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› Genmitsu LC-50 PLUS 10W Laser Engraver Instruction Manual

Genmitsu LC50 Plus

Genmitsu LC-50 PLUS 10W Laser Engraver Instruction Manual

Model: LC50 Plus

Introduction	Safety Information	Product Overview	Assembly & Setup	Operation	Maintenance
		Troubleshooting	Specifications	Support	

1. INTRODUCTION

Welcome to your new Genmitsu LC-50 PLUS 10W Laser Engraver. This manual provides essential information for the safe and efficient operation, assembly, usage, and maintenance of your device. Please read this manual thoroughly before operating the machine to ensure proper function and safety.

2. SAFETY INFORMATION

Operating a laser engraver involves potential hazards. Adhere strictly to the following safety guidelines to prevent injury or damage.

- **Eye Protection:** Always wear appropriate laser safety goggles (OD4+ or higher) when the laser is active. Never look directly at the laser beam.
- **Ventilation:** Operate the machine in a well-ventilated area to dissipate smoke and fumes produced during engraving/cutting.
- **Fire Hazard:** Laser processing can ignite flammable materials. Keep a fire extinguisher nearby and never leave the machine unattended during operation.
- **Material Compatibility:** Only engrave or cut materials approved for laser processing. Avoid reflective, transparent, or unknown materials.
- **Children and Pets:** Keep children and pets away from the operating area.
- **Emergency Stop:** Familiarize yourself with the location and function of the Emergency Stop button.
- **Laser Shield Protection:** The device includes a laser shield for added safety. Ensure it is properly installed before use.



Image: The laser module features an adjuster for easy positioning and integrated laser shield protection to enhance safety during operation.

3. PRODUCT OVERVIEW

The Genmitsu LC-50 PLUS is a high-performance 10W compressed spot laser engraver and cutter, designed for precision and efficiency. Key features include:

- **10W Compressed Spot Laser Head:** Provides high power and a fine laser spot for detailed engraving and efficient cutting.
- **Integrated Air Assist System:** Enhances cutting performance by blowing away smoke and debris, resulting in cleaner cuts and increased efficiency.
- **Linear Rails:** Ensures higher stability and precision for consistent engraving and cutting results.
- **X & Y-axis Tensioner:** Allows for precise adjustment of timing belt tension, contributing to more accurate engraving.
- **Limit Switches:** Installed on both X and Y axes to prevent the laser module from colliding with boundaries, ensuring safe movement.

- **Emergency Stop Button:** Provides an immediate shutdown mechanism for safety.
- **Raised Footpads:** Optional accessories to increase working height for larger or cylindrical objects.

