



Manuals.plus /

› Comgrow /

› Comgrow Creality LD-002H UV Resin 3D Printer User Manual

## Comgrow LD-002H

# Comgrow Creality LD-002H UV Resin 3D Printer User Manual

Your guide to setting up, operating, and maintaining your LD-002H 3D printer.

## 1. INTRODUCTION

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Thank you for choosing the Comgrow Creality LD-002H UV Resin 3D Printer. This manual provides essential information for the safe and efficient operation of your device. Please read it thoroughly before use and keep it for future reference.

The LD-002H features a 2K HD LCD screen for high-precision printing, a robust Z-axis linear rail for stability, and an integrated air filtering system for improved working conditions. Its generous build volume of 130x82x160mm allows for a wide range of projects.

## 2. SETUP

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### 2.1 Unboxing and Component Check

Carefully remove all packaging materials. Verify that all components listed in the packing list are present and undamaged. If any parts are missing or damaged, contact customer support.

### 2.2 Printer Placement

Place the printer on a stable, level surface in a well-ventilated area. Ensure there is sufficient space around the printer for operation and maintenance. Avoid direct sunlight exposure.

### 2.3 Manual Leveling System

The LD-002H features a manual leveling system for precise calibration of the build plate.

1. Loosen the leveling nuts on the build plate.
2. Lower the build plate until it is close to the LCD screen.
3. Place a piece of A4 paper (approximately 0.1mm thick) between the build plate and the LCD screen.
4. Gently press down on the build plate to ensure it is level and the paper can be pulled with slight resistance.
5. Tighten the leveling nuts securely to fix the build plate in position.
6. Remove the paper.

