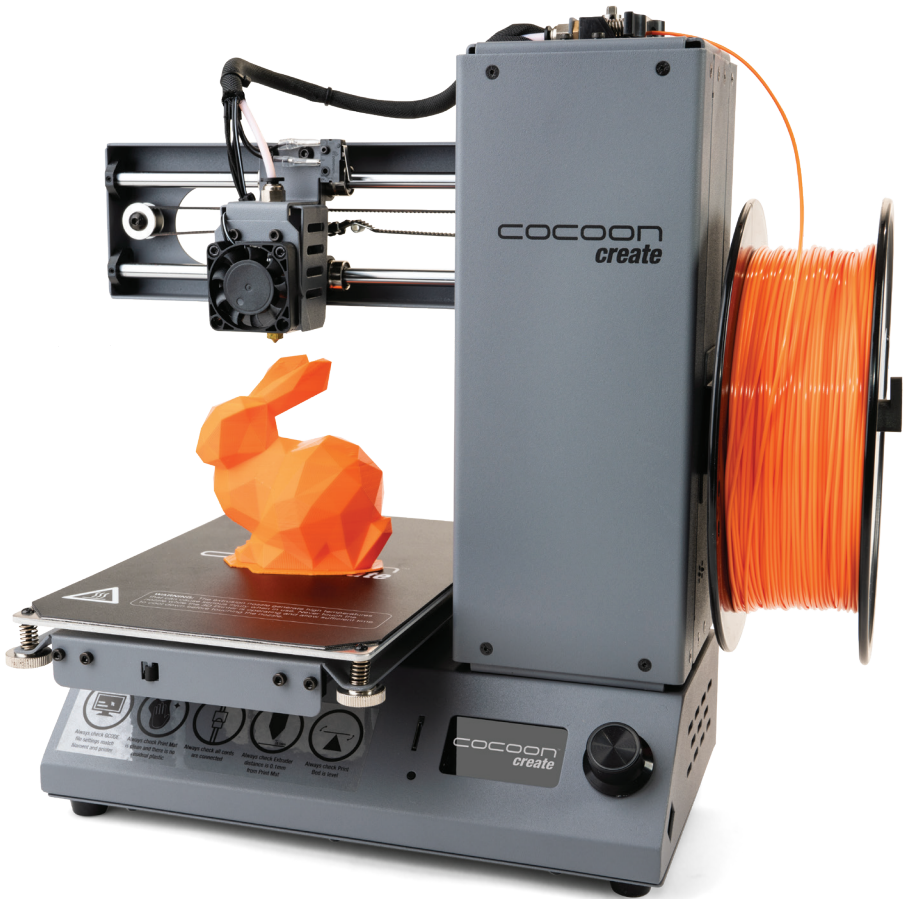


cocoon[™]
create

MODELMAKER

3D PRINTER

INSTRUCTION MANUAL



MODEL NUMBER: HE170703

VERSION 1
ISSUED 03/07/18



IMPORTANT

Getting the most out of your ModelMaker 3D Printer:



Read the manual carefully

It will help you set up with ease



Visit <https://cocoonproducts.com.au>

We have additional support videos and guides



Call After Sales Support - 1300 663 907

Available Monday - Friday, 8:30am - 6:00pm AEST



Email customercare@winplus.com.au

We're always happy to help

WARRANTY NOTE

If you experience any issues with this product or its performance is not what you had expected, please contact us at Winplus before returning the item to the store.

It is likely that we can resolve any problems for you via phone or email.

We can be reached on:

Phone: 1300 663 907 (Mon - Fri; 8:30am - 6:00pm AEST)

Email: customercare@winplus.com.au

Web: www.winplus.com.au



ModelMaker 3D Printer



Warranty Details

REGISTER YOUR PURCHASE AT www.aldi.com.au/en/about-aldi/product-registration/ TO KEEP UP-TO-DATE WITH IMPORTANT PRODUCT INFORMATION

The product is guaranteed to be free from defects in workmanship and parts for a period of 12 months from the date of purchase. Defects that occur within this warranty period, under normal use and care, will be repaired, replaced or refunded at our discretion. The benefits conferred by this warranty are in addition to all rights and remedies in respect of the product that the consumer has under the Competition and Consumer Act 2010 and similar state and territory laws.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

AFTER SALES SUPPORT

  1300 663 907

 customercare@winplus.com.au

MODEL: HE170703 PRODUCT CODE: 59101 10/2018



SAFETY INSTRUCTIONS

Before you get started, please read these important safety instructions.

CAUTION: The Cocoon Create ModelMaker 3D Printer generates high temperatures and includes moving parts that can cause injury. Never reach inside of the ModelMaker 3D Printer while it is in operation, and allow time for the printer to cool down after operation.



Always use the ModelMaker 3D Printer in an open, well ventilated area as vapours/fumes created at operating temperatures may be irritating.



Do not leave the ModelMaker 3D Printer unattended during operation.



Contact with extruded material may cause burns. Wait for printed objects to cool before removing them from the build platform.



Always take care when using the Scraper. Never direct the Scraper towards your fingers.



Only use the ModelMaker 3D Printer in a clear working area.

- The printer must not be exposed to water, moisture or rain, or damage will occur.
- The printer is designed to be used with ambient temperature ranging 15°C - 30°C, and humidity ranging 20% - 50%. Operating outside these limits may result in lower quality models.
- In case of emergency, turn off the 3D printer at the power outlet.
- It is recommended that you use eye protection when cleaning/sanding printed models to avoid small particles contacting eyes.
- Please read and understand the contents of this installation and user manual carefully. Failure to read the manual may lead to personal injury, inferior results, or damage to the ModelMaker 3D Printer. Always make sure that anyone who uses the 3D printer knows and understand the contents of the manual to make the most out of the ModelMaker 3D Printer.
- The ModelMaker 3D Printer is not intended for use by persons with reduced physical and /or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety.
- Children should be under constant supervision when using the printer.
- Before Installation, you should make sure that the ModelMaker 3D Printer is unplugged from the power supply. Only use furniture that can safely support ModelMaker 3D Printer.
- Ensure the mains socket-outlet is near the equipment and is easily accessible.

