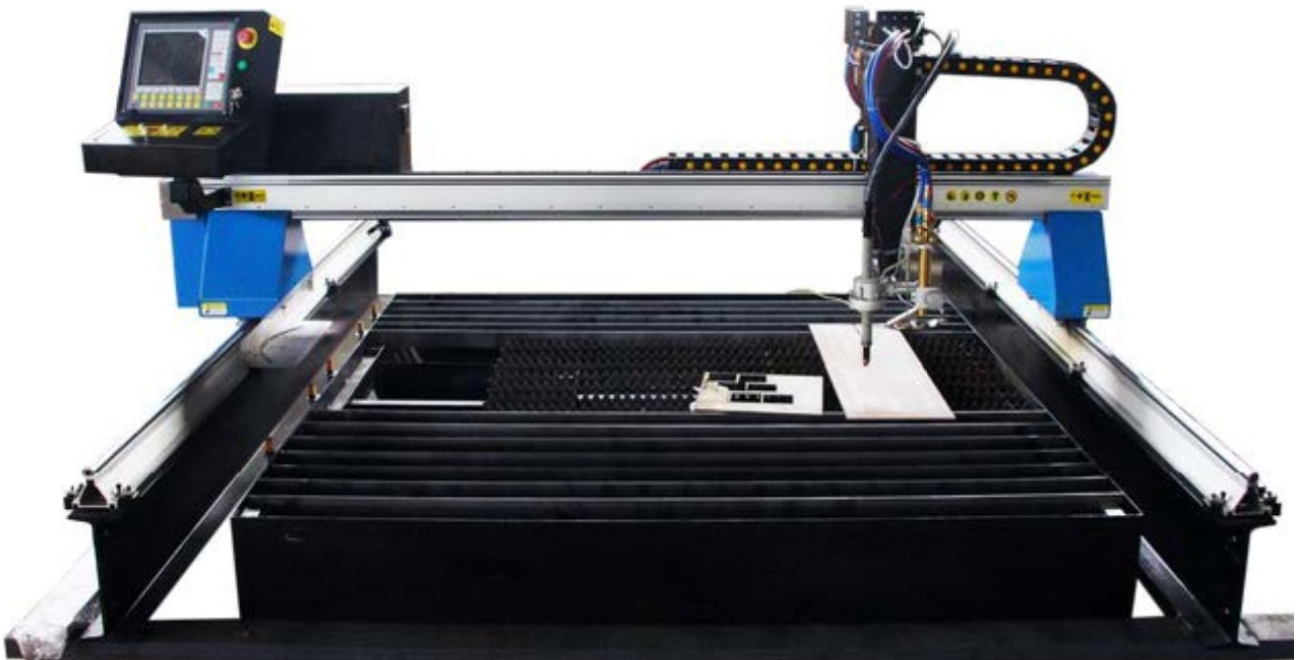


ARCBRO[®]

Thunder X-PRO SERIES

CNC Plate Cutting Machine install Manual



Operator Manual

ARCBRO | Revision 2 | English

Date of issue: August, 2020

Technical Support

Thank you very much to choose **ARCBRO** product, our whole engineer department work for you since the day you receive machine. When you have any questions during assembling or operating, it is free to contact us by Call, Email, Online help 7x24 hours.

Wish you enjoy a wonderful CNC cutting travel.

ARCBRO CNC Technical Support & Solutions

7x24 Hours

+86-10-65798995

support@arcbro.com

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Contact

by arcbro / August 7, 2015

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E-mail: [Please leave message to us by live chat](#) —

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Contact ARCBRO Portable CNC Cutting Machine

We will reply as soon as possible



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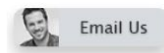
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- ❖ No parts of this manual may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronically, mechanically, by photocopy, recording or otherwise, without the prior written permission of ARCBRO Company.
- ❖ This User's Manual is only available for **Thunder X-PRO** CNC Plate Cutting Machine.
- ❖ Ensure that the operator has read and understood this User's Manual before any operation on **Thunder X-PRO** CNC Plate Cutting Machine.
- ❖ There may be few differences between the pictures in this User's Manual and the machine you received.
- ❖ Never hesitate to contact us for on-line technical service when you have any questions or you need help, and it's our pleasure to be there for help.

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Technical Parameters

Type	Thunder X-PRO
Effective cutting range	Width: $\geq 2000\text{mm}$, Length: $\geq 3000\text{mm}$
Input power supply	1 phase, 110V, 220V, 50Hz/60Hz
Cutting model	Plasma cutting/Flame cutting
Max travel speed	8000mm/min
Drive motor	Smart servo motor with reducer
CNC SYSTEM	
Display	10" color LCD screen
CPU	Industrial ARM9 chip
Internal library	24 kinds of shapes
External format	TXT or NC format
Language	English, Spanish, Russian, French, Japanese, Czech, Slovenia
PLASMA CUTTING MODE	
Max cutting speed	6000mm/min
Max cutting thickness	Depends on plasma power source
Plasma power source	Support up to 125A (not include in standard package)
THC	Arc voltage Auto Torch Height Controller
Accuracy	$\pm 0.3\text{mm}$
Flame CUTTING MODE	
Max cutting speed	6000mm/min
Max cutting thickness	10-150mm

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THC	Capacity Torch Height Controller
Accuracy	±0.3mm
Cutting gas	Oxygen, acetylene, propane

Notes

Note 1: Propane cutting nozzles are included in standard package. Acetylene nuzzles can be ordered.

Note 2: Specific torch assembly must be ordered for Gasoline project.

Note 3: Nesting software standard Wizard is included in standard package.

Note 4: The machine must be grounded reliably when it is working. (Connect the plate and the earth)

Note 5: Clean dust regularly to keep the rail and rack clean for smooth movement.

Note 6: Avoid damage for the LED display screen of CNC system.

Note 7: Equipment use environment:

Ambient temperature: -10°C—+50°C

Environment humidity: 90% RH below

Storage temperature: -20°C—+65°C

Sea level elevation: An altitude of 1000 m below

Safety


1. Information for your safety

The operator must read and understand the contents of this user's manual before any operation on **Thunder X-PRO**

Never hesitate to contact us for assistance when you have any questions or you need help, and you can reduce the amount of time your troubles take and solve your problem efficiently.

Note: Each of the following descriptions must be verified before any operation on **Thunder X-PRO**.

- 1. The operator should wear face shield, welding gloves, caps, membrane filter dust mask and sound insulation earmuff. It is strictly forbidden to observe directly or approach to the plasma arc with exposed skin.



Precautions for safe use & machine working properly, Please must obey the following rules:
(A) Do not move the equipment body during working;
(B) Without permission, Do not open the equipment cover;
(C) Read the directions carefully before using the equipment.



CAUTION



ROLLING
Keep clear

-2. The operator can't load external program in internal storage of the machine in case of the virus. Only the special software recognized by ARCBRO can be applied.

