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Longer RAY5

Longer RAY5 10W Laser Engraver User Manual

This manual provides detailed instructions for the safe and effective use of your Longer RAY5 10W Laser Engraver.

INTRODUCTION

The Longer RAY5 10W Laser Engraver is a high-precision cutting and engraving machine designed for various DIY marking projects on materials like wood and metal. It features advanced dual-beam technology, a 3.5-inch touch screen, and multiple connectivity options for enhanced user experience.

SAFETY INFORMATION

Operating a laser engraver requires adherence to strict safety protocols to prevent injury and damage. Please read and understand all safety warnings before operating the device.

- **Eye Protection:** Always wear the provided protective glasses when the laser is active. The laser engraving machine includes a protective cover to minimize eye irritation.
- **Movement Protection:** The RAY5 laser engraver has a built-in abnormal shaking and suspension program that automatically stops the machine if it detects unexpected movement, ensuring operational safety.
- **Thermal Protection:** The machine is designed to shut down automatically if it detects overheating.
- **Ventilation:** Ensure adequate ventilation in your workspace to dissipate fumes and smoke produced during engraving and cutting.
- **Flammable Materials:** Avoid placing flammable materials near the laser engraver during operation. The machine includes flame protection and an alarm system.
- **Supervision:** Never leave the laser engraver unattended while it is in operation.

PACKAGE CONTENTS

Upon unboxing your Longer RAY5 10W Laser Engraver, verify that all components are present and undamaged. The following image displays the typical contents of the package.



Figure 1: Unboxed components of the Longer RAY5 10W Laser Engraver, showing the main frame parts, laser module, control box, power supply, cables, and accessories.

While a detailed list of every screw and washer is not provided, the package typically includes:

- Laser Engraver Frame Components
- 10W Laser Module
- Control Box with 3.5-inch Touch Screen
- Power Adapter and Cable
- USB Cable
- Protective Glasses
- TF Card (for offline operations)
- Assembly Tools and Fasteners
- Sample Materials for Testing

SETUP

Assembly Instructions

The Longer RAY5 10W Laser Engraver is designed for straightforward assembly. Follow the instructions provided in the manual and refer to the assembly video for visual guidance.

