

SCULPFUN CJM-3705-014255-08E0B-1120

SCULPFUN S9 Laser Engraver User Manual

Model: CJM-3705-014255-08E0B-1120 | Brand: SCULPFUN

1. INTRODUCTION

Welcome to the SCULPFUN S9 Laser Engraver user manual. This document provides essential information for the safe and effective operation of your new laser engraving and cutting machine. The SCULPFUN S9 is designed for precision and versatility, capable of engraving and cutting various materials with its powerful 5.5W laser module.

Please read this manual thoroughly before operating the device to ensure proper setup, safe usage, and optimal performance.



The SCULPFUN S9 Laser Engraver, showcasing its design and examples of engraved and cut items.

2. SAFETY INFORMATION

WARNING: Laser radiation can cause eye damage and skin burns. Always follow safety precautions.

- **Eye Protection:** The SCULPFUN S9 features a laser filter cover that can filter 98% of ultraviolet light, allowing observation of engraving without safety glasses. However, it is highly recommended to wear additional certified laser safety glasses during operation to ensure maximum protection.
- **Emergency Stop:** The machine is equipped with a main switch for emergency power off. Familiarize yourself with its location and operation before use.
- **Fire Hazard:** Laser engraving and cutting can generate heat and sparks, posing a fire risk. Always operate the machine in a well-ventilated area, away from flammable materials. The A4-sized steel base can protect your table from laser damage and isolate fire risk.
- **Ventilation:** Ensure adequate ventilation to dissipate fumes and smoke produced during engraving and cutting.
- **Supervision:** Never leave the laser engraver unattended during operation.
- **Children and Pets:** Keep children and pets away from the operating area. The laser point can attract attention and cause harm.



Circle protective cover is better to observe from all angle
CIRCLE EYE PROTECTION

The laser module with its protective cover, designed to filter harmful light.

3. PRODUCT FEATURES

- **90W Effect Ultra-fine Laser Beam:** Utilizes the latest 5.5W laser diode technology with an ultra-fine 0.06mm sharp laser focus, providing high penetration depth and precision for both engraving and cutting.
- **Fast Focus Design:** Features the fastest focusing design. Simply slide the laser module and tighten the screws to achieve focus.
- **Robust Full-Metal Structure:** The all-metal frame design ensures extreme sturdiness and improves engraving accuracy.
- **Integrated Measuring Scales:** X and Y axes include precise scale lines for easy measurement of engraved objects.
- **Wide Compatibility:** Compatible with popular engraving software such as LaserGRBL, LightBurn, Benbox, GbrlController, and Litefire. Supports PWM mode engraving.
- **Operating System Support:** Works with Windows and Mac systems.
- **Supported File Formats:** JPG, PNG, DXF, SVG, G-Code, NC, BMP, etc.
- **Large Engraving Area:** Offers a generous working area of 410 x 420 mm to meet diverse engraving and

cutting requirements.



LASER BEAM SHAPING TECHNOLOGY

-  90° CO2 laser effect but cheaper
-  Cut 15mm wood
Cut 10mm acrylic
-  Ultra-thin 0.1mm engraving line
-  Easily engrave steel and ceramics

Illustration of the laser beam shaping technology for ultra-fine engraving.



Sortie 5W

Prise en charge de coupes plus épaisses

Le faisceau laser 5W à point comprimé a une puissance plus forte, une vitesse de gravure plus rapide, une capacité de coupe plus élevée et des effets plus fantastiques.



Découpe unique de bois de 5mm



Découpe unique d'acrylique de 3mm

Demonstration of the SCULPFUN S9's cutting power on wood and acrylic.



**WOOD
CARVING**



**LEATHER
CARVING**



**ACRYLIC
CARVING**



**STEEL
CARVING**



**WOOD
CUTTING**



**LEATHER
CUTTING**



**ACRYLIC
CUTTING**



**CLOTH
CARVING**

Various materials suitable for engraving and cutting with the SCULPFUN S9, including wood, leather, acrylic, steel, and cloth.

