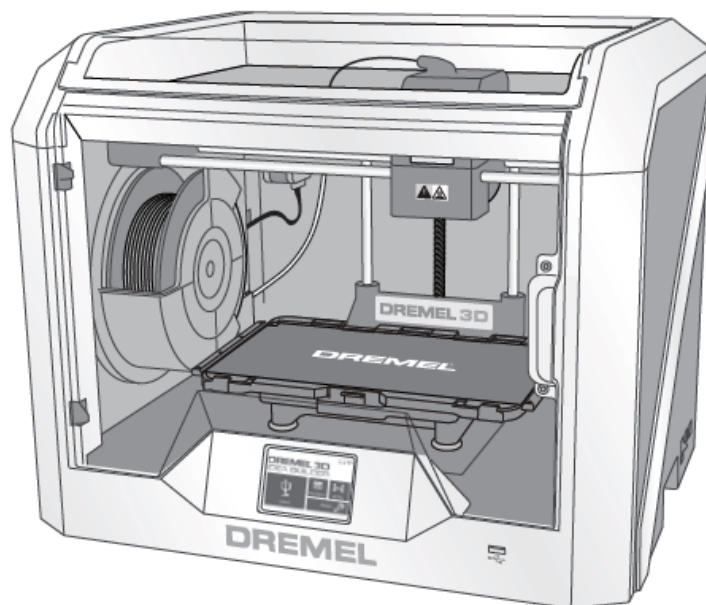


IMPORTANT
Read Before Using



Operating / Safety Instructions

3D40 FLEX



DREMEL®

Call Toll Free for Consumer Information & Service Locations



Safety Symbols

The definitions below describe the level of severity for each signal word. Please read the manual and pay attention to these symbols.

	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
 DANGER	DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.
 WARNING	WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.
 CAUTION	CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

Table of Contents

Safety Symbols	2
General Safety Warnings	3-5
Symbols	5
Dremel Remote Services	5
FCC Compliance	6
Information on Intellectual Property	6
Specifications	7
Resources	8
Glossary of Terms	8-10
Introduction	10
Kit Contents	11
Unpacking	12
Getting To Know Your Dremel 3D40 FLEX	13-14
Initial Setup	15-17
Touch Screen	18-24
Dremel Digilab 3D Slicer Software	24
Getting Ready to Build	25-28
Building	29-30
Removing Your Object	31
Dremel Cloud Platform	32
Best Practices	33
Maintenance	33-34
Troubleshooting	35-36
Firmware and Open Source Software	37
Dremel® Consumer Limited Warranty	38

General Safety Warnings



WARNING Read all instructions in this manual and familiarize yourself with the Dremel 3D40 before setup and use. Failure to comply with the warnings and instructions may result in fire, equipment damage, property damage, or personal injury.

READ ALL INSTRUCTIONS

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

Work Area Safety

Keep work area clean and well lit. Cluttered or dark areas invite accidents.

Do not operate Dremel 3D40 in the presence of flammable liquids, gases or dust. Dremel 3D40 creates high temperatures which may ignite the dust or fumes.

Store idle 3D40 out of reach of children and other untrained persons. Injury can occur in hands of untrained users.

Electrical Safety

Always use the Dremel 3D40 with a properly grounded outlet. Do not modify Dremel 3D40 plug. Improper grounding and modified plugs increase risk of electric shock.

Do not use Dremel 3D40 in damp or wet locations. Do not expose Dremel 3D40 to rain. Presence of moisture increases risk of electric shock.

Do not abuse the cord. Never use the cord for pulling or unplugging the Dremel 3D40. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.

Avoid using this product during an electric storm. There may be a remote risk of a power surge from lightning that may result in electric shock hazard.

In case of emergency unplug Dremel 3D40 from outlet.

Personal Safety

Stay alert, watch what you are doing and use common sense when operating a Dremel 3D40. Do not use Dremel 3D40 while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating Dremel 3D40 may result in personal injury.

Use personal protective equipment. The use of protective equipment such as heat resistant gloves and safety glasses will reduce the risk of personal injuries.

Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts.

Dremel 3D40 Use and Care

Before every use check Dremel 3D40 for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the Dremel 3D40's operation. If damage is suspected have the Dremel 3D40 repaired by authorized Dremel service center before use. Use of Dremel 3D40 when damaged may result in poor quality of object creation, further equipment damage, property damage or personal injury.

Do not touch the extruder tip during Dremel 3D40 operation or until it has cooled down to at least 60°C (140°F). Contact with the extruder tip during or after operation before tip has cooled may result in personal injury.

Set up the Dremel 3D40 in a well-ventilated area. Place Dremel 3D40 printer on flat nonflammable surface and away from flammable material. Provide at least 8 inches of unobstructed spacing around Dremel 3D40. Dremel 3D40 melts plastic during building. Plastic odors emitted during Dremel 3D40 operation may irritate eyes and airways. Locating Dremel 3D40 close to surrounding objects prevents proper ventilation.

Do not reach inside the Dremel 3D40 while it is in operation. Contact with Dremel 3D40 moving parts during operation may result in poor build quality, equipment damage or personal injury.

Always monitor the Dremel 3D40 during operation. Use of Dremel 3D40 by persons unfamiliar with these warnings and instructions may result in equipment or property damage and personal injury.

Use only DREMEL filament. Use of filament not authorized by Dremel may result in equipment and property damage.

Ensure small objects created by Dremel 3D40 are not accessible to young children. Small objects are potential choking hazards for young children.

Do not create illegal or inappropriate objects using Dremel 3D40.

Do not use Dremel 3D40 to create objects intended for use with candles, liquid fuels, and other heat sources. Plastic may melt when exposed to fire or other heat sources. Such use of objects created by Dremel 3D40 may result in fire, property damage and personal injury.

Do not use Dremel 3D40 to create objects intended for food or drink applications such as preparation, decoration, storage, or consumption. Such use of objects created by Dremel 3D40 may result in illness or personal injury.

Do not use Dremel 3D40 to create objects intended with use with electrical components or housings of electrical components. PLA plastic is not suitable for electrical applications. Such use of objects created by Dremel 3D40 may result in property damage and personal injury.

Do not put plastic objects in or around your mouth. PLA plastic is not suitable for food or drink preparation and food utensils. Such use of objects created by Dremel 3D40 may result in illness or personal injury.

Do not use Dremel 3D40 to create objects intended for chemical storage. PLA plastic is not suitable for chemical storage. Such use of objects created by Dremel 3D40 may result in property damage and personal injury.

Do not modify Dremel 3D40 or alter factory settings. Modifications may result in equipment and property damage, and personal injury.

Do not expose Dremel 3D40 to temperatures exceeding 70°C (158°F). Dremel 3D40 may become damaged. Dremel 3D40 is intended to operate in temperature between 16-29° C (60 - 85° F).

Do not move or bump Dremel 3D40 or the extruder during operation. The object may build incorrectly.

Do not change filament spool unless the building process is completed, stopped, or paused. Changing the filament during building will cancel the object and may damage the extruder.

Do not pull the filament out. Doing so may damage the extruder.

Use extra care not to damage the extruder tip when clearing debris. Dremel 3D40 will not work properly with damaged extruder tip and will require replacement.

Before every build make sure that the flexible build plate is covered with Dremel specified build tape. Use of improper build tape may result in equipment damage and poor object build quality.

Do not flex the build plate with the object pointing towards yourself and others. Objects flying off the build plate may result in personal injury.

Be aware of your body position when using hand tools to remove objects from the flexible build plate. Sudden tool slip and improper body position during object removal from the flexible build plate may result in personal injury.

Avoid scratching the build plate when removing objects. Scratches in the build plate will result in improper object creation.

Do not drop the build plate holder. Tempered glass plate may break and result in personal injury.

Do not remove tempered glass plate from plastic holder. Contact with tempered glass plate edge may result in personal injury.

Do not twist or bend the build plate holder while removing objects. Tempered glass plate may separate from plastic holder and result in personal injury.

Dremel is not responsible for structural integrity or utility of objects created using Dremel 3D40. Structural models created by inexperienced designers may result in property damage and personal injury.

Keep the build plate holder away from cardiac pacemakers. The magnets of the build plate holder generate a field that can impair the function of cardiac pacemakers.

Keep the build plate holder away from magnetic data medium and magnetically-sensitive equipment. The effect of the magnets of the build plate holder can lead to irreversible data loss.

Service

Always unplug Dremel 3D40 from its power before performing any service procedures. Failure to do so may result in personal injury and equipment damage.

Have your Dremel 3D40 serviced only by an authorized Dremel service center using only Dremel replacement parts. This will

ensure that proper operation and safety of Dremel 3D40 is maintained.

Use only Dremel approved components. Use of components other than genuine Dremel components may void warranty.

Use only Dremel approved filament. Damage to the product resulting from use of filament other than Dremel approved filament is not covered under warranty.

SAVE THESE INSTRUCTIONS

Symbols

IMPORTANT: Some of the following symbols may be used on your 3D40. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the

Symbol	Designation / Explanation
V	Volts (voltage)
A	Ampères (current)
Hz	Hertz (frequency, cycles per second)
Ø	Diameter
0	Off position
~	Alternating current (type or a characteristic of current)
	Hot surface hazard symbol. Contact may cause burn. Allow to cool before servicing.
	Alerts user to read manual.
	This symbol designates that this tool is listed by Underwriters Laboratories, to United States and Canadian Standards.
	The magnets of the build plate holder generate a field that can impair the function of cardiac pacemakers.

Dremel Remote Services

Dremel remote services provide you with information and services regarding your Dremel 3D products. The type of information provided by Dremel remote services may change from time to time. All product information and services are provided for your convenience, "As is" and "As Available".

Dremel does not guarantee that the information or services will be available, accurate, or reliable, or that product information or services will provide safety in your home. You use all

product information, services, and products at your discretion and risk. The product information and services are not intended as a substitute for direct means of obtaining information.

Network connectivity requires an access point and high speed internet connection. Internet service provider charges may apply.

Mobile printing requires a compatible mobile device and data plan. Carrier charges may apply.

FCC Compliance

FCC COMPLIANCE

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes and Modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission's rules.

Information on Intellectual Property

The Dremel 3D40 is intended for 3D printing objects from digital files that you create or own, or have the right to print using the Dremel 3D40. When making objects using the Dremel 3D40, it is your responsibility to ensure that you do not infringe any third party intellectual property rights or violate any applicable laws or regulations, such as U.S. or foreign intellectual property laws.