-3. During cutting period, when the floating voltage is too high, the operator should check the ground connection, neutral connection and insulation of the torch handle. Then isolate the



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workbench from the ground, Or install no-load open-circuit relay in the electrical control system.

-4. The cutting operator and assistant must wear labor protection articles by regulation and take safety measures to prevent electric shock, high-altitude falling, gas poisoning, fire or any other accidents.

-5. The site should build rain-proof, damp-proof and sun-proof machine shed, and install corresponding fire equipment. The machine should keep away from flammable and combustible materials.

-6. As the operation and maintenance has potential dangerous, operator should be careful in case getting injured. It's forbidden to wear loosen cloths or cotton ropes in case being entangled by the machine.

-7. The high voltage of plasma CNC cutter is fatal, so operator should install the machine step by step as the manufacturer stipulate.

-8. Only trained personnel can be allowed to operate the equipment. Any maintenance should obey the user's manual and before that the power should be cut off. Only experience technician is allowed to change assemblies.

1. Thunder X-PRO Description

1.1. What is Thunder X-PRO?

Thunder X-PRO is a bench structure automatic CNC cutter, specially designed for various plate cutting with the following specialties.

1. Fast assembling and easy plate loading mechanical design;
2. Split structure: gantry frame and water table can be ordered separately.
3. Adaptable THC and water table design for different thickness cutting needs.
4. Quick-react computer numerical control;
5. Advanced technology assures high precise & stably fast cutting performance.
6. High efficiency CNC system for both time and money;

With the help of our nesting software, various fast auto nesting, high accurate drawing, or any shape profiling can be achieved efficiently by **Thunder X-PRO**.

1.2. Application

Thunder X-PRO is an ideal CNC Plate Cutting Machine widely used in industry field, such as shipbuilding industry, metallurgic industry, petrochemical industry and water resources & electric power. It can cut various metal plates in seconds, for instance: carbon steel (flame cutting), stainless steel, copper and aluminum (plasma cutting).

1.3. Programming and Nesting

Using ARCBRO plate nesting software, you can edit and do the nesting process for your pattern designed by CAD, then generate a G-code cutting file in txt format. This txt cutting file can be recognized and carried out by our CNC system when you import it by a USB drive. Now, running **Thunder X-PRO**, you can achieve accurate profiling of this pattern automatically.

2. Packing List

2.1. Introduction

Thunder X-PRO is packed carefully in one wooden boxes. All equipment in the boxes are protected fully to avoid any damages during transportation.

The boxes have to be carried with care always and with the top cover up during handling and transportation.


2.2. Packing List

Open the top cover of the boxes. And remove all the screws fixing the cover to the box body.

The Thunder X-PRO transportation boxes contain:

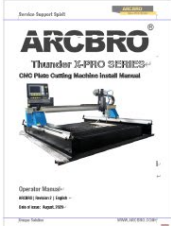
- ❖ This accessory is standard configuration, if your machine is customized, the accessories are according to the order requirements.
- ❖ The bolts of the machine are fixed to the machine.

Standard configuration




1.ThunderX-pro machine-1Set


ThunderX-Pro Standard Package




2.Manual-1Pcs




3.USB disk and Nesting Software-1pcs




4. Towline -1Pcs




5. Y axis Track -1 Set




6. Y axis mechanical limit-4Pcs



7. Towline bracket - 1Pcs



8. Plasma and Flame hold -1Set



Thunder X-Pro Standard Package



8. Oxygen and gas pipe-1Set



9. Raw material belt-1Pcs



10. Ruler-1Pcs



11. Hex wrench -1set



12. Wrench-1Pcs



13. Flame cutting nozzle-4Pcs

Standard configuration

▶ Packing List:

Thunder X-Pro Standard Package

No.	Name	No.	Name
1	Thunder X-pro machine-1Set	2	Manual-1Pcs
3	USB disk and Nesting Software-1pcs	4	Towline -1Pcs
5	Y axis Track -1 Set	6	Y axis mechanical limit-4Pcs
7	Towline bracket -1Pcs	8	Plasma and Flame hold -1Set
9	Oxygen and gas pipe-1Set	10	Ruler-1Pcs
11	Hex wrench -1set	12	Wrench-1Pcs
13	Flame cutting nozzle-4Pcs		

Standard configuration

3. Installation

3.1 Mechanical Assemble Steps

This part describe how to install **Thunder X-PRO** portable CNC cutting machine step by step.

Please assemble according to below steps carefully. Any questions or help needed, please do not hesitate to contact ARCBRO after sale service engineer, we will provide help as soon as possible.