# Manually Leveling System

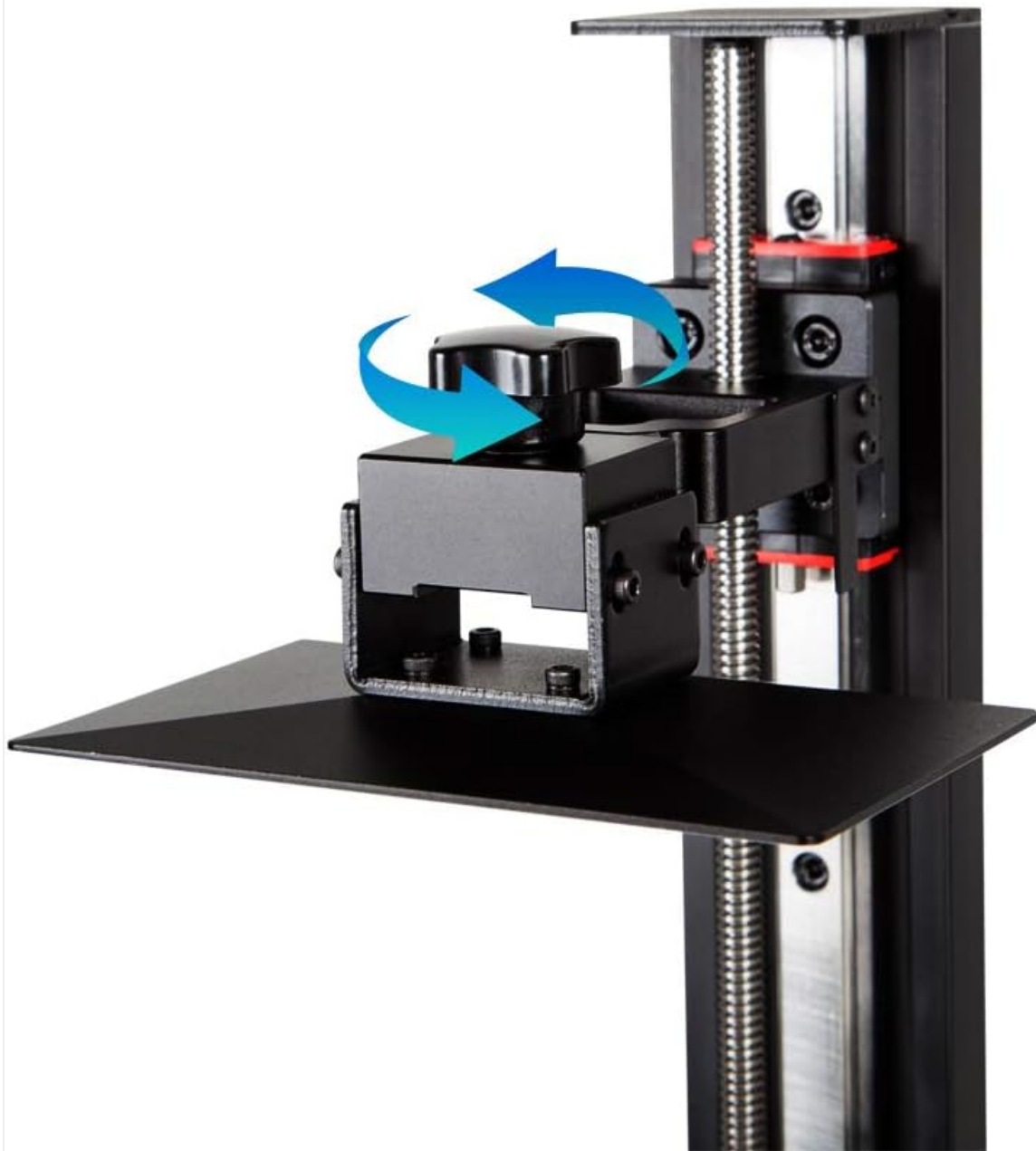


Figure 2.3.1: Manual Leveling System. This image illustrates the build plate and the adjustment knobs used for manual leveling, ensuring proper distance from the LCD screen.

## 2.4 Z-axis Linear Rail

The Z-axis linear rail provides stable and precise vertical movement for the build plate, crucial for accurate layer adhesion and overall print quality. No assembly is typically required for this component, but ensure it is free from obstructions.

# Z-axis Linear Rai

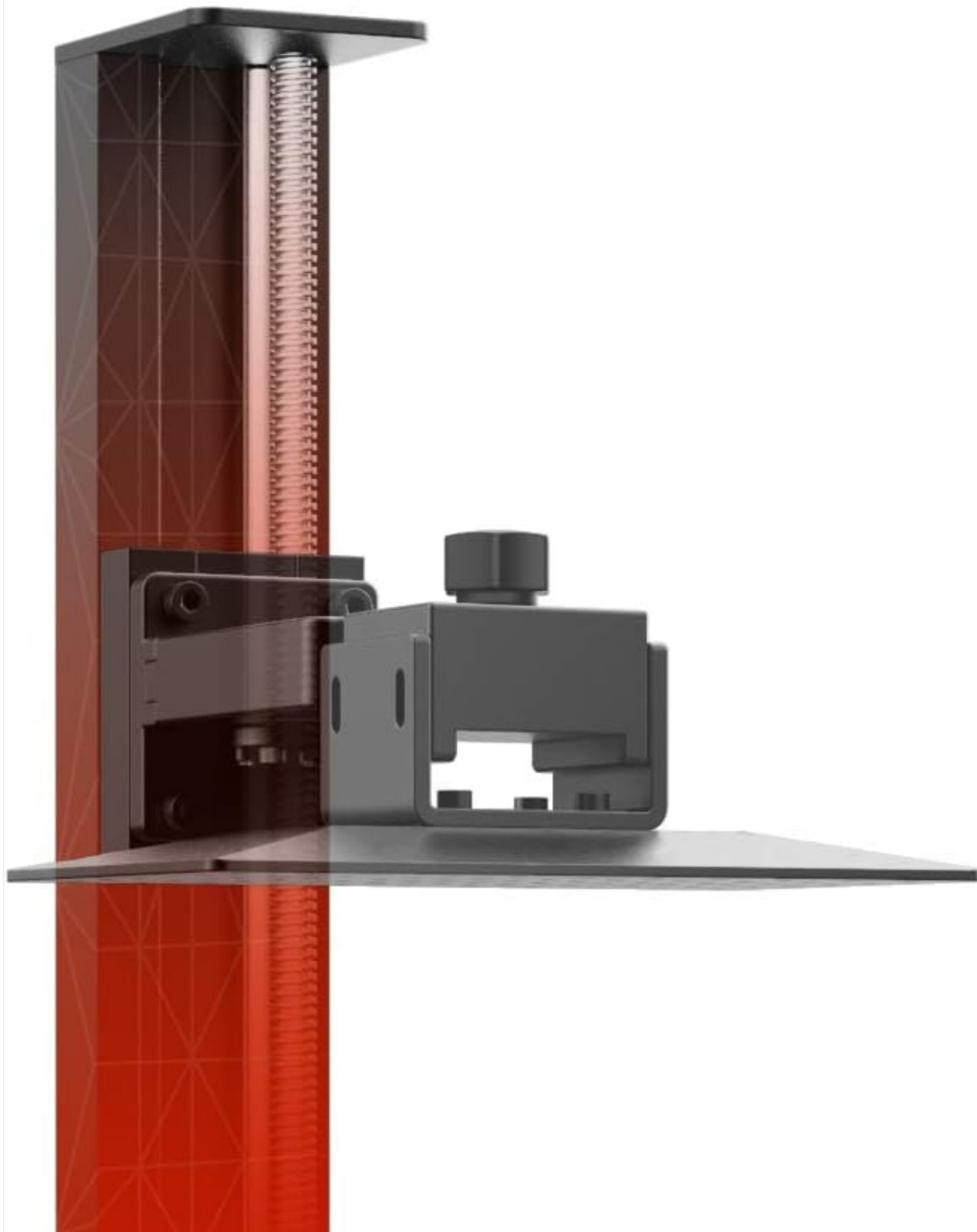


Figure 2.4.1: Z-axis Linear Rail. This image highlights the robust linear rail system that ensures stable and accurate vertical movement during printing.

