Fusion3

Affordable, High-Performance 3D Printers

F400 QUICK-START GUIDE

PLEASE READ THIS DOCUMENT BEFORE OPERATING YOUR PRINTER

Revision 10   -   1/31/18

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1. Introduction & Getting Support

Thank you for purchasing Fusion3's F400 3D printer! Your F400 has been designed and manufactured to the highest quality standards to give many years of reliable, high-quality output with minimal maintenance.

This quick-start guide is designed to help you get printing quickly. It is not a comprehensive manual! A full user manual is provided on your SD card, and is also available on our website (links to content in Section 14 at the end of this guide).

This is a complex piece of equipment, and there is a learning curve involved. Your 3D Printer is a machine tool, not an appliance (like a microwave). Please be prepared to invest the time to learn how it works and how to get the most out of it.

We are here to help you get through this learning curve. Please contact Fusion3 Customer Support via phone at 877-452-0010 x2 or via email at **support@fusion3design.com** if you are confused or have any questions!

2. What's in the Box

1. F400 3D printer. Please check that the configuration shipped to you (-S, -HFR) matches your order.
2. Operator's toolkit consisting of:
    a. 4mm hex wrench
    b. 3mm hex wrench
    c. 2.5mm hex wrench
    d. 2mm hex wrench
    e. 1.5mm hex wrench
    f. Spray bottle
    g. Part removal tool
    h. 2x purple glue sticks
    i. Toothbrush
    j. Micro SD to SD adapter
    k. Micro SD to USB adapter
    l. S3D license key card
    m. Extruder spring height gauge
3. "Torture test" verification print
4. 1kg roll of PLA filament
5. Filament spool dowel rod
6. Power cord
7. Spare print surface

Your SD card is located in a slot in the control panel of your printer

If you ordered accessories such as our optional filtration unit or additional filament, your packing slip will indicate whether they were shipped separately or included in the same box.

3. Unboxing Your F400

1. Cut the plastic wrap off the box
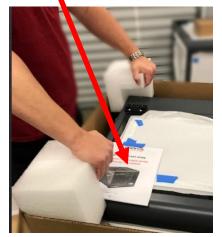

2. Cut the plastic tie-down straps

3. Lift the lid straight up off the box

4. You can now remove the printed copy of this Quickstart guide (hello there!) located on top of your printer.

5. Remove the top foam blocks (4 total).

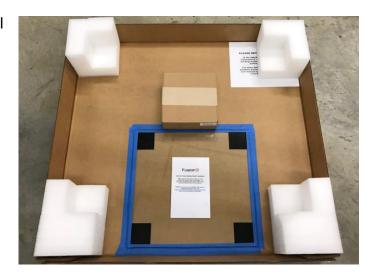6. Carefully lift the sleeve straight up and off the box. Sometimes this is easier with two people.

7. Use 2 people to carefully pick up the printer. Lift it out of the bottom tray. The foam endcaps may stay attached – that's ok. Set it on the ground next to the pallet and remove the endcaps one at a time from the printer.

8. Now you are ready to move your F400 to its final home (see next section).
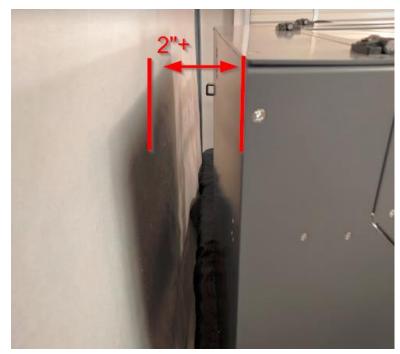
9. Under your printer attached to the bottom tray will be your accessories, operator's toolkit, filament, and spare print surface.