ModelMaker 3D Printer has been tested according to the AS/NZS 60950-1, Which falls under the low voltage directive. ModelMaker 3D Printer must be used in conjunction with the original power cord. In combination, they guarantee safe use in relation to short-circuit, overload, over voltage and over temperature. Always unplug the printer before doing maintenance or modifications.

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PARTS LIST

1 x 3D Printer

1 x Filament Spool Stand

1 x Power Cable

1 x USB Cable

1 x 4GB MicroSD Card

1 x Scraper

1 x PTFE Tube

1 x Hex Key Set

2 x Cable Ties

4 x 10m PLA Filament

3 x Magnetic Print Mats

(One already installed)

1 x Metal Base Mat (Attached)

1 x Glue Stick (Not shown)

1 x Instruction Manual

(Not Shown)

1 x Getting Started Guide

(Not Shown)

1 x Warranty Card

(Not Shown)

1 x Levelling Card



TECHNICAL SPECIFICATIONS

Printing

Print Technology:	Fused Filament Fabrication (FFF)
Build Volume:	120 x 135 x 100mm (Width x Depth x Height)
Layer Resolution:	0.1 – 0.4mm
Positioning Accuracy:	X 0.012mm Y 0.012mm Z 0.004mm
Extruder Quantity:	Single Extruder
Extruder Diameter:	0.4mm
Print Speed:	10mm/s - 70mm/s
Travel Speed:	10mm/s - 70mm/s
Supported Print Materials:	Cocoon Create Branded PLA, PLA Wood

Temperature

Ambient Operating Temperature:	15°C – 30°C
Operational Extruder Temperature:	170°C - 250°C

Software

Slicer Software:	Cura
Cura Input Formats:	.STL, .OBJ, .DAE, .AMF
Cura Output Format:	.GCODE
Connectivity:	MicroSD Card, USB port

Electrical

Input Rating:	100-240Vac, 50/60Hz, 1.0A
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Physical Dimensions

Printer Frame Dimensions:	325 x 240 x 380 (Width x Depth x Height)
Weight:	7KG

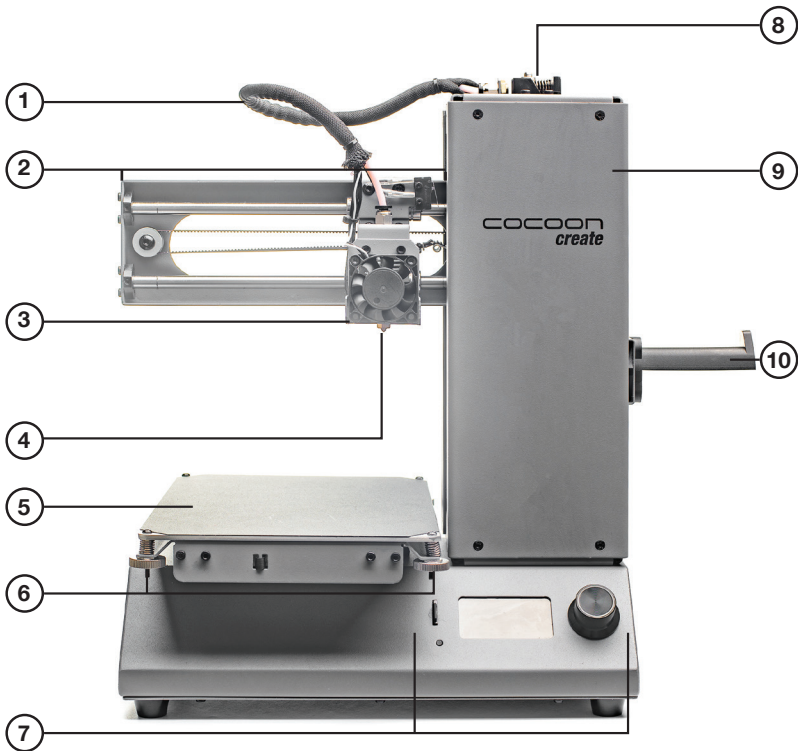
INTRODUCTION

1.1 What is 3D Printing?

3D Printing is a process whereby a real object is created from a 3D Design. Fused Filament Fabrication (FFF) is one of the most common technologies used by 3D Printers to achieve this. FFF works on an 'additive' principle by laying down material, such as PLA filament, in layers to create a 3D object.

PRODUCT OVERVIEW

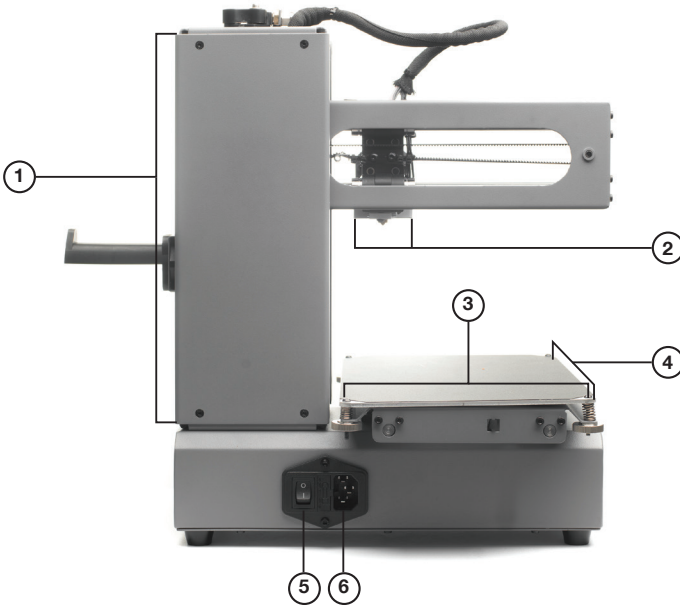
2.1 Printer Front View



- | | | |
|------------------|----------------------|------------------|
| 1. Filament Tube | 5. Print Bed | 9. Tower Frame |
| 2. X-Axis Frame | 6. Front Thumbwheels | 10. Spool Holder |
| 3. Cooling Fan | 7. Control Panel | |
| 4. Nozzle | 8. Filament Clamp | |

