SCULPFUN C1

USER'S MANUAL
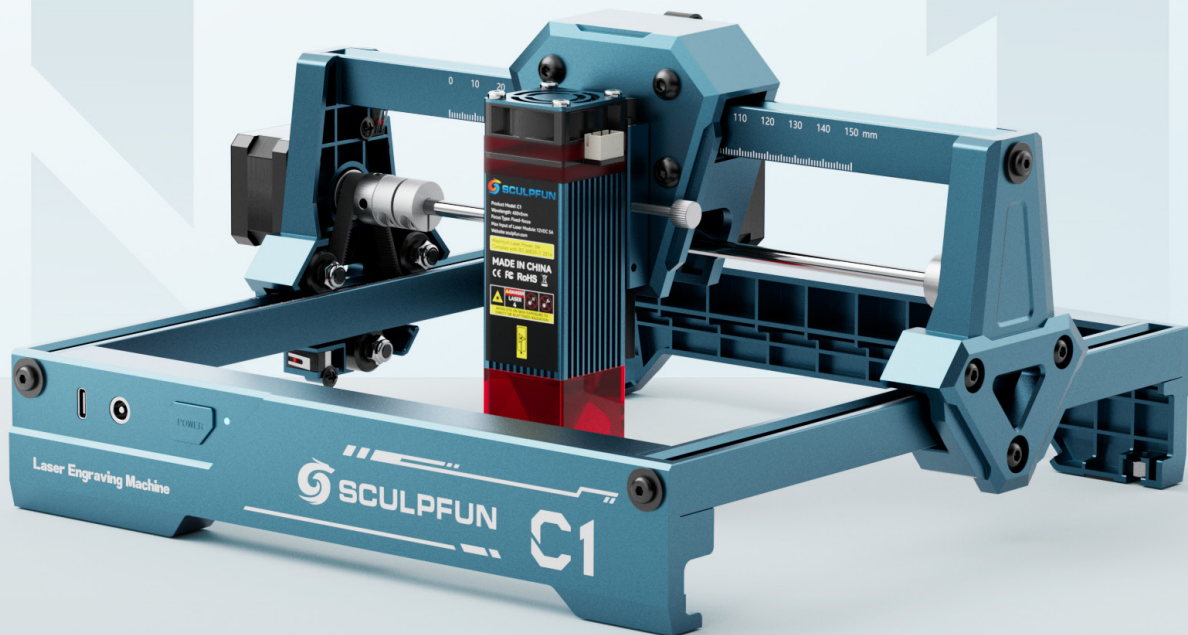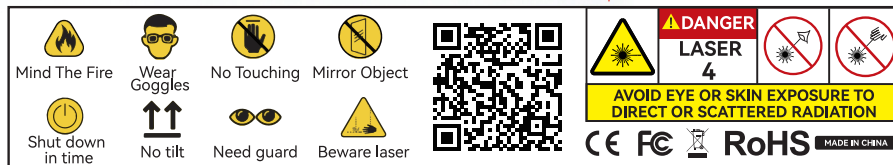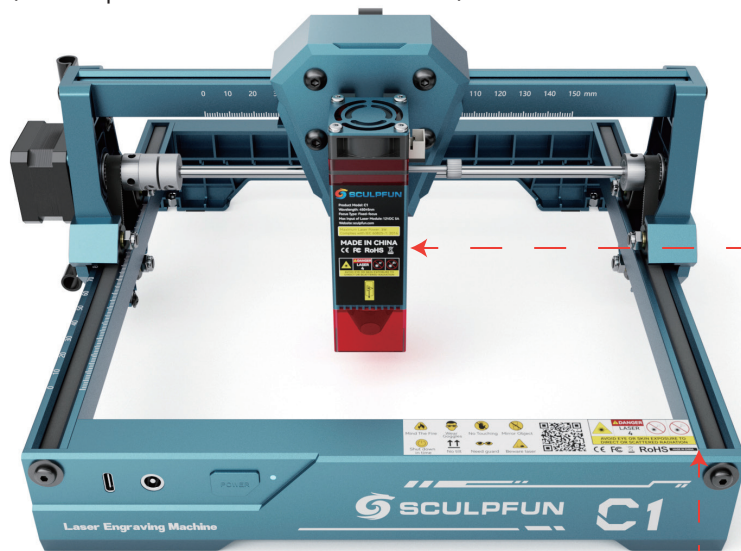
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For other languages, please scan the QR code for an electronic version
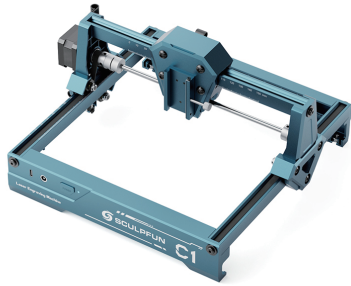
1. Safety Information (required)

