1. Introduction

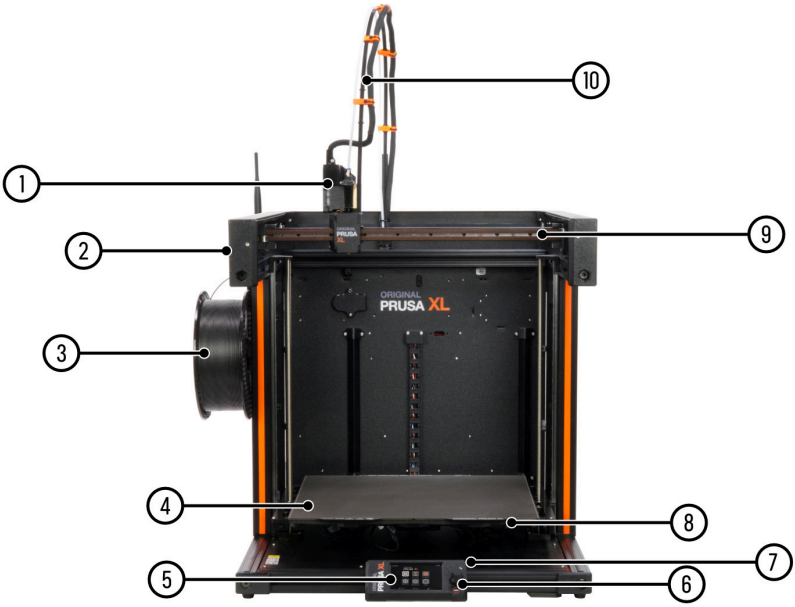
Thank you for purchasing the Original Prusa XL 3D printer from Prusa Research! Your support allows us to invest in further development of 3D printers and other 3D printing products. The Original Prusa XL is a great option for beginners, hobbyists, companies, and even for setting up a 3D printing farm.

Please note that this handbook covers all available Original Prusa XL models - assembled and semi-assembled models, as well as single-tool and multi-tool models. Photos included in this handbook may sometime depict a printer model slightly different from yours. However, unless the text states otherwise, the instructions are applicable to all XL printers, no matter what is depicted in the photo. For example, the photos in the chapter explaining how the filament is loaded depict a single-tool machine. However, the same process works for multi-tool versions as well.

The latest version of this handbook can be found at **prusa3d.com/drivers** in PDF format.

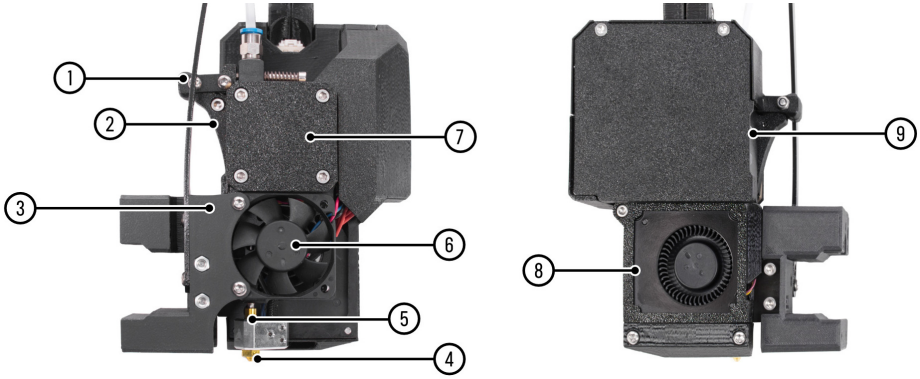
If you encounter any problems while using the printer, do not hesitate to contact us at info@prusa3d.com. We will be happy to answer your questions or hear your ideas for improvement. You can also visit our Knowledge Base at help.prusa3d.com or the user discussion forums at forum.prusa3d.com.

2. Original Prusa XL Overview and Glossary



Original Prusa XL Single-Tool Version

1. Extruder (Nextruder)
2. Filament sensor / Filament insertion point (on the side)
3. Spoolholder (with a spool installed)
4. Print sheet
5. LCD
6. Control Knob and Reset Button
7. USB port
8. Heatbed (moves along the Z-Axis)
9. X/Y axis
10. Extruder cables and PTFE tube