The Dremel 3D40 may not be used to make objects protected by intellectual property rights owned by third parties without such third parties' permission. Using the Dremel 3D40 to do any of the following may require the permission of third parties: to make a duplicate or facsimile (in whole or in part) of any object not created by you, to make an object from a digital file you do not own, or to make an object from a scan of a physical object that you did not create. It is your

responsibility to obtain such permission. In some cases, you may not be able to obtain such permission. Where such permission cannot be obtained, you should not 3D print such object, or you do so at your own risk. You may not modify, reverse engineer, decompile, or disassemble the Dremel 3D40 or its software or firmware, except as permitted by applicable law.

If you use the Dremel 3D40 in any way other than as recommended and described in these Operating/Safety Instructions, you do so at your own risk. Using the Dremel 3D40 to make objects that infringe any intellectual property rights owned by third parties could result in civil or criminal prosecution and penalties, and you could be liable for money damages, fines, or imprisonment.

Specifications

BUILDING

Extruder: Single extrusion
 Extruder temperature: Up to 230°C (397° F)
 Operating Interface: 3.5" full color IPS touch screen
 Maximum Build Volume: 10" x 6" x 6.7"
 (255 mm x 155 mm x 170 mm)
 Layer Thickness: 50 microns (0.05 mm)
 Filament Colors:
 Internal Storage: 4 GB
 External Storage: USB Flash Drive

WEIGHT & DIMENSIONS

Weight (without spool): 16 kg (35 lbs)
 Dimensions: 20.25" x 16" x 15.9"
 (515 mm x 406 mm x 394 mm)

FILAMENT

ONLY works with Dremel 1.75 mm filament

FILAMENT STORAGE

All polymers degrade with time. Do not unpack until filament is needed. Filament should be stored at room temperature: 16-29° C (60-85° F) and in dry conditions.

SOFTWARE

Dremel 3D40 comes with complimentary Dremel Digilab 3D Slicer software for Windows and Mac OSX. This application converts your 3D digital files into buildable files.

SUPPORTED OPERATING SYSTEMS

- Apple® Mac® OS® X v10.9 or later (Mavericks)
- Microsoft® Windows® 8.1
- Microsoft® Windows® 7 SP1

MINIMUM SYSTEM SPECIFICATIONS

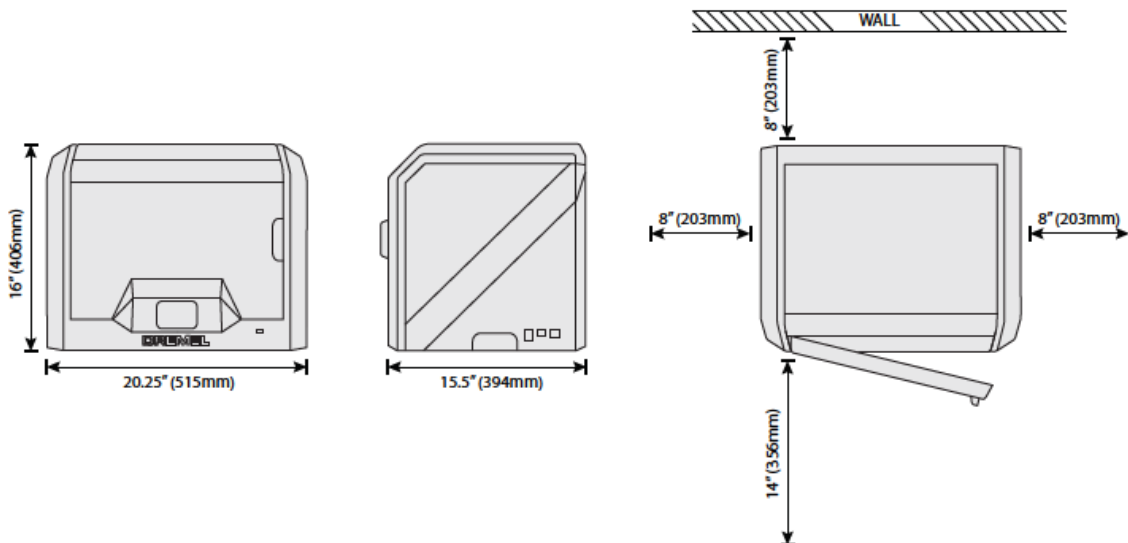
- CPU: 64-bit processor (32-bit not supported)
- Memory: 3 GB RAM (4 GB or more recommended)
- Disk space: ~2 GB free disk space for installation
- Display card: 1,024 MB GDDR RAM or more. Microsoft® Direct3D® 11 capable graphics card or higher
- Pointing device: Three-button mouse

ELECTRICAL REQUIREMENTS

3D40 input rating: 100-240V, 47-60Hz,
 0.8A-1.8A

OPERATING ENVIRONMENT

Room Temperature: 16-29° C (60 - 85° F)
 Level workspace
 Dry workspace environment



Resources

Resource	Description	Location
Quick Start Guide	Provides illustrated walkthrough of how to un-box your 3D40.	Printed version of the Quick Start Guide is located in the rectangular component carton.
Dremel 3D Website	Provides the latest 3D40 software, product information, customer support, and 3D model and project downloads.	
Dremel 3D Customer Support	Contact Dremel for product support, maintenance, and service.	
Dremel Digilab 3D Slicer Software	Allows you to upload, edit, and build 3D files.	Installed from USB flash drive provided with the Dremel 3D40.

Glossary of Terms

Term	Definition
Flexible Build Plate	The flat, flexible surface used by your Dremel 3D40 to build objects. The flexible build plate is comprised of a flexible steel plate with plastic handles for easy bending. The flexible build plate is attached to the printer using the build plate holder.
Build Plate Holder	The flat, magnetic surface used to hold the flexible build plate. It has a magnetic surface, two notches in the back and two movable latches in the front to hold down the flexible build plate.
Build Platform Clip	Clip located at the front of the build platform base that is used to secure the build plate in place.
Build Tape	Adhesive tape that improves the consistency of your objects and helps them stick to the build plate surface.
Build Volume	The three dimensional (3D) amount of space that an object will use once it is completed. Your Dremel 3D40 has a maximum build volume which means that objects with a larger build volume cannot be built unless they are resized or broken into sub-objects.
Door	Your Dremel 3D40 has a door located on the front panel. This allows for easy access to the build plate, extruder, filament, and your objects. This door is made with a transparent material so you can monitor the progress of your objects while keeping the build environment stable.
Ethernet Port	A local area wired networking technology that allow electronic devices to communicate.
Extruder	An assembly that uses gears to pull filament through the extruder intake, heat the filament to the build temperature, and push the heated filament out of the extruder tip.
Extruder Fan	A fan used to cool the outer assembly of the extruder and gear motor.

Glossary of Terms

Extruder Fan Baffle	A plastic piece that directs air from the extruder fan onto the build plate to assist in cooling the active build.
Extruder Intake	An opening located at the top of the extruder where filament is inserted for building.
Extruder Lever	A lever located on the side of the extruder that is used to loosen the grip of the extruder gear motor.
Extruder Tip	A nozzle located at the bottom of the extruder where heated filament is forced out for building.
Filament	A threadlike strand of plastic material.
Filament Guide Tube	A plastic piece that guides the filament from the filament spool through a passage in the outer housing of your Dremel 3D40.
Filament Jam Sensor	A sensor in the extruder that pauses your printer if filament stops extruding properly.
Filament Runout Sensor	A sensor in the extruder intake that pauses your printer if it runs out of filament during a build.
Filament Spool	A cylindrical piece on which a long strand of filament is wound for storage and continuous use.
.g, .gcode, .g3drem	A buildable file format compatible with your Dremel 3D40.
Leveling Knobs	Knobs located under the build platform base that are used to create proper spacing between the extruder tip and the build plate.
Leveling Sensor	A sensor that detects the height of the build platform and assists in proper leveling.
Lid	Your Dremel 3D40 has a pivoting lid on the top. This allows for more access to the build plate, extruder, filament, and objects when necessary.
Needle Nose Pliers	Common tool used to hold small objects and to grab excess material that may be too hot to touch directly.
OBJ File	A common digital file format used in a wide range of 3D model software. This file is created in 3rd party 3D software or downloaded.
Object Removal Tool	A tool used to separate your objects from the build plate.
PLA	A bioplastic derived from renewable resources such as corn starch.
Spool Holder	A plastic piece located to the left of the build plate inside your Dremel 3D40 build area that is designed to hold a filament spool.
Spool Door	A removable door which locks the filament spool to the spool holder.
Stepper Motor	A brushless DC electric motor used to drive the guide rails and extruder gears.
.STL File	A common digital file format used in a wide range of 3D model software. This file is created in 3rd party 3D software or downloaded.
Touch Screen	Full color display that is touch activated. It allows you to monitor your Dremel 3D40 and objects while also providing commands directly to your Dremel 3D40 without the use of a computer.
USB Flash Drive	A portable memory card used on a wide array of devices.

Glossary of Terms

WIFI	A local area wireless networking technology that allow electronic devices to communicate.
X-Axis Guide Rails	A set of rails on either side of the extruder that allow a stepper motor to move the extruder to the left or right side of the build area.
Y-Axis Guide Rails	A set of rails on either side of the build area that allow a stepper motor to move the extruder to the front or back of the build area.
Z-Axis Guide Rails	A set of rails located at the back of the build area that allow a stepper motor to move the build plate up or down.

Introduction

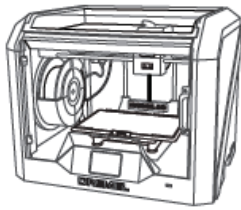
Welcome to the world of Dremel Digilab. Our mission is to mentor you through the 3D building process and share best practices for bringing your ideas to life.

3D building is a process that will involve experimentation and persistence. Thankfully, the Dremel experts are here to make your job easier with online tips and live support.

Dremel 3D40 brings new functionality to Dremel3D such as network connectivity and remote printing. To get started with 3D40 follow the initial setup routine on the touch screen.

You can create a user profile. Your profile gives you access to high-quality models, support and software downloads, and remote printing services. Once setup and registration is complete you are ready to start building.