1. Make sure the machine is placed on a stable platform during operation.

2. Because lasers can cause damage to your eyes, you should take protective measures before using the machine to process objects: wear goggles to protect your eyes from laser hazards.

3. When the machine is working, do not move the equipment or engraving materials to avoid affecting the engraving effect or causing danger. Do not leave when the machine is working.

4. Minors must operate this product under the supervision and assistance of an adult.

5. When the device is powered on, do not disassemble any parts of the device to avoid accidentally touching the power supply, and do not touch the electronic related areas with your hands or other tools.

6. If you encounter the following situations, please stop using the product and immediately turn off the power.

     • The user detected a burnt smell emanating from the machine.

     • The user observed an open flame being generated from the engraving material.

     • The user noticed that the internal components of this product have been damaged.

     • This product unexpectedly stopped working.

     • This product has abnormal noises or lights that have never appeared before.

7. Caution—use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure

8. Warning and Indication Label

The warning and indication labels are placed in areas where potential danger may arise before or during operation. If the label is damaged or missing, please replace it immediately. You can use the following template to copy and print the label you need.(Get the print file from the online manual)

SCULPFUN

Product Model: C1
Wavelength: 450±5nm
Focus Type: Fixed-focus
Max Input of Laser Module: 12V 2A
Website: sculpfun.com

Maximum Laser Power: 3W
Complies with IEC 60825-1: 2014

MADE IN CHINA
CE FC RoHS

⚠ DANGER
LASER
4
AVOID EYE OR SKIN EXPOSURE TO
DIRECT OR SCATTERED RADIATION

Mind The Fire   Wear Goggles   No Touching   Mirror Object
Shut down in time   No tilt   Need guard   Beware laser

⚠ DANGER
LASER
4
AVOID EYE OR SKIN EXPOSURE TO
DIRECT OR SCATTERED RADIATION
CE FC RoHS MADE IN CHINA

Laser Head

Metal Pad

C1 Body

Focusing Pad

User's Manual

The Power Adapter

Repair Tools

Data Line

Protective Glasses

Aluminum Nameplate

Kraft Board

Plywood

Cleaning Cloth

Machine Parameters

Name	Parameters
Model:	C1
Laser Power:	3W
Spot Size:	0.04*0.04mm
Machine Size:	290*250*140mm
Machine Weight:	1.05KG
Working Area:	150*130mm
Compatible Systems:	window/mac
Package Weight:	1.9KG
Package Size:	332*302*178mm

