

# Polaroid

## PLAYSmart



## User Guide

# CONTENTS

■ Introduction .....	3
■ Safety Instructions .....	4
■ Box Contents .....	5
■ Printer Set Up .....	6
■ Loading and Unloading Filament .....	8
■ How to Print .....	9
■ Other LCD functionality .....	10
■ Installing the Polaroid SmartPrep Software .....	14
■ Polaroid SmartPrep Software .....	14
■ Desktop Functions .....	15
■ Technical Specifications .....	22
■ Cleaning and Maintenance .....	22
■ Manufacturer's Guarantee .....	23
■ Certifications and Compliance .....	24
■ FAQs and Troubleshooting .....	25



# INTRODUCTION

The following User Guide provides you with all of the information you need to get started printing with your Polaroid PlaySmart 3D Printer.

It will guide you through the simple installation of your printer, starting with getting it out of the box, right through to each of the fantastic features of the Polaroid SmartPrep printing software and the easy-to-use touchscreen LCD on the printer itself.

The Polaroid 3D team hope that you have many happy hours printing with your new PlaySmart 3D printer, but if you have any questions at all, please don't hesitate in contacting the team via [polaroid3d.com/contact](https://polaroid3d.com/contact)



# SAFETY INSTRUCTIONS



**WARNING**  
(Heated surface)

Whilst in operation, the extruder on your Polaroid PlaySmart 3D printer becomes very hot. Always allow time for the extruder to cool down before you reach into the printer for any reason.



**WARNING**  
(Electrical component)

This product is not to be serviced by anyone other than a Polaroid 3D approved engineer. Any unapproved servicing may also void your guarantee.



**CAUTION**

Polaroid 3D printers include moving parts, which may cause injury if interfered with whilst in use. Never reach into your Polaroid 3D printer whilst it is in use.

Please ensure that the printer is located in an area that is:

- close to the intended power supply and that the socket is easily accessible
- well ventilated
- clean and dry
- a consistent and stable temperature and humidity
- positioned away from any flammable items
- positioned away from any liquids
- a flat and stable surface

Any damage caused by improper use of the printer or its component and consumable parts, which is in contradiction with this User Guide becomes the full responsibility of the user and will void your guarantee.

This printer is not suitable for children. Anyone under the age of 16 must be supervised by an adult.

Never turn off your Polaroid PlaySmart 3D printer during printing; please wait until the job has completed and the print bed and extruder have returned to the Home Position before turning off the power.



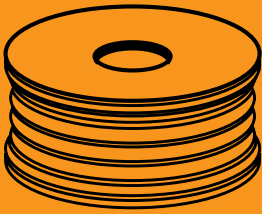
# BOX CONTENTS

**A**



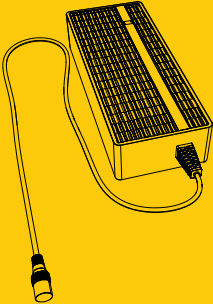
Polaroid PlaySmart 3D Printer

**B**



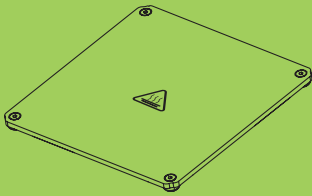
1x 1kg Polaroid Universal Premium PLA Filament

**C**




Power Cable

**D**



Heated Print Bed

**E**




PTFETube

**F**



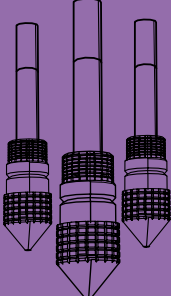
Polaroid Precise Filament Holder & Scale

**G**



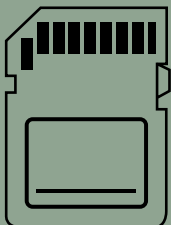
Quick Start Guide

**H**



3 x replacement nozzles

**I**



SD Card

# PRINTER SET UP

Please follow the steps below to get your Polaroid PlaySmart 3D printer ready for printing. Once removed from the box please ensure that your printer is positioned on a flat and stable surface, this helps to minimise vibration and produce more accurate prints.

**1** Open the box and remove the top layer of protective foam. Underneath you will find the following items:

- Polaroid Precise Filament Holder & Scale
- 1 x 1kg Polaroid Universal Premium PLA Filament
- Power Cable
- PTFE Tube
- 3 x replacement nozzles
- SD Card
- Polaroid PlaySmart Quick Start Guide
- Polaroid Precise Filament Holder insert
- Polaroid 3D Filaments insert
- 12 Month Guarantee insert

Please lift the items, including the protective foam tray carefully from the box. Then please remove each of the items from the tray.

**TIP:** In order to remove the Polaroid Precise Filament Holder & Scale from the protective foam, first please gently remove the protective foam tray from the top of the box. Then gently push the Precise Filament Holder & Scale from underneath where you will find a hole in the foam to allow you to do this. This should allow you to completely remove the Polaroid Precise Filament Holder & Scale upwards from the protective foam.

**2** Once you have removed all of the items from the tray, please carefully remove the PlaySmart 3D Printer from the box.

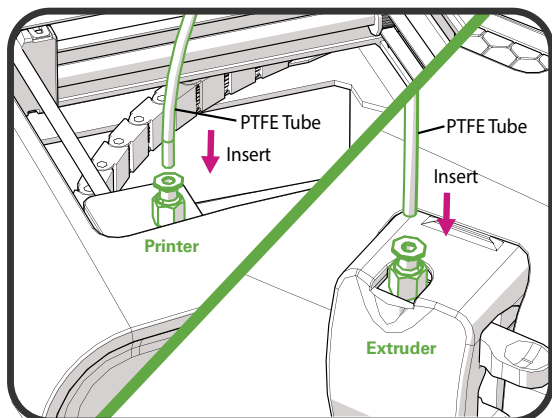
**3** Please make a note of your serial number (which can be found on the base of your printer) before placing on a flat and stable surface.

**4** Carefully remove the blue tape that is holding the Heated Print Bed in place.

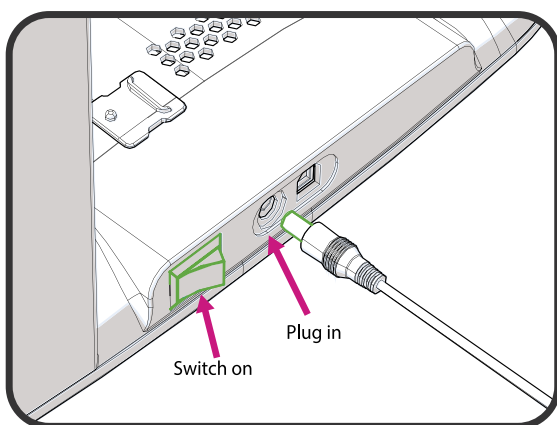
**5** Place the Polaroid Precise Filament Holder & Scale on the flat and stable surface to the right-hand side of your Polaroid PlaySmart 3D Printer and make sure that the filament cartridge is sat securely on the Polaroid Precise Filament Holder & Scale.

**6** Follow the set-up process for the Polaroid Precise Filament Holder & Scale as outlined in the User Manual found here:  
[www.polaroid3d.com/sv/support-polaroid-precise/](http://www.polaroid3d.com/sv/support-polaroid-precise/)

- 7 Set-up your printer by first attaching the PTFE tube. Place one end into the printer head and the other end into the extruder.

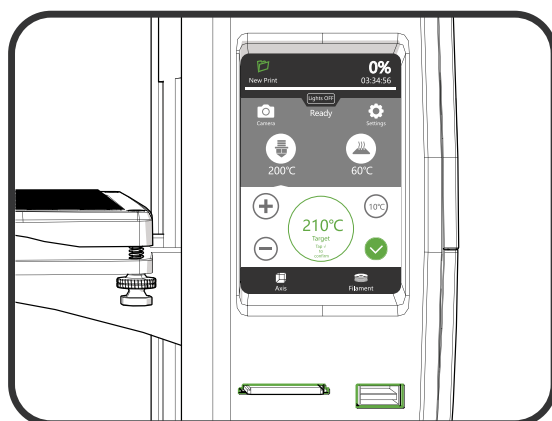
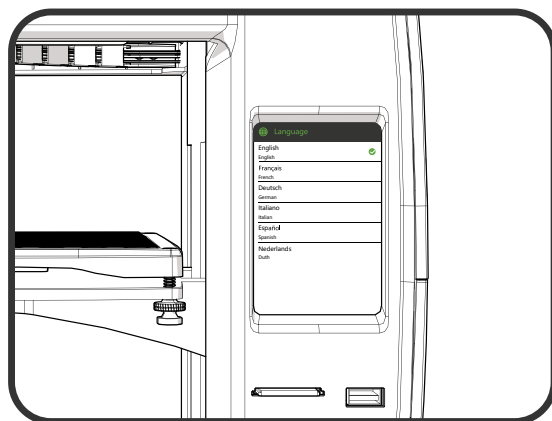


- 8 Connect the power cable to the back of the printer and then to the wall, and turn on the printer using the power switch (also on the back of the printer). Be careful not to damage the cables.



- 9 Follow the instructions on the LCD screen to complete set-up:

1. Select your language.
  2. Press 'Start'.
  3. Ensure WLAN is turned on (showing green) and then select a Wi-Fi network to connect your Polaroid PlaySmart 3D Printer to (or alternatively skip this step – you can set-up at any point later).
- IMPORTANT NOTE:** You must be connected to Wi-Fi to check for firmware updates. It is important that you always have the latest firmware installed to ensure that your printer continues to run correctly. If a firmware update is available a notification will appear in the top right hand corner of the screen when Wi-Fi is connected. However you can check this at any time by going to 'Settings' and 'Firmware Update'.





4. Once connected, click 'Next'.
5. Download the Polaroid PlaySmart App to your mobile phone from the App Store or Google Play Store (or alternatively skip this step – you can set-up at any point later).
6. Select 'Next' once installed.
7. Check for firmware updates and ensure that you have the latest version installed.
8. Click 'Finish' to complete the set-up process.

- 10** To install the Polaroid SmartPrep software, please visit: [polaroid3d.com/software](https://polaroid3d.com/software)

You will then need to insert your serial number and email address to download the software for either Mac or PC.

Your serial number can be found on the base of your printer. Please ensure your printer is switched off and unplugged before carefully lifting your printer to make a note of your serial number.

Once you have downloaded the software and double clicked on the installer, the installation process will then begin. Please follow the on-screen messages to complete installation.

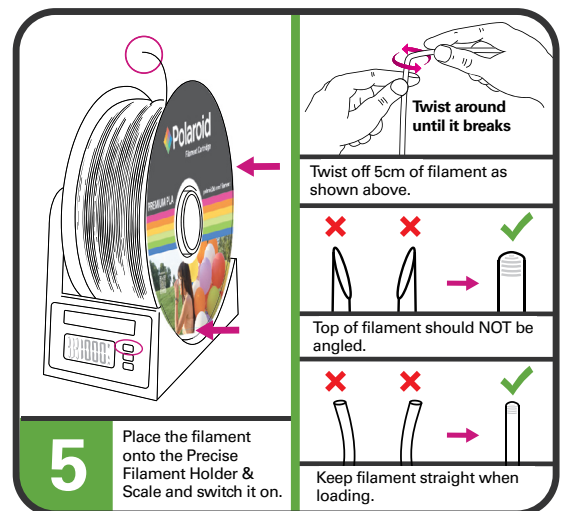
## LOADING AND UNLOADING FILAMENT

Before you can print you must install a filament cartridge.

In order to do this you must either use the menu on the touchscreen LCD (on the front of the printer), or the Polaroid PlaySmart mobile App (which can be downloaded from the App Store or Google Play).

When using the LCD screen on the printer, please follow the process below:

- 1** Firstly, ensure that the Polaroid Precise Filament Holder & Scale is positioned next to the printer on the right hand side, and with the filament cartridge securely in place.
- 2** Find the end of the filament on the reel and twist around until it breaks.
- 3** While keeping the filament straight, slightly squeeze the levers on the side of the extruder together and slide the filament up from the bottom until approximately 2cm is visible in the PTFE tube.
- 4** Press 'Filament' and then 'Load' on the LCD screen. Once the target temperatures are reached the filament will automatically be pulled through the PTFE tube into the extruder. (You can cancel this process whilst the target temperatures are being reached by pressing the 'X' on the LCD screen). You should see the filament appear



from the extruder, if you do not, please press the '10mm more' button. Continue until filament is extruded from the nozzle. If changing a cartridge (as opposed to installing for the first time) please ensure that the previous colour or filament is completely extruded and the new filament is flowing freely before completing the process. Complete the process by pressing 'Confirm' on the LCD.

**NOTE:** If filament is not flowing freely from the nozzle at this point, please press 'Confirm' and then 'Unload' to uninstall the filament. Please completely remove the filament from the printer, cut off the end of the filament again at an angle and then re-insert. Follow the installation process again and this time you should see the filament extruding correctly. If this is not the case please contact our support team at [polaroid3d.com/contact](http://polaroid3d.com/contact) for further advice.

- 5** To unload filament, please select 'Filament' from the home screen on the LCD followed by 'Unload'. Once the target temperatures have been reached the filament will automatically unload. Once completed, please click 'Finish' and remove the filament from the printer by squeezing the levers on the side of the extruder and gently pulling the filament from the bottom.

**NOTE:** Part-used cartridges should be stored in a cool and dry environment whilst not in use.

## HOW TO PRINT

There are two different ways in which you can print via your Polaroid PlaySmart 3D Printer; either via the LCD screen or via the Polaroid PlaySmart Mobile App.


**IMPORTANT NOTE:** Before printing you must first have your model saved in the correct format; this is 'G-code'. In order to do this, please ensure you have downloaded the Polaroid SmartPrep Software (see step 10 under 'Printer Set Up'). Once you have the software installed please follow the steps on page 14 on how to save your file. You can then select from the options below to print your model. Using alternative Slicing Software to generate G-code is possible as long as the correct settings are applied.