PRODUCT OVERVIEW

2.2 Printer Rear View



1. Y-Axis
2. Extruder Assembly
3. Rear Thumbwheels
4. Z-Axis
5. Plug Socket
6. Power Switch

2.3 Control Panel

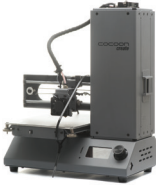


1. MicroSD Card Slot
2. Restart Button
3. LCD Display Screen
4. Dial button
5. USB Port

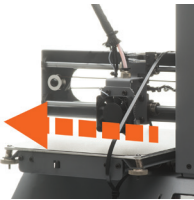
PRODUCT ASSEMBLY & INITIAL SETUP

3.1 Unboxing and Assembly

Your Cocoon Create ModelMaker 3D Printer is carefully packed to avoid damage in transit. Take your time unpacking it. The printer is pre-assembled and requires only minimal set up before powering on.



1. Carefully remove the 3D printer from the box and place on a clean, level work space.

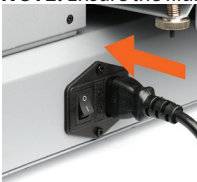


2. Cut the cable tie holding the print bed to the x-axis frame. Then remove the bubble wrapping.

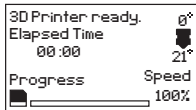


3. Unscrew and remove the outer plastic nut from the filament spool holder, then insert the nut into the side slot of the tower. Screw in the filament spool holder into the side of the printer.

NOTE: Ensure the filament spool holder is secure and do not overtighten



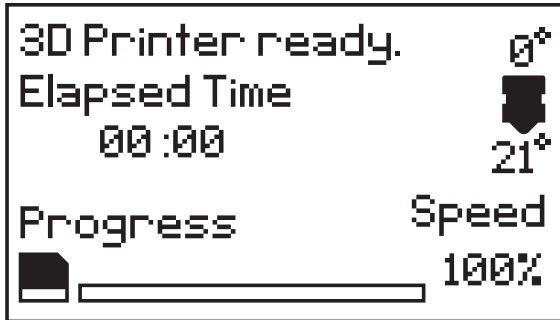
4. Ensure the power switch is in the OFF position, then insert the power supply cable into the back of the 3D printer. Insert the other end into a nearby mains power outlet. Turn on the power outlet, then turn on the power switch at the back of the 3D printer.



5. After a few seconds, the LCD display screen will initialize and show the home screen.


SETUP

4.1 Home Screen



- **Printer Status:** Current printer status or memory card status if removed or inserted
- **Elapsed Time:** Length of time the current model has been printing (if applicable)
- **Progress:** Displays percentage of model completed (if applicable)
- **Speed:** Current printing speed – 100% is full speed

NOTE: The initial printing speed is defined in the GCODE file, not by the printer

- **Extruder Temperature:** The temperature shown above the  symbol is the set/target temperature. The temperature below the same symbol is the current temperature.

NOTE: When no temperature is set, the extruder will register the current ambient temperature

4.2 Navigating the Menus

1. To enter the Main Menu, quickly press and release the dial button
2. To move throughout the menu, turn the dial button. Note some menus have options not visible on the screen. Keep turning the dial to see all options available
3. To make a selection, quickly press and release the dial button
4. To move to the previous menu or exit, highlight 'back' at the top of each menu and push the dial button

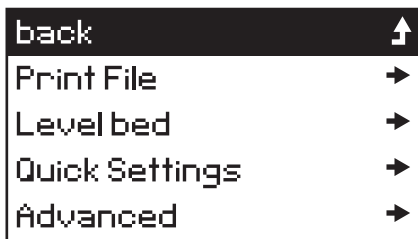
SETUP

4.3 Menu Tree

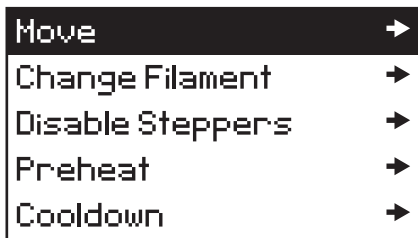
Home Screen



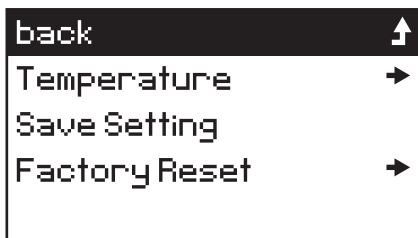
Main Menu



Quick Settings



Advanced Settings



SETUP

4.4 Adding Filament

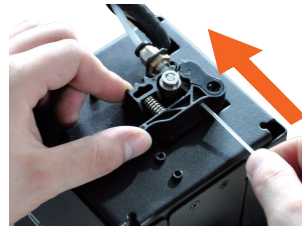
The Cocoon Create ModelMaker 3D Printer can only be used with PLA (Polylactic Acid BioPlastic) filament. Only use genuine Cocoon Create filaments as using generic filaments may damage your 3D Printer and may void your warranty. Extra filament including multiple colours and PLA types are available from the online store at

www.cocoonproducts.com.au

To add filament to your printer:

1. Place your roll of filament on the filament spool holder
2. Turn on the 3D Printer with the power switch located at the back of the printer
3. Push the dial button to access the Main Menu and navigate to **Quick Settings → Change Filament → Add Filament**. The extruder will automatically raise and preheat; always wait until it has fully preheated
4. After the extruder has preheated, hold the filament clamp on the top of the tower and manually feed the end of the filament through the entire tube until it reaches the extruder. The filament will start to extrude once the extruder has reached target temperature. Let go of the clamp so the motor can push the filament through
5. Once filament is extruding from the nozzle press back to stop extruding
6. Carefully remove any excess filament from the nozzle using the scraper. Filament is loaded and ready to print

WARNING: The extruder will still be hot and the scraper should be used to remove the filament from the nozzle



SETUP

4.5 Levelling The Bed

Levelling the bed is arguably the most important step in producing successful prints and should be checked before every print. Before levelling the print bed check all springs and thumbwheels are in place.