Kit Contents*



Dremel 3D40



Instruction Manual



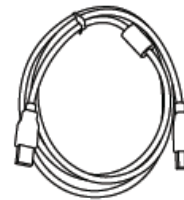
Quick Start Guide



Filament Spool**



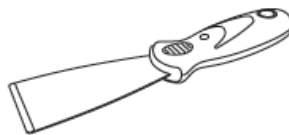
Power Cable



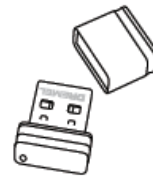
USB Cable



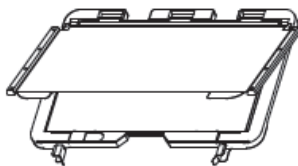
Build Tape



Object Removal Tool



USB Flash Drive



Flexible Build Plate and
Build Plate Holder

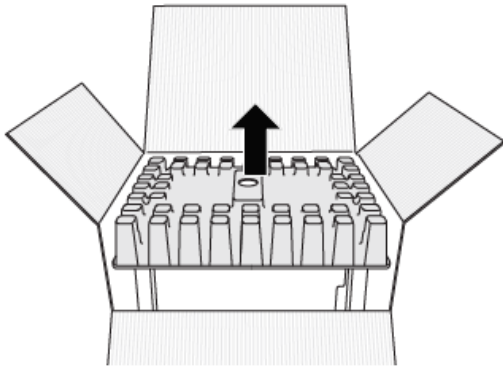


Unclog Tool

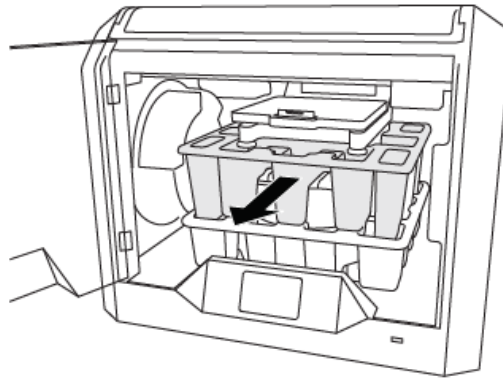
*Quantities may vary depending on kit. **Do not store in moist or hot environment.

Unpacking

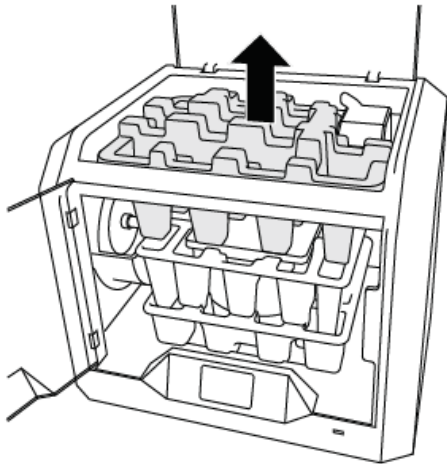
1. Place box on table, cut tape, and open.
2. Remove top insert.



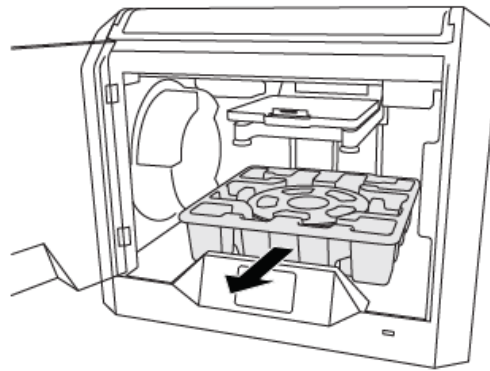
6. Open door and remove middle insert.



3. Remove 3D40 and place on table.
4. Open lid and remove top insert.

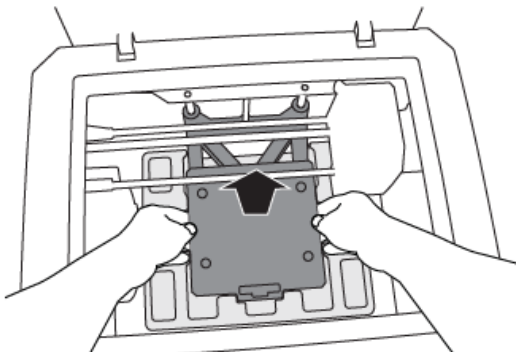


7. Remove bottom insert.

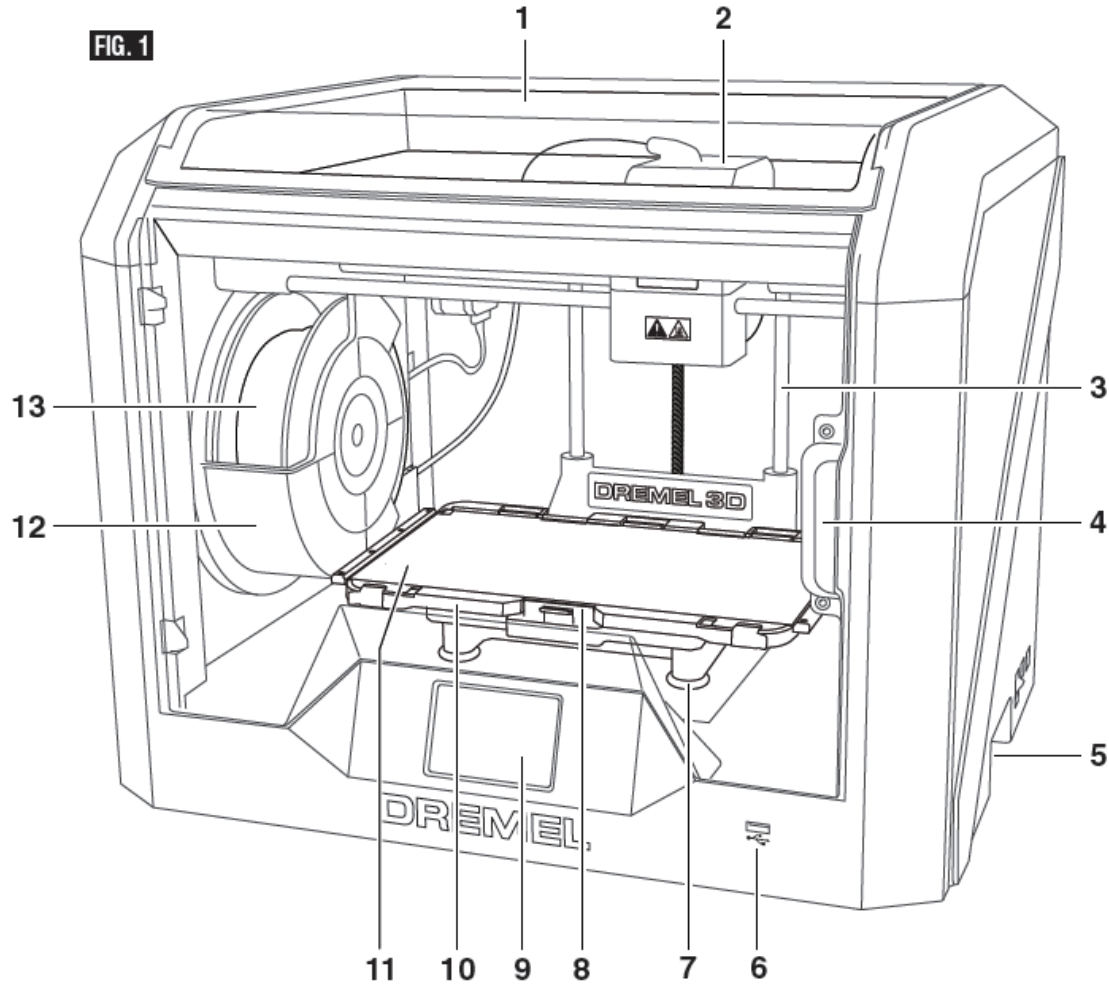


Tip: Keep packaging for future transportation and storage.

5. Raise build platform by lifting from both sides.

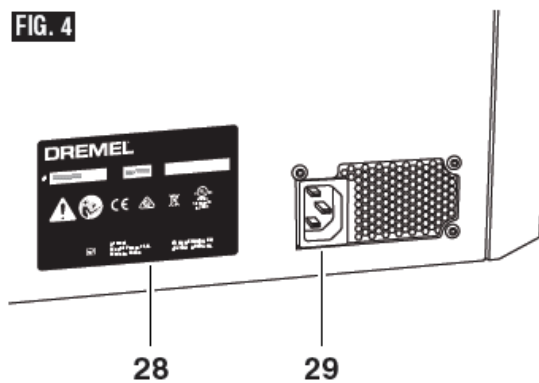
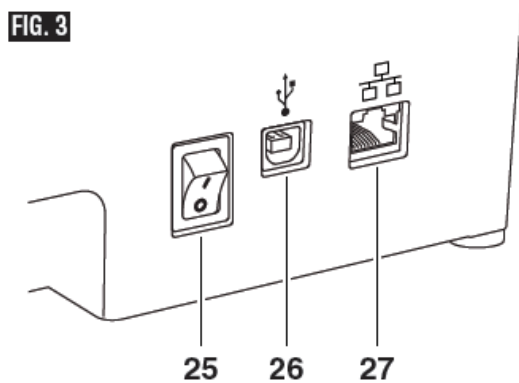
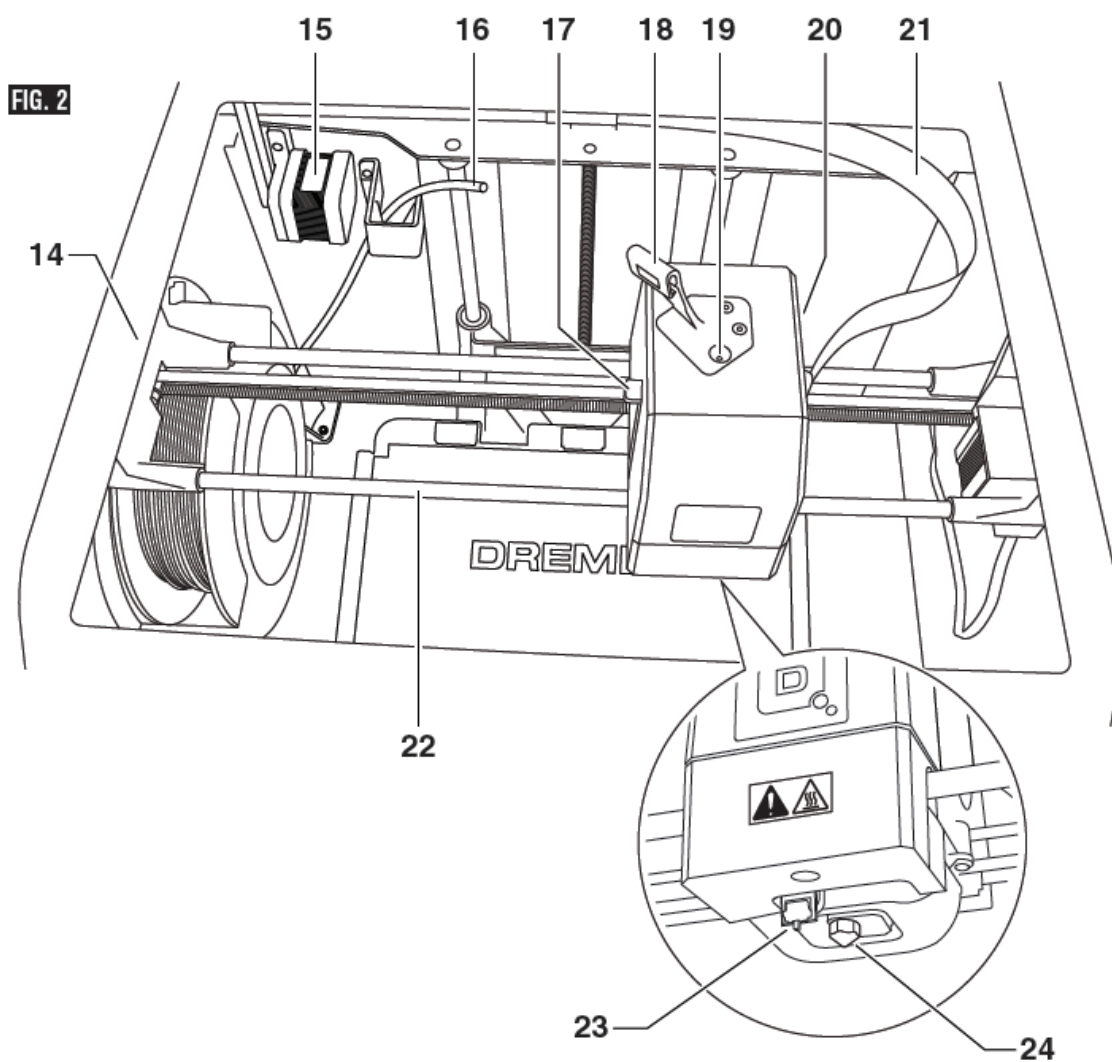


