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› Creality Direct Drive Extruder Kit Instruction Manual

YOOPAI CR-0330

Creality Direct Drive Extruder Kit Instruction Manual

Brand: YOOPAI

Model: CR-0330

PRODUCT OVERVIEW

The Creality Direct Drive Extruder Kit, also known as the New Sprite Extruder Pro Upgrade Kit, is designed to enhance the capabilities of Creality Ender 3 series 3D printers (Ender 3, Ender 3 V2, Ender 3 Pro, Ender 3 Max). This upgrade enables direct extrusion and supports high-temperature printing conditions up to 300°C.

Key features include:

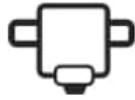
- **Efficient Heat Dissipation:** Features a dual fan design and optimized flow field mechanics for stable model formation.
- **Dual Gear Feeding:** Ensures reliable and stable filament feeding, reducing nozzle clogs and loading failures.
- **All-Metal Hotend:** Equipped with a heating block, titanium throat, and cooling block for high-temperature material compatibility.
- **Compact and Lightweight:** Weighing only 288g, it combines an extruder and printing hotend in a small form factor.
- **Easy Installation:** Designed for straightforward installation across compatible Ender 3 series printers.



Image: The Creality Sprite Extruder Pro Kit, showing the main extruder unit, mounting backplate, flat cable, and screws.

