



Manuals.plus /

› Longer /

› Longer Laser B1 40W Laser Engraver Cutter User Manual

## Longer Laser B1

# Longer Laser B1 40W Laser Engraver Cutter User Manual

Model: Laser B1

## 1. INTRODUCTION

This user manual provides comprehensive instructions for the safe and efficient operation of your Longer Laser B1 40W Laser Engraver Cutter. The Laser B1 is a high-performance diode laser machine designed for precision engraving and cutting across a wide range of materials, including wood, metal, paper, acrylic, glass, and leather. Please read this manual thoroughly before operating the device to ensure optimal performance and safety.



Figure 1: Longer Laser B1 40W Laser Engraver Cutter with example projects. This image illustrates the machine's design and the diverse applications possible, from engraving on wood and metal to cutting acrylic and leather.

## 2. SAFETY INFORMATION

Your safety is paramount when operating the Laser B1. This device is equipped with eight major safety features to protect users during operation. Always adhere to the following guidelines:

- **Move Protection:** The machine will stop operation if unexpected movement is detected.
- **Flame Detection:** An integrated sensor detects flames and automatically halts operation to prevent fire hazards.
- **Offline Protection:** Operation ceases if the connection to the control software is lost.
- **Motionless Protection:** If the laser head remains stationary for an extended period while active, the machine will pause.
- **Security Lock:** Prevents unauthorized use and ensures the machine is only operated under controlled conditions.
- **Eye Protection:** Always wear the provided safety glasses or equivalent eye protection to shield against laser radiation.

- **Emergency Stop Button:** A prominent red button allows for immediate shutdown of the machine in case of an emergency.
- **Zero Reset:** Ensures the machine returns to a safe home position after operation or an interruption.

Ensure proper ventilation in your workspace to dissipate fumes and smoke generated during engraving and cutting processes.



Figure 2: Overview of the eight safety features including the Emergency Stop Button, Bidirectional Limit Switch, Security Lock, and Flame Detector. These features are designed to enhance user safety during operation.

### 3. SETUP GUIDE

The Longer Laser B1 is designed for straightforward assembly. Refer to the included user guide PDF for detailed step-by-step assembly instructions. Once assembled, connect the machine to a power source and prepare for operation.

### 3.1. Connection Options

The Laser B1 offers multiple connectivity options for flexible control:

- **Wi-Fi:** For wireless control and file transfer.
- **USB:** Direct connection to a computer for stable data transfer.
- **TF Card:** Allows for offline operation by loading project files directly onto the machine.
- **Mobile App:** Control the machine via a dedicated mobile application.

### 3.2. Software Installation

The Laser B1 is compatible with popular laser control software such as LightBurn and LaserGRBL. These software platforms support various operating systems including Windows 7+, macOS, and Linux. Supported file formats include JPG, PNG, BMP, G-code, GIF, SVG, NC, GC, and more. Install the software on your computer and ensure the necessary drivers are recognized.

## 4. OPERATING INSTRUCTIONS

The Laser B1 is capable of both engraving and cutting a wide array of materials with high precision and speed.

### 4.1. Powerful Laser Output

The Longer Laser B1 features an impressive output power of up to 48W, enabling it to cut through thick materials efficiently. It can cut 40mm basswood and 50mm acrylic, making it suitable for demanding projects.

# The World's First 48W Most Powerful Diode Laser



Figure 3: The 48W laser module's capability to cut through 40mm basswood, 50mm acrylic, and engrave 0.15mm stainless steel, highlighting its powerful performance.

## 4.2. High-Speed Performance

With a cutting speed of up to 36,000 millimeters per minute, the Laser B1 significantly reduces project completion times. Its large working area of 450 x 440 millimeters provides ample space for larger material sheets and diverse project sizes.

