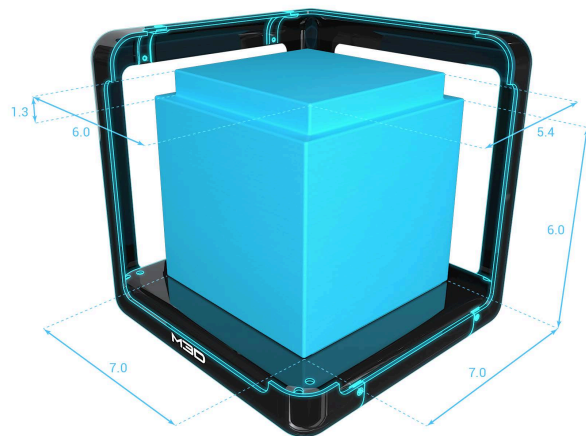




The M3D PRO 3D Printer User Manual

Welcome to 3D Printing! Thank you for purchasing The M3D Pro 3D Printer, the first “self-aware” 3D printer. The M3D Pro is ready right out of the box to make your custom creations come to life. Just download our software from <https://printm3d.com/downloads>, plug in the printer, download the models, hit print, and watch as you bring an object into the world through 3D printing. The M3D Pro is designed to use a closed-loop feedback sensor network to ensure reliability and error correction leading to more successful printing. Let’s see what you print!



Specifications

Lower Build Volume: 177.8mm x 177.8mm x 152.4mm

Upper Build Volume: 152.4mm x 137.16mm x 33.02mm

*Layer Resolution/Layer Thickness (Vertical Resolution):
25 to 350 Microns*

*Filament Diameter: 1.75 mm, accepts 3rd party filaments
Nozzle Diameter: 0.40 mm (other sizes available
from M3D store)*

*Speed: Typically prints filament up to 60mm/sec, and
travels (non-print speed) at speed up to 120mm/sec*

Software: M3D and support 3rd party software

Supported File Types: .STL, .OBJ, and .ZIP

System Compatibility: Windows/Mac/Linux

*Power Supply: 45W UL/CE/FCC/RCM/PSE listed power
supply*

USB: 2.0 and above

Weight: 4.7 lbs

www.PrintM3D.com

Visit and explore our website for new content,
features, and news.

www.PrintM3D.com/Downloads

Find new software, 3D models, and in-depth
documentation.

www.PrintM3D.com/Support

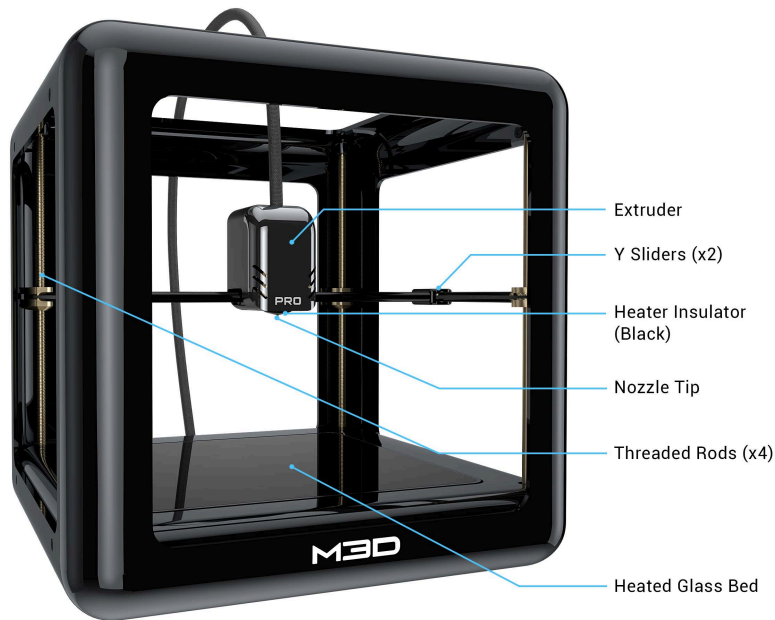
View our expansive customer support network,
technical articles, and FAQ.

