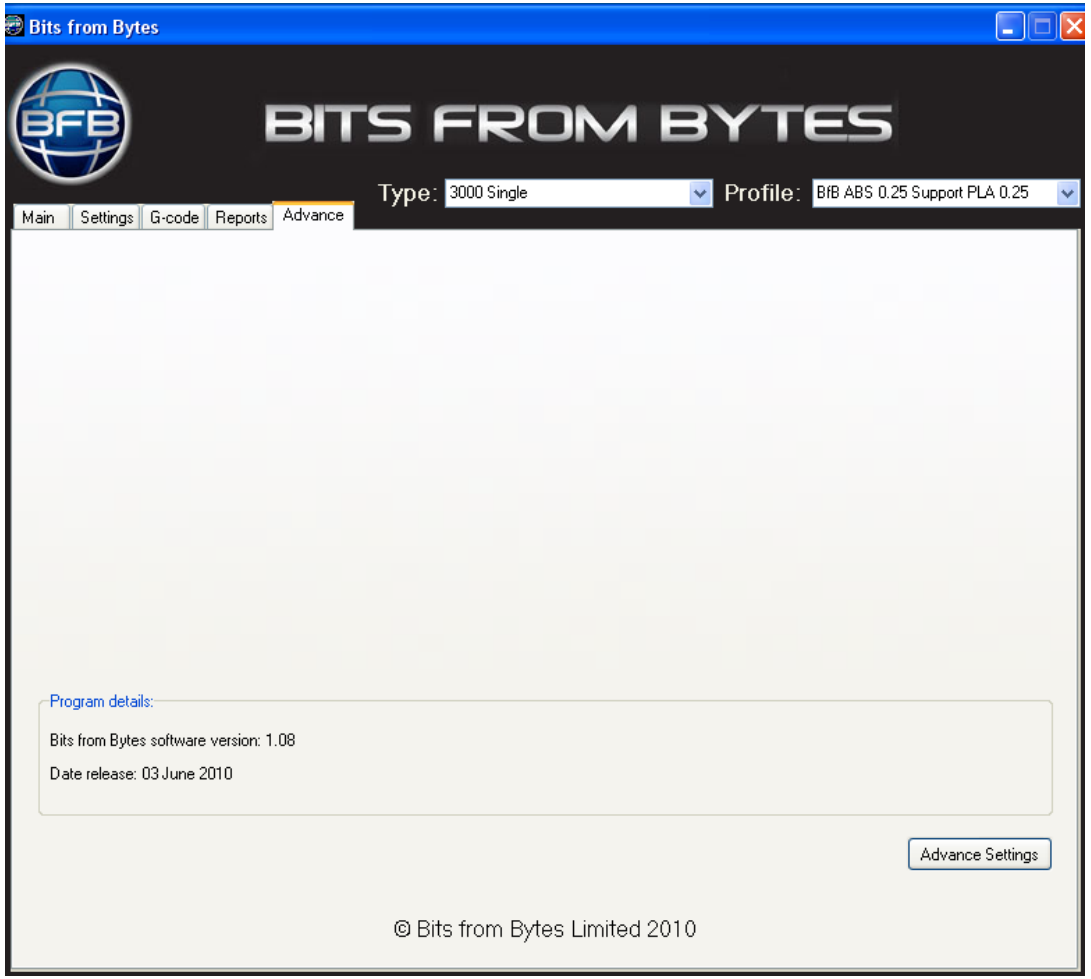
Processing STL files

Advanced

The Advanced screen gives the program information and allows access to the advanced profile settings through Skeinforge



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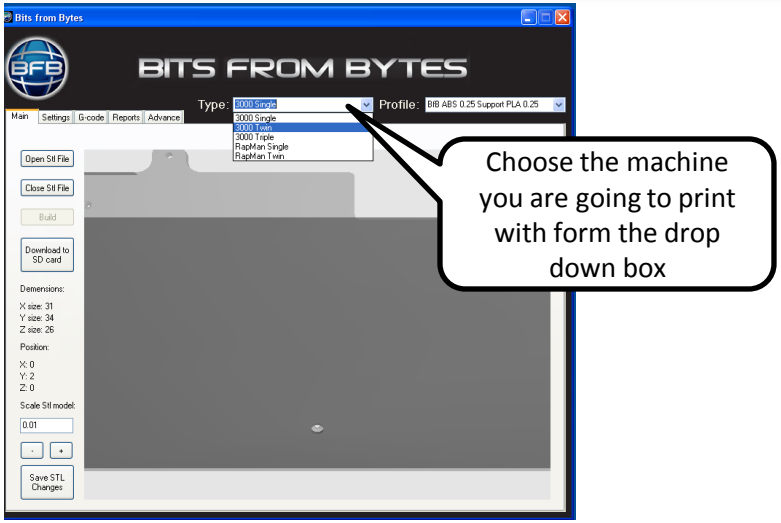
Processing STL files