Getting To Know Your 3D40 FLEX



- | | |
|---------------------------|-------------------------|
| 1. Lid | 16. Filament Guide Tube |
| 2. Extruder | 17. Extruder Lever |
| 3. Z-Axis Guide rail | 18. Filament Guide Clip |
| 4. Door | 19. Extruder Intake |
| 5. Gripping Handles | 20. Extruder Fan |
| 6. USB A Port | 21. Ribbon Cable |
| 7. Leveling Knobs | 22. X-Axis Guide Rail |
| 8. Build Platform Clip | 23. Leveling Sensor |
| 9. Touch Screen | 24. Extruder Tip |
| 10. Build Plate Holder | 25. Power Switch |
| 11. Flexible Build Plate | 26. USB B Port |
| 12. Filament Spool Holder | 27. Ethernet Port |
| 13. Filament Spool | 28. Nameplate |
| 14. Y-Axis Guide Rail | 29. Power Input |
| 15. Stepper motor | |

Getting To Know Your 3D40 FLEX



Initial Setup

PREPARING BUILD PLATE

⚠ WARNING Do not drop the build plate. Tempered glass plate may break and result in personal injury.

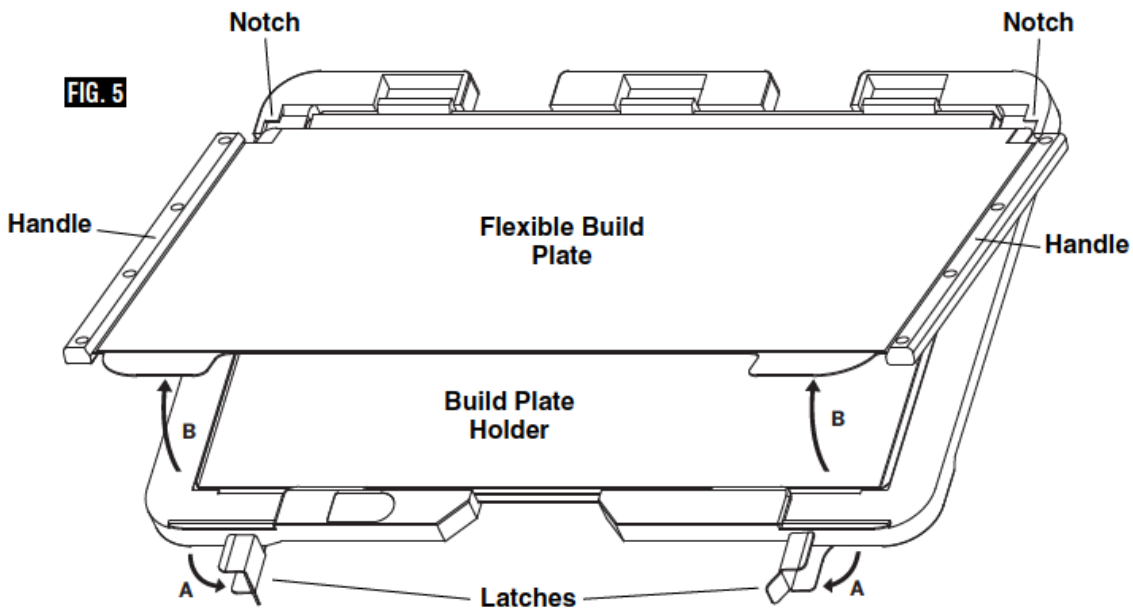
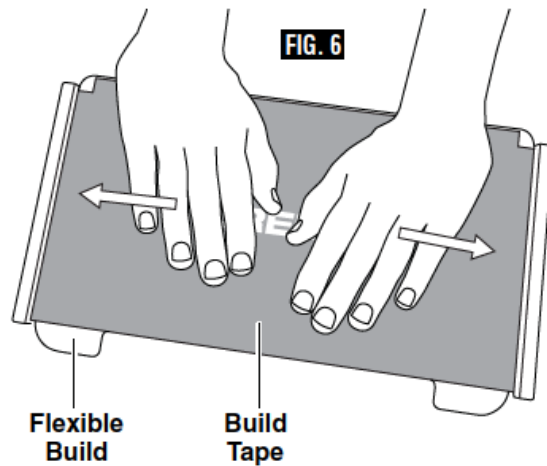
⚠ WARNING Do not remove tempered glass plate from plastic holder. Contacting with tempered glass plate edge may result in personal injury.

⚠ CAUTION Before every build make sure that the flexible build plate is covered with Dremel specified build tape. Use of improper build tape may result in equipment damage and poor object build quality.

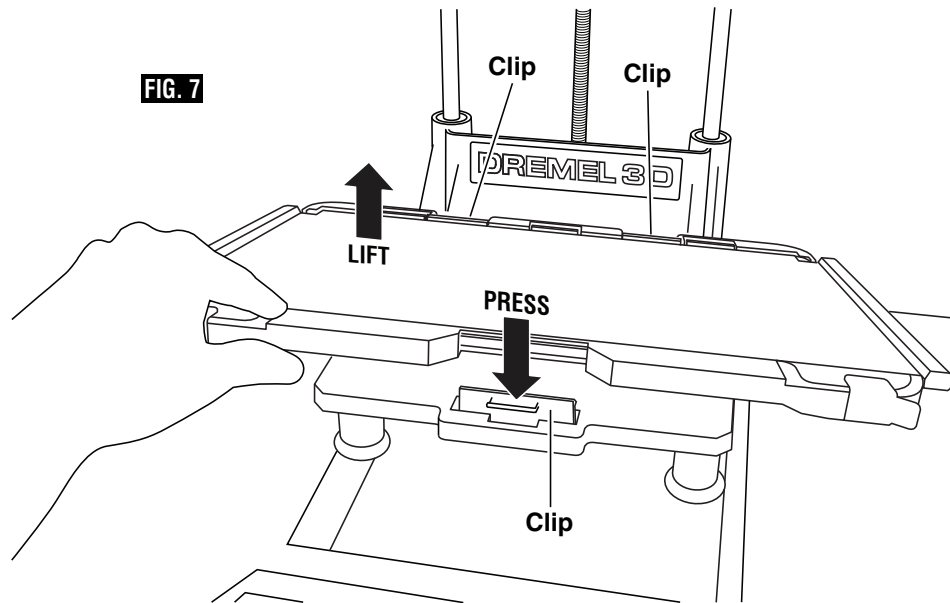
1. Your build plate consists of two parts: the flexible build plate, and the build plate holder. The build plate holder has a magnetic surface to attach the flexible build plate to, and it has two notches in the back and movable latches in the front to hold down the corners of the flexible build plate.
2. The flexible build plate can be removed from the build plate holder by rotating the movable latches towards you (A), lifting the flexible build plate up by the blue

handles (B), and pulling it out towards you (C), figure 5.

3. The flexible build plate comes with build tape installed. To remove it, lift it up from the tab at the front corner and slowly peel off. To install a new build tape, remove adhesive liner from build tape and place build tape over flexible build plate. For best results, apply build tape at center of flexible build plate and smooth outward to remove any air bubbles, figure 6.



Initial Setup



4. The flexible build plate can be installed on top of the build plate holder by sliding it backwards at an angle so that the corners of the flexible build plate slide under the notches at the back of the build plate holder. Release the flexible build plate so it sticks on top of the magnet, and close the latches at the front to hold it in place.
5. The build plate holder can be removed by pinching the clip located at the front of the build platform and lifting the build plate holder off the base, figure 7.
6. Install the build plate holder using the build platform clips.

TIP: It is much easier to remove and install the flexible build plate if the build plate holder is already installed in the printer. In general, once the build plate holder is installed in the printer you do not need to remove it, you only need to remove the flexible build plate.

Initial Setup

The first time you power on your Dremel 3D40 you will be prompted to setup your printer, connect to a network, update your firmware and create an online account. Completing this process will give you access to features such as printing wirelessly, printer sharing amongst your friends and family, notifications of firmware updates, and printer status monitoring. You will then be walked through how to loading your first roll of filament and how to properly level the build plate.

1. Select your country and your language.
2. To complete initial setup, tap "Yes" when prompted on the initial setup screen. If you decline this setup you can always setup network and register later.

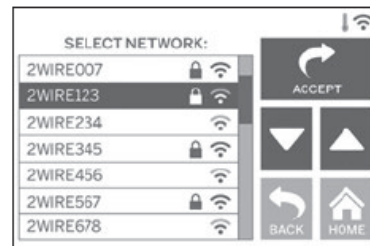


3. If you choose "Yes", 3D40 will automatically connect to your ethernet (if plugged into router skip to step 5) or search for available wireless networks.