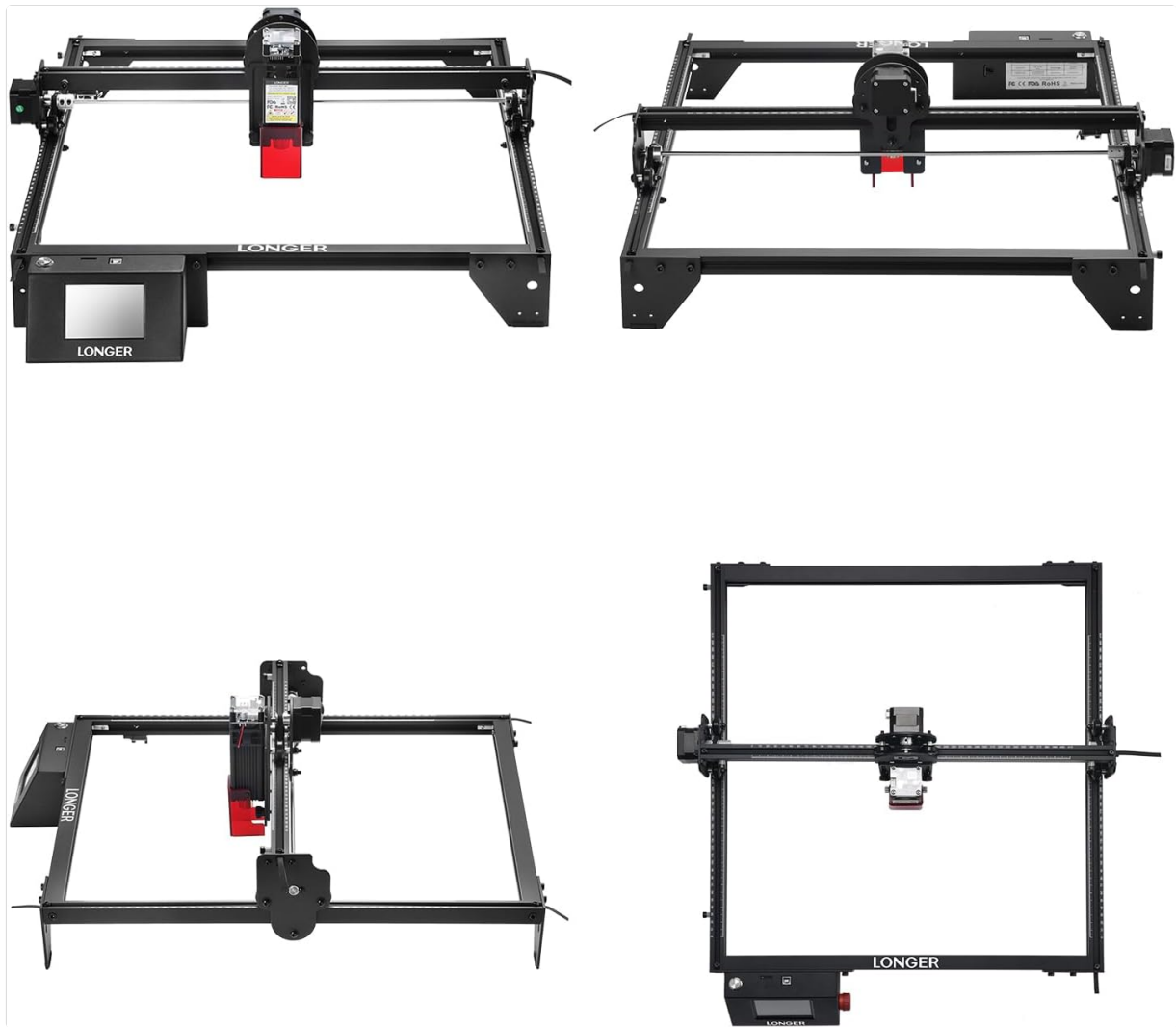


Figure 2: Visual guide for assembling the main frame of the laser engraver.

For a detailed visual walkthrough of the assembly process, please watch the following video:

Your browser does not support the video tag.

Video 1: This video demonstrates the installation of upgraded limit switches for the RAY5 5W and 10W models. While primarily for upgrades, it shows parts of the assembly process relevant to initial setup.

Initial Power-On and Connectivity

The RAY5 features a 3.5-inch color touch screen for intuitive control and supports multiple data transfer methods.



3.5" color touch screen

Figure 3: The 3.5-inch color touch screen provides direct control over engraving operations.

Connectivity options include Wi-Fi, USB cable, and TF card for offline operations. An accompanying mobile application (APP) allows for remote control.