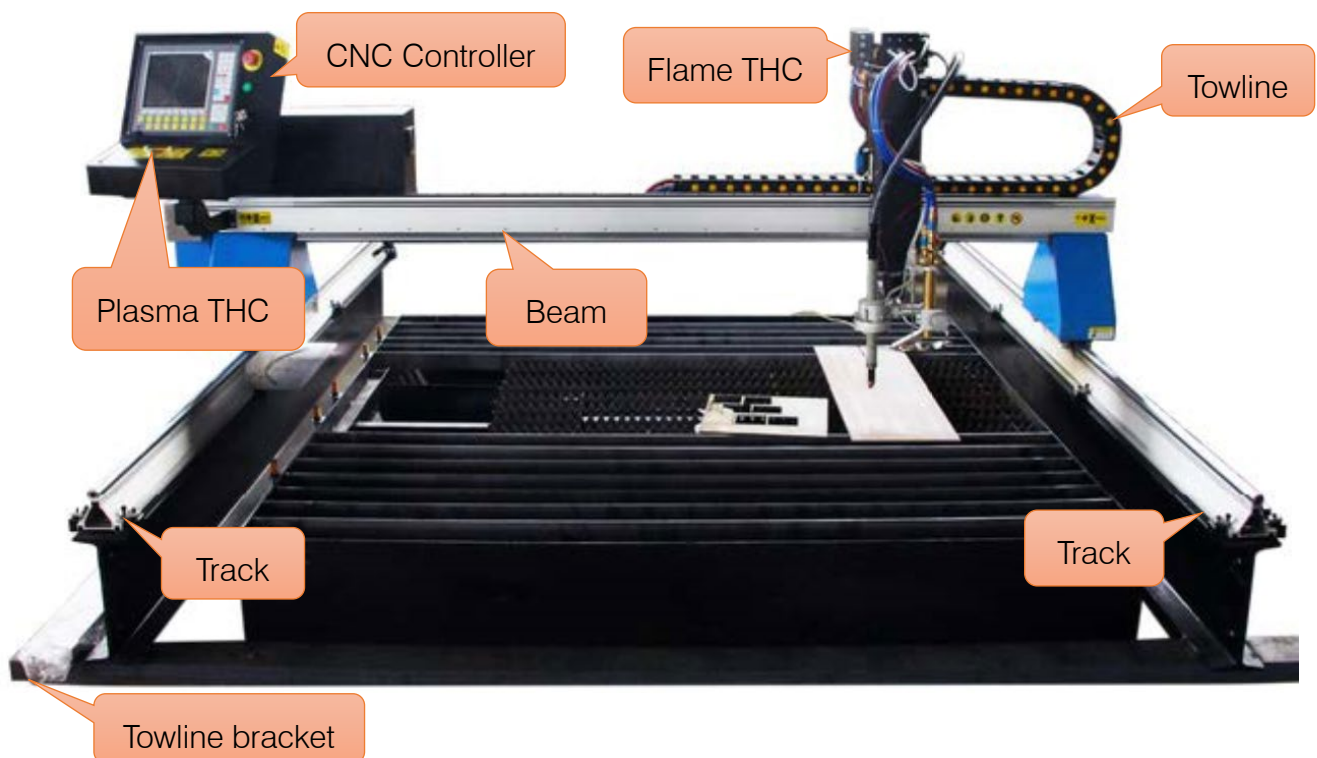


- ▶ The installer needs to prepare: electric drill, spirit level, forklift. Two installation mechanical engineers are needed for faster installation.
- ▶ In order to install the machine faster, please read the installation steps carefully before installation, it will save installation time.

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3.2 Basic assemble steps:

- ◆ Step 1 Install the machine track.
- ◆ Step 2 One of the tracks should be firstly fixed on the ground.
- ◆ Step 3 Install the crossbeam.
- ◆ Step 4 Install the motor.
- ◆ Step 5 Install the towline bracket.
- ◆ Step 6 Another one of the tracks should be fixed on the ground.
- ◆ Step 7 Install the test.
- ◆ Step 7 Install plasma hold and Flame hold.



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Step: Unpack the equipment box and remove all items

Remove all the screws which are fixed the box, check and confirm all the spare parts be inside and well, and then move all the parts out safely.



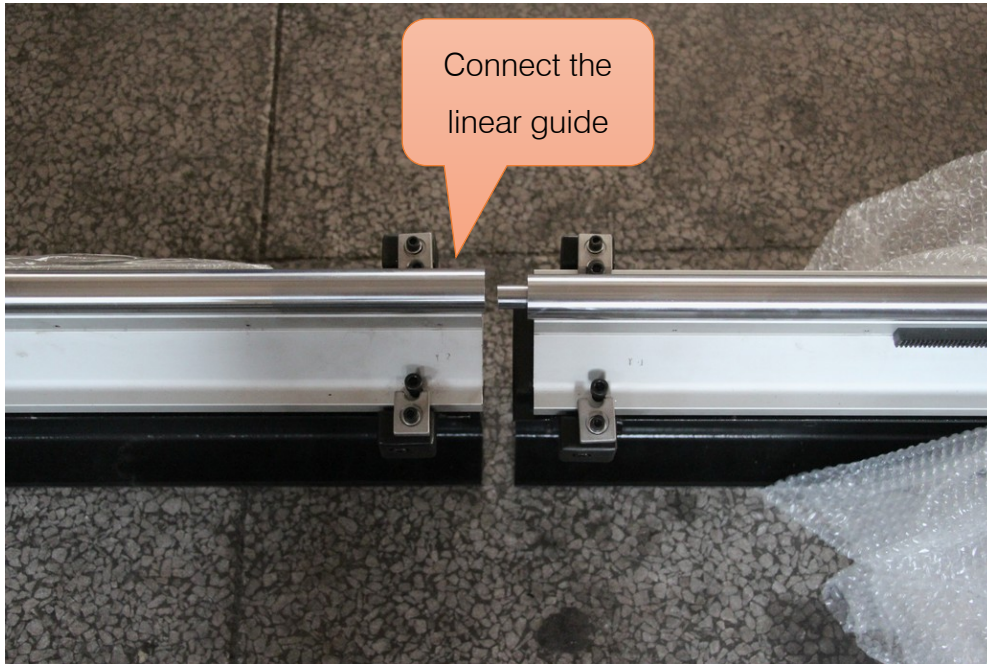
Thunder X-Pro Standard Package

No.	Name	No.	Name
1	Thunder X-pro machine-1Set	2	Manual-1Pcs
3	USB disk and Nesting Software-1pcs	4	Towline -1Pcs
5	Y axis Track -1 Set	6	Y axis mechanical limit-4Pcs
7	Towline bracket -1Pcs	8	Plasma and Flame hold -1Set
9	Oxygen and gas pipe-1Set	10	Ruler-1Pcs
11	Hex wrench -1set	12	Wrench-1Pcs
13	Flame cutting nozzle-4Pcs		

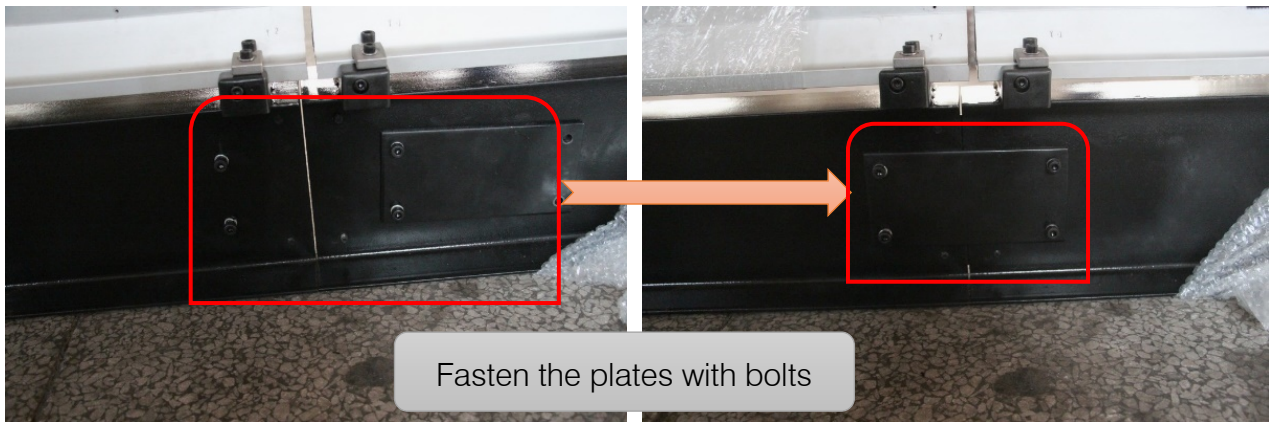
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Step 1 Install the machine track

