



Quick Start Guide

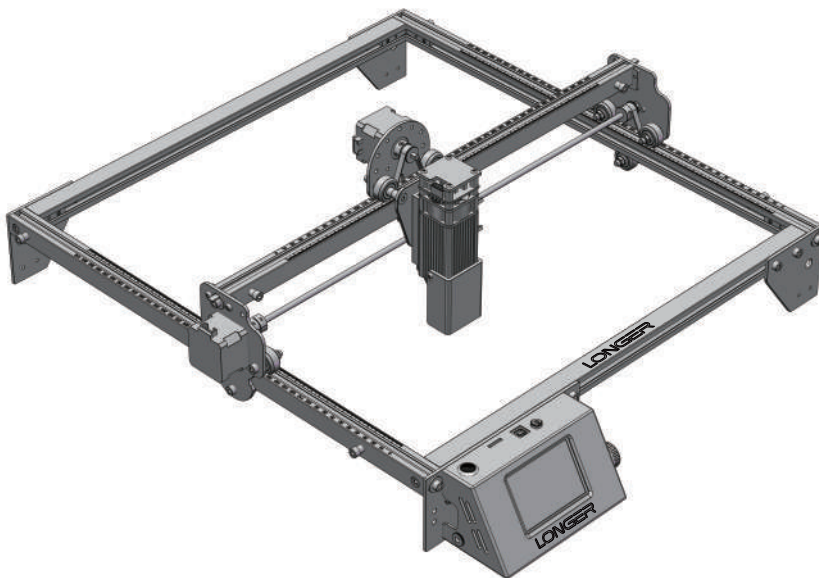
CE FC RoHS



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RAY5 Unboxing Video



LONGER LASER ENGRAVER **RAY5**

! ATTENTION !

1. The RAY5 engraves and cuts materials using a high-energy diode laser beam. Hazards associated with this include the risk of fires generation of hazardous and/or irritating toxic fumes, and more importantly, potential damage to eyes and skin.
2.  Laser engravers are divided into several internationally valid classes based on their performance and the risk of injury. The RAY5 falls into the Class IV (Class 4 IEC standard focus on the American FDA classification).

Laser class	Class Definition
Class I	Class I laser radiation is not considered.
Class IIa	Class IIa laser radiation is not considered hazardous if viewed for periods less than or equal to 1×10^3 seconds, but may pose a chronic viewing hazard if viewed for periods longer than 1×10 seconds.
Class II	Class II laser radiation is considered to be a chronic viewing hazard.
Class IIIa	Class IIIa laser radiation is considered to be, depending on the irradiance, either an acute intrabeam viewing hazard or a chronic viewing hazard, and poses an acute hazard if viewed directly with optical instruments.
Class IIIb	Class IIIb laser radiation is considered to be an acute hazard to the eyes and skin from direct exposure.
Class IV	Class IV laser radiation is considered to be an acute hazard to the skin and eyes from both direct and scattered exposure.

The high-energy laser beam can cause severe eye injury, including blindness, and serious skin burns.

Improper use of the controls or modification of the safety features may result eye injury and burns.



Please wear Personal Protective Equipment (PPE). Safety glasses are designed to filter specific ranges of laser wavelengths. The RAY5 comes with safety glasses specifically designed for the LONGER Laser Module.

DO NOT look directly into the laser beam;

DO NOT aim the laser beam at reflective surfaces;

DO NOT operate the laser without PPE for all individuals in the RAY5;

DO NOT allow unsupervised access to the RAY5 by children;