4. PACKAGE CONTENTS

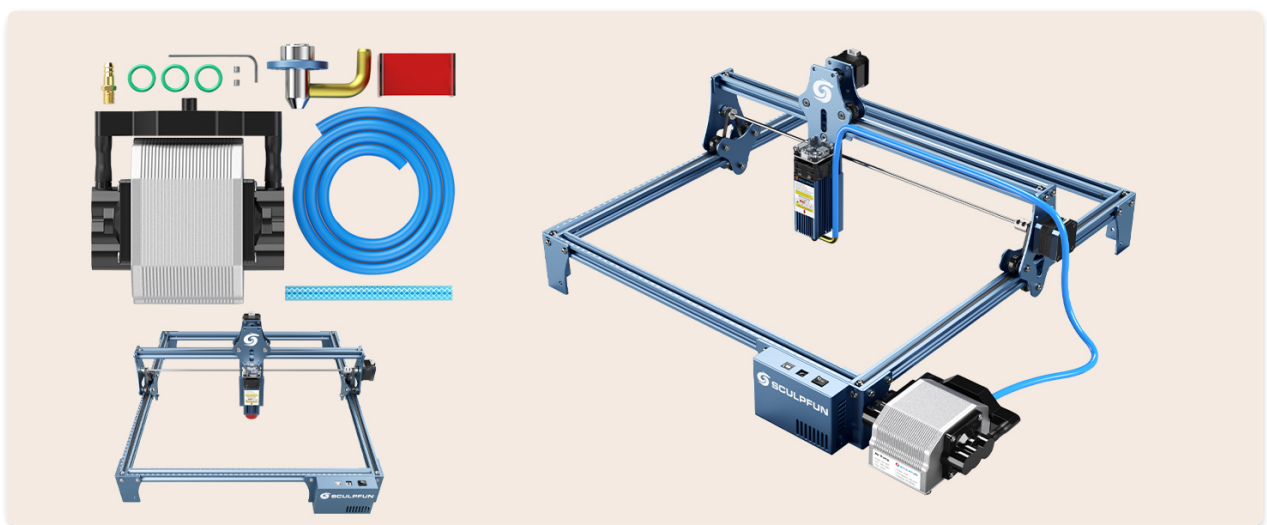
Upon unpacking, please verify that all components are present and undamaged. The standard package for the SCULPFUN S9 Laser Engraver typically includes:

- Laser Engraver Frame Components (X-axis, Y-axis, support legs)
- Laser Module
- Power Adapter and Cable
- USB Data Cable
- Safety Glasses (recommended for additional protection)
- A4 Steel Backing Plate
- Assembly Tools and Screws
- User Manual (this document)

5. SETUP

The SCULPFUN S9 is designed for quick and easy assembly, typically taking 10 to 20 minutes. Follow these general steps for setup:

1. **Unpack Components:** Carefully remove all parts from the packaging and lay them out on a clean, flat surface.
2. **Assemble the Frame:** Connect the X and Y axis components to form the rectangular frame. Ensure all connections are secure.
3. **Attach Support Legs:** Secure the four support legs to the corners of the frame.
4. **Install Laser Module:** Mount the laser module onto the X-axis carriage. Ensure it slides smoothly along the rail.
5. **Connect Cables:** Connect the power cable to the machine and a suitable power outlet. Connect the USB data cable from the machine to your computer.
6. **Place Steel Plate:** Position the A4 steel backing plate under the working area to protect your surface.



Visual guide for the fast assembly process of the SCULPFUN S9.

6. OPERATING INSTRUCTIONS

Operating the SCULPFUN S9 involves preparing your design, setting up the machine, and initiating the engraving or cutting process through compatible software.

6.1 Software Installation and Connection

The SCULPFUN S9 is compatible with various software. It is recommended to use LaserGRBL (free) or LightBurn (paid, highly recommended for advanced features). Download and install your preferred software on your Windows or Mac system.

Once installed, connect the engraver to your computer via the USB cable. The software should detect the device. Refer to the software's specific documentation for detailed connection and setup procedures.

BROAD COMPATIBILITY	
Windows WIN XP / WIN 7 / WIN 8 / WIN 10	
MAC	
LaserGRBL	
LightBurn	
JPG	SVG
PNG	DXF
TIF	BMP
PDF	NG
AI	...



The SCULPFUN S9 supports various software, including LaserGRBL and LightBurn, for broad compatibility.

6.2 Focusing the Laser

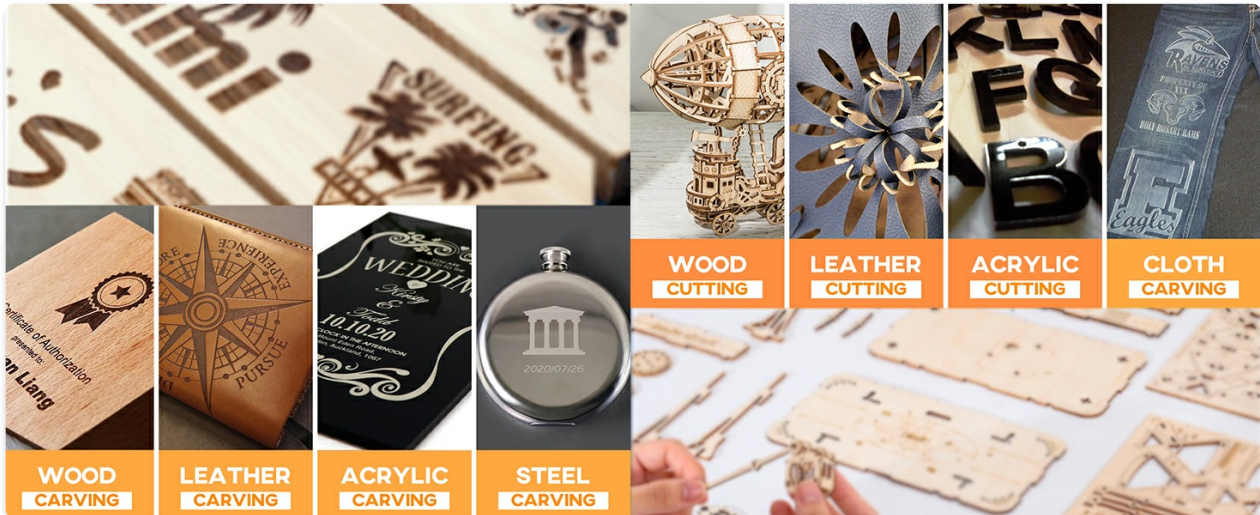
Accurate focusing is crucial for optimal engraving and cutting results. The SCULPFUN S9 features a quick-focus design:

1. Place the material you wish to engrave or cut on the working surface.
2. Loosen the screws on the laser module that allow it to slide vertically.
3. Lower the laser module until the focus point (usually a small red dot or crosshair) is sharp and clear on the surface of your material.
4. Tighten the screws to secure the laser module in place.

6.3 Preparing Your Design and Engraving

1. **Import Design:** Open your chosen software (e.g., LightBurn) and import your design file (JPG, PNG, DXF, SVG, G-Code, NC, BMP).
2. **Position Material:** Place your material on the engraver's bed. Use the precise scale lines on the X and Y axes to accurately position your material and measure its size.

3. **Set Parameters:** Adjust engraving/cutting parameters such as power, speed, and passes within the software based on your material and desired outcome. Refer to online resources or test cuts for recommended settings for different materials.
4. **Frame the Job:** Use the software's framing function to preview the laser's path and ensure your design fits within the material.
5. **Start Engraving/Cutting:** Once satisfied with the setup, initiate the process from the software. Monitor the machine closely during operation.



The large 410x420mm engraving area with integrated measuring rules for precise object placement.

7. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your SCULPFUN S9 Laser Engraver.

- **Clean Laser Lens:** Periodically clean the laser lens with a soft, lint-free cloth and a small amount of isopropyl alcohol. Ensure the machine is off and unplugged before cleaning.
- **Inspect and Tighten Screws:** Over time, vibrations can loosen screws. Regularly inspect all screws and connections on the frame and laser module, tightening them as needed.
- **Clean Rails and Belts:** Keep the X and Y axis rails and belts free from dust and debris to ensure smooth movement of the laser module.
- **Store Properly:** When not in use, store the engraver in a clean, dry environment, away from direct sunlight and extreme temperatures.

8. TROUBLESHOOTING

This section addresses common issues you might encounter with your SCULPFUN S9 Laser Engraver.

Problem	Possible Cause	Solution
Machine not powering on	Loose power connection, faulty power adapter, emergency stop engaged.	Check all power connections. Ensure the emergency stop switch is disengaged. Test power adapter if possible.

Problem	Possible Cause	Solution
Laser not firing or weak output	Incorrect focus, dirty lens, low power setting in software, laser module issue.	Re-focus the laser. Clean the laser lens. Increase power setting in software. Contact support if laser module is suspected faulty.
Engraving/cutting is inaccurate or distorted	Loose belts, loose screws on frame, material shifting, incorrect software settings.	Check and tighten belts and frame screws. Secure material firmly. Verify software settings (speed, acceleration).
Software not connecting to machine	Incorrect USB driver, wrong COM port selected, machine not powered on.	Install necessary USB drivers. Select the correct COM port in software. Ensure machine is powered on. Try a different USB port or cable.
Machine attempts to move beyond limits (no end stops)	Software settings not configured for working area, user error.	Carefully define your working area in the software. Always use the 'Frame' function to preview the job boundaries before starting. Manually position the laser head to a safe starting point.

9. SPECIFICATIONS

- **Product Dimensions (L x W x H):** 41 x 41 x 42 cm
- **Product Weight:** 4.67 kilograms
- **Model Reference:** CJM-3705-014255-08E0B-1120
- **Material Type:** Silicone Oxide (frame components)
- **Power Source:** Corded Electric
- **Voltage:** 12 Volts
- **Laser Output Power:** 5.5W (90W effect)
- **Engraving Area:** 410 x 420 mm
- **UPC:** 860013771195

10. WARRANTY AND SUPPORT

SCULPFUN products are designed for reliability and performance. While specific warranty details are not provided in this manual, SCULPFUN is known for responsive customer service. If you encounter any issues or require technical assistance, please contact SCULPFUN customer support through their official channels or the retailer where you purchased the product.

When contacting support, please have your model number (CJM-3705-014255-08E0B-1120) and a detailed description of the issue ready. Providing photos or videos can also assist in faster resolution.