### 1 Printing via the LCD screen

1. Ensure your model is saved as GCode to either SD card or USB and then insert into the corresponding slot on the front of the printer.
2. Select 'New Print' from the top left corner of the LCD screen.
3. Next, select SD card or USB depending on where your file is saved.
4. Select the model that you wish to print.
5. Select 'Confirm' to verify you have selected the correct model and wish to start printing.
6. The printer will then begin automatically. The print bed will rise towards the top of the printer and the print head will position itself in its home position (towards the front left corner of the printer). The nozzle and bed temperature will then start to increase and printing will begin once the target temperatures have been reached. **NOTE:** This may take a few minutes so please be patient; you can watch the progress of the temperatures via the LCD screen.


**NOTE:** You can monitor the progress of your print via the green progress bar at the top of the screen which shows the percentage (%) of printing that has passed and the remaining time in minutes and seconds.

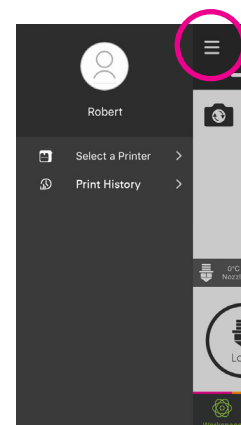
## 2 Printing via the Polaroid PlaySmart Mobile App

**NOTE:** Before printing via the Mobile App you must first pair your printer with your mobile device. To do this, press the menu button  in the top left corner of the screen in the App and choose 'Select a printer'. Any previously paired printers will appear here. To add a new printer, click the '+ Add printer' button at the bottom. You will be asked for your serial number or to scan the QR Code which can be found via the LCD screen on the printer, under 'Settings' and 'Pair the Printer'. When completed please click 'Confirm' to complete the process.

Your Wi-Fi must be turned on and connected for the pairing to complete. Please do so by selecting 'WLAN' from 'Settings' on the home screen of your printer LCD and then selecting your network.

After following the process above, please follow the steps below to print via the Mobile App:

1. Whilst in the 'Workspace'  screen on your mobile device, select 'New Print' from the top left-hand corner.
2. You can then choose a model from the SD Card, USB or Mobile Library. Selecting SD Card or USB will show the models available on those devices if installed. Selecting Model Library will open up our online catalogue of models to choose from.

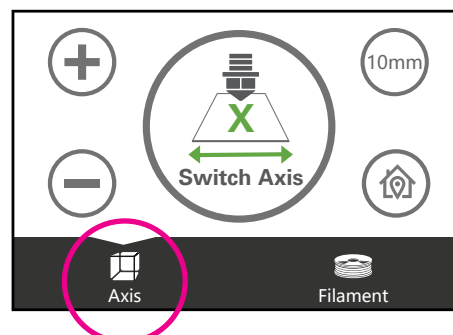
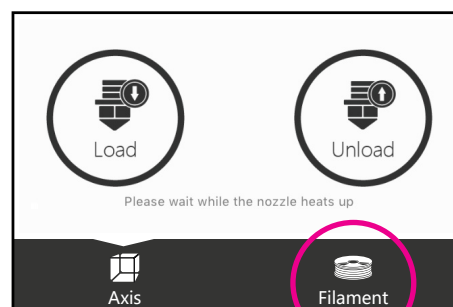


## OTHER LCD FUNCTIONALITY

From the Home Screen of the LCD you have several options.

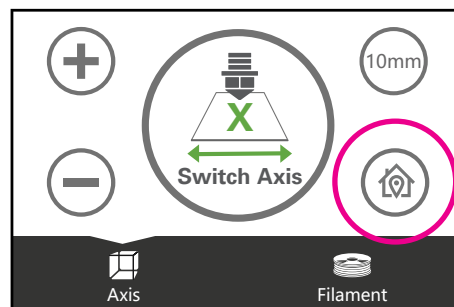
Whilst on the 'Filament' screen you have the option of Loading and Unloading your filament which have been detailed above along with the New Print functionality and the print progress bar.

Next to 'Filament' you have the 'Axis' button (bottom left of the screen). Selecting this will bring up the ability for you to manually move the printhead across the X or Y axis and also the Heated Print Bed across the Z axis. Depending which Axis is selected on the illustration in the middle circle will depend which of these arrows will move, and in which direction. To switch between the different axes, simply tap the circle. You will see image in the middle of the circle change as well as the arrows to the left-hand side. By selecting one of the arrows you will see the Print Head or Heated Print Bed move in the selected direction. The default distance for each movement is 5mm; you can change this to 10mm by clicking the small circle on the right-hand side that says '5mm'.



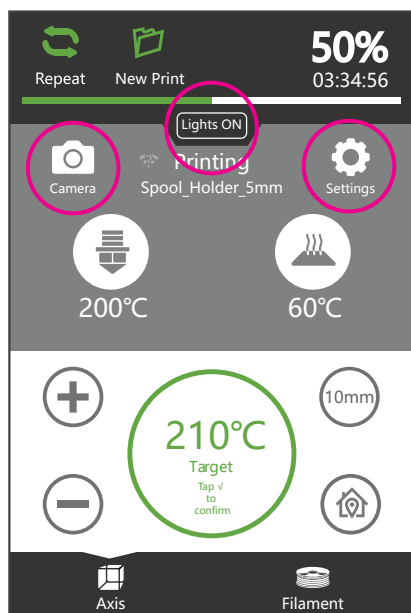


The button in the bottom right-hand corner of the screen returns the Print Head and Heated Print Bed to their 'Home' positions, which are the Print Head in the front, left-hand corner and the Heated Print Bed to the bottom of the printer.



The top half of the LCD screen shows the current nozzle and bed temperatures. These values will change depending on the current operation. **NOTE:** These remain on screen on both the 'Axis' and 'Filament' screens.

Other elements of the Home Screen include:



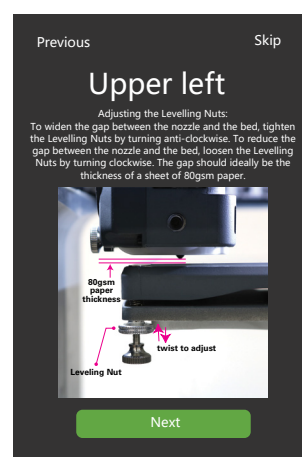
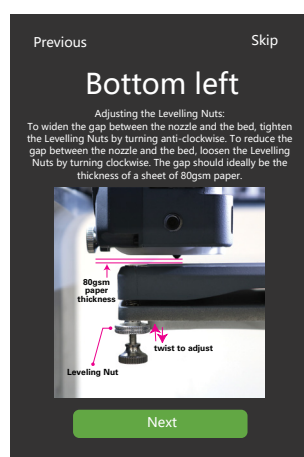
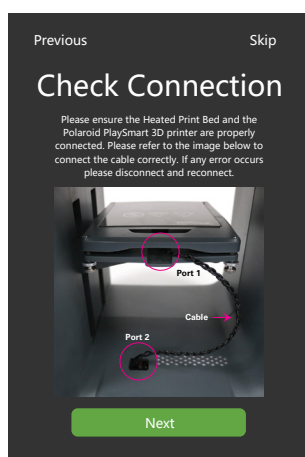
**Camera:** You can take a photograph or video of your prints. From here you can also access the history of your prints, as well as an album of any previous videos that have been created.

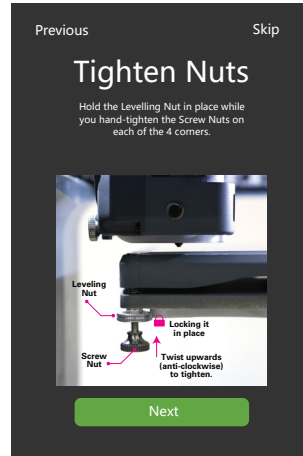
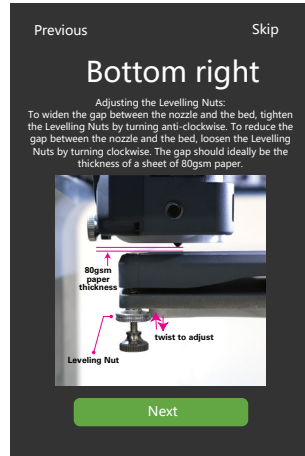
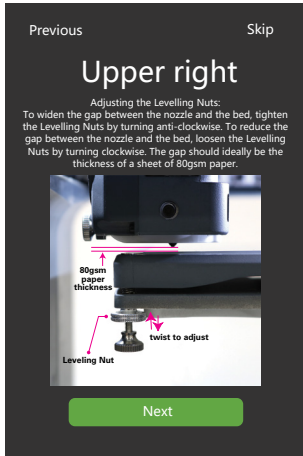
**Lights On/Off:** This button allows you to switch on or off the LCD lights around the inside of the printer.

**Settings:** Within the 'Settings' screen you have the following sub-categories:

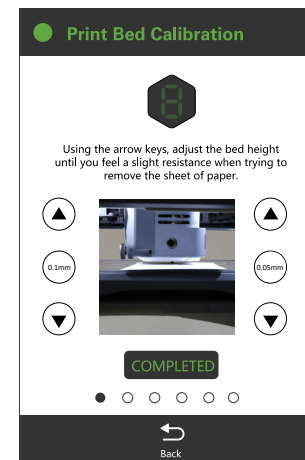
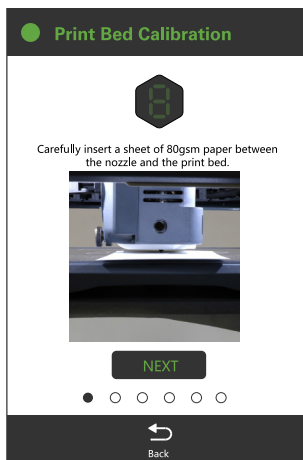
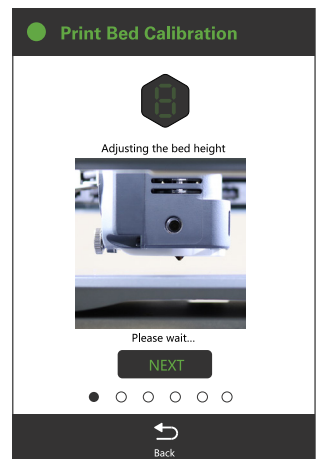
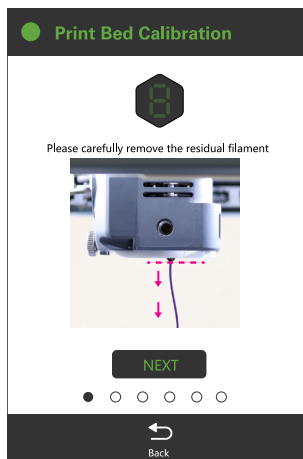
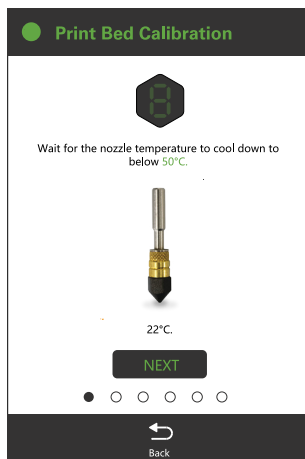
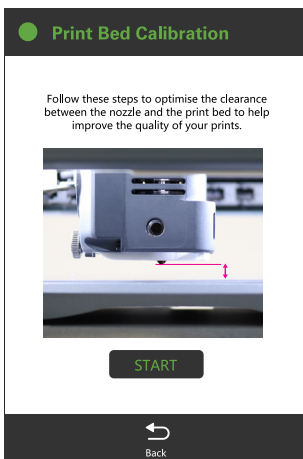
- **WLAN:** This identifies the available Wi-Fi networks and allows you to connect to your chosen one. The 'Refresh' button in the bottom right-hand corner allows you to refresh the list of available networks if yours isn't visible.

• **Bed Levelling:** The on-screen instructions here provide you with guidance on how to ensure that your print bed is level prior to printing (this is very important in order to achieve a successful print). Simply follow the step-by-step instructions to adjust each corner of the bed, see below:

