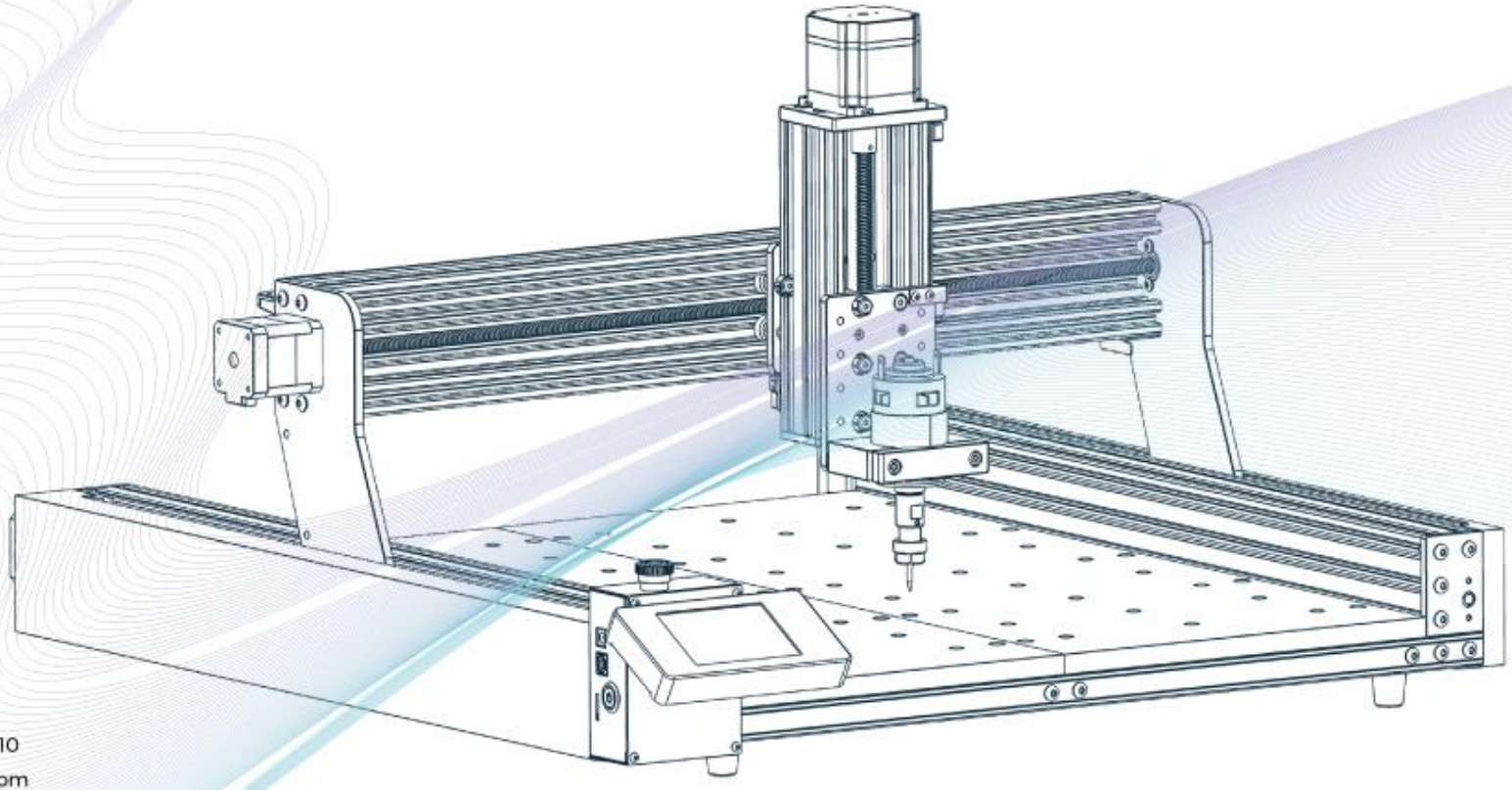
TWO TREES

PRODUCT MANUAL

RELEASE YOUR IDEA TO REAL BECAUSE OF TTC 450

TTC450 CNC Engraver



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Note: The picture is for reference only, the actual product shall prevail

Safety Warning:

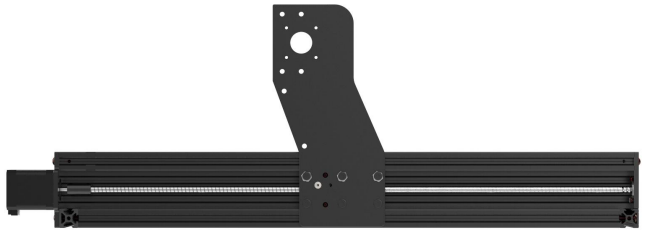
1. When using the machine for the first time, please make sure that the machine installation is firm.
2. When danger occurs, press the emergency stop button quickly.
3. Wear safety glasses when operating the machine.
4. Please use a brush to remove debris, do not blow with your mouth.
5. Be careful with sharpness when using Milling tools or sanding workpieces.
6. Install Milling tools, make sure it is solid.
7. When loading and unloading, setting knife, measuring and cleaning, please make sure that the machine must be stopped before operation.
8. Do not wear cotton gloves during operation.
9. Do not place measuring tools or other sundries within the scope of the workbench.
10. Clamp the workpiece firmly, do not start engraving when it cannot be loosened or not clamped.

2020 Front Crossmember*1

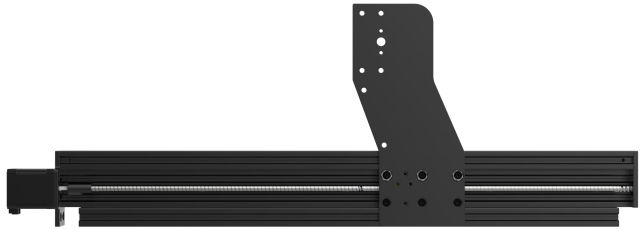
2020 Rear Crossmember*1

2040 Bottom Crossbeam*1

2020 Bottom Crossmember*2



Left Y-axis assembly*1



Right Y-axis assembly*1

Power adapter*1

Power cord*1

USB data cable*1

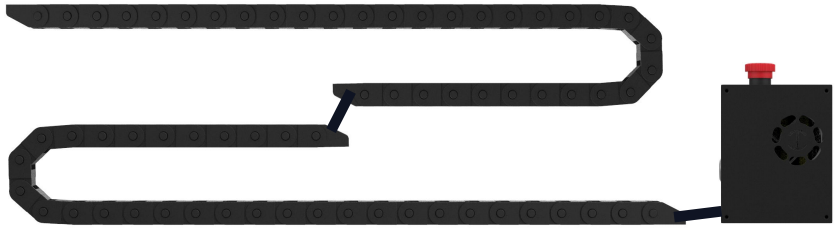
775 spindle motor*1

Left Y-axis shield*1

TS35 touch screen kit*1

X-axis assembly*1

Z-axis assembly*1



ESP32 control box + drag chain*1

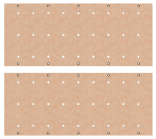
775 motor chuck*1

Y-axis limit switch*2

Z-probe*1

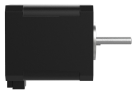
SD card*1 card reader*1

Fixture*6

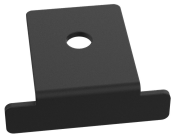


Density plate*2

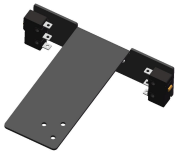
polypropylene sheet



X-axis stepper motor*1



X-axis limit trigger plate*2



X-axis limit switch*1

Mainboard fixing piece*2

Coupling*1

ER-11 6MM collet*1

File*1

Protective glasses*1

Rubber foot pad*4

V-shaped cutter*1

Milling cutter*1

30 degree carving cutter*10

Brush*1

Hexagonal wrench*4

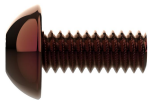
Open-end wrench*3

Oblique pliers*1

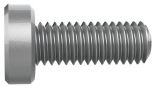
One-way screwdriver*1

Nylon tie*10

Profile seal*20

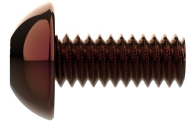


M3X5 screw*10



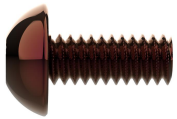
Cup head M3X6 screws*4

Cup head M3X40 screws*2

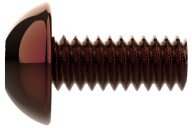


M4X6 screws*2

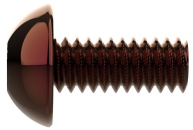
M4X25screws*4



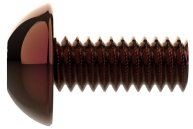
M5X6 screws*7



M5X12 screws*4



M5X15 screws*15



M5X20 screws*22

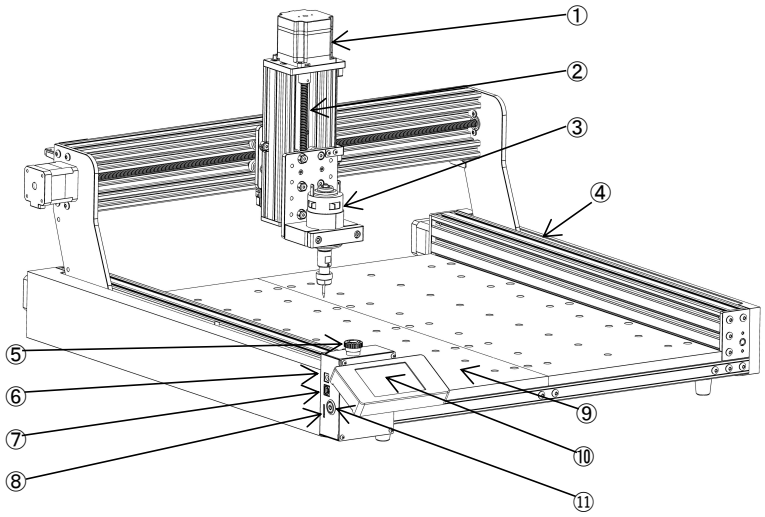
M5X30 screws*16

Cup head M5X12 screws*2

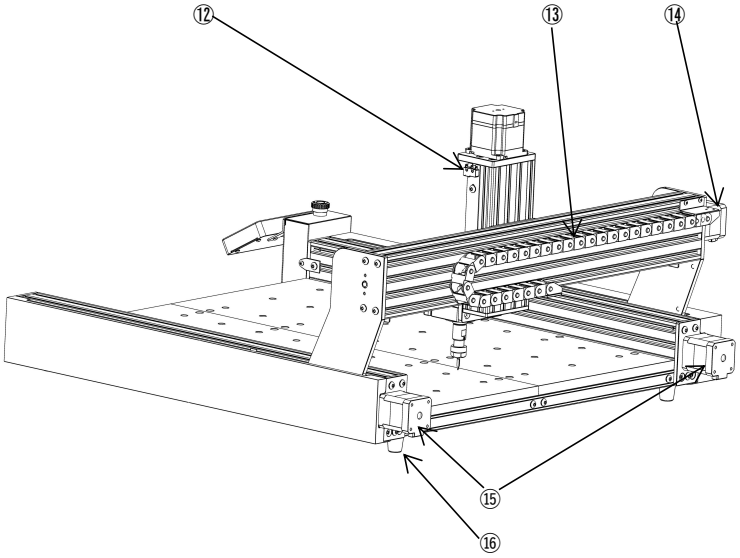
Cup head M5X20 screws*4

Cup head M5X50 self-tapping screws*8

T-nut 20-M5*4



1.Z-axis motor
2.T8-4 Screw
3.775 spindle motor
4.4080U side profile
5.Emergency stop switch
6.DC power interface
7.USB interface
8.TF card slot
9.Engraving platform
10.TS35 touch screen
11.Power switch
12. Limit switch
13.Drag chain
14.X-axis motor
15.Y-axis motor
16.Rubber feet



Step 1

Frame Installation

Required parts

-2020 front crossbeam*1
-2020 rear crossmember*1
-2020 bottom crossmember*2
-2040 bottom crossmember*1
-Rubber feet*4
-M5X30 screws*8
-M4X25 screws*4
-2.5 hexagonal wrench
-3.0 hexagonal wrench

When the frame is installed with the profile plane facing upwards, pay attention to the direction of the left side 2020 profile.