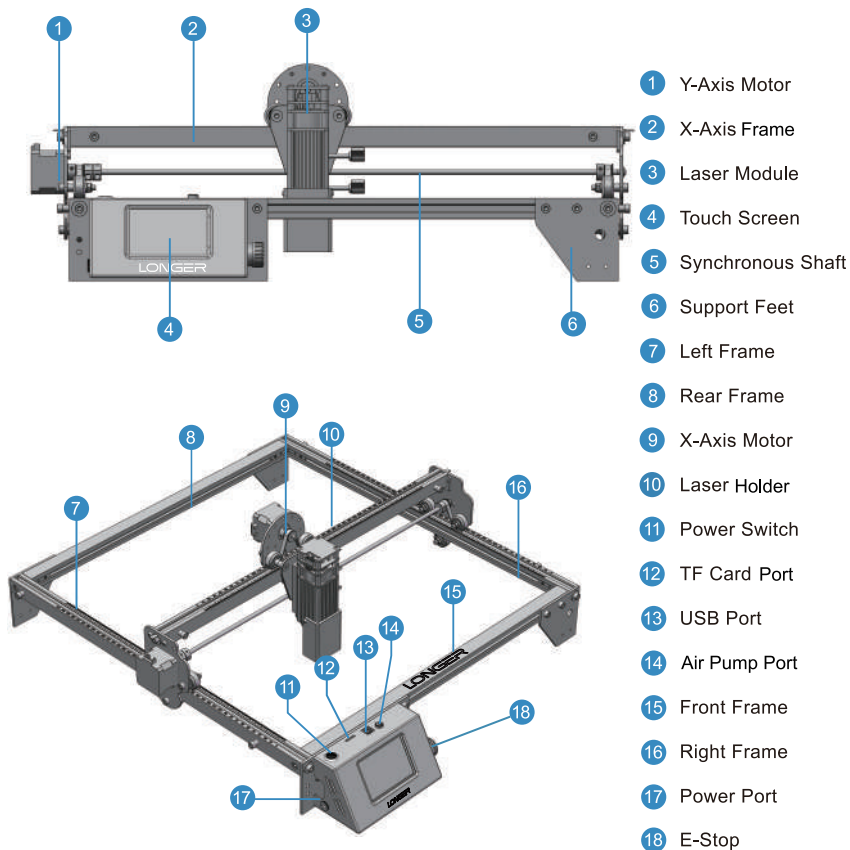
DO NOT allow pets near the RAY5;

DO NOT modify or disable any safety features of the laser system;

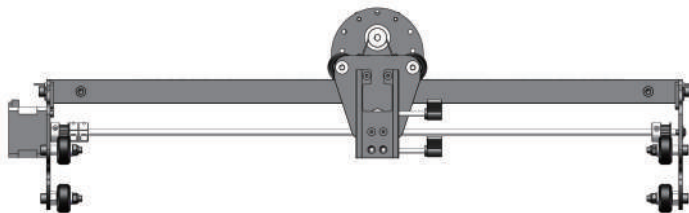
DO NOT touch the high-energy laser beam;

3. We strongly recommend placing the machine in a well-ventilated room. Ensure that the door seals properly and the windows have curtains to effectively prevent direct exposure to the laser beam, smoke, vapors, particles, and other potentially toxic substances. Additionally, you can consider Longer's protective covers for added safety in the future.
4. The high-energy diode laser beam can generate extremely high temperatures as it burns away material during engraving and cutting. Some materials are flammable and may catch fire, producing flames, fumes, and smoke.
5. During operation, ensure that any flare-ups or flames are immediately contained and extinguished.