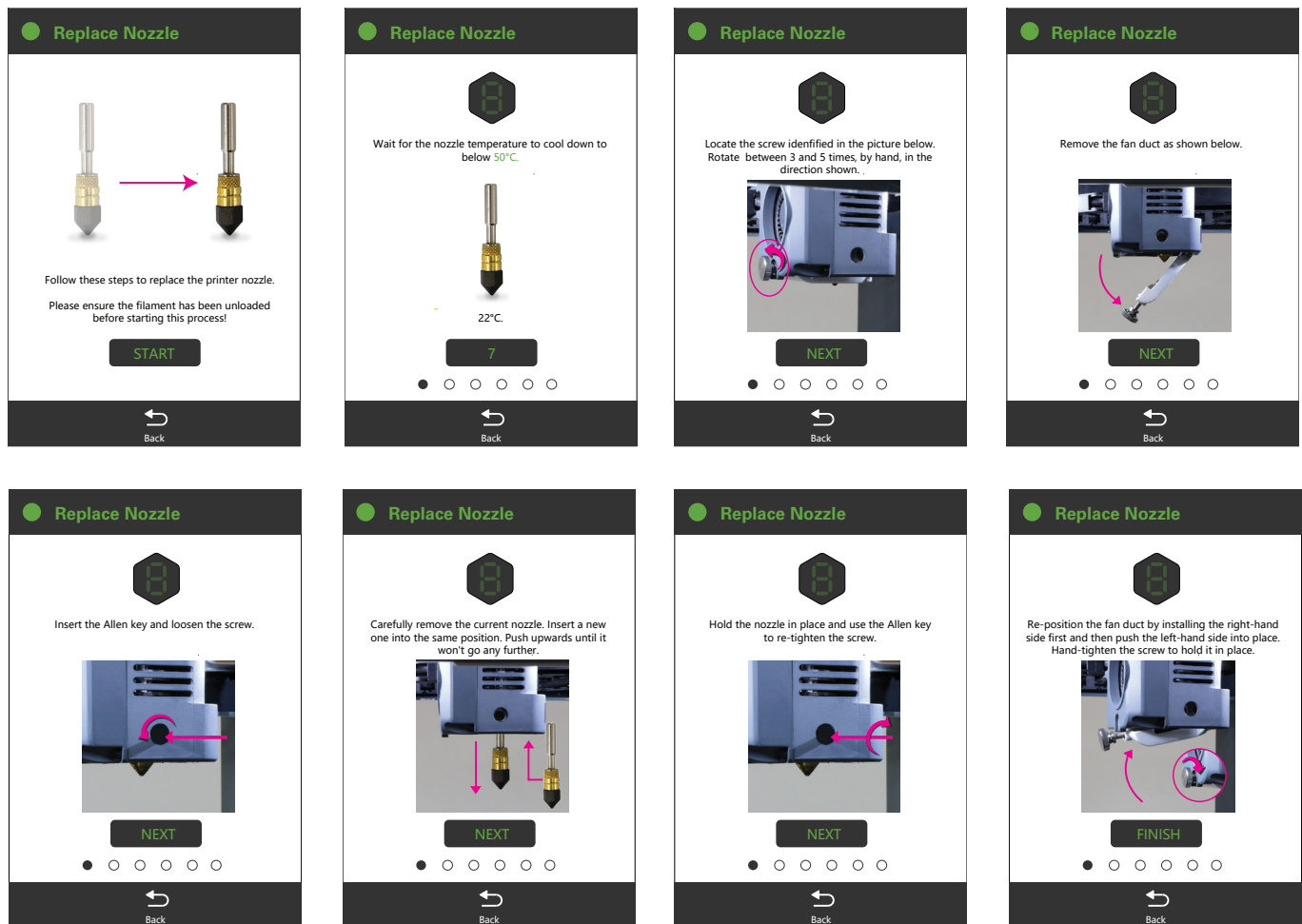




• **Print Bed Calibration:** The on-screen instructions here provide you with guidance on how to adjust the distance between the nozzle and the Heated Print Bed to ensure that your model prints correctly. The smaller the distance, the more 'squashed' the filament will be to the bed, whereas a larger gap may cause the filament not to adhere to the bed correctly. Follow these step-by-step instructions to see how to make this adjustment for a successful print:



• **Replace Nozzle:** Whilst the printer has been built to be robust, given the nature of melting and hardening material in order to extrude through the print head, and by using multiple materials, there may sometimes be a small blockage in the nozzle. The PlaySmart 3D printer comes with 3 replacement nozzles and a very easy step-by-step process to swap one for another. Simply follow the on-screen instructions for how to do this; see below:



• **Language:** The PlaySmart 3D Printer comes with a number of available languages. You select your language of choice during initial set-up of the printer. However, you can change this at any time by accessing this menu under 'Settings' and selecting your new language.

• **Pair the Printer:** This is where you pair your printer to your mobile phone to enable you to use the PlaySmart App. Once you have downloaded the App from the App Store or Google Play you must input the serial number of your printer, or alternatively you can scan the QR Code that you find on this screen. Once this process has been completed you will be able to print remotely from your mobile phone to your PlaySmart 3D printer.

• **Firmware Update:** This screen tells you which version of Firmware your printer is currently operating. Selecting the 'Check for updates' button will enable you to see if there is a later version available.

• **Reset:** By selecting 'Reset' and pressing 'confirm' it will delete any data that has been stored on the printer, such as videos and print history. Please only confirm if you wish to delete all of this data.



# INSTALLING THE POLAROID SMARTPREP SOFTWARE

To install the Polaroid SmartPrep software, please visit: [polaroid3d.com/software](https://polaroid3d.com/software)

You will then need to insert your serial number and email address to download the software for either Mac or PC.

Your serial number can be found on the base of your printer. Please ensure your printer is switched off and unplugged before carefully lifting your printer to make a note of your serial number.

Once you have downloaded the software and double clicked on the installer, the installation process will then begin. Please follow the on-screen messages to complete installation.

## POLAROID SMARTPREP SOFTWARE

**IMPORTANT NOTE:** Before printing you must first have your model saved in the correct format; this is 'G-code'. In order to do this, please ensure you have downloaded the Polaroid SmartPrep Software, see above for instructions.

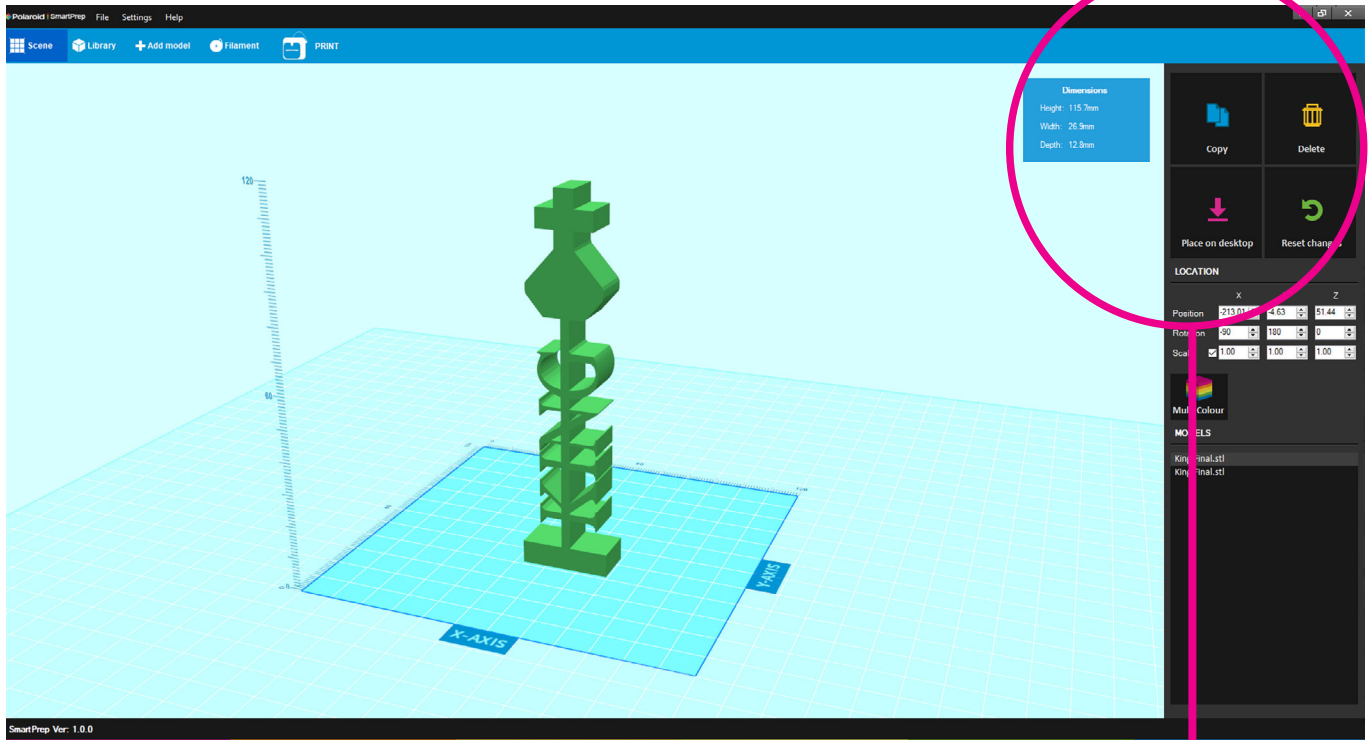
The Polaroid SmartPrep software has been designed to be easy-to-use, even if you have little or even no 3D printer experience.

Saving your model can be achieved in 2 easy steps:


1. Open the Polaroid SmartPrep Software and select 'Add model' at the top of the screen and locate the .stl file that you wish to print. Your model will then be loaded onto the print bed area. *(Note: this is the only file type that can be imported into the Polaroid SmartPrep Software).*
2. Select 'Print' at the top of the screen, and confirm by pressing 'Print' again on the pop-up dialogue box.


Select to save your file for printing, choose the correct location on your computer and then click save.


# DESKTOP FUNCTIONS




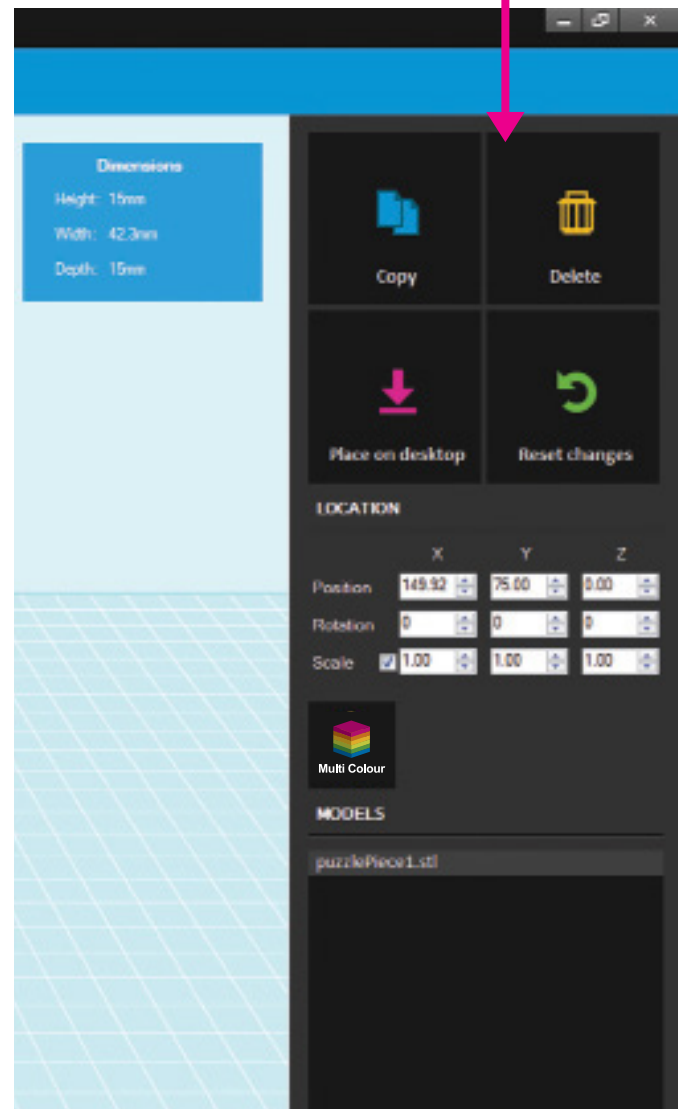
<b>Dimensions</b> Height: 15mm Width: 42.3mm Depth: 15mm	<p>This box provides you with the height, width and depth dimensions for the model that you have selected.</p>
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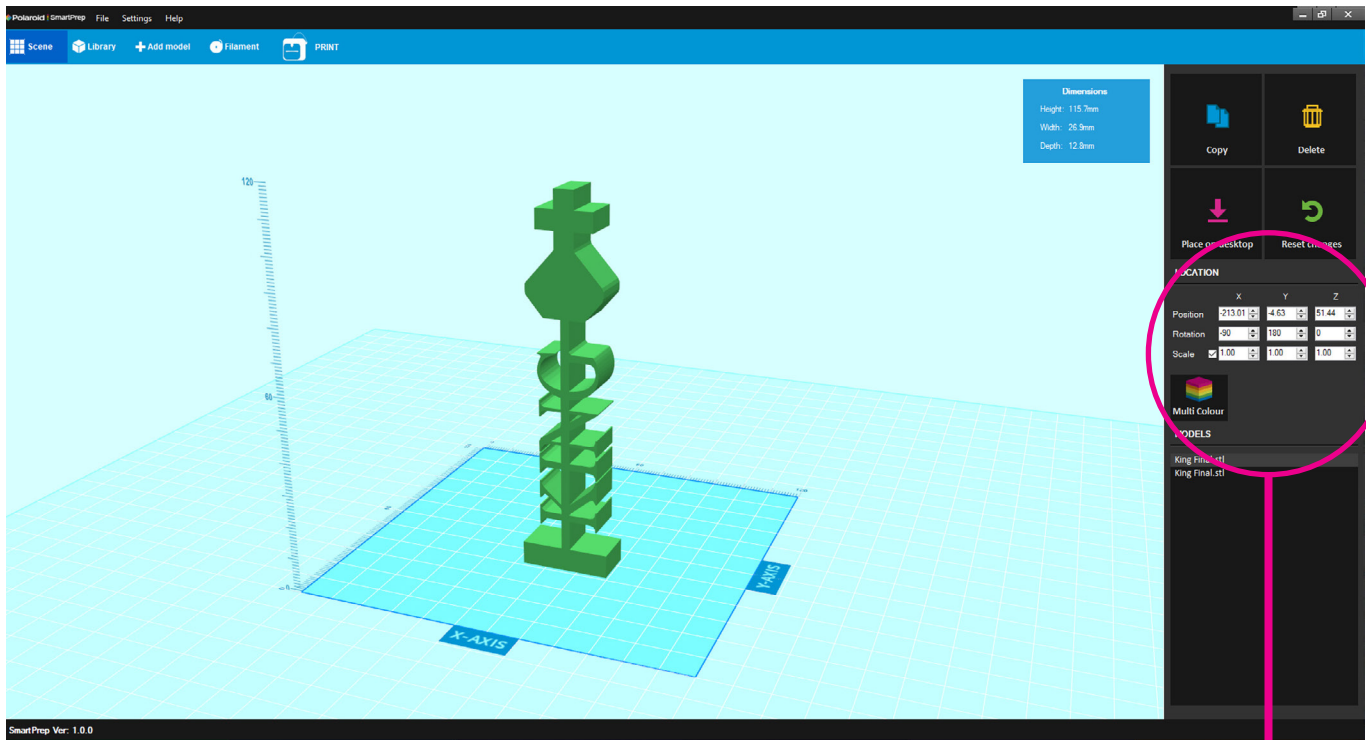
 <b>Copy</b>	<p>This button allows you to make a copy of the model you currently have selected. You can make as many copies as you like.</p>
--	---

 <b>Delete</b>	<p>If you no longer want a model, make sure it is selected and then press this button to delete. You can also delete by pressing delete on your keyboard. Pressing and holding your delete key will delete all of the models, one-by-one.</p>
--	---

 <b>Place on desktop</b>	<p>If you re-position your model whilst editing and it is raised off the print bed then pressing this button will place the model back onto the bed.</p>
--	--

 <b>Reset changes</b>	<p>If at any point you want to revert your models and print area to how it was before you last saved, then this button will reset your changes.</p>
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**Position** 149.92 75.00 0.00

These boxes provide you with the X,Y and Z position of the selected model on the print bed area. To adjust the model position using these boxes you can either use the arrow buttons, manually type in a new position, or click into the box where the numbers are and use the scroll button on your mouse. Alternatively models can be moved with the mouse by clicking and dragging within the print bed area.

