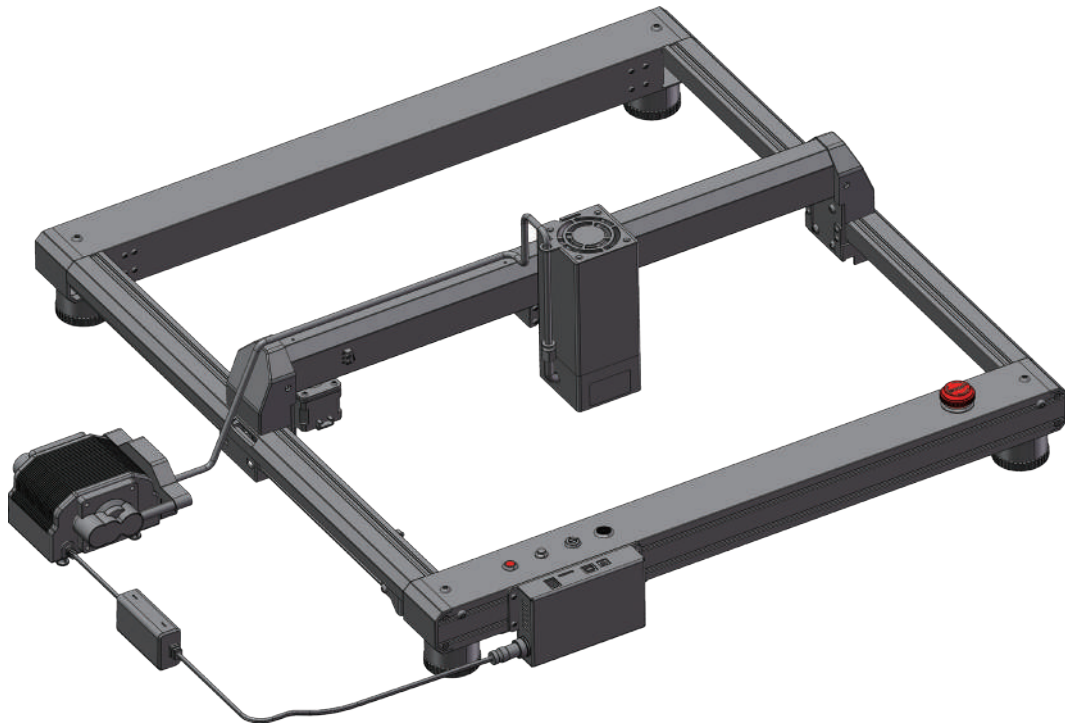




LONGER



Quick Start Guide



LONGER LASER ENGRAVER LASER B1 20W/30W

Thank you for choosing our products.
Please read this manual carefully before use.

Please reference more details on digital manual in TF card about the operation of Laser Engraver and installation of LaserGRBL or LightBurn.

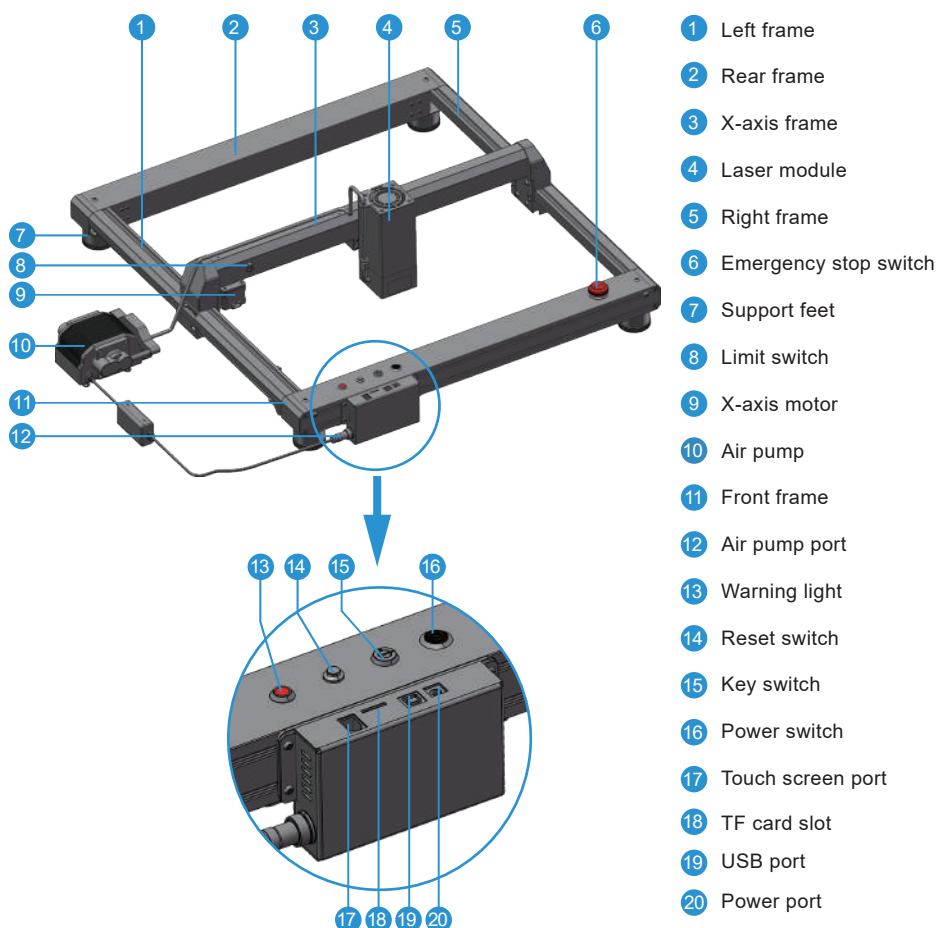
Please join our Facebook Group:
LONGER Laser Engraver Official Group
Email: Support@longer3d.com