LASER ENGRAVER INTRODUCTION



PACKING LIST



X-Axis Frame



Laser Module

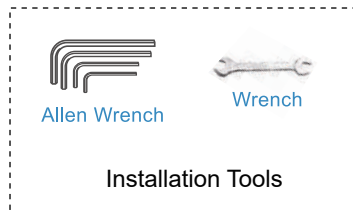


Timing Belt



Control Box

⑧ Rear Frame

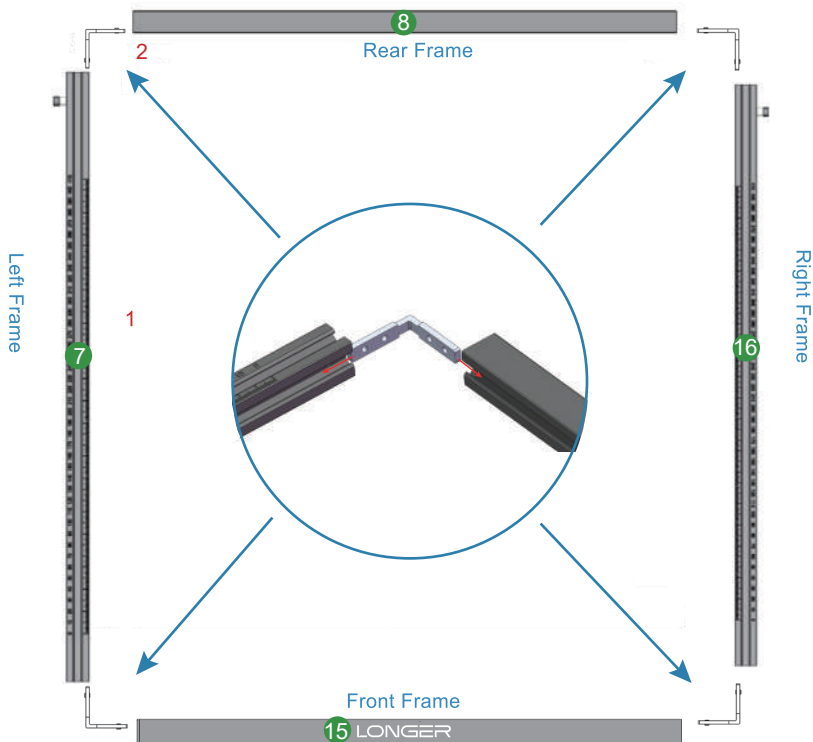


⑮ Front Frame

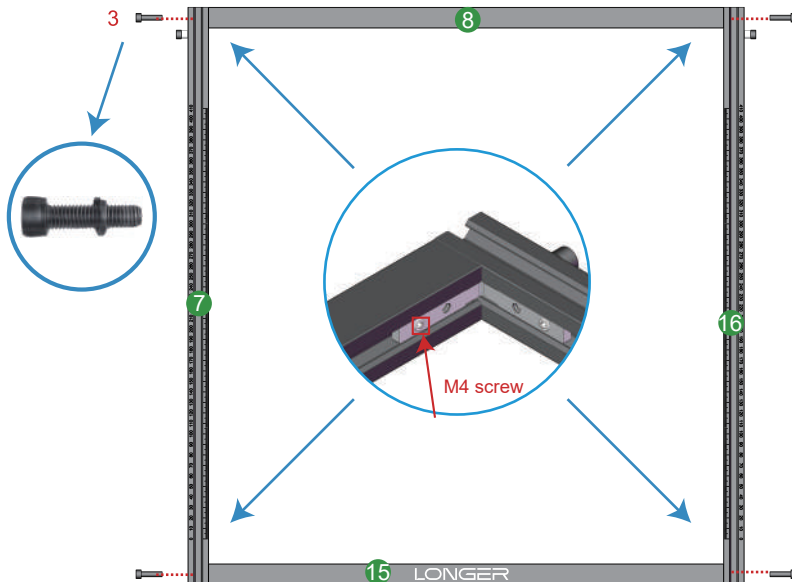
INSTALLATION STEPS

1

Place the profiles on a flat table in order, and place four corner grooves into the profiles referring to diagram. ▼



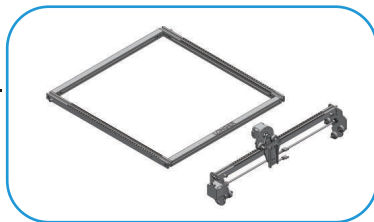
- ▼ Tighten the M5X20 screws into frames.
- Tighten the M4 screws on the corner grooves.



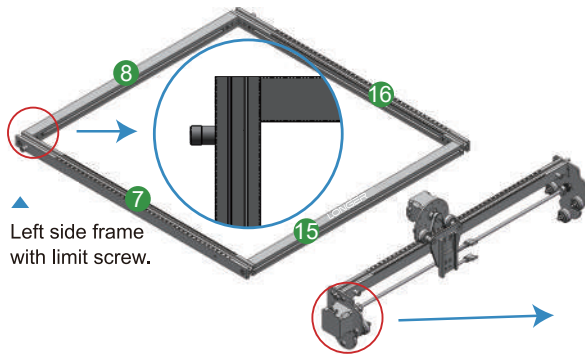
2 Preparation:

X-Axis Frame, and the frame to complete the assembly.

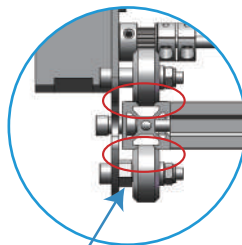
Install the X-Axis Frame in the V-groove of the left and right Frames along the direction of the arrow.



