

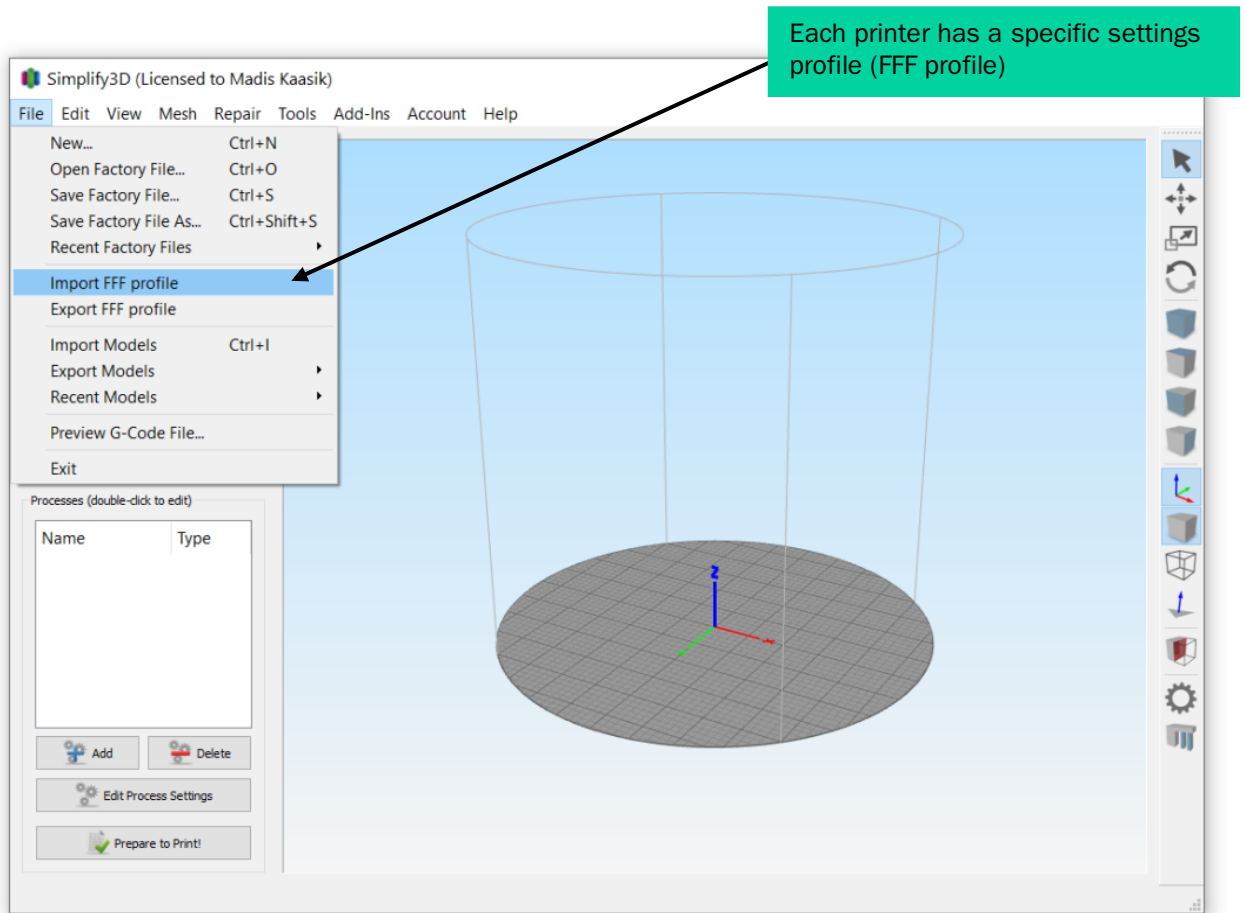


**Delta 700 BIO 3D printer  
user guide for Simplify3D**

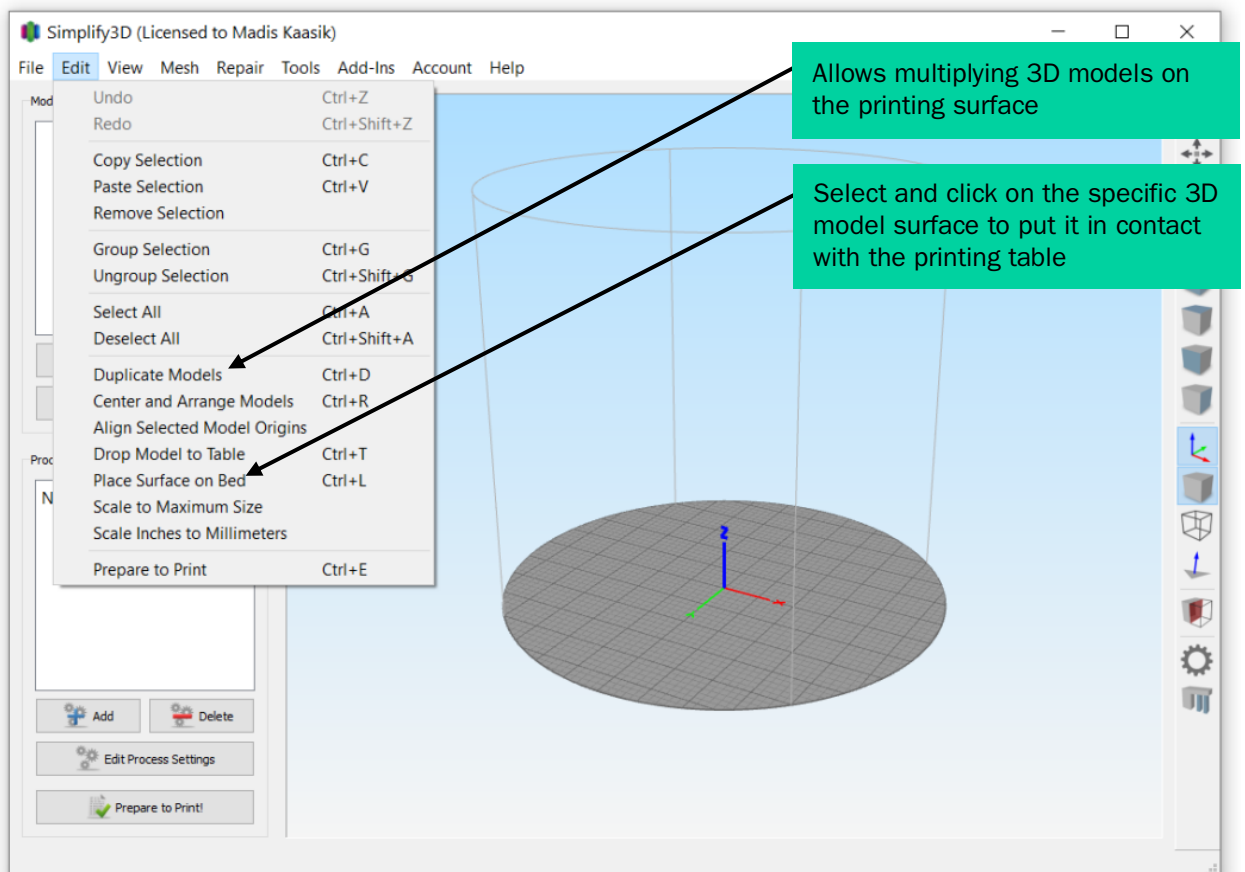
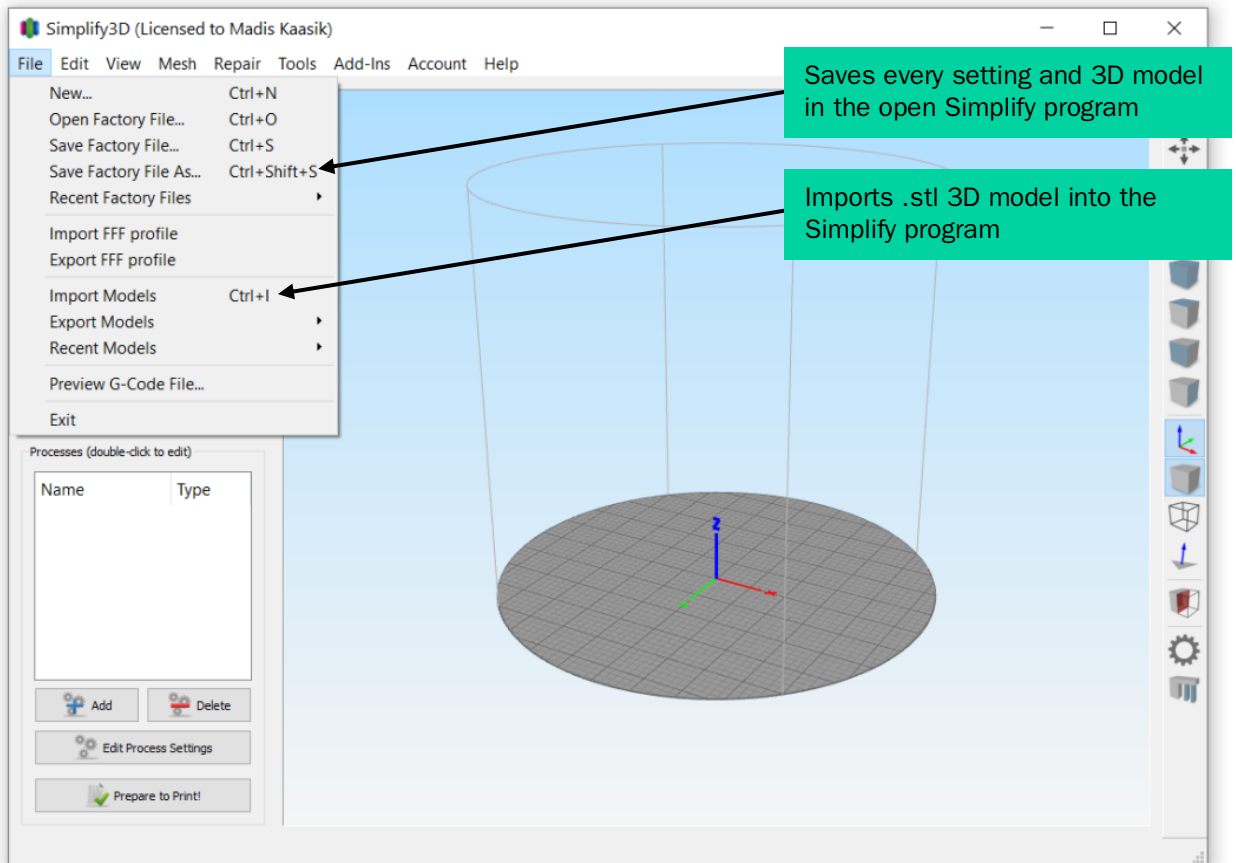
## **In this document:**