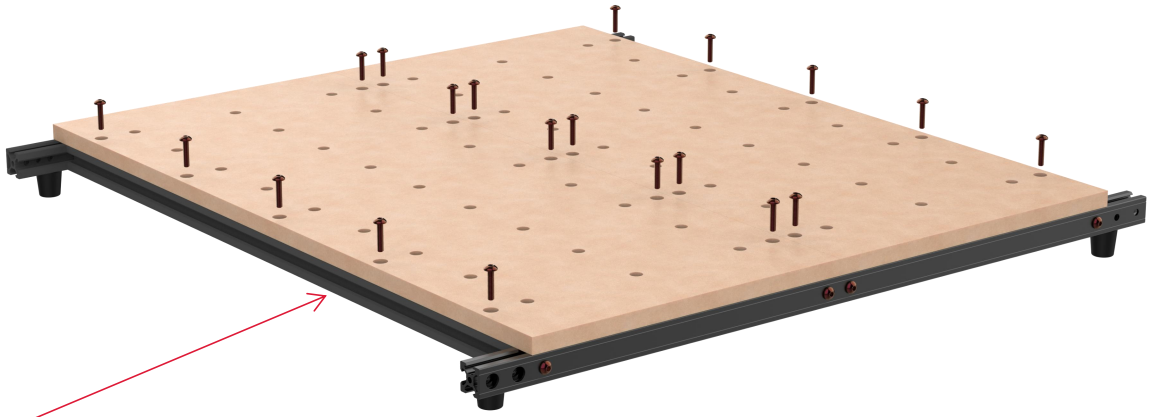
Step 2

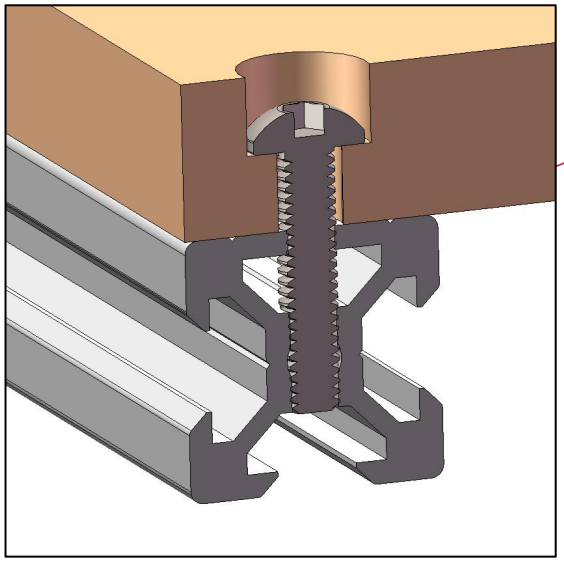
Platform Installation

Required parts

-Density plate*2
-M5x20 screws*20
-3.0 hexagonal wrench

With the surface of the density plate facing upward, screw 20 screws through the density plate into the profile.





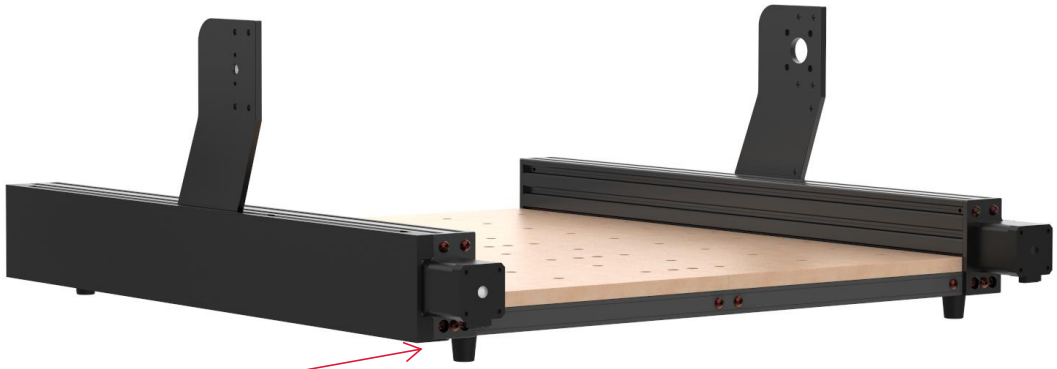
Step 3

Y-axis installation

Required parts

-Left Y-axis assembly*1
-Right Y-axis assembly*1
-M5X30 screws*8
-M5X20*2
-3.0 hexagonal wrench

Lock in the front left and right Y-axis assembly with M5*30 screws first



Note: All M5X30 screws are screwed into the holes and then locked.

M5* 20 screws to lock both sides of the back of the machine

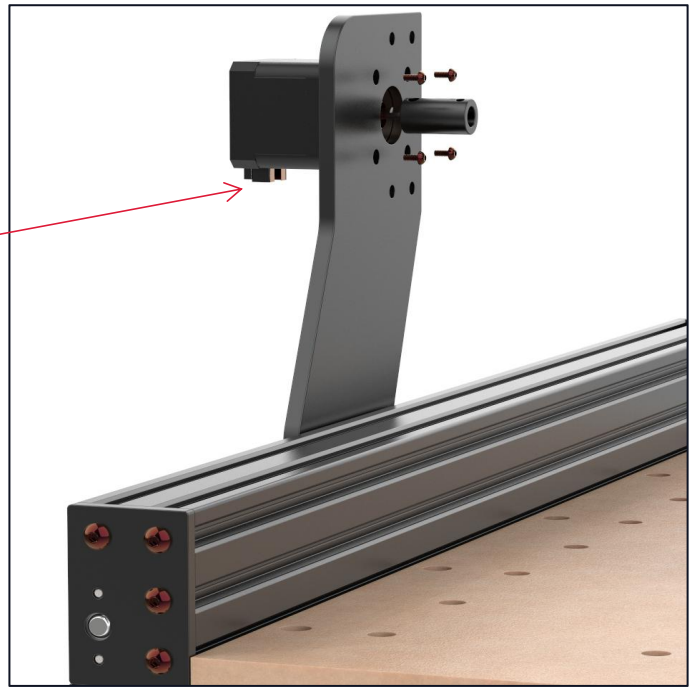
Step 4

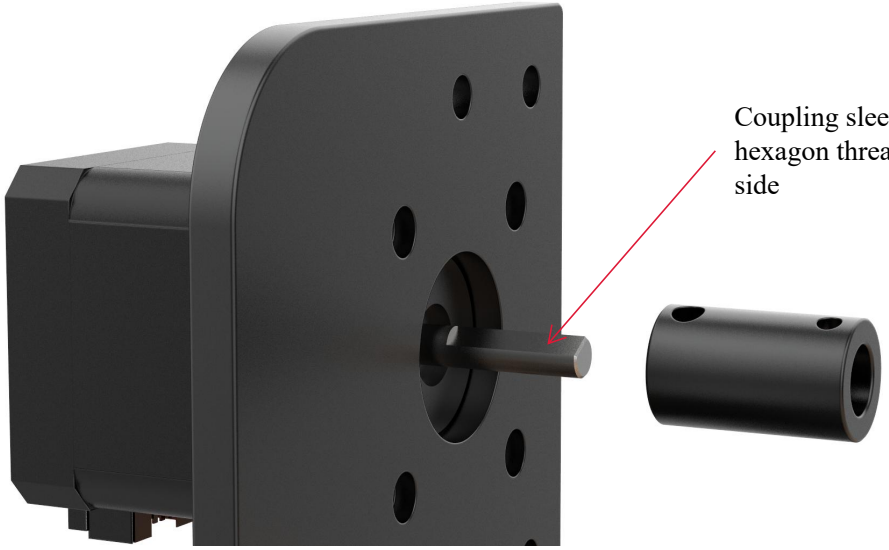
X-axis motor installation

Required parts

-X-axis stepper motor*1
-Cup head M3X6 screws*4
-Coupling*1
-2.0 hexagonal wrench

Left Y-axis assembly into the stepper motor, note that the motor wiring port facing down





Coupling sleeve into the motor shaft, headless hexagon thread pressed into the motor shaft flat side

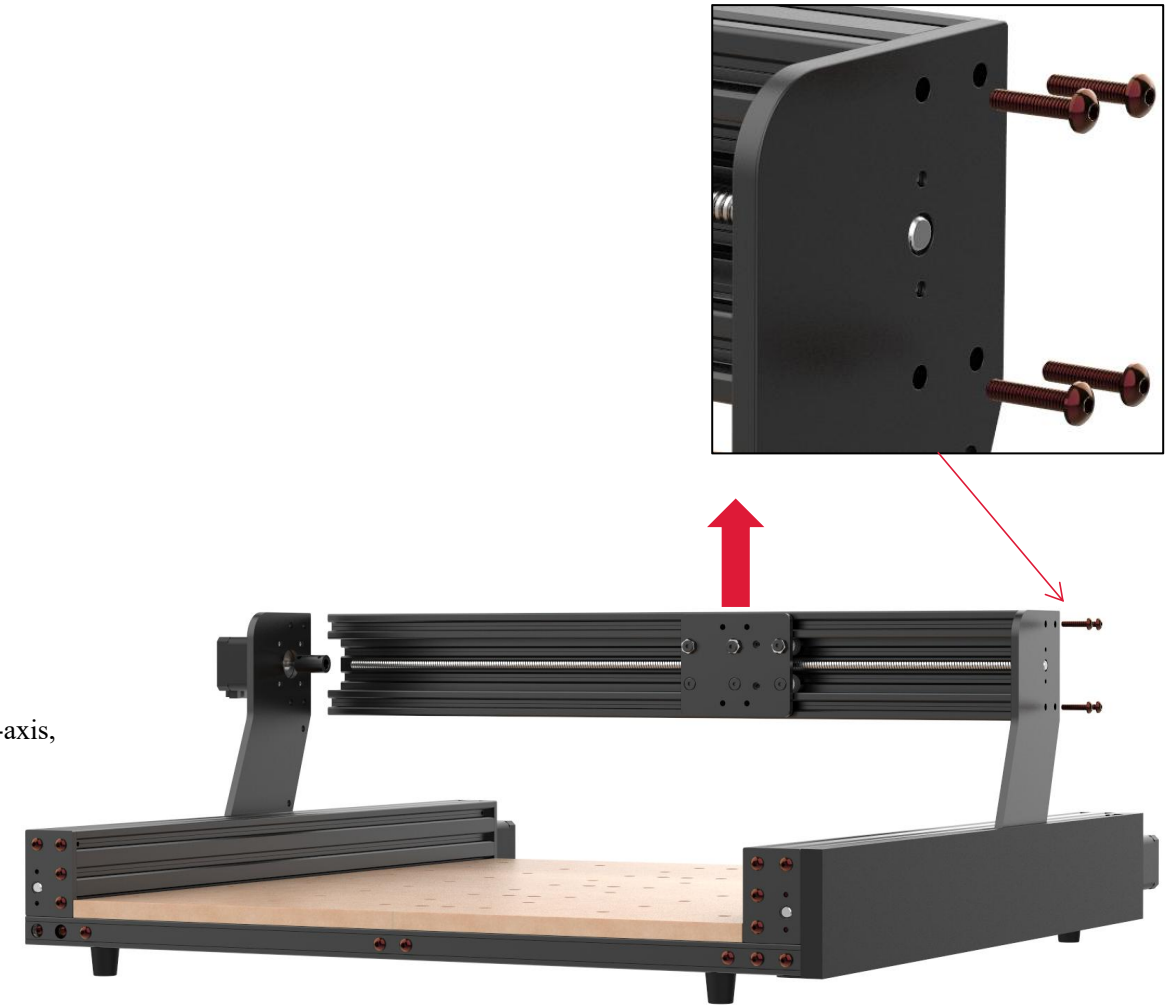
Step 5

X-axis installation

Required parts

-X-axis assembly*1
-M5X15 screws*4
-3.0 hexagonal wrench

Note the orientation of the X-axis, with the nut end facing up.