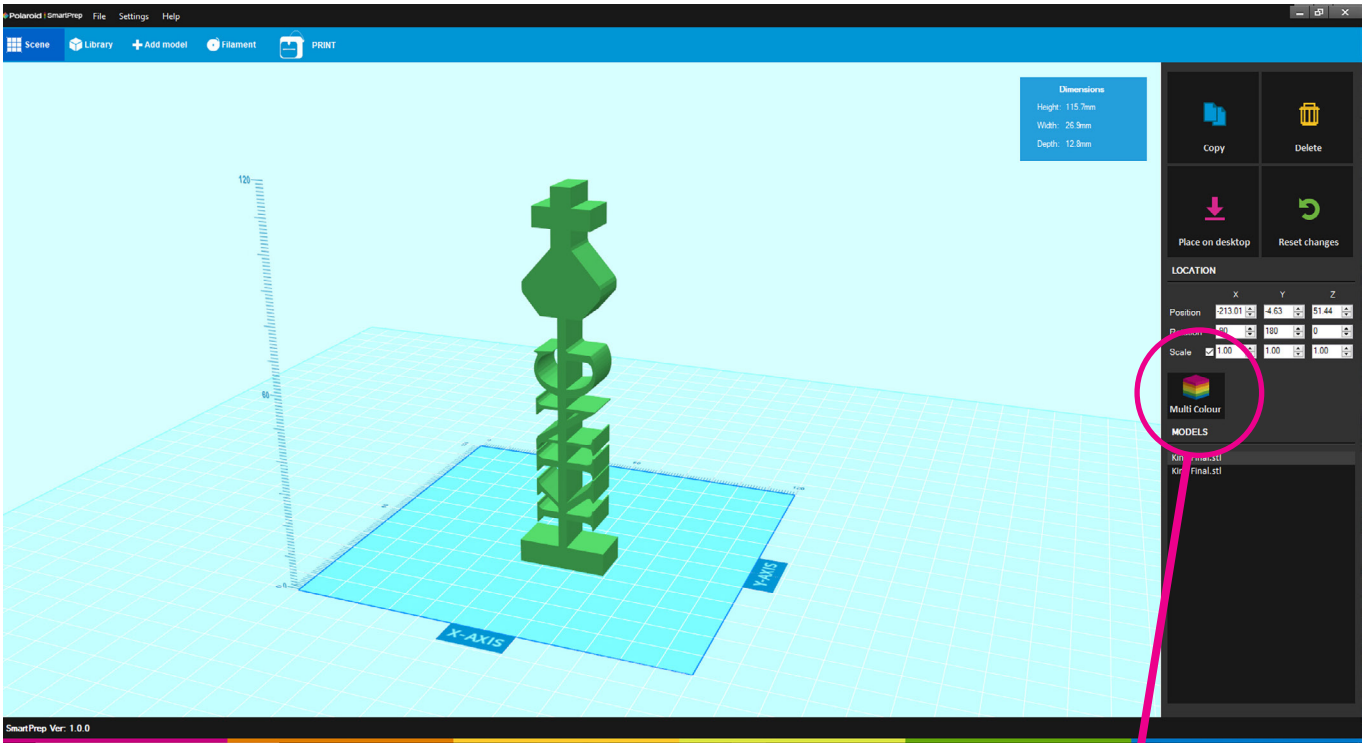
**Rotation** 0 0 0

These boxes provide you with the angle of the selected model on the print bed area, starting at a zero position when first imported. This then allows you to rotate the position on the bed. To adjust the angle of the selected model using these boxes you can either use the arrow buttons, manually type in a new angle (in degrees), or click into the box where the numbers are and use the scroll button on your mouse.

**Scale**  1.00 1.00 1.00

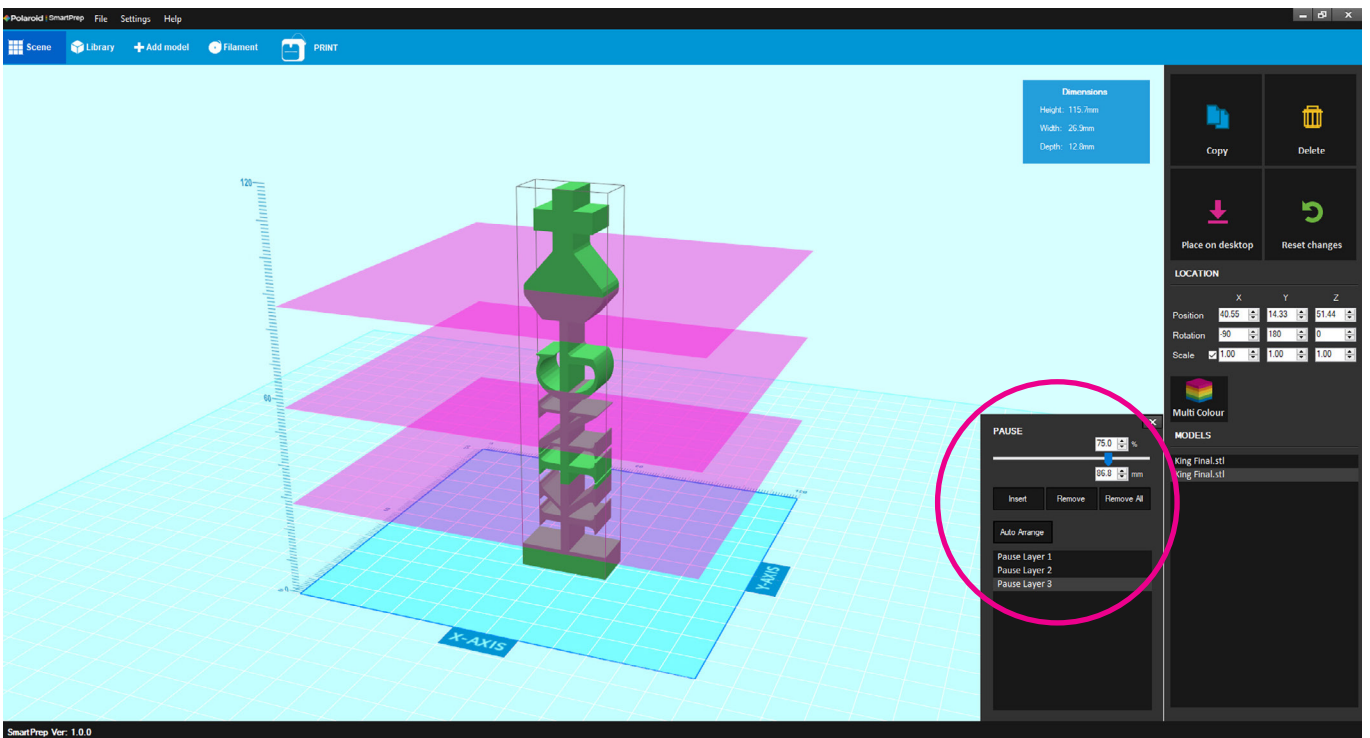
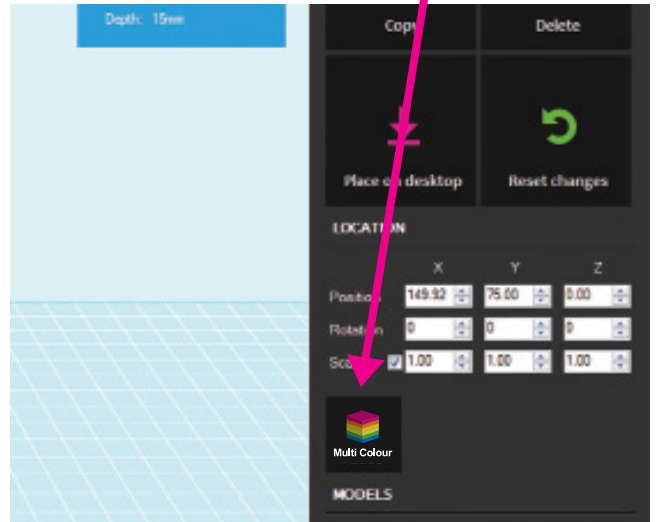
These boxes allow you to adjust the size of your models. Starting at a scale of 1, you can then scale up or down in multiples (i.e. 2 would be twice the size). To adjust the scale of the selected model using these boxes you can either use the arrow buttons, manually type in a new scale, or click into the box where the numbers are and use the scroll button on your mouse. With a tick in the left hand box you can scale your model proportionally; unticking this will allow you to scale along one axis individually.





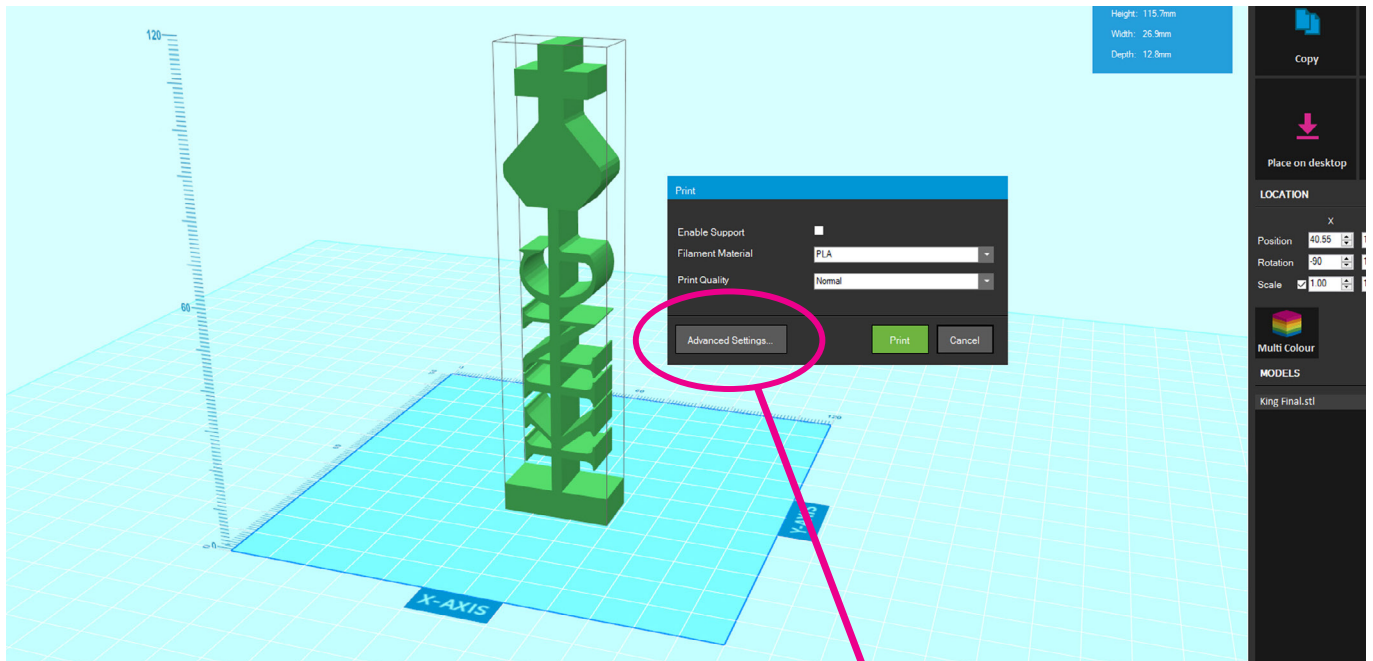
Although the Polaroid PlaySmart 3D printer has only one extruder, you can easily print models in multiple colours.

By selecting Multi Colour in Polaroid SmartPrep you can pre-set the printer to pause at certain intervals during your print. By clicking Multi Colour it will insert a 'pause' onto your print bed area (seen as a pink layer). You can then move this to where you want it on your model, either by using the slider, or by typing in a position in millimetres (working from the bottom of your model upwards) or even a percentage point. You can set as many pauses in your print as you like. You can also easily space these equally by clicking the Auto Arrange button.





## ADVANCED SETTINGS



Print Presets: **Default** Save Preset As... Delete

All Advanced Settings are set to their default position for standard printing. This allows you to just go ahead and print without needing to adjust anything. If however you want to make changes, you can do so easily.

Print

Print Presets: **Default** Save Preset As... Delete

Print quality (micron) **200**

Print speed (mm/s) **50**

**SUPPORTS**

Type of support  Lines  Grid

Create support from minimum Angle (°) **30**

Distance between supports and model in X,Y axis(mm) **0.7**

Distance between supports and model in Z axis(mm) **0.1**

Density of filament in supports(%) **15**

Create supports with direct touch to bed

**PROPERTIES**

Shell thickness (mm) **0.8**

Fill Density **15**

Number of layers at the beginning and at the end of the print **5**

**MODEL BASE**

Model Base: **None**

OK Cancel

Print quality (micron) **200**

Print speed (mm/s) **50**

There are two main things that can affect the quality of your print; one is the layer height (measured in microns) and the other is print speed (measured in millimetres per second). Using these sliders here you can adjust both settings. The quality ranges from 50 to 300 microns (0.05mm to 0.30mm) with a default of 200 (0.2mm). The speed ranges from 20mm/s to 100mm/s with a default of 50mm/s. **Note:** the smaller the micron number, the finer the print detail (as you are printing more layers) and the lower the speed, the better quality of print (as there is less vibration whilst printing).



