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.
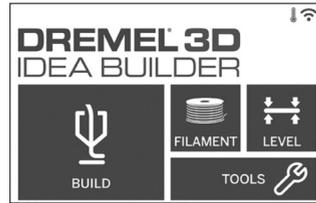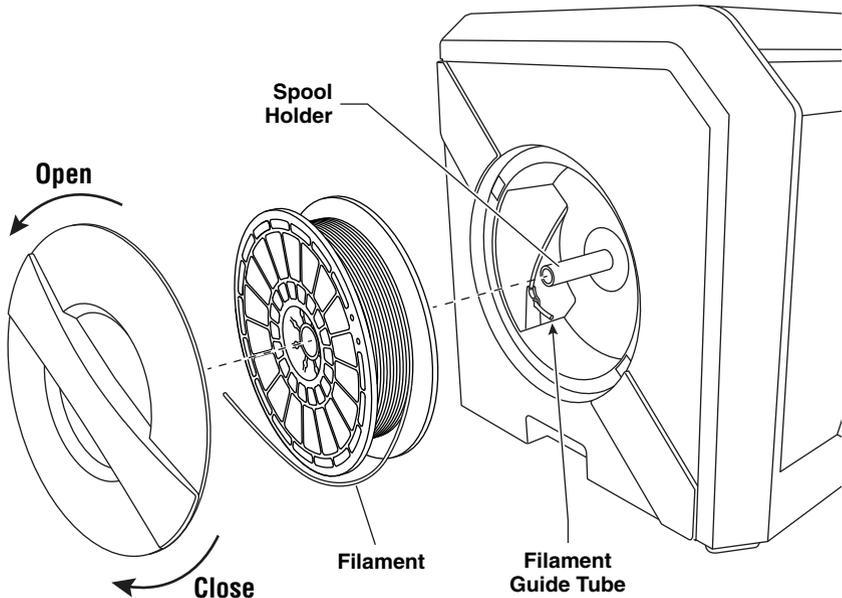

2. After extruder stops moving, open the 3D40 Lid for better access to extruder.

3. If existing filament is loaded, cut existing filament near extruder intake and tap "Next" button on touch screen.
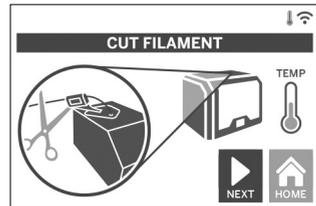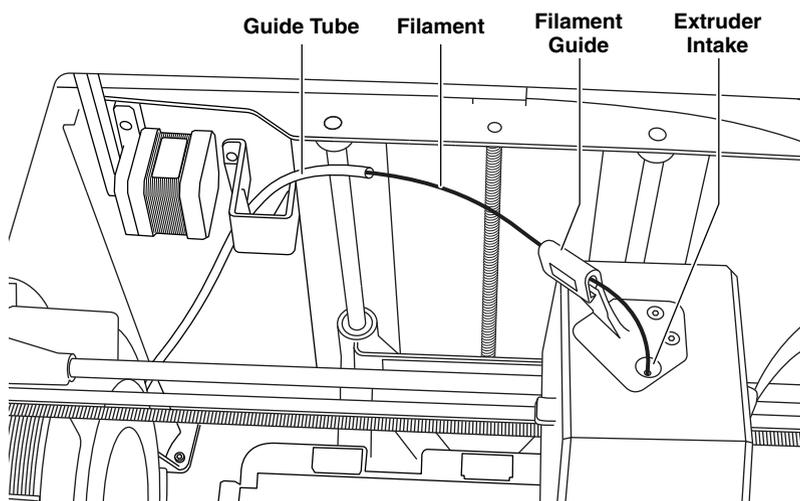

4. Remove Spool door by rotating it counter clockwise and remove existing spool if one is present, see figure 8.


FIG. 8

Open

Close

Spool Holder

Filament

Filament Guide Tube

FIG. 9

Guide Tube   Filament   Filament Guide   Extruder Intake

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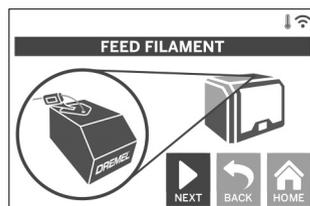
8. Filament will be drawn into the extruder and begin to exit from the hot extruder tip.