If you have any question, please feel free to contact us as above.
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3. We strongly recommend placing the machine in a well-ventilated room, and at the same time, the door of the room has a sealing effect and the windows have curtains, so as to effectively avoid looking directly at the laser beam and some smoke and steam, Particles and other highly toxic substances. At the same time, you can pay attention to the LONGER products (cover) in the follow-up.
4. The high-energy diode laser beam can produce extremely high temperatures and significant amounts of heat as the substrate material is burned away while engraving and cutting. Some materials are prone to catch fire during cutting operations creating flame, fumes and smoke.
5. Although the Laser B1 has a built in flame sensor, this technology should NOT be considered 100% accurate and should be seen only as a warning system.

P.S. During the working process of Laser B1, if a flame is found, the machine will stop the laser and make a sound to indicate abnormal conditions. Please pay attention to the working status of the machine.
6. During operation to ensure that any flare ups/ flame are properly contained and extinguished.

LASER ENGRAVER INTRODUCTION



! ATTENTION !

1. The Laser B1 engraves and cuts materials by the means of a high-energy diode laser beam. The hazards associated with a high-energy diode laser beam include the possibility of fires, generation of hazardous and/or irritating toxic fumes, but more importantly 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 Laser B1 falls into the Class IV (Class 4 IEC standard focus on the American FDA classification).

Laser class	Class Definition
Class I	Class I levels of laser radiation are not considered to be hazardous.
Class IIa	Class IIa levels of laser radiation are not considered to be hazardous if viewed for any period of time less than or equal to 1×10^3 seconds but are considered to be a chronic viewing hazard for any period of time greater than 1×10^3 seconds.
Class II	Class II levels of laser radiation are considered to be a chronic viewing hazard.
Class IIIa	Class IIIa levels of laser radiation are considered to be, depending upon the irradiance, either an acute intrabeam viewing hazard or chronic viewing hazard, and an acute viewing hazard if viewed directly with optical instruments.
Class IIIb	Class IIIb levels of laser radiation are considered to be an acute hazard to the skin and eyes from direct radiation.
Class IV	Class IV levels of laser radiation are considered to be an acute hazard to the skin and eyes from direct and scattered radiation. hazard to the skin and eyes from direct and scattered radiation. and eyes from both direct and scattered radiation.