Multiple Ways for Data Transfer

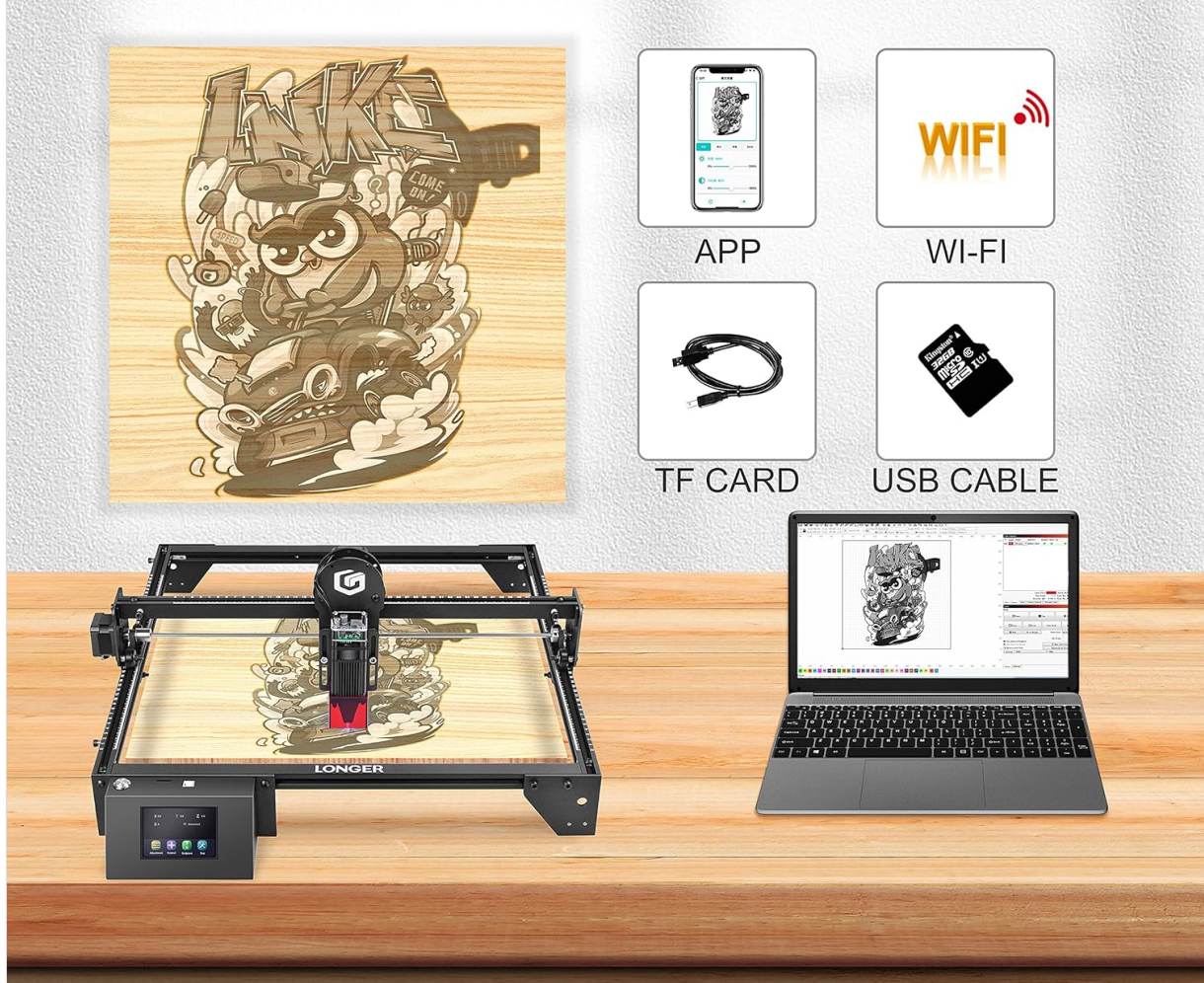


Figure 4: Data transfer options for the Longer RAY5, including wireless and wired connections.

For an overview of the touchscreen functionality and connectivity, refer to the following video:

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Video 2: This video highlights the 3.5-inch touchscreen interface and its various control options for the Longer RAY5 laser engraver.

OPERATING THE ENGRAVER

Basic Engraving and Cutting Operations

The Longer RAY5 10W Laser Engraver utilizes dual-beam technology for high-powered performance, capable of cutting 20mm wood and 30mm acrylic. Its ultra-fine 0.06*0.06mm laser spot ensures intricate details and clear textures.