IMPORTANT: *Please retain all packaging materials (3 pieces of the box, pallet, foam endcaps). In the unlikely event you need to send your printer back to Fusion3 for repair you will need the packaging materials. The tube can be collapsed for relatively compact storage.*

4. Where Should I Put My F400?

- Surface must be capable of supporting 120 lb
- Must be at least 31" x 30" in size
- Should be sturdy enough to resist shaking during the printer's operation
- The rear face of your F400 must be at least 2" from any wall or obstruction
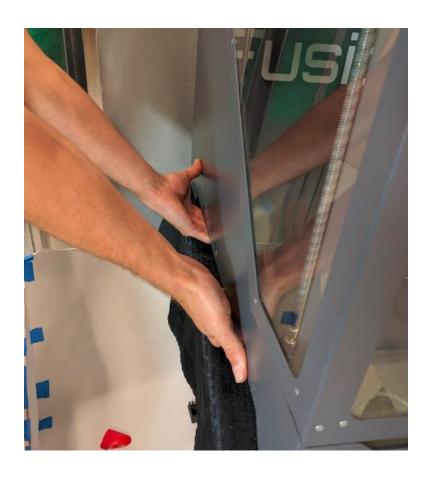- The right face needs enough clearance for the power cord and for the operator to reach the power switch.

Ensure a 2" or larger gap between any wall or obstruction and the back of the printer

5. Moving your F400

Your F400 is a 2-person lift only! It weighs 85 lb.

On the left and right faces are cutouts that function as hand-holds.

Remember this is a piece of precision equipment: Do not subject it to shocks, drops, or bumps.

6. Setup

Once your F400 is placed where you will operate it, you can finish the setup process.

1. Remove the protective films from the outside of the 3 main door windows and the filament door.

(This may generate a static charge that attracts dust in the first few days of operation. Gently wipe the windows with a damp paper towel to remove the dust if needed.)

2. Remove the protective film from the LCD.

3. Open the main door and remove the Z axis shipping support. You may need to move the Z axis up slightly by gripping the belt with your hand and pulling sideways.

> **INTERNATIONAL USERS**: YOU WILL NEED TO CHECK AND ADJUST THE INTERNAL POWER SUPPLY'S VOLTAGE SELECT SWITCH BEFORE POWERING ON YOUR F400. PLEASE CONTACT FUSION3 SUPPORT FOR ASSISTANCE.
>
> **DO NOT POWER YOUR F400 ON WITHOUT PERFORMING THIS STEP!**

4. Connect the power cord and Ethernet cable (optional). For more information on setting up, including connecting your F400 to your network, see section 3 in your user manual.

Check that the power switch is in the OFF ("O") **position** before inserting the power cord. Sometimes it can get bumped during shipping or unpacking.

5. Power on your printer. Wait 3-5 seconds for it to boot up.

6. Press the "Home X" button on the touchscreen and make the sure the printer moves smoothly and stops when the X endstop is triggered.

7. Repeat this process for Y and Z. The print head should be in the front left corner and the bed should be at the bottom.

8. If you purchased the optional exhaust filter, remove it from the toolkit box and screw it onto the back of the printer over the upper exhaust fan. The screws are also located in your toolkit box.
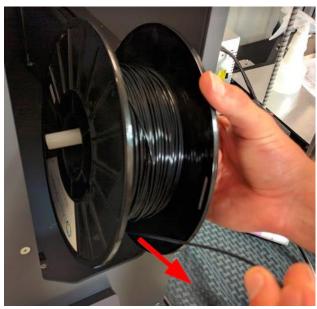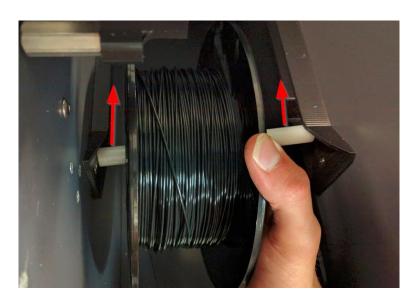

7. Loading Filament

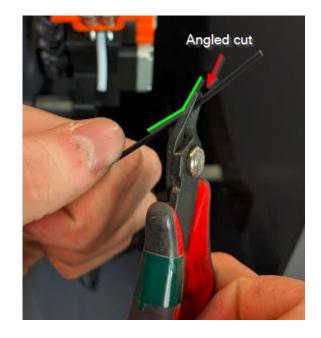1. Slide the filament dowel through the center hole of the filament spool.