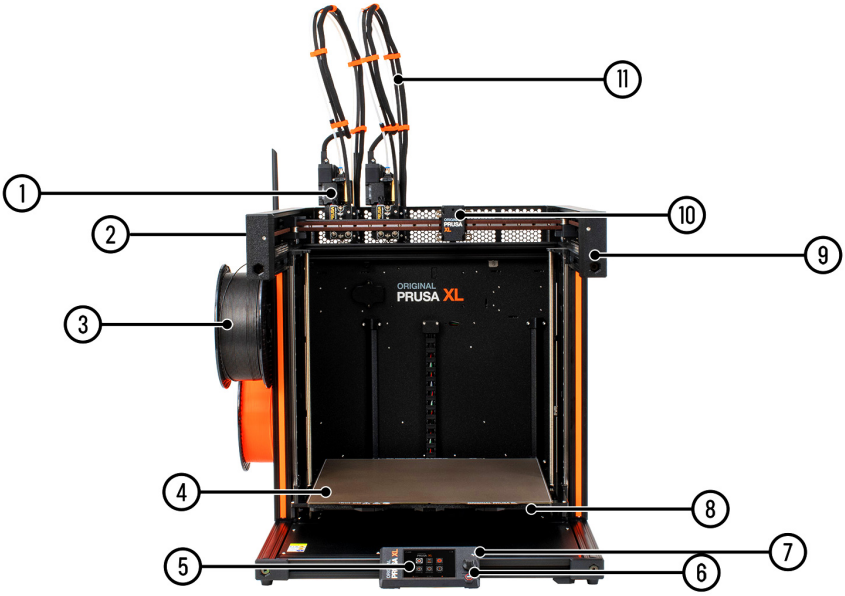
Nextruder - Single-Tool Version

1. Idler locking mechanism (swivel)
2. Idler
3. Nextruder body
4. 0.4mm nozzle
5. Heater Block (part of the Hotend assembly)
6. Heatsink Fan
7. Gearbox and extruder motor
8. Print fan
9. Control buttons (extrude / retract filament - works only when the nozzle is preheated)

The difference between the single-tool and multi-tool Nextruder

There is a slight difference between the single-tool and multi-tool Nextruder versions. While the body is largely unchanged, the front side of the Nextruder is different - the multi-tool Nextruder features a special locking mechanism for the toolchanger. This is why it is not possible to freely swap single-tool and multi-tool Nextruders. See the next pages for more details.

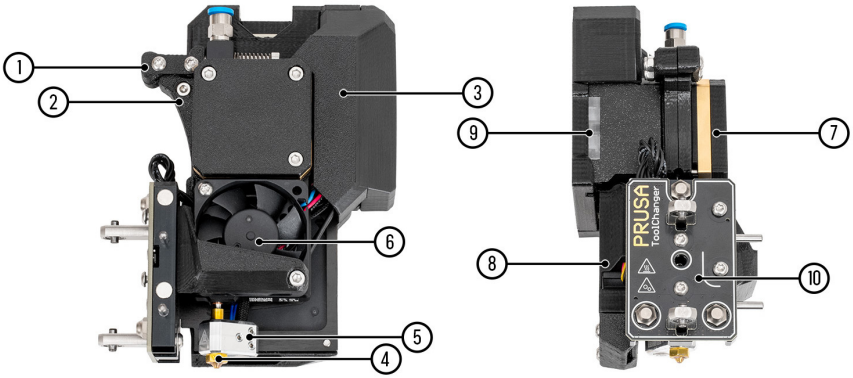
Original Prusa XL Multi-Tool Version (2-5 toolheads)



1. Extruder (Nextruder)
2. Filament sensors and Wi-Fi antenna (on the side)
3. Spoolholder (with a spool installed)
4. Print sheet
5. LCD
6. Control Knob and Reset
7. USB port
8. Heatbed (moves along the Z-Axis)
9. X/Y Axis
10. Toolchanger
11. Extruder cables and PTFE tube

The Original Prusa XL depicted in this photo is the Dual-Head version. It is identical in terms of operation with the Five-Head version. The only difference is the number of extruders, filament sensors and spoolholders.

Nextruder - Multi-Tool Version



1. Idler locking mechanism (swivel)
2. Idler door
3. Nextruder body
4. 0.4mm nozzle
5. Heater block (part of the Hotend assembly)
6. Heatsink fan
7. Gearbox and extruder motor
8. Print fan (on the side)
9. Control buttons (extrude / retract filament - works only when the nozzle is preheated)
10. Toolchanger connector

How to lock and unlock the Nextruder manually

The toolchanger is purely mechanical and does not feature an electronic lock. The selected tool is locked into place by two metal brackets. If you need to unlock the tool from the toolchanger manually (e.g., for troubleshooting), simply hold the toolhead with your hand and use your other hand to slide both bracket to the side. This unlocks the toolhead from the toolchanger.

2.1. Contents of the Package and Accessories

Your Original Prusa XL printer package includes:

- USB drive with sample prints (G-codes)
- XL Tools
- Silicone sock for the nozzle (see help.prusa3d.com for installation instructions)
- Alcohol-saturated wipes, acupuncture needle
- Double-sided Satin Print Sheet
- 1 kg spool of Prusament filament

These are the basic tools necessary for assembly and basic maintenance. We recommend purchasing a few extra accessories, such as: cutting pliers (for cutting the end of filament), isopropyl alcohol, paper wipes, and a plastic spatula (for removing plastic from the print sheet).