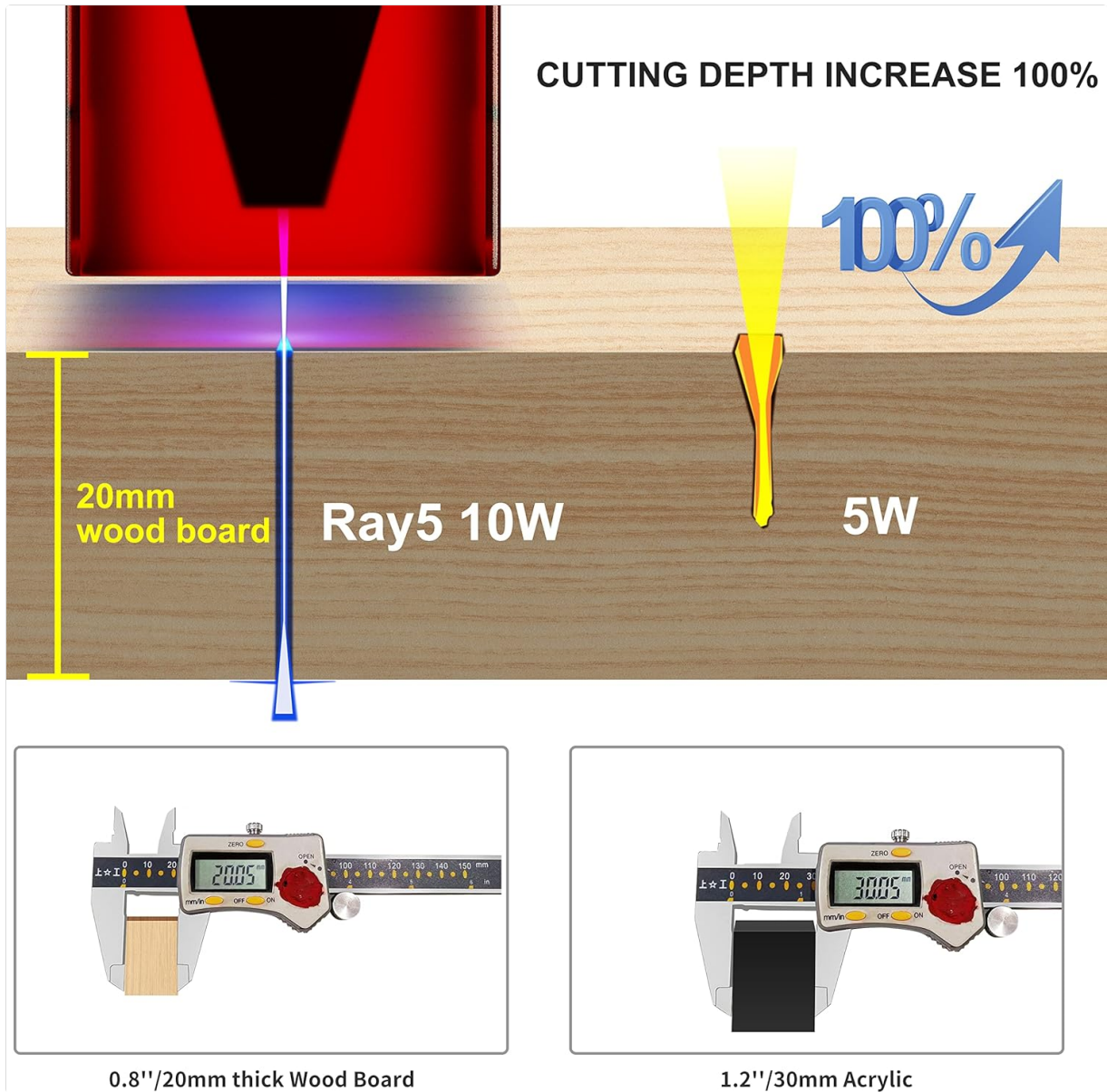


Figure 5: Demonstrates the cutting capabilities of the RAY5 10W model on wood and acrylic.

