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› Creality Ender 3 V3 3D Printer User Manual

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Model: Ender 3 V3

1. INTRODUCTION

The Creality Ender 3 V3 is a high-speed 3D printer designed for efficient and precise additive manufacturing. Featuring a Core XZ motion system, a robust direct drive extruder, and advanced auto-leveling capabilities, this printer is engineered to deliver exceptional print quality at speeds up to 600mm/s. This manual provides essential information for setting up, operating, maintaining, and troubleshooting your Ender 3 V3 3D printer.



Figure 1: The Creality Ender 3 V3 3D Printer, showcasing its compact design and a sample print.

2. SETUP AND ASSEMBLY

The Ender 3 V3 comes highly pre-assembled, allowing for quick setup. Follow these steps for initial assembly and configuration:

1. **Unboxing and Inspection:** Carefully open the packaging and remove all foam inserts, parts, and accessories. Refer to the included Quick Installation Guide for a complete list of components.
2. **Filament Spool Holder Assembly:** Assemble the filament spool holder by connecting its two parts. Mount it securely to the lower right side of the gantry.
3. **Gantry Installation:** Stand up the gantry and carefully dock it into the base. Fasten the gantry on both sides and at the bottom using the provided M4*8 screws. Ensure all screws are tightened for stability.
4. **Screen Module Installation:** Connect the screen cable to the designated port on the base. Slot the screen module into the base and press it down firmly until it clicks into place. Peel off the screen protective film.

5. **Wiring:** Fasten the main cable to the printhead with a zip tie, ensuring the heat shrink tubing is not fastened. Install the extruder cable cover. Wire up the X&Z-axis motors by connecting their respective cables.
6. **Teflon Tube Installation:** Insert one end of the Teflon tube into the adapter sleeve. Add the wire clips onto the Teflon tube. Insert the other end of the Teflon tube into the extruder and lock the lever. Clip the printhead cable to the Teflon tube using the wire clips.
7. **Power and Initial Configuration:** Plug in the power cable and switch on the printer. Select your preferred language on the touchscreen. Read and agree to the privacy policy. Connect to your WiFi network by entering the password. Set up the printer according to the on-screen boot-up guide, including time zone settings and Creality Cloud binding.
8. **Conduct Self-Test:** Initiate the self-check process from the touchscreen. The printer will perform a series of checks including nozzle heating, hotbed heating, heat break fan, mainboard fan, input shaping, and auto-leveling. Do not touch the printer during this process. Confirm that the self-check is completed successfully.

Quick Assembly within 10 minutes

Ender 3 V3 comes to you in highly pre-assembled modules.
Printing size is 8.66*8.66*9.84inch.



Figure 2: Quick assembly process of the Ender 3 V3, emphasizing its modular design for ease of setup.

Auto Leveling and Auto Calibration, No More Paper Test

Give it a tap and walk away. The auto calibration gets everything ready for you. No need to pull a paper or turn any screws.



Figure 3: The printer's touchscreen interface during the auto-leveling and calibration sequence, which eliminates manual paper tests.

Video 1: A comprehensive guide demonstrating the unboxing, assembly, setup, and initial operation of the Creality Ender 3 V3 3D printer.

3. OPERATING INSTRUCTIONS

Once assembled and configured, your Ender 3 V3 is ready for printing. Ensure you have prepared your 3D model using compatible slicing software (e.g., Creality Print) and saved it as a G-code file.

1. **Preheat Nozzle:** On the touchscreen, preheat the nozzle to the appropriate temperature for your filament type (e.g., 200-220°C for PLA).
2. **Load Filament:** Unlock the extruder lever. Cut a sharp angle at the end of your filament. Mount the filament spool onto the anti-tangle rack. Thread the filament through the Teflon tube and insert it into the extruder. Keep pushing until the filament flows out smoothly from the nozzle. Insert the Teflon tube into the extruder and lock the lever.

3. **Insert USB Drive:** Insert your USB drive containing the G-code file into the printer's USB port.
4. **Select and Print:** On the touchscreen, navigate to the USB drive section. Select your desired G-code file and initiate the print. The printer will automatically begin the printing process, including any necessary bed leveling and nozzle cleaning.

Robust Extruder, Packing a Punch

The direct drive extruder of Ender 3 V3 is enhanced by a bolster spring and a ball plunger. It grips on filament tightly without slacking off.

