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› ACMER S1 Portable Laser Engraver User Manual

ACMER S1-Laser Engraver

ACMER S1 Portable Laser Engraver User Manual

Model: S1-Laser Engraver

1. INTRODUCTION

The ACMER S1 Portable Laser Engraver is a compact and versatile tool designed for engraving and cutting a wide range of materials. This manual provides essential information for safe operation, setup, maintenance, and troubleshooting to ensure optimal performance and longevity of your device.

2. SAFETY INFORMATION

Laser engraving machines utilize high-power lasers that can cause serious injury if not handled properly. Always adhere to the following safety guidelines:

- **Eye Protection:** Always wear the provided protective goggles when operating the laser engraver. The laser light can cause permanent eye damage.
- **Ventilation:** Operate the machine in a well-ventilated area to disperse fumes and smoke produced during engraving.
- **Flammable Materials:** Do not engrave or cut highly flammable materials without proper precautions. Keep a fire extinguisher nearby.
- **Supervision:** Never leave the machine unattended during operation.
- **Children and Pets:** Keep children and pets away from the operating area.
- **Power Off:** Always power off and unplug the machine before performing any maintenance or adjustments.

3. PACKAGE CONTENTS

Verify that all items listed below are included in your package:

- ACMER S1 Engraver Machine & Laser Module
- Tool Kit
- Protective Goggles

- User Manual
- Power Cord
- Plywood (1 piece)
- Cardboard (1 piece)
- Aluminum Business Card (2 pieces)