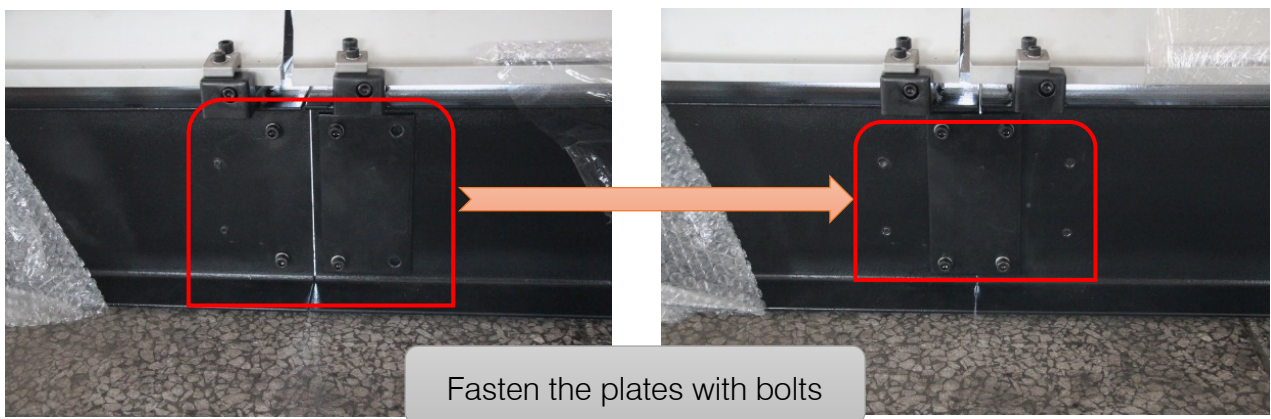
-1. Take out all the connect beam and tracks. Align the linear guide and insert closely.



-2. Fasten the fixed plate on both sides as below pic.

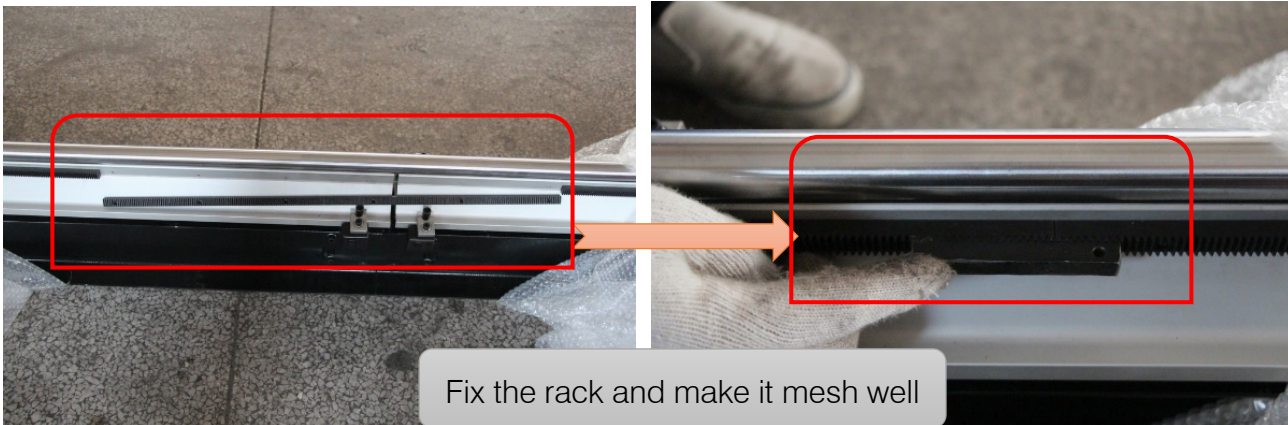


-3. The other side of the rail:



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-4. Fix the rack shown as below pic. Press another piece of rack on the joint to make two parts of rack mesh.



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Step2 One of the tracks should be firstly fixed on the ground.

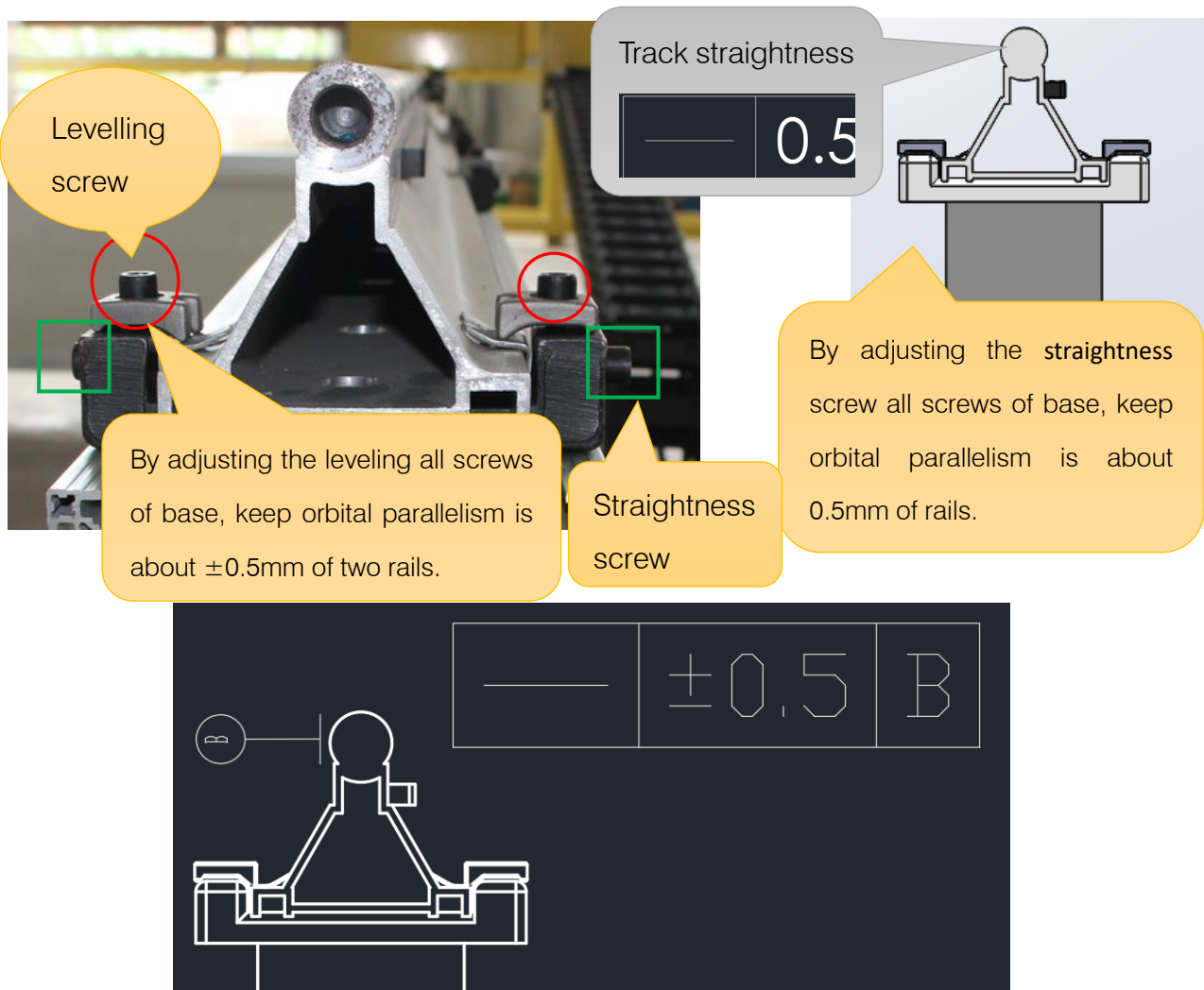
Re-check the whole length track's straightness and levelness.