3. Introduction to the Machine Interfaces

1. Type-C Data Interface

2. Power Supply Interface

3. Switching Button

4. Status Indicator
Green light breathing-USB not connected
Green light is always on – ready status
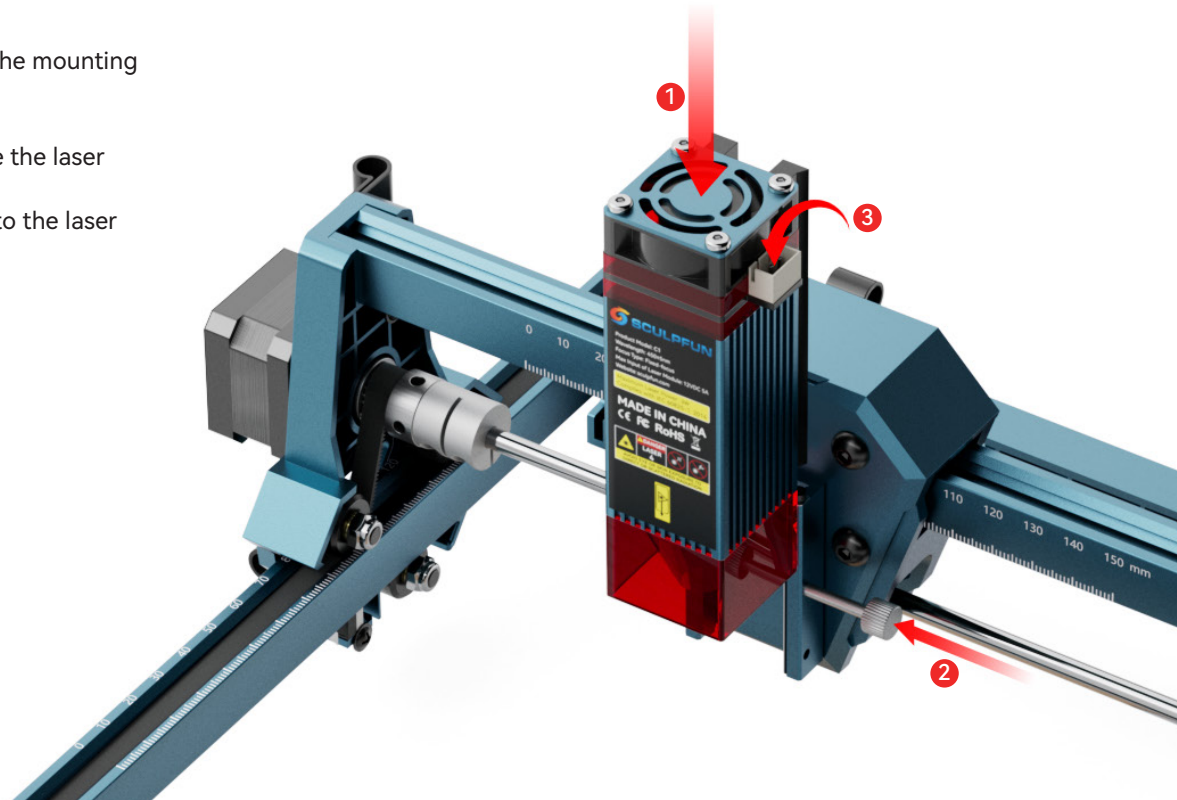Green light flashing – framing or firing status
Red light is always on – error status
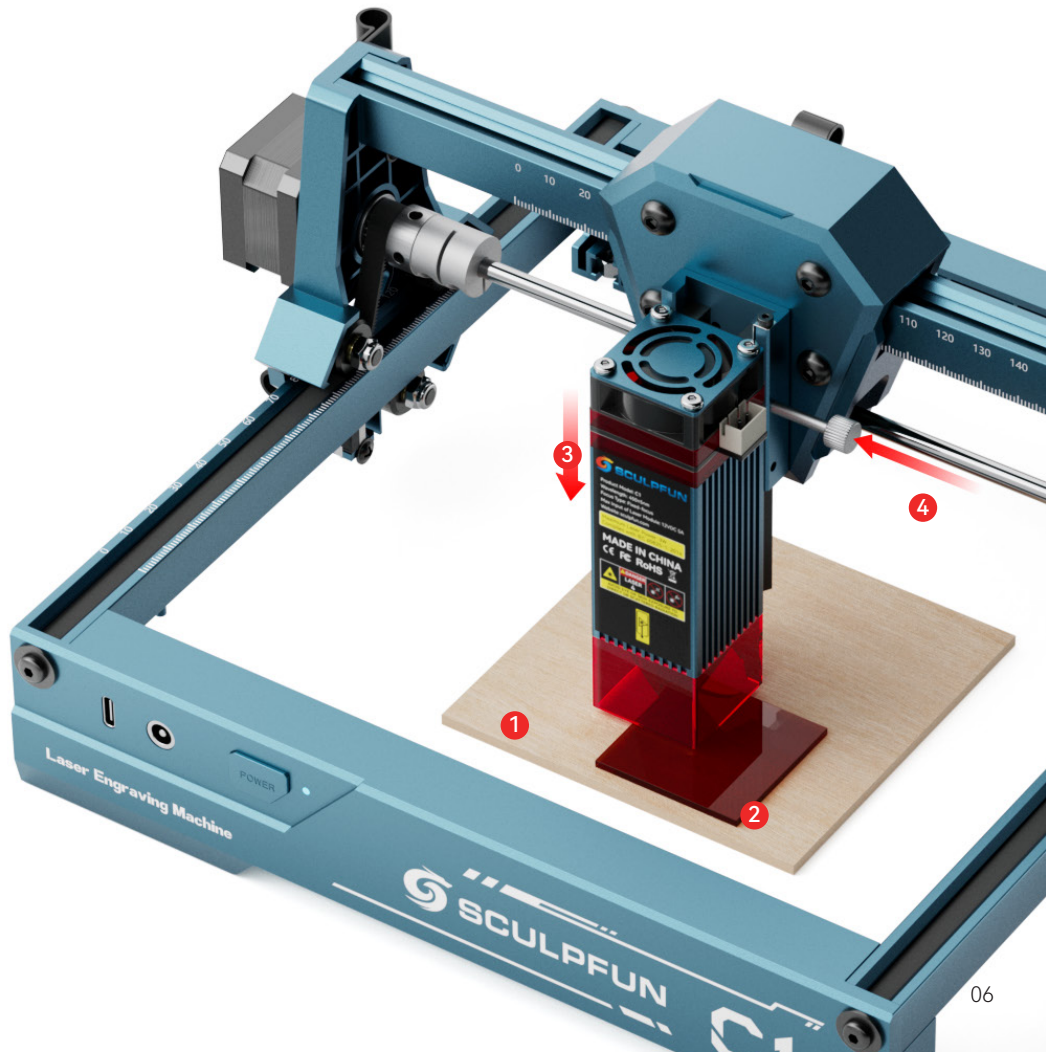Red light flashing – engraving status

