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ELEGOO Mars 4 Ultra

ELEGOO Mars 4 Ultra 9K MSLA 3D Printer User Manual

Model: Mars 4 Ultra | Brand: ELEGOO

1. Introduction

This manual provides essential information for the safe and efficient operation of your ELEGOO Mars 4 Ultra 9K MSLA 3D Printer. The Mars 4 Ultra 9K printer features a 7-inch LCD screen with 8520*4320 resolution, enabling fast printing speeds up to 150mm/h with ACF release film and ELEGOO rapid standard resin. It incorporates a COB light source and Fresnel lens design for detailed models, a laser-carved platform for strong adhesion, and a user-friendly Linux operating system with Wi-Fi transfer capabilities.



Figure 1: ELEGOO Mars 4 Ultra 9K MSLA 3D Printer and accessories.

2. Safety Guidelines

Always prioritize safety when operating the 3D printer and handling resin. Resin can be irritating to skin and eyes. Follow these precautions:

- **Wear Protective Gear:** Always wear gloves and a mask when handling resin or cleaning the printer. Gloves are included with your printer.
- **Ensure Proper Ventilation:** Operate the printer in a well-ventilated area, such as a garage or a room with good airflow, to minimize exposure to resin fumes.
- **Avoid Direct Sunlight:** Do not expose resin or printed models to direct sunlight, as this can cause premature curing or damage.
- **Proper Disposal:** Dispose of uncured resin and contaminated cleaning materials according to local regulations.

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Video 1: A brief overview of the ELEGOO Mars 4 Ultra 9K 3D Printer, highlighting its features and general appearance.

3. Setup

3.1 Unboxing and Initial Inspection

Carefully remove all components from the packaging. Verify that all parts listed in the packing list are present and undamaged. Familiarize yourself with the printer's main components: the build plate, resin vat, LCD screen, and Z-axis assembly.

3.2 Resin Loading

Before loading resin, ensure the resin bottle is well-mixed by gently swirling it. Do not shake it violently to avoid air bubbles. Pour the resin into the vat up to the MAX line indicated on the vat. The printer is designed to detect resin levels, preventing overfilling or underfilling errors during operation.



Figure 2: The 7-inch Monochrome LCD Screen with 9H tempered glass film.



Figure 3: COB+Fresnel Collimating Light Source for enhanced detail and efficient heat dissipation.

4. Operating the Printer

4.1 First Print

The printer comes with pre-loaded test models. To start your first print:

1. Ensure the resin vat is properly seated and filled.
2. Attach the build plate securely to the Z-axis.
3. Select your desired model from the printer's interface.
4. Initiate the print. The printer will perform an automatic leveling sequence before starting the exposure process.

4.2 Monitoring Print Progress

The 4-inch high-definition IPS touch screen displays print progress, including exposure time, layer height, and remaining time. You can pause the print at any time to inspect the model. The build plate will raise to allow for inspection, and you can resume printing afterward.



Figure 4: High-Speed Wi-Fi Transfer for convenient file management.