Using straightening device to make sure the straightness tolerance is less than 0.5 mm for full length of track & guide. Level Instruments to check and make sure the level difference of the full length guide is less than 1mm.

Then observe by eyes and touch by finger to make sure detailed adjustment precision.

One of the tracks fixed on the ground. Connection all base on the ground by expansion bolt and tighten it.

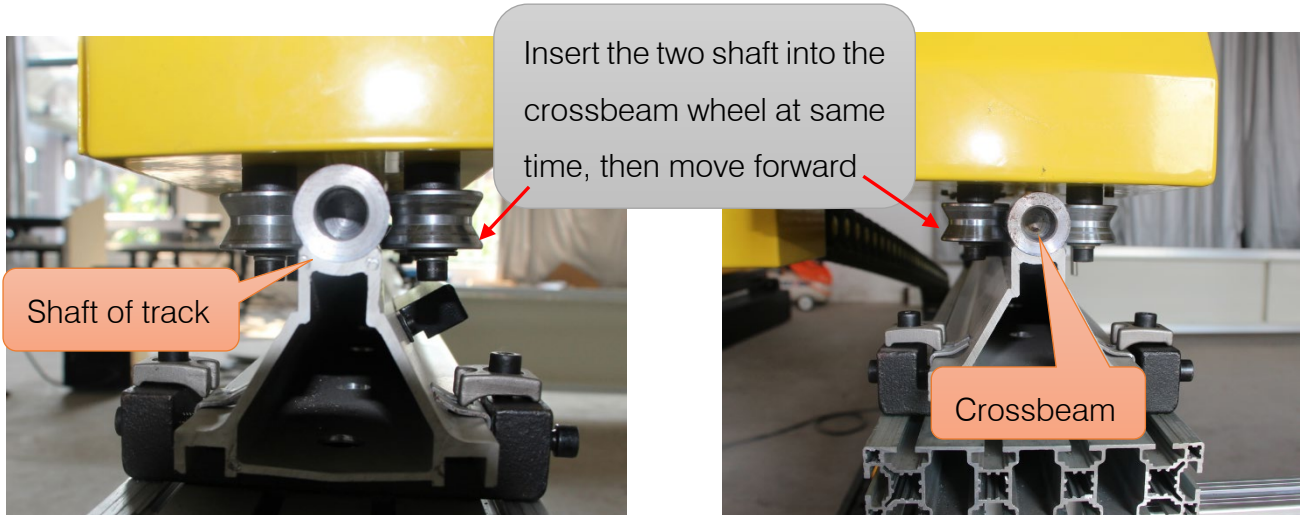
Note: The parallelism and straightness of the slide rails have been adjusted to the factory standard during the factory shipment. The customer only needs to fine-tune according to the actual situation of the foundation.



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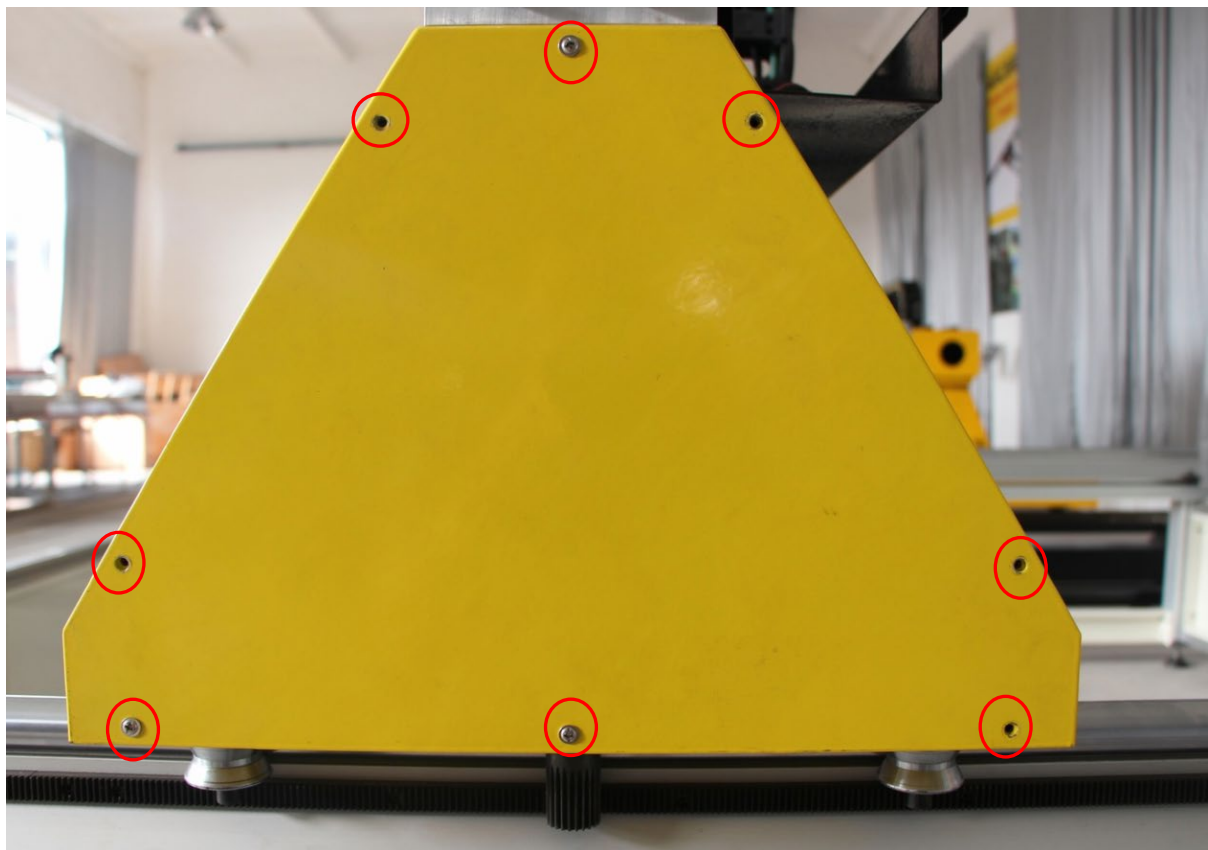
Step3 Install the crossbeam

Lift the crossbeam to a height similar with the height of track, then insert the shaft of track into the crossbeam wheel at same time, then move forward. As the Picture shows,



Step4 Install the motor

-1. Disassembly the motor cover, loosen all the bolts, as Pic shows.