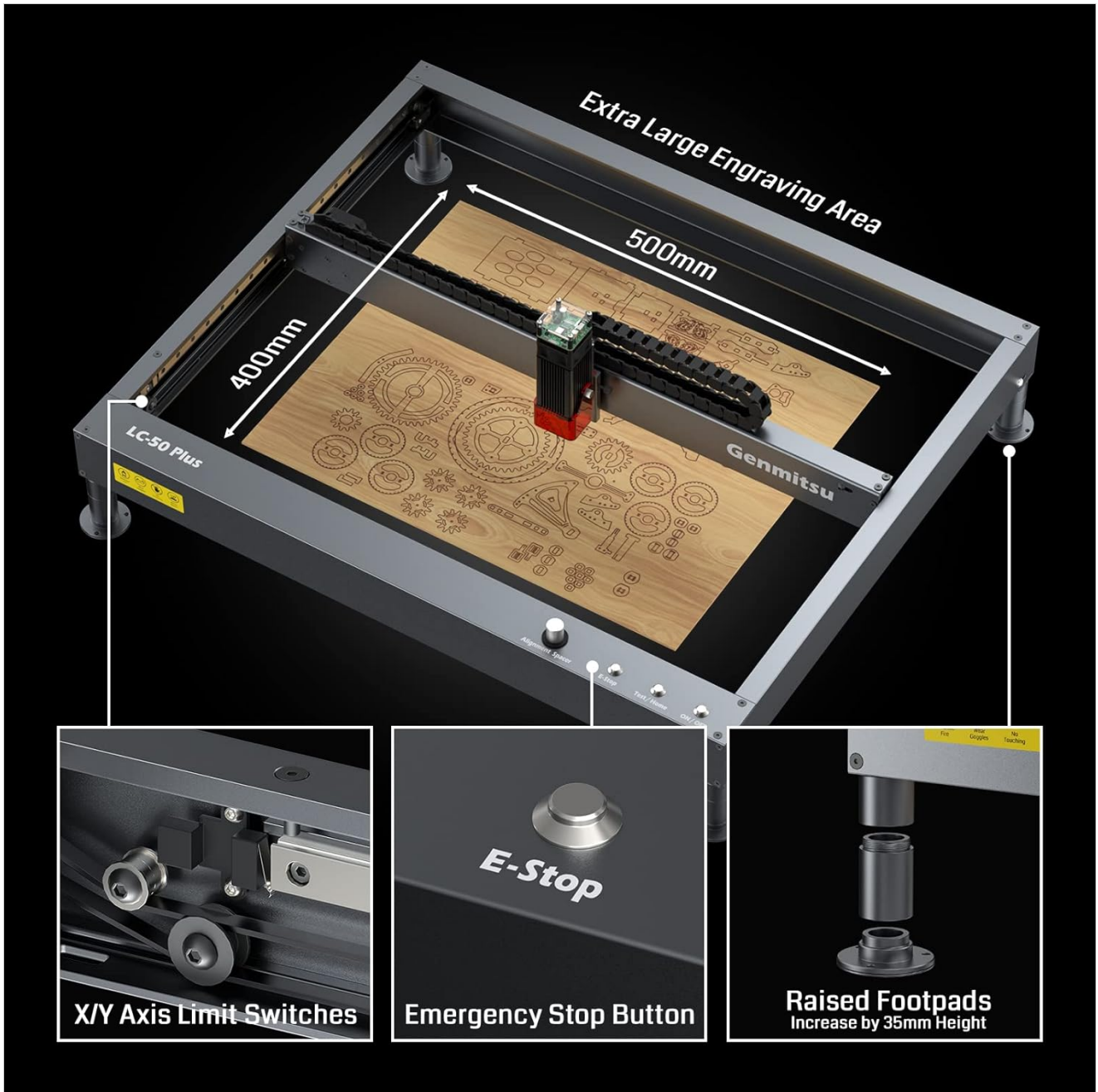


Image: Overview of the Genmitsu LC-50 Plus showing its extra-large engraving area (500mm x 400mm), X/Y axis limit switches, Emergency Stop button, and optional raised footpads.