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

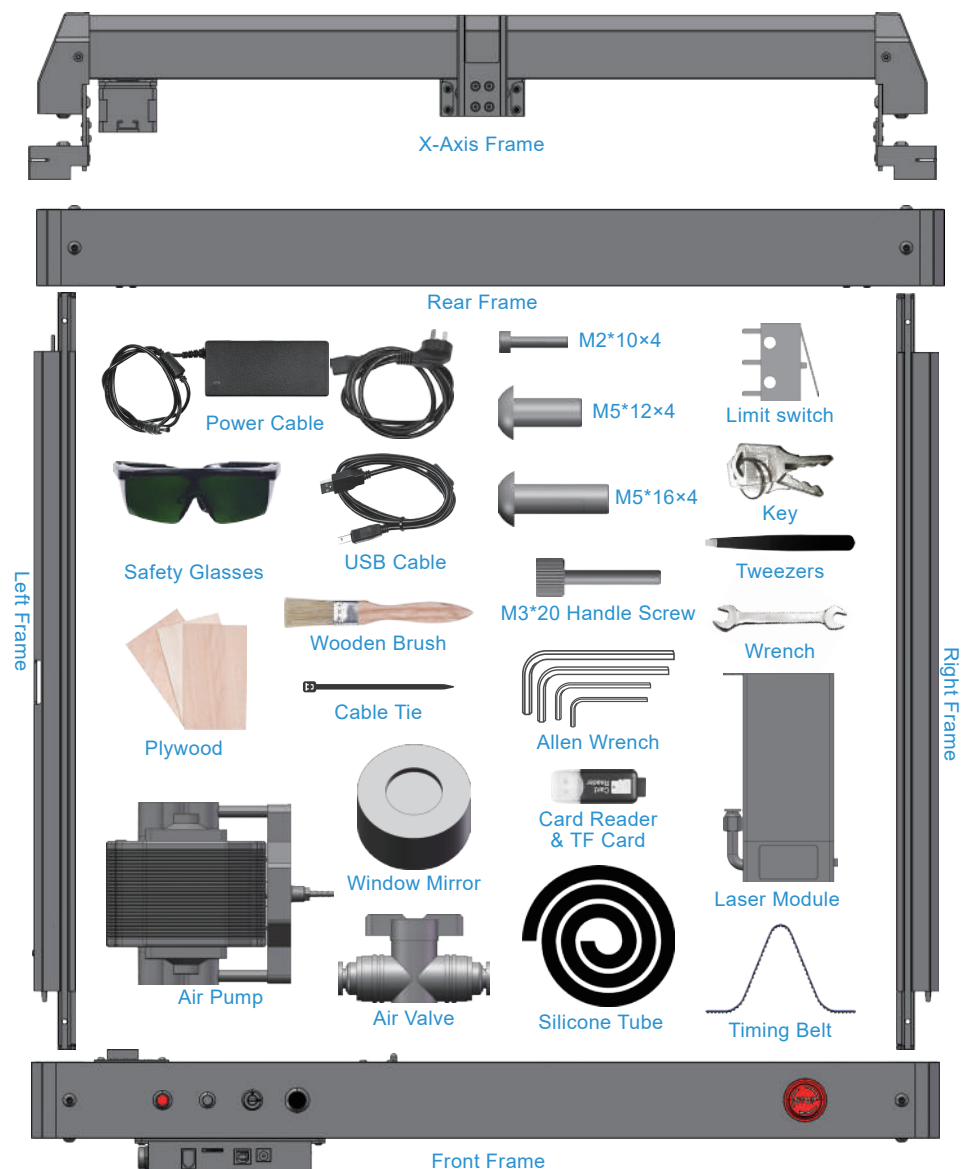
Improper use of the controls and modification of the safety features may cause serious eye injury and burns.



Please wear Personal Protective Equipment (PPE, safety glasses are designed to filter specific ranges of laser wavelength. The Laser B1 safety glasses provided are specific for LONGER Laser Module;) when using the engraver.

- DO NOT** look directly into the laser beam;
- DO NOT** aim the laser beam at reflective surfaces;
- DO NOT** operate the laser without PPE protection for all persons nearby in the proximity of the Laser B1;
- DO NOT** allow unsupervised access to the Laser B1 to children;
- DO NOT** allow access near the Laser B1 to pets;
- DO NOT** modify or disable any safety features of the laser system;
- DO NOT** touch the high energy laser beam;