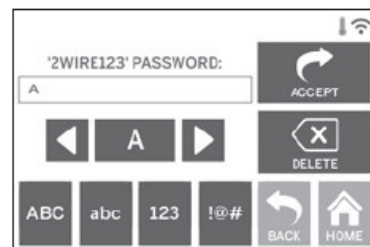


4. Choose your wireless network using the touch screen. Use the arrows to scroll through the list of available wireless

networks. When your wireless network name is highlighted, tap "Accept".



5. Enter your wireless network password and tap "Accept".



6. Tap "Yes" to update your firmware (if a firmware update is available) to get the latest features and improvements.



7. Tap "Done" to complete the initial setup process on your printer.



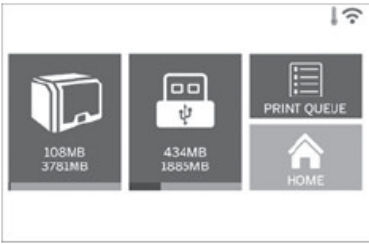
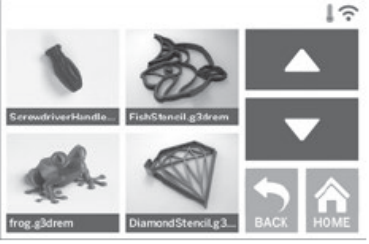
8. Visit and follow the prompts to complete your user profile creation and 3D40 registration.

Touch Screen

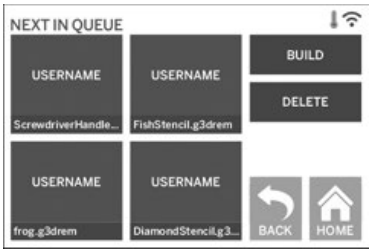
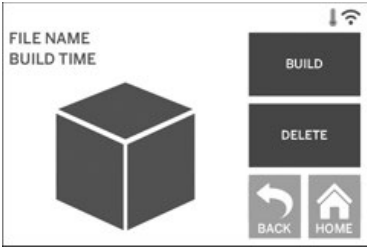
Using your Dremel 3D40 without a computer is easy with the onboard software and full color touch screen.

Before building your model we want to familiarize you with the touch screen menu structure and options.

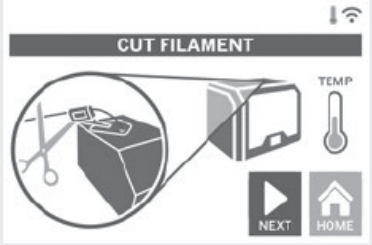
⚠ WARNING Observe all provided warnings and safety instructions when using the Dremel 3D40. Failure to do so may result in fire, equipment damage, property damage or personal injury.

	BUILD Tap to select a 3D model and begin build process. (see page 28 for detailed build instructions)
	BUILD MENU Tap Printer, USB Flash Drive, or Print Queue to choose the destination of your desired file.
	MODEL MENU Tap to select the desired model or use arrows to scroll through pages to find your model.

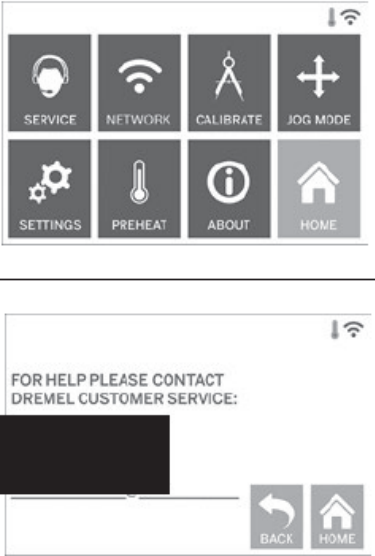
Touch Screen

	FILE DETAILS BUILD – Tap to begin build process. DELETE – Tap to remove model file from on-printer storage or USB flash drive. COPY TO PRINTER – From USB flash drive, tap to copy model file to on-printer storage.
	BUILD STATUS STOP – Tap to cancel the current build process. PAUSE/PLAY – Tap to pause or resume the current build process. Pause will allow you to access the filament button. CHANGE FILAMENT – Tap to change filament during the current build process to add more filament or change colors.
	PRINT QUEUE MENU BUILD – Tap to view details of next build. DELETE – Tap to remove next build from queue.
	PRINT QUEUE MODEL DETAILS BUILD – Tap to begin build process. DELETE – Tap to remove model file from queue.

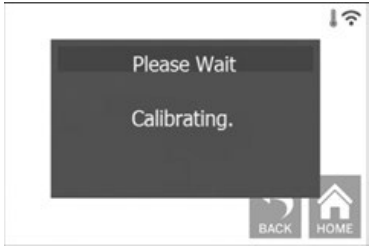
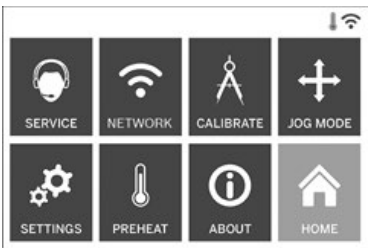
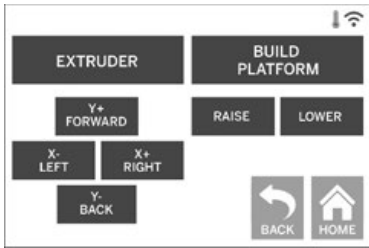
Touch Screen

	FILAMENT Tap to begin heating and start filament load/change process. (See page 25 for instructions on filament load/change process)
	
	LEVEL Tap to begin build plate leveling process. (see page 27 for instructions on leveling the build plate)
	

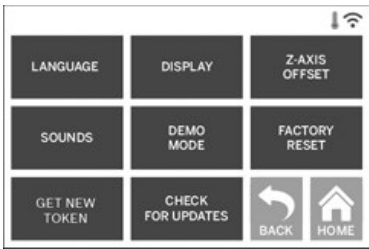
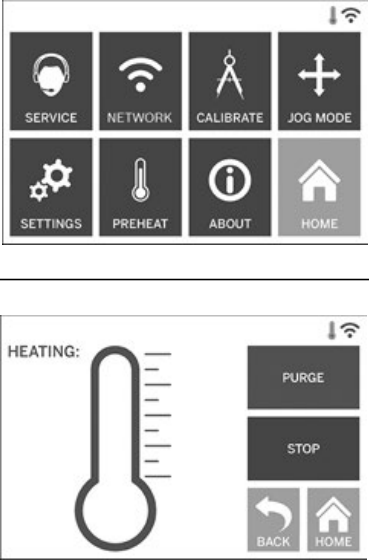
Touch Screen

	TOOLS Tap to access the following individual printer functions and settings.
	SERVICE Tap to enter service menu to see customer service contact information.
	NETWORK Tap to enter Network menu to connect or disconnect WiFi and Set Proxy. CONNECT WIFI – Tap to connect to WiFi. DISCONNECT WIFI – Tap to turn Wifi off. SET PROXY – Tap to set manual proxy. SET STATIC IP – Tap to set Static IP.

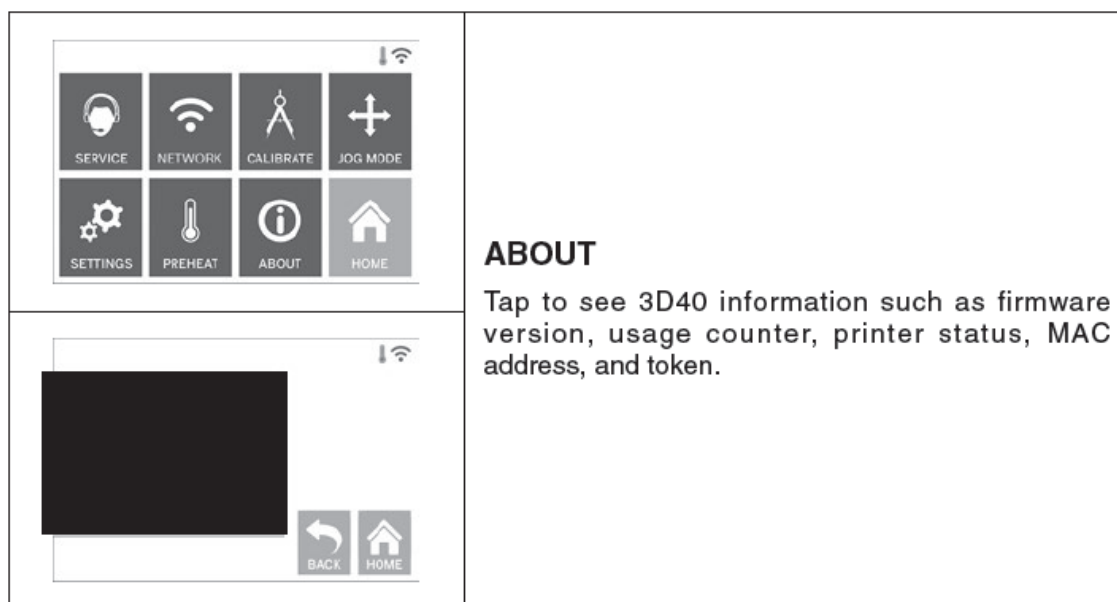
Touch Screen

	
	CALIBRATE Tap to move extruder and build platform to zero position.
	
	JOG MODE Tap to display options to move extruder and build platform along the X, Y, and Z-axis.

Touch Screen

	SETTINGS LANGUAGE – Tap to pick alternate menu language. DISPLAY – Tap to customize cabinet LEDs or main menu hotkeys. Z-AXIS OFFSET – Used to calibrate build plate height during assembly. SOUNDS – Tap to turn 3D40 sounds On/Off. DEMO MODE – Tap to turn retail demo mode On/Off.
	FACTORY RESET – Tap to remove all information stored on 3D40 and return it to factory defaults. GET NEW TOKEN – Tap to release current token and get a new token when connected to Wifi or Ethernet. CHECK FOR UPDATES – Tap to check for new firmware version when connected to Wifi or Ethernet.
	PREHEAT Tap to automatically begin preheating the extruder for building or removing excess debris. PURGE – Once extruder is hot, tap to manually extrude filament. STOP/START – Tap to stop or start preheating.

Touch Screen



Touch Screen Icons

	Indicates that there is an error such as filament empty or door open.
	Indicates that Ethernet is connected.
	Indicates WiFi signal strength and if connected to WiFi symbol will be blue.
	Indicates that the extruder is cool.
	Indicates that the extruder is warm.
	Indicates that the extruder is hot.
	Indicates that the printer is connected to Dremel Print Cloud printing services and that it can receive remote commands.

Dremel Digilab 3D Slicer Software

Dremel 3D40 is compatible with Dremel Digilab 3D Slicer which can be installed from the USB flash drive that came with your printer or downloaded. The Digilab Slicer allows you to import, edit, and build 3D files. A software overview as well as detailed walkthroughs and support resources are available.

