

Longer Laser Engraver Module

LONGER Ruby Ultimate Pulsed Infrared Laser Module (20W) Instruction Manual

Model: Laser Engraver Module

1. INTRODUCTION

The LONGER Ruby Ultimate Pulsed Infrared Laser Module is designed for precision engraving and cutting across a wide range of materials. Featuring an ultra-fine laser spot size of 0.03x0.03mm, this 20W module offers intricate detail and versatile material compatibility. It is specifically tailored for seamless integration with LONGER Laser B1 and RAY5 series machines.

This manual provides essential information for the safe and effective use of your laser module. Please read it thoroughly before operation.

2. SAFETY PRECAUTIONS

WARNING: Laser radiation can cause eye and skin damage. Always wear appropriate laser safety glasses during operation. Never look directly into the laser beam.

- Ensure the work area is well-ventilated to dissipate fumes and particles generated during engraving.
- Keep flammable materials away from the laser's path.
- Do not leave the machine unattended during operation.
- Familiarize yourself with the emergency stop procedures.
- Ensure the laser module is securely mounted before operation.

3. SETUP AND INSTALLATION

The LONGER Ruby Laser Module is designed for easy installation on compatible LONGER laser engravers. Follow the steps below for proper setup.

3.1 Laser Module Installation

Refer to the official installation video for a detailed visual guide on installing the laser module onto your Laser B1 or RAY5 series machine.

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Video: Laser B1 20W/30W Laser Engraving Machine Installation Guide. This video demonstrates the step-by-step process of assembling the laser engraver and installing the laser module.

3.2 Air Assist Kit Installation (Optional)

For enhanced cutting performance and cleaner engravings, consider installing an air assist kit. This accessory helps to blow away smoke and debris from the laser's focal point.

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Video: Longer Cutting Engraving Machine Air Assist Kit Installation. This video illustrates the installation of the air assist kit, which is crucial for optimal cutting and engraving results.

3.3 Z-axis Elevator Installation (Optional)

If you require precise height adjustment for various material thicknesses or for engraving cylindrical objects, the Z-axis elevator is a valuable accessory.

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Video: Ray5 Z-axis Elevator Installation. This video guides users through the installation of the Z-axis elevator for improved versatility.

4. OPERATING INSTRUCTIONS

The LONGER Ruby Laser Module offers high precision for engraving and cutting. Proper operation ensures optimal results and safety.

4.1 Material Compatibility

This module is compatible with a wide range of materials, including:

- **Metals:** Iron, copper, aluminum, magnesium, zinc, gold, silver, titanium, metal oxides, electroplated surfaces.
- **Plastics:** ABS, acrylic, silicone, PU leather.
- **Other:** Wood (basswood, lacquered wood), leather, ceramics, stone, inks, epoxy resins.