Step 6

X-axis installation

Required parts

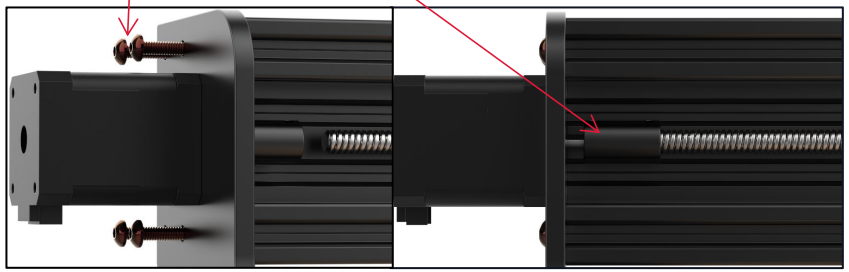
-X-axis assembly*1
-M5X15 screws*4
-2.0 hexagonal wrench
-3.0 hexagonal wrench

①Push the X-axis carriage to the left and expose the screw about 5cm

②Manually turn the left Y-axis to align the left and right Y-axis

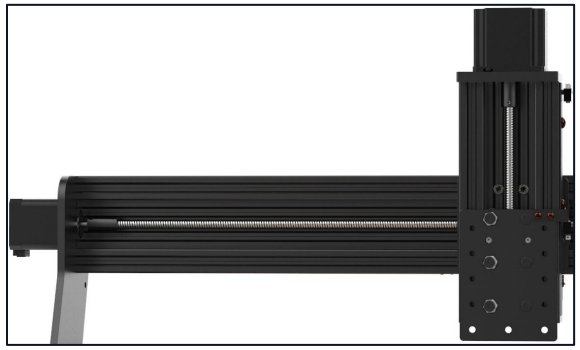
③M5X15 lock the right side of X-axis profile

④Push the X-axis carriage to the right, insert the screw into the coupling, and hold the screw by the headless hexagon thread



Step 7

Z-axis installation

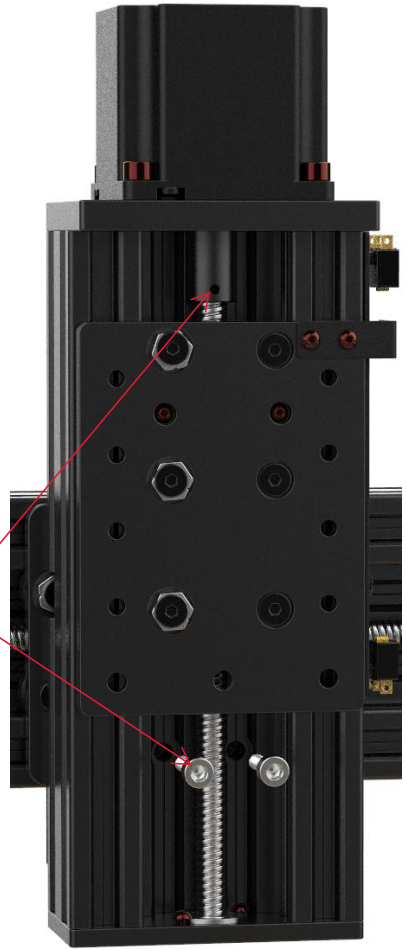


Required parts

-M5X20 cup head screws*4
-Z-axis assembly*1
-2.0 hexagonal wrench
-4.0 hexagonal wrench

2.0 hexagonal wrench loosen the two headless hexagon thread of the coupling.
The carriage moves down to reveal the screw hole and lock the screw

Move the carriage up to expose the screw hole, lock the screw.Insert the screw back into the coupling after the headless hexagon thread top tighten the screw



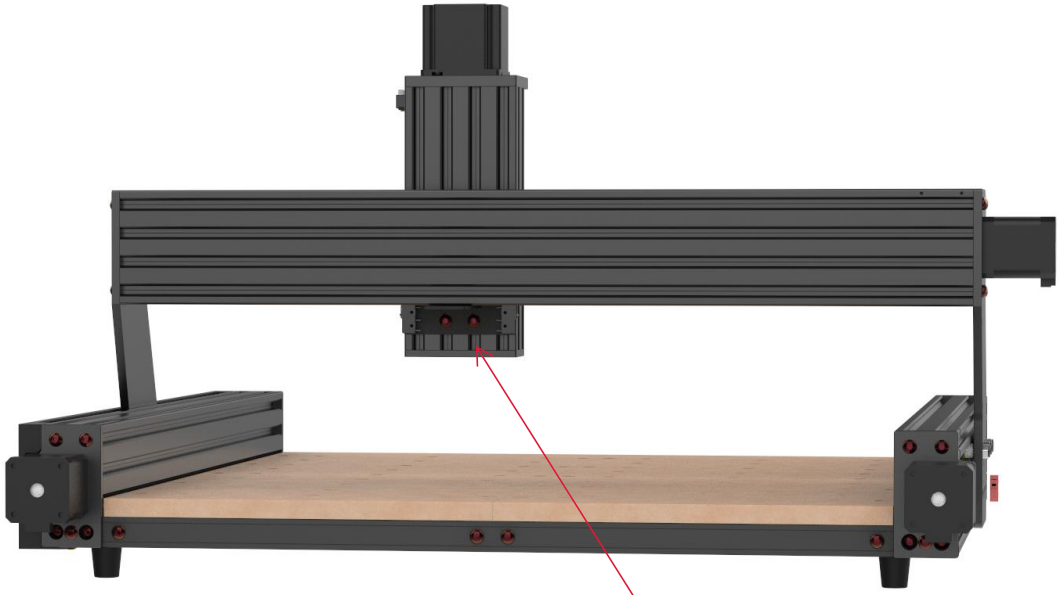
Step 8

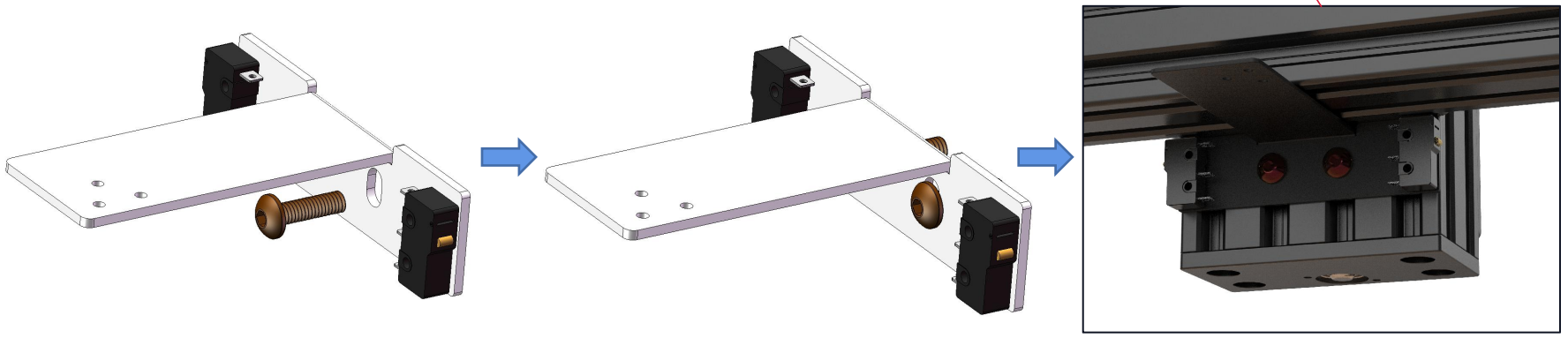
X-axis limit installation

Required parts

-X-axis limit switch*1
-M5X15 screws*2
-3.0 hexagonal wrench

Screw the M5X6 screw through the x limit fixing plate and then into the T-nut.
Insert it into the profile slot on the back of Z-axis and tighten it.





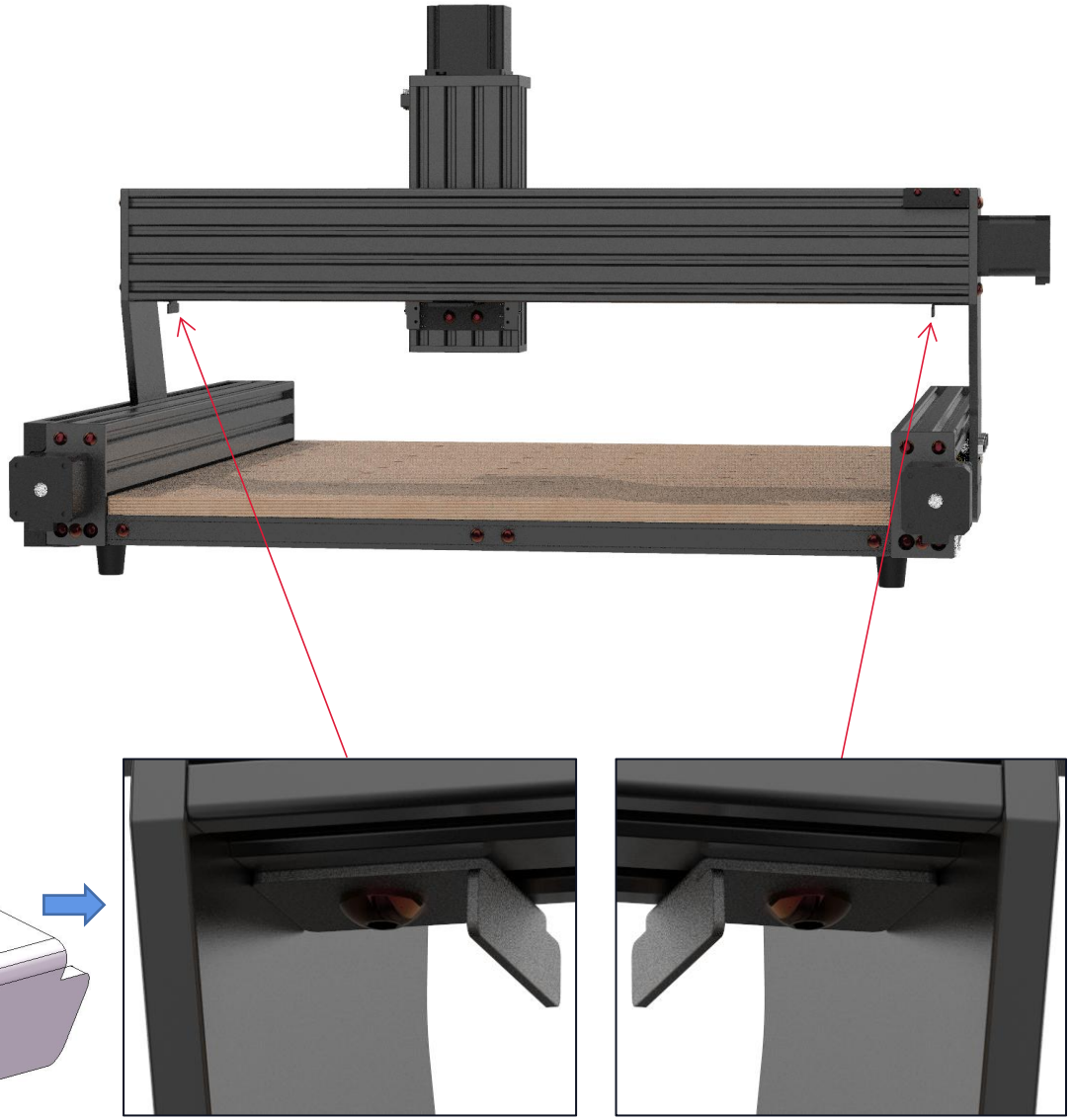
Step 9

X-axis limit trigger plate installation

Required parts

-M5X6 cup head screws*2
-T-nut 20-M5*2
-X-axis limit trigger plate*2
-3.0 hexagonal wrench

Insert M5X6 screws through the X-axis limit trigger plate and then screw into the T-nuts.
Insert it into the profile slot at the bottom of both ends of the X-axis and tighten it.