This Manual is subject to change. For updated specifications, languages, and information visit www.printM3D.com/support.

1.0 Unboxing The Pro

The unboxing should be performed carefully to avoid damage to the unit. Remove power supply. Flip box over gently and let the M3D Pro slowly slip out of the box onto a flat surface.

DO NOT let the printer fall out of the box for any reason. Once the Pro is completely free of the box, remove the foam from the bottom of the printer. Next, flip the printer over and remove the foam from the top of the printer. Lastly, remove any additional tape and packaging.



Safety Considerations

Caution: Hot! Keep your fingers away from the Nozzle Tip and Black Insulator when the printer is on as these areas reach temperatures over 200 degrees Celsius. Always be sure to keep your hands away from moving parts when The Pro is in operation.

2.0 Downloading M3D Software

1. Please visit <http://www.PrintM3D.com/downloads> to download your Operating System specific M3D Software. Download the M3D Software to a known location, like your Desktop. Run the installer and continue through all windows and prompts.
2. Run the M3D Software after it has fully installed. Your computer is now ready to automatically detect any M3D printers that are connected.
3. Please allow your printer to update to the most recent firmware. DO NOT turn off your printer or computer during firmware and software updates.

****Turn Windows Automatic Updates to Inform Only*** When running a Windows PC, turn Automatic Updates to “Check for updates, but let me choose whether to download and install them” from the Control Panel; this will prevent Windows Automatic Updates from restarting your computer (resulting in a print failure) while The Pro is in operation.*

3.0 Connect and Power The Pro

Insert the M3D provided M3D USB cable into the USB port at the back of the printer.

Insert the other end of the USB cable into an available USB port on your computer. If you have issues with USB 3.0, go to our support page at "<http://www.printm3d.com/support>" and search “USB 3” for solutions. Insert the M3D provided genuine M3D power supply into the round hole on the back of the printer.

DO NOT use another power supply!

Plug the country-specific external power supply into a wall socket, and the M3D logo on the front of The M3D Pro should light up.

Power Off To power off The M3D Pro, disconnect the USB first. Then, wait at least 10 seconds before detaching the power supply from the back of the printer.

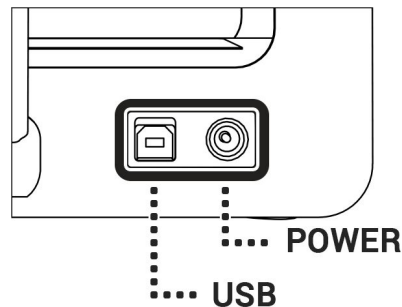


Figure. Rear view of The Pro showing the USB and Power ports.

4.0 Installing 3D Ink (Filament)

Filament Installation is accessed by selecting the **3D Ink** button in the top left corner of the M3D Software. You will be guided to install filament Externally or Internally. **DO NOT** attempt to load both ports at the same time during printing.

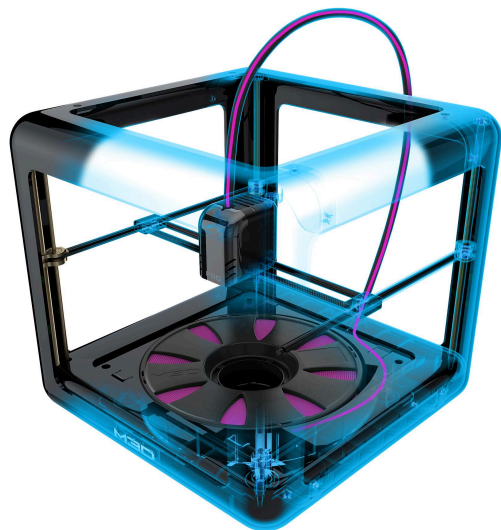


Figure. Showing the filament path taken

When installing internal filament, the path begins underneath the print bed through the black filament tube.

External filament is installed via the external feed port located at the top of the extruder head. Always keep a clear path between your filament spool and the print head.

****NOTE Factory Filament ****

There may be factory filament installed externally, let the printer extrude this first and then insert your filament of choice.