4.5.1 The Levelling Wizard

1. Clean off any excess filament residue from the tip of the nozzle using the scraper
2. Enter the main menu and select level bed
3. After initializing, the levelling wizard will guide you through levelling all 4 corners of your print bed. Press next to proceed to the next screen / corner
4. On each corner, turn the relevant thumbwheel until you can just slide the levelling card or a piece of copy paper between the extruder and print bed with slight resistance, about 0.1mm
5. After levelling the last corner you can return to the main menu or restart the levelling wizard. If this is your first time levelling the bed we recommend completing the wizard again to ensure it is level

NOTE: *The ModelMaker does not use the entire print bed during levelling or printing. The maximum depth is 135mm on the y-axis.*

4.5.2 Manually Levelling the Bed

1. Clean off any excess filament residue from the tip of the nozzle using the scraper
2. Enter the main menu and select **Quick Settings → Move → Home XYZ** to move the nozzle to the home position in the front right corner

NOTE: *Immediately turn off the machine if any motors are jamming or forcing against the chassis.*

3. Select back **▲** Disable steppers to enable movement of the print bed and extruder
4. Manually move the print bed and extruder to each corner or area you would like to level
5. On each corner, turn the relevant thumbwheel until you can just slide the levelling card or a piece of copy paper between the extruder and print bed with slight resistance, about 0.1mm
6. Continue checking points on the print bed until you are satisfied it is level

SETUP

Here is a visual representation of ideal bed height and how this affects filament extrusion:



TOO HIGH

Nozzle Too High

Insufficient contact area resulting in poor adhesion and extrusion skipping

PERFECT

Correct Height

Filament pushed into the print bed slightly to maximize surface area contact whilst still allowing good extrusion flow

TOO LOW

Nozzle Too Low

Not enough clearance for the filament to be extruded, which can damage the extruder and/or print bed

If you are new to 3D Printing we highly recommend that you visit our website to view our video tutorial on levelling the print bed at www.cocoonproducts.com.au

PRINTING AND REMOVING MODELS

5.1 Printing a File

Having a 3D design file is the first step to creating a 3D object. The ModelMaker Printer only accepts and prints GCODE files. The included MicroSD card has GCODE ready files available for you to get started. To see what objects are available on the MicroSD card please see page 36.

We highly recommend that you print an object from the MicroSD card first before attempting to use 3D designs from other sources. For more information about creating or downloading other 3D designs please see page 24.

To start printing your first 3D object:

1. Check the print bed has been levelled correctly
2. Insert the included MicroSD Card into the memory card slot next to the LCD screen with the label facing to the left as shown
3. Enter the main menu and select **Print File**
4. Select the file you would like to print
5. The printer will return to the status screen and display "Heating..." in the upper left corner of the display. The nozzle temperature will heat until it reaches the target temperature
6. Once the nozzle reaches the target temperature the printer will automatically begin printing the file



NOTE:

- *MicroSD Memory Cards (up to 32GB) should be formatted to FAT32. If there is no MicroSD Card inserted the Main Menu will display No SD card and no files will be available to print*
- *If your file is not printing correctly, press the main dial button and select 'Stop print' from the menu. Ensure the extruder is raised prior to removing the print off the print bed*
- *Immediately turn off the machine if any of the motors are jamming or forcing against the chassis*
- *If you cannot access the Print menu, it is likely the MicroSD Card is not mounted properly. Try removing and reinserting the MicroSD Card.*

Instructions for printing files direct from your PC via USB are detailed on page 26

PRINTING AND REMOVING MODELS

5.1.1 During Printing



Closely monitor the first layer being printed. Most problems, like poor adhesion and warping, will occur in the first layer. If problems occur, stop the 3D printer in the menu or power off the printer. Some other important tips:

- Do not leave the 3D Printer unattended while in operation
- Keep hands clear while machine is operating
- If your model is not sticking to the bed, reference page 32 to troubleshoot bed adhesion issues.
- While printing some settings can be modified. Push the dial button to access these settings:
 1. **Speed %:** Turn the dial to adjust the print speed %. Note the original print speed is determined by GCODE file generated, not the printer
 2. **Nozzle:** Modify the temperature of the nozzle
 3. **Pause print:** Pauses the print once the last instruction GCODE instruction has completed (be patient). Tap resume print to keep printing
 4. **Stop print:** Stops the current print

NOTE: If you change the print speed, you may need to change the nozzle temperature

5.2 Print Times and Filament Usage

Print times and the amount of filament used per print will vary depending on many factors. Here is an example of how size, infill, and resolution can affect printing time and filament usage. See “Useful Terms” on page 34 for more information.

				
Dimensions:	62.5 x 25.75 x 67.75mm	70 x 70 x 140mm		
Infill:	20%	0%	20%	20%
Resolution:	2mm	2mm	2mm	1mm
Print Time:	53min	39min	6hr 40min	13hr 12min
Filament Used:	4m	2.54m	45m	45.67m

PRINTING AND REMOVING MODELS

5.3 Removing 3D Objects from the Bed

Once the ModelMaker has completed printing your 3D printed object follow these steps to remove it from the print bed.

1. Turn OFF your 3D printer and wait for the extruder to cool.
2. Remove the model and lift the magnetic print mat from the print bed base.
3. Slowly and gently bend the sides of the magnetic mat down to raise the centre of the mat. This will allow the object to slowly peel away from the mat.
4. In the vast majority of cases, this will negate the need to use a scraper to dislodge your model.
5. Alternatively, you may also use the supplied scraper to remove the 3D object. Carefully 'wedge' the scraper under one of the edges of the 3D object. Take care to keep the scraper flat with the print bed to prevent damaging the print mat. As one edge begins to lift, gently manoeuvre the scraper forward to continue to 'wedge' between the 3D object and the print bed
6. Once the 3D object has fully separated from the print bed, it is safe to remove
7. Replace and centre the magnetic mat on the print bed once the model is dislodged.
8. Clean the magnetic bed.