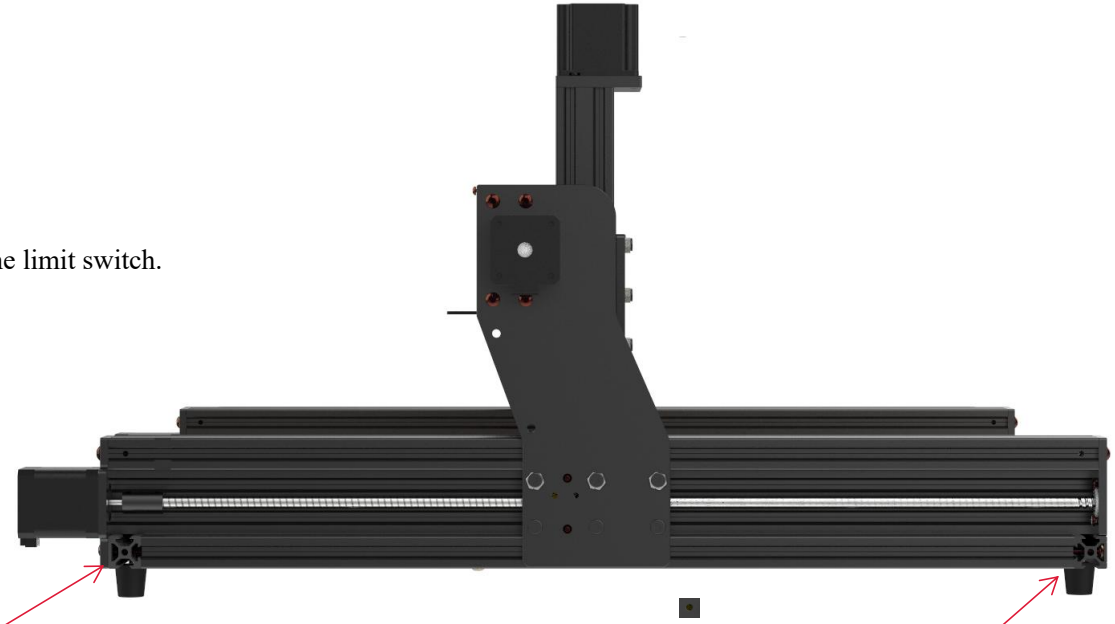
Step 10

Installation of Y-axis limit switch

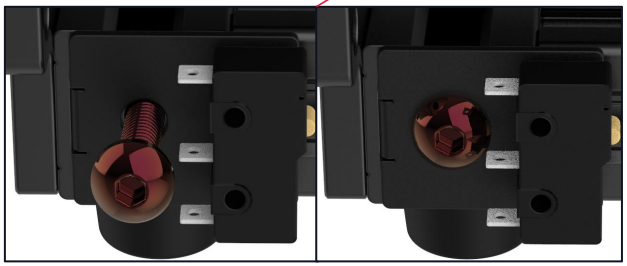
Required parts

-M5X6 screws*2
-Y-axis limit switch*2
-3.0 hexagonal wrench

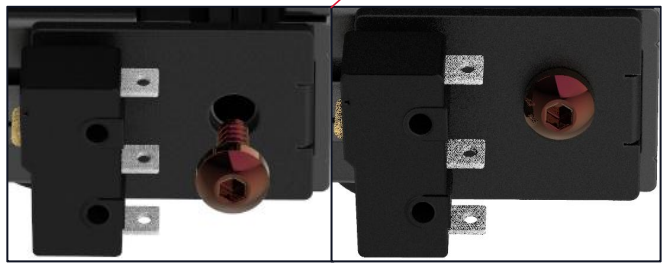
M5X6 screws are screwed into the profile after passing through the limit switch.



Wire length 60CM



Wire length 5CM



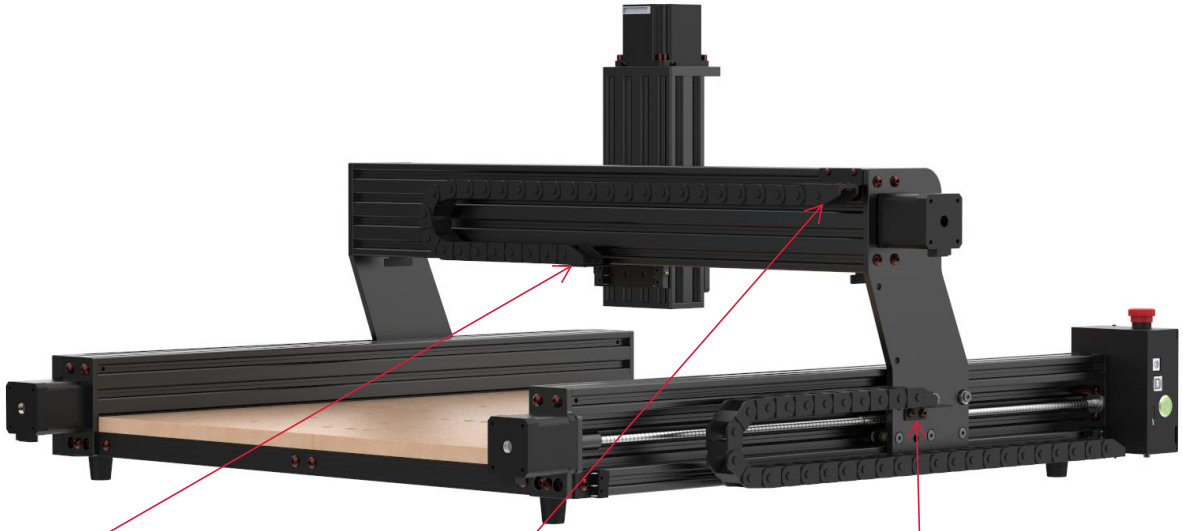
Step 11

Drag chain installation

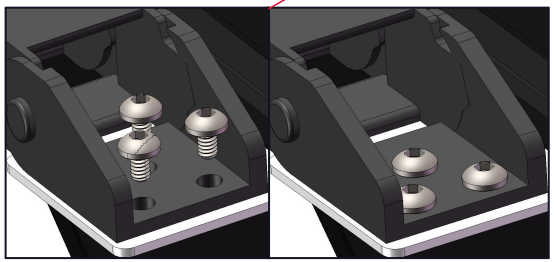
Required parts

-M3X5 screws*5
-M4X6 screws*2
-2.0 hexagonal wrench
-2.5 hexagonal wrench

Lock in the order of ①, ②, and ③.

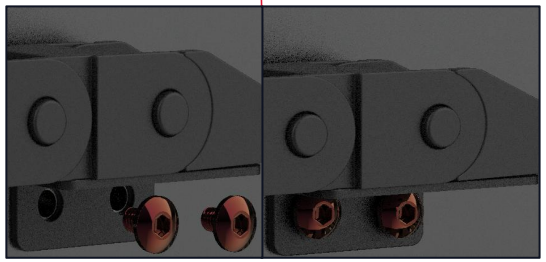


①



②

③



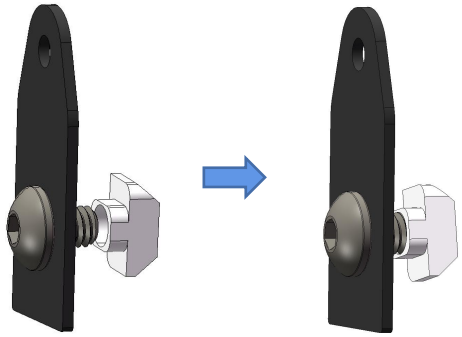
Step 12

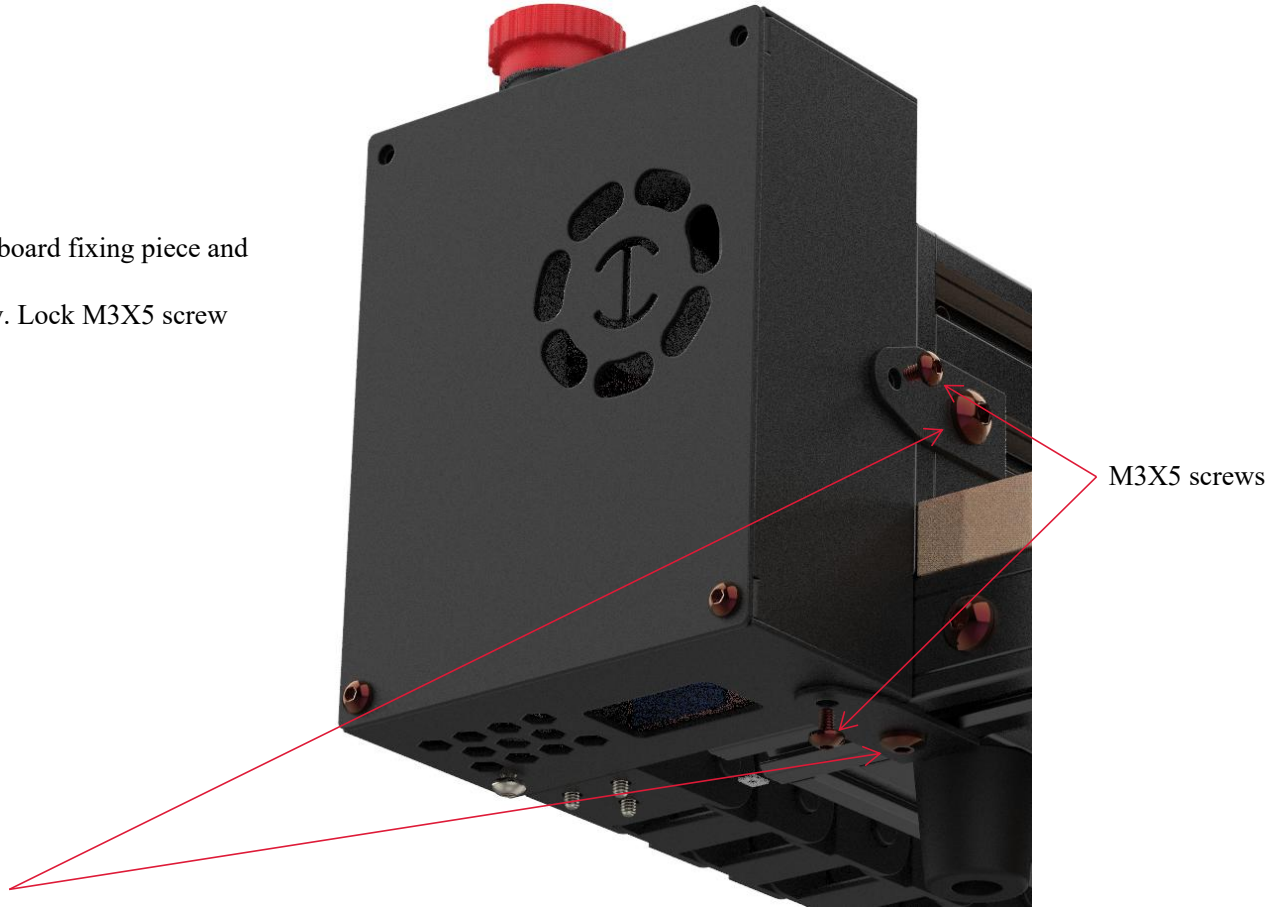
Control box installation

Required parts

-M3X5 screws*2
-M5X6 screws*2
-T-nut 20-M5*2
-Mainboard fixing piece*2
-2.0 hexagonal wrench
-3.0 hexagonal wrench