CREALITY

Small Sprit Huge Power



Small sprite



Easy to operate

288g

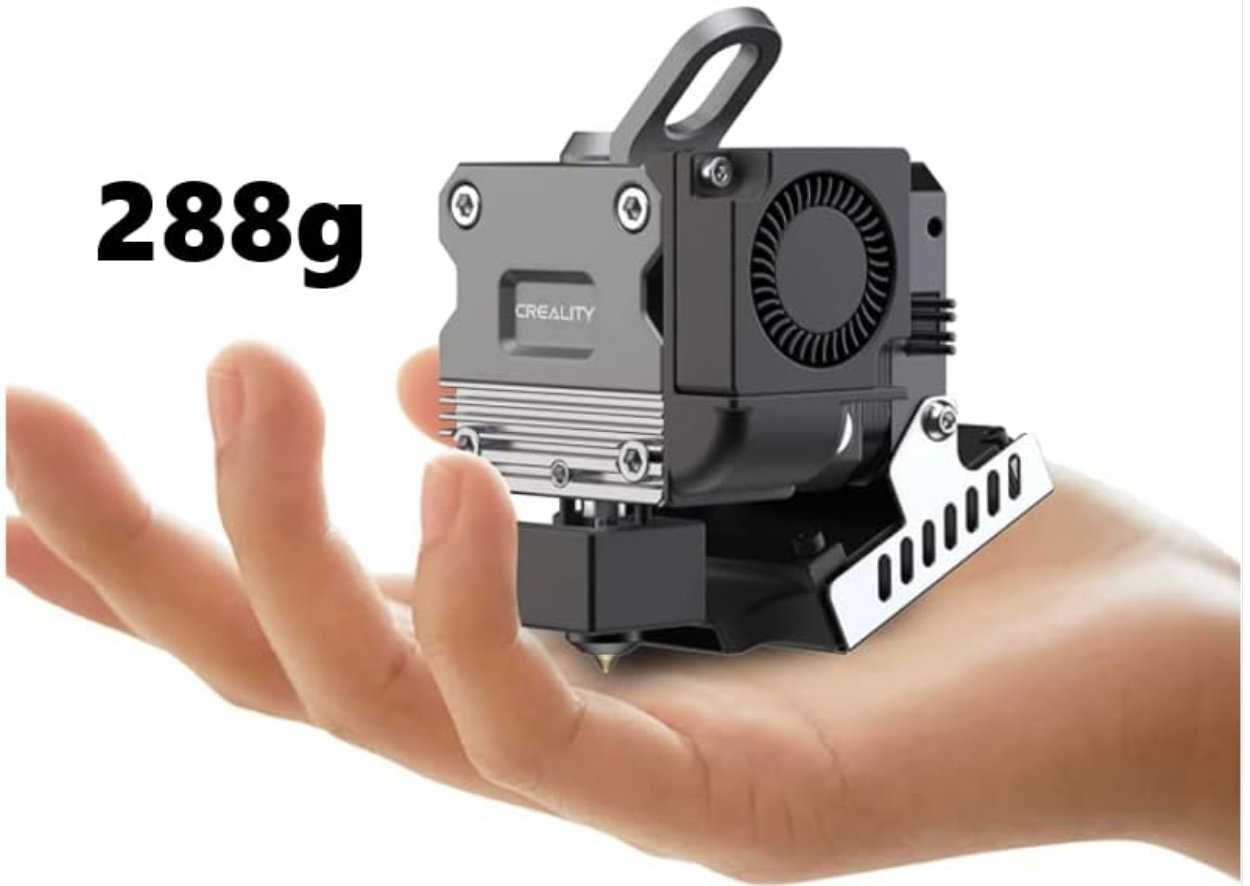


Image: The compact Sprite Extruder Pro unit held in a hand, illustrating its small size and lightweight design.

Compatible With Ender 3 Series



Ender 3



Ender 3 V2



Ender 3 Pro



Ender 3 Plus



Ender 3 Max

Image: Diagram showing the Sprite Extruder Pro mounted on an Ender 3 series printer, highlighting its compatibility.

SETUP AND INSTALLATION

This section provides detailed instructions for installing your Creality Sprite Extruder Pro Kit. Please follow the steps carefully.

Included Components:

Before beginning, ensure all components are present:

- Sprite Extruder Pro Unit
- Mounting Backplate Kit
- Flat Cable (1.3m)
- Hexagon Round Head Screws (M3*6)
- User Manual (physical copy)

Installation Video Guide:

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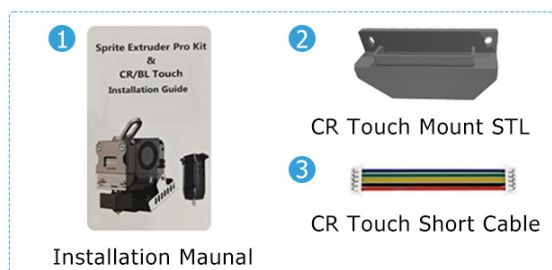
Video: Creality Sprite Extruder Pro Kit Installation. This video demonstrates the step-by-step installation process for the Creality Sprite Extruder Pro Kit. It covers unboxing, attaching the mounting backplate to the X-axis profile, securing the extruder unit, connecting the flat cable to the extruder and motherboard, and adjusting E-steps for optimal performance. The video also shows a successful print after installation.

Step-by-Step Installation:

1. **Prepare the Printer:** Power off and unplug your 3D printer from the power source.
2. **Install Mounting Backplate Kit:** Attach the mounting backplate kit to the X-axis profile of your printer. Ensure the pulleys are securely tightened but allow for smooth movement. Adjust the eccentric nut so that the mounting backplate slides freely without shaking.

Compatible with CR Touch

Both 4.2.2 and 4.2.7 Control Board Usable



Note: please check the Amazon "Product guides and documents" module to download firmwares.

Image: Diagram illustrating the mounting backplate installation and its compatibility with CR Touch auto-leveling sensors.

3. **Mount the Extruder Unit:** Install the Sprite Extruder Pro onto the mounting backplate. Secure it with the provided M3*6 hexagon round head screws.
4. **Connect Flat Cable:** Connect one end of the 1.3m flat cable to the top connector of the Sprite Extruder Pro Kit. Connect the other end of the cable to the corresponding interface on the printer motherboard. Refer to the cable labels and your printer's motherboard diagram for correct connections. Terminals without labels do not need to be connected.
5. **Power On and Configure E-steps:** Power on your printer. Navigate to the control menu on your printer's display.
6. **Adjust E-steps:** The recommended E-steps value for the Sprite Extruder Pro is 424.9. For Ender 3, Ender 3 Pro, and Ender 3 Max printers, you can adjust this value directly on the machine's control panel under **Control > Motion > Transmission ratio E**. For other models or if direct adjustment is not available, create a new text file (.txt) on your computer with the following G-code commands:

```
M92 E424.9  
M500
```