**0.08*0.05MM ULTRA-FINE COMPRESSED
SPOT ENSURES HIGHER ACCURACY**



0.08*0.05MM

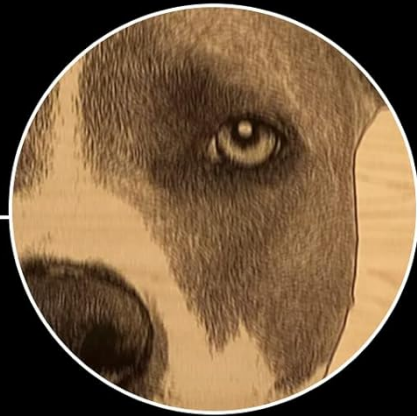
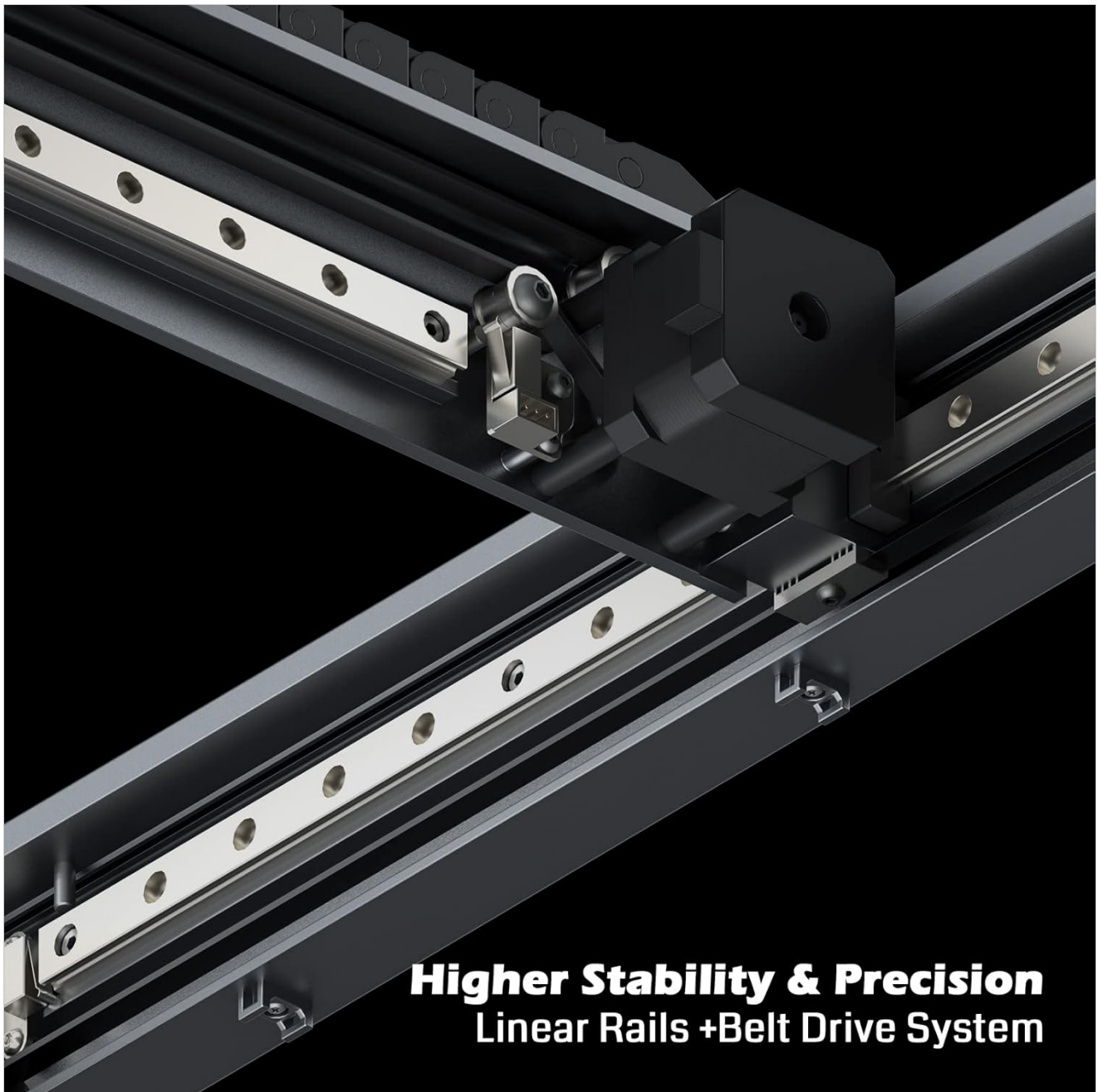


Image: Demonstrates the 0.08*0.05mm ultra-fine compressed spot, ensuring higher accuracy and detail in engravings.



Higher Stability & Precision Linear Rails +Belt Drive System

Image: Close-up view of the linear rails and belt drive system, highlighting the robust build for higher stability and precision.

4. ASSEMBLY AND SETUP

Follow these steps to assemble and set up your Genmitsu LC-50 PLUS laser engraver.

4.1 Unboxing and Initial Assembly

1. Carefully unpack all components and verify against the packing list.
2. Assemble the main frame according to the included quick start guide or detailed assembly instructions.
3. Install the laser module onto the gantry.
4. Connect all cables securely, ensuring proper orientation.

4.2 X & Y-axis Tensioner Adjustment

The X & Y-axis tensioner design allows for precise adjustment of the timing belts, which is crucial for engraving accuracy. Refer to the detailed instructions video for visual guidance.