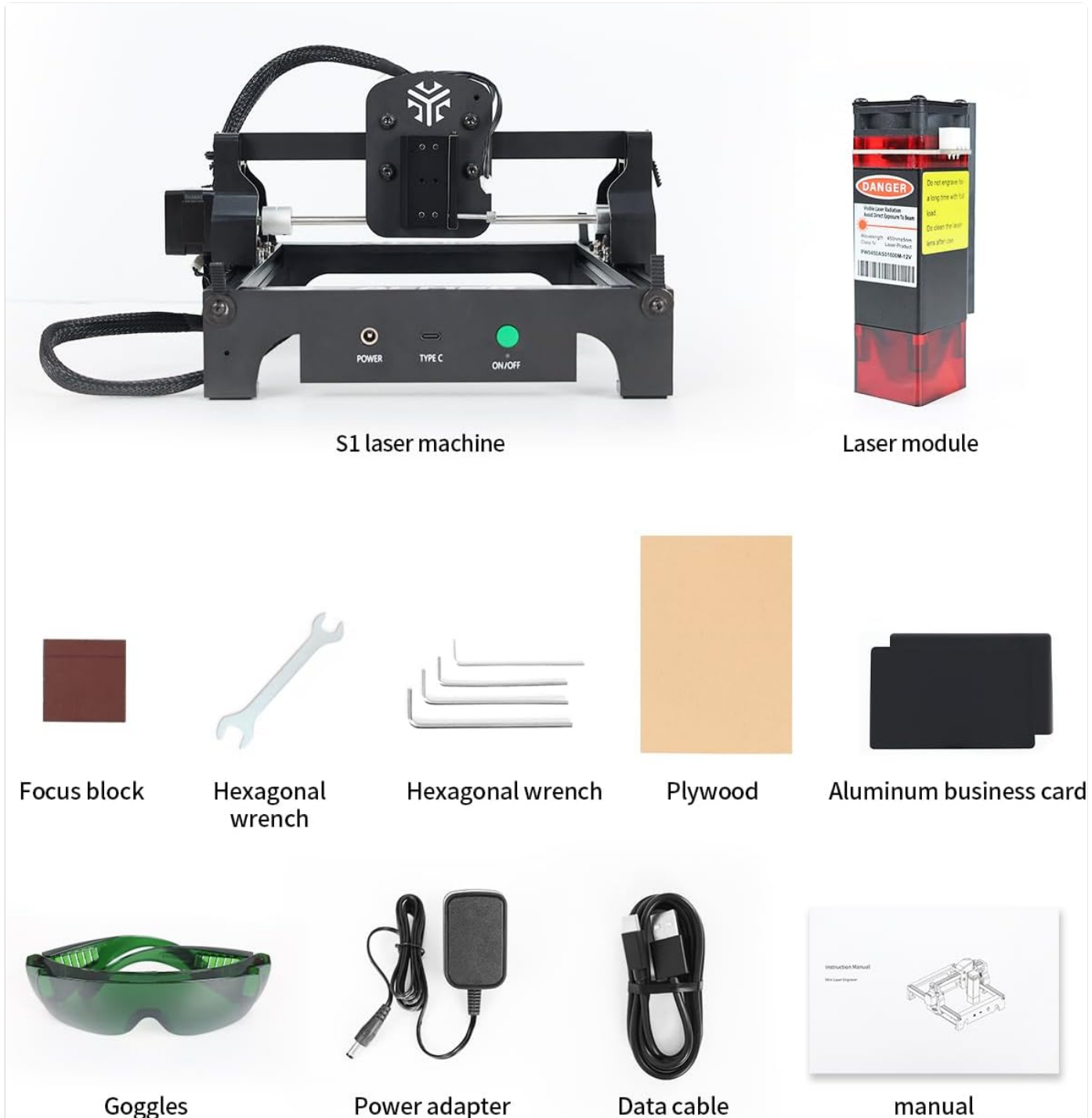


Figure 3.1: Included components in the ACMER S1 package.

4. SETUP GUIDE

The ACMER S1 is designed for quick setup, arriving largely pre-assembled. Follow these steps to prepare your engraver for first use:

1. **Unboxing:** Carefully remove all components from the packaging. The machine comes fully assembled, requiring minimal setup.

2. **Laser Module Installation:** Attach the laser module to the designated slot on the machine. Secure it firmly and connect the corresponding wire.
3. **Power Connection:** Connect the power adapter to the machine and plug it into a suitable power outlet.
4. **Software Installation:** The ACMER S1 is compatible with LightBurn (Windows/Mac OS/Linux) and LaserGRBL (Windows). Download and install your preferred software from the official websites. Refer to the software's documentation for detailed installation and usage instructions.
5. **Workspace Preparation:** Place the engraver on a stable, level surface. Ensure adequate ventilation and clear the area of any flammable materials.



Figure 4.1: The ACMER S1 is ready to use almost immediately after unboxing.



Figure 4.2: Software compatibility for the ACMER S1 laser engraver.

5. OPERATING INSTRUCTIONS

The ACMER S1 offers precise engraving and cutting capabilities. Familiarize yourself with its features for optimal results:

- **Material Compatibility:** The S1 can engrave over 100 different materials, including wood, metal, acrylic, leather, rock, glass, paper, and cardboard. It also offers cutting capabilities for various applications.
- **Working Area:** The machine provides a generous 130mm x 130mm (5.1 x 5.1 inch) engraving area, allowing for multiple small items to be processed simultaneously.

- **Precision:** Achieve finely detailed and lifelike engravings with an ultra-fine laser spot size of 0.04mm x 0.04mm.
- **Engraving Speed:** The S1 supports engraving speeds up to 10,000mm/min.
- **Positioning:** The integrated laser scale on the frame provides clear reference points along the X and Y axes for precise positioning of your workpieces. Limit switches on both axes ensure accurate origin return and convenient resetting.



Figure 5.1: The ACMER S1 laser engraver in action.