# Highest Working Efficiency

workload in same time

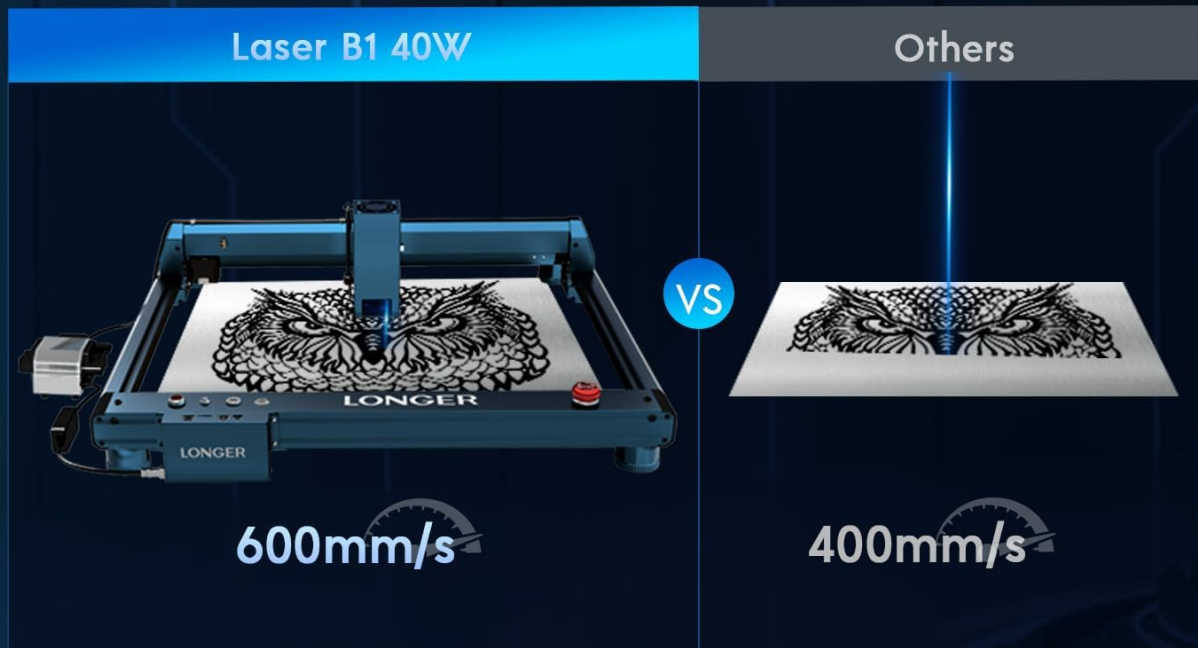


Figure 4: A visual comparison demonstrating the Laser B1 40W's superior working efficiency at 600mm/s compared to other machines at 400mm/s, indicating faster project completion.

### 4.3. Colorful Engraving

The B1 laser engraving machine can directly engrave colorful patterns on mirrored stainless steel, allowing for more artistic and realistic artwork.