10000mm/min Engraving Speed

Much faster speed increases engraving efficiency over **100%**

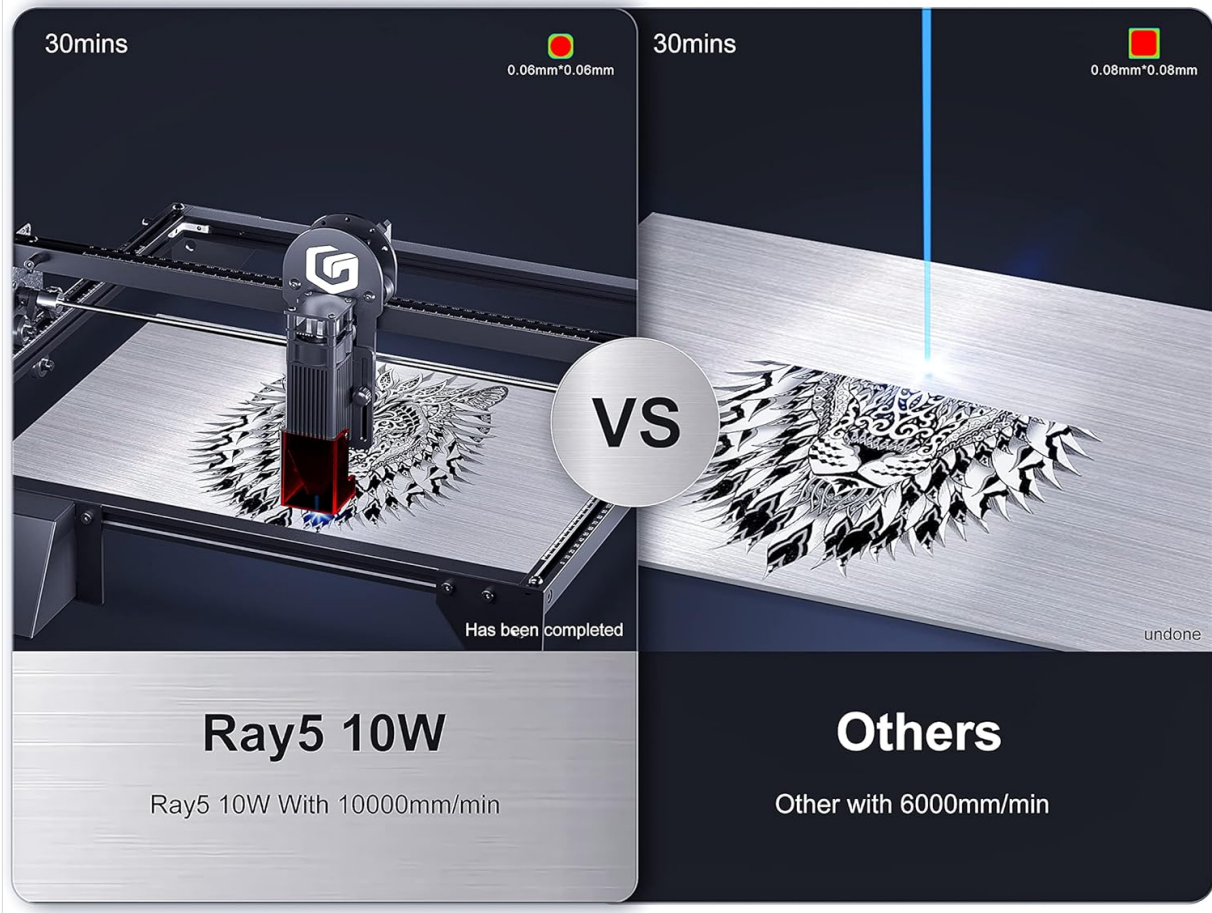


Figure 6: Illustrates the high engraving speed and fine precision of the RAY5 10W.

The machine supports multiple machines control, allowing for efficient workflow in larger projects or production environments.