Notes for Loading Filament

In both scenarios, you need to feel the filament “catch” the extruder gear. When you are loading filament, apply constant force on the filament to push it forward into the extruder gear. A good way to test if the filament is “caught” is to lightly pull back and forth on the filament. If the filament does not pull out, then you have engaged with the gear.

3D Ink Cheat Code

Your 3D Ink™ Cheat Code is written on the front of your Micro Spool. If it is not, you can type in either ABS or PLA or TGH (for Tough 3D ink) depending on which filament type you are using.

5.0 The First Print!

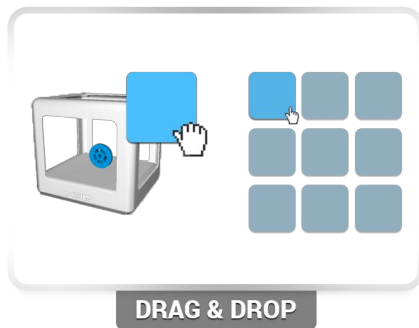
1. Calibrate

Often a successful first print layer leads to a successful print! To be sure your printer is ready for its first print, select the Gear Icon to open the printer settings. Then go to the Calibration section where you can select Advanced Calibration. Now select the Recalibrate Bed Location button. This will begin the Quick Calibration process, which should take no more than 5 minutes.

DO NOT TOUCH The Pro During Calibration

Keep the printer on a level/stable surface during any calibration sequence. There is the option in the M3D Software to manually adjust the calibration height of your Pro. Please visit www.PrintM3D.com/support for detailed videos and documents regarding calibrating The Pro.

2. Load the First Model



Loading a model into the printer is simple; just drag the model from the **Recent Models** library to the printer.

Your first model is already loaded in the M3D Software. We recommend printing this model first as a test calibration.

*Select the **Open Model** button in the top left corner of the M3D Software to browse for other 3D Models on your computer.*

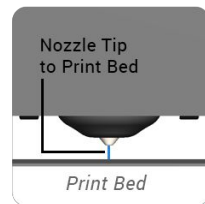
Other models can be downloaded from sites like Thingiverse.com and Yeggi.com. These files must be .STL or .OBJ file types.

3. Watch Your First Pro Print!

Click the **Green Button** to open the print settings menu and begin your first print. For your first model, we have already pre-loaded the best settings, so all you have to do is press print!

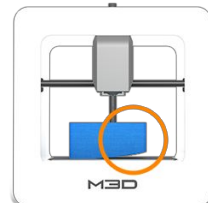
Look Out!

We encourage you to get into the habit of watching the first few layers of your print and paying attention to the following two things:



Nozzle Height

Only a piece of paper should fit between the print bed and nozzle tip. If not, Recalibrate!



Peeling/Warping

You should typically stop your print and adjust the User Offset Values in that corner.

6.0 Troubleshooting

In the event of any printer issues, visit the M3D support page online at “<http://www.printm3d.com/support>”. Search our technical articles, videos, and documentation for troubleshooting solutions or contact customer support.

For additional language support, please visit “<http://www.printm3d.com/support>” to find documentation in your language.

7.0 Print Settings

What is Print Quality?

Print Quality refers to the height of a layer. With higher quality prints you will have smaller layer heights and longer print times.

What is Fill Density?

Fill Density of a print is the amount of filament printed inside the model (the part of the model you do not see). A hollow print will have nothing on the interior, it will weigh less but can be easier to break. A high density print will weigh more, require more filament, but is stronger.

Can I adjust my model size, position, and orientation?

Yes, you can! To adjust models click on the image of The Pro to enter adjustment mode. You will see a menu on your left where models can be scaled, rotated, or moved by adjusting the options on the left.

Models can be scaled by all three dimensions simultaneously by using the right-mouse button, individually adjusted using the scale bar, or manually entered into the number box.

What is Support Material, and when should I have it turned on?

Support Material is needed when printing 3D models with overhangs. An extreme case is if a sphere is floating in mid air in the 3D model, you would turn support on in this situation to print the model properly.

What is the heated bed for?