1000h+ Clog-free Extrusion

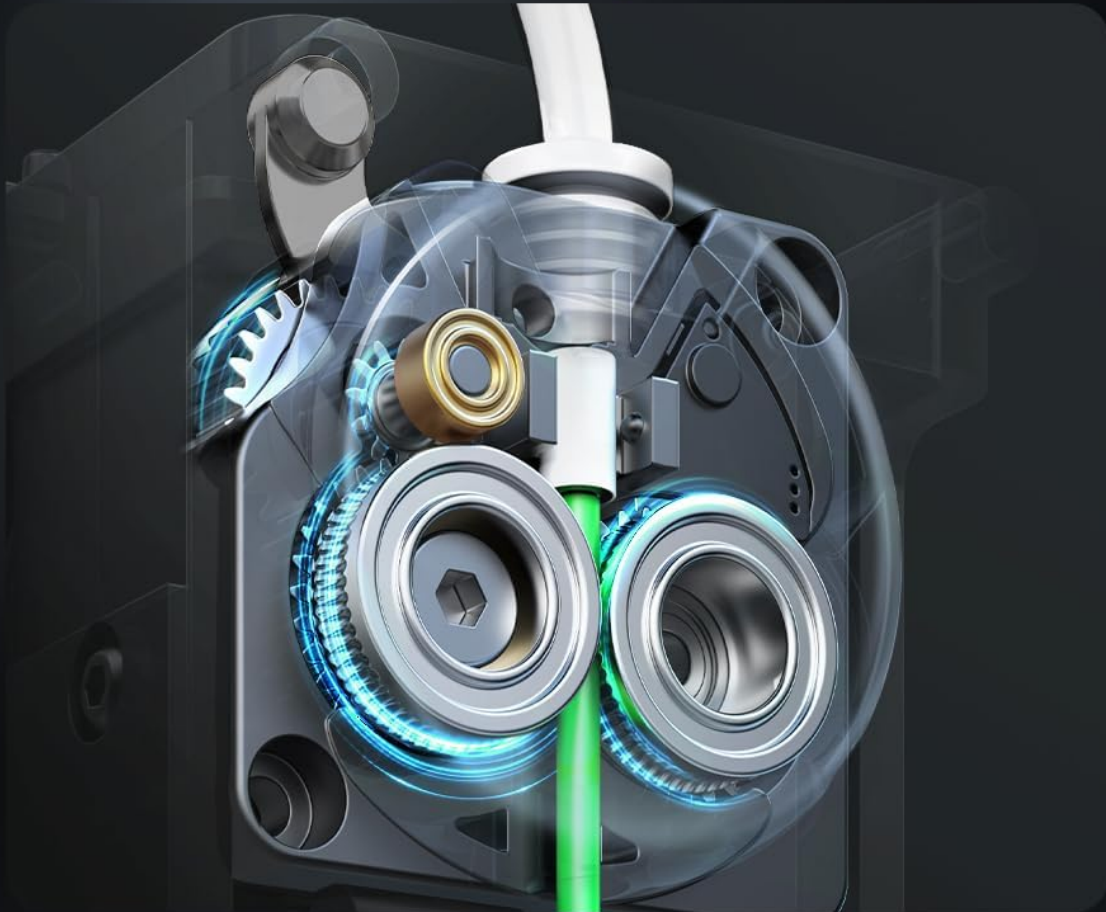
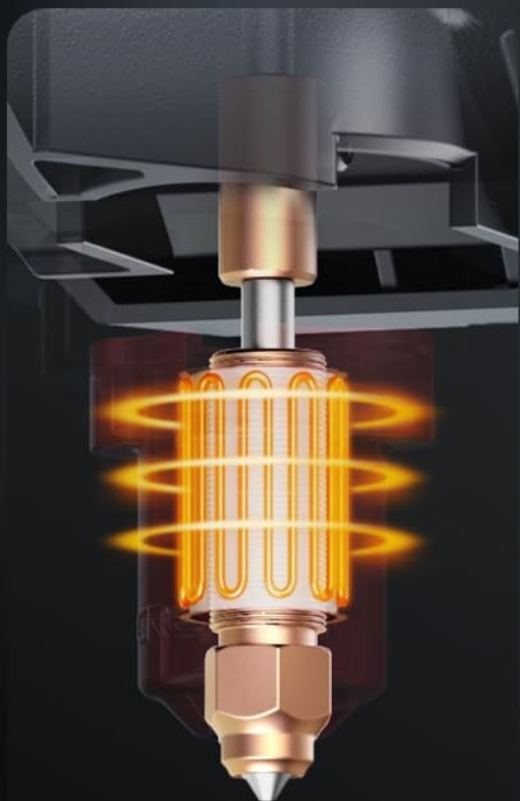


Figure 4: The enhanced direct drive extruder, designed for consistent and clog-free filament feeding, capable of over 1000 hours of operation.

60w Hotend Heater, Delivering Full Power

A powerful ceramic heater surrounds the hot end. It can fully melt ABS, PETG and other high-temp filaments on the fly.

75S Heating from 0 to 300 °C



Tri-metal "Unicorn" Nozzle, Quick to Swap

The durable steel-tipped copper nozzle is integrated with a titanium alloy heatbreak. It blocks heatcreep and can be swapped super easily.