Versatility Of Engraving Materials

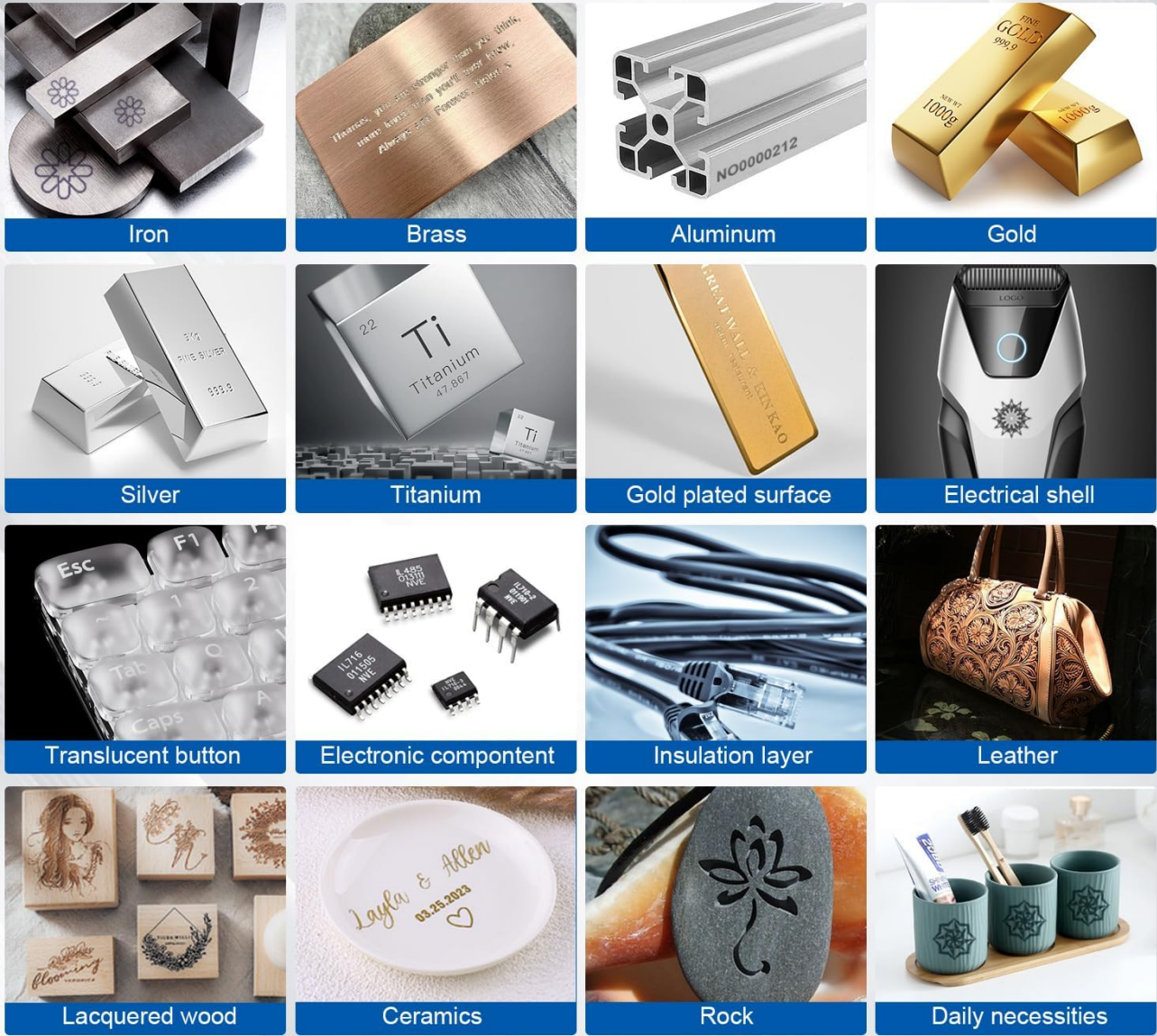


Image: Examples of various materials that can be engraved, including different metals, plastics, wood, and leather.



Image: Detailed engraving on various jewelry pieces, showcasing the module's precision.

4.2 Focusing the Laser

Achieving optimal focus is crucial for high-quality engraving and cutting. The module features a focal block for easy adjustment.

1. Place your material on the working surface.
2. Loosen the handle screw on the laser module.
3. Flip the focal block out and lower the module until the block touches the material underneath vertically.