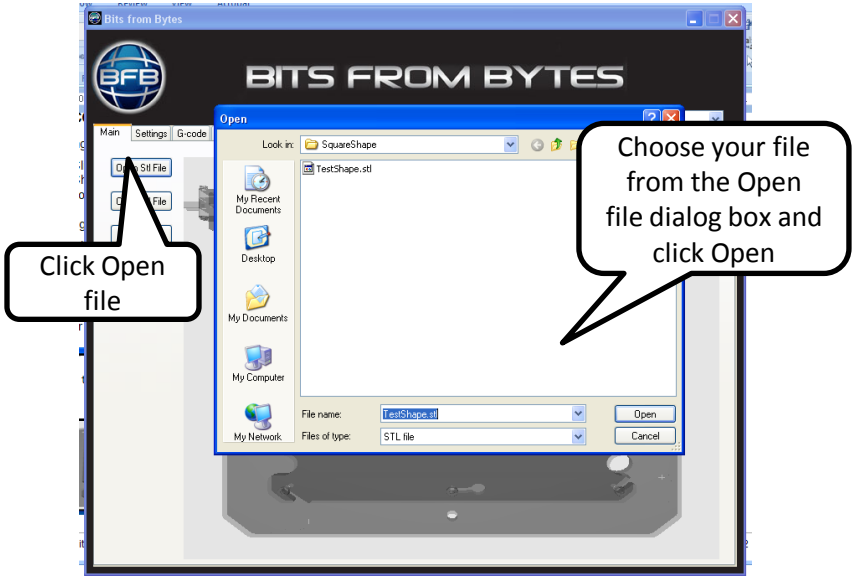
Opening an STL file

- Choose the machine you are printing on form the drop down box.
- Click on Open STL file
- Choose your file from the open file dialog box

Closing an STL file

- Click on Close STL file





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Processing STL files

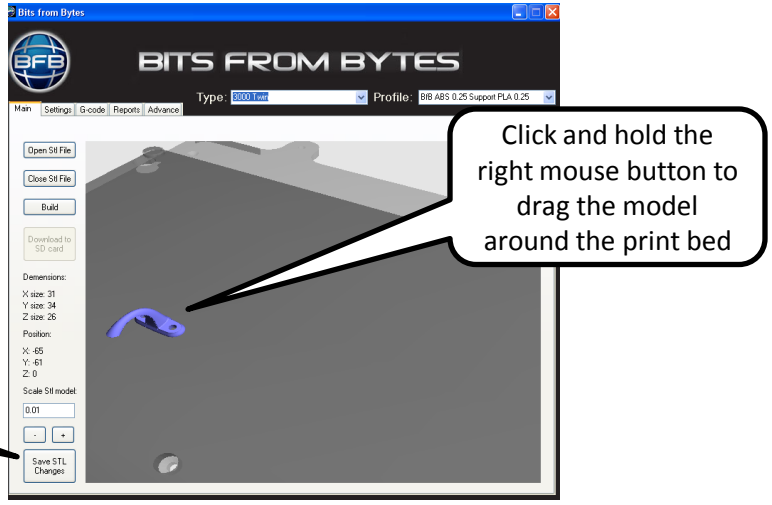
Rotate your STL file

Rotating the bed and your STL file

- Click and hold the left mouse button and rotate the model as required
- Be aware if you rotate the bed more than180 degrees the view will rotate in the opposite direction to the mouse.
- Zoom in and out using the wheel on your mouse

Moving your STL file on the print bed

- Click and hold the right mouse button and drag the model as required around the bed
- Once you have positioned the model where you want you must save the changes using the “Save STL” button