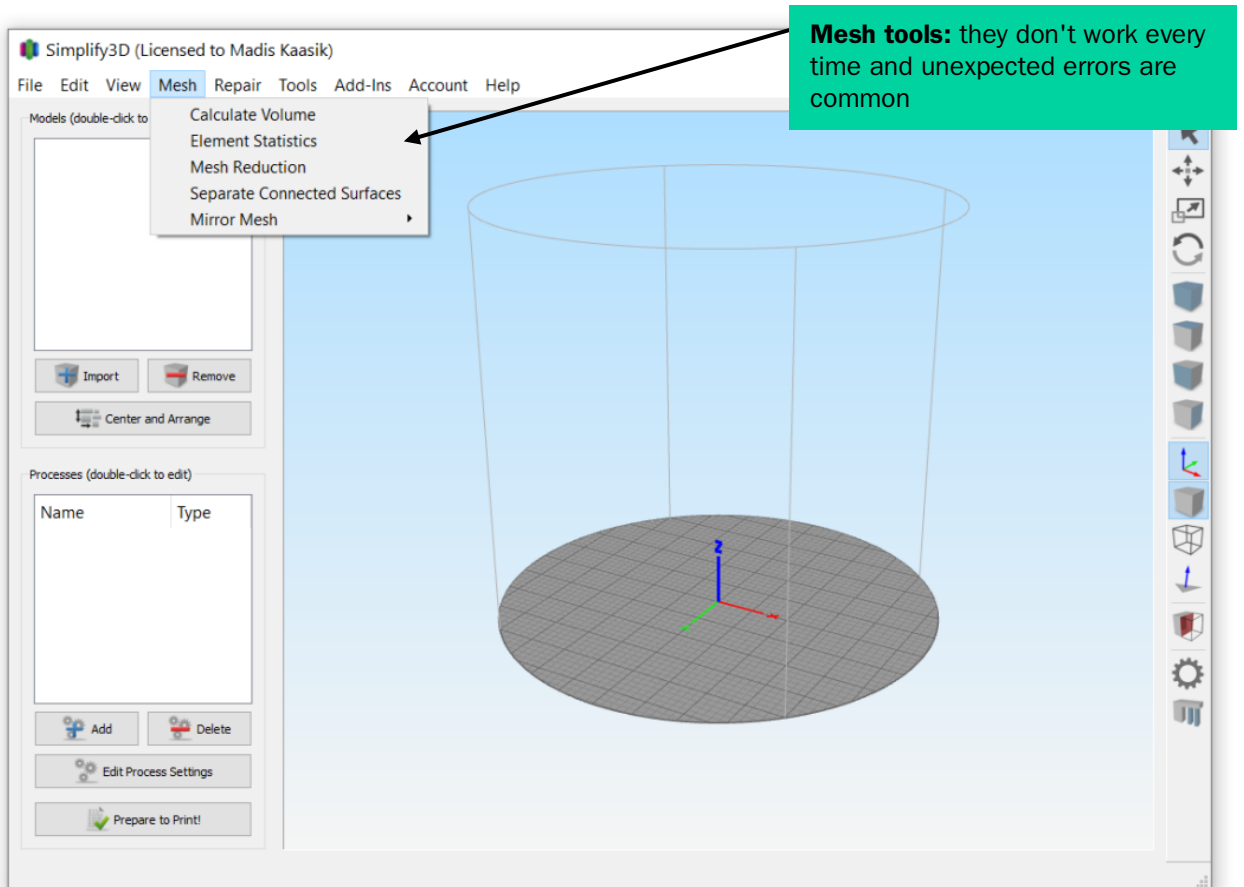
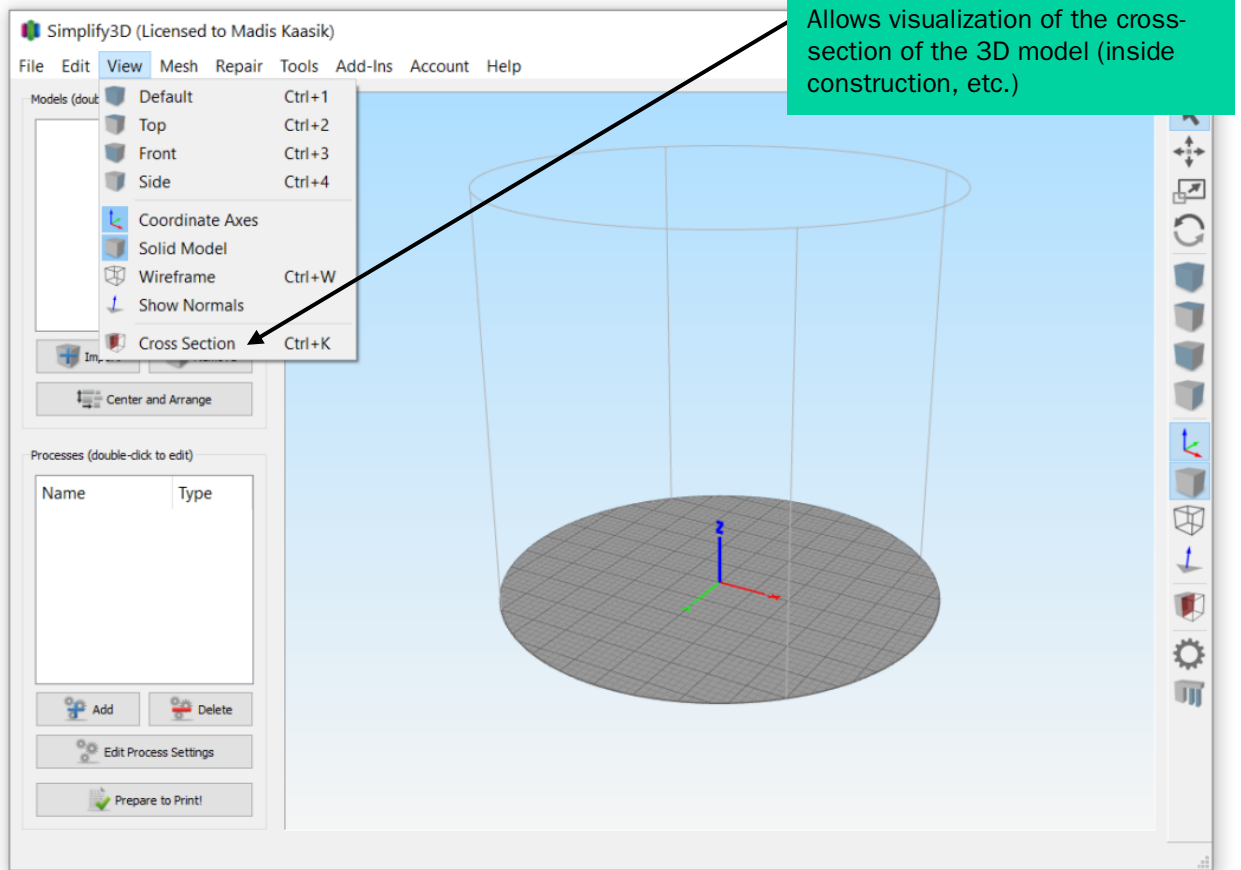
- 1.** How to set up a new printer for the first time (page 3)
- 2.** Simplify3D most used buttons and tabs (pages 4–8)
- 3.** Step-by-step printing guide (pages 9–23);  
skip to page 23 if you are printing by importing the G-code)
- 4.** Machine control panel guide (pages 24–26)