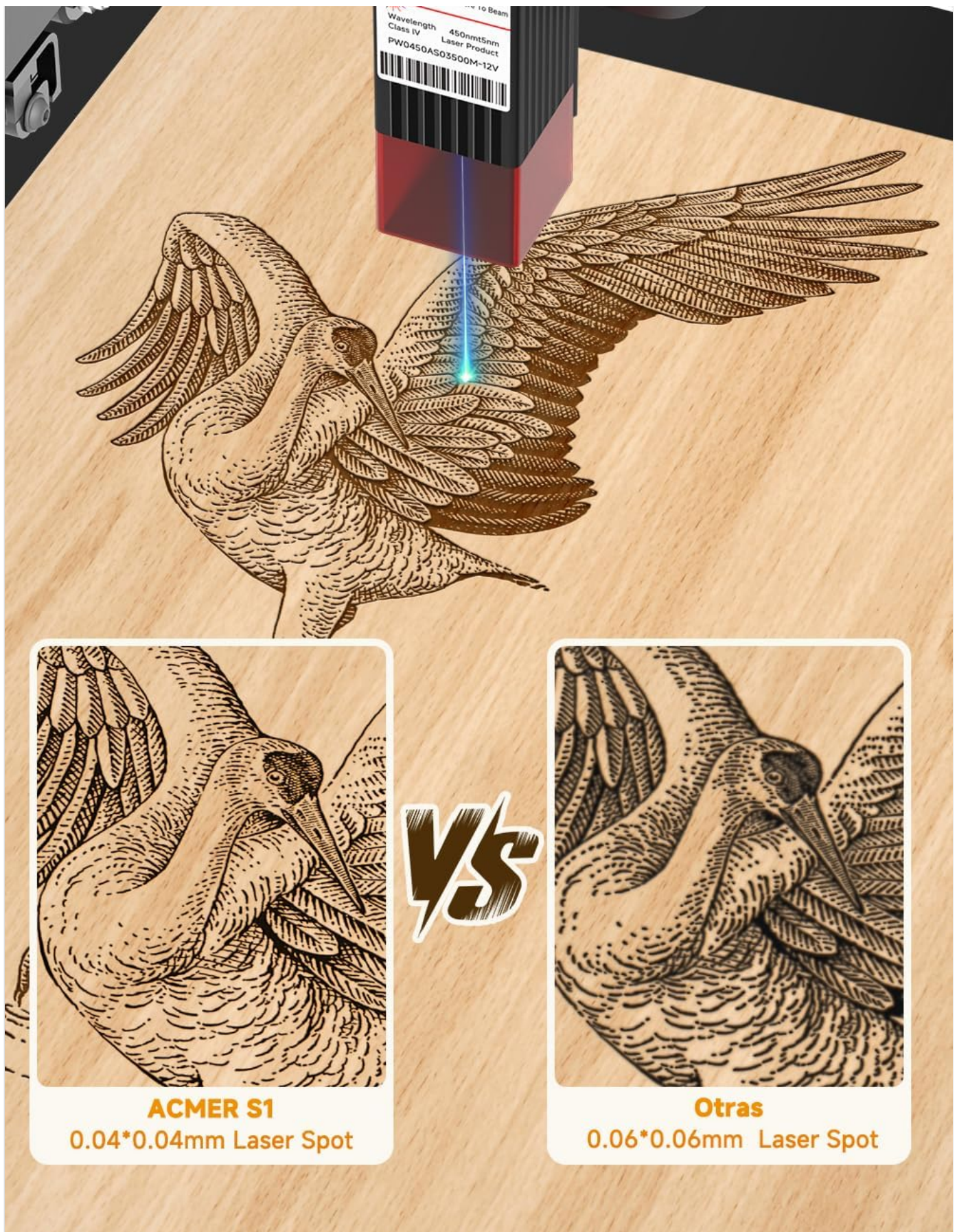


Figure 5.2: Detail comparison of engraving quality.

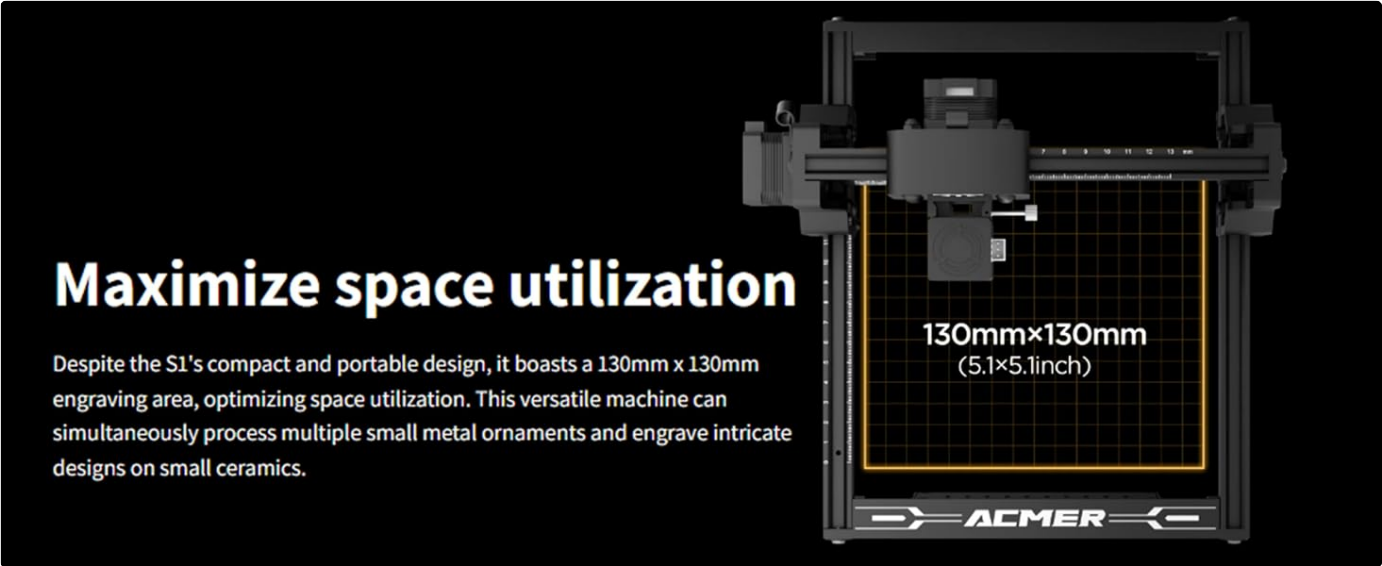


Figure 5.3: Maximized space utilization with 130x130mm working area.



Figure 5.4: Material compatibility and cutting capabilities.