1. Insert the laser head along the mounting slot

2. Tighten the screws to secure the laser

3. Connect the terminal cable to the laser

1. Place the engraving material

2. Place the acrylic focusing sheet

3. Loosen the hand screw and slide the laser downwards

4. Fix the laser and remove the focusing sheet

LightBurn Introduction

LightBurn is a powerful laser engraving and cutting software that supports a variety of laser devices. It provides an intuitive user interface that allows users to create, edit and process vector graphics. The main features of LightBurn include graphics import, path optimization, material cutting settings, and real-time preview functions, allowing users to easily design and control laser projects. In addition, the software also supports a variety of file formats and can seamlessly connect to the laser machine, suitable for all types of users from beginners to professionals. LightBurn is great, but it is not free. The good news is that you can get a 30-day free trial.

Supported file formats
Vector （svg，ai，dxf，pdf，sc，gc，gcode，nc etc...）
Bitmap （jpg，jpeg，png，gif，tif，bmp etc...）

Supported systems
Windows / MacOS / Linux

LightBurn download:
https://lightburnsoftware.com/pages/download-trial

LightBurn usage documentation:
https://docs.lightburnsoftware.com/index.html

LaserGRBL Introduction

LaserGRBL is an open source laser engraving software designed for GRBL-controlled laser engraving machines. It provides a simple and easy-to-use interface where users can create engraving tasks by dragging and dropping graphics. LaserGRBL supports a variety of graphic formats and allows users to adjust engraving parameters such as speed and power. Although the functions are relatively simple, it is suitable for beginners and small projects, and users can easily get started with its intuitive operation and quickly start laser engraving work.