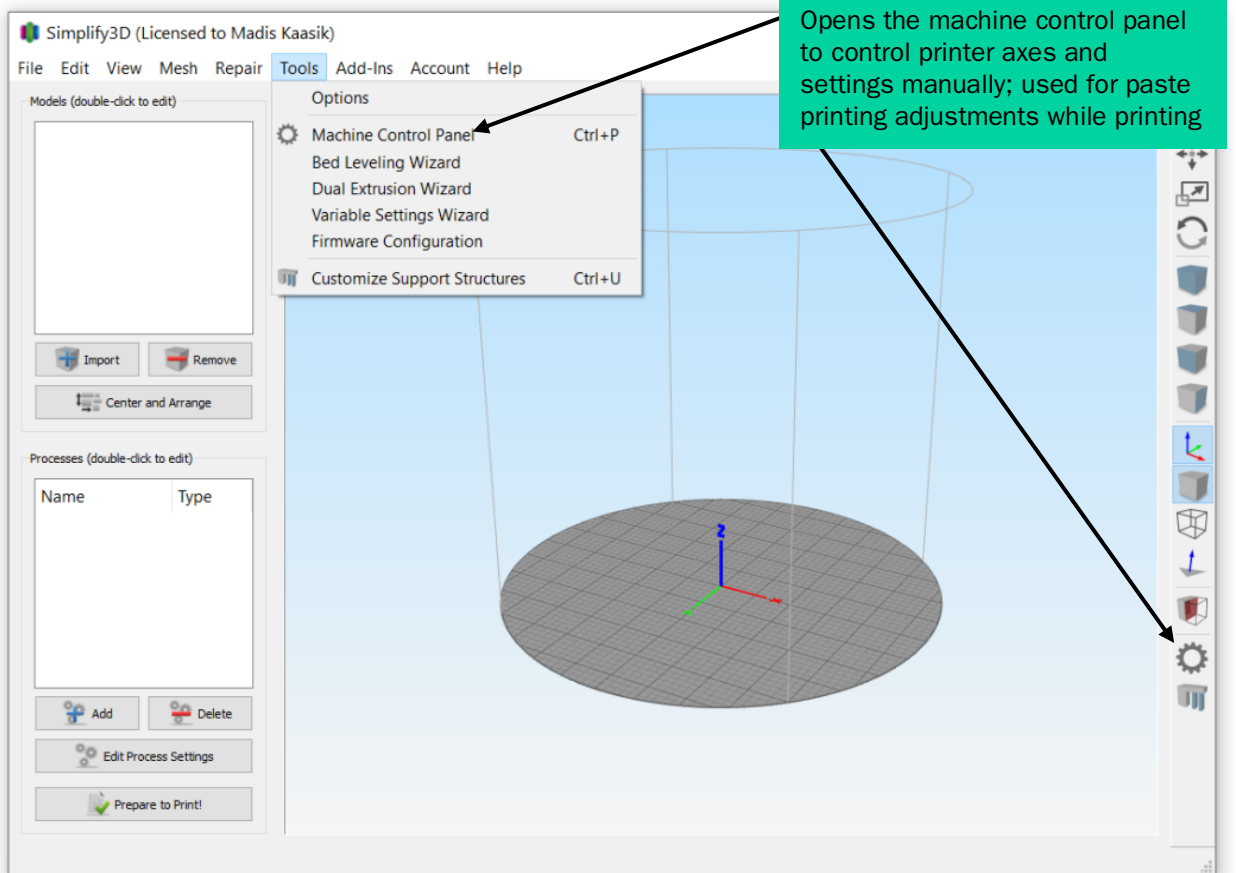
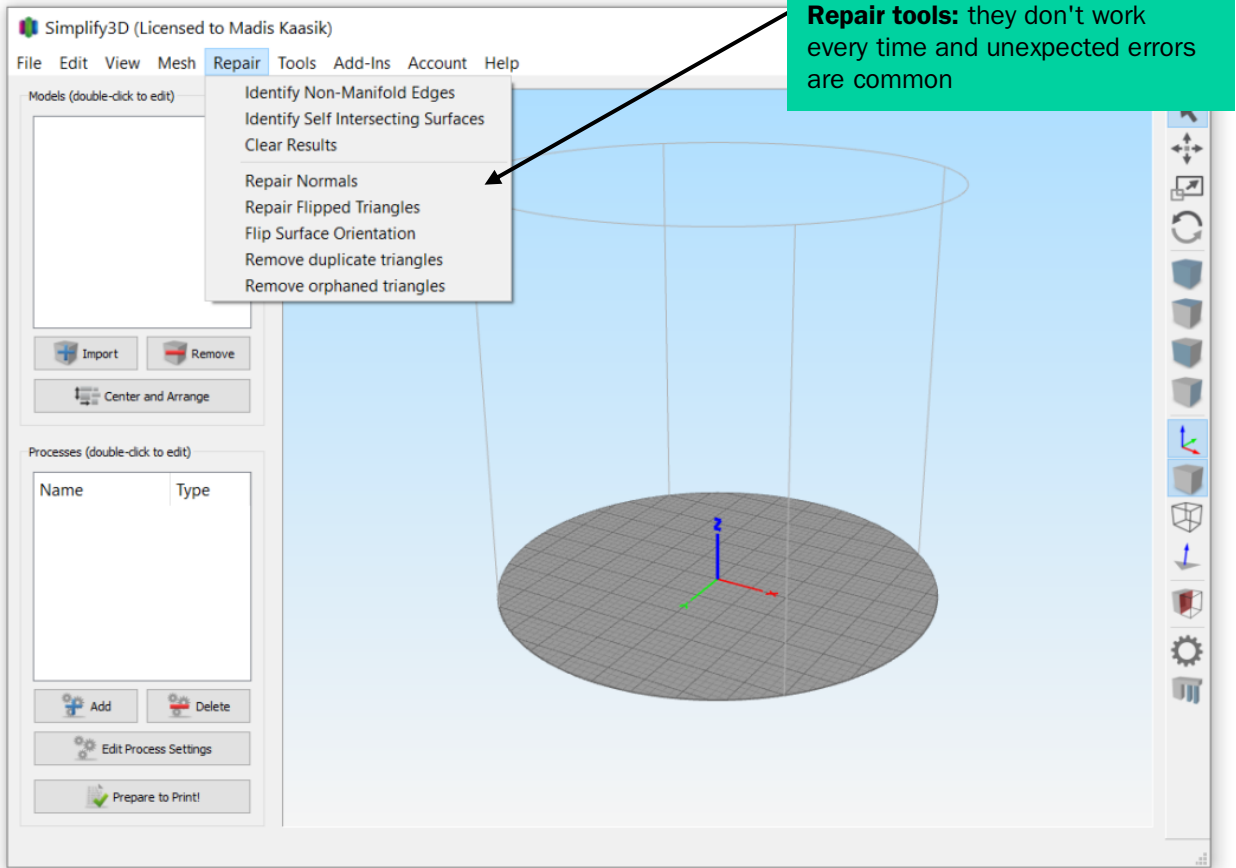
# 1. How to set up a new printer for the first time