1. Locate the M5 screws on the side of the X and Y axes.

2. Loosen the No.1 screw slightly.
3. Adjust the No.2 screw to achieve the desired belt tension. The belt should be taut but not overly tight.
4. Tighten the No.1 screw to secure the tensioner.

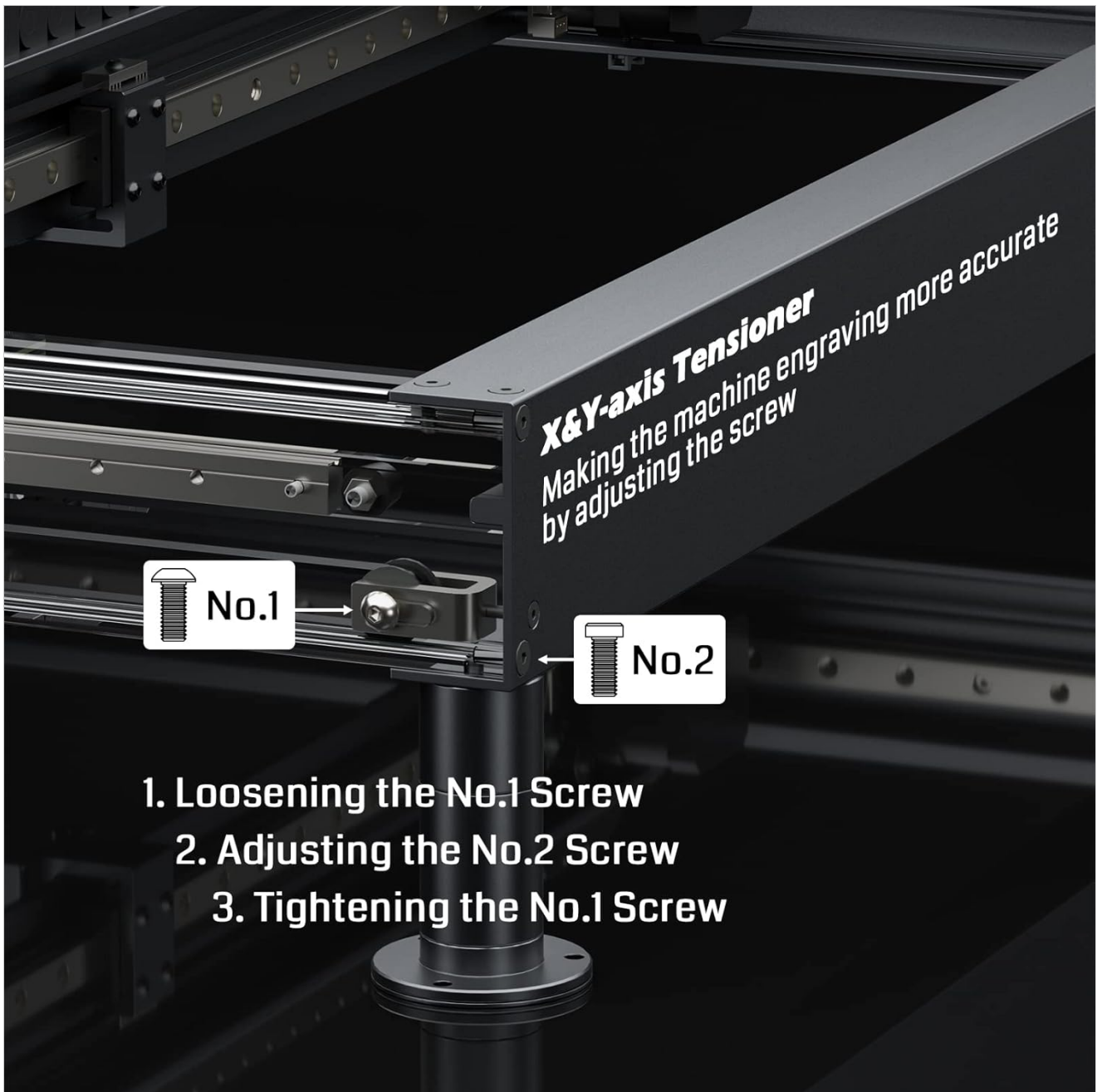


Image: Illustration of the X & Y-axis tensioner, showing the No.1 and No.2 screws for adjusting belt tension to ensure accurate engraving.