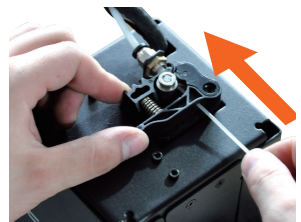


NOTE:

- Always take care when using the scraper. Never use excessive force or scrape towards your hand. Scrape away from the body and keep hands clear to prevent injury
- Always keep the scraper as level as possible. Scraper can damage the print mat if not used correctly
- Removing a 3D object, particularly one with a large surface size, can be a long process. Never rush when removing a 3D printed object

TIP: If you are persistently having trouble removing 3D printed objects, try the following:

- Use a layer of blue masking tape (designed to not leave behind residue) on the print bed. Be sure to remove and replace after each print
- Check if the printing mat is damaged and replace if needed
- Replacement mats can be purchased at www.cocoonproducts.com.au/



PRINTING AND REMOVING MODELS

5.4 Removing Filament

Follow these steps to remove filament.

NOTE: You do not have to remove filament after each print, however if you do not intend to print for long periods of time, we recommend removing and storing filament in a resealable air tight bag

1. Turn on the 3D Printer with the power switch located at the back of the printer
2. Push the dial button to access the Main Menu and navigate to **Quick Settings → Change Filament → Remove Filament**. The extruder will automatically raise and preheat; always wait until it has fully preheated
3. After the extruder has preheated, hold the filament clamp on the top of the tower and push the filament so a small amount begins to extrude
4. Once filament is extruding from the nozzle, while holding the filament clamp, quickly pull the filament out of the extruder and tube
5. Store the filament in a resealable bag to protect it from moisture. For more filament storage suggestions see page 29

FINISHING

6.1 Finishing Techniques

6.1.1 Useful Tools/Equipment

- Safety goggles
- Mask
- Long-nose pliers
- Wire cutters
- Sandpaper (100, 200, 300, 400, 500, 600 grit)
- Medium, fine and extra fine sanding sponges
- Acrylic based primer spray paint
- Acrylic based spray paint (colour of your choice)
- Acrylic based varnish spray paint

NOTE: Different paint types are also compatible with PLA. Consult your local paint supplier for the best compatibility for your intended purpose.

FINISHING

6.1.2 Removing Support Material

Even after support material is removed by hand, residual material will remain.

1. Ensure that safety goggles and a mask are worn for protection
2. Remove most of the support material by hand, taking care not to damage the 3D object
3. Using the long-nose pliers, carefully grasp some of the remaining material, then twist to remove. Repeat until no more material can be removed.
4. Using the wire cutters, cut away any excess filament.

6.1.3 Sanding

Though Fused Filament Fabrication (FFF) is capable of producing high quality objects straight out of the machine, the layer lines will be visible. Sanding will reduce these 'step' marks in the model.

1. Ensure that safety goggles and a mask are worn for protection
2. Starting with 100 grit sandpaper, carefully sand your 3D object using small, circular motions

NOTE: *PLA is less resistant to high temperatures caused by sanding. Take your time sanding your 3D object to avoid damage.*

3. Using the medium sanding sponge, sand difficult to reach areas of your 3D object
4. Gradually increase the sandpaper grid until the 3D print is smooth

TIP: *Spraying a primer filler will also help to reduce the layer lines on the 3D Object. This can then be sanded away and repeated, until the desired smoothness is achieved*

6.1.4 Surface Coating

Finally, to make your models more presentable, follow these steps;

1. Ensure that safety goggles and a mask are worn for protection
2. Ensure that your 3D object is clean and free from dust
3. Spray your model using an acrylic based primer, following the directions of your primer
4. Allow appropriate time to dry before applying additional coats
5. Spray your model using an acrylic based paint of your colour. Allow appropriate time to dry
6. Spray your model using an acrylic based varnish, following the directions of your varnish.
Allow appropriate time to dry before applying additional coats.

NOTE: *Different paint types are also compatible with PLA. Consult your local paint supplier for the best compatibility for your intended purpose.*

Congratulations! Your 3D object now looks like a professionally finished product!

ADDITIONAL SETTINGS

7.1 Quick Settings

To access the Quick Settings, press the dial button and select Quick Settings in the Main Menu

Move:

- **Move X, Y, Z:** Manually move the X, Y, Z axes by 1mm increments
- **Extruder:** Manually extrude or retract filament by 1mm increments

IMPORTANT NOTE: you must preheat the extruder to extrude or retract filament, 180°C minimum

- **Home XYZ:** Return to the home position in the front right corner

Change Filament:

- **Add Filament:** On screen guide to Add Filament if no filament is currently inserted
- **Remove Filament:** On screen guide to remove filament if currently inserted
- **Preheat:** Preheat the nozzle
- **Raise Extruder 10mm:** Raises the extruder by 10mm

Disable Steppers: Disables all motors so you can manually move the bed and extruder position in the X and Y directions

Preheat: Preheat the nozzle

Cooldown: Cools the nozzle

7.2 Advanced Settings

To access the advanced settings, press the dial button and select Advanced in the Main Menu.

Unless you are an experienced user we do not recommend adjusting settings in the Advanced Menus.

Temperature:

- **Nozzle:** Set the current temperature of the nozzle (0-250°C)
- **PID-P:** Proportional response
- **PID-I:** Integral response
- **PID-D:** Derivate response
- **Preheat PLA conf:** Adjusts the default PLA heating temperature

Save Setting: Saves the current settings

NOTE: You must save settings after every change. Unsaved settings will be lost after restart

Factory Reset: Restores default factory settings

CREATING & PRINTING 3D DESIGNS

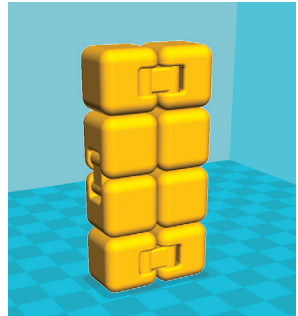
Now that you have tried printing from the supplied MicroSD card, it is time to explore the world of 3D designs! 3D designs can be accessed from multiple website sources or can be created using modelling software.