## SUPPORTS

Type of support

Lines  Grid

Create support from minimum Angle (°)

30

Distance between supports and model in X,Y axis(mm)

0.7

Distance between supports and model in Z axis(mm)

0.1

Density of filament in supports(%)

15

Create supports with direct touch to bed



Support structures can be important in 3D printing as the method of printing one layer on top of another means that if there is an overhang within the model (where the layer being printed has nothing underneath to rest on) then this can cause a print to fail.

To print with supports on the Polaroid PlaySmart is easy; you simply tick the box that says 'Enable Supports' when you click Print. This will turn on the default supports, which places them anywhere on your model that has an overhang that is more than 30° from the vertical.

If you wish to adjust some of the support settings yourself then you can do so under the Advanced Settings. These include being able to adjust the type of support (default is a line support, or if more support is needed you can change to a grid structure), and also adjusting what angle the supports will initially be applied from, as well as other more advanced settings.

## PROPERTIES

Shell thickness (mm)

0.8

Fill Density

15

Number of layers at the beginning and at the end of the print

6

Under the Advanced Settings you can also adjust the way that your model is printed.

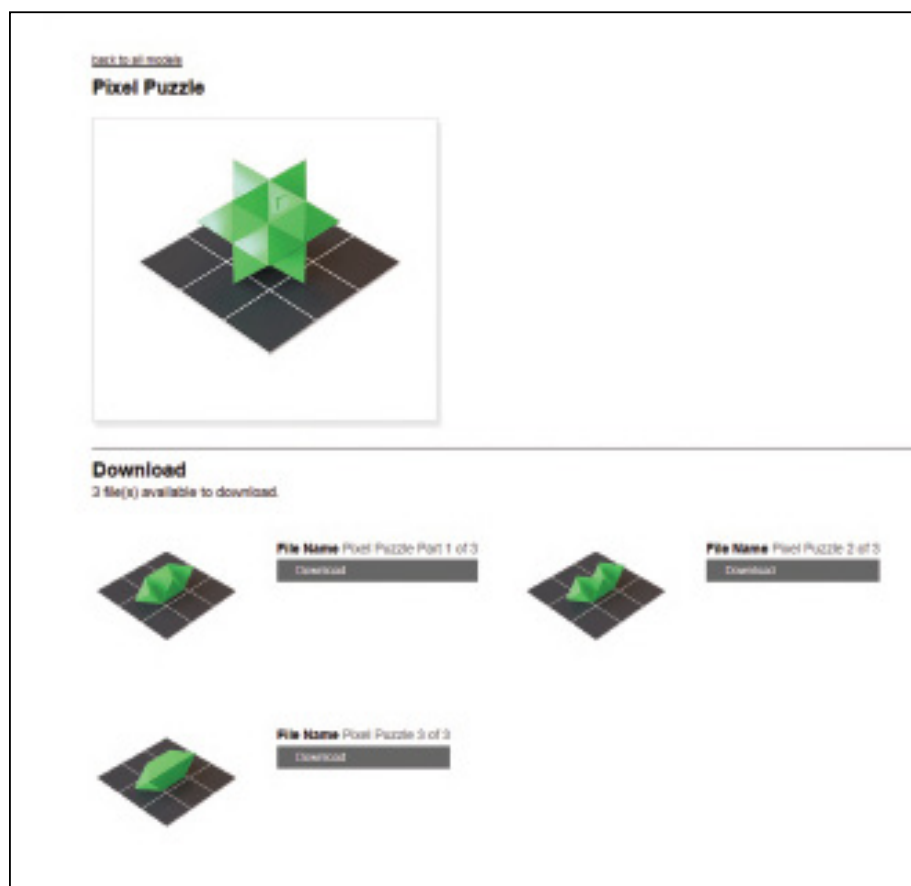
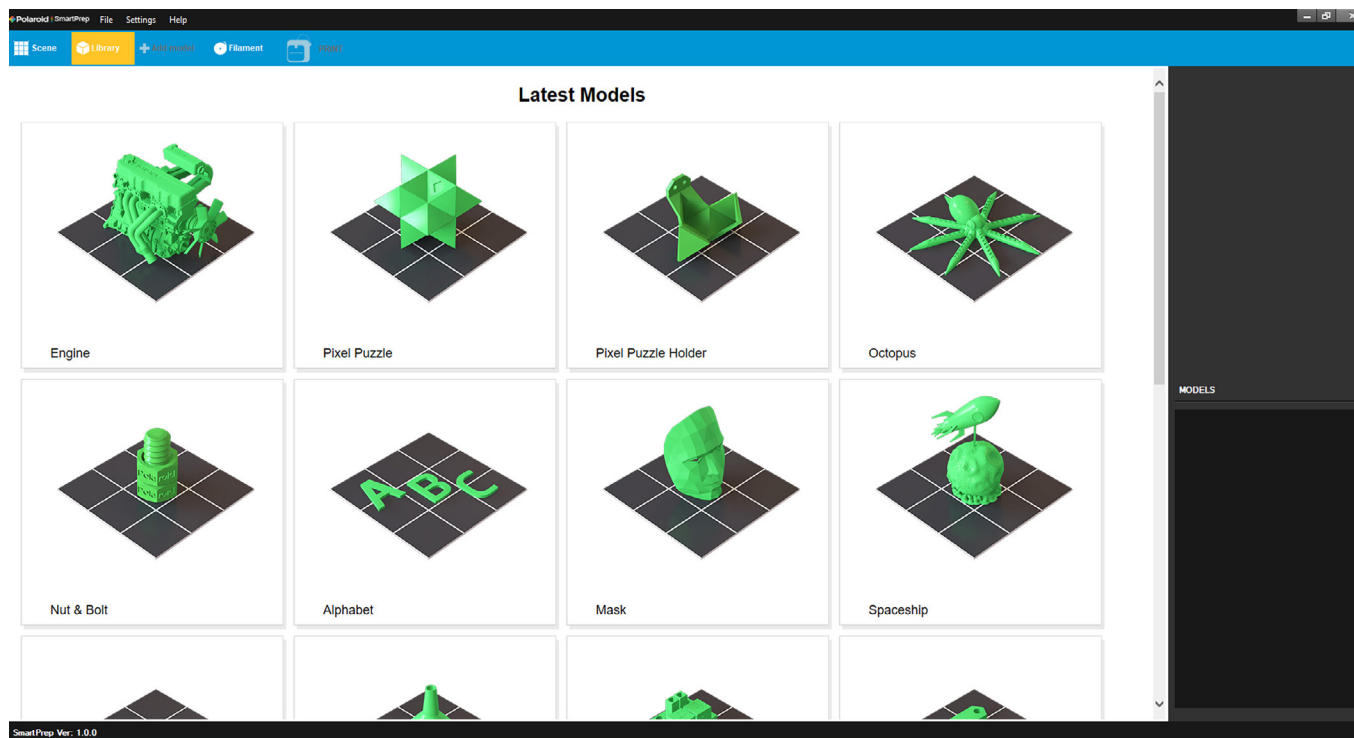
With this form of 3D printing, models are printed with a solid outer wall, surface and base and then a grid infill (i.e. it isn't solid throughout). Under the Properties section of the Advanced Settings you can adjust some of these features.

Shell thickness allows you to adjust how thick the outer walls of your model are in millimetres.

The fill density adjusts the grid inside the model. The default is set to 15% but if you wanted a completely hollow object you can slide this down to 0%, or for a more solid object simply slide the scale up towards 100%.

The other 'Properties' setting is to adjust the number of layers at the beginning and end of each print. This is default at 6 layers but can be adjusted up or down accordingly.

## MODEL LIBRARY



The Polaroid SmartPrep Software accepts .stl file types; .stl being the industry standard format for 3D printable models.

To print a model you can either design it yourself and import into Polaroid SmartPrep, or download from one of the many existing online model libraries already available (free of charge). Alternatively you can download from the Polaroid Model Library that is built into the Polaroid SmartPrep Software.

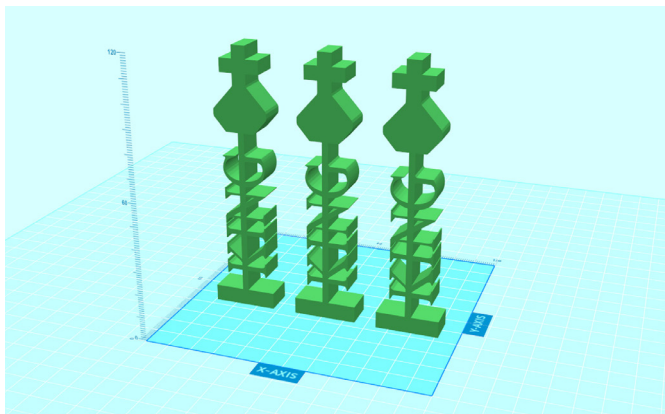
By clicking on the Library button at the top of the screen, it brings up the available models.

Selecting a model will then open up a new screen that provides you with a Download button. Once downloaded you will see the file name of that model appear in the model list on the right hand side of Polaroid

SmartPrep. Clicking on Scene in the top left of the screen will then take you back to your print area ready for printing.

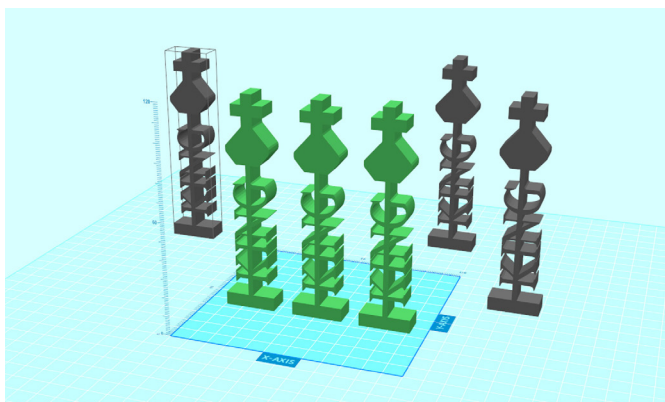
If the model you have selected has multiple parts to it then you will see each of the individual components and can download all of the parts that you need and then click Scene to return to your print area.

## PREPARING, PRINTING AND SAVING YOUR SCENE



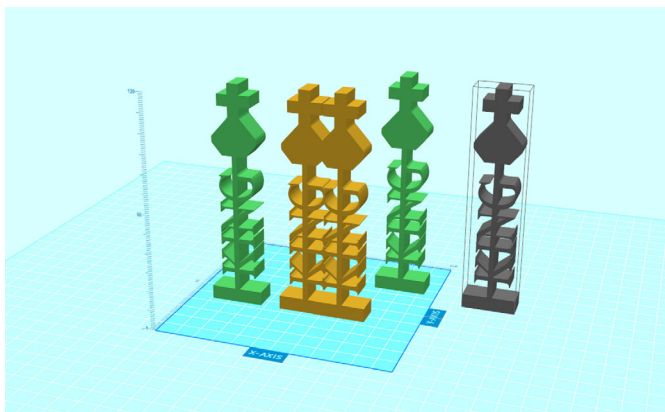
If copying an object when you first open Polaroid SmartPrep, it will copy one object behind another (as shown in the first image), allowing you to then arrange the items on the print bed as you wish. You will notice that this even keeps copying objects outside of the print bed area (the model shown in grey).

Alternatively, if you click on Settings at the top left of the screen you will be able to select Auto Arrange. This will then place objects into the optimum print position (to minimise the movement of the printhead) when copying objects (as shown in the second image).



If you see an image in grey within your workspace it means that it is partially or wholly outside of the print bed area. If you choose to print at this point, the object in grey will simply be ignored.

If you happen to overlap one model with another, you will see that they turn orange (as seen in the third image). This is to identify to you that they have overlapped, however the software will allow you to continue printing and the overlapped objects will print as they appear, i.e. merged into one new model.



If you have multiple objects to print but not all at one time, then you can simply place the models you want to print later off the print bed but within the workspace area (shown in light blue) and then select File and Save Scene from the headers at the top left corner of the screen. You can then return to this scene at any point in the future to continue printing the other models from the workspace area.

# TECHNICAL SPECIFICATIONS

Polaroid PlaySmart 3D Printer			
Printer dimensions	270 (w) x 320 (h) x 300 (d) mm / 10.6 (w) x 12.6 (h) x 11.8 (d) in	PLA	✓
Max Model Size	120 x 120 x 120 (mm) / 4.7 x 4.7 x 4.7 (in)	PETG	✓
Printer Weight	5KG	P-Wood	✓
Resolution	50 - 300 microns	Wi-Fi Camera	✓
Speed	80 mm/s	One Click Print	✓
Nozzle Diameter	0.4mm	Mobile App	✓
Filament size	1.75mm	360° Fan Duct	✓
Data Transfer	SD Card, USB, Mobile App (Wi-Fi)	Heated Bed	✓
Guarantee	12 month manufacture's guarantee (this may differ by state/country according to minimum statutory requirements)	Auto Support Generation	✓

## CLEANING AND MAINTENANCE

It is important that your Polaroid 3D printer is kept clean at all times in order to ensure continued consistency in your prints. Please follow the simple points below to help maintain your printer.



Keep the exterior of your printer clean by using a damp cloth to remove any dust or dirt. Ensure that the printer is switched off before you clean and be careful not to get water near any of the electrical components. Please take extra care if wiping down the LCD screen as too much pressure or water in the display could cause damage to the touchscreen functionality.

It is important to ensure that the extruder remains clean and free from any residual filament prior to each print otherwise the nozzle could get blocked and the print may not be successful.

Please ensure that you do not leave any item, model or residual material underneath or around the print bed, or anywhere inside the printer when printing as these could obstruct the movement of the extruder and print bed which could possibly result in an unsuccessful print.