4. Lock the handle screw, tighten the screw, and pull back the focal block.

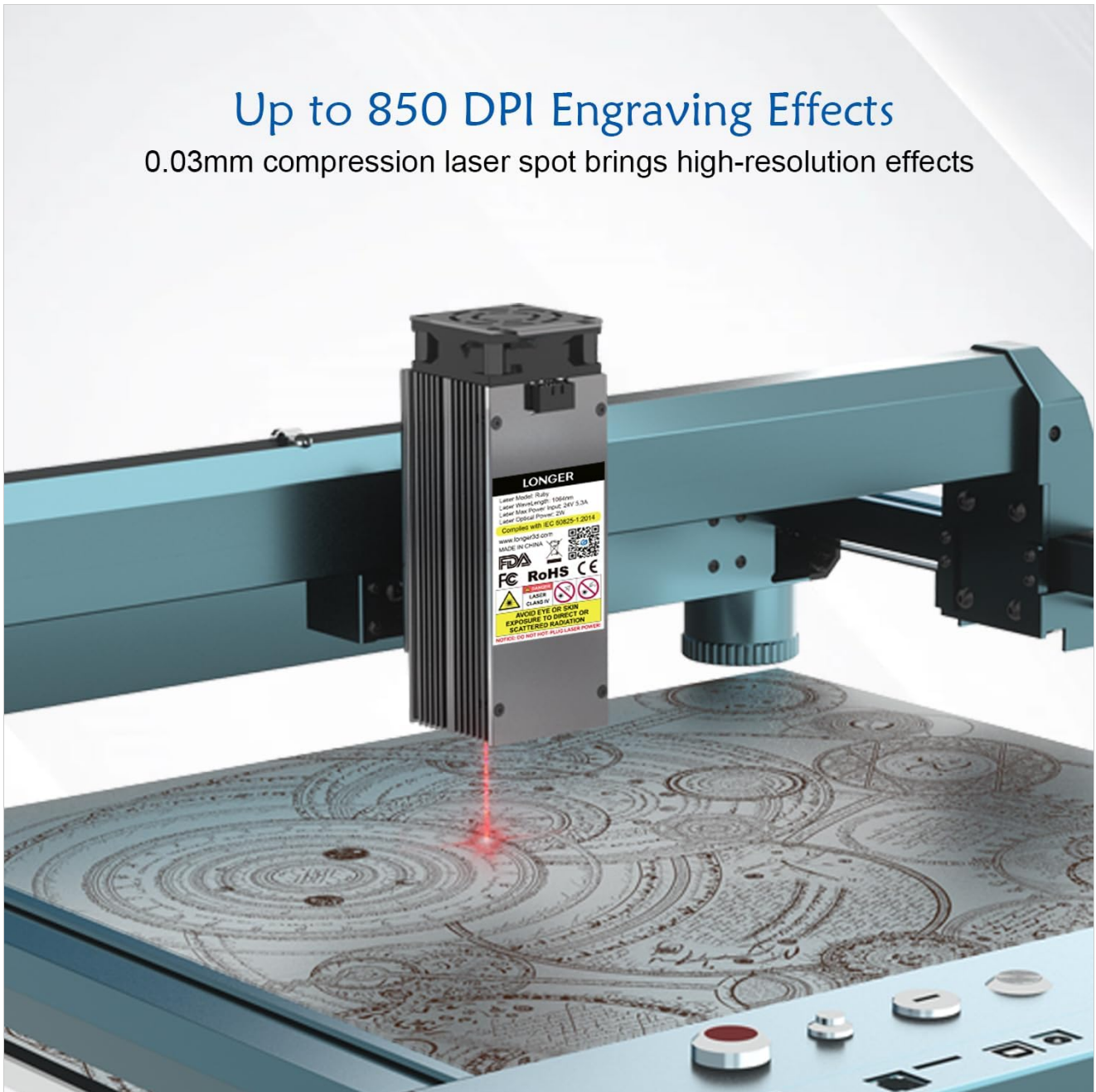


Image: The laser module positioned over a material, demonstrating the use of the focal block for precise height adjustment.

4.3 Engraving and Cutting

Once the module is installed and focused, you can begin your projects. Always perform test engravings on scrap material to determine optimal power and speed settings for your specific material.

- Use the control panel or software to load your design.
- Adjust power and speed settings according to the material and desired effect.
- Initiate the engraving or cutting process.

Crafted for Jewelry & Plastic Crafting

Works with 100+ Metals and Plastics



Platinum



Silver



Gold



Copper



Plastic



Acrylic



Silicone



PU Leather

Image: The laser module actively engraving a design onto a material, showcasing the precision of the 0.03x0.03mm ultra-fine spot.

5. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your LONGER Ruby Laser Module.

- **Lens Cleaning:** Periodically clean the laser lens with a soft, lint-free cloth and lens cleaning solution to prevent residue buildup that can affect laser performance.
- **Module Exterior:** Keep the exterior of the module clean and free of dust and debris.
- **Connections:** Regularly check all cable connections to ensure they are secure.
- **Air Assist Nozzle:** If using an air assist, ensure the nozzle is clear of obstructions.

6. TROUBLESHOOTING

If you encounter issues with your laser module, refer to the following common problems and solutions:

- **Poor Engraving Quality:**

- Check laser focus. Ensure the focal block is used correctly.
- Verify power and speed settings are appropriate for the material.
- Clean the laser lens.

- **Laser Not Firing/Weak Output:**

- Ensure all cables are securely connected.
- Check if the emergency stop switch is disengaged and the key is turned to the green dot position.
- Verify power supply is connected and functioning.

- **Unexpected Laser Firing (Safety Concern):**

- Immediately press the emergency stop button.
- Disconnect power.
- Contact customer support for assistance. Do not attempt to operate the machine if this occurs.

- **Movement Issues:**

- Check the tension of the timing belts; they should not be too loose or too tight.
- Ensure the X and Y axes move smoothly without obstruction.

7. SPECIFICATIONS

Feature	Detail
Model	Laser Engraver Module
Laser Spot Size	0.03x0.03mm
Compatibility	LONGER Laser B1 Series, RAY5 Series (5-pin)
Item Weight	1.32 pounds
Package Dimensions	8.27 x 4.69 x 4.69 inches

8. WARRANTY AND SUPPORT

LONGER is committed to providing quality products and excellent customer service. For any inquiries or technical assistance, please reach out to our support team.

8.1 Customer Support

Our technical service team is available to assist you. You can reach us through multiple channels:

- Email support
- Live chat
- Phone support
- Facebook group for community assistance

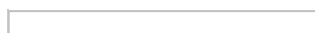


Image: Visual representation of various customer support channels available, including email, live chat, phone, and social media.

8.2 Quality Assurance

The LONGER Ruby Laser Module undergoes rigorous testing to ensure superior quality and precision. This includes custom test equipment, performance tests, extreme restart tests, and wire movement tests.



Image: An engineer performing quality control checks on a laser module, highlighting the rigorous testing procedures.