## 2.5 Software Installation (CHITU BOX)

The Comgrow Creativity LD-002H utilizes CHITU BOX slicing software. Install the latest version from the official CHITU BOX website. This software allows you to prepare your 3D models for printing, add supports, and generate the necessary print files.

# Powerful Slicer Software



Figure 2.5.1: CHITU BOX Slicing Software. This image displays the user interface of CHITU BOX, demonstrating its capability to prepare 3D models for resin printing, including support generation.

## 3. OPERATING INSTRUCTIONS

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### 3.1 Preparing Your Model

1. Import your 3D model (e.g., .STL, .OBJ) into CHITU BOX.
2. Adjust the model's size, orientation, and position on the virtual build plate.
3. Generate supports as needed for overhangs and intricate details.
4. Slice the model, which converts it into layers and generates the print file (e.g., .cbddlp).
5. Save the print file to a USB drive.

### 3.2 Loading Resin

1. Ensure the resin vat is clean and free of debris.
2. Shake the resin bottle thoroughly before opening.
3. Carefully pour the resin into the vat, ensuring it does not exceed the maximum fill line.
4. Always wear appropriate personal protective equipment (gloves, safety glasses) when handling resin.

### 3.3 Starting a Print

1. Insert the USB drive containing your print file into the printer's USB port.

2. Power on the printer. The 3.5-inch intelligent color touch screen will display the main menu.
3. Navigate to the print menu and select your desired file from the USB drive.
4. Confirm the print settings and start the printing process.
5. The printer will automatically lower the build plate and begin curing layers.

### 3.4 Post-Processing

1. Once printing is complete, carefully remove the build plate from the printer.
2. Use a scraper to gently remove the printed model from the build plate.
3. Wash the model in isopropyl alcohol (IPA) to remove uncured resin. Multiple washes may be necessary.
4. Allow the model to dry completely.
5. Cure the model under a UV light source to fully harden the resin.
6. Remove any remaining supports.

## 4. MAINTENANCE

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### 4.1 Cleaning the Resin Vat

After each print, inspect the resin vat for any cured resin particles. Use a plastic scraper to gently remove them. If changing resin types or storing the printer, empty and clean the vat thoroughly with IPA.

### 4.2 Cleaning the Build Plate

Clean the build plate with IPA after each print to remove any resin residue. Ensure it is completely dry before starting a new print.

### 4.3 LCD Screen Care

The 2K HD LCD screen is a critical component. Avoid touching it directly. If cleaning is necessary, use a soft, lint-free cloth and a small amount of screen cleaner. Never use abrasive materials or excessive liquid.

### 4.4 Air Filtering System

The integrated air filtering system helps reduce resin odors. Periodically check and replace the activated carbon filter as recommended by the manufacturer to maintain its effectiveness.

## 5. TROUBLESHOOTING

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### 5.1 Print Failures

- **Model not sticking to build plate:** Re-level the build plate, increase bottom exposure time in slicer settings, or roughen the build plate surface slightly.
- **Partial prints or missing layers:** Check resin level, ensure the FEP film in the vat is clean and undamaged, verify LCD screen functionality, or increase normal exposure time.
- **Distorted or inaccurate prints:** Ensure the Z-axis linear rail is clean and lubricated, check for loose components, or recalibrate exposure settings.
- **Leaving or cured resin in corners of vat:** This can indicate UV light leakage or over-curing. Adjust exposure settings, ensure the resin vat is properly seated, and inspect the LCD screen for damage.

### 5.2 Printer Not Responding

- Check power connections.
- Ensure the USB drive is properly inserted and formatted correctly (FAT32).

- Restart the printer.

### 5.3 Odor Issues

While the printer has an air filtering system, resin printing can still produce odors. Ensure adequate ventilation in your workspace. Consider replacing the air filter if odors persist.