Getting Ready to Build

⚠ WARNING Observe all provided warnings and safety instructions when using the Dremel 3D40. Failure to do so may result in fire, equipment damage, property damage or personal injury.

⚠ WARNING Do not touch the extruder tip during operation or until it has cooled down to at least 60°C (140°F). Contact with the extruder tip during or after operation before tip has cooled may result in personal injury.

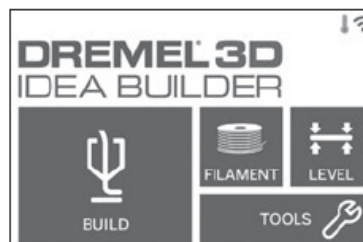
⚠ WARNING Use only DREMEL filament. Use of filament not authorized by Dremel may result in equipment and property damage.

⚠ CAUTION Do not pull the filament out. Doing so may damage the extruder.

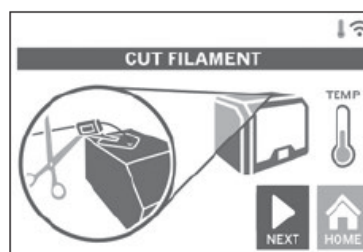
LOADING/CHANGING FILAMENT

1. Start filament load/change process by tapping "Filament" button on touch screen. Extruder will move to front right corner of print area and extruder tip will begin to

heat.

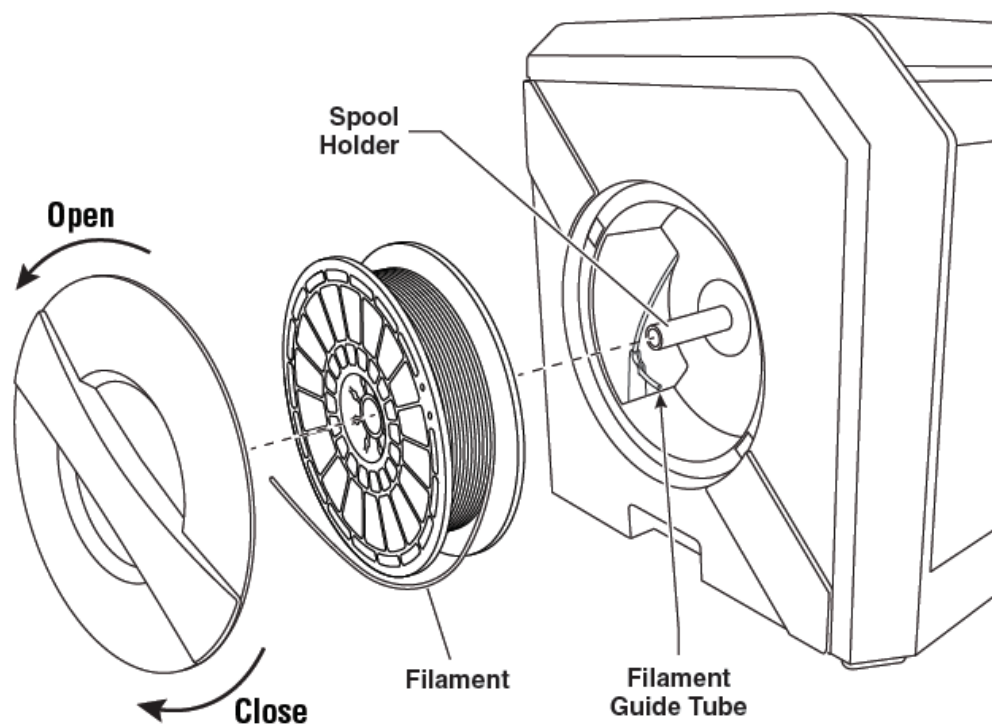


2. After extruder stops moving, open the 3D40 Lid for better access to extruder.
3. If existing filament is loaded, cut existing filament near extruder intake and tap "Next" button on touch screen.



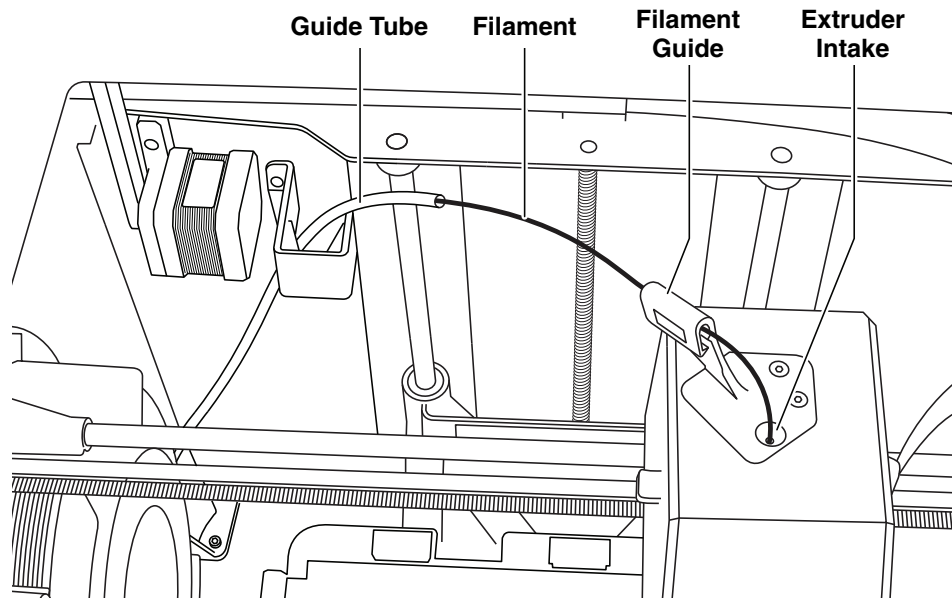
4. Remove Spool door by rotating it counter clockwise and remove existing spool if one is present, see figure 8.

FIG. 8

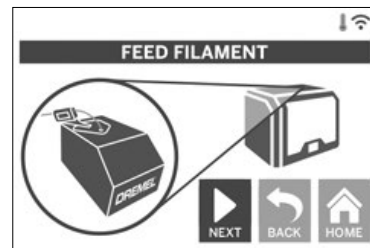


Getting Ready to Build

FIG. 9



5. Thread tip of new filament through guide tube, place spool on spool holder, replace spool door by aligning locking tabs and rotating clockwise, see figure 8. Tap “Next” on touch screen.
6. If changing existing filament, 3D40 will automatically purge existing filament.
7. When Feed Filament screen appears, tap “Next” on touch screen and thread filament coming from guide tube into extruder intake until extruder feeds through on its own, see figure 9.



8. Filament will be drawn into the extruder and begin to exit from the hot extruder tip.

NOTE: Your Dremel 3D40 was tested by building objects before leaving the factory. These test objects may have been made with a different filament color than you are using. Therefore, a small amount of filament may be remaining in the extruder.

Getting Ready to Build

LEVELING BUILD PLATE

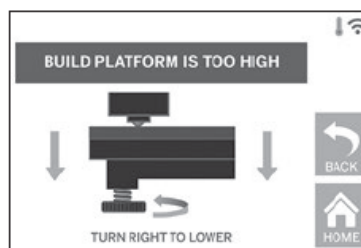
⚠ WARNING Do not touch the extruder tip during Dremel 3D40 operation or until it has cooled down to 60°C (140°F). Contact with the extruder tip during or after operation before tip has cooled may result in personal injury.

It is important you level the build plate every time you replace the build tape or reinstall the build plate to ensure that the build plate is evenly spaced from the extruder head. Make sure to remove any air bubbles from between the build plate and the build tape. Not leveling the build plate or eliminating air bubbles may cause objects to not build properly.

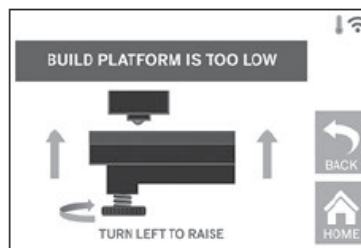
1. Make sure you have placed build tape on build plate and no objects are present. Applying build tape after leveling may effect the consistency of your object.
2. Tap "Level" on 3D40's touch screen.



3. The extruder and build platform will move into position to level the build plate. 3D40 will first check level at the back center of the build plate. The two knobs under the build platform are used to raise and lower the build platform on the left and right. The extruder contains a sensor that detects if the bed is level, no additional tools are necessary.
4. The touch screen will indicate if your build plate is too high or too low. If the build plate is too high, adjust the appropriate knob by rotating right until you hear a "beep" and the touch screen indicates that it is ready to verify that the bed is level.



5. If the build plate is too low, adjust the knob by rotating left until you hear a "beep" and the touch screen indicates that it is ready to verify that the bed is level.



6. Tap "Verify" to check the bed level. If further adjustment is needed the touch screen will indicate the direction, if the level is correct, the extruder will move to the next point and the level process can be repeated.



7. Repeat steps 4-6 for the second position, when bed is fully level the extruder will automatically move to the calibration position and complete the leveling process.

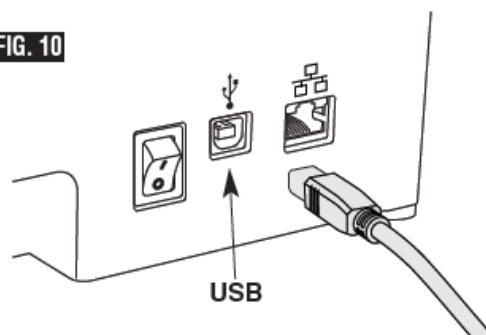


Getting Ready to Build

CONNECTING USB CABLE

1. Ensure 3D40 power switch is in the off position.
2. Connect the included USB cable to your 3D40 and computer, figure 10.
3. Open software.
4. Turn your Dremel 3D40 on using the power switch to sync your computer to your Dremel 3D40.

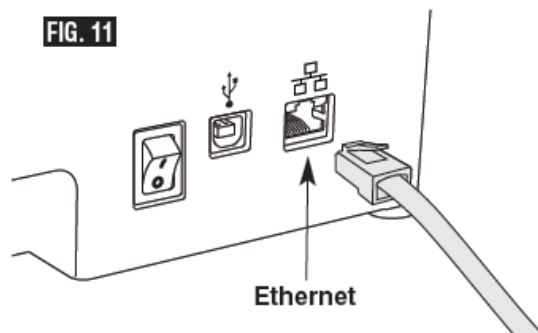
FIG. 10



CONNECTING ETHERNET

1. Ensure 3D40 power switch is in the off position.
2. Plug ethernet cable into your 3D40, figure 11.
3. Turn your Dremel 3D40 on using the power switch. Ethernet connection should be detected automatically. Tap "Accept" to confirm connection.