Pay attention to adjusting the eccentric nut to prevent the roller from being damaged by the groove. ▼



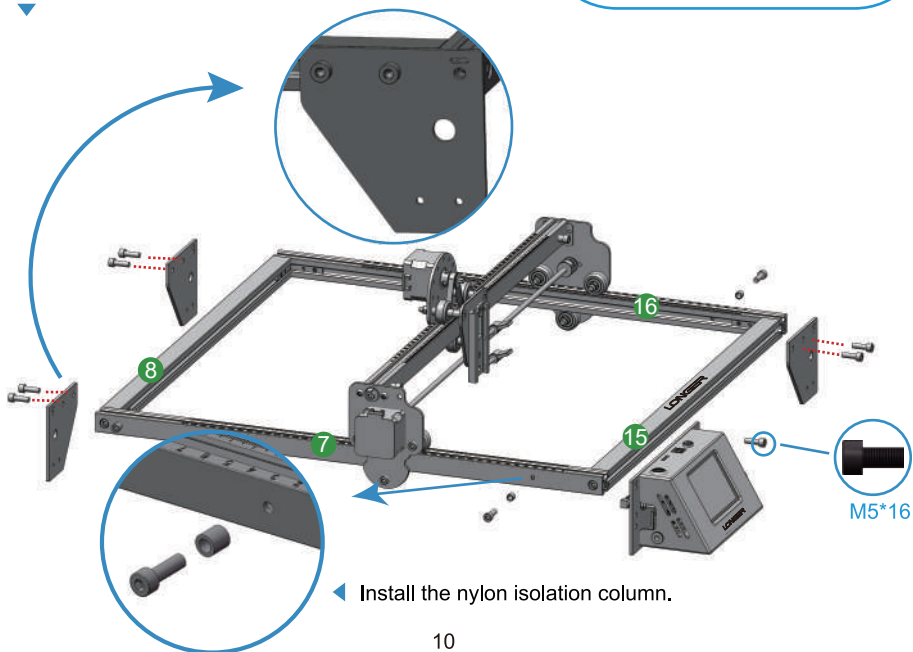
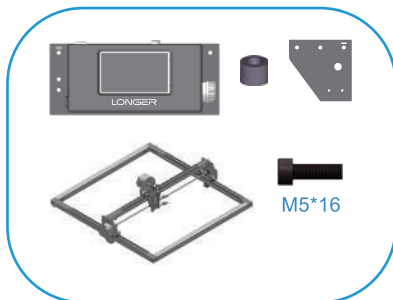
Left side frame with limit screw.



Eccentric nut

- 3 Preparation:
Preparation: Support feet x3, engraving machine control box, M5*16 hexagon socket cup head screw x9, nylon isolation column (7*5*6) x2.

According to the figure, install the supporting foot, the control box of the engraving machine, and the nylon isolation columns in the corresponding position.



4

Preparation: Flat washer X4

Timing belt x2.

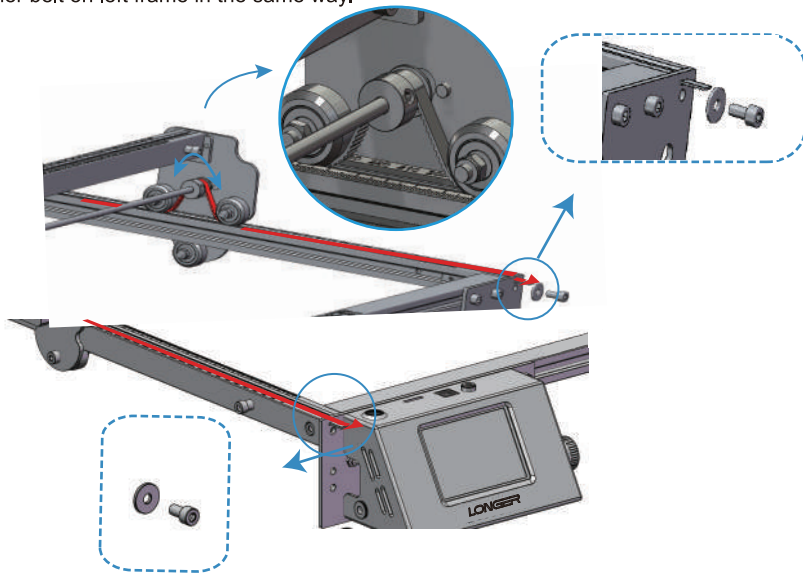
M5X10 hexagon socket head screw x4.