Figure 5: The powerful 60W ceramic hotend heater, capable of reaching 300°C in 75 seconds, and the durable steel-tipped copper nozzle with titanium alloy heatbreak.

4. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your Ender 3 V3 printer.

- **Build Plate Cleaning:** After each print, use a microfiber cloth to wipe down the PEI flexible build plate. For stubborn residues, use isopropyl alcohol.
- **Nozzle Cleaning:** Use the provided nozzle cleaner to clear any blockages. The durable steel-tipped copper nozzle is designed for 1000+ hours of clog-free extrusion, but occasional cleaning may be necessary.
- **Belt Tension:** The XZ timing belts are automatically tensioned, minimizing slips or jams. Periodically inspect the belts for any visible wear or damage.
- **Z-axis Stability:** The precise linear rods and timing belts ensure minimal Z-banding. Keep the Z-axis components clean and free from debris.

- **Fan Maintenance:** The front part cooling fan and hotend cooling fan are dynamically balanced. Ensure they are free from dust and obstructions to maintain efficient cooling.

XZ Belt Tensioning Automated

The XZ timing belts Ender 3 V3 are tensioned automatically.
Belt slips or jams now become a thing Of the past.



Figure 6: The automated XZ timing belt tensioning system, designed to prevent belt slips and jams for consistent performance.

Accurate Z-axis Less Wobbling

Thanks to the precise linear rods and timing belts, the Z-axis can position more accurately than ever. It means minimal Z-banding in your 3D prints.

Z-axis positioning accuracy $\leq 15\mu\text{m}$



Figure 7: The Z-axis positioning accuracy is less than 15 micrometers, contributing to minimal Z-banding in 3D prints.

5. TROUBLESHOOTING

This section addresses common issues you might encounter during operation.

- **Print Quality Issues (e.g., Z-banding, ghosting):** Ensure the printer is placed on a stable surface. Verify that all screws are tightened, especially those securing the gantry. The dynamic balancing of the cooling fans helps minimize ringing or ghosting.
- **Filament Clogging:** Ensure the filament end is cut at a sharp angle before insertion. Verify the nozzle is preheated to the correct temperature for the filament type. The direct drive extruder is designed for clog-free extrusion, but persistent issues may require nozzle inspection or replacement.
- **Bed Adhesion Problems:** Ensure the PEI flexible build plate is clean. Use the auto-leveling and auto Z-offset features to ensure proper first layer height.
- **Printer Not Powering On:** Check that the power cable is securely plugged in and the power switch is in the ON position. Verify the correct input voltage (230V or 115V) is selected on the voltage selector switch.

- **Self-Check Errors:** If the self-check process reports errors, refer to the specific error message on the screen. Common checks include nozzle heating, hotbed heating, heat break fan, mainboard fan, input shaping, and auto-leveling. Address any failed checks as indicated.

For complex issues not covered here, please refer to the comprehensive troubleshooting guide available on the Creality 3D official website or contact Comgrow customer support.

6. SPECIFICATIONS

Feature	Specification
Build Volume	220 x 220 x 250 mm (8.66 x 8.66 x 9.84 inches)
Product Dimensions	17.32 x 17.32 x 18.31 inches
Item Weight	15.43 pounds
Printing Speed	Up to 600 mm/s
Acceleration	Up to 20000 mm/s ²
Printing Accuracy	±0.2 mm
Layer Height	0.1-0.35 mm
Filament Diameter	1.75 mm
Nozzle Diameter	0.4 mm
Nozzle Kit	Quick-swap nozzle (hardened steel tip) integrated with heatbreak
Extruder	New high-speed direct drive extruder
Nozzle Temperature	≤300°C
Heatbed Temperature	≤110°C
Input Shaping	Yes (G-sensor included)
Leveling Mode	Auto Leveling
Display Screen	4.3" HD color touch screen
Mainboard	32-bit
Connectivity	WiFi
Printable File Format	G-code
Power Loss Recovery	Yes
Runout Sensor	Yes
AI Camera	Optional

Feature	Specification
Rated Voltage	100-120V~, 200-240V~; 50/60Hz
Rated Power	350W
Slicing Software	Creality Print
File Formats for Slicing	STL, OBJ, 3MF
Supported Filaments	PLA, TPU, PETG, ABS, PLA-CF, PETG-CF, CR-carbon
UI Languages	English/Español/Deutsche/Français/Русский/Português/Italiano/Türk/ /

7. WARRANTY AND SUPPORT

The Creality Ender 3 V3 3D Printer is manufactured by Creality 3D and sold by Comgrow. For warranty information, technical support, or service inquiries, please refer to the After-sales Service Card included with your product or visit the official Comgrow store on Amazon. Comgrow provides professional technical support to all customers.

Contact Information:

- Brand: Comgrow
- Manufacturer: Creality 3D
- Comgrow Amazon Store: [Visit the Comgrow Store](#)