To access optimised and GCODE ready free 3D designs, visit the Cocoon Creator Library at www.cocoonproducts.com.au/3dcreator.

You can also download 3D designs from alternate sources, however these files are typically formatted as STL files and require formatting to GCODE using a slicer program.

8.1 Slice to GCODE

A 'Slicer' program converts a 3D design (usually an .STL or .AMF format) into a series of 3D printable layers. It then generates the machine code (such as GCODE) that the 3D printer will use for printing. There are a number of 'Slicer' programs available however we recommend the program Cura as it uses a simple interface and includes a large amount of support material. Cura is free Open Source slicer software released on the AGPLv3 license. It is available on MacOS X and Windows.



For more information about installing the latest version of Cura, see page 25.

8.2 3D Modelling Software

To create your own 3D design using 3D modelling software, programs such as SketchUp or Blender can be used. Some practice may be needed before successfully modelling your 3D design. After you've finished your 3D design, you can export it as an .STL file, which will then need to be imported into a 'Slicer' program such as Cura to convert it to a GCODE for printing.



CREATING & PRINTING 3D DESIGNS

8.3 Installing Cura

On your PC, install the Cura software on the included MicroSD card optimised for the Model Maker

Your MicroSD Card will come with Cura included as an executable file. Please install to your PC, by inserting the MicroSD card and following the prompts.

The Model Maker will be preconfigured onto this version of Cura. If you are using any other versions, the printer will need to be manually entered and setup.

To load the Model Maker using the supplied version of Cura:

1. Click **Settings** in the top toolbar → **Printer** → **Add Printer**
2. Under the Cocoon Drop Down, choose "Cocoon Create Model Maker" as your printer. Then select **Add Printer** in the bottom right corner
3. If you would like to add additional printers, click **Settings** in the top toolbar → **Printer** → **Add Printer** → **Select Custom**. From here you will need to add your Printer's machine settings

NOTE: When multiple printers are loaded in Cura, you will need to ensure that your desired printer is activated which can be done through **Settings** → **Printer** → **Manage Printer** → **Choose Desired Printer** → **Activate**

If your Cura software needs to be reinstalled or re-configured at any point, download the latest version of Cura using the following address:

<https://ultimaker.com/en/products/cura-software/list>

After installing Cura, manually add your Model Maker to Cura using the following machine settings:

1. Add the Model Maker by selecting **Printer** → **Add Printer**
2. Select **Custom**
3. Select **Custom FDM Printer** → **Add Printer**
4. Input Machine width as 120mm
5. Input Machine depth as 135mm
6. Input Machine height as 100mm
7. Select **Extruder**, change nozzle size to 0.4mm
8. Select **Finish**
9. In **Manage Printer**, enter machine name as 'Cocoon Create Model Maker', or your desired name

CREATING & PRINTING 3D DESIGNS

8.4 Loading a 3D Design into Cura

1. Clear the platform using File Clear platform...
2. Then, load your 3D Design file onto the platform using File Load model file...
3. Load any file with the following extensions: .STL, .OBJ, .DAE, .AMF

TIP: You can load more than one file onto the platform. Cura will automatically move the additional files to fit.

NOTE: Files in grey are outside of the print area and need to be moved or scaled to fit.

8.5 Saving files to SD Card

1. Insert your SD Card into a card reader or memory card slot and connect to your computer
2. The SD Card will appear as a folder
3. Copy your converted GCODE files to the SD card, then safely remove

If you have any issues inserting or accessing your SD card, refer to your computer manual

Note: SD Memory Cards (up to 32GB) should be formatted to FAT32. If there is no SD Card inserted, the main menu will display "No SD card" and no files will be available to print

8.6 Printing Files from PC via USB

1. Plug the included USB cable into a spare USB port on your PC. Plug the USB (Type B) end into the USB port of your 3D Printer Touch near the SD Card slot. The version of Cura on the included SD Card automatically senses when your 3D Printer Touch is connected to your PC.
2. Once you are ready to print, choose **Print via USB** on the blue dropdown box
3. Cura will then print your file to the 3D Printer and commence printing after preheating is complete.

NOTE:

- **IMPORTANT:** When printing via USB, we recommend that your PC is always powered ON (i.e. not in sleep or screen saver modes) throughout the duration of the print.
- Any program interruptions that cause your PC to go into sleep/screen saver modes or restart/shutdown will interrupt your printing, for this reason we recommend printing via the SD Card method.
- We recommend the USB cable be plugged into a port on the back of your PC or into a dedicated USB hub. Using USB port hubs on keyboard or monitors can be unreliable.

MAINTENANCE & STORAGE

9.1 Maintaining your ModelMaker 3D Printer

The maintenance of ModelMaker 3D Printer should be conducted by skilled person and on a regular basis. Always unplug the printer before doing maintenance or modifications. In order to have a smoothly working ModelMaker 3D Printer it is important to maintain it correctly. Please follow the safety/ deterioration checks during maintenance:

- Check condition of all rubber belts
- Oil the lead screens with light machine oil (sewing machine oil)
- Check the condition of the power cable. Make sure there are no cracks in the sheath
- Check the condition of the wiring on the printer to ensure nothing is pinched or damaged
- Check the fans are operational during print
- Check the chassis is secure. Tighten any screws if there is flex in the frame

9.2 Replacing the Print Mat

The ModelMaker 3D Printer includes 2 x spare magnetic print mats. Additional print mats are available for purchase from www.cocoonproducts.com.au

1. Remove the current magnetic print mat by slowly peeling from one corner
2. Gently place the new print mat onto the print bed, making sure to align with each edge.
The print mat is magnetised so that it will easily stick to the metal mat on the print bed and provide uniform contact.