# Bringing Brighter Colors to the Engraved Metal

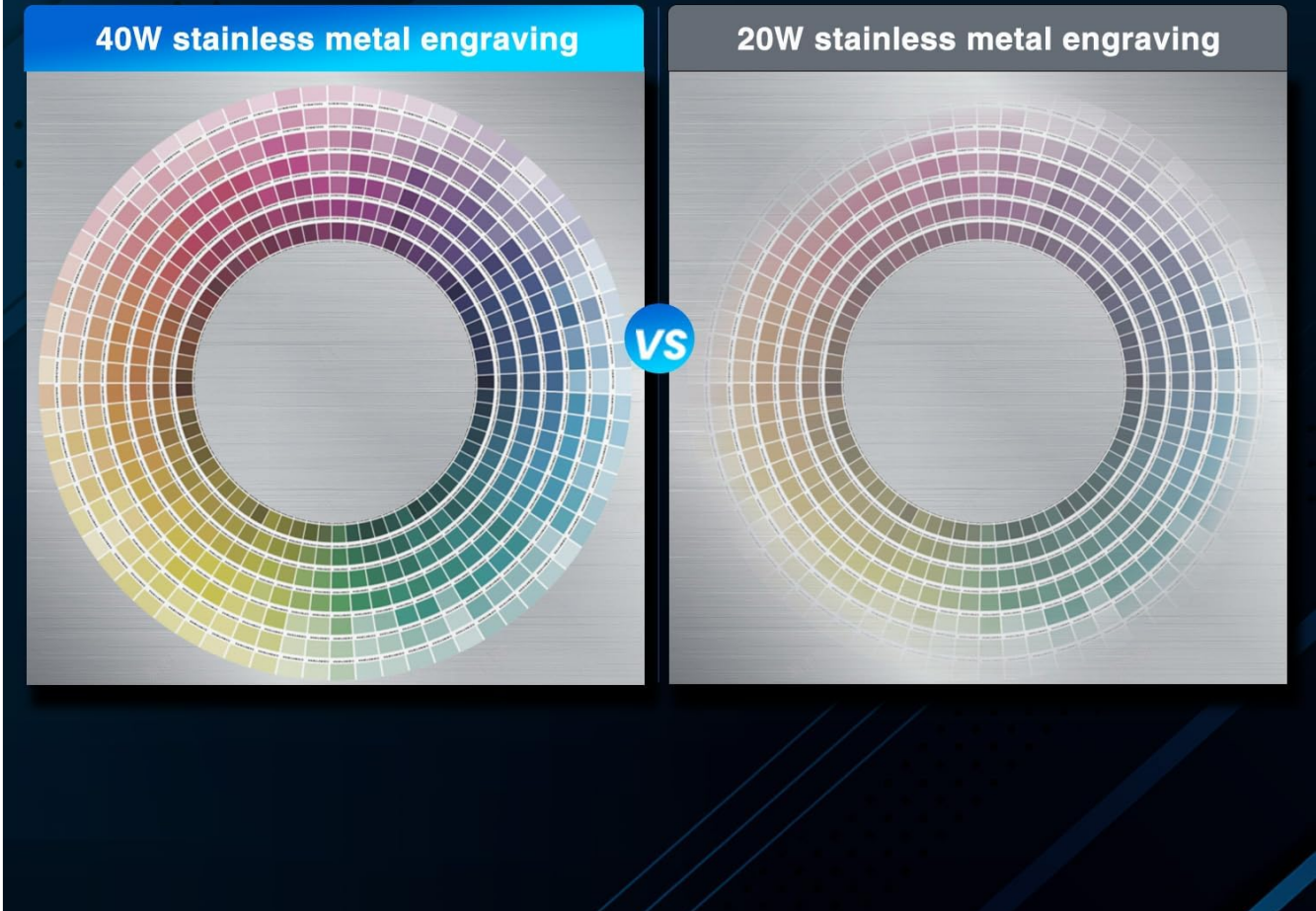


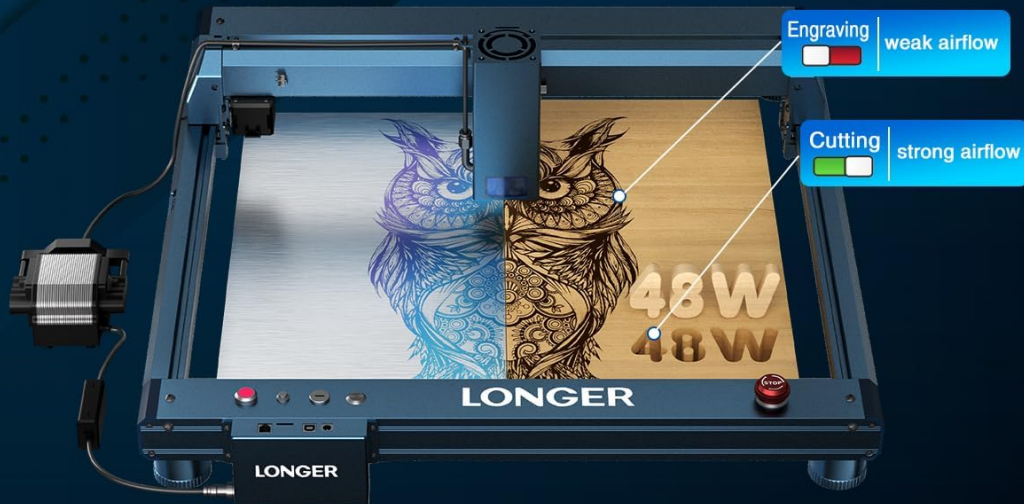
Figure 5: A color palette comparison illustrating the richer and brighter colors achievable with 40W stainless metal engraving compared to 20W, showcasing the machine's capability for vibrant results.