Supported file formats
Gcode （nc, cnc, tap, gcode, ngc）
Bitmap （jpg, jpeg, png, gif, bmp）
Vector （svg）

Supported systems
Windows

Download Address: https://lasergrbl.com/download/

Scan the QR code to get quick access to downloads of Driver, Lightburn, LaserGRBL from the help manuals

Installation of Drivers   Download LightBurn   Download LaserGRBL

Note: WIN7 system needs to install the driver,
WIN10/11/mac OS can be used driver-free, no need to install additional drivers!

6. Recommended Engraving Parameters

3W Laser Power						
	material	engraved	power	speed (mm/min)	times /pass count	laser options	quality (lines/mm)
1	kraft paper	yes	80%	3000	1	M4	10
2	plywood	yes	90%	1500	1	M4	10
3	solid wood	yes	90%	1000	1	M4	10
4	bamboo	yes	90%	1000	1	M4	10
5	alluminum foil	yes	80%	1500	1	M4	10
6	cork	yes	90%	1000	1	M4	10
7	leather	yes	60%	1500	1	M4	10
8	silicagel	yes	80%	1000	1	M4	10
9	dark felt	yes	60%	1500	1	M4	10
10	tin plate	yes	80%	2500	1	M4	10

Note: The following parameters are tested in a laboratory environment and are for reference only.
There will be some variability in the material from batch to batch!

7. Notes on Use & Maintenance

Notes on Use

- Please place the steel plate in the package under the laser engraver to protect your desktop.

- Before engraving or cutting, please adjust the focus according to the instructions and do not work at full power (100% power) for a long time.

- After engraving a large area or cutting for a long period of time, clean the dust inside the red protective cover.

- After a long period of work, the laser lens can be removed. It is recommended to use a round tip cotton swab to directly rotate and wipe the lens to clean the dust on the laser lens, which is conducive to the recovery of laser power. (Dust on the lens will block the laser, affecting the laser power) It is recommended to clean the lens when you feel the laser is weakening, and you can use cleaning alcohol when wiping with a cotton swab for better results.

- When the laser module is operating, a green and blue light will flash on the top driver board.

- After the module has been used for a period of time, it begins to show power attenuation, which is a normal performance attenuation and is a normal situation. The module is a consumable part, please replace it regularly as needed.
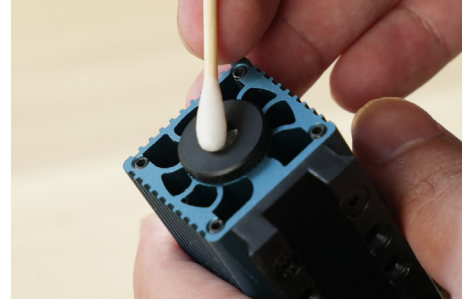
Maintenance

Cleaning Lenses: Long-term engraving will result in dirty lenses, which should be cleaned regularly to ensure laser intensity.

1. Remove the protective cover
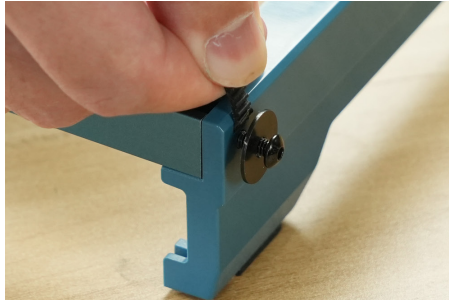

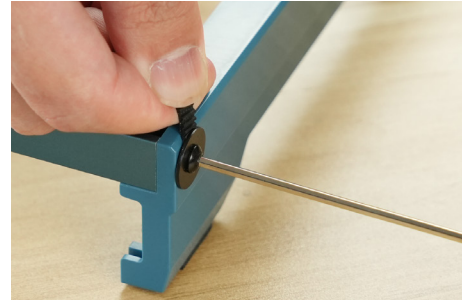2. Use cleaning alcohol and cotton swabs

3. Clean the lens

Belt Adjustment: Loose belt will cause engraving misalignment, shaking, etc.
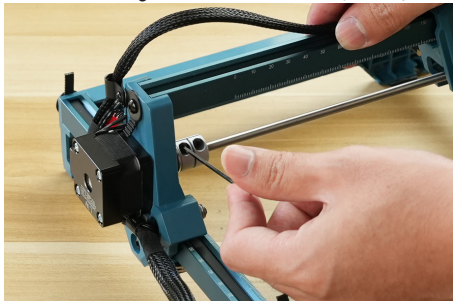