## 6. SPECIFICATIONS

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<b>Model Number</b>	LD-002H
<b>Brand</b>	Comgrow
<b>Printing Technology</b>	UV LCD Resin
<b>Build Volume</b>	130 x 82 x 160 mm
<b>LCD Resolution</b>	2K (1620 x 2560 pixels)
<b>XY Axis Precision</b>	51 µm
<b>Layer Thickness</b>	0.01 - 0.05 mm (adjustable)
<b>Printing Speed</b>	1-4 seconds/layer (resin dependent)
<b>Screen</b>	3.5-inch Color Touch Screen
<b>Connectivity</b>	USB
<b>Material</b>	Resin
<b>Product Weight</b>	8.26 Kilograms
<b>Machine Dimensions</b>	221 x 221 x 403 mm (Width x Depth x Height)



Figure 6.1.1: Machine and Print Size. This image provides a visual representation of the printer's physical dimensions (221x221x403mm) and its maximum print volume (130x82x160mm).

# LCD HD Screen 2K

## 1620\*2560 Resolution

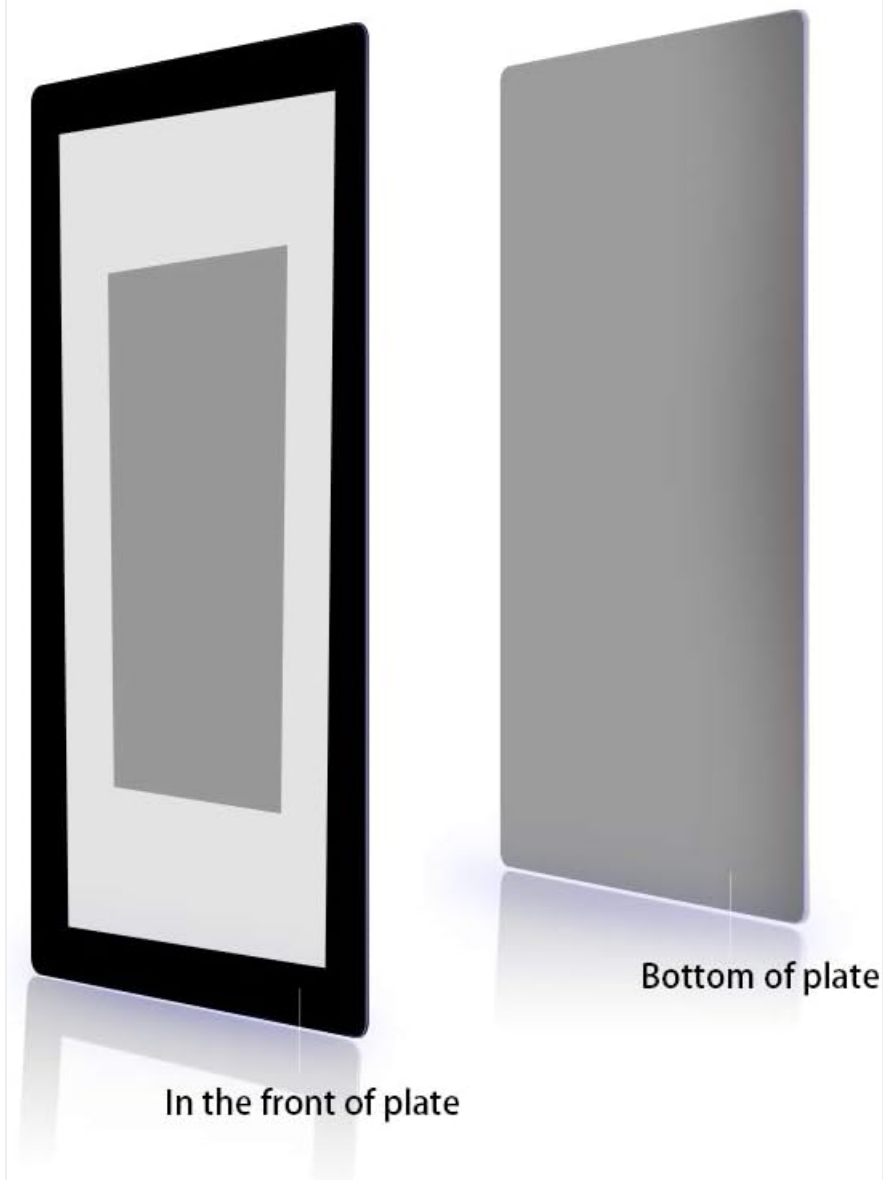


Figure 6.1.2: LCD HD Screen 2K. This image illustrates the high-resolution LCD screen, which is central to the printer's precision.

## 7. WARRANTY AND SUPPORT

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For warranty information and technical support, please refer to the documentation provided with your purchase or visit the official Comgrow website. Details regarding spare parts availability and software updates are typically provided by the manufacturer.