Getting Ready to Build
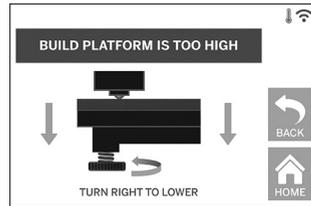
LEVELING BUILD PLATE

⚠ 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 reinstall the build plate to ensure that the build plate is evenly spaced from the extruder head. Not leveling the build plate may cause objects to not build properly.

1. Make sure no objects are present on the build plate.

2. Tap "Level" on 3D40's touch screen.
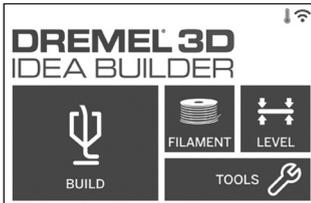
3. The extruder and build platform will move into position to level the build plate. 3D40 will first check level at the back center of the build plate. The two knobs under the build platform are used to raise and lower the build platform on the left and right. The extruder contains a sensor that detects 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.
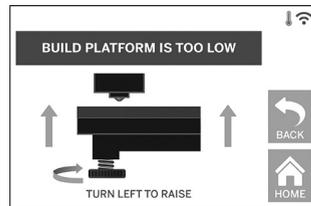
6. Tap "Verify" to check the bed level. If further adjustment is needed the touch screen will indicate the direction, if the level is correct, the extruder will move to the next point and the level process can be repeated.

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.
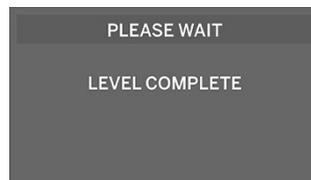
Building

BEFORE YOU BUILD

1. Ensure an adequate amount of filament is loaded.

   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.

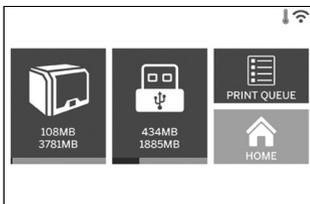   If 3D40 runs out of filament during a build, it will pause until more filament is added.

2. Ensure build plate is level and clear of objects.

BUILDING FROM USB FLASH DRIVE

1. On the main menu tap "Build".
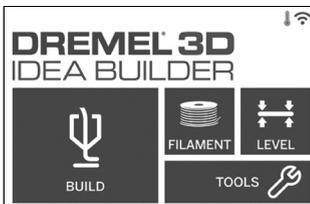
2. Tap USB icon to access contents of USB flash drive.

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.

USB Flash Drive
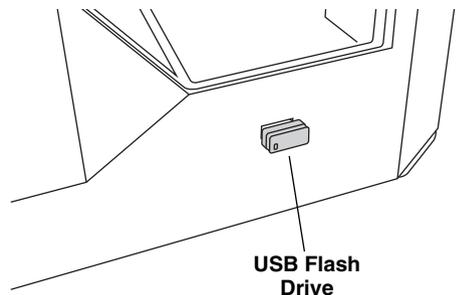
CANCELING YOUR BUILD ON 3D40

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.

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
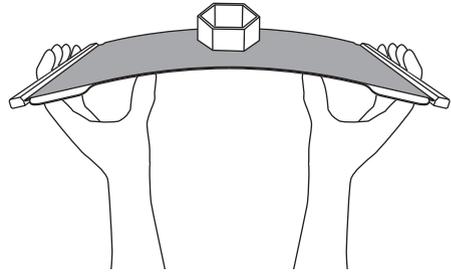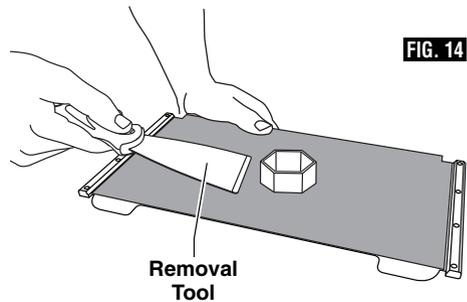
FIG. 13

FIG. 14

Removal Tool

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.