FIG. 11



Building

⚠ WARNING Observe all provided warnings and safety instructions when using the Dremel 3D40. Failure to do so may result in fire, equipment damage, property damage or personal injury.

⚠ WARNING Do not reach inside the Dremel 3D40 while it is in operation. Contact with Dremel 3D40 moving parts during operation may result in poor build quality, equipment damage or personal injury.

NOTE: Your Dremel 3D40 will build test objects before leaving the factory. These test objects may have been made with a different filament color than you are using. Therefore, a small amount of filament may be remaining in the extruder. The start of your first object may have some of this filament color until it transitions over to your filament color.

You have several options when building on your 3D40:

- 1) On-Printer Storage
- 2) USB Flash Drive
- 3) Online Print Queue
- 4) Computer

Building

BEFORE YOU BUILD

1. Ensure an adequate amount of filament is loaded (see page 25).

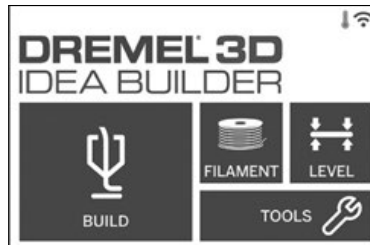
TIP: You can determine whether you have enough filament to complete your object before building by comparing the length of filament needed as displayed by Dremel Digilab 3D Slicer to the length of filament on spool indicated by the length gauge.

If 3D40 runs out of filament during a build, it will pause until more filament is added.

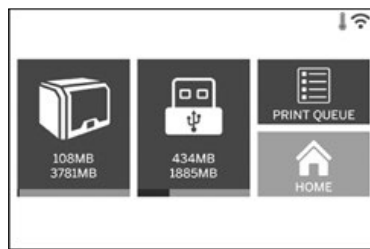
2. Ensure build tape is applied, build plate is level and clear of objects.

BUILDING FROM ON-PRINTER STORAGE

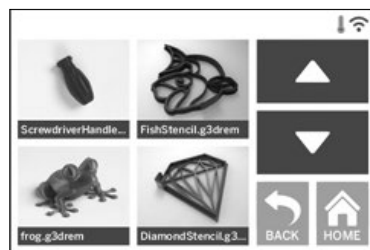
1. On the main menu tap “Build”.



2. On the build menu tap the printer icon.



3. Tap the model file you would like to build.
(Use arrows to scroll through pages)



4. In the model detail page tap “Build” to begin building process.

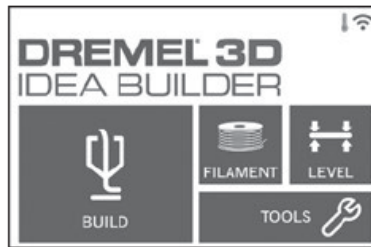


5. Your 3D40 will first align the extruder and build platform to their zero positions then the level sensor will lightly touch the build plate to complete alignment. Your extruder tip will begin to heat which may take a few minutes. Once the proper temperature is reached your model will begin to build.
6. Once your object is finished your 3D40 will automatically align the extruder and build platform to their calibration positions and cool the extruder tip.
7. Wait until the touch screen indicates that the extruder is “cool” to remove your object. See section for removing object from build plate below for object removal instructions.

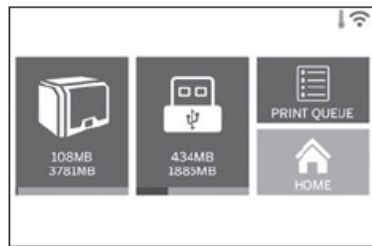
Building

BUILDING FROM USB FLASH DRIVE

1. On main menu tap "Build".



2. Tap USB icon to access contents of USB flash drive.



3. Follow steps 3-7 from Build from On-Printer storage to complete build from USB flash drive.

BUILDING FROM PRINT QUEUE

If your 3D40 is registered and added to your Dremel3D profile, you can send Builds from your web browser

1. If your 3D40 is displaying the Print Queue notification tap "Build" in the notification window to access the Print Queue. If you choose "Decline" you can later access your Print Queue by tapping "Build" then "Print Queue".

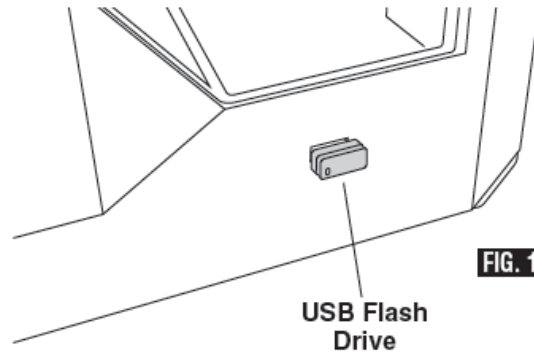
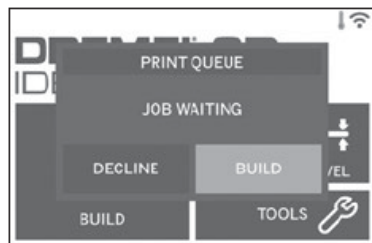


FIG. 12

2. In the Print Queue menu you can choose to "Build" the next model in the queue or "Delete" it and advance to the next model.



3. In Model Details tap "Build" to begin building process or "Delete" to remove the file.



CANCELING YOUR BUILD ON 3D40

To cancel your object during preheating or building, tap "Stop" on the touch screen. If you confirm "Yes" the extruder and build platform will move to their calibration positions.

Removing Your Object

REMOVING YOUR OBJECT FROM THE BUILD PLATE

⚠ WARNING Do not touch the extruder tip during Dremel 3D40 operation or until it has cooled down to at least 60°C (140°F). Contact with the extruder tip during or after operation before tip has cooled may result in personal injury.

⚠ WARNING Use personal protective equipment. The use of protective equipment such as heat resistant gloves and safety glasses will reduce personal injuries.

⚠ WARNING Do not flex the build plate with the object pointing towards yourself and others. Objects flying off the build plate may result in personal injury.

⚠ WARNING Be aware of your body position when using hand tools to remove objects from the build plate. Sudden tool slip and improper body position during object removal from the build plate may result in personal injury.

⚠ WARNING Do not drop the build plate holder. Tempered glass plate may break and result in personal injury.

⚠ WARNING Do not twist or bend the build plate holder while removing objects. Tempered glass plate may separate from plastic holder and result in personal injury.

⚠ CAUTION Avoid scratching the build plate when removing objects. Scratches in the build plate will result in improper object creation.

1. Wait for the extruder to cool before removing your object.
2. With the object still attached, remove flexible build plate from the build area. See page 15 for detailed instructions.
3. Flex the build plate with the object pointed away from yourself and others. Push on the back of it with your thumbs using your

FIG. 13

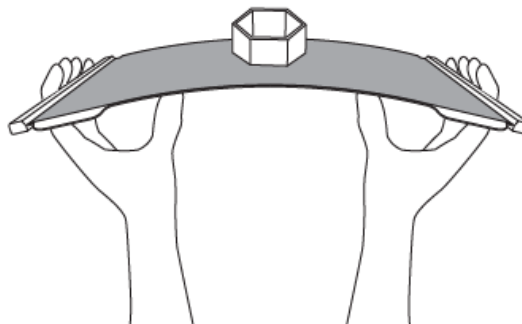
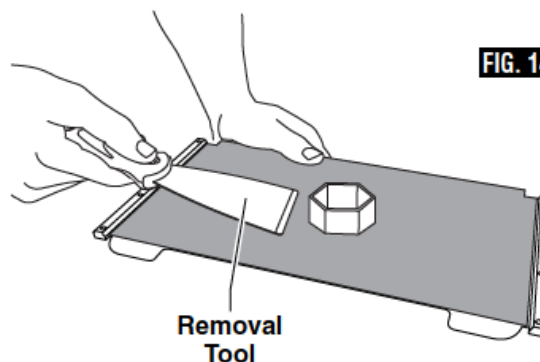


FIG. 14



other fingers to hold onto the handles, figure 13. The part will release and will either fall off or be easy to pull off with your hand.

4. For thin or small parts, the flexing the build plate may not be enough to release the part. In these cases, gently use the object removal tool to remove the object from the build plate, figure 14.

REMOVING SUPPORTS (IF REQUIRED)

Use needle nose pliers to remove supports that are inside your object or hard to reach.

Dremel Cloud Platform

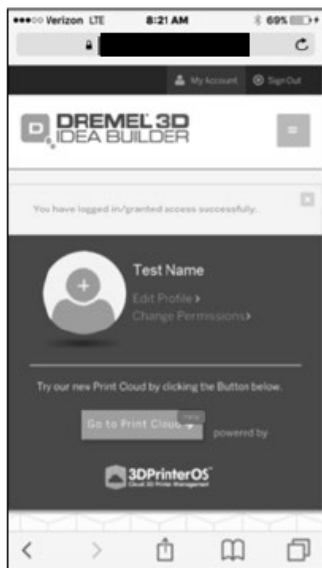
Dremel's cloud-based platform allows you to connect to your 3D40 from any web browser. In the platform, you can view models and projects in the Dremel 3D library, send, pause and cancel builds, monitor build status, receive push notification updates, and more. Create a user profile and follow the setup steps below to get started. Note: This feature is currently only available in the United States.



1. After launching the Dremel cloud platform in your web browser, you will need to Log In with your existing Dremel user information or Social Log In or Sign Up to create a new account.



3. When you enter the cloud platform, click on printers on the top toolbar to register your 3D40. Register your 3D40 by entering the token number where it says "Registration code" and clicking "OK".



2. Click on the "Go To Print Cloud" button to launch the new cloud platform.



4. Your mobile device is now connected to your 3D40.

Best Practices

1. ALWAYS USE BUILD TAPE.
2. Ensure your build plate is level before every object.
3. Ensure spool is installed properly and can rotate freely.
4. When using your Dremel 3D40 for the first time or after changing filament, allow Dremel 3D40 to extrude until material is consistent with the installed filament color.
5. It is important to watch your Dremel 3D40 begin building objects. Your object is most likely to experience difficulty in the beginning. Thankfully, this is also the most convenient time to cancel the object, clean the build plate, and start your object again. Remain near the Dremel 3D40 during the building process.
6. It is important to save your Dremel 3D40 packaging as it will make re-boxing and transporting your Dremel 3D40 easier.
7. Ensure that you store filament spools in an environment that is not moist or too hot. It is recommended that you do not remove the filament spool from its airtight packaging until use.
8. Use object removal tool gently to avoid damaging the build plate or object.
9. Whenever possible, it is best to locate your object in the center of the build plate. Using the best orientation for your object is critical. Ensure that your object is located on the build plate and that you are using the best orientation for building.
10. For steep overhangs (Less than 45 degree angle) it is recommended to build with support.
11. Always remove the build plate before removing the object.
12. Low speed sanding is recommended to prevent remelting of the object.
13. The Dremel Digilab 3D Slicer software will display the length of filament required for each object. Compare this to the length indicated on the spool length gauge.