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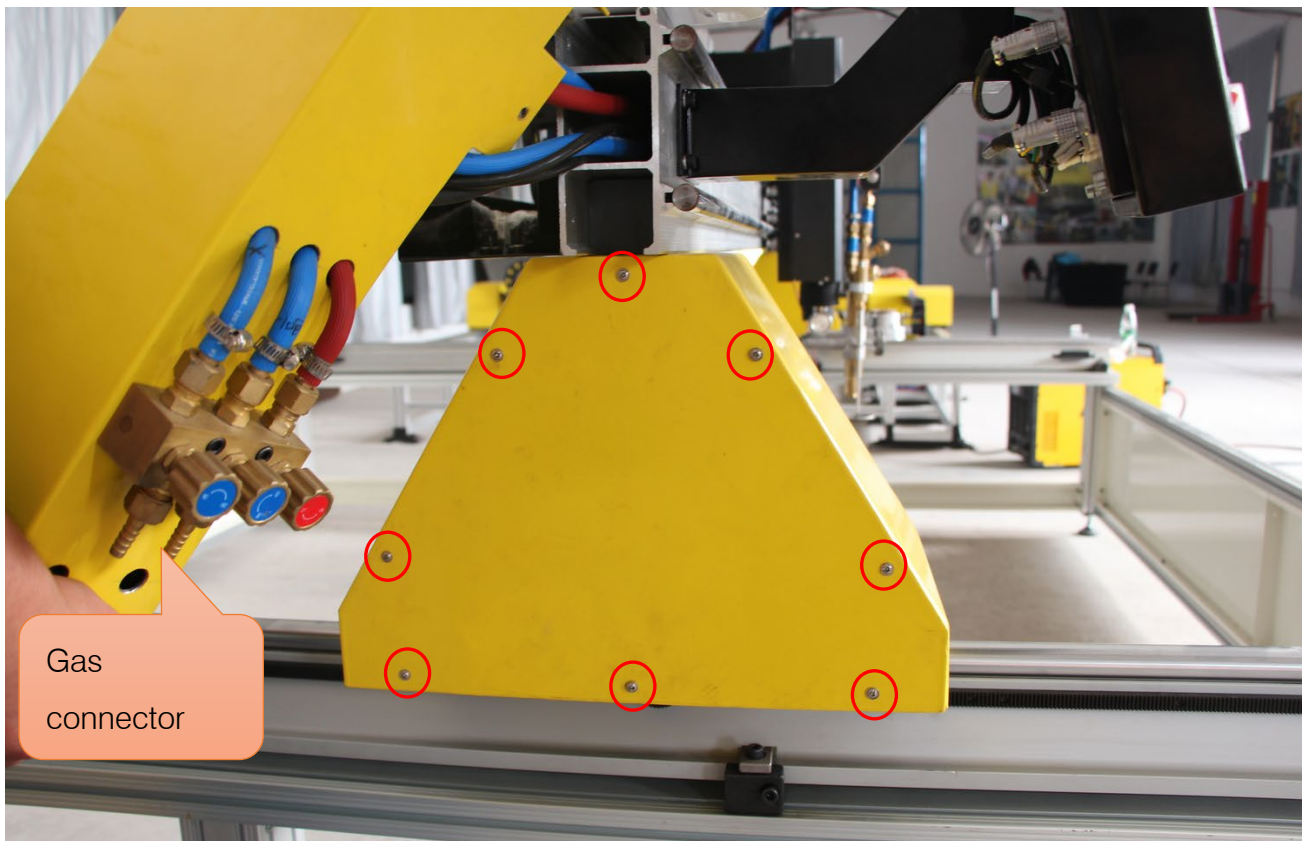
-2. Move the motor to the direction of arrow, as Pic shows,

Loosen the four bolts on fix plate.

Move the motor following the direction of arrow and ensure the rack and pinion mesh well. Then tighten the bolts on fix plate.



-3. Firstly move the gas connector aside, then take off the bolts of the motor cover



-4. Move the motor to the direction of arrow, as Pic shows,

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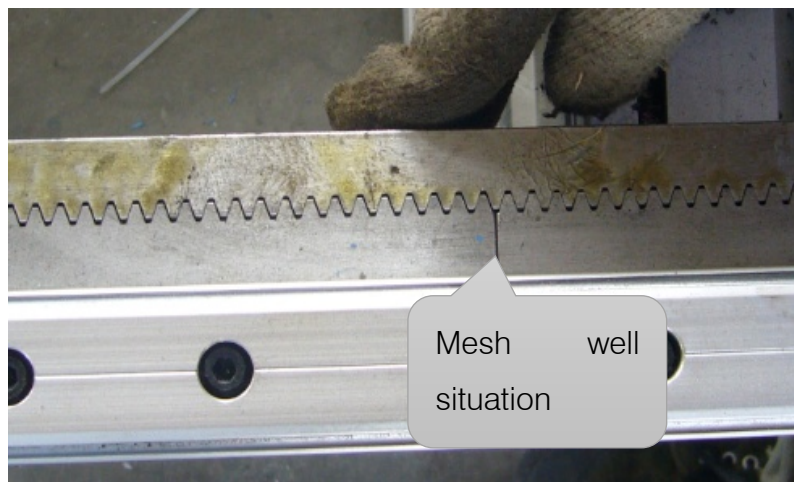


Loosen the four bolts on fix plate.

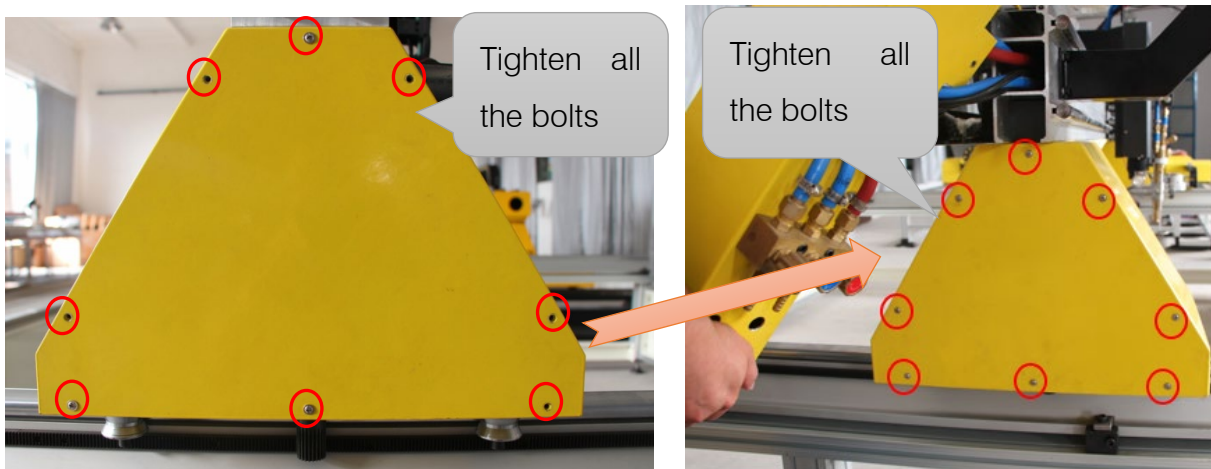
Move the motor following the direction of arrow and ensure the rack and pinion mesh well. Then tighten the bolts on fix plate.