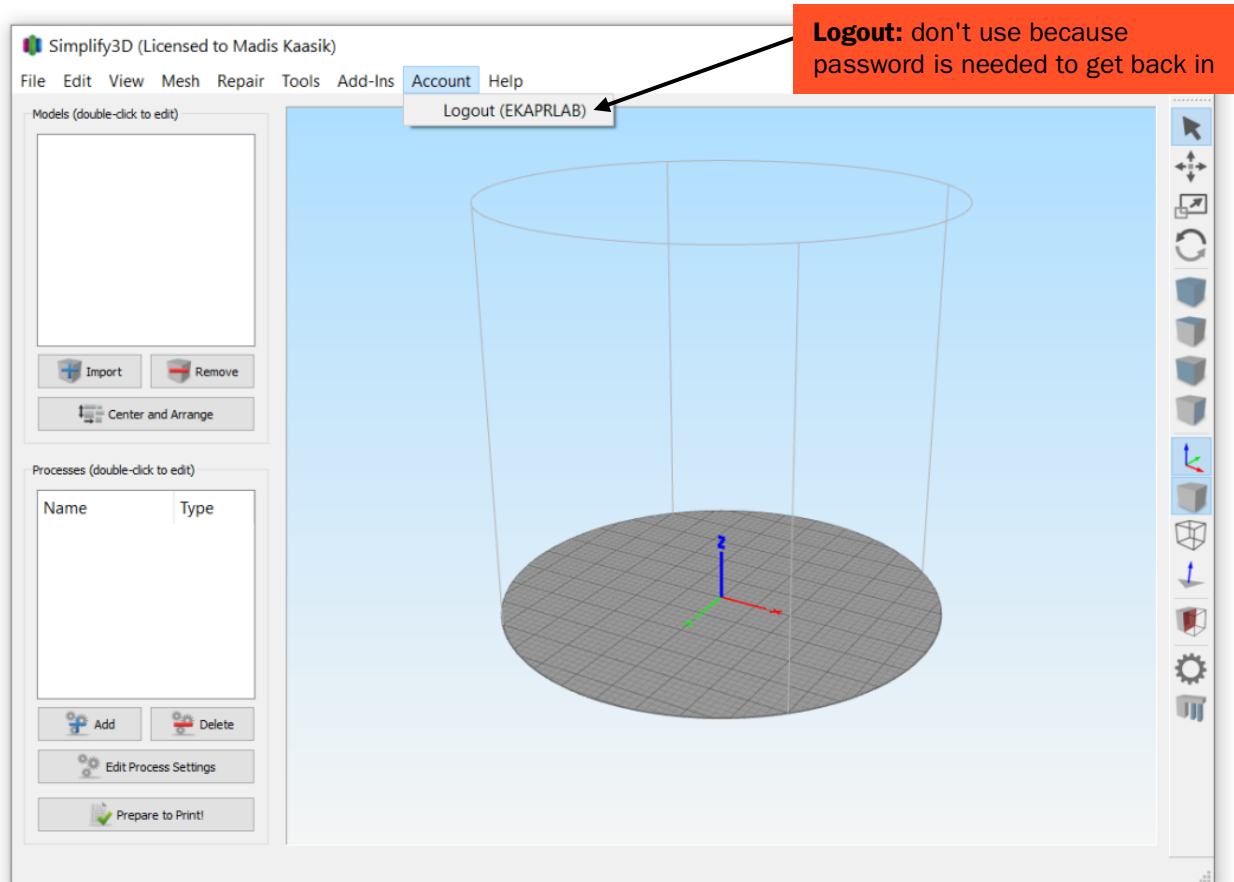
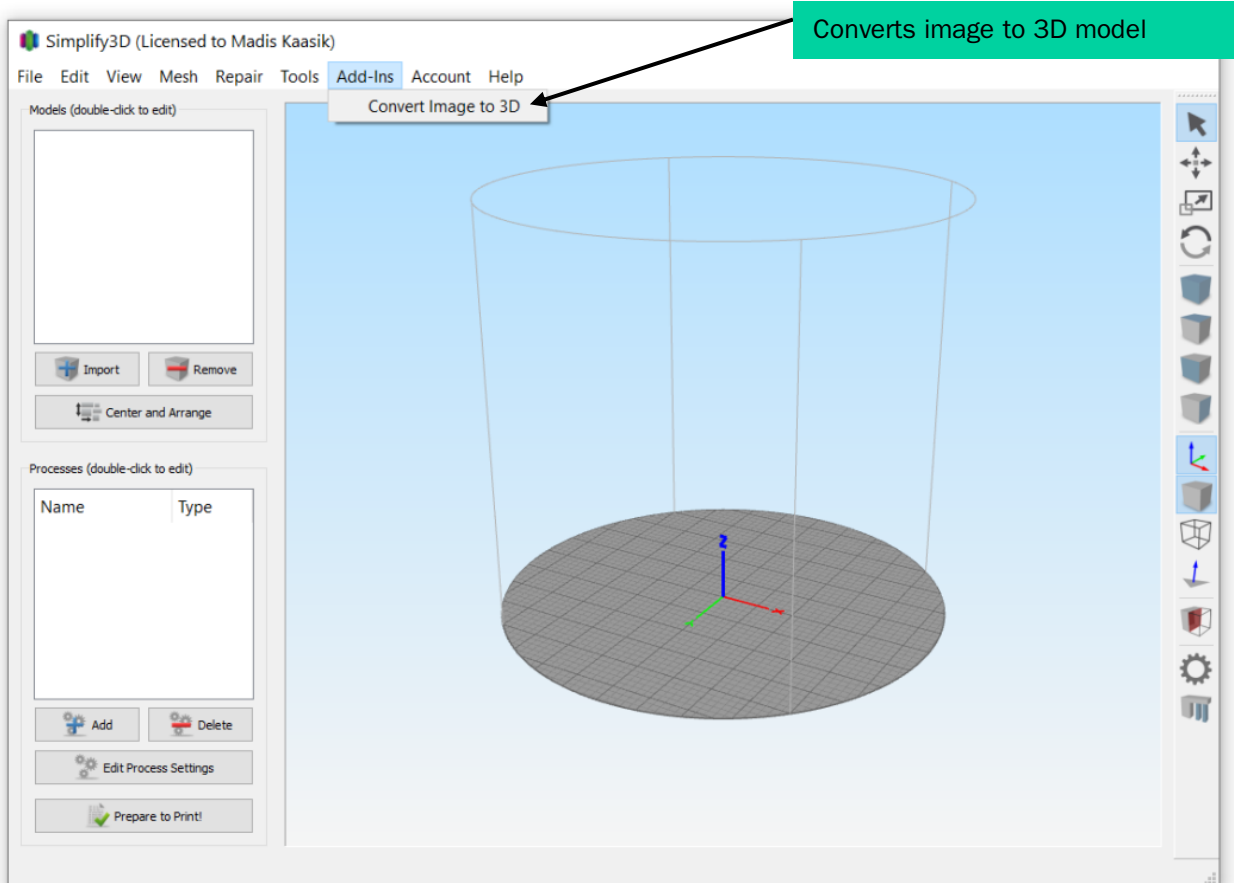