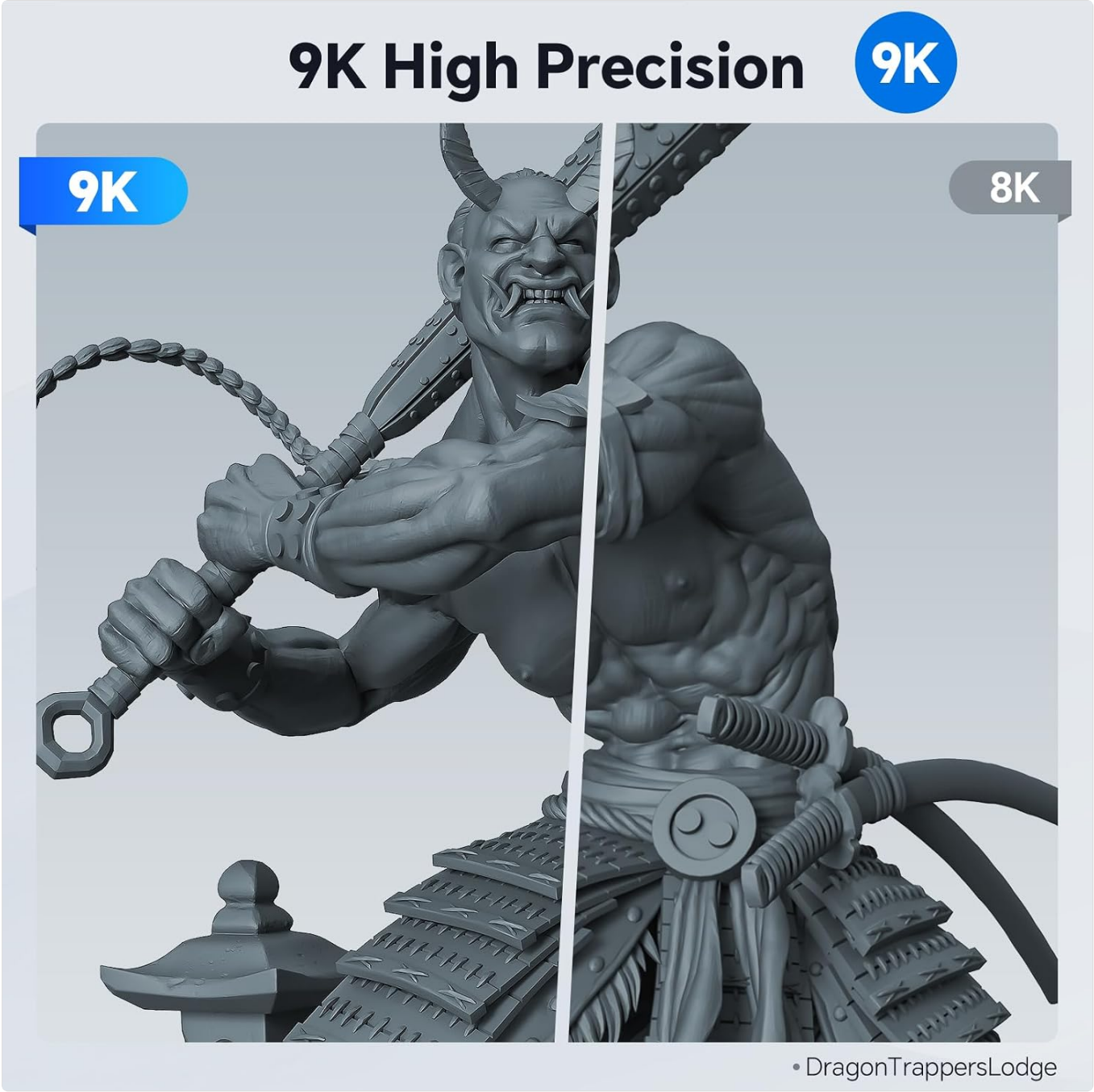


Figure 5: Example of 9K High Precision printing, showcasing intricate details.

5. Maintenance

5.1 Post-Printing Cleaning

After each print, it is crucial to clean the build plate and resin vat to ensure optimal performance and longevity of your printer. Always wear gloves and a mask during this process.

1. **Remove Build Plate:** Carefully unhook and slide out the build plate. Use the provided drip tray to catch any excess resin.
2. **Scrape Model:** Use the metal spatula to gently scrape the printed model off the build plate.
3. **Clean Model:** For water-washable resin, immerse the model in water and use a soft brush to remove any uncured resin from detailed areas.
4. **Clean Resin Vat:** Empty any remaining resin from the vat back into the resin bottle through a filter to remove cured particles. Clean the vat with water (for water-washable resin) or appropriate cleaning solution.

5. **Cure Model:** Allow the cleaned model to air dry, then place it under UV light or in a bright room (avoid direct sunlight) to fully cure.

3D Printer	Resin Type	Bottom Exposure(s)	Normal Exposure(s)	Layer Height(mm)
ELEGOO Mars 4 Ultra	Standard Resin	30	2.5	0.05
ELEGOO Mars 4 Ultra	Standard Resin 2.0	30	2.5-3	0.05
ELEGOO Mars 4 Ultra	ABS-Like Resin	30	2.5	0.05
ELEGOO Mars 4 Ultra	ABS-Like Resin 2.0	30	2.5-3	0.05
ELEGOO Mars 4 Ultra	Water Washable Resin	30	2.5	0.05
ELEGOO Mars 4 Ultra	8K Water Washable Photopolymer Resin	35	4.5-5	0.05
ELEGOO Mars 4 Ultra	8K Standard Photopolymer Resin	36	4	0.05

Figure 6: Laser Carved Platform offers excellent adhesion for successful prints.

6. Troubleshooting

Here are some common issues and their solutions:

- **Prints Not Sticking to Build Plate:**
  - Ensure the build plate is properly leveled. The Mars 4 Ultra features a four-point leveling design for ease of use.
  - Verify resin temperature is within recommended range.
  - Check exposure settings in your slicing software (e.g., Voxeldance Tango, Chitubox, Lychee Slicer).
- **Failed Prints / Partial Prints:**
  - Add appropriate model supports in your slicing software.
  - Clean the resin tank and LCD screen thoroughly to remove any cured resin debris.
  - Ensure sufficient resin in the vat. The printer will stop if resin levels are too low.
- **Resin Leakage:**
  - The 7-inch 9K LCD screen includes a tempered film with 9H hardness to effectively prevent resin leakage. If leakage occurs, inspect the film for damage and replace if necessary.



Figure 7: Achieve 3X Faster Speed with compatible resin and film.

7. Specifications

Feature	Detail
Brand	ELEGOO
Model Number	Mars 4 Ultra
Product Dimensions	24.02 x 11.81 x 11.02 inches (61 x 30 x 28 cm)
Item Weight	18.92 pounds (8.6 kg)
Material	Aluminum
LCD Screen	7-inch 9K Monochrome LCD (8520*4320 resolution)
Printing Speed	Up to 150mm/h (with ACF release film and ELEGOO rapid standard resin)
Printing Size	153.36mm x 77.76mm x 165mm
Light Source	COB + Fresnel Collimating Light Source
Platform	Laser Carved Platform
Operating System	Linux OS
Connectivity	High Speed WiFi Transfer, USB

8. Warranty and Support

ELEGOO provides comprehensive customer support for its products. For warranty information, technical assistance, or troubleshooting beyond this manual, please visit the official ELEGOO website or contact their customer service directly. Keep

your purchase receipt as proof of purchase for warranty claims.
For additional resources and community support, you may also visit the ELEGOO Store on Amazon.

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