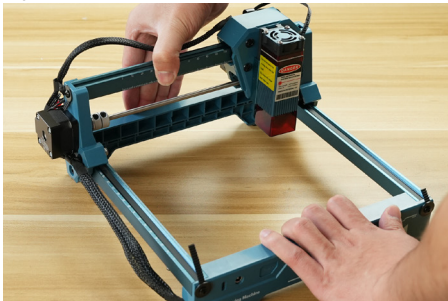1. Loosen the belt fixing screws

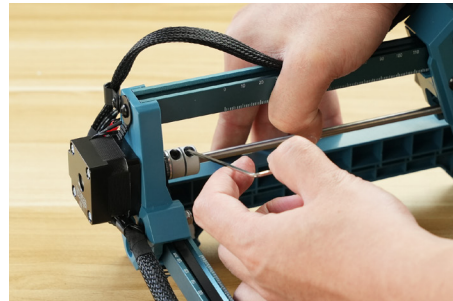2. Tension the belt

3. While tensioning, re-tighten the screws

Balance Adjustment: After adjusting the belt you need to make sure that both sides are balanced

1. Loosen the two screws on the synchronous wheel
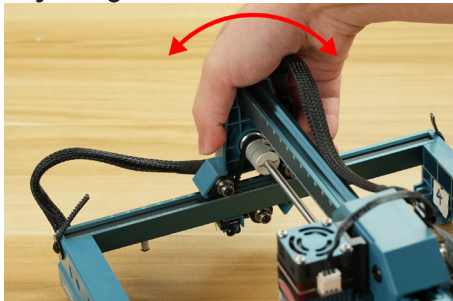

2. Push the gantry to the rear, making sure both ends of the gantry are fully against the back of the frame
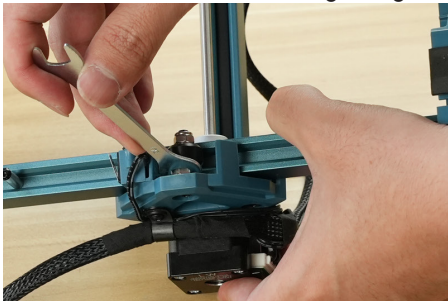

3. While ensuring that the gantry is against the back, re-tighten the two screws on the synchronous wheel

Adjusting the Y-axis Eccentric Nut: Loose eccentric nut will cause engraving misalignment, shaking, etc.
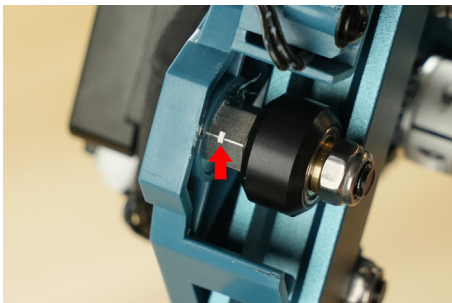

1. Move the bracket left and right to feel whether it wobbles heavily and has a large gap

2. Invert the engraving machine and find the corresponding eccentric nut to adjust
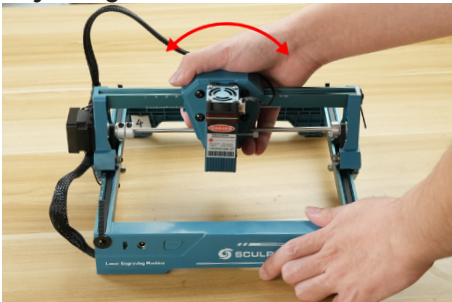