Maintenance

UNCLOGGING THE EXTRUDER

Use the unclogging tool to clean the extruder and unclog built up filament, figure 15.

1. Wait for extruder to heat up, insert the unclog tool into the extruder intake (top).
2. Clogged debris will be pushed down and will extrude from the extruder tip.

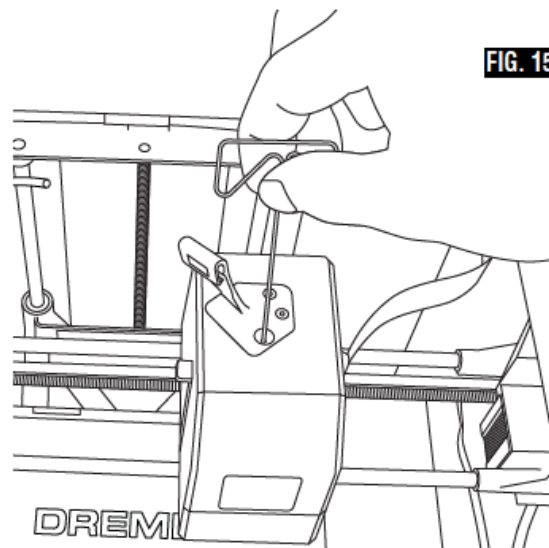


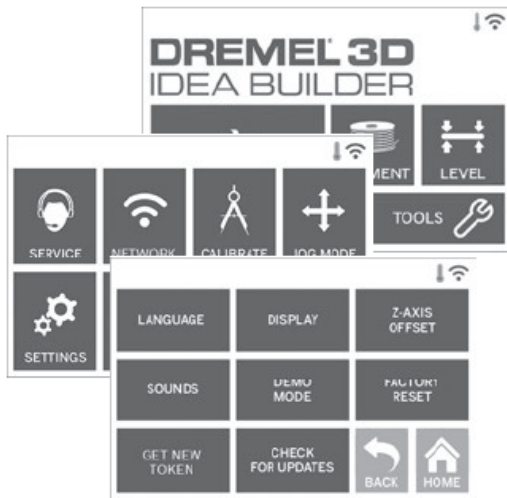
FIG. 15

Maintenance

UPDATING FIRMWARE VIA NETWORK

If your 3D40 is registered and added to your Dremel3D profile, you can update its firmware directly from the touch screen. To update firmware:

1. Tap "Tools", "Settings", "Check for Updates".



2. Add the 3D40 firmware file to an empty, FAT32 formatted, USB flashdrive.
3. Turn off your 3D40 using the ON/OFF switch.
4. Insert the USB flashdrive into the USB-A port.
5. Turn on your 3D40 and it should automatically detect and install the new firmware.
6. Turn your 3D40 OFF, remove the USB flashdrive, and turn ON again to complete the update.

CLEANING THE EXTERIOR

Clean the 3D40's exterior with a lint free cloth. Clear the outer surfaces of any debris that is visible.

To avoid damaging your Dremel 3D40 do not use water, chemicals or other cleaners on the 3D40.

CLEANING THE EXTRUDER TIP

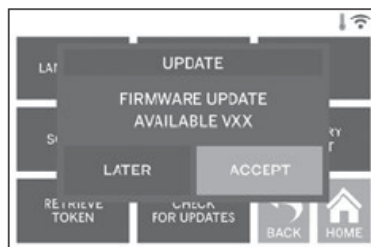
CAUTION Use extra care not to damage the extruder tip when clearing debris. Dremel 3D40 will not work properly with damaged extruder tip and will require replacement.

WARNING Do not touch the extruder tip during Dremel 3D40 operation or until it has cooled down to 60°C (140°F). Contact with the extruder tip during or after operation before tip has cooled may result in personal injury.

Using small needle nose pliers, pull away any plastic debris from the extruder tip.

If the debris is stubborn, the extruder may need to be heated.

2. Your 3D40 will check to see if it has the latest firmware installed and ask if you would like to update if one is needed.
3. Choose accept to download and install the latest firmware.



4. When the 3D40 starts up and returns to the Home Screen, firmware update is complete.

UPDATING FIRMWARE MANUALLY

If your 3D40 is not connected to a network, you can update firmware directly from a USB Flashdrive.

1. On your web browser download the latest 3D40 firmware file.

CLEANING THE TOUCH SCREEN

Wipe the touch screen with the soft, lint-free cloth. Do not spray cleaners on the touch screen.

Troubleshooting

PROBLEM	CAUSE	CORRECTIVE ACTION
Extruder head building off center.	Dremel 3D40 has lost track of the extruder head's exact location and is failing to build.	Sending the extruder head to the home position will recalibrate the Dremel 3D40. Cancel your object, clear build plate, send the extruder head to the home position, and restart the object.
PLA is not extruding or sticking to the build tape properly.	This can be caused by the build plate not being leveled with the extruder head.	Leveling the build plate will align the extruder head and ensure a better object quality. Cancel your object, clear build plate, level the build plate, and restart the object.
Dremel 3D40 froze before my object started.	Dremel 3D40 may have received conflicting commands.	Turn power switch off, wait 30 seconds, and turn power switch on.
Support material does not break away during cleaning and results in decreased quality of the final object.	Orientation of the part is not optimized.	Reorient the position of the 3D file in Dremel Digilab 3D Slicer to minimize the support material or place the support material on a non-critical surface.
Spaghetti mess at end of build.	A layer of your object did not stick properly, model was saved with minimal surface area contacting the build plate, or object was built floating above the build plate with no support selected.	Use the preview feature in Dremel Digilab 3D Slicer to see the first layer height and position. Build with supports when necessary.
Part only built halfway.	Filament ran out. Filament clogged during build.	Replace filament and resume build. See "No filament coming out".
No filament coming out.	Clogged extruder.	Contact customer service.
Extruder will not home.		Contact customer service.
Stringy or fraying plastic layers on steep overhangs.	Object overhangs are too far apart or too steep (<45 degree angle).	Build with supports.
3D40 will not find my Wi-Fi network.	Printer too far from wireless router.	Reposition 3D40 to be closer to your router. Connect to network with Ethernet

Troubleshooting

PROBLEM	CAUSE	CORRECTIVE ACTION
3D40 will not connect to my network.	Printer too far from wireless router.	Reposition 3D40 to be closer to your router.
	Network password incorrect.	Re-enter your password or verify your password with your network owner.
3D40 will not retrieve a token.	Network password incorrect.	Re-enter your password or verify your password with your network owner.
	Network has a firewall.	Enter network proxy information.
Print Cloud will not connect to 3D40 or shows "printer offline".	3D40 not connected to network.	Check 3D40 network settings and retry connection.
Token invalid.	Verify the current 3D40 token using "Tools/About" and retry.	Use "Get new token" to generate a new token and retry connection. Note this will remove any users that are sharing your printer.
Build did not start when sent over network.	Filament ran out.	Load additional filament and resume build.
	Doors open.	Doors must be closed to start builds over your network, start build from print queue.
	Model was already building	The build plate must be clear to start a build over your network, clear the build plate and start build from print queue.

Firmware & Open Source Software

Firmware Updates

Dremel recommends that firmware be updated whenever Dremel provides an update.

Dremel will provide firmware updating to improve performance and add additional features for the 3D40 throughout the life of the product. There are two ways of updating the 3D40: (1) Download update and install using USB memory drive. (2) Connect the 3D40 to the internet and update from the 3D40 touch screen.

Open Source Software used in this Dremel product

This product contains software components that are licensed by the holder of the rights under any version of the GNU General Public License (GPL), GNU Lesser General Public License (LGPL) or any other open source software license which requires that source code be made available. You can receive a complete machine-readable copy of the corresponding source code by sending a written request to:

Dremel

Attn: Open Source Software Officer

Your request should include: (i) the name of the Dremel product, (ii) the serial number (if applicable), (iii) the software version (if applicable), (iv) your name, (v) your company name (if applicable) and (vi) your return mailing and email address (if available).

We may charge you a nominal fee to cover the cost of the physical media and distribution.

You may send your request (i) within three (3) years of the date you received the product that included the software which is subject of your request or (ii) in the case of code licensed under the GPL version 3 for as long as Dremel offers spare parts or customer support for that product.

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Dremel® Limited Warranty

If used for non-commercial or educational purposes, your Dremel 3D40 is warranted against defective materials or workmanship for a period of one year from the date of purchase. If the Dremel 3D40 is used for commercial purposes, this warranty will apply for 60 days from the date of purchase. In the event of the product fails to conform to this written warranty, please take the following action:

1. DO NOT return your product to the place of purchase.
2. Please contact customer service
3. Carefully package the product by itself, in original packaging, with no other items, and return it, freight prepaid, along with:
 - a. A copy of your dated proof of purchase (please keep a copy for yourself).
 - b. A written statement about the nature of the problem.
 - c. Your name, address and phone number to:

CONTINENTAL UNITED STATES	CANADA	
OUTSIDE CONTINENTAL UNITED STATES		

We recommend that the package be insured against loss or in-transit damage, for which we cannot be responsible.

This warranty applies only to the original registered purchaser. DAMAGE TO THE PRODUCT RESULTING FROM TAMPERING, ACCIDENT, ABUSE, NEGLIGENCE, UNAUTHORIZED REPAIRS OR ALTERATIONS, PRODUCT USE IN VIOLATION OF THE "GENERAL SAFETY WARNINGS," UNAPPROVED ATTACHMENTS, USE OF FILAMENT OTHER THAN DREMEL APPROVED FILAMENT, OR OTHER CAUSES UNRELATED TO PROBLEMS WITH MATERIAL OR WORKMANSHIP ARE NOT COVERED BY THIS WARRANTY.

No employee, agent, dealer or other person is authorized to give any warranties on behalf of Dremel. If Dremel inspection shows that the problem was caused by problems with material or workmanship within the limitations of the warranty, Dremel will repair or replace the product free of charge and return the product prepaid. Repairs made necessary by normal wear or abuse, or repair for products outside of the warranty period, if they can be made, will be charged at regular factory prices.

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