PACKING LIST

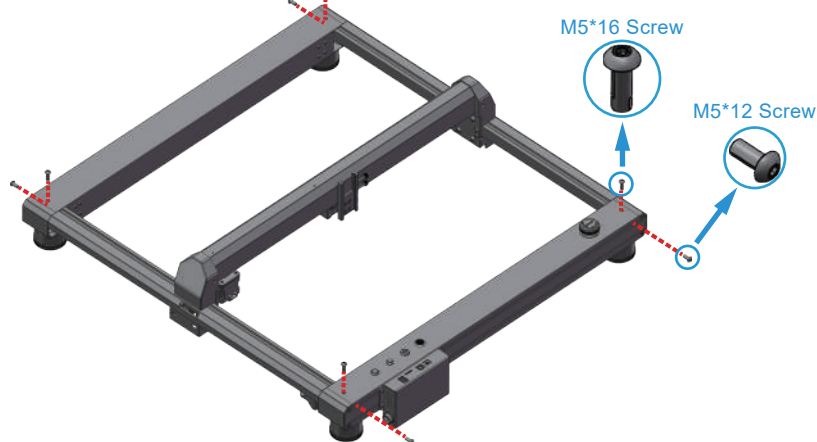


INSTALLATION STEPS

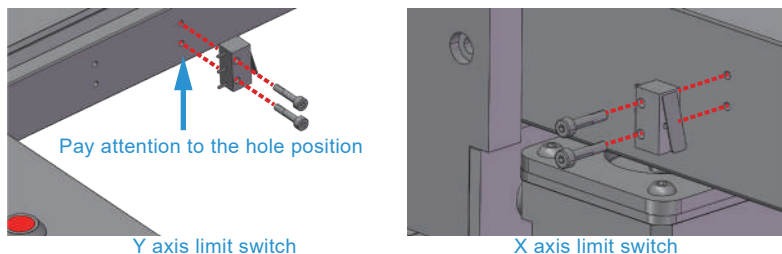
- 1** Prepare:
Left frame, right frame, X-axis frame
Place the left frame, right frame, and X-axis frame as shown, and mount the X-axis frame to the left frame and right frame ▼



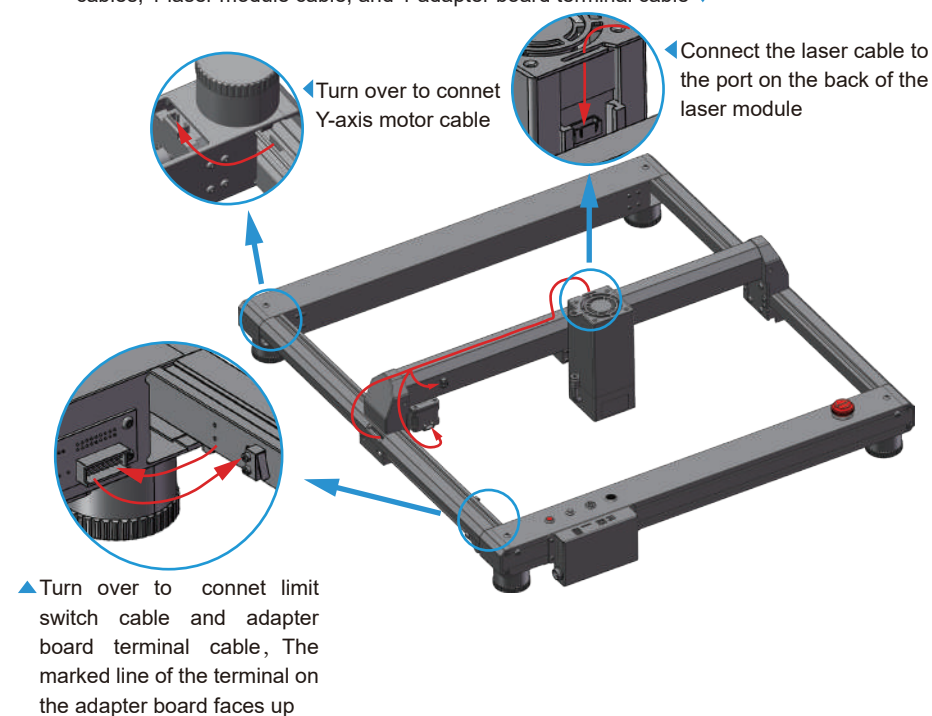
- 2** Prepare:
M5*12 Screws x 4, M5*16 Screws x 4, Front frame, Rear frame
First, pre-lock the M5*12 screws. Then, pre-lock the M5*16 screws. Finally tighten the M5*12 and M5*16 screws ▼



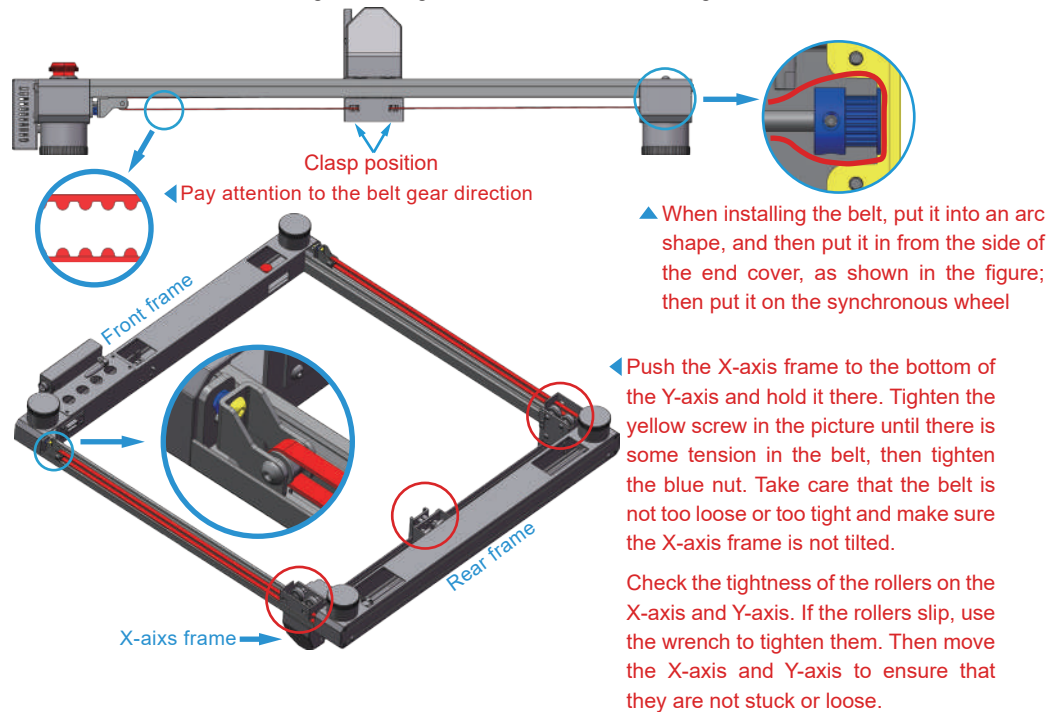
- 5** Prepare:
Limit Switch x 2, M2*10 Screws x 4
Install X-axis limit switch and Y-axis limit switch ▼



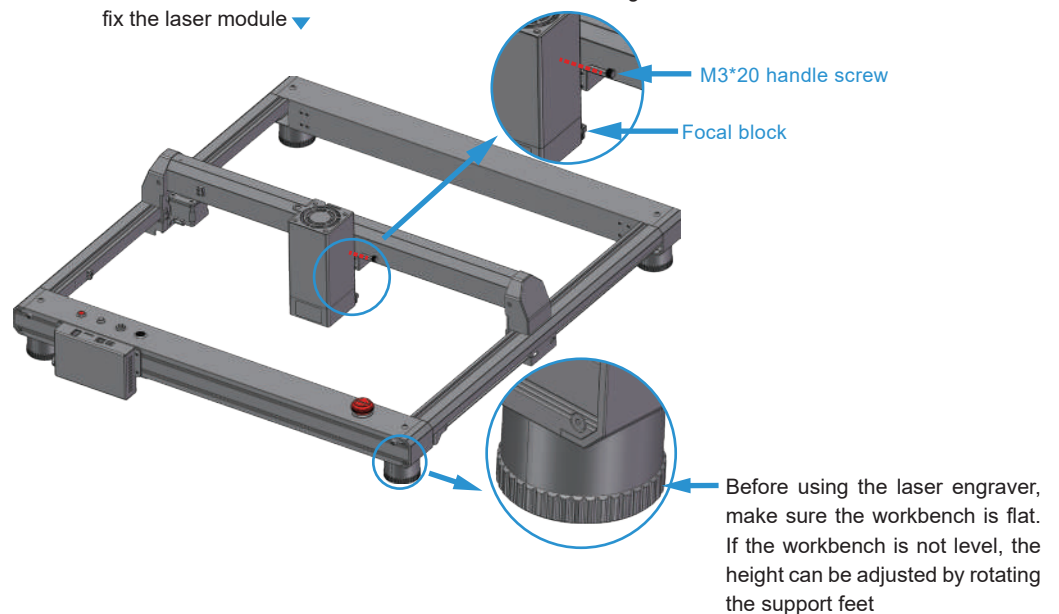
- 6** Install connection cables
There are 6 cables to be installed, including 2 limit switch cables, 2 motor cables, 1 laser module cable, and 1 adapter board terminal cable ▼



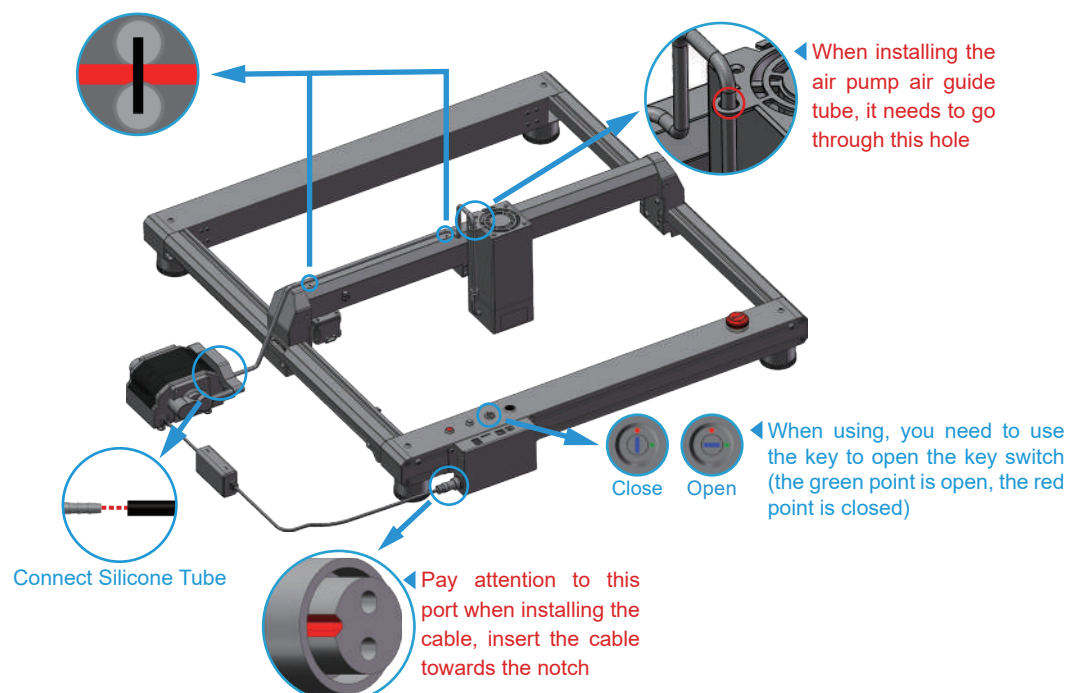
- 3** Prepare:
Timing belt x 2
Install the belt with the gears facing in and the smooth side facing out ▼



- 4** Prepare:
Laser module, M3*20 handle screw
First install the laser module on the X-axis frame, then tighten the M3*20 handle screw to fix the laser module ▼

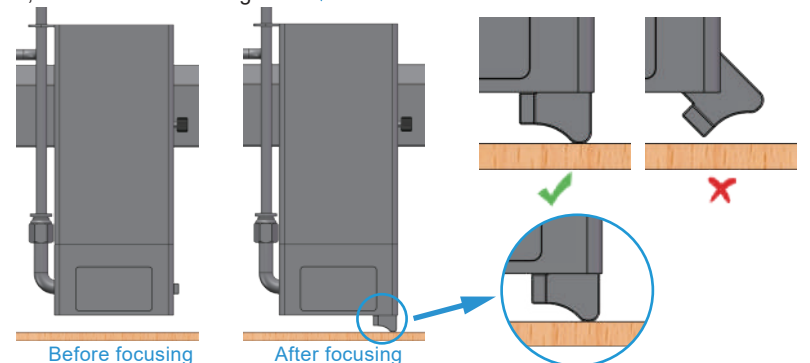


- 7** Prepare:
Air pump, Silicone Tube, Cable tie, Key
First, install the air pump, silicone tube and connecting cable, then move the laser module to the upper right corner, and fix the silicone tube and connecting cable together with two Velcro tapes on the X axis; then use a cable tie to secure the remaining silicone Tube and cable fastened together again ▼



Tip: After the motor cables are connected, please manually move the X or Y axes slowly and DO NOT manually move the axes quickly, otherwise it will cause damage to the motherboard

- 8** Adjust laser focus
Pull out the focusing block, loosen the M3*20 handle screw, move the laser module down, tighten the M3*20 handle screw when the bottom of the focusing block touches the plywood, and close the focusing block ▼



MORE INFORMATION ▼

- Support Email : support@longer3d.com
Facebook ID: longer3dprinter
Facebook Group: Longer Laser Engraver Official Group
Youtube channel: Longer 3D