-5. Check the meshing state:

If the rack and pinion do not fully meshing, pull the reducer outward and rotate the pinion to make the rack and pinion mesh well.



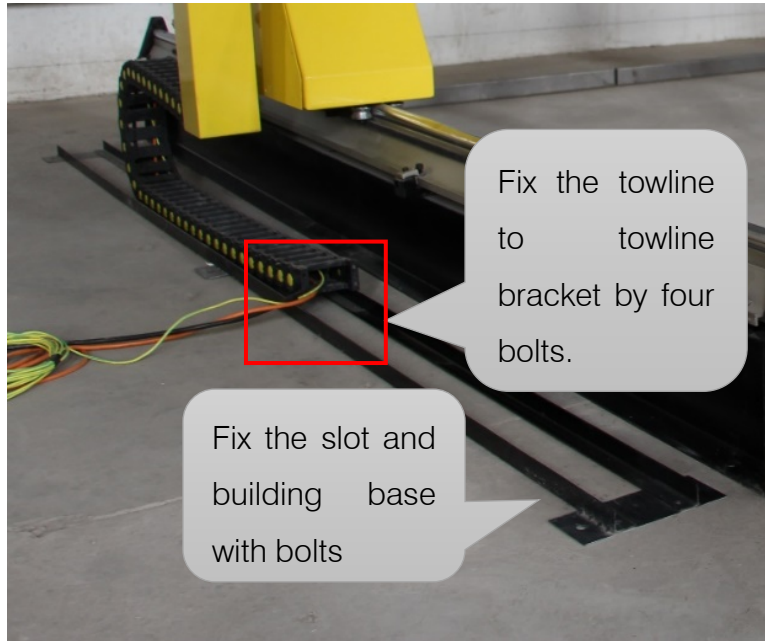
-6. Install the motor cover back, as Pic and Pic shows.



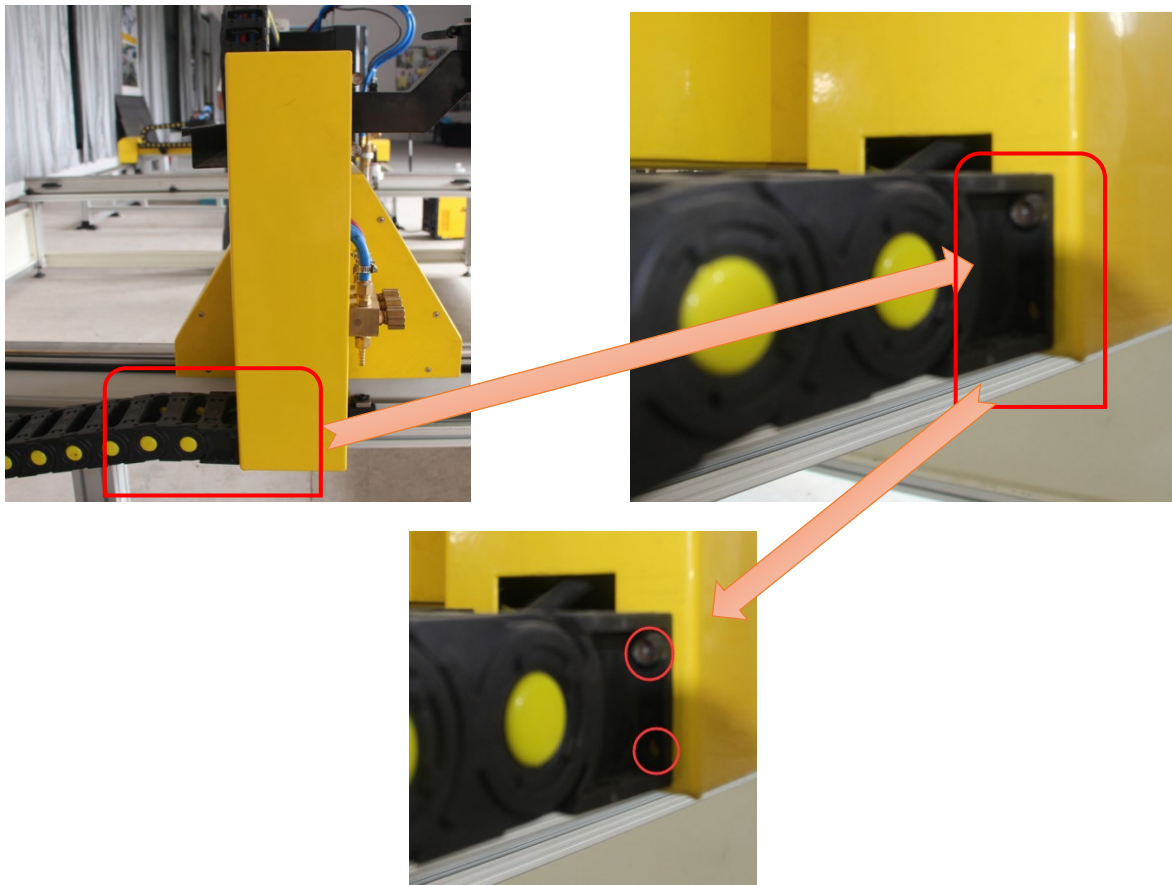
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Step5 Install the towline bracket

-1. Take out and put the towline bracket on ground, fix the towline to the towline bracket, as Pic shows.



-2. Fix the towline to the gas connector by four bolts, as Pic shows.