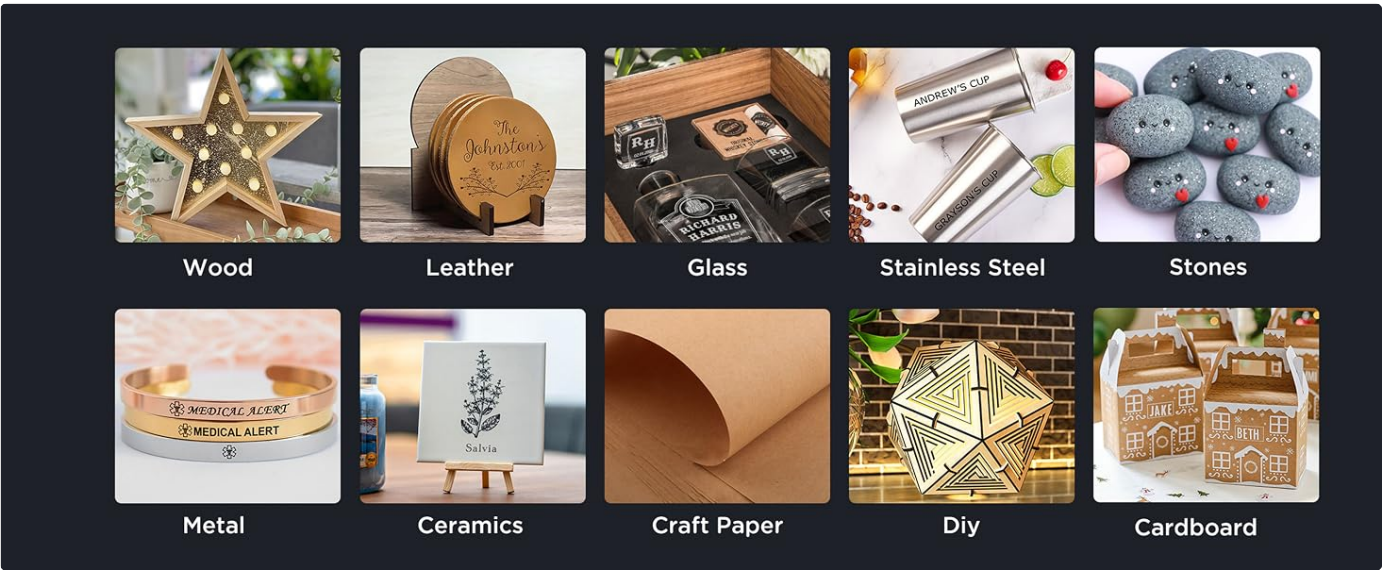


Figure 5.5: Examples of materials and projects possible with the ACMER S1.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your ACMER S1 laser engraver:

- **Cleaning:** Regularly clean the laser lens and the machine's rails to prevent dust and debris buildup, which can affect engraving quality and machine movement. Use a soft, lint-free cloth.
- **Lubrication:** Periodically apply a small amount of lubricant to the moving parts, such as the guide rails, to ensure smooth operation.
- **Storage:** When not in use, store the machine in a clean, dry environment away from direct sunlight and extreme temperatures.

7. TROUBLESHOOTING

If you encounter issues with your ACMER S1, refer to the following common troubleshooting tips:

- **No Laser Output:**
 - Check if the laser module is correctly installed and its cable is securely connected.
 - Ensure the power supply is connected and the machine is turned on.
 - Verify laser settings in your engraving software (e.g., LightBurn, LaserGRBL).
- **Engraving Quality Issues (Faint/Inconsistent):**
 - Check the focus of the laser. Adjust the laser module height as needed.
 - Clean the laser lens.
 - Adjust power and speed settings in your software according to the material being engraved.
- **Machine Not Moving/Responding:**
 - Ensure the USB cable is securely connected to both the machine and your computer.
 - Check if the correct COM port is selected in your engraving software.
 - Restart the machine and the software.

For more complex issues or persistent problems, please refer to the comprehensive user manual provided with your product or contact ACMER customer support.

8. SPECIFICATIONS

Feature	Detail
Brand	ACMER
Model Number	S1-Laser Engraver
Color	Black
Product Dimensions	10.24"L x 8.27"W
Style	Portable
Operation Mode	Automatic
Item Weight	4.05 pounds

Engraving Area	130mm x 130mm (5.1" x 5.1")
Laser Spot Size	0.04mm x 0.04mm
Engraving Speed	Up to 10,000mm/min
Software Compatibility	LightBurn, LaserGRBL

9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official ACMER website or contact the seller directly. Keep your purchase receipt as proof of purchase for any warranty claims. For additional resources and community support, consider visiting online forums or communities dedicated to laser engraving, where users often share tips, tricks, and project ideas.