Save this file as a .gcode file (e.g., "Change E Step.gcode"). Copy this .gcode file to your TF card. Insert the TF card into the printer. From the printer's menu, navigate to **Print** and select the "Change E Step.gcode" file to run it. This will update and save the new E-steps value.
7. **Verify E-steps:** After running the G-code or adjusting directly, go back to **Control > Storage configuration** and then **Read configuration**. Check **Transmission ratio E** again to confirm the value is 424.9.

OPERATING INSTRUCTIONS

Once installed and configured, the Sprite Extruder Pro is ready for operation. This direct drive extruder offers improved filament control and compatibility with a wider range of materials.

Loading Filament:

1. **Preheat Hotend:** Preheat the hotend to the appropriate temperature for your filament type (e.g., 200°C for PLA, 240°C for PETG).
2. **Insert Filament:** Gently push the filament into the extruder's input hole. The labor-saving wrench design makes insertion convenient.

Easy To Operate, More Convenient For Pumping And Refueling

Labor-saving wrench design makes it more convenient and faster to insert filament.



New refueling method

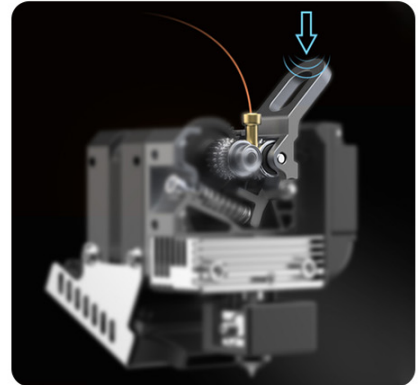


Image: Illustration of the easy filament loading process, highlighting the labor-saving wrench design for convenient insertion.

3. **Engage Gears:** The dual gear feeding mechanism will grip the filament. Continue pushing until you feel resistance and the filament starts to feed into the hotend.

Dual Gear Feeding More Stable Printing



Dual gear
feeding



Large torque



3.5:1
Gear ratio



Extrusion force up to 80N

Image: Close-up view of the dual gear feeding mechanism, showing how filament is gripped and fed.

Large Torque, Extrusion Force Up To 80N

The use of gear with 3.5:1 gear ratio which perfectly matches with motor makes extrusion force up to 80N (depending on filaments). More precise control of feeding withdrawal.



Large torque design
80N

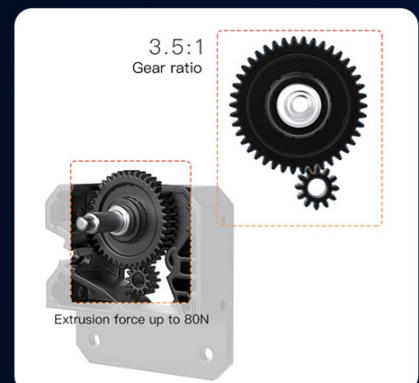


Image: Diagram illustrating the large torque and extrusion force (up to 80N) provided by the 3.5:1 gear ratio for precise filament control.

4. **Extrude:** Once the hotend reaches temperature, manually extrude a small amount of filament to ensure it flows smoothly and is free of any previous filament residue.

Printing with Various Filaments:

The all-metal hotend allows printing with high-temperature materials up to 300°C. This includes:

- PLA (Polylactic Acid)
- TPU (Thermoplastic Polyurethane)
- PETG (Polyethylene Terephthalate Glycol-modified)
- ABS (Acrylonitrile Butadiene Styrene)
- And more.