## 2. Simplify3D most used buttons and tabs

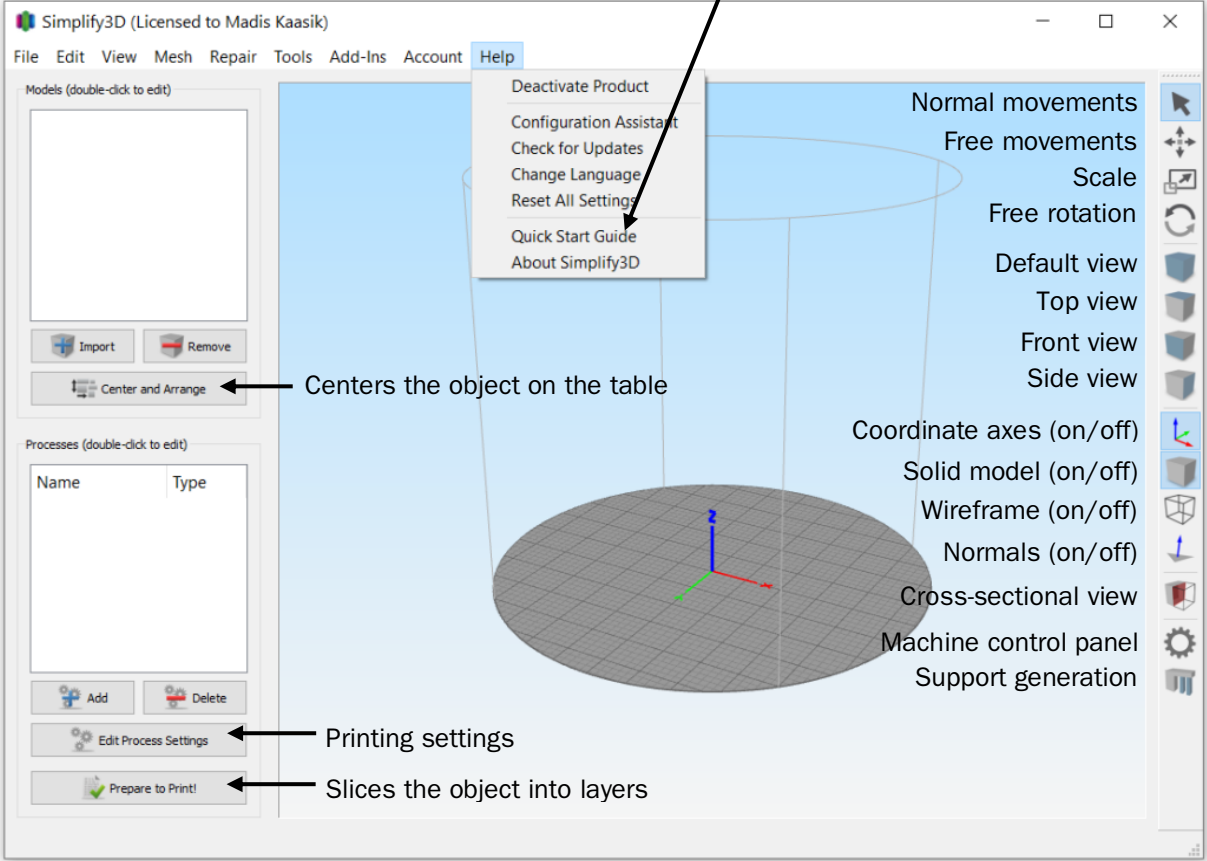








**Quick start guide** for more info

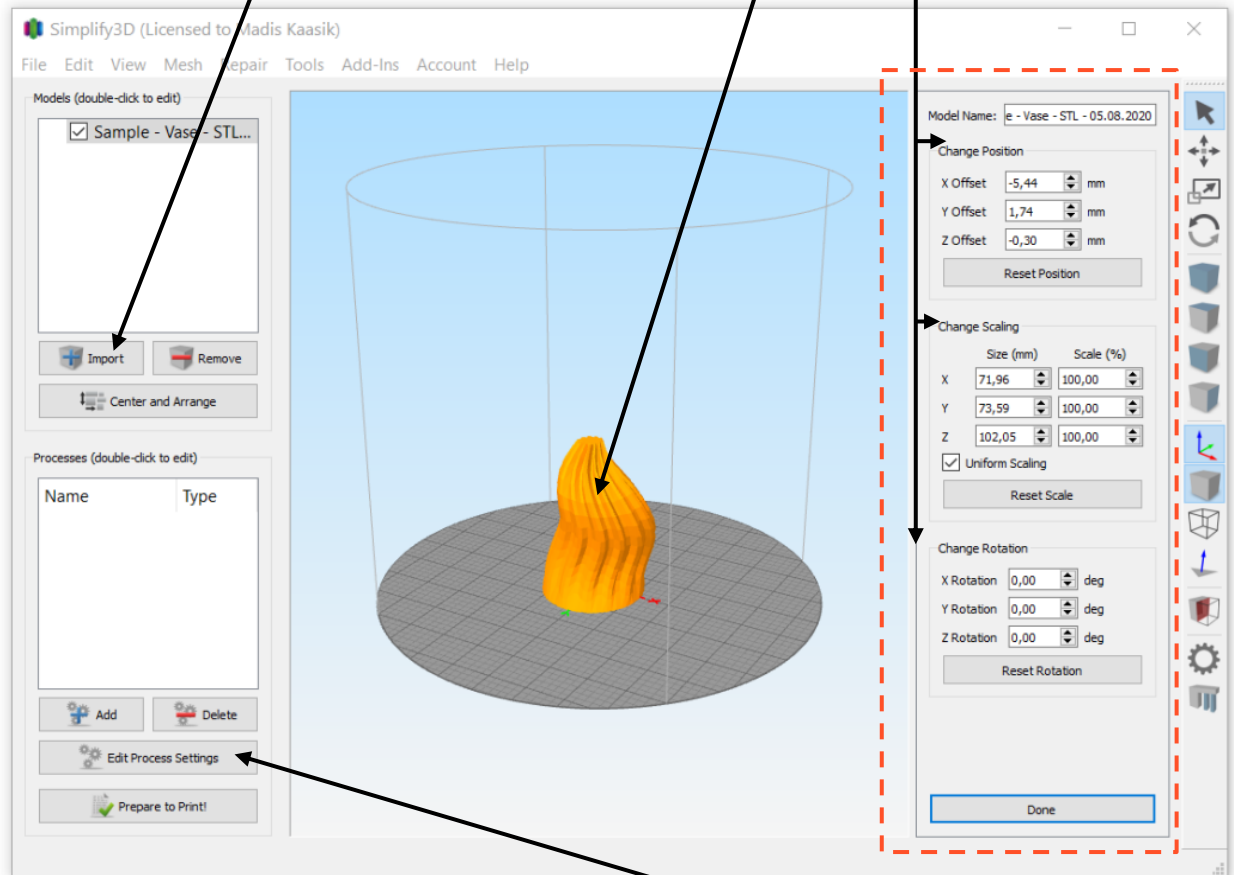




### 3. Step-by-step printing guide (skip to page 24 if you are printing by importing the G-code).

**Step 01:** Import the .stl file

**Step 02:** Double click on the model to open the settings panel  
(change: **rotation, scale, position**)



**Step 03:** Open printing settings

**Step 04:** Select the printer from the drop down menu  
**'Original'** means that the printer profile is working well with the best settings for the printer

**Step 05:** Save over the 'Original' printer profile with your name and project name

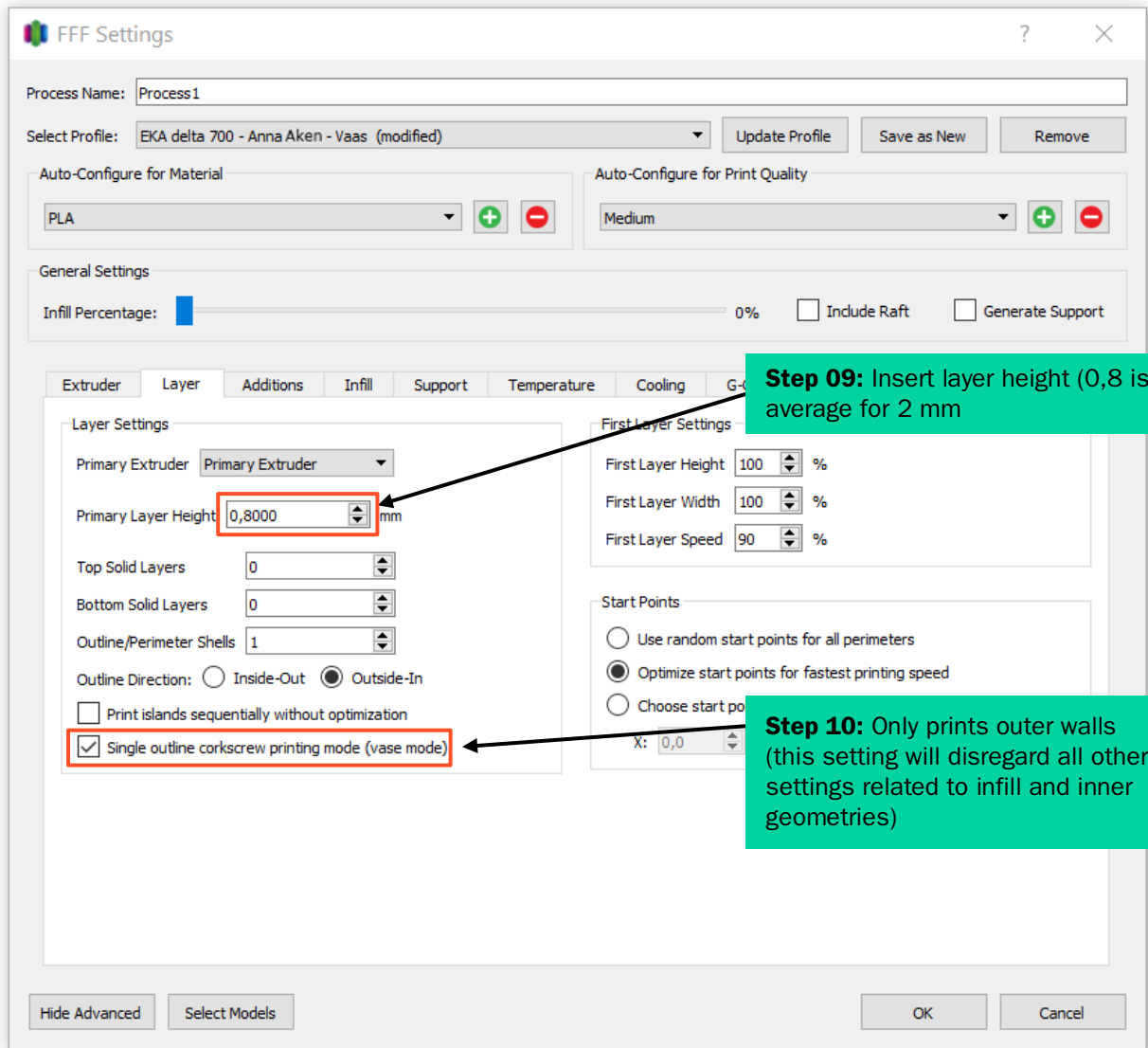
The screenshot shows the 'FFF Settings' window with the 'Select Profile' dropdown menu open, highlighting 'EKA delta 700 - original - 05082020'. Below this, a 'Profile Name' dialog box is shown with the text 'EKA delta 700 - original - 05082020' in the input field, which is highlighted in red. A red callout box points to this text with the instruction 'Delete this part'. A second 'Profile Name' dialog box is shown below it, with the text 'EKA delta 700 - Anna Aken - Vaas' in the input field, also highlighted in red. A red callout box points to this text with the instruction 'Add your name and project'. The background window shows various settings for the 'Primary Extruder Toolhead', including 'Nozzle Diameter' (6,00 mm), 'Extrusion Multiplier' (0,90), and 'Extrusion Width' (Manual, 0,40).

The image shows the 'FFF Settings' dialog box. At the top, 'Process Name' is 'Process1'. The 'Select Profile' dropdown is set to 'EKA delta 700 - Anna Aken - Vaas'. Below this are 'Auto-Configure for Material' (set to 'PLA') and 'Auto-Configure for Print Quality' (set to 'Medium'). The 'General Settings' section shows 'Infill Percentage' at 10%, with 'Include Raft' and 'Generate Support' checkboxes. The 'Extruder' tab is active, showing an 'Extruder List' with 'Primary Extruder' selected. The 'Primary Extruder Toolhead' settings are shown in the 'Overview' section: 'Extruder Toolhead Index' is 'Tool 0', 'Nozzle Diameter' is '2,00 mm' (highlighted with a red box), 'Extrusion Multiplier' is '0,90', and 'Extrusion Width' is 'Auto'. The 'Ooze Control' section has several options: 'Retraction' (checked) with 'Retraction Distance' 1,00, 'Extra Restart Distance' 0,00 mm, 'Retraction Vertical Lift' 0,00 mm, and 'Retraction Speed' 1800,0 mm/min; 'Coast at End' (unchecked) with 'Coasting Distance' 0,20 mm; and 'Wipe Nozzle' (unchecked) with 'Wipe Distance' 5,00 mm. Three callout boxes provide instructions: 'Step 06' points to the profile dropdown, 'Step 07' points to the nozzle diameter, and 'Step 08' points to the 'Auto' radio button for extrusion width. At the bottom are 'Hide Advanced', 'Select Models', 'OK', and 'Cancel' buttons.