M5X10

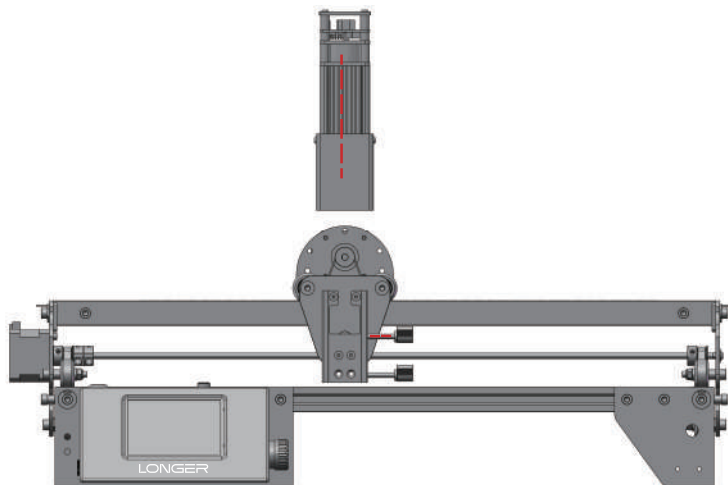
Flat Washer

- 1). Place a timing belt along the red arrow with the tooth face down.
- 2). Put the flat washer on the M5X10 screw, press the timing belt with the flat washer and tighten the screw.
- 3). Tighten the belt by hand, then fix another end of belt in the manner of previous step.
- 4). Fix another belt on left frame in the same way.



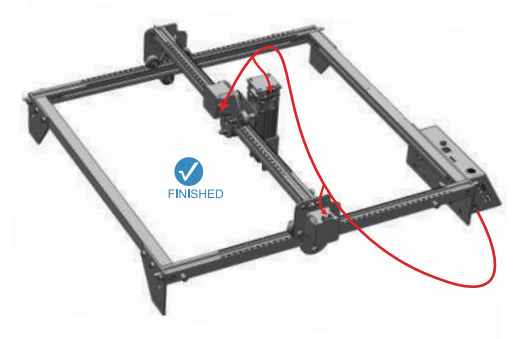
5 Preparation: Laser module

First install the laser module on the X-axis frame, then tighten the 7-shaped hand screw clockwise to fix the laser module.

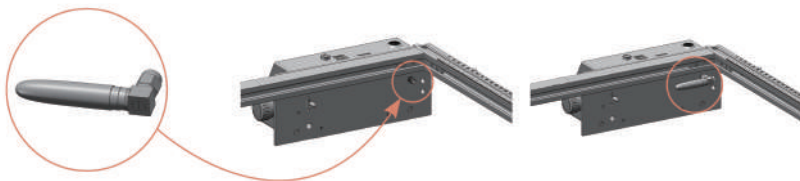


6

Connect the cable to the motor and the module as shown in the figure.



Note: Move the laser module to the upper right corner and use cable ties to fix the cable to the metal sheet. Please leave enough cable length to ensure the laser module can move freely within the maximum engraving range.



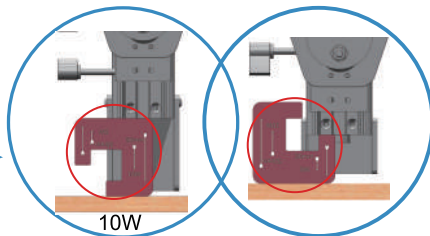
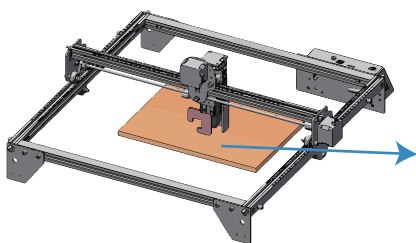
Mount the antenna on the back side of the control box.

7

Focus adjustment:

Place the wooden board under the laser module, loosen the 7-shaped hand screw. Move the laser module up and down to align the end face of the pro focus plate.

Note that the focus plate is suitable for 5W and 10W laser modules. Please choose the correct focus surface according to the laser mod. In addition, the main board adds an port to control the air pump sw needs to be purchased separately.



Before using the engraver, please rotate it clockwise to release the e switch, otherwise the RAY5 cannot be powered on normally, **and be rotate the emergency stop switch counterclockwise to avoid damage.**

MORE INFORMATION ▼



Support Email : support@longer.net



Facebook ID: Longer Global



Facebook Group: Longer Laser Engraver Official Group



Youtube channel: Longer Official