Multiple Machines Control

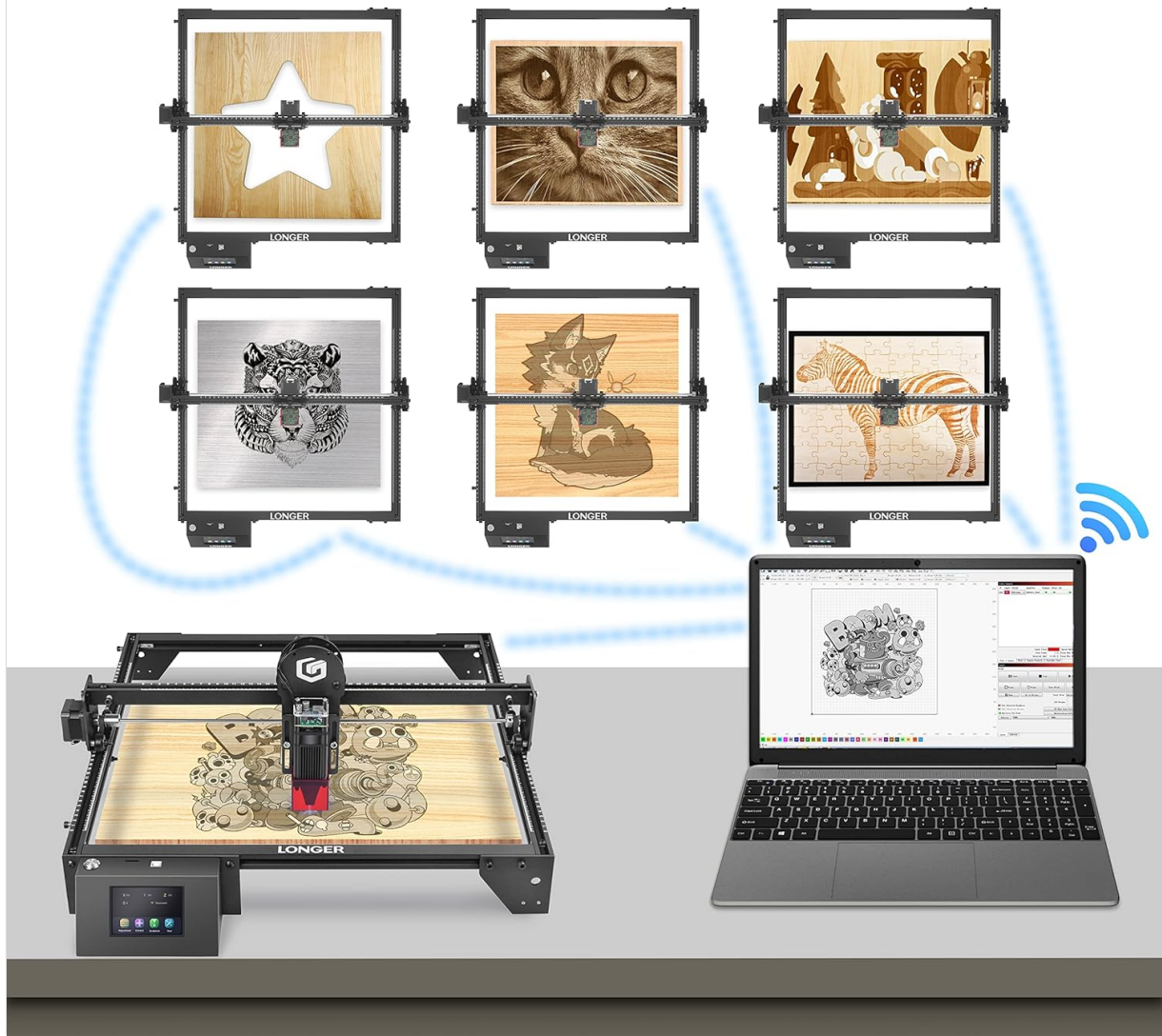


Figure 7: The capability to control multiple RAY5 units from a single interface.

