

ARCBRO[®]

Scout-II SERIES

CNC Plate Cutting Machine install Manual



Operator Manual

ARCBRO | Revision 2 | English

Date of issue: August, 2019

Unique Solution

WWW.ARCBRO.COM

Service Support Spirit

- ↳ Changes may be made periodically to the information in this manual without obligation to notify any person of such revisions or changes. Such changes will be incorporated in new editions of this manual or supplementary documents and publications. This company makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims the implied warranties of merchantability or fitness for a particular purpose.
- ↳ 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 **Scout 2** CNC Portable Cutting Machine.
- ↳ Ensure that the operator has read and understood this User's Manual before any operation on **Scout 2** CNC Portable 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 serve for you. Our E-mail is as follows:

SALES@ARCBRO.COM

Service Support Spirit

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

www.arcbro.com/about-arcbro-cnc-cutting-solutions/



MACHINE ▾ PLASMA/FLAME CUTTER ▾ BLOG ▾ SUPPORT ▾ ABOUT US ▾ 🔍

Contact

by arcbro / August 7, 2015

Contact Us for CNC solutions



E-mail: Please leave message to us by live chat —

>>

Contact ARCBRO Portable CNC Cutting Machine

We will reply as soon as possible



Address: Xinfang Industrial Park, No.218, ChaoYang District, Beijing 100024, China

Tel: 0086 10 65798995

Fax: 0086 10 65790867

Share this:



7/24 Hours Te

Any question, an

Tel: +86-17610780535

Email: info@arcbro.com

Our System

Contact

Why ARCBRO

Follow Us



Email Us

Content

Technical Support	3
Technical Parameters	5
Notes:	6
Scout 2 Description	7
1. What is Scout 2	7
2. Application	7
3. Starting, Programming and Nesting	7
4. Composition.....	7
Safety	8
1. Information for your safety	8
Receive your package	10
Mechanical Assemble Steps	11
Step 1: Unpack the equipment box and remove all items.....	12
Step 2: Install longitudinal rail and control unit	13
Step 3: Install crossbeam.....	18
Step 4: Install the flame cutting section	20
Step 5: Install the plasma cutting section	22

Technical Parameters

Type	Scout 2
Effective cutting range	X-Aixs:1200mm, Y-Axis:2000mm, Z-Axis: Auto sensing or Motor Driver
Input power supply	1 phase, 110V, 220V, 50Hz/60Hz
Input capacity	180W
Cutting model	Flame or plasma
Gross Weight	80.5 KG Sr
CNC SYSTEM	
Display	7" color LCD screen
CPU	Industrial ARM9 chip
Internal library	24 kinds of shapes
External format