2. Orient the spool so that the filament pays off the front underneath the spool.
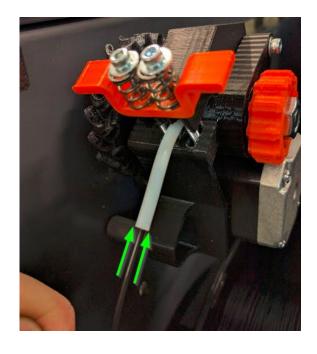
3. Using 1 hand on either side of the spool, slide the dowel into the track in the filament bay. The dowel will drop into the groove in the track when it's positioned correctly.

4. Locate the end of the filament. Trim off the end of the filament at an angle.
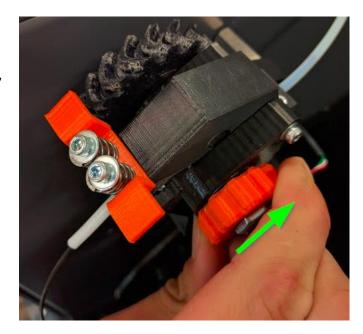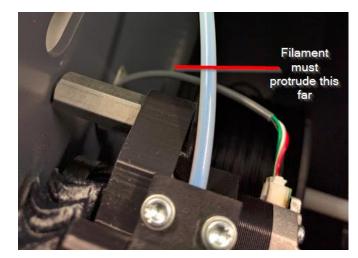
Angled cut

5. Feed the end into the inlet of the extruder.

6. While gently pushing on the filament, slowly turn the orange wheel until you feel the extruder "bite" on the filament and begin to pull it.

7. Continue to turn the wheel until the end of the filament protrudes into the feed tube on the exit side of the extruder.

8. On the screen, navigate to the "control" tab. Press the "Macros" button.

9. Select the "Load filament" macro. The printer will home the z axis and begin heating the print head. **This will take several minutes**. Once it's up to temperature it will feed the filament up the tube and into the print head.
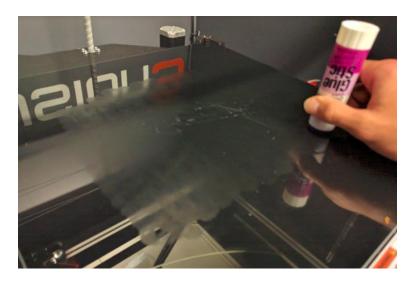

10. After the load is complete the extruder will reverse slightly and the heaters will shut off. **CAUTION**: **The print head will still be hot.**

11. Remove the string of filament the print head extruded.

8. Your First Print

We include a couple pre-prepared print files on your SD card so you can get printing without setting up Simplify3D. These files are set up for the PLA we include with your printer. **Even if you intend to print another material regularly, please start with PLA for these prints!**

1. Use the included gluestick to apply a single even layer of glue to the center of the bed. You do not need to coat the entire bed unless you are printing a large part.

2. On the touchscreen, navigate to the "Control" tab.

3. Select the SD card icon to see a list of files on the card.

4. Select one of the files. You will see a pop-up with some additional information about the file. Select "Print".

5. Your printer will begin the print by homing all the axes and pre-heating the bed.

6. Once the bed is up to temperature, it will run the bed probing sequence to detect the level of the bed. After this is complete it will heat the print head.

7. When the print head is up to temperature it will start the print!

8. During a print we recommend closing the door, but your printer will run with the door open (there are no safety interlocks). You will get better quality, especially on larger prints, with the door closed.

9. After the print is finished the bed will drop all the way down and the heaters will shut off.

10. PLA parts can be removed immediately. ABS and other high temperature materials need to wait until the bed cools below 50C before you remove them.

9. Removing Finished Parts from the Bed

Different materials behave differently. Use the part removal tool to work the part loose from the bed.

PLA will need to be manually detached. Larger parts will require more force. One helpful trick is to heat the bed to 70C to soften the bottom layer.