A heated bed is a feature for 3D printing and has many benefits that will help improve the quality of your prints. A heated bed helps with removing a printed model from the printing surface, assists in first layer adhesion especially with filaments such as M3D Professional filament, Nylon, and ABS as well as assisting the adhesion of any filament. This dramatically improves the print quality by keeping the extruded plastic warm which aids in the prevention of warping.

What is my Bed Location, and why should I care?

The bed location is the position of the Nozzle Tip relative to the Print Bed. The printer needs to know where the print bed is when printing, otherwise you could be printing in mid air or digging into your bed. Use the Calibration Program to “Zero” the bed location. The “Zero” position is when the nozzle tip is hovering just above the print bed, only a piece of paper should slide between the nozzle tip and print bed. Good bed location usually means good prints! If your first layer is lifting, often this means the Bed Location is off.

Safety

SAFETY AND WARNINGS: CHOKING HAZARD - The M3D Pro 3D Printer and its consumables may include small parts that may constitute a choking hazard; additionally, these products may be used to manufacture objects that may themselves constitute a choking hazard.

The M3D Pro 3D Printer is NOT A TOY; children under the age of 14 should use the product under adult supervision.

CAUTION! The printhead, exposed nozzle, extruded plastic, and areas near the nozzle may be extremely hot. Keep fingers away from the printhead and extruded material unless it has been unplugged for at least 10 minutes.

Use M3D's products only as intended, as described by the user manual and/or this agreement and/or described within the software.

Use M3D's products in a well-ventilated area. Do not leave M3D's M3D Products running while unattended.

Warning: Please note, the heated bed can: Reach temperatures as high as 90C (194 F) Can cause burns or damage to persons with prolonged contact while in use.

Therefore, it is extremely important that you take necessary precautions to M3D Protect yourself and others, such as pets and children, when using the heated bed.

PRECAUTION - None of components of The M3D Pro 3D Printer or parts printed from it or using M3D filaments are certified for food safety nor should they be regarded as food-safe therefore should not come in contact with the mouth or foods/liquids that will be ingested by humans or animals.

PRECAUTION - None of components of The M3D Pro 3D Printer or parts printed from it should be used for medical applications, such as but not limited to implantation, drug delivery, or ingestion.

PRECAUTION - If any allergy develops as a result of direct or indirect contact using M3D's products, or from the 3D printed objects, discontinue use immediately.

MAINTENANCE - After extended or improper use, the nozzle and/or its cover may need to be replaced or cleaned; the print bed and/or the material sheets covering it may need to be replaced; the extruder may need to be purged or cleaned; and the filaments may need to be purged or replaced.

REPAIR/SERVICE: Repair/Service terms were provided to the purchasing customer in the customer purchase agreement. This agreement may be found by logging into their user account at "<http://www.printm3d.com/>"

All parts of the Repair/Service section apply to the purchasing customer / first end-user and are non-transferrable. **RETURNS:** Return terms were provided to the purchasing customer in the customer purchase agreement. This agreement may be found by logging into their user account at www.printm3d.com. All parts of the Repair/Service section apply to the purchasing customer / first end-user and are non-transferrable. All software sales or licenses are final, non-refundable, and/or non-transferrable.

PART REMOVAL: Be mindful of your fingers when using sharp objects during part removal. M3D recommends removing the bed from the printer when possible before attempting to remove a 3D printed object. For tips on removing 3D printed objects see the support page at "<http://www.printm3d.com/support>"

Legal Conditions

M3D END USER AGREEMENT: This agreement between M3D LLC (a company incorporated under the laws of the State of Maryland in the United States), and you, the END-USER, which describes important disclaimers, indemnity, safety instructions, software information, and limited warranty information about its products and govern the conditions of use.

PLEASE READ THESE TERMS CAREFULLY as continuing this installation process and using M3D products and software indicates agreement with these terms. You acknowledge that you have read and understand this agreement in its entirety, and accept the terms of this end-user agreement.