CREALITY

All Metal Hotend Kit



Strong
scalability



Adjustable
tension

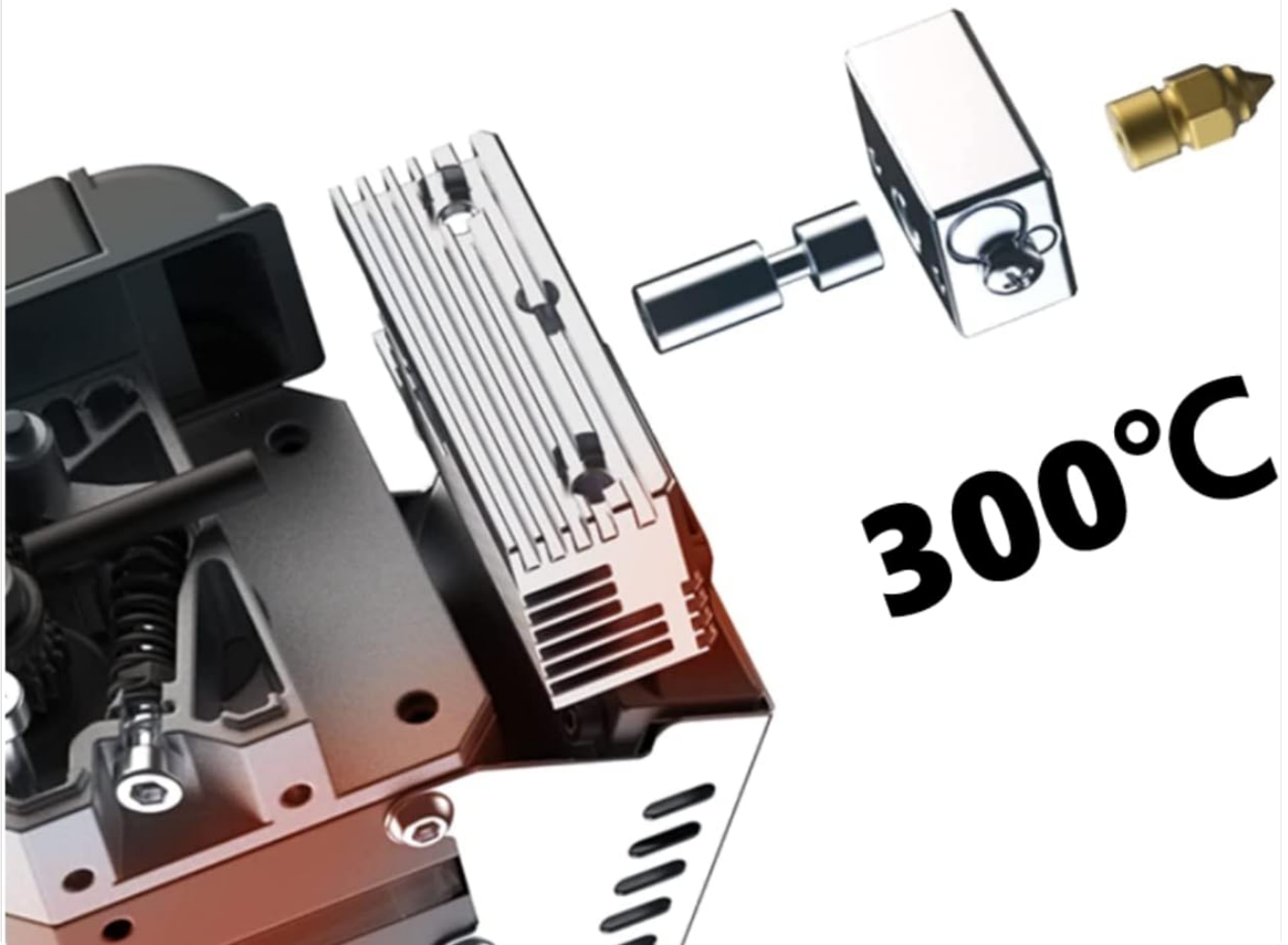


Image: Components of the all-metal hotend kit, including the heating block, titanium throat, and cooling block, designed for high-temperature printing.

Compatible With Various Filaments, More Creativity

Works with different filaments including PLA/TPU/PETG/ABS, etc. Multi-material capability enjoys more creativity.



Image: Examples of 3D printed objects made with different filament types, showcasing the extruder's versatility.