**Step 06:** Make sure that the profile you previously made has been selected

**Step 07:** Insert nozzle diameter

**Step 08:** Width auto (manual is the option for lines that touch)



FFF Settings

Process Name: Process1

Select Profile: EKA delta 700 - Anna Aken - Vaas (modified)

Auto-Configure for Material: PLA

Auto-Configure for Print Quality: Medium

General Settings

Infill Percentage: 0%  Include Raft  Generate Support

Extruder Layer Additions Infill Support Temperature Cooling G-Code Scripts Speeds Other

Use Skirt/Brim

Skirt Extruder: Primary Extruder

Skirt Layers: 1

Skirt Offset from Part: 4,00 mm

Skirt Outlines: 2

Use Prime Pillar

Prime Pillar Extruder: All Extruders

Pillar Width: 12,00 mm

Pillar Location: North-West

Speed Multiplier: 100 %

Use Raft

Raft Extruder: Primary Extruder

Raft Top Layers: 3

Raft Base Layers: 2

Raft Offset from Part: 3,00 mm

Separation Distance: 0,14 mm

Raft Top Infill: 100 %

Above Raft Speed: 30 %

Use Ooze Shield

Ooze Shield Extruder: All Extruders

Offset from Part: 2,00 mm

Ooze Shield Outlines: 1

Sidewall Shape: Waterfall

Sidewall Angle Change: 30 deg

Speed Multiplier: 100 %

Hide Advanced Select Models OK Cancel

**Step 11 OPTIONAL:** Allows printing line around the model on the printing bed before starting to print the object. Good option to get the paste flow going

FFF Settings

Process Name:

Select Profile:

Auto-Configure for Material:

Auto-Configure for Print Quality:

General Settings

Infill Percentage:  0%  Include Raft  Generate Support

Extruder Layer Additions **Infill** Support Temperature Cooling G-Code Scripts Speeds Other

**General**

Infill Extruder:

Internal Fill Pattern:

External Fill Pattern:

Interior Fill Percentage:  %

Outline Overlap:  %

Infill Extrusion Width:  %

Minimum Infill Length:  mm

Combine Infill Every:  layers

Include solid diaphragm every  layers

**Internal Infill Angle Offsets**

deg

Print every infill angle on each layer

**External Infill Angle Offsets**

deg

**Step 12 OPTIONAL:** Infill is usually not used. It can be used for printing supported structures inside the object

FFF Settings

Process Name: Process1

Select Profile: EKA delta 700 - Anna Aken - Vaas (modified) [Update Profile] [Save as New] [Remove]

Auto-Configure for Material: PLA [+] [-]

Auto-Configure for Print Quality: Medium [+] [-]

General Settings: Infill Percentage: 0% [Include Raft] [Generate Support]

Extruder | Layer | Additions | Infill | **Support** | Temperature | Cooling | G-Code | Scripts | Speeds | Other

**Support Material Generation**

- Generate Support Material
- Support Extruder: Primary Extruder
- Support Infill Percentage: 30 %
- Extra Inflation Distance: 0,00 mm
- Support Base Layers: 0
- Combine Support Every: 1 layers

**Dense Support**

- Dense Support Extruder: Primary Extruder
- Dense Support Layers: 0
- Dense Infill Percentage: 70 %

**Automatic Placement**

*Only used if manual support is not defined*

- Support Type: Normal
- Support Pillar Resolution: 4,00 mm
- Max Overhang Angle: 45 deg

**Separation From Part**

- Horizontal Offset From Part: 0,30 mm
- Upper Vertical Separation Layers: 1
- Lower Vertical Separation Layers: 1

**Support Infill Angles**

- 0 deg
- [Add Angle]
- [Remove Angle]

[Hide Advanced] [Select Models] [OK] [Cancel]

**Step 13 OPTIONAL:** Support is usually not used

FFF Settings

Process Name:

Select Profile:

Auto-Configure for Material:

Auto-Configure for Print Quality:

General Settings

Infill Percentage:  0%  Include Raft  Generate Support

Extruder Layer Additions Infill Support **Temperature** Cooling G-Code Scripts Speeds Other

Temperature Controller List (click item to edit settings)

Primary Extruder

### Primary Extruder Temperature

Overview

Temperature Identifier:

Temperature Controller Type:  Extruder  Heated build platform

Wait for temperature controller to stabilize before beginning build

Per-Layer Temperature Setpoints

Layer	Temperature
1	20

Layer Number:

Temperature:  °C

**Step 14 OPTIONAL: Temperature setting should be 20 °C**



**FFF Settings**

Process Name:

Select Profile:

Auto-Configure for Material:

Auto-Configure for Print Quality:

General Settings

Infill Percentage:   Include Raft  Generate Support

Extruder | Layer | Additions | Infill | Support | Temperature | **Cooling** | G-Code | Scripts | Speeds | Other

Per-Layer Fan Controls

Layer	Fan Speed
1	0
2	0

Layer Number:

Fan Speed:  %

Fan Options

Blip fan to full power when increasing from idle

Fan Overrides

Increase fan speed for layers below  sec

Maximum cooling fan speed:  %

Bridging fan speed override:  %

**Step 15 OPTIONAL:** Cooling is not used

**Step 16 OPTIONAL: G-code settings for Delta 700 BIO**

FFF Settings

Process Name:

Select Profile:

Auto-Configure for Material:

Auto-Configure for Print Quality:

General Settings

Infill Percentage: %  Include Raft  Generate Support

Extruder | Layer | Additions | Infill | Support | Temperature | Cooling | **G-Code** | Scripts | Speeds | Other

**G-Code Options**

- SD firmware (include E-dimension)
- Relative extrusion distances
- Allow zeroing of extrusion distances (i.e. G92 E0)
- Use independent extruder axes
- Include M101/M102/M103 commands
- Firmware supports "sticky" parameters
- Apply toolhead offsets to G-Code coordinates

**Global G-Code Offsets**

	X-Axis	Y-Axis	Z-Axis
Offset	<input type="text" value="0,00"/>	<input type="text" value="0,00"/>	<input type="text" value="0,00"/>

Update Machine Definition

Machine type:

	X-Axis	Y-Axis	Z-Axis
Build volume	<input type="text" value="200,0"/>	<input type="text" value="200,0"/>	<input type="text" value="260,0"/>
Origin offset	<input type="text" value="100,0"/>	<input type="text" value="100,0"/>	<input type="text" value="0,0"/>
Homing dir	<input type="text" value="Max"/>	<input type="text" value="Max"/>	<input type="text" value="Max"/>

Flip build table axis  X  Y  Z

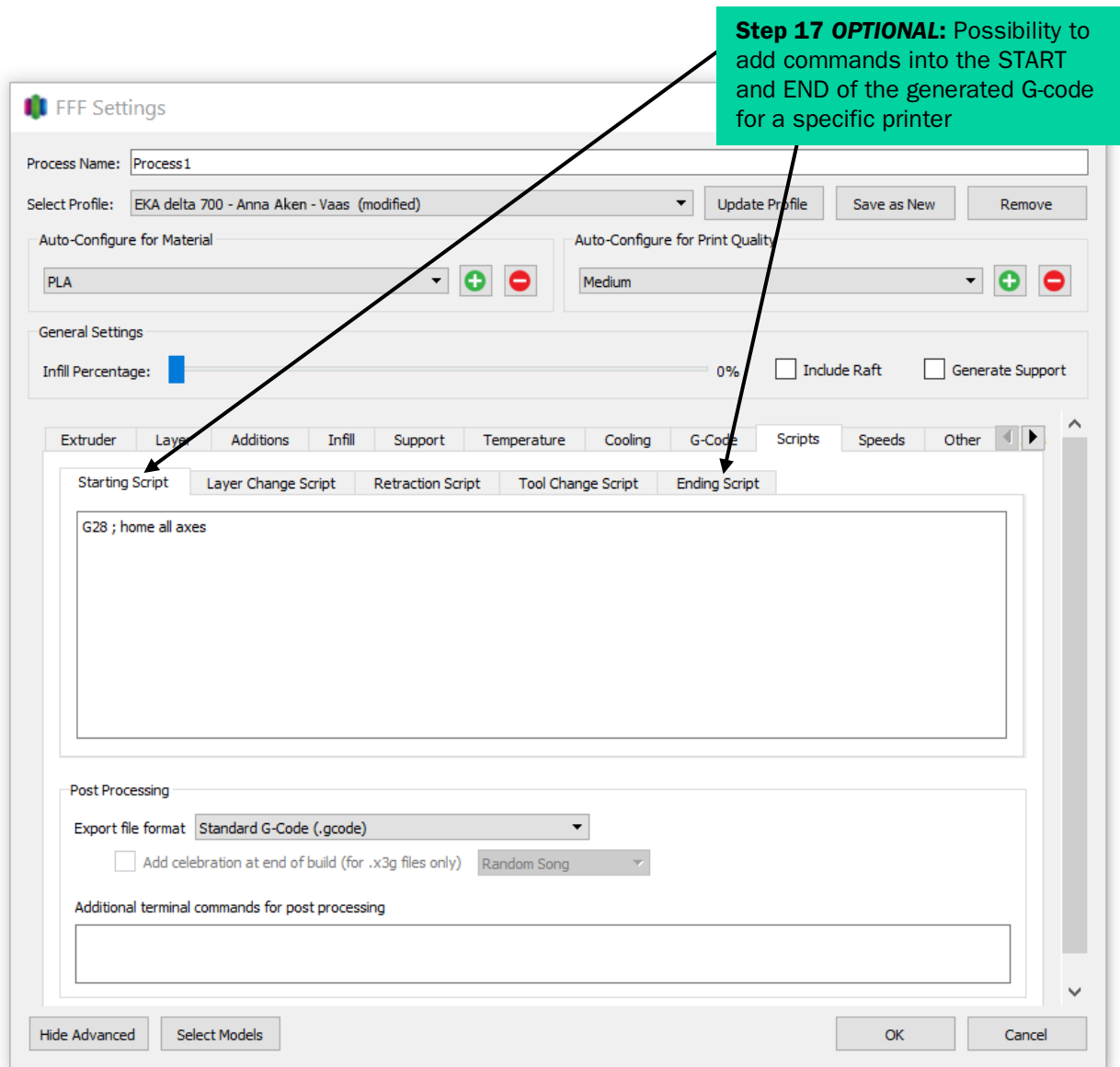
Toolhead offsets:  X  Y

Update Firmware Configuration

Firmware type:

GPX profile:

Baud rate:  bits/sec



**Step 18 OPTIONAL:** It's recommended to keep the speeds constant for the entire print

The screenshot shows the FFF Settings dialog box with the 'Speeds' tab selected. A red box highlights the 'Speeds' section, which includes the following settings:

Setting	Value	Unit
Default Printing Speed	3000,0	mm/min
Outline Underspeed	100	%
Solid Infill Underspeed	100	%
Support Structure Underspeed	100	%
X/Y Axis Movement Speed	3000,0	mm/min
Z Axis Movement Speed	3000,0	mm/min

The 'Speed Overrides' section is also visible, with the following settings:

- Adjust printing speed for layers below 15,0 sec
- Allow speed reductions down to 20 %

At the bottom of the dialog, there are buttons for 'Hide Advanced', 'Select Models', 'OK', and 'Cancel'.

FFF Settings

Process Name: Process1

Select Profile: EKA delta 700 - Anna Aken - Vaas (modified)

Auto-Configure for Material: PLA

Auto-Configure for: Medium

General Settings

Infill Percentage: 0%  Include Raft  Generate Support

Extruder Layer Additions Infill Support Temperature Cooling G-Code Scripts Speeds **Other**

**Bridging**

Unsupported area threshold 50,0 sq mm

Extra inflation distance 0,00 mm

Bridging extrusion multiplier 100 %

Bridging speed multiplier 100 %

Use fixed bridging infill angle 0 deg

Apply bridging settings to perimeters

**Dimensional Adjustments**

Horizontal size compensation 0,00 mm

**Filament Properties**

Filament Toolhead Index Tool 0

Filament diameter 2,0000 mm

Filament price 1,00 price/kg

Filament density 1,70 grams/cm<sup>3</sup>

**Tool Change Retraction**

Tool change retraction distance 12,00 mm

Tool change extra restart distance -0,50 mm

Tool change retraction speed 600,0 mm/min

Hide Advanced Select Models OK Cancel

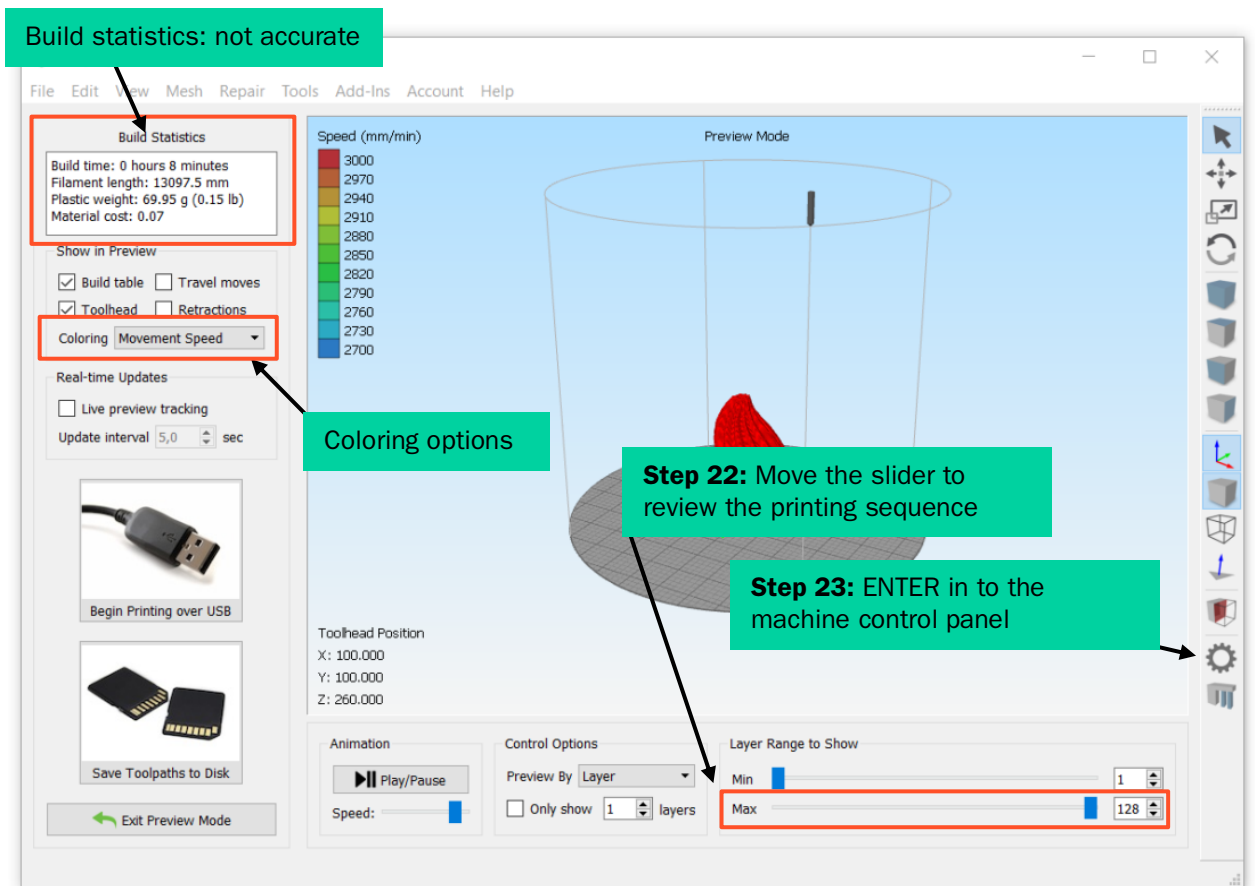
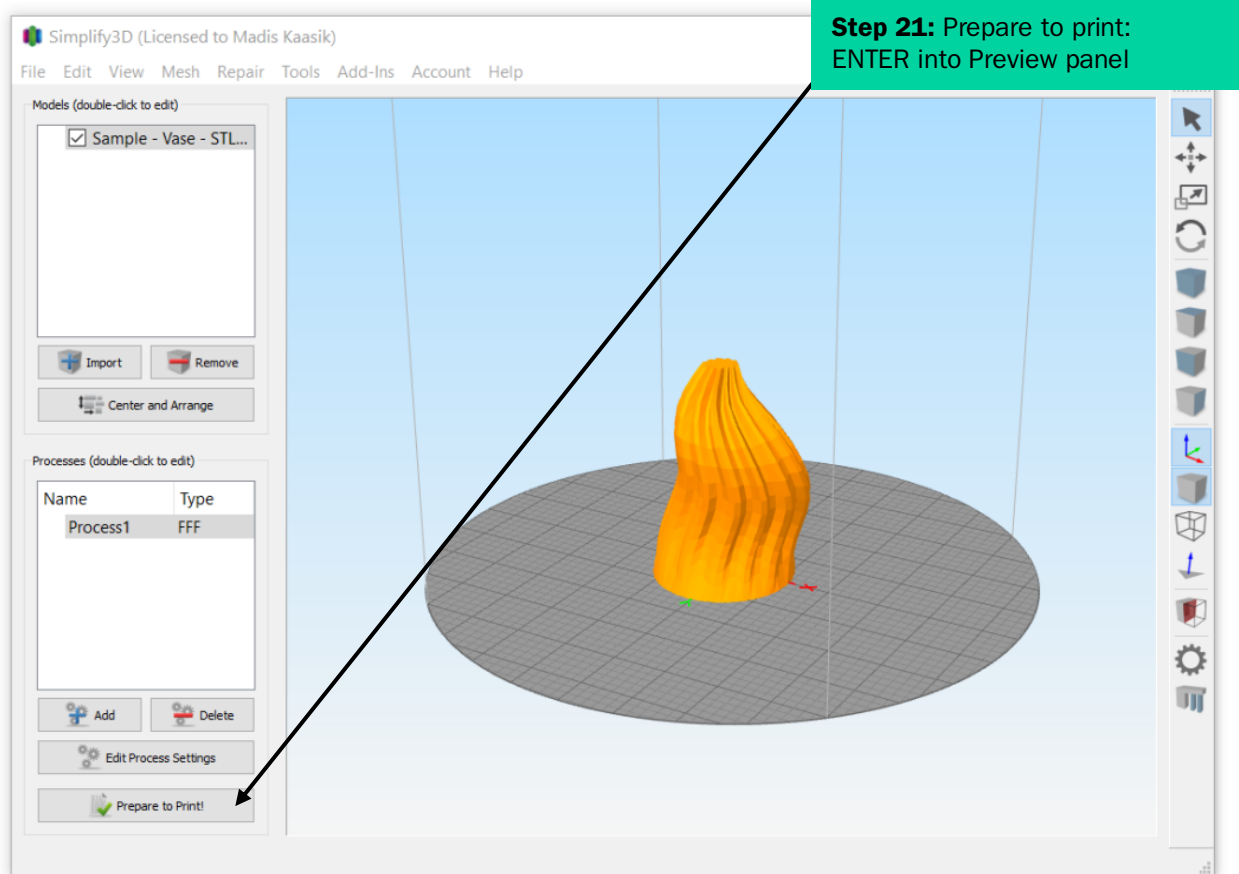
**Step 19 OPTIONAL**