First, screw the M5X6 screw through the motherboard fixing piece and then screw in the T-nut.
Insert it into the profile slot and tighten it slightly. Lock M3X5 screw first and then tighten M5X6 screw.





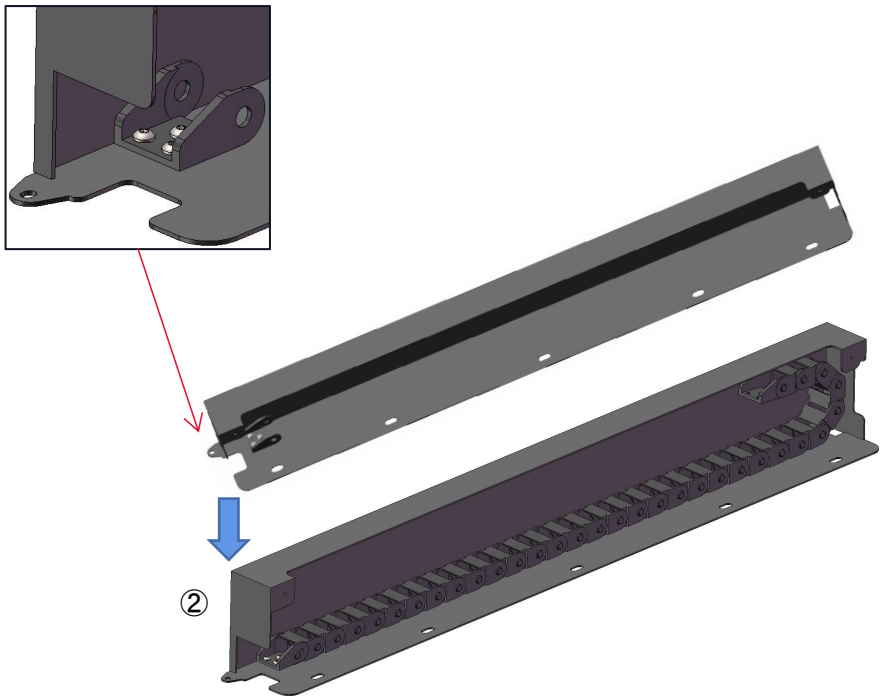
Step 13

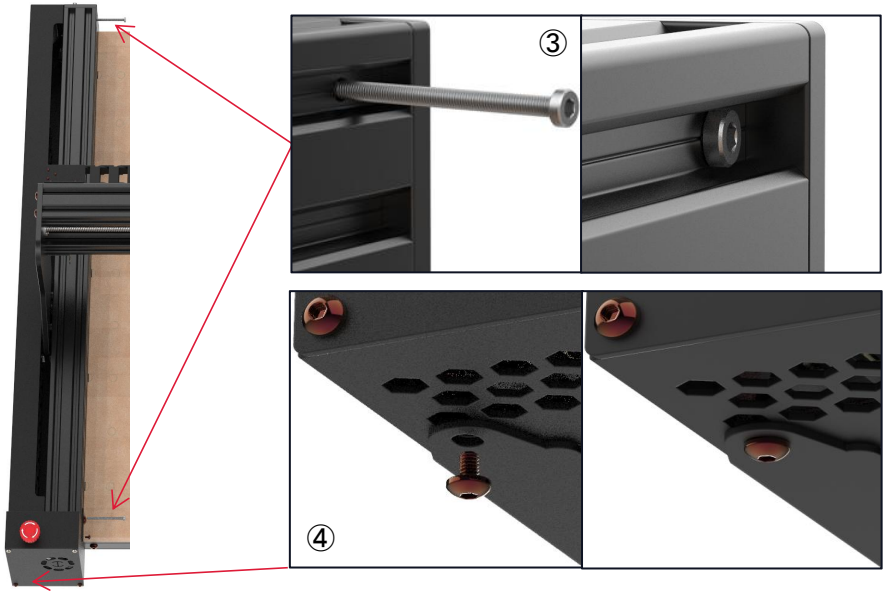
Y-axis guard and drag chain installation

Required parts

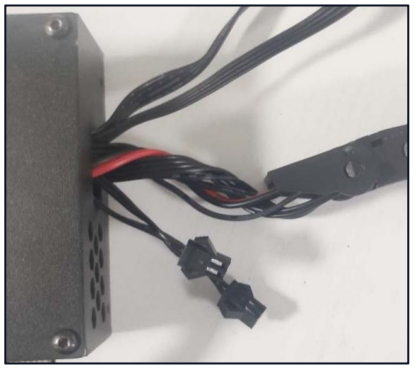
-M3X5 screw*1
-Cuphead M3X40 screws*2
-Left Y-axis guard*1
-2.0 hexagonal wrench
-2.5 hexagonal wrench

① first Y-axis limit switch connected to the control box terminals to plug the wireless sequence requirements
②Snap the drag chain of one end of the control box into the left Y-axis guard plate.
③M3X40 screws are locked through the profile.
④M3X5 screws lock the control box and the guard plate.





①



Step 14

Y-axis guard plate fixing

Required parts

-M5X15*5

-3.0 hexagonal wrench

Lock the M5X15 screw through the Y-axis guard into the profile.

The drag chain harness is threaded through the hole.

Step 15

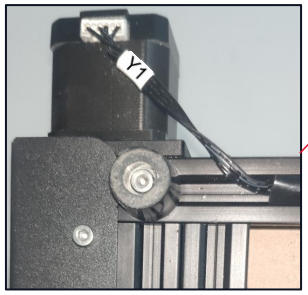
Y-axis motor cable fixed

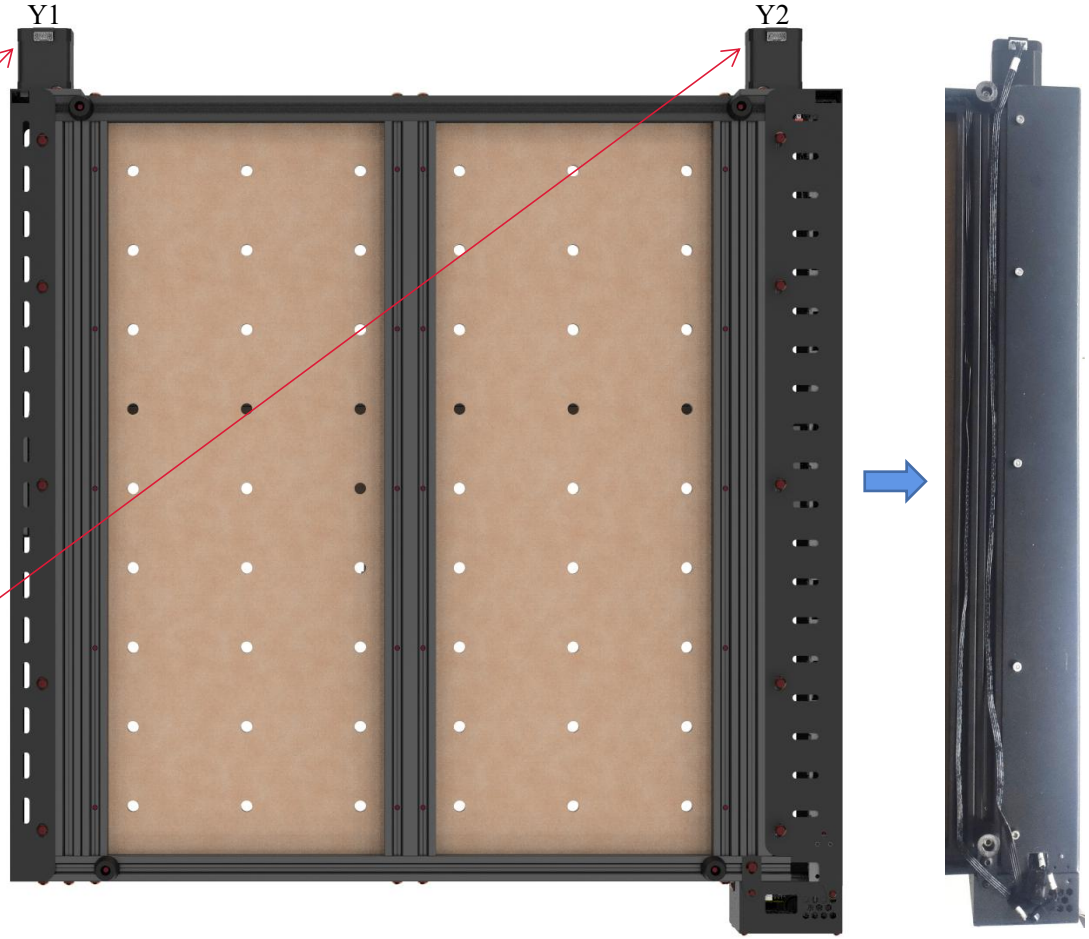
Required parts

-Profile seal*3

Insert the Y-axis motor wire into the bottom profile slot
The profile seal is pressed firmly.

The motor line is inserted into the Y-axis stepper motor.