Adjusting Filament Tension:

The extruder features adjustable tension, allowing you to fine-tune the pressure exerted by the drive gears onto the filament. This helps achieve more precise extrusion and print quality for different filament types and diameters.

Adjustable Tension, Professional And Playable

The tensioner allows you to fine-tune the pressure exerted by the drive gears onto the filament according to your preferences which helps to print more exquisite models.



Strong scalability

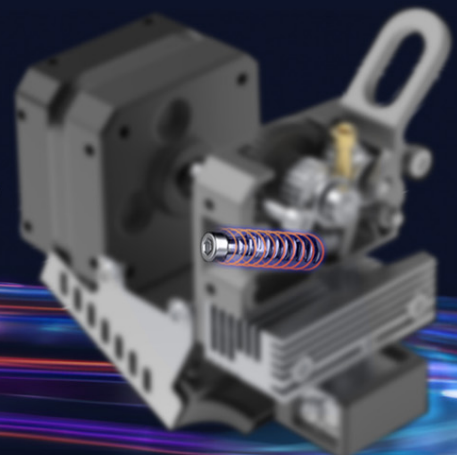


Image: Diagram showing the adjustable tension mechanism on the extruder, allowing for fine-tuning of filament pressure.

MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your Sprite Extruder Pro.

Cleaning the Nozzle and Hotend:

- Periodically clean the nozzle to prevent clogs. Use a brass brush for external cleaning and a needle or cleaning filament for internal clogs.
- Ensure the hotend is free from filament buildup.

Inspecting Gears:

- Check the dual gears for any wear or accumulation of filament dust. Clean with a small brush if necessary.

Fan Maintenance:

The dual fan system is crucial for heat dissipation. Ensure the fans are free from dust and debris to maintain efficient cooling. Use compressed air to gently clean the fan blades.

CREALITY

Efficient Heat Dissipation Worry-free Printing



Efficient heat
dissipation



Multi-module
switching

Customized Dual Fan



Image: The extruder unit highlighting the dual fan design for efficient heat dissipation during printing.

TROUBLESHOOTING

This section addresses common issues you might encounter with your Sprite Extruder Pro.

Common Issues and Solutions:

Filament Not Extruding:

- Check if the hotend is at the correct temperature for the filament.
- Ensure the filament is properly loaded and the gears are gripping it.
- Inspect the nozzle for clogs. Perform a cold pull or use a cleaning needle if necessary.
- Verify the E-steps value is correctly set to 424.9.

Poor Print Quality (Under/Over Extrusion):

- Adjust the filament tension on the extruder.
- Recalibrate E-steps if the issue persists.
- Check for partial nozzle clogs.

Extruder Motor Skipping:

- This often indicates a clog or too much resistance. Clear any clogs in the nozzle or hotend.
- Reduce print speed or increase hotend temperature.
- Check filament path for any obstructions.

Extruder Not Moving:

- Ensure the flat cable is securely connected to both the extruder and the motherboard.
- Verify the printer's firmware is compatible and correctly configured for the Sprite Extruder Pro.

SPECIFICATIONS

Feature	Detail
Product Dimensions	5.12 x 7.68 x 2.97 inches (13.0 x 19.5 x 7.5 cm)
Item Weight	1.27 pounds (575 grams)
Manufacturer	YOOPAI
Model Number	CR-0330
Material	Acrylonitrile Butadiene Styrene, Polycarbonate, Polylactic Acid
Color	Black
Max Hotend Temperature	300°C
Filament Compatibility	PLA, TPU, PETG, ABS, etc.
Included Components	Creality Sprite Extruder Pro Upgrade Kit

WARRANTY AND SUPPORT

YOOPAI provides life-time professional technical support for the Creality Direct Drive Extruder Kit.

- **Technical Support:** If you encounter any unsolvable problems during installation or use, please contact our after-sales technical team. Detailed solutions will be provided within 24 hours.
- **Warranty:** The product comes with a 1-year warranty. For specific warranty claims or issues, please refer to your purchase documentation or contact YOOPAI customer service.

For further assistance, please visit the [YOOPAI Store on Amazon](#).

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question