## 4.4. Auto Air Assist Kit

The integrated air-assist pump, controllable via LightBurn software, significantly enhances cutting precision and quality. It provides strong airflow for clean cuts and weak airflow for engraving, preventing burnt edges and yellowing.

# Auto Air Assist Kit

The Air assist system can be switched on automatically by Lightburn



**With Air Assist**

Clean surface & Smooth Edge  
cutting Cut Faster & Deeper



**No Air Assist**

Burnt and Yellowed Surface  
Rough Undone Cut

Figure 6: Illustration of the Auto Air Assist Kit, demonstrating how it provides clean surfaces and smooth edges for cutting, and prevents burnt or yellowed surfaces that can result from cutting without air assist.

## 4.5. Creative Applications

The Longer Laser B1 is versatile for various creative projects, from personal hobbies to small business ventures. It can be used for family projects, creating gifts, and producing items for small businesses.



The Laser B1 40W is equipped with an efficient heat dissipation system to prevent overheating during prolonged, high-intensity operations. Ensure the cooling vents are clear of obstructions and regularly clean any dust accumulation.

## 6. TROUBLESHOOTING

If you encounter issues with your Laser B1, consider the following common troubleshooting steps:

- **Machine Stops Randomly:** Check all cable connections for secure fit. Ensure your control software (LightBurn/LaserGRBL) is up to date. Consider checking for firmware updates for the Laser B1, as this has resolved similar issues for some users.
- **Laser Not Engraving/Cutting Properly:** Verify laser focus. Ensure the material settings in your software match the material being used. Clean the laser lens. Check the air assist system for proper function.
- **Axis Movement Issues:** Inspect stepper motor connections and ensure no physical obstructions are present on the rails.
- **Software Connectivity Problems:** Restart both the machine and your computer. Reinstall drivers if necessary. Try a different USB port or Wi-Fi connection.

For persistent issues, refer to the support section for contact information.

## 7. SPECIFICATIONS

Feature	Detail
Manufacturer	LONGER
Model Number	Laser B1
Output Power	Up to 48W
Working Speed	Up to 36,000 mm/min
Working Area	450 x 440 mm (17.72 x 17.32 inch)
Product Dimensions	29.33 x 5.31 x 22.44 inches
Item Weight	21 pounds
Wattage	200 watts
Material	40W Basic
Color	Blue
Finish	Metallic

## 8. WARRANTY INFORMATION

The Longer Laser B1 40W Laser Engraver Cutter comes with a **2-Year Manufacturer Warranty**. Please retain your proof of purchase for any warranty claims. For detailed terms and conditions, refer to the official Longer website or contact customer support.

## 9. SUPPORT

For any technical assistance, inquiries, or support needs, Longer provides comprehensive customer service through multiple channels:

- **Technical Support Hotline:** (+1) 888-575-9099  
*Operating Hours:* Monday-Friday: 9:00 AM - 6:00 PM (EST, UTC-5)  
Sunday-Thursday: 8:30 PM - 7:00 AM (EST, UTC-5)
- **Email Support:** Available for detailed inquiries.
- **Live Chat:** For immediate assistance on the official website.
- **Facebook Group:** Join the community for peer support and official announcements.

Longer maintains warehouses in the United States and Europe to ensure efficient service and support.



## 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: An image representing the strong after-sales support provided by Longer, including technical support contact details and various communication channels.*