Step 16

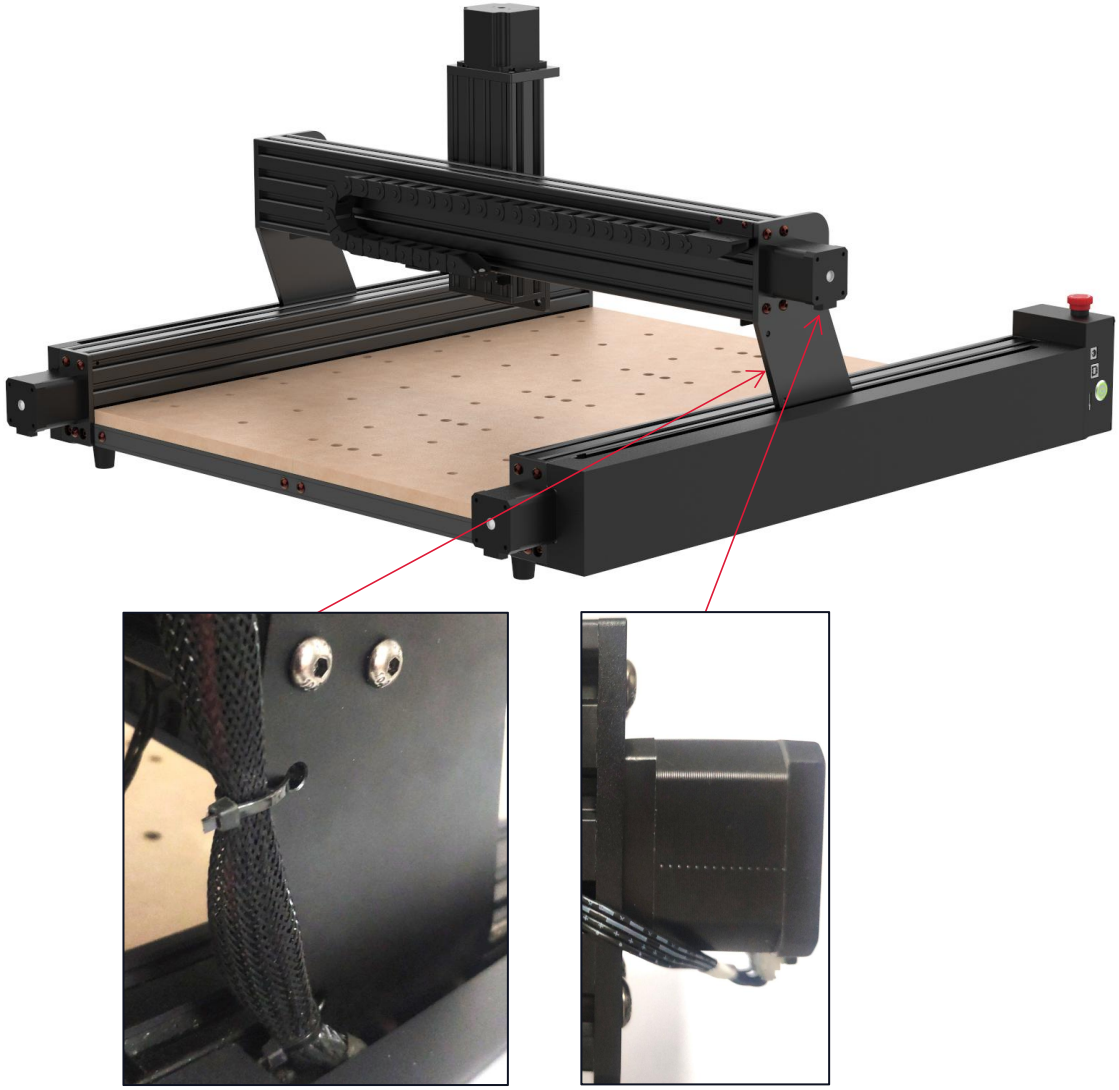
X-axis motor cable fixed

Required parts

-Nylon ties*2

Insert the motor cable into the X-axis stepper motor.

Tie the wire harness with nylon ties.



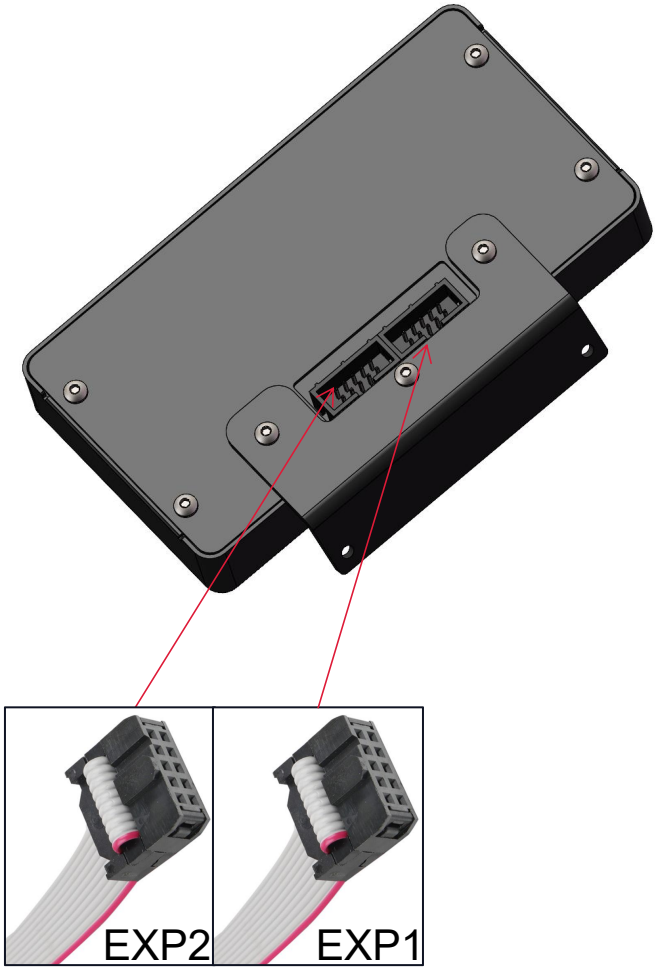
Step 17

Installation of TS Touch Panel

Required parts

-M3X5 screws*2
-TS35 touch screen kit*1
-2.0 hexagonal wrench

Control box row cable into the back of the touch screen, M3X5 screws through the fixing plate to lock the screen.



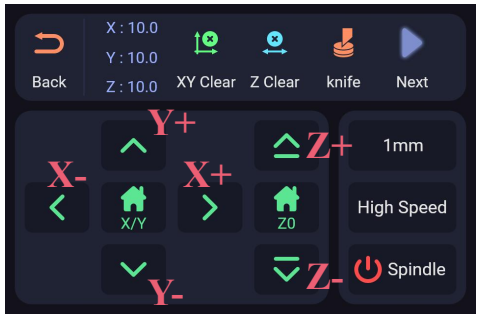
Step 18

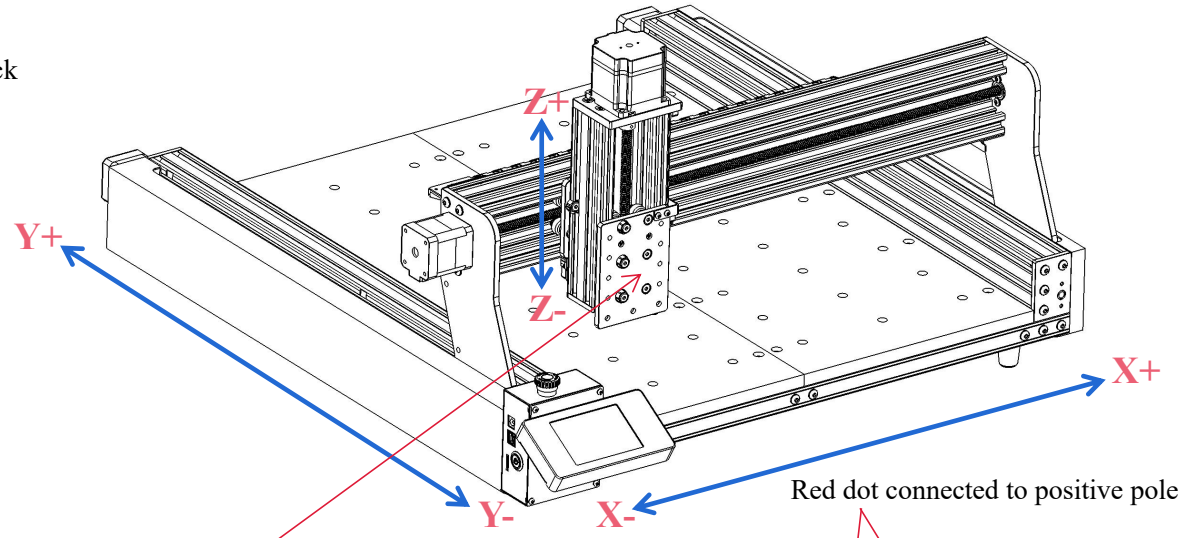
775 motor chuck installation

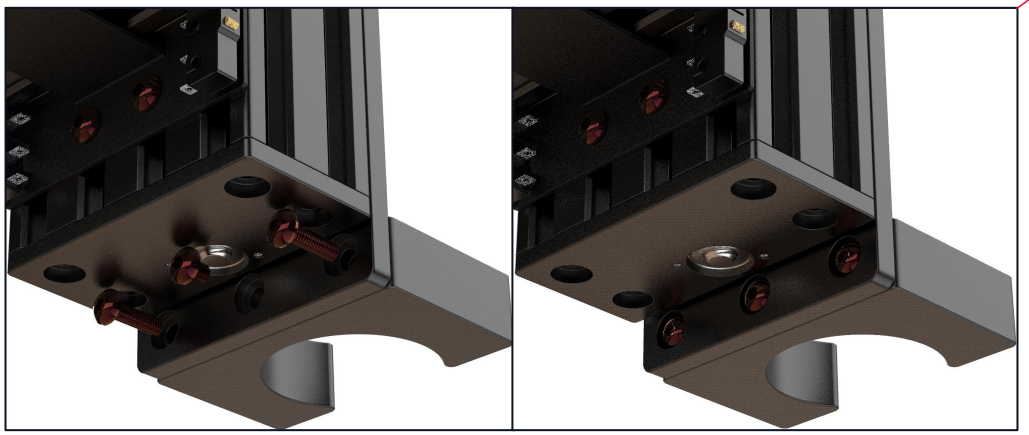
Required parts

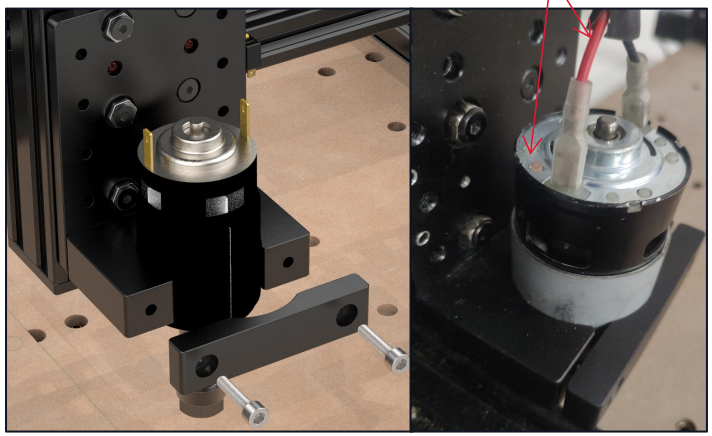
-775 spindle motor*1 -775 motor chuck*1
-3.0 hexagonal wrench -4.0 hexagonal wrench
-M5X6 screw*1 -M5X12 screw*2 -Cup head M5X12 screw*2

Plug in the 775 motor cable,Z-axis stepper motor cable and Z-axis,X-axis limit cable .click the X+axis to move to the right.Click Z-axis to move down.