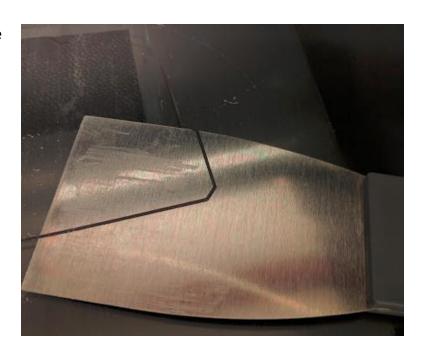ABS will self-release as the bed cools below 45C (you will hear a "pop").

Nylon blends will need to be pried off. Since they are flexible they can be worked off a little bit at a time.
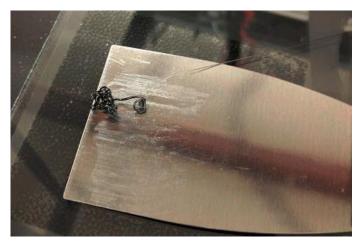
For more details, see section 9.1 in your user manual.
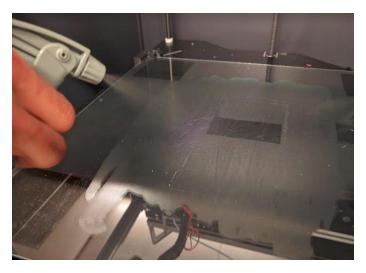
10.   Cleaning Up After a Print

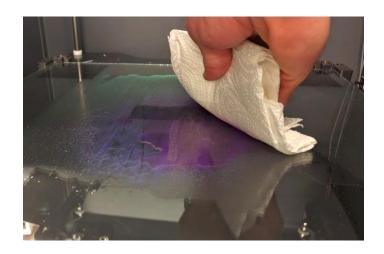1. Remove the outline (skirt) printed around the part.

2. Remove the priming pile at the front left corner.

3. Spray down the bed with water from your spray bottle, let is soak for at least 15 seconds

4. Remove the glue using the part removal tool and paper towels.

PLEASE NOTE:

- Fresh glue must be used for every print!
- <u>**ONLY**</u> use normal tap water to clean the bed. Cleaners such as rubbing alcohol, windex, etc will affect print adhesion.

11. Setting up Simplify3D (Slicer Software)

Setting up the bundled Simplify3D software is covered in a separate document. A copy of this setup guide is on your SD card and on our website at www.fusion3design.com/manuals/.

Please copy the following folders off of your SD card onto your computer:

- Documentation
- S3D Profiles
- STL files

After you copy them, you can delete them off the SD card.

12.   General Precautions & Operating Notes

DO NOT LEAVE YOUR PRINTER RUNNING UNATTENDED.

While the F400 is highly reliable and includes many safety features, there is always a chance something can go wrong. This can cause damage to your printer, and worst case can cause a fire.

Your F400 contains an external microSD slot and internal memory. Files you upload through the web interface will, by default, be uploaded to internal memory.

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13.   If Something Goes Wrong (Contacting Fusion3 Customer Support)

Don't panic! We've designed the F400 to be easy to maintain and repair if something goes wrong.

To stop your printer during a print, select "Pause print" and then "Cancel" on the LCD; OR you can press the "STOP / RESET" button on the control panel to stop the printer immediately.

1. First, please check your user manual to see if your issue is covered there.
   Start with sections 11 and 12.

2. If you don't see your issue, OR if you have any questions at all, please contact us! We are here to help.
   a. Email: Support@fusion3design.com
      or
   b. Call: 1+877-452-0010 extension 2

3. Please do not disassemble or adjust your F400 in ways that are not covered in the manual.

4. If specific repair or maintenance is needed please contact Support – we can send you instructions for specific tasks and issues.

14.   Additional Resources

Manuals & Downloads: http://www.fusion3design.com/manuals/

Questions about Filament: http://www.fusion3design.com/3d_printer_filament/

Contact Support: http://www.fusion3design.com/contact_support/ or 877-452-0010 x2

Simplify3D resources: https://www.simplify3d.com/support/