tight

loose

3. Observe this screw hole. The position of the screw in the hole can reflect the tightness of the eccentric nut

4. Eccentric nut gap mark, it is in the tightest state when the mark is facing outwards, adjust the eccentric nut to the right level of tightness
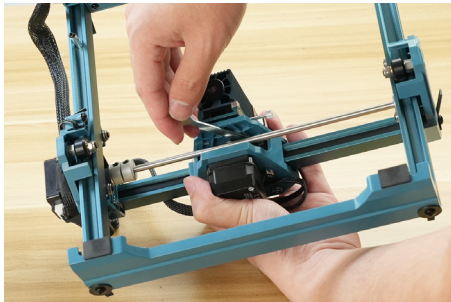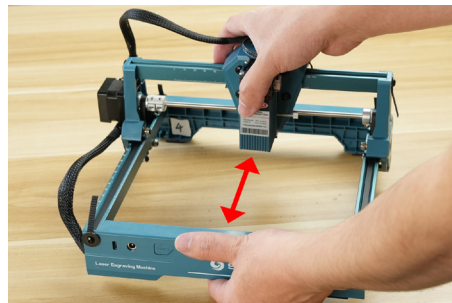
Adjusting the X-axis Eccentric Nut

5. Move the bracket left and right to feel whether it wobbles heavily

6. Slide the gantry forward and backward to feel whether it is smooth or stuck
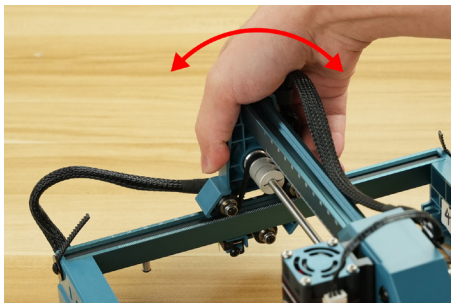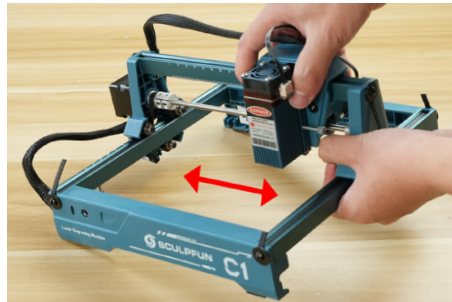

1. Move the bracket left and right to feel whether it wobbles heavily and has a large gap

2. Refer to the Y-axis adjustment method to adjust the eccentric nut

3. Slide the laser bracket left and right to feel whether it is smooth or stuck

8. After-sales Service & Warranty Terms

After-sales Service
If you have any problems with your machine, please contact us and we will get back to you as soon as possible.
E-mail： support@sculpfun.com

Warranty Terms
One year warranty for the whole machine and key components products, and 3 months warranty for the functional parts. The products are under warranty from the date of receipt.
For any product that is replaced or repaired, Sculpfun will give the remaining warranty period of the original product or a 30-day warranty period after the replacement.
The processing quality is highly related to user operation, processing materials and processing environment, and is not covered by the warranty.

9. Disclaimer

This product is a laser marking device. Please scan the QR code on the cover for the complete User's Manual as well as the latest instructions and warnings. All information in this material has been carefully reviewed. Please contact us for any typographical errors or misunderstanding of the content. Technical improvements to the product (if any) will be added to the new manual without notice.

In the event of machine problems or malfunctions, please provide the original marking file, the configuration parameters of the marking software used, operating system information, video of the marking process, operating procedures, etc., to help SCULPFUN provide you with timely troubleshooting and after-sales service.

SCULPFUN is not responsible for any loss caused by the user's failure to use the product in accordance with the instructions of this manual. Users are prohibited from disassembling the machine by themselves without the instruction of our technicians. If this occurs, the loss caused to the user shall be borne by the user.

Subject to compliance with the law, SCULPFUN has the final right to interpret the documents. SCULPFUN reserves the right to update, modify or terminate these Terms without prior notice.

SCULPFUN

Version:1.0

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