9.3 Nozzle Cleaning

If your extruder nozzle becomes blocked, follow these steps to clean the nozzle.

1. Remove the existing filament using the steps in **Quick Settings → Change Filament → Remove Filament**
2. Using a clean 0.4mm drill bit, insert the drill bit into the nozzle by hand, twisting while inserting

WARNING: *The extruder is preheated and hot*

NOTE: *The drill bit is very fragile. It is recommended that you remove the extruder from the printer prior to inserting the drill bit.*

3. Remove the drill bit from the nozzle, twisting while removing
4. Repeat steps '2' and '3' three times, then follow the steps in Quick Settings Change Filament Add Filament

MAINTENANCE & STORAGE

9.4 Routine Component Check

Motor Connectors

Loose motor connections could cause a 3D print to fail. It's a good habit to routinely check for any damage to the connectors or the black cables.

Axis Lubrication

Regular lubrication of the X and Y Axis rods is important for the longevity and smooth running of your printer. The rods can be lubricated with machine oil or synthetic grease. We recommend using bearing grease and to apply liberally to both the X Axis and Y Axis rods.

Nuts and Bolts

Loose nuts and bolts could affect the geometry of the ModelMaker 3D Printer. Check that all nuts and bolts remain firmly tightened. If required, re-tighten using the hex wrench.

9.5 Changing The PTFE Tube

The PTFE tube is made of Teflon and is what your filament passes through when being heated. It lines the hot end of the extruder before going through the 0.4mm nozzle. It is essential to prevent heat travelling up the extruder and melting the filament prematurely.

Over time it is not uncommon for this tube to become blocked and cause the filament to under-extrude. This is especially possible if filament is left stagnant but heated for long periods of time, causing the molecules of the filament to char.

To inspect and maintain this part, simply access the brass nozzle when it is cool by removing the front fan (unscrewing its hex screws with keys provided) and lifting the side guards. From there, hold the heat block in place with pliers or a large shifter.

Unscrew the 0.4mm brass nozzle with a 7mm closed spanner. When the nozzle is removed, the PTFE tube will come out behind it.

MAINTENANCE & STORAGE

With the nozzle and tube removed, inspect the tube for any blockages. Replace if required with the spare tube in your kit. Inspect the nozzle also and clean as required with a 0.4mm drill bit, holding it up to the light to ensure the 0.4mm hole is even and clear.

With the nozzle and PTFE tube cleaned and free from blockages, simply reinsert the tube in the nozzle and then screw it back into the heat block.

To watch a video tutorial on changing the PTFE tube, visit www.cocoonproducts.com.au

9.6 Printer & Filament Storage

Always store your ModelMaker 3D Printer in a clean, dry location that is free from dust.

PLA filaments are sensitive to moisture. If stored in a humid environment, the quality of the filament can deteriorate, with a tendency to bubble and spurt from the nozzle tip. This will affect print quality, so when storing PLA or other material for an extended period of time, follow these tips:

- Store in a sealed, air tight bag/container. We recommend a vacuum seal bag
- Store with a silica gel (moisture absorber) pack. One is included with each filament spool

RECAP

9.7 Good 3D Printing Practices

It's important to always check your printer before every print. Please refer to these steps as a quick guide during every print to ensure your 3D objects print successfully.

Before Printing

1. Ensure your GCODE file is correctly setup, filament diameter is set to 1.75mm and correct temperature settings for the material you are using. The ModelMaker prints PLA filament. Depending on the type of PLA filament, temperatures can range from 180 to 210°C. If you are unsure, start with 190°C
2. Check all cables and connectors are connected and the printer is on a stable surface
3. Check that print bed is level and approximately 0.1mm from the nozzle
4. Check that the print bed is clean and dust free and nozzle does not have excess material stuck to it

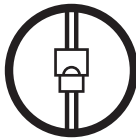
During Printing



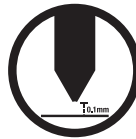
Always check GCODE file settings match filament and printer



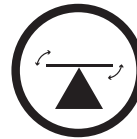
Always check Print Mat is clean and there is no residual plastic



Always check all cords are connected



Always check Extruder distance is 0.1mm from Print Mat



Always check Print Bed is level

1. Always closely monitor the first layer being printed as most problems will occur in the first layer. If problems occur, stop the 3D printer in the menu or power off the printer
2. Do not leave the 3D Printer unattended while in operation
3. Keep hands clear while machine is operating

After Printing

1. Wait for the extruder to cool down
2. Carefully remove the 3D object by removing and bending the magnetic mat. Carefully bend the magnetic mat to dislodge the printed model. Place the magnetic mat back on the print bed once the model has released from the mat
3. You can also carefully remove the 3D object using the scraper. Never use the scraper towards your body and keep the scraper evenly flat to avoid damaging the print bed. Damaged print beds / mats may affect adhesion for future prints
4. Store your 3D printer in a clean, dry environment

DISPOSAL

10.1 Disposal of Packaging

This product has been packaged to protect it against transportation damage. Unpack the appliance and keep the original packaging carton and materials in a safe place. It will help prevent any damage if the product needs to be transported in the future, and you can use it to store the appliance when it is not in use.

In the event, it is to be disposed of, please recycle all packaging material where possible. Wrapping can be a suffocation hazard for babies and young children, so ensure all packaging materials are out of their reach and disposed of safely. Observe any local regulations regarding the disposal of packaging and dispose of it appropriately for recycling. Contact your local authorities for advice on recycling facilities in your area.

10.2 Disposal of Product

Observe any local regulations regarding the disposal of waste products. Contact your local authorities for advice on recycling facilities in your area.

At the end of its working life, do not throw this product out with your household rubbish. Electrical and electronic products contain substances that can have a detrimental effect on the environment and human health if disposed of inappropriately. Observe any local regulations regarding the disposal of electrical consumer goods and dispose of it appropriately for recycling. Contact your local authorities for advice on recycling facilities in your area.