For a general demonstration of the engraving capabilities and various applications, please see the following video:

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Video 3: This video showcases the Longer RAY5 10W laser engraver in action, demonstrating its ability to engrave and cut various materials and create different projects.

Software Compatibility

The Longer RAY5 is compatible with popular carving software such as GRBL (free) and LightBurn (paid). It supports various file formats including JPG, PNG, BMP, and more, and works with Windows 7+, macOS, and Linux systems.

For a novice tutorial on using the laser engraver with compatible software, refer to the video below:

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Video 4: A tutorial video for beginners on how to use the RAY5 5W/10W laser engraver with software, covering basic engraving steps.

Offline Carving

The device supports offline carving via TF card, allowing you to execute engraving tasks without a

continuous connection to a computer.

MAINTENANCE

Laser Lens Cleaning and Replacement

Regular cleaning and occasional replacement of the laser lens are crucial for maintaining optimal performance and longevity of your Longer RAY5. Use dustless cloths and alcohol for cleaning.

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Video 5: This video provides instructions on how to clean and replace the laser lens of the Longer RAY5 10W, including disassembly and reassembly steps.

Steps for Cleaning and Replacement:

1. Prepare disassembly tools, dustless cloth, and alcohol.
2. Carefully remove the protective hood and screws from the laser module.
3. Add alcohol to a dustless cloth.
4. Gently wipe the laser head lens to remove any debris or residue.
5. If replacement is needed, unscrew the laser lens gently to remove it and install a new one.
6. Reassemble the parts, ensuring all screws are tightened securely.
7. Clean the protective hood before reattaching it.

TROUBLESHOOTING

This section addresses common issues you might encounter with your Longer RAY5 10W Laser Engraver.

- **Connection Issues:** If the device frequently loses connection, ensure your Wi-Fi network is stable and the device is within range. Try connecting via USB cable as an alternative.
- **Movement Protection Triggered:** If the machine stops unexpectedly during operation and displays a "Movement protection triggered" error, it indicates abnormal movement. Restart the machine after ensuring it is on a stable surface.
- **Overheating:** If the machine shuts down due to thermal protection, allow it to cool down in a well-ventilated area before resuming operation.
- **Poor Engraving/Cutting Quality:** Check the laser lens for cleanliness (refer to Maintenance section). Ensure correct focus, power, and speed settings in your software for the material being used.
- **Incomplete Assembly:** If experiencing issues immediately after assembly, double-check all connections and ensure all screws are properly tightened as per the manual.


SPECIFICATIONS

Feature	Detail
Model Number	RAY5
Laser Power	10W (Optical Output)
Laser Spot Size	0.06*0.06mm

Engraving Speed	Up to 10,000mm/min
Working Area	15.7"x15.7" (400x400mm)
Control Board	32-bit ESP32 Chipset
Connectivity	Wi-Fi, USB Cable, TF Card, APP
Touch Screen	3.5-inch Color Touch Screen
Product Dimensions	22 x 20 x 3.14 inches
Item Weight	10.08 pounds
Manufacturer	LONGER

WARRANTY AND SUPPORT

Longer is committed to providing exceptional after-sales service to ensure a worry-free experience. A professional team is available to resolve any issues promptly.



Strong After - Sales Support

We have several warehouses in United States & Europe and our customer service team is professionally trained to provide you with timely and effective help for any product issues.


 **Technical Support: (+1) 888-575-9099**
 Mon-Fri: 9:00am-6:00pm (EST,UTC-5)
 Sun-Thu: 8:30pm-7:00am (EST,UTC-5)

Figure 8: Longer's commitment to strong after-sales support.

Technical Support:

- Phone: (+1) 888-575-9099
- Hours: Mon-Fri: 9:00am-6:00pm (EST, UTC-5)
- Hours: Sun-Thu: 8:30pm-7:00am (EST, UTC-5)

Your satisfaction is a top priority for Longer.