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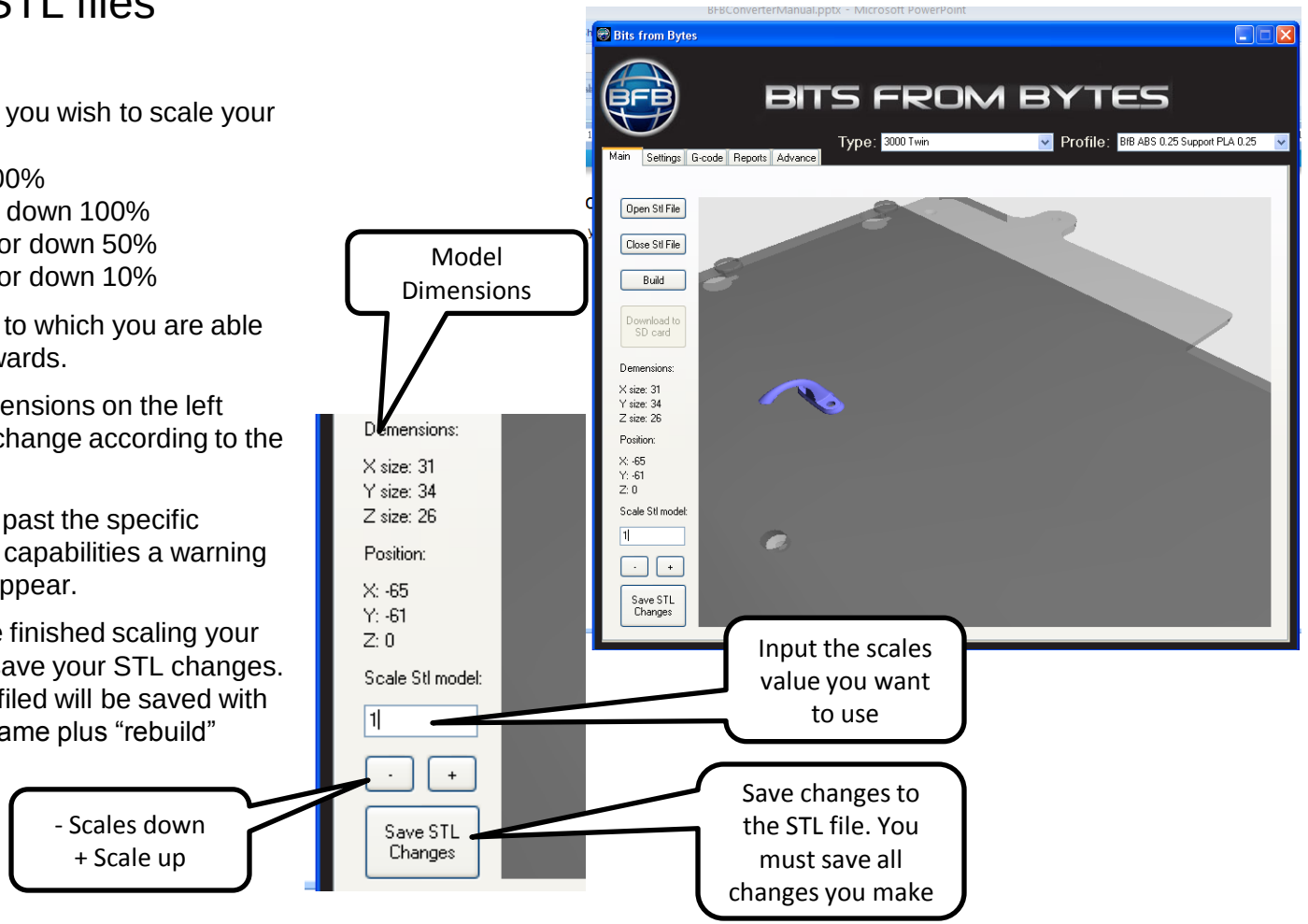
Processing STL files

Scale your STL

- Input the value you wish to scale your STL file –
  2 = scale up 200%
  1 = scale up or down 100%
  0.5 = scale up or down 50%
  0.1 = scale up or down 10%

  There is a limit to which you are able to scale downwards.
- The model dimensions on the left hand side will change according to the new size
- If you scale up past the specific machines print capabilities a warning message will appear.
- Once you have finished scaling your file, you must save your STL changes. Your changed filed will be saved with the same file name plus “rebuild”



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Processing STL files

Select a profile for printing

Once you have finished scaling and positioning your STL file, you know must choose the print profile you wish to use and make sure you have the correct machine type.

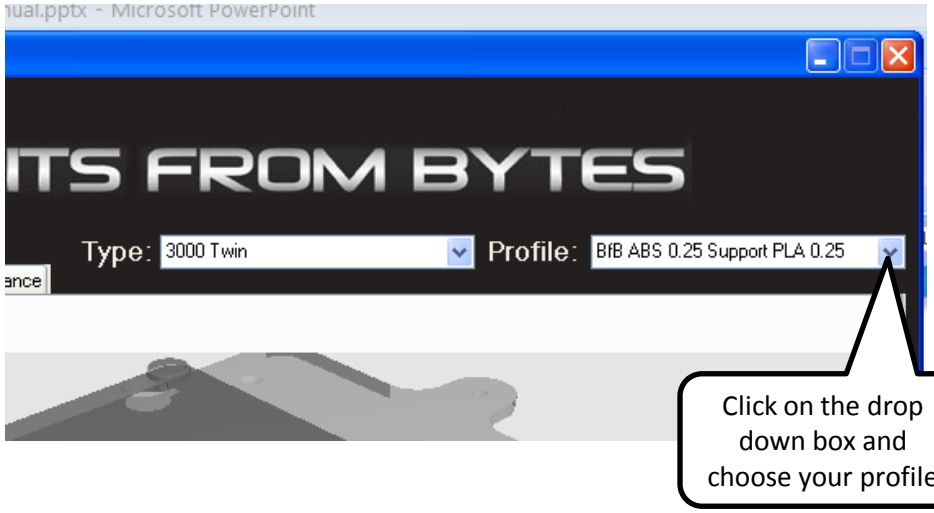
Our standard profiles always start with BfB and these are not able to be deleted. You are able to save changes if you change any of the variables in the settings tab.