INDEMNITY: You understand that 3D printers are an experimental technology and that they were intended for use under the guidelines M3D Provided in the user manual and this agreement. You understand and acknowledge that the user manual only describes the best practice for operating The M3D Pro 3D Printer, and that even the best practice for operating the printer is not always presumed as safe. You agree to hold harmless and indemnify M3D from any personal injury that results from using its products. You are responsible for any damage or injury that may occur as a result of using M3D products. You understand and agree that M3D is not responsible for any injury, damage and/or loss of accessories, components, consumables, and information that may occur during the use of the M3D product. You agree to hold harmless and indemnify M3D from any liabilities that result from any of the following conditions: 1) modification of The M3D Pro 3D Printer, M3D consumables, and/or software; 2) use of third-party software; 3) use of any custom 3D models; 4) use of third-party power supplies or USB cables; 5) use of third-party consumables such as print beds, print bed surfaces sheets, print bed adhesives, and filaments; 6) use of The M3D Pro 3D Printer and/or its components in any way other than intended, as described in the user's manual; 7) operation of The M3D Pro 3D Printer or use of M3D filaments; and 8) Printing of custom objects which results in any physical hazard, legal suit, and/or intellectual property infringement. You agree that there is no circumstance where M3D will be held liable for any damages, including but not limited to loss of anticipated profits, business, opportunities, saving, or deals due to late delivery, performance characteristics, repair, business interruption, or any other disapproval of M3D's products or services. You agree to hold harmless and indemnify M3D from having any additional responsibilities to anyone other than you, the end-user.

INTELLECTUAL PROPERTY: M3D and its M3D products and services include M3D proprietary and privileged information, also known as trade secrets. M3D®, 3D Ink®, and Print Anything® are registered trademarks of M3D LLC. Design and utility patents pending.

CONDITIONS OF USE: You understand and acknowledge that the user manual for M3D's products, this end-user agreement, and the limited warranty may have been provided as a physical copy where required by law, with the initial customer purchase. A digital copy of this agreement and the end-user agreement can be found online at www.printm3d.com if you are not the purchasing customer. Before attempting to use The M3D Pro 3D Printer, you agree to read the M3D Pro 3D Printer user manual, which contains important disclaimers, warranty, and safety information. If you are not the purchasing customer and first end-user, you must access a digital copy of the manual from our website. ***please note that any modifications to M3D firmware will result in a voided warranty and could lead to unsafe operating conditions.** All terms and conditions of this agreement are subject to change, such as may be necessary by law. M3D reserves the right to log your acceptance of this agreement locally in your computer or as needed and allowed by law. M3D Consumables will be made available by M3D and its distributors. Any consumables included as part of an initial purchase does not imply inclusion of those consumables with a future purchase. As an end-user, you agree that without the written consent of M3D, you will not disassemble, decompile, modify, enhance, reverse engineer, or tamper with, attempt to identify trade secrets, or attempt to circumvent safety features of M3D products and software. M3D is bound by US law and cannot send its M3D products to any customers in embargoed locations, and individuals, entities, and corporations are screened against various export enforcement, a.k.a. "blacklists." This includes links or access to software products. If you are on the blacklist, you must not accept this agreement.

SOFTWARE: M3D software will be included with a limited, non-exclusive license as part of each purchase of a M3D Pro 3D Printer. The M3D software is under development and is supported by M3D through downloadable updates. Specifications of the printer and software functionality may be expanded or modified by the software through updates. These include but are not limited to: operating system functionality; printer speed; print quality; build volume; and print resolution and accuracy. Software development updates are intended for ongoing M3D Product performance improvement and may require temporary reversion to older performance parameters as other features are tested, imM3D Proved, or enabled. M3D reserves the right to contact our remote server in future versions of the software for the purpose of comparing software versions and downloading remote software updates. M3D software updates include firmware updates which may be pushed to The M3D Pro 3D Printer. The M3D software includes terms and agreements that differ from the customer purchase agreement. The M3D software is proprietary and its design and contents are protected by law. Attempts to deconstruct / reverse engineer the software are considered illegal as provided by copyright law and fair use; trade secrets; patents pending; and additional local, state, and federal laws where applicable. All parts of this section apply to any end-user and are fully transferable to any user.

www.printM3D.com

**"M3D", 3D Ink, and Print Anything" are registered trademarks of M3D LLC in
Fulton, MD**