To clean the glass print bed, firstly, please ensure that the bed is completely cool and that your model and any remnants of filament material have been removed, and then carefully wipe the bed with a clean cloth and warm water or specific glass cleaning solution. Please then ensure that the bed is completely dry before sending your next print.

**NOTE:** The bed can be removed to help with this process if required. If doing so, please disconnect the cable first and then remove extremely carefully. Please replace and ensure it is correctly reconnected before your next print.

# POLAROID 3D PRINTER GUARANTEE

## 12 MONTH GUARANTEE

The manufacturer guarantees this printer against any defects in both material and workmanship for a period of 12 months (unless minimum statutory requirements otherwise) from the date of purchase. It does not include wear and tear, and is based on fair use with regular maintenance.

Should any defect(s) be discovered, please first visit our online troubleshooting support page at **polaroid3d.com/support**. However, if a problem occurs during the 12 month period that cannot be rectified remotely or on site by the manufacturer's technical team then you may be requested to return the printer. The information below outlines the process you must follow in order to return your printer for repair.

Your serial number and proof of purchase will be required in order to process your claim.

Please ensure you include a copy of your sales receipt when you return the product.

## A SIMPLE RETURN PROCESS

1. Contact the manufacturer's customer service team by visiting [polaroid3d.com/contact](https://polaroid3d.com/contact). You will be provided with a Returns Transfer Number (RTN) or advised to return to point of purchase.
2. Clearly write the RTN on the outside of the box or packaging, next to the shipping label (where applicable). The manufacturer will not be responsible for non-traceable packages or packages sent without a valid RTN on the outside of the packaging.

This guarantee is not valid if the product has been damaged by accident, electrical fault, through misuse, abuse, or failure to provide reasonable care as outlined within this User Guide. If the product has been altered without written authorisation from the technical team then the guarantee will not be valid.

All implied guarantees, including any implied guarantee of fitness for any particular purpose, are limited in duration to 12 months from the date of original purchase. In no event will the manufacturer be responsible for consequential damages resulting from the use of this product.

The above limitation or exclusion may not apply to you to the extent that applicable law may not allow the limitation or exclusion of liability for incidental or consequential damages.

Using third party software applications or using non-Polaroid filament may invalidate this guarantee in the event of damage subsequently being caused to the printer.

Tampering with the printer in any way may invalidate the guarantee. Please contact the manufacturer's team if you have any technical enquiries via [polaroid3d.com/contact](https://polaroid3d.com/contact).

**AFTER SALES SUPPORT:** The manufacturer has a dedicated team of 3D printing specialists that are available to help with any problem or question you may have regarding your 3D printer. Please contact our team at **polaroid3d.com/contact**.

**MAINTENANCE:** It is important that your Polaroid 3D printer is kept clean at all times. For best print output it is recommended to keep the extruder nozzle(s) clean, and check regularly for any residual filament build up, as these may cause subsequent unsuccessful prints. Please contact **polaroid3d.com/contact** for guidance on how to remove any such build up.



# CERTIFICATIONS AND COMPLIANCE

## CERTIFICATION

The Polaroid PlaySmart 3D printer is compliant under the following applicable EU certifications:

- **FCC:** The **FCC Declaration of Conformity** or the **FCC mark** is a certification mark employed on electronic products manufactured or sold in the United States which certifies that the electromagnetic interference from the product is under limits approved by the Federal Communications Commission.
- **Proposition 65:** (Safe Drinking Water and Toxic Enforcement Act of 1986) requires products to be clearly marked with warning signs if they include any chemicals which have been deemed to potentially cause cancer, birth defects or other reproductive harm. This product has been tested and does not contain any chemicals which require this warning mark.
- **CE Marking:** Following all of the above required legislation and certification enables each of the Polaroid PlaySmart 3D printers to proudly carry the CE Mark which confirms that they have been approved under each of these Directives.
- **RoHS Directive 2015/863/EU:** This is the Restriction of Hazardous Substances Directive. Its purpose is to restrict the use of hazardous materials in the manufacture of various types of electronic and electrical equipment. Each individual component of the equipment has been tested in order to ensure that the Polaroid PlaySmart 3D printers are approved under this Directive.
- **Radio Equipment Directive (RED) 2014/53/EU:** This Directive allows electrical equipment to be approved by any EU member country, by provision of a set of common broad objectives, covering specific regulations that the product is tested against. The Polaroid PlaySmart 3D printers are tested and approved under this Directive.
- **WEEE Directive:** The Polaroid 3D printer team is WEEE compliant in all applicable EU countries in which the product is supplied. This ensures that responsibilities are fulfilled in regards to the electronic waste that is generated through the sale of the Polaroid 3D printers and consumables within this territory.
- **Green Dot Packaging Waste Directive - 94/62/EC:** This directive ensures that manufacturers whose products use packaging are responsible for either recovering their own packaging waste, or contributing to the cost of recovery and recycling of such waste. The Polaroid 3D team is registered and compliant against this directive across the applicable European countries.



**RoHS**



## FAQs AND TROUBLESHOOTING

Customer feedback on our PlaySmart printer has been extremely positive with trouble-free printing being highlighted as one of the many benefits of the printer. If however you are experiencing any challenges, please take a look at our FAQs and Troubleshooting questions below or check the User Guide (which can be found at [polaroid3d.com/support](http://polaroid3d.com/support)) to see if it can help.

### I can't get the printer to extrude any filament.

If you are trying to print but no filament is being extruded, please follow the 'Load' process via the LCD screen. This will start the extrusion process and hopefully filament should be released from the nozzle.

Should this not resolve the problem, please carefully remove the plastic tubing from the top of the push-fitting on top of the printhead (to do this, push the push-fitting downwards whilst gently pulling the tube upwards).

Please then repeat the extrusion process as above, but this time gently apply pressure by pushing the filament downwards into the top of the printhead. This should then allow the filament to free-flow and extrude correctly. Please remember to re-attach the plastic tube into the push-fitting before commencing your next print.

Should the above process not resolve the problem please contact the team via **[polaroid3d.com/contact](http://polaroid3d.com/contact)**.

### I can't unload the filament from the extruder.

To unload the filament from the printer, please select 'Filament' and then 'Unload' on the LCD.

If this does not successfully unload the filament, please carefully remove the plastic tubing from the top of the push-fitting on top of the printhead (to do this, push the push-fitting downwards whilst gently pulling the tube upwards).

Once the plastic tubing has been removed from the printhead section (only), please follow the 'Unload' process again to retract the filament, whilst gently pulling the filament (by hand) from the top of the printhead. Try this process a maximum of two times should the first time be unsuccessful.

If the second retraction still hasn't freed the filament, please re-affix the plastic tubing back into the printhead push-fitting and follow the 'Load' process instead. This will start the extrusion process (rather than retraction) which should loosen and free the filament.

Once you see filament being extruded (please only try this process a maximum of two times), please repeat the retraction process once again. The filament should now be loose and unload successfully.

Please remember to re-attach the plastic tubing into the push-fitting before commencing your next print.

If the above process is not successful please contact us via **[polaroid3d.com/contact](http://polaroid3d.com/contact)** and one of our team will guide you through a resolution.

## I am having problems removing my model from the print bed.

Please allow the model to cool completely before trying to remove from the print bed. By doing so the model should release itself from the bed gradually as the filament cools down to room temperature, allowing you to simply pick up the model from the bed. Please do not try to remove the model from the bed whilst the bed is still hot as the purpose of the heat from the bed is to firmly hold the model in place whilst printing. The LCD screen will tell you the current temperature of the bed. Depending on the size of the base of the model it might be necessary to apply gentle force in a twisting motion to remove the model, without lifting up the glass bed and only when the bed is fully cooled.

## I have items missing/damaged when unpacking my printer for the first time.

Please get in touch with one of our team via [polaroid3d.com/contact](https://polaroid3d.com/contact) and let us know what is missing or damaged. Please note that you will need to provide us with your serial number and proof of purchase for the printer so that we can follow this up for you.

## Why did the printhead extrude a different colour filament from what is installed on the very first extrusion?

Before the Polaroid PlaySmart 3D printers are despatched to you, they undergo rigorous quality control testing to ensure that they are performing perfectly for you. Part of this test is to print a test model on the printer to confirm that the quality output matches our pre-determined standard.

If you are seeing a small amount of a different colour filament extruded on the very first time you print with your printer it is because a different colour filament was used during this testing phase.

When loading your new filament, after the first section of extrusion you will be asked to either 'Confirm' or extrude '10mm more'. Select '10mm more' until you no longer see the previous colour. Once your new colour is running through, please select 'confirm' on the LCD.

**NOTE:** Please follow this same process when changing colours or materials.

## My prints are warped across the base.

If you are seeing a slight warping across the base of your model when completed, (meaning that the model you have printed does not sit flat) please firstly double check your settings when saving your print file and ensure that you have selected the correct print material when saving the file as this will ensure that the extruder is heated to the correct temperature.

If you have confirmed that your settings are correct and you are still experiencing some warping then please check that you have the 'brim' function selected within the Advanced Settings in Polaroid SmartPrep (note that this is selected as the default in the software).

This will print a small amount of filament as a 'brim' around the external diameter of your model. The purpose of this is to retain heat at the base of the model to allow the filament to adhere to the bed and remain at a temperature that means it will not contract too quickly (which causes the warping) while the remaining print is completed.

A brim is especially recommended for models with large, flat bases where a large quantity of material is printed at the start of a print and the level nature of the bottom of the model is particularly important.

## When should I use a brim on my model?

A brim can be used on any model. However, it is especially recommended when printing models with large, flat bases as this helps to retain heat around the base of the model whilst it completes printing, ensuring that it doesn't cool too quickly as this is what could cause warping on your print.

If printing a model that has a complicated outline to it, a brim could be quite difficult to remove, particularly depending on the Print Bed Calibration. For example, if your nozzle is quite close to the bed then the filament will be more 'squashed down' when printing. This could mean that removing the brim may be more difficult. In order to adjust this, please print with a slightly increased gap between the nozzle and the print bed (but not too far that the first layer doesn't adhere properly to the bed). This should make the connection between the brim and the model less rigid and therefore easier to remove. This adjustment of the calibration is something that you will very quickly learn, including how and when to adjust based upon what you are printing.

## I am trying to print a model that is the maximum size of the print area, with a brim, but it isn't printing successfully.

If printing with a brim, the brim must be included within the maximum print area. This will mean that your model must be slightly smaller than the print area to allow for the brim.

Please note that the brim itself needs 5mm around the entire perimeter of your model so please reduce any model that is the maximum print size by this amount on each side.

## I am trying to download Polaroid SmartPrep Software but it is not recognising my serial number.

Firstly, please double check that you have entered the serial number correctly, located on the bottom of the printer.

If you have confirmed this and you are still experiencing problems then please get in touch with one of our team via [polaroid3d.com/contact](https://polaroid3d.com/contact) and we will rectify the problem.

Please do note however that you will need to provide us with proof of purchase for the printer relating to the serial number that you are experiencing difficulties with.

## If I pause my print why does it carry on printing for a few seconds after I have pressed pause?

The printer will continue printing until it has finished the last command it has received, which may include several movements of the printhead. Once it has completed this set of commands the printhead will stop and the bed will lower slightly and the head will move to the front left corner of the printer. Please do not reach into the printer until the head and bed have finished moving. Even then please be aware that the nozzle and print bed will still be very hot and therefore could cause a burn if touched.

## I am trying to install a cartridge and I can hear a knocking sound from the printer.

Do not worry if you hear a brief knocking sound when loading new filament, this is because the motor that pushes through the filament into the printhead runs at a slightly faster speed when loading filament than it does when printing therefore what you hear is the working of this motor.

Should this knocking sound continue whilst installing the cartridge and no filament is extruding, please try unloading and reloading your filament, whilst gently applying pressure where the filament enters the push-fitting (see ['I can't get the printer to extrude filament'](#) for more information). This should enable the filament to flow freely from the nozzle. However, if you have tried this and are still hearing the same noise, please contact our team via [polaroid3d.com/contact](https://polaroid3d.com/contact) and they will guide you through a solution.

## Is Polaroid SmartPrep compatible with both Windows and Mac?

Polaroid SmartPrep is currently compatible with Windows 7, 8 and 10 and macOS 10.13

For expert users wishing to make adjustments not supported by the Polaroid SmartPrep software, we recommend using third party software, Cura. However, please firstly contact our team via [polaroid3d.com/contact](https://polaroid3d.com/contact) so we can advise you on the aspect you wish to adjust as misuse of the printer could invalidate the printer warranty.

Do note that this software is not in any way related to Polaroid or any of its licensees/affiliates and we do not accept responsibility for its content, the printability of any of the models sliced using the software or any other aspect whatsoever of its functionality.

## My print bed doesn't seem to be heating up before each print.

If you are trying to print but your print bed doesn't seem to be heating, please turn off your printer, disconnect the cable from the back of the print bed, and leave for a minimum of 30 seconds before reconnecting and turning your printer back on. The bed should now heat correctly.

If this does not solve the problem, please contact our team via [polaroid3d.com/contact](https://polaroid3d.com/contact) and they will guide you through a solution.

## My model doesn't seem to be printing correctly on the first few layers; one side looks more squashed to the bed than the other.

If this is happening it could mean that you need to readjust the bed levelling and/or nozzle calibration. You can do this by selecting 'Settings' on the LCD and then following the 'Bed Levelling' or 'Print Bed Calibration' processes. This will ensure that your bed is level before printing and that the nozzle is the correct distance from the print bed before printing.



## I am using the Multi-Colour function from Polaroid SmartPrep but the new colour isn't extruding from the nozzle when I am trying to load it.

To load new filament during a Multi-Colour print, please follow the 'Load' process via the LCD screen when prompted to do so whilst the printer is in pause mode. This will start the extrusion process and filament flow through the nozzle.