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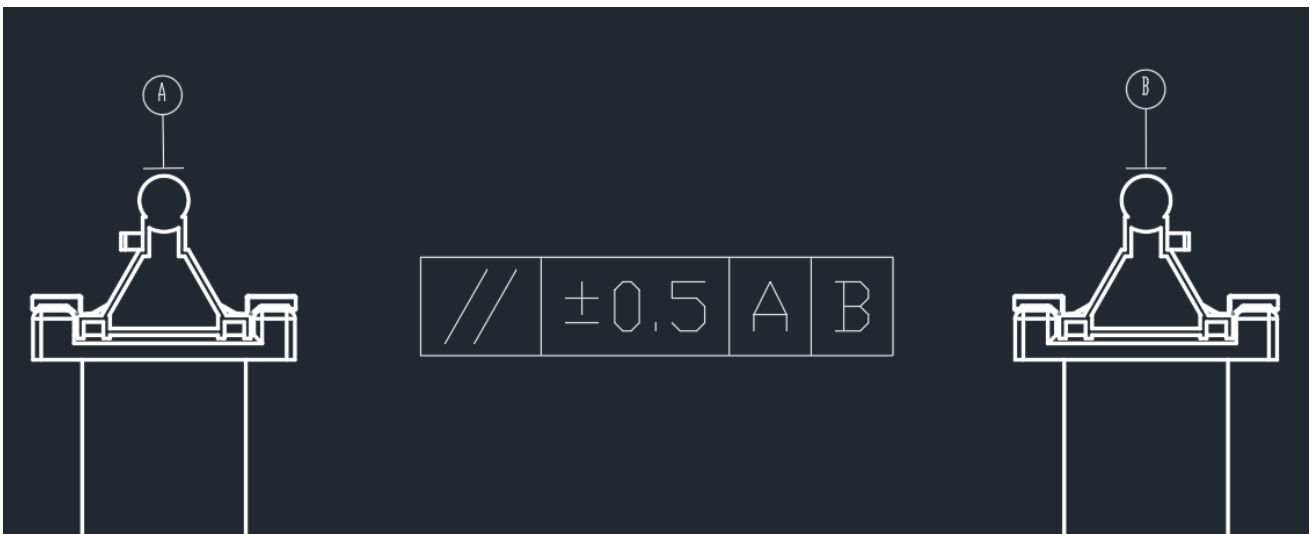
Step6 Another one of the tracks should be fixed on the ground.

Re-check the whole length track's straightness and levelness.

Using straightening device to make sure the straightness tolerance is less than 0.5 mm for full length of track & guide.

Regulate two side tracks' Parallelism for smooth running of Y axis.

Using Level Instruments to check and make sure the level difference between the two side tracks (A & B level) is less than $\pm 0.5\text{mm}$:



Then observe by eyes and touch by finger to make sure detailed adjustment precision. The tracks fixed on the ground. Connection all base on the ground by expansion bolt and tighten it.

Step7 Install the test

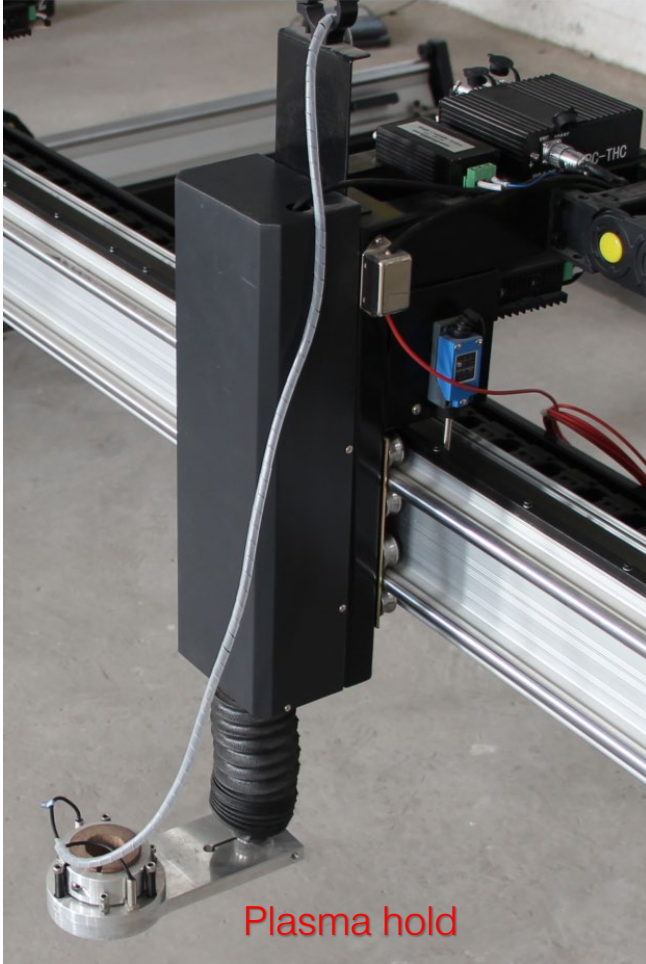
Run the machine to cut or draw a square shape, if it is irregular then move the motor along Track 2 to get regular shape.

Note: when move the motor, please refer to step 4. Loosen the bolt first, pull motor and move its position.

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Step8 Install Plasma hold and Flame hold

-1. Install Plasma hold



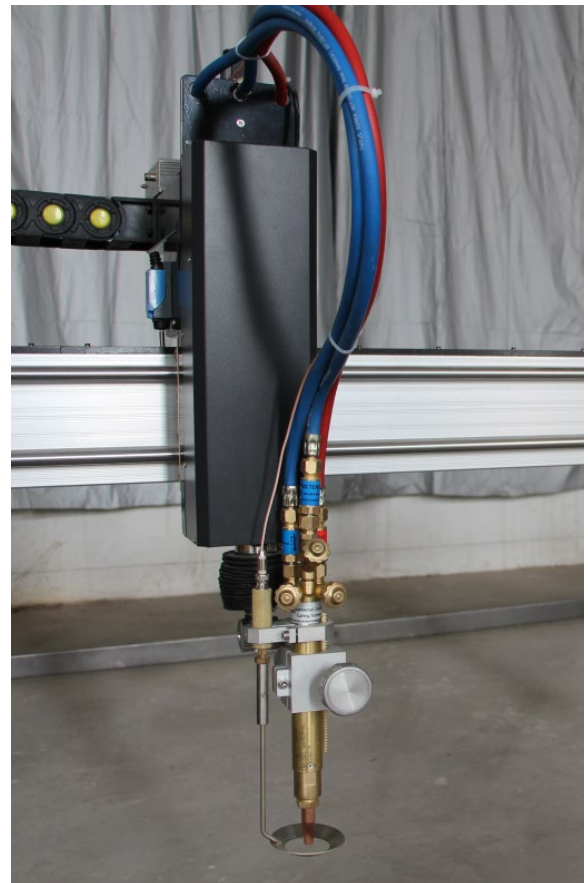
Assemble Step:

1. Load the plasma torch to the holder.
2. Connected the plug to the IHS box

-2. Install Plasma hold

Assemble Step:

- 1--Mount Flame THC hold.
- 2--Connect the oxygen pipe and gas pipe.
- 3--Capacitor signal connected to flame



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-3. If plasma hold and flame hold share the same.

The installation method is shown in the figure.