4.3 Installing Raised Footpads (Optional)

If you need to engrave larger or cylindrical objects, install the Z-axis raised footpads to increase the working height by 35mm. The secure locking foot design allows for stable mounting.

5. OPERATING INSTRUCTIONS

This section outlines the basic steps for operating your laser engraver.

5.1 Software and Connection

1. Install compatible laser control software (e.g., LightBurn, LaserGRBL) on your computer.
2. Connect the engraver to your computer via USB.
3. Ensure the necessary drivers are installed and the software recognizes the device.

5.2 Material Preparation and Placement

1. Place the material to be engraved or cut securely on the working surface.
2. Ensure the material is flat and properly aligned.

5.3 Focusing the Laser

Proper laser focus is critical for optimal engraving and cutting results. Follow the manufacturer's specific instructions for focusing the laser module.

5.4 Using the Air Assist System

The integrated Air Assist System significantly improves cutting quality by clearing smoke and debris from the laser's path. Ensure the air pump is connected and activated for cutting operations, especially on materials like wood and acrylic.



Image: Demonstrates the difference in cut quality: 'Burn Marks Edges Without Air-assist System' versus 'Clean Edges With Air-assist System'.

5.5 Starting an Engraving/Cutting Job

1. Load your design file into the laser control software.
2. Set appropriate parameters (power, speed, passes) for your material.
3. Use the **Test Fire** feature to confirm the laser's exact position before starting the job.
4. Initiate the job and monitor the process closely.

5.6 Compatible Materials

The Genmitsu LC-50 PLUS is capable of engraving and cutting a wide range of materials, including but not limited to:

- Wood (e.g., basswood plywood up to 10mm)
- Acrylic (up to 5mm)
- Metal (for engraving/marketing)

- Leather
- Fabric
- Paper/Cardboard
- Rubber
- Glass (for engraving)