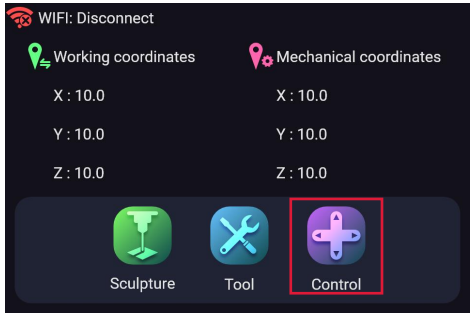


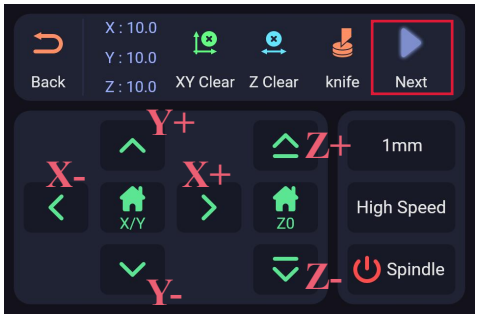
Step 19

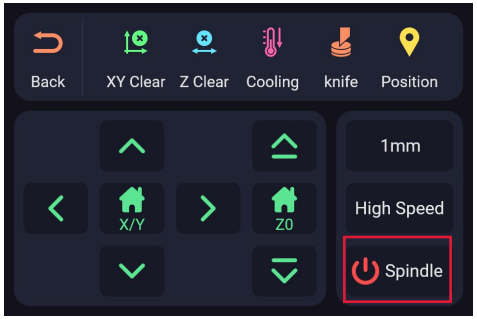
Test

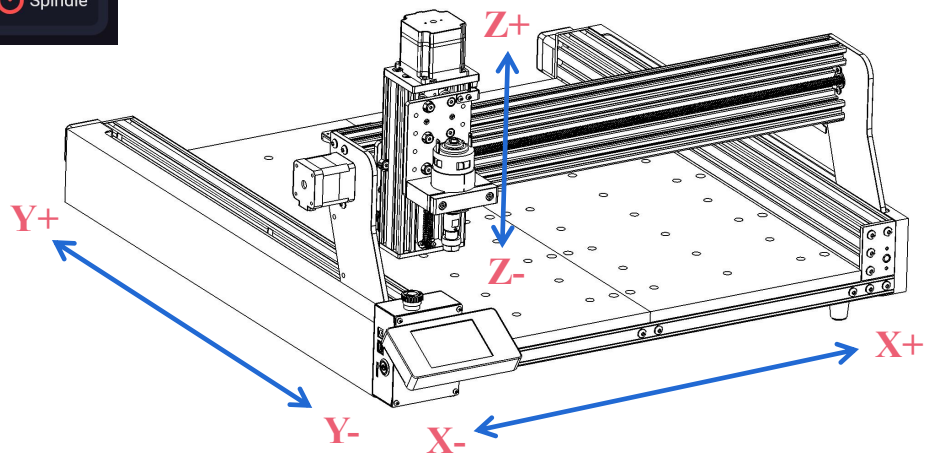
Make sure the emergency stop switch is popped up, plug in the power and press the metal switch, the green light will be on.If the screen lights up, the power on is normal. If the screen does not light up, after power off, exchange the screen line position to reboot.

Click the "Control" button and move XY-axis to the bottom left corner of the machine.Click XY Clear and Z Clear .Then move the XY axis away from the corner.
Click "NEXT", click "HHome" to return to corner.XYZ axis will return to the bottom left corner of the machine.
Click "Spindle" to rotate the spindle. Click "Spindle" again to stop the spindle.

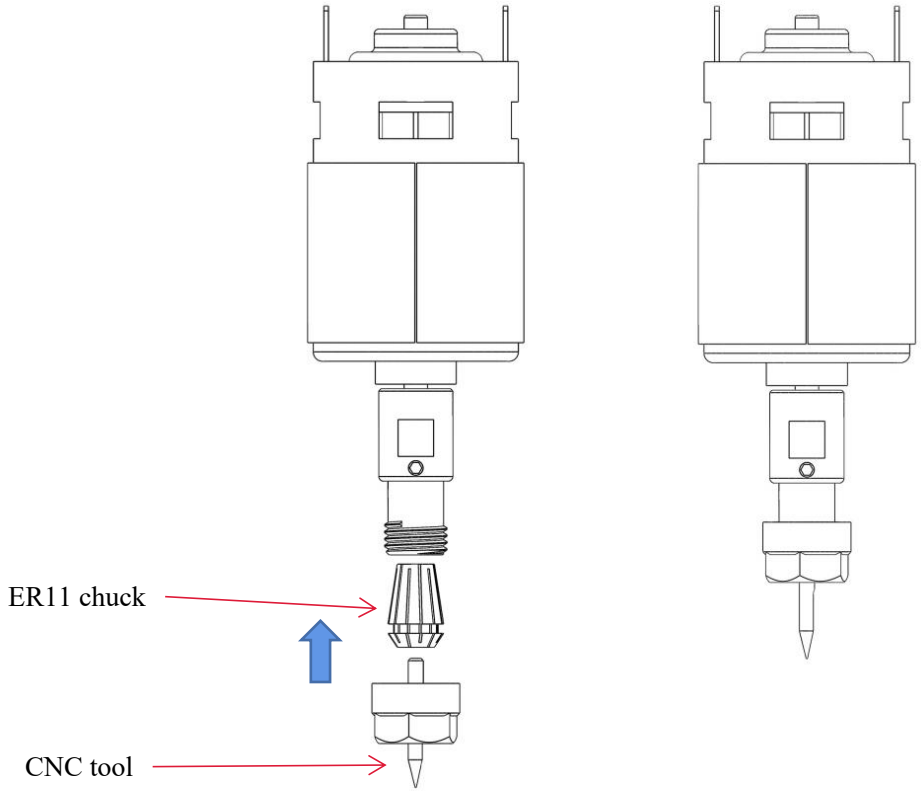




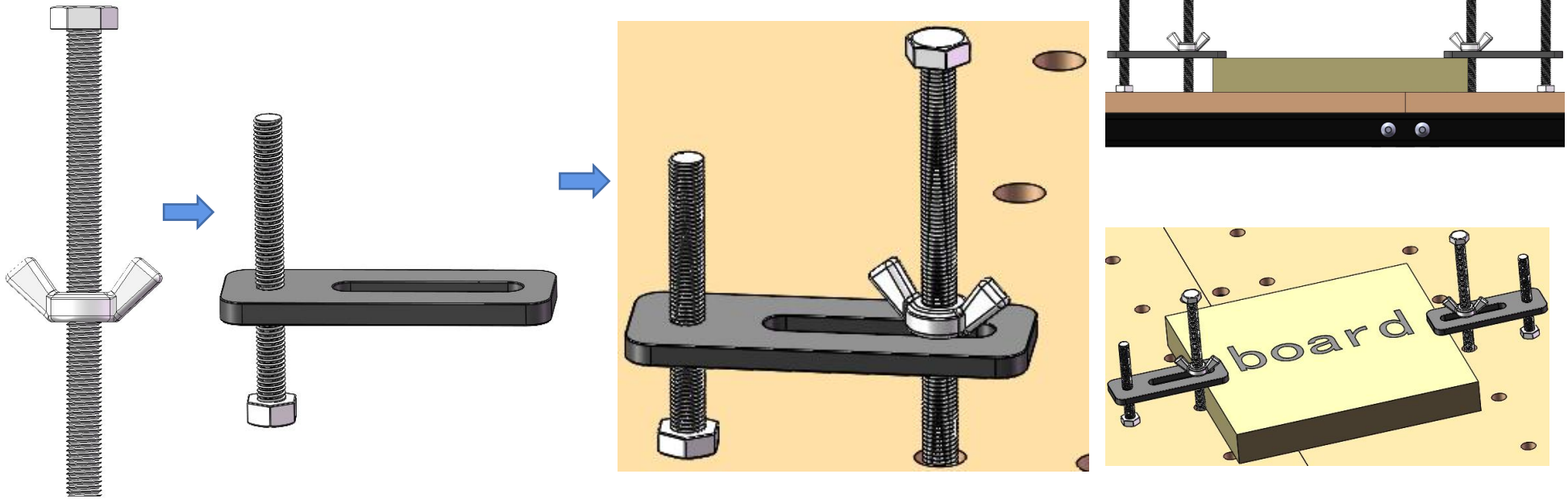




Note: The clamping length of the milling cutter is approximately 1/2 of the total length of the milling cutter.



The workpiece is clamped by adjusting the butterfly nut.
Note: The tool path bypasses the fixture to avoid collisions.

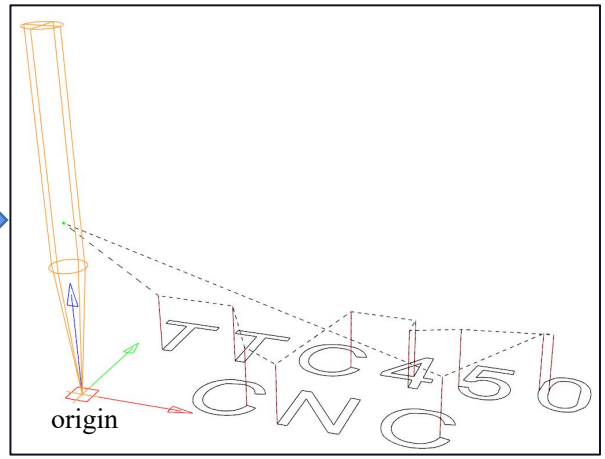


Engraving with TS35 screen

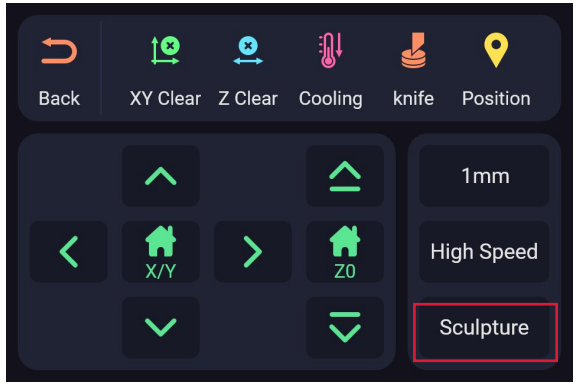
Save the NC file to SD card, Power on

Click Sculpture button choose NC file

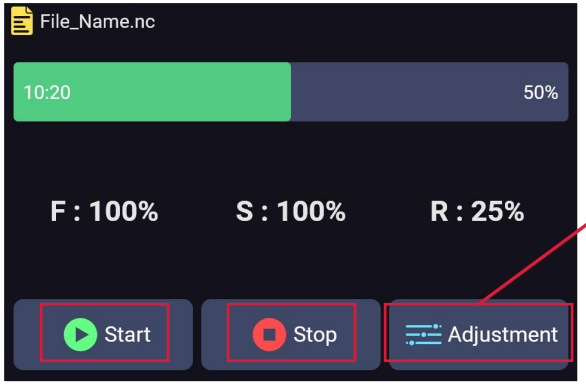
Move the XYZ-axis to the origin.Click XY Clear and Z Clear



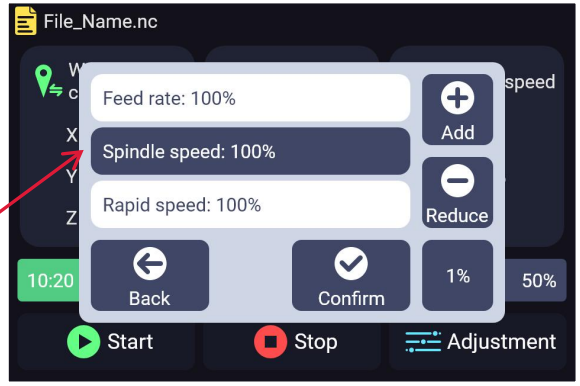
Click Sculpture button again start engraving



Option to start or stop the program



Click Adjustment button you can change the rate and speed



Engraving with computer

1 . Assembly

Please reference《Woodpecker CNC Assembly Guide》.