The Original Prusa XL comes with a 0.4mm nozzle preinstalled. This nozzle diameter offers a great level of detail and good speed. You can easily replace the nozzle with a different diameter model, or use an adapter and choose any V6-compatible nozzle (available in our e-shop at **prusa3d.com**)

2.2. How to Move the Printer

If you want to move the Original Prusa XL printer, use the recommended method - **pick up the printer using the integrated holders on the sides.** Due to the weight of the printer, **we recommend moving it with the help of a second person.** Never lift the printer by the cables, filament holders, and profiles on the Y-axis or the X-axis.

2.3. Disconnecting the Power Source

Always pull the connector, do not pull on the cable itself! Incorrect handling can lead to damage to the connector or cable.

If you encounter any issues with your 3D printer, we recommend first going through the last chapters of this manual, general print troubleshooting guides or visiting our Knowledge Base at help.prusa3d.com. If you cannot find a solution to your problem, contact our customer support via email at info@prusa3d.com or via chat at prusa3d.com - the Live Chat window is located in the bottom right corner.

2.4. Error Screens

If the printer encounters a critical error, **an error screen will be displayed with a description of the error.** The information on the screen is intended to facilitate easy identification, diagnosis and resolution of the error. **Pay special attention to the text on the screen.** Most error messages are supplemented with a QR code - scanning them (e.g. using a camera on a mobile phone) will take you to a relevant article with instructions on how to proceed.

3. Your First Print

To get your printer up and running, please pay attention to the information in the following chapters. We will go through the basics together - you'll be printing in no time!

In this chapter you will learn how to:

- Control the printer
- Prepare the print sheet for the first print
- Perform initial calibration
- Insert filament
- Start the first print
- Remove the print
- Troubleshoot basic issues
- Update the firmware

3.1. Basic controls

All configuration steps and overall control of the printer are done with one control element - a rotary knob. **Rotate it to select items on the screen and press it to confirm your selection.**

The reset button is located under the rotary knob. Pressing the reset button is the same as quickly turning the printer off and on again. It is useful in cases where it is necessary to immediately stop an action that the printer is currently performing.

3.2. Initial One-Time Calibration (Selftest)

When you first power on the Original Prusa XL, the Selftest calibration wizard will start. **The wizard will walk you through the initial calibration and all necessary tests to start printing.** Completing the entire checklist is mandatory. But don't worry, it's gonna be super easy, barely an inconvenience!

The Selftest is designed to run a basic check of the entire machine and determine whether the assembled printer arrived in good shape or whether you assembled the kit correctly. It is a one-time process that does not need to be repeated before every print. Run it again only in case the printer doesn't operate correctly.

The Wizard will provide you with text descriptions and illustrations of the individual steps. For clarity, some actions are further described in the following lines.

You can also start the Wizard manually using the *LCD menu - Calibration*. The Wizard will require you to install a print sheet - we will look at the correct handling in the next chapter. A comprehensive explanation of print sheets and proper maintenance along with an explanation of which ones are suitable for which purpose can be found in the **Regular Maintenance chapter.**

Multi-Tool Differences

The Original Prusa XL will automatically recognize the number of installed tools and add more items to the Selftest - namely Dock Offset Calibration and Tool Offset Calibration in case you have more than one tool installed.

Depending on your printer configuration, the Selftest and calibration may take between 10-25 minutes.

Let's place the print sheet onto the heatbed now. We'll explain the correct process in the next chapter.

3.3. Preparing Flexible Print Sheets

Make sure there are no obstacles or objects under the heated bed, otherwise, the heatbed could crash into them when moving down.

Do not drag the print sheet across the heatbed, especially when it is attached with magnets - you might damage the heatbed.

The Original Prusa XL comes standard with a double-sided satin print sheet. If you have a different type, we recommend that you **carefully study how to properly treat the surface** in the **Regular Maintenance** chapter.

How to install a print sheet correctly:

There are high-temperature magnets embedded into the heatbed that hold the removable flexible print sheets in place. On the back of the heatbed, you will find two pins that fit exactly into the cutout of the print sheet. **Before installing the sheet onto the heatbed, make sure that it is perfectly clean. Never print directly on the heated bed!**

Attach the sheet by first aligning the rear cutout with the locking pins on the back of the heated bed. (marked in orange in the picture above). Hold the sheet by the front two cutouts and slowly lay it down onto the heated bed - **watch your fingers!**

Important: It is absolutely essential that the print sheet is properly attached to and aligned with the heatbed - the cutout must match with the two pins on the rear and the bed must not be skewed, otherwise there is a risk that the sheet will hit the end stops of the Z-axis and the printer will display an error.

Before you proceed, open the packet containing the cleaning wipes soaked with isopropyl alcohol and wipe the print bed with it.