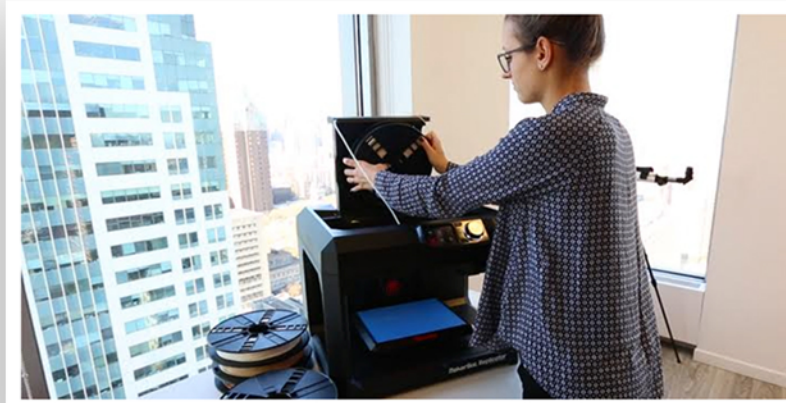
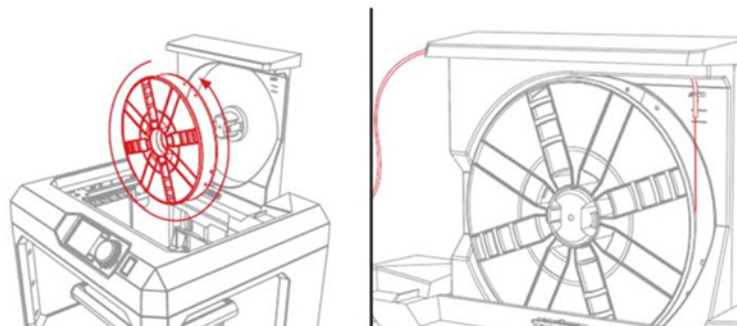




BEST PRACTICES: LOADING & UNLOADING FILAMENT

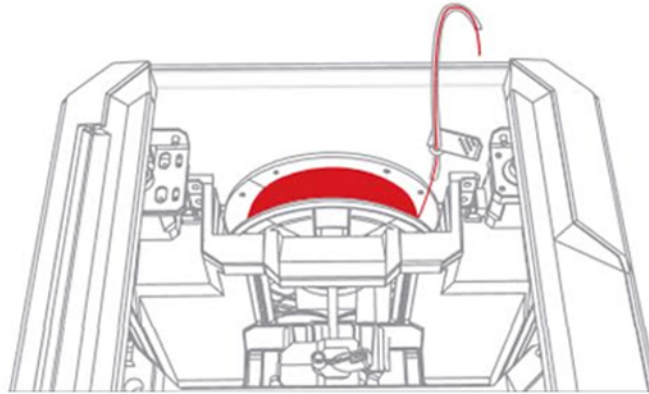


You've got the perfect 3D print project. It's the one that caught your eye on Thingiverse, the one that stood out amidst thousands of others. Or perhaps it's more personal and you designed it yourself. Either way, you can't wait to see it completed. We know how you feel. It may not seem like a big deal at first, but the correct handling of your filament is a major component of any print success. By knowing how to successfully load and unload your filament, you can avoid filament jams, bypass print interruption, prevent damage to your extruder, and more. To boost productivity and optimize your experience, let's review these filament fundamentals. **Loading Filament** *Spool Sizes* Our spools come in an assortment of colors and sizes. Make sure that you're using a spool that's optimized for your printer. Small (0.22 kg) spools of PLA filament work well with the MakerBot® Replicator® Mini Desktop 3D Printer, the MakerBot® Replicator® Desktop 3D Printer (Fifth Generation Model), the MakerBot® Replicator® Z18 3D Printer, and the MakerBot Replicator 2. Large (0.9 kg) spools of PLA filament work well with the MakerBot Replicator Desktop 3D Printer (Fifth Generation Model), the MakerBot Replicator Z18, and the MakerBot Replicator 2. *Installing a Filament Spool* Start by inserting your spool into the printer. If you're in front of your MakerBot Replicator Mini, all you've got to do is insert the spool into the filament pocket drawer that's located in the back of your printer. If you're working with any other 5th gen model printer, simply pull up the filament drawer and place your filament into the circular spool space. Be sure to use a spool that fits easily into your printer. Do not force a spool that does not fit into your printer—this can cause damage to your MakerBot 3D Printer. You'll want the filament windows on the spool to face forward, so that the spool unwinds in a counterclockwise direction. Be careful not to let the filament tangle on the spool, because you'll want it to flow without interruption during the print process.



Order online or call
01905 454 598

Prepare Your Filament Locate the loose end of filament from the spool and inspect it. Cut a clean edge on the end of your filament. Don't load anything with a bulged, twisted, or sharp edge. Take the free end of your filament and insert it into the filament guide tube at the upper right corner of the filament drawer, or the MakerBot Mini's spool pocket. Push the filament through the tube until the free end emerges from the other end of the guide tube. If you have a MakerBot Replicator, you'll probably have to hold the top of the drawer with one hand and depress the latch on the drawer to slide the filament drawer closed. If you're using a MakerBot Replicator Z18, you'll have to push the filament guide tube into the loading tube on top of the extruder.



Heating Your Filament Navigate through the printer's control panel to choose the option to Load Filament. If you have a MakerBot Replicator Mini, you'll have to use MakerBot Desktop to open the print monitor panel to select Load Filament. Selecting this option will prompt your extruder to begin heating. Once the extruder has finished heating, take the free end of your filament and load it into the extruder. You'll simply have to push the end of the filament into the extruder's loading tube until you feel its motor pulling the filament in. Do not load the filament into the extruder before being instructed to do so, as this will result in clogging. Once the extruder starts pulling the filament, you should begin to see a string of melted plastic depositing from the nozzle. This deposited plastic indicates that you've successfully loaded your filament. Press the control panel dial on the printer, or click Done on MakerBot Desktop, to finish the loading process. Be sure to fit the filament guide tube securely into the extruder's loading tube. **Unloading Your Filament** Select "Unload Filament" Always unload filament by selecting "Unload Filament" on your printer's control panel, or on MakerBot Desktop for MakerBot Replicator Mini users. This will prompt your extruder to begin heating. The extruder needs to reach a high enough temperature to melt and thereby releasing its grip on your filament. ***Remove Your Filament*** Once it reaches the filament's melting temperature, the extruder's motor will begin to retract the filament. When it's ready, the printer will display a message on the control panel or on MakerBot Desktop letting you know that is okay to unload your filament. At this point, you can remove the filament. Never remove the filament from the extruder before the printer displays the message to do so, as this may result in clogging. If you're having trouble removing the filament, try pinching the two tabs on the side of your extruder to loosen its grip. Once the filament is completely loose, you'll be able to remove the spool from the printer. Remember to consider storage conditions when saving unused filament. Filament is prone to absorbing atmospheric moisture in humid conditions that it will lead to swelling and popping during prints, so it's best to keep it in a sealable bag during storage. Also be sure to secure the loose end of filament within your spool so that it doesn't tangle or come loose during storage. Follow these steps and you'll be on the right track for completing your perfect 3D print! Visit our industry-leading [MakerBot Support site](#) for more information on the basics of 3D printing.