1. Bridging is usually not used
2. Filament properties do not apply
3. Tool change retraction is not used
4. Dimensional adjustments are usually not used

**Step 20 OPTIONAL**

1. Layer modifications: fast option to start/end prints from specific heights
2. Thin wall behavior: experimental setting, not tested
3. Single extrusion: not used
4. Ooze control: not used
5. Movement behavior: avoid crossing
6. Slicing behavior: experimental setting, not tested

The screenshot shows the 'FFF Settings' dialog box with the 'Advanced' tab selected. The 'Layer Modifications' section has 'Start printing at height' and 'Stop printing at height' both set to 0,00 mm. 'Thin Wall Behavior' has 'External Thin Wall Type' and 'Internal Thin Wall Type' set to 'Perimeters only' and 'Allowed perimeter overlap' set to 10%. 'Single Extrusions' has 'Minimum Extrusion Length' at 4,00 mm, 'Minimum Printing Width' at 100%, 'Maximum Printing Width' at 100%, and 'Endpoint Extension Distance' at 0,20 mm. 'Ooze Control Behavior' has all options unchecked. 'Movement Behavior' has 'Avoid crossing outline for travel movements' checked and 'Maximum allowed detour factor' at 1,0. 'Slicing Behavior' has 'Non-manifold segments' set to 'Heal' and 'Merge all outlines into a single solid model' checked. The 'Advanced' tab is highlighted in red in the original image, with an arrow pointing to it from the callout box.



## 4. Machine control panel guide

The screenshot shows the Machine Control Panel interface. The top section is titled 'Initialization' and contains a 'Connect' button (a red power icon), 'Print' and 'Pause' buttons, a 'Port' dropdown menu, a 'Refresh' button, and a 'Baud Rate' field set to '250000' bits/sec with a 'Verbose' checkbox. The right side shows 'Position Readout' for X, Y, and Z axes. The bottom section is divided into several tabs: 'G-Code Library', 'Communication', 'Temperature Plot', and 'Jog Controls'. The 'G-Code Library' tab is active, showing a table with columns for 'Filename', 'Run Time', and 'Material Usage'. Below the table are 'Add to Library', 'Remove from Library', and 'Run Selected G-Code' buttons. The right side of the interface includes 'Accessory Control' with 'Extruder' (190 °C) and 'Heated Bed' (60 °C) controls, 'Custom Commands' (Disable/Enable Motors, Print from SD Card, Upload to SD Card, Macro 1-3), and 'Override Settings' for 'Movement' and 'Extrusion' (both at 100%).

**Step 01:** Select port (port will appear when you connect the printer USB)

**Step 02:** Baud rate for Delta 700 BIO is 250,000

**Step 03:** Press connect (button goes green when connected)

**G-Code tab:**  
G-code appears after slicing the model or you can *import G-code*



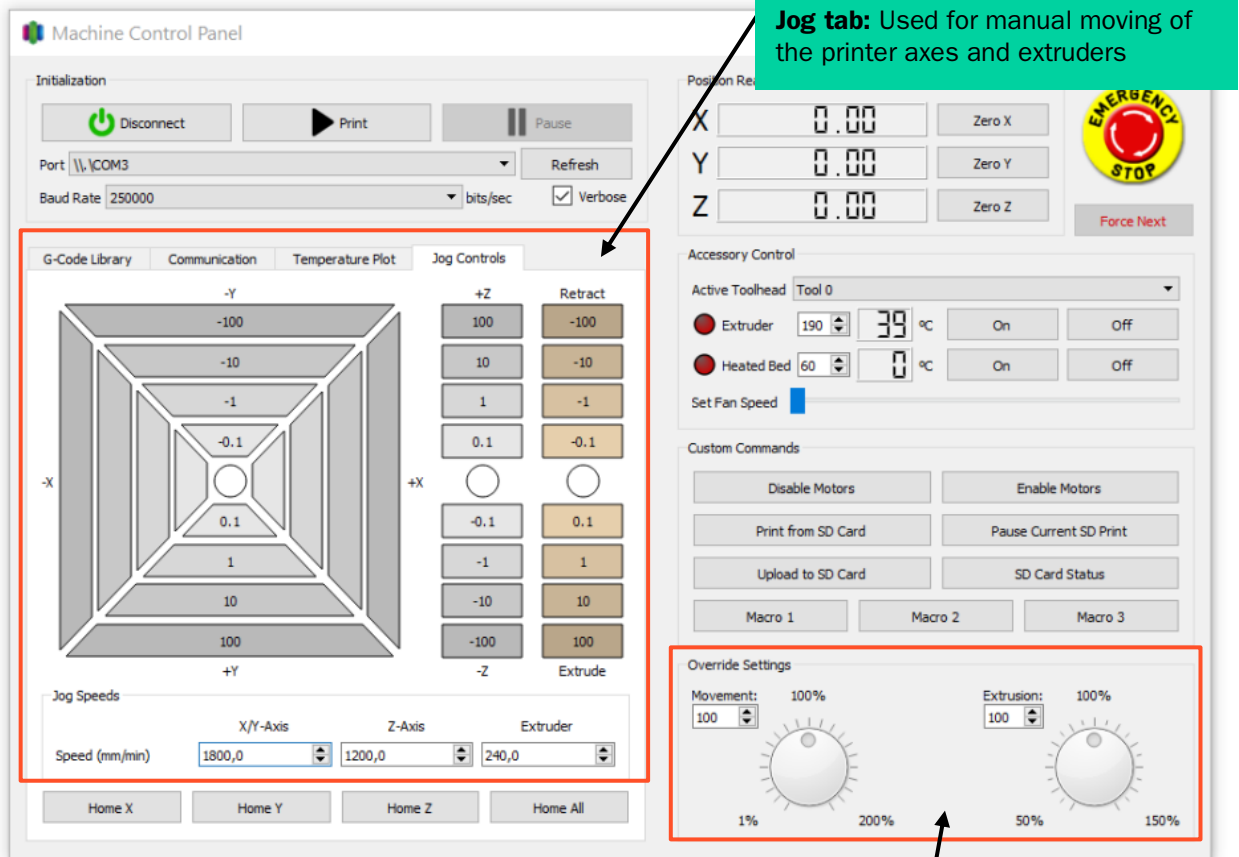
**Step 04: START**

**PAUSE PRINT**

**EMERGENCY STOP**  
It's **very important** to press this if the printer has an error

The screenshot shows the Machine Control Panel interface. The 'Communication' tab is selected, displaying a log of G-code commands and responses. A green callout box points to the 'Print' button in the 'Initialization' section, labeled 'Step 04: START'. Another green callout box points to the 'Pause' button, labeled 'PAUSE PRINT'. A third green callout box points to the communication log, stating 'Communication tab: Shows info and allows you to send commands to the printer'. On the right side, a red callout box points to a yellow 'EMERGENCY STOP' button, with the text 'It's very important to press this if the printer has an error'. Other visible controls include 'Position Readout' (X, Y, Z coordinates), 'Accessory Control' (Extruder and Heated Bed status), and 'Override Settings' (Movement and Extrusion sliders).

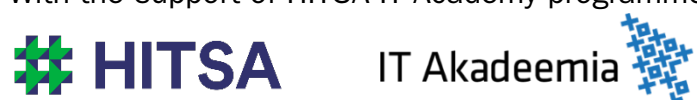
The screenshot shows the Machine Control Panel interface with the 'Temperature Plot' tab selected. A green callout box points to the 'Print' button, labeled 'Step 04: START'. Another green callout box points to the 'Pause' button, labeled 'PAUSE PRINT'. A third green callout box points to the temperature plot, stating 'Temperature tab: Temperature info is not relevant'. A red callout box points to the 'EMERGENCY STOP' button, with the text 'It's very important to press this if the printer has an error'. A fourth green callout box points to the 'Custom Commands' section, stating 'Custom commands: rarely used'. The temperature plot shows a red line representing temperature over 30 samples, with 'Bed Setpoint' and 'Extruder Setpoint' labels. Other visible controls include 'Position Readout', 'Accessory Control', and 'Override Settings'.



**Jog tab:** Used for manual moving of the printer axes and extruders

**Override settings:** For adjusting the movement and extruder speeds before the print or while printing

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Compiled by **Madis Kaasik and Lauri Kilusk**, **Estonian Academy of Arts**, January 2021