Should this not be the case, please carefully remove the plastic tubing from the top of the push-fitting on top of the printhead (to do this, push the push-fitting downwards whilst gently pulling the tube upwards).

Please then repeat the extrusion process as above, but this time gently apply pressure by pushing the filament downwards into the top of the printhead. This should then allow the filament to free-flow and extrude correctly.

Should the above process not resolve the problem please contact our team via **[polaroid3d.com/contact](https://polaroid3d.com/contact)**

## I am trying to adjust the temperature of my nozzle/print bed via the LCD screen however it doesn't seem to be changing.

As the nozzle and bed temperatures are pre-set in the Gcode when you sliced your model in the Polaroid SmartPrep software, you will need to allow the first few layers of your model to print before trying to adjust manually on the LCD screen. Trying to adjust too early will not take effect as the Gcode will simply override your changes. Once the first few layers have printed you may adjust via the LCD screen.

## I am trying to print a V-Shaped model that has the characteristics of a V-Shape but it keeps failing as it gets near to the top. Is there something I can do to stop this?

This could be happening because of the contraction of the material as it cools. Because the model you are trying to print is V-Shaped, as it contracts it may bend inwards slightly at the top. This bend means that the model is actually slightly taller than it should be and therefore it could cause the nozzle to catch as it passes the top of the model. If this is the case then it could cause the model to fail because the base of the model has either moved from its correct position on the bed, if the nozzle knocks it with sufficient force, or it momentarily stops the nozzle from moving to its next position, and therefore causes a 'stepping' effect.

If this happens then please try adjusting the layer height when slicing. This should give you a larger gap between the top of your model and the nozzle, allowing for free pass of the nozzle as it moves over the top of the printed model. Alternatively, you may wish to rotate the model in Polaroid SmartPrep to a more suitable direction and print with a brim.

## I can't seem to get my SD card into the slot on the front of the printer

Please ensure that the metal connectors on the SD card are facing upwards as you insert it into the printer. If this does not resolve the problem, please contact the team at **[polaroid3d.com/contact](https://polaroid3d.com/contact)**

## Do I need to manually adjust the temperature?

The PlaySmart 3D printer offers the ability to manually adjust the temperature, should you wish to. However if using the Polaroid SmartPrep Software to slice your models, then the appropriate temperature will be pre-set in the print file (gcode) of the model when you save it. This temperature will be set based on the profile that you have chosen which includes the material type that you are going to use and therefore the correct temperature for that material will be applied; this means that you will not need to manually adjust while printing.

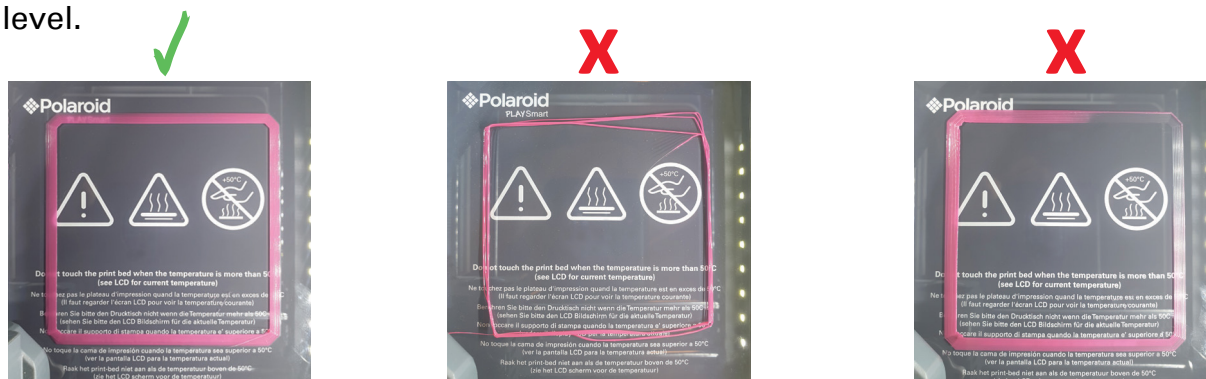
## Can I use different materials?

The filaments that are compatible with the PlaySmart 3D printer are the Polaroid Universal PLA, PETG and P-Wood filaments. Please note that if you choose to use alternative filaments and they subsequently go on to cause damage to your printer, this could invalidate your warranty.

## Adjusting the bed levelling whilst printing

The PlaySmart 3D Printer has a very simple-to-follow, step-by-step, bed-levelling process via the touchscreen LCD. Although the printer is calibrated and bed-levelled prior to it leaving the factory, you may find that there has been some slight movement during transit which means it could need a slight adjustment prior to printing. Also, if the bed happens to move whilst removing your models, or during cleaning (for example) then you may also need to follow this Bed Levelling process. It may also be advantageous to adjust the bed level depending on the type of model you are printing.

The best way to assess if your bed is level is to visually watch the first layer printing. If the lines that you see are slightly 'squashed' to the bed (not just lightly touching it – see picture) and even across all areas of the first layer then this indicates that your bed is nice and level.



You can however, also use this first layer to adjust the level of the bed whilst printing if you see that one side isn't quite the same as the other. You can do this by manually turning the screws underneath the bed (as explained in the Bed Levelling process; counter-clockwise to lower that corner of the bed and clockwise to raise that corner of the bed). This allows you to make minor adjustments during print in order to help your model print successfully.

## Adjusting the bed levelling and calibration for different models

Being able to manually adjust the bed levelling, and the distance between the nozzle and the bed, before each print can also help you depending on the model that you are printing. If you have a model that has a large, flat base for example, which may be more prone to warping, then it may help to have a smaller distance between the nozzle and the bed. This

will result in the first layer being really 'squashed' to the bed and therefore helping to adhere it more strongly. You make this adjustment using the 4 screws under each corner of the bed whilst it is printing the first layer, to be able to visually see how close this is.

Please note that if the nozzle is extremely close to the bed then you may hear a knocking sound as it is printing. This is because the motor is trying to feed material through the nozzle but there is not enough room for it to extrude sufficiently. If this is the case then please increase the distance between the nozzle and the bed by adjusting the 4 screws until you have the desired bed height.

## I can't log into the app

Once you have downloaded the app and completed the registration, you will be sent a confirmation email to the email address that you registered with. Please confirm your email address by following the instructions on the email. If you do not receive the confirmation email, please check your junk mail.

If you have followed the above process and not received a confirmation email, please contact the team at [polaroid3d.com/contact](https://polaroid3d.com/contact) and we will help to find a solution for you.

## Where is my serial number located?

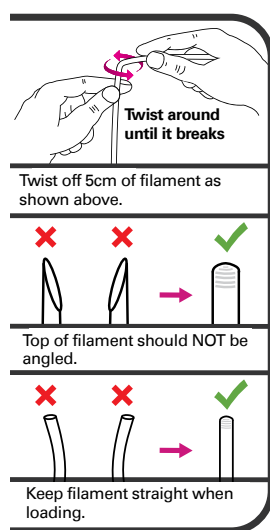
The serial number is located on the bottom of the printer and is a 10 digit number.

## The printer is making a loud buzzing noise when I send my print

This could be the limit switch on the printer that is in place to stop the printhead from moving too far. When this switch is not working properly then the printhead will try to move further than is actually possible and this could cause the noise that can be heard.

If this happens and you are unable to print successfully then please contact the team at [polaroid3d.com/contact](https://polaroid3d.com/contact) to discuss a solution.

## I'm struggling to load the filament into the extruder



Firstly, before loading the filament please ensure that the end of the filament is not flat. You can do this by twisting-off the end of the filament rather than cutting it with a pair of scissors. Also please ensure that the plastic tube is fully inserted into the push-fitting at both the insertion point of the filament and at the printhead.

When loading filament into the extruder, you need to squeeze the two levers on the side of the printer together. Please note that you do not need to squeeze them very hard. If you look inside the casing of the levers as you insert the filament, you will see the gap between the two parts widen and narrow as you squeeze the levers together. As you can

see the filament being guided through this will help you to see just how wide the gap needs to be.



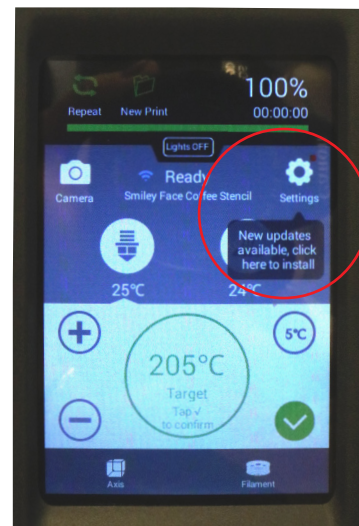
## I've had an error message, what should I do now?

Please take a picture of the error message that you have received and contact the team at [polaroid3d.com/contact](http://polaroid3d.com/contact). Please send the picture that you have taken and describe in as much detail as possible what happened before you received the error message. A short video may also help if you are able to re-create the message.

## How do I know if there is a firmware update available?

If a firmware update is available you will see a pop up in the top right-hand corner of the home screen on the LCD, underneath the Settings button, which tells you 'New updates available, click here to install'.

In order to receive these pop ups, please ensure that your printer is connected to Wi-Fi, click the Settings button on the home screen of the LCD, scroll down to Firmware Update and select the 'check for updates' button. If there is a firmware update available, the printer will tell you the current version of firmware that you have and also the latest version that is available. You will be given the option to 'update now' if there is a newer version for you.



## Why is the printer making a rattling sound?

Because of the mechanical way in which this type of 3D printer works, there is an element of vibration whilst it is printing. Therefore, if you have not thoroughly re-tightened the screws when doing Bed Levelling, they may start to loosen during print. If this is the case you may hear a rattling sound as the screws become loose. Please ensure that all the screws are suitably tight (without adjusting the bed level) before continuing to print. The rattling noise should now have stopped. If this is not the case please contact the team at [polaroid3d.com/contact](http://polaroid3d.com/contact).

## A screw has fallen off of the bed, what should I do?

Because of the mechanical way in which this type of 3D printer works, there is an element of vibration whilst it is printing. Therefore, if you have not thoroughly re-tightened the screws when doing Bed Levelling, they may start to loosen during print, and ultimately may actually fall off. You should not worry if this happens. If you are printing when this happens, simply pause your print, re-affix the screw to where it came from, and then you can simply continue printing. You may wish to adjust the bed levelling before printing in case the screw movement has changed this in any way.

## What can I use to clean the print bed?

We recommend cleaning the print bed after every print. When removing the model from the bed, you can sometimes leave finger prints or grease on the bed, which could potentially affect the adhesion and therefore quality of your next print. Cleaning the bed also removes the 'cleaning line' that runs down the edge of the bed before each print.

## When should I clean the print bed?

We recommend cleaning the print bed after every print. When removing the model from the bed, you can sometimes leave finger prints or grease on the bed, which could potentially affect the quality of your next print. Cleaning the bed also removes the 'cleaning line' that runs down the edge of the bed before each print.

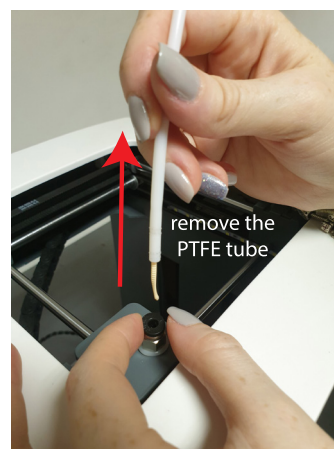
## The nozzle is too far away from the bed when I am printing

If this is the case, please try re-calibrating the printer. You can do this by simply following the calibration instructions from the Settings menu. We recommend that you also follow the Bed Levelling process as well just to ensure that the bed is level before you try printing again. You can also find this process under the Settings menu.

## The P-Wood filament won't extrude or unload, what should I do?

Because of the composition of the P-Wood material it is not as physically strong as the PLA filament. Therefore, if you are trying to print with the nozzle too close to the print bed, (you will normally hear a knocking sound when this occurs – please see 'Adjusting the bed levelling and calibration for different models') then the filament cannot extrude fully which may mean that with this particular material it could get stuck in the feeder mechanism, i.e. it could back-up inside the printhead as it has nowhere to go; then because of its softer nature and the pressure of the feeder mechanism as it continues to try and extrude, it could result in the end of the filament becoming deformed. This could then mean it will not easily extrude or unload.

When this happens, please cancel any print and then remove the PTFE tube (plastic tube) from the top of the printhead by pressing down the grey push-fitting and pulling upwards on the PTFE tube. Once you have done this, please follow the Unload Filament process and once the motor begins turning to try and remove the filament, please manually pull upwards on the filament from the top of the printhead. This should then remove the filament from where it was stuck.



Before trying to reload the filament you must ensure that the deformed part of the filament is removed and that the end of the filament is not flat. You can do this by twisting-off the end of the filament rather than cutting it with a pair of scissors. Please also ensure that the bed is levelled and calibrated properly before printing to ensure that the nozzle is not too close to the bed. This should prevent this from happening again.

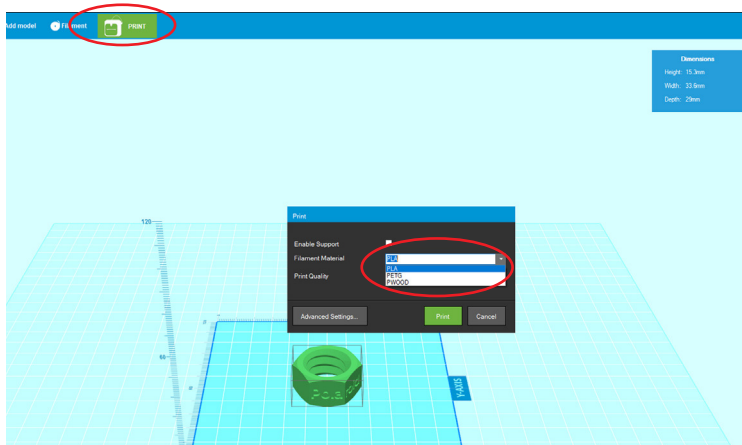
## I am printing in a different material but it isn't printing properly

The Polaroid PlaySmart 3D Printer is compatible with 3 types of material, the Polaroid Universal Filaments PLA, PETG and P-Wood. When selecting which material you want to print in you will need to ensure that this specific material is chosen when slicing your file in the Polaroid SmartPrep Software. You can do this by clicking on the drop down box after clicking 'Print'. By doing so, this will change the profile that is used to create your print



file. This profile will include settings such as the correct nozzle and bed temperatures; therefore if you haven't selected the correct material then this may cause challenges when printing because the incorrect temperatures may be used.