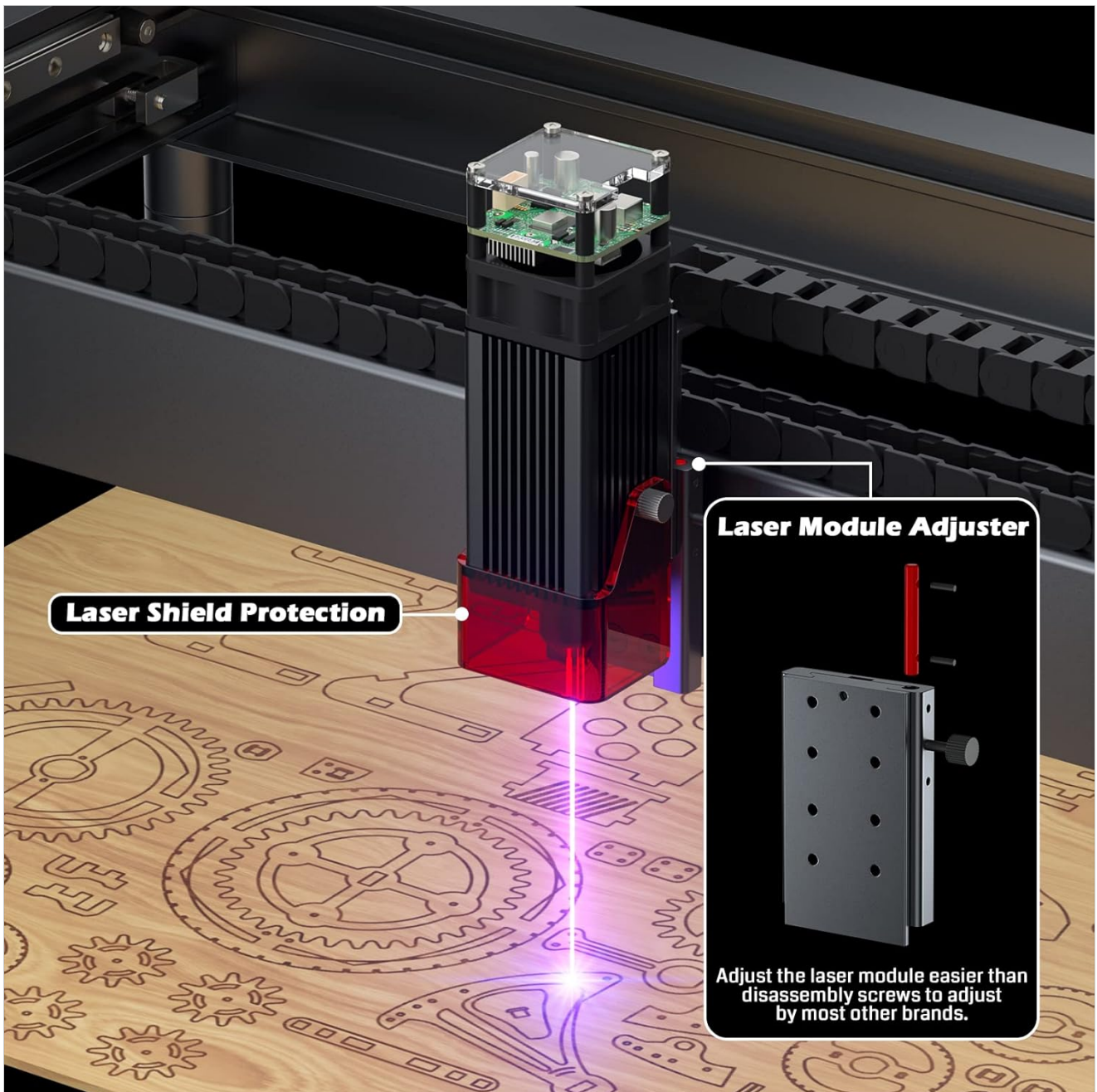


Image: A collage showcasing various materials and objects that can be engraved or cut by the Genmitsu LC-50 PLUS, including glass, metal, wood, acrylic, leather, and fabric.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your laser engraver.

- **Clean the Laser Lens:** Periodically clean the laser lens with a specialized lens cleaning solution and cloth to maintain laser power and focus.
- **Clean Linear Rails:** Keep the linear rails free from dust and debris. Lubricate them occasionally with appropriate lubricant as recommended by the manufacturer.

- **Check Belts:** Inspect the timing belts for wear and tear. Ensure they are properly tensioned (refer to Section 4.2).
- **Clear Debris:** Regularly remove any accumulated debris from the working area and around the laser module.

7. TROUBLESHOOTING

This section addresses common issues you might encounter and their potential solutions.

Problem	Possible Cause	Solution
Laser not firing	Loose cable connection, software settings, laser module issue	Check all connections, verify software settings (power, enable laser), inspect laser module.
Poor engraving/cutting quality	Incorrect focus, wrong parameters, dirty lens, loose belts	Adjust laser focus, optimize power/speed settings, clean laser lens, check belt tension.
Machine not moving or erratic movement	Loose motor cables, software connection issue, limit switch triggered	Check motor connections, restart software/computer, ensure no obstructions are triggering limit switches.
Air assist not working	Air pump not connected, hose blocked, pump malfunction	Verify air pump connection and power, check air hose for kinks or blockages.

8. TECHNICAL SPECIFICATIONS

Feature	Detail
Model Number	LC50 Plus
Laser Power	10W Compressed Spot Optical Power
Engraving Area	500mm x 400mm
Max Engraving Speed	Up to 20000mm/min
Cutting Capacity (Basswood Plywood)	Up to 10mm (single pass)
Cutting Capacity (Acrylic)	Up to 5mm (single pass)
Frame Material	Full Aluminum Alloy
Motion System	Linear Guide Design
Product Dimensions	75 x 23.5 x 18.5 cm
Item Weight	8.37 kg

9. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please refer to the official Genmitsu website or contact their customer service directly. Keep your purchase receipt as proof of purchase.