TROUBLESHOOTING

If having any troubles when using the ModelMaker 3D Printer, please refer to the troubleshooting guide below, or call customer support on 1300 663 907.

You can also visit <https://cocoonproducts.com.au> for support videos and advanced tutorials.

11.1 Printing Problems

Clicking sound from one of the stepper motors

One of your stepper motors may not be connected properly. Check each connection and then inspect the cable routing for any faults

File not printing

Remove the microSD card and insert into your computer. Open the GCODE file using a text editor (eg. Notepad), and inspect if GCODE is readable or not. If file consists of multiple 'ÿÿÿÿ' symbol, then file has been corrupted. Try reformatting your microSD card and reloading the GCODE file

NOTE: Reformatting will delete all files on your SD card

Not extruding when starting to print

- Ensure that the nozzle temperature has been set to match the filament being used
- Ensure there are no blockages in the nozzle

Not sticking to the bed

- Ensure that the bed is clean and free from dust
- Check that the bed is level and set to a distance of approximately 0.1mm - see page 16 Levelling The Bed
- If there are defects / deep scratches in the printing mat, it may need to be changed.
- Ensure the gap between the nozzle and bed is no greater than 0.1mm. Material will solidify if the gap is large
- Other actions that can be taken to help bed adhesion:
 - Use blue painters masking tape to protect the print mat
 - Add a brim or raft to your file via a slicing software
 - Use the included glue stick and apply a thin even layer to the print mat
 - Visit www.cocoonproducts.com.au for a tutorial on levelling the print bed or to order additional mats.

TROUBLESHOOTING

Models Warping/Curling

- Check the infill % of your GCODE. The higher the infill, the more likely to warp
- Add a brim or raft to your file

Model appears very 'stringy'

- Ensure that the filament diameter is set to match your filament spool (1.75mm), then try creating a new GCODE before printing again
- Check you are using the correct temperature for the filament used

Print stopped halfway

- Check that the GCODE file is complete and not corrupt
- Check the original model file

The motor does not stop at the end of axis

- Check that the stop micro switches are aligned with the motor mount and registering.

The print head/bed does not move

- Check the part can be moved by hand when stepper motor is disabled. Clear anything that is blocking the path

11.2 Connectivity Problems

My 3D Printer isn't turning on

Check that you have correctly inserted the power cable into the rear of the control box, the power cord is plugged into the mains outlet and that the control box power switch is on.

MicroSD Card not shown

- Please ensure your microSD card is 32GB or less and formatted as FAT32
- Navigate to SD Card, select unmount SD card, then select mount SD card. Your microSD card should now appear in the menu.

TROUBLESHOOTING

11.3 Other Problems

Filament stuck in nozzle when removing

Please visit <https://cocoonproducts.com.au> for a video on how to clear the nozzle with stuck filament.

Where can I buy more filament?

If you require more filament, visit our online store, <https://cocoonproducts.com.au> to purchase various colours.

What brand of filament should I buy?

We recommend using only Cocoon Create branded filament. Lower quality generic filaments can damage your ModelMaker 3D Printer and potentially void your warranty.

11.4 Useful Terms

Brim/Raft

Types of printed foundations that help models adhere to the print bed

Display

Provides the main interface for operating the 3D Printer

Extruder Assembly

The section filament is pushed through encompassing the hot end and nozzle

Firmware

Software that is programmed into the electronic board

GCODE

Code that is produced using the slicing process. Describes the movements and temperature settings of your 3D printer

Infill/Fill Density

Infill/fill density relates to how solid the print is. The greater the number, the denser the object becomes and the more filament is required. Fill density of 100% = a completely solid object.

TROUBLESHOOTING

Resolution

Relates to the height of each layer and affects the sharpness of the object

MicroSD Card

Secure Digital memory card. This is where your GCODE files can be stored and accessed by the 3D Printer

Nozzle

Opening at the bottom of the print head where filament is pushed through

PLA Filament

Commonly used plastic filament with low environmental impact

Slicing

Process that turns a 3D Design into a code that can be used by 3D Printers

Spool

Filaments of PLA are wrapped, creating a spool

Stepper Motor

DC motors that move in discrete steps. This allows for precise positioning and/or speed control

.stl

A common file format for 3D Designs/Models

USB Cable

The Cocoon Create ModelMaker 3D Printer allows USB communication only for firmware updates

APPENDIX

12.1 Files Loaded on the MicroSD Card

Here is a list of 3D designs on your MicroSD card. These files are also available on our 3D Creator Library. Happy printing!

**low poly stanford bunny lamp by
toolmoon**

Published on December 21, 2015
www.thingiverse.com/thing:1215657



Creative Commons - Attribution

A selection of print ready files are also available for download from our Creator Library -
www.cocoonproducts.com.au/3dcreator



ModelMaker 3D Printer

Repair and Refurbished Goods or Parts Notice

Unfortunately, from time to time, faulty products are manufactured which need to be returned to the Supplier for repair.

Please be aware that if your product is capable of retaining user-generated data (such as files stored on a computer hard drive, telephone numbers stored on a mobile telephone, songs stored on a portable media player, games saved on a games console or files stored on a USB memory stick) during the process of repair, some or all of your stored data may be lost.

We recommend you save this data elsewhere prior to sending the product for repair.

You should also be aware that rather than repairing goods, we may replace them with refurbished goods of the same type or use refurbished parts in the repair process.

Please be assured though, refurbished parts or replacements are only used where they meet ALDI's stringent quality specifications.

If at any time you feel your repair is being handled unsatisfactorily, you may escalate your complaint. Please telephone us on 1300 663 907 or write to us at:

Winplus Australasia

PO Box 537 Bayswater Business Centre, Victoria, Australia

1300 663 907 - Hours: Mon-Fri 8:30am - 6:00pm AEST

customercare@winplus.com.au

AFTER SALES SUPPORT

 1300 663 907

 customercare@winplus.com.au

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