If you have in fact selected the correct material and are still having print challenges, please contact the team at **support@polaroid3d.com** providing as much information as possible, including any images or video that you believe identifies the challenges that you are having.



## My print gets really messy towards the top

If the model that you are trying to print is thin at the top it must be cooled sufficiently whilst printing to ensure that the next layer can be applied correctly on top. The printhead has fans placed around the nozzle to ensure that this happens. If you are having problems such as this, please double check that these fans are working. If you believe that a fan is not working, please contact the team at **support@polaroid3d.com** including as much information as possible, including any images or video that you believe identifies the challenges that you are having.

## My models aren't showing up on my SD Card/USB in the printer

The Polaroid PlaySmart 3D printer prints 'Gcode' files. Please ensure that this is the type of file that you have saved onto your SD card/USB stick before placing it into the corresponding slot on the front of the printer.

If you have an 'stl' file that you want to print, please open it in the Polaroid SmartPrep Software and click 'Print' from the menu bar at the top of the screen. Follow this process and when the file is saved it will have been converted into a 'Gcode' file which you can then print on the printer. If the file still does not appear on the LCD screen please turn off the printer and wait 30 seconds before turning it back on, and then attempt to print again. If this doesn't work correctly then please contact the team at **polaroid3d.com/contact** to discuss a solution.

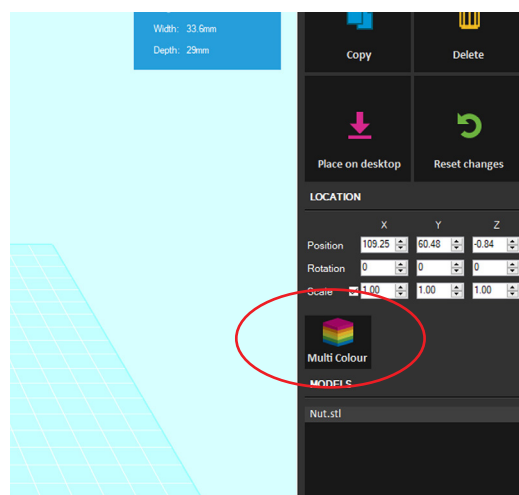
## I am not using Polaroid SmartPrep to slice my models, but I can't get them to print in the centre of the bed

Please ensure that you have set the bed size to 120 x 120 x 120mm within the settings of the slicing software that you are using. If your model is placed in the centre of the bed at these dimensions then it should print in the centre of the bed on the printer.

## How do I print in Multi-Colour?

When slicing your model using the Polaroid SmartPrep software, you will need to select the 'Multi-Colour' button on the right hand side of the screen. This will give you the option to insert pauses at certain points of your model. Each of these 'pauses' will appear as a purple layer which you can then position at any point on your model using the slider, %, mm or auto-arrange functions. You can add as many layers as you like across the height of your model.

This purple layer indicates where the printer will be set to pause when saving the file, allowing you to change the filament colour.



## How do I know when to change the colour of the filament when printing in Multi-Colour?

If you are printing Multi-Colour having sliced your model in the Polaroid SmartPrep software using the Multi-Colour function then the printer will automatically pause itself when it is ready for you to change the filament colour.

You will get a pop-up on the LCD screen giving you the option to 'Load' or 'Unload' the filament. In the first instance you will need to select 'Unload' on the right hand side, and wait for the current colour filament to fully unload from the printer. You can then change the filament to your new colour and press the 'Load' button on the left hand side. Once the new colour is fully loaded and you are happy that the old colour has completely run through the printhead then you can press 'Confirm' and the pop-up will disappear.

Press the 'Play' button in the top left hand corner of the screen to resume your print.

## My prints keep stepping when I am printing in Multi-Colour

When changing the filament on a Multi-Colour print, you need to ensure that you do not accidentally manually move the printhead during this process. When the printer pauses for you to unload the filament, the printhead itself will lock in place for a period of time between 3 to 5 minutes. However, if you do not change the filament during this timeframe then it will unlock itself which means it will then be moveable. This means that if it is moved even slightly then when the print resumes it could start printing in the wrong location, causing the stepping that you see.

## Can I print directly from my PC?

No, you are not able to print directly from your PC. In order to print you must first have a Gcode file (which you can create by slicing an '.stl' file in the Polaroid SmartPrep Software). Once you have your file you will need to save it to either an SD card or a USB stick. This will then need to be inserted into the corresponding slot on the front of the printer and the print started by selecting New Print on the LCD screen.

Alternatively, you are able to print remotely from the Polaroid PlaySmart App which is available from Google Play and the App Store. This will allow you to print from any models saved on the

SD card or USB (so long as there is one in the printer at that time) or from our online Model Library where there are a selection of different models from you to choose from.



<https://play.google.com/store/apps/details?id=com.playsmart.bl>



<https://itunes.apple.com/app/polaroid-playsmart/id1460542763>

## Where can I find models to print?

In order to be able to print a model you can either design your own or download a model from a number of online 3D communities where there are tens of thousands of models that can quickly and easily be downloaded for free. One such example and one of the largest model banks currently available is [www.thingiverse.com](http://www.thingiverse.com). Do note that this website is not in any way related to Polaroid or any of its licensees/affiliates and we do not accept responsibility for its content, the printability of any of the models contained within it or any other aspect whatsoever as a result of visiting the site or downloading any of the models contained within it.

Simply find the model you wish to print, download the 'stl' file and open in the Polaroid SmartPrep Software. Select your print settings and save your file to SD card or USB for printing on the Polaroid PlaySmart printer.

We also have a selection of models available from our own model library which can be accessed via the Polaroid PlaySmart App or the Polaroid SmartPrep Software.

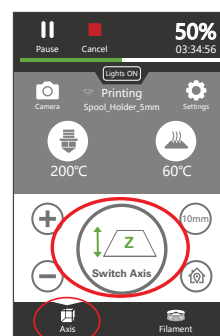
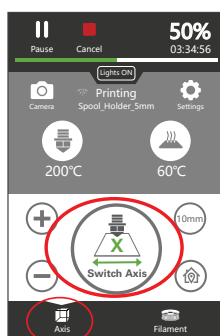
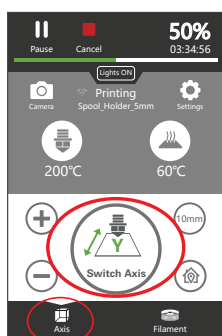
## What can I use to design my own models?

Most 3D design software will allow you to save your designs as 'stl' files which are what you need to be able to print via the Polaroid PlaySmart printer.

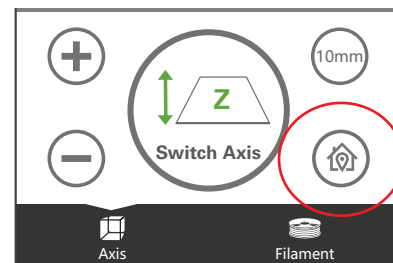
There are many different 3D Design software packages available, for all ages, skill and experience levels. If you are looking for a great, easy-to-use and free software then one such example is [www.tinkercad.com](http://www.tinkercad.com) which is an online based software and is great for getting to grips with 3D design no matter your age or requirements. Do note that this website is not in any way related to Polaroid or any of its licensees/affiliates and we do not accept responsibility for its content, usability, the printability of any of the models contained within it or any other aspect whatsoever as a result of visiting the site or using any of its functionality.

## Can I move the bed using the LCD screen?

Yes, you can move the bed using the functions of the LCD screen. Simply press the Axis button on the bottom left hand side of the screen. You can then switch between the X,Y and Z Axis by pressing the large circular button on the LCD screen.

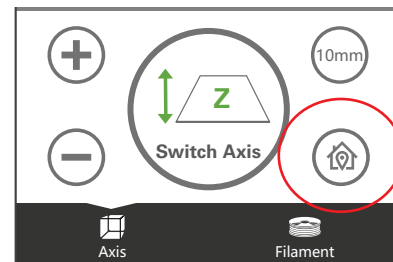


The Z Axis is the one that will move the bed upwards or downwards. You can then use the arrows on the left hand side to move to the position you want. The buttons on the right hand side allow you to change between moving the bed 5mm or 10mm at a time. If you wish to return the bed to the Home position, which is the bottom of the printer, simply press the Home button on the bottom right corner of the screen.



## Can I move the bed using the app?

Yes, you can move the bed using the functions of the App. Simply press the Axis button which can be found on the grey bar in the middle of the screen (picture). You can then switch between the X, Y and Z Axis by pressing the large circular button underneath the grey bar. The Z Axis is the one that will move the bed upwards or downwards. You can then use the arrows on the left hand side to move to the position you want. The buttons on the right hand side allow you to change between 5mm or 10mm at a time. If you wish to return the bed to the Home position, which is the bottom of the printer, simply press the Home button on the bottom right corner of the screen.



## Does the printer come already levelled and calibrated?

Yes, the printer is fully calibrated and bed-levelled prior to it leaving the factory; therefore we recommend simply printing straight from the box. However, if you find that there has been some slight movement during transit there could be a need for adjustment to either the bed levelling or calibration. You can do either of these very easily by following the processes on the LCD screen, found under Settings.

## What do I use to calibrate the printer?

When calibrating the printer or levelling the bed, please follow the process on the LCD screen. During this process it is recommended that you use a sheet of 80gsm paper as a measurement of the gap between the nozzle and the print bed.

## I am trying to pair the printer and it asks me for 'printer name'. What should I put?

This is simply for your reference therefore you can select any name you wish for the printer; it is simply used to distinguish the printer that you are using, especially if you are connected to more than one printer.

## Can I scan models into the printer?

There are many 3D scanners on the market, although one is not supplied with your Polaroid PlaySmart 3D Printer. If you have access to a 3D scanner and are able to save your scanned file as an 'stl' file then you can import this into the Polaroid SmartPrep Software to save as a Gcode to be able to print on your PlaySmart 3D printer.

## Why is my model not sticking to the bed?

There could be a number of reasons that your model is not sticking to the bed.

Firstly, please ensure that the bed is clean from any dirt, grease, fingerprints or residual filament as these could cause the filament not to adhere properly during printing.

Then please double check that the printer is correctly calibrated and the bed is level; again both of these things could cause the filament not to adhere properly. These can be done by following the instructions on the LCD screen under Settings.

One other thing to check is that your model has been placed on the bed when saving your model in the Polaroid SmartPrep Software (i.e. there is no gap between the base of your model and the print bed; this can sometimes happen without you knowing when importing models from third party websites).

You can check this by pressing the pink 'Place on desktop' button which is found in the top right hand corner of the screen. Simply click this button, and then to double check, please use your mouse to rotate the bed to be able to see from underneath the bed. If you can see the outline of your model then it is sat on the bed. If you cannot then this indicates that it is still not directly on the bed and therefore may not print correctly. Please double check the design of your model to ensure it is able to be printed and then re-import into Polaroid SmartPrep to see if it is now sat fully on the bed.

## The printer moves the bed up and down a few times then stops

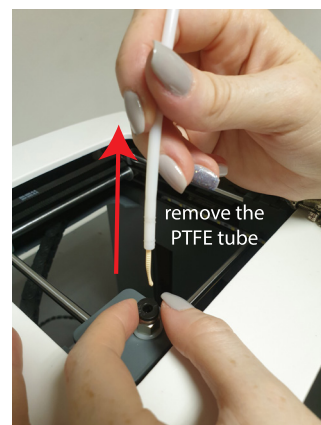
The printer needs to heat the nozzle and the bed to the correct temperature before it starts printing. The bed movement that you see is the printer doing its 'pre-calibration' process before it starts to print. It will go through this process and then wait for the nozzle and bed to reach the required temperature; it will then proceed to print. This should only take a few minutes.

If your printer is not printing correctly, or the bed is not moving as it should following this process please contact the team at [polaroid3d.com/contact](https://polaroid3d.com/contact).

## My filament is loaded but when I try to print nothing is extruding

Please ensure that the PTFE tube (plastic tube) is inserted correctly at both ends – into the printhead and into the casing where the filament is loaded. If this isn't the case the printer may not be able to adequately pull through the filament into the printhead in order for it to extrude correctly.

If the PTFE tube is correctly inserted and the filament is still not extruding correctly, please remove the PTFE tube from the top of the printhead by pressing down the grey push-fitting and pulling upwards on the PTFE tube. Once you have done this, please follow the Unload Filament process and once the motor begins turning to try and remove the filament, please manually pull upwards on the filament from the top of the printhead.





Before trying to reload the filament you must ensure that the deformed part of the filament is removed and that the end of the filament is not flat. You can do this by twisting-off the end of the filament rather than cutting it with a pair of scissors. This time, as you are loading the filament, please manually apply some pressure as the filament is loaded into the top of the printhead. This should now load successfully.

If you are still unable to extrude successfully, please contact the team at **polaroid3d.com/contact** and we will work with you to find a solution.

## My prints are poor quality

What can be described as 'poor quality' may be the result of many different things – from the design of the model, the settings chosen, the material used or something mechanical within the printer.

Our suggestion is that if you are seeing similar challenges across multiple models, then please contact the team at **support@polaroid3d.com** providing as much information as possible, including any images or video that you believe identifies the challenges that you are having and we will help you to identify what is causing your challenges.

For any points not answered in this User Guide, or on our website, please contact our team at **polaroid3d.com/contact** detailing your enquiry and one of the team will be in touch.



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