The profiles are critical to the print quality and are constantly being developed and improved by us.
Once we release new profile settings they will be sent in an executable format to allow quick and easy upgrade of the BfB profiles.

You are able to create you own depending on the ,material or geometry you are looking to print.

When creating your own profiles you will need to access advanced settings from the advanced tab to allow full control over the print profile.

To select a profile click on the drop down box and choose the profile you wish to print with.



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Processing STL files

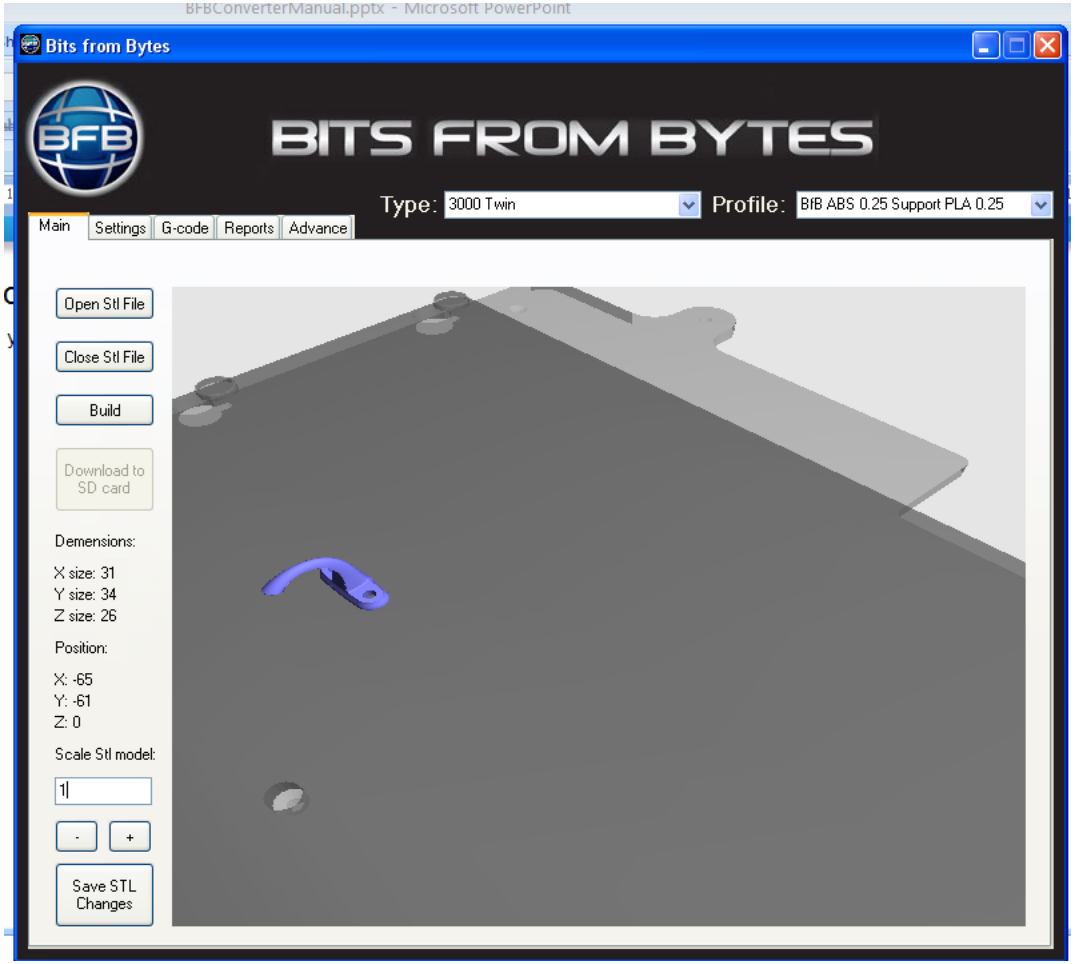
Convert your STL file to G-code

Once you have completed the following tasks:-

- Prepared your STL file in Netfabb
- Completed any changes and saved them
- Chosen your profile and machine type
- Made any setting changes

You are ready to turn your STL file into the G-Code format needed to run BFB's printers.

- Click on the build button.
- The screen will change to the screen tab and you will see the various progress bars processing the file.
- Once the build process has finished the screen will change to the G Code viewer allowing you to see the tool paths that have been generated.
- Select the main tab and save you G-Code file to your SD card or a location on your computer.



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