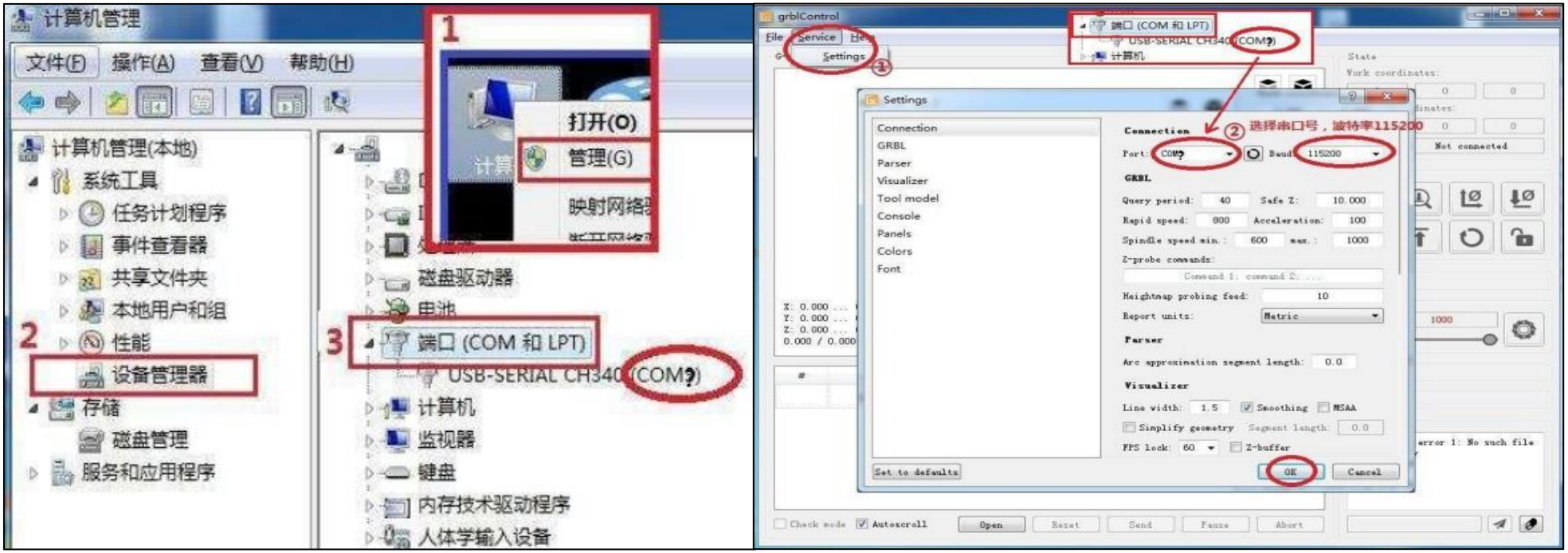
2. Debugging

Install CH340 drive Program.

Double-click CH340SER --Click Installation— Wait for the installation program to end.

(This drive program Supports XP32/64WIN7 32/64)

Right-click My Computer-Management-Equipment manager-Port, check whether there is CH340 Port number. If installation success will appear COMx, remember the number after COM



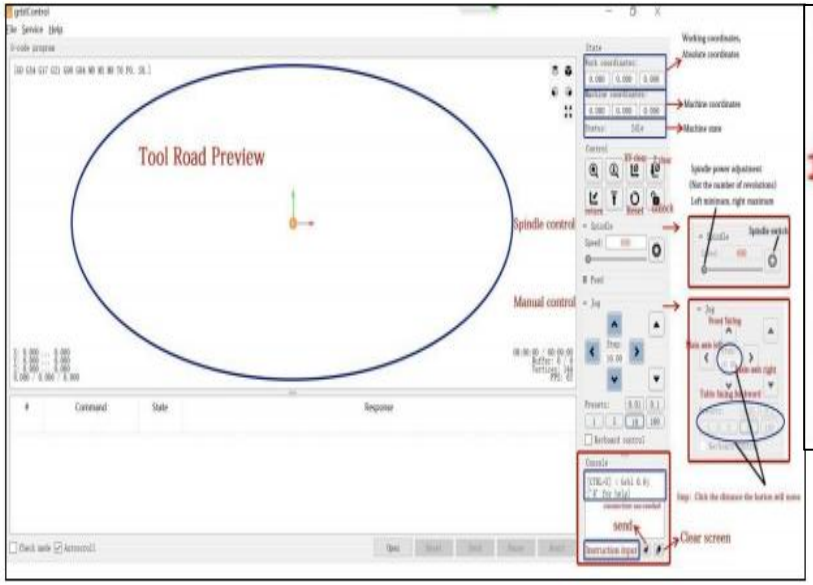
Use Candle(Control Software) to connect machine:

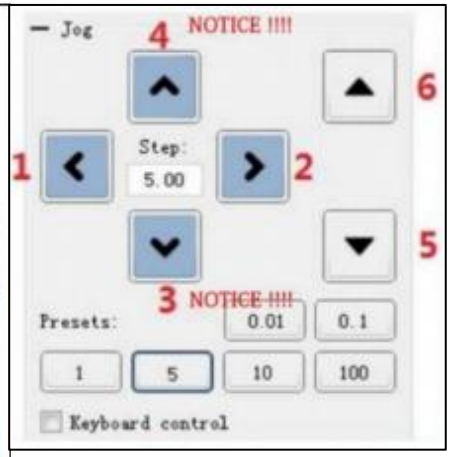
Open Control Software Candle. This software is for control CNC 3 Axis carving. First of all set port number, and then return to the main interface of software,software will connection machine automatically.

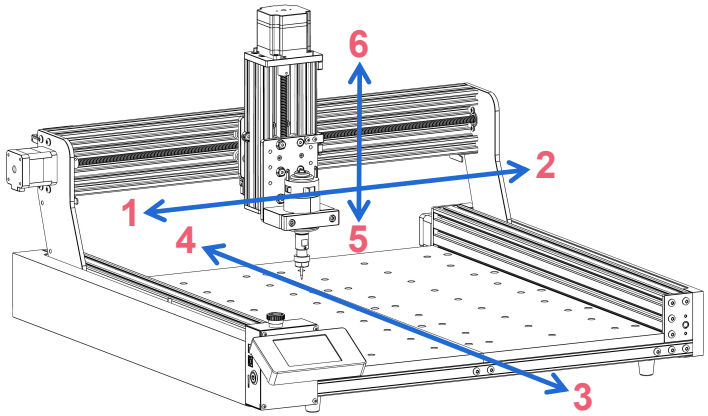
The port number must be the same as last step, otherwise software can not connect the machine.

If connect machine successfully the main interface will display: [CTRL+X] < Grbl 0.9j ['$' for help]. If no this display or display other information it means connection failure. Please check whether you have followed all the steps. Or close software, pull out USB wire. And connect USB wire-open software-set port number-connect machine again.

Grblcontrol The main interface introduction:







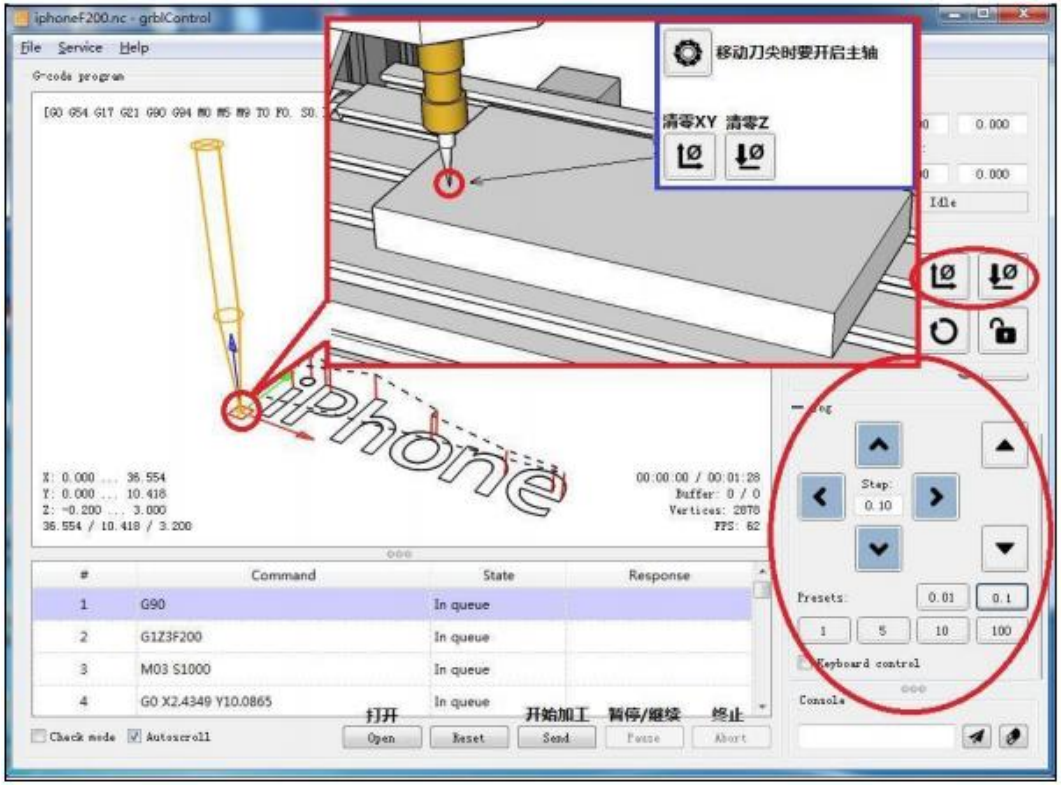
Direction check: check whether the machine moves the same direction when you click on the software

If you click the button,The machine is not moving in the corresponding numberical direction,that means the stepper motor in this direction is reversed . Please exchange the motor wire on the control board.

After direction checking we can start to work.

Cutter setting: to set the position where we start to work. Move cutter to the position, click XY and Z axis coordinate zero clearing,then it will start to engrave at this point.

When you do last step please make the spindle running because the cutter may touch the object you want to engrave.



After first testing, then you can try to make your own gcode for engraving.Gcode is the command that make the machine move. It should be a .nc file. In the folder there are some .nc files. You can check. Matched software to make .nc file is ARTCAM(In the link it is old version, if you want to get latest version you can search it on internet, it is very common software): https://www.dropbox.com/s/n1pi86z2lu5zd8q/ArtCAM.rar?dl=0 This is one version, you can also get some other latest version on internet.

You can also watch these videos on Youtube to know how to make .nc files by using ARTCAM:https://www.youtube.com/user/delcamartcam/videos

AFTER-SALES SERVICE

The guarantee period is 12 months from the date of purchase.

1.MIssing/Dameged/DefeetiveParts

Within 7 days of the date of receipt, we will roplace any parts for free of charge including shipping fees.

After 7 days of the date of receipt, we will replace any parts for free of charge. But you need to pay the shipping fees.

2.Customer Damaged Parts： You need to pay for the cost of the parts and the shipping fees.

3. Courier company loss, missing, damaged, and defective parts.

a. Lost or damaged shipments must be reported to the carrier within the carrier’s claim window, and you need to inform us within 7 days of the date of receipt.

b. For any parts lost or damaged during shipping, you need to take photos or video and send them to us.

c. Once the Carrier dispute is settled,please provide us with all communications with the carrier. It is the customer's responsibility to keep us up to date with ALL communication with the carrier.

d. For Missing Parts, you need to fill out a Service Ticket.

e.For Damaged Parts,you noed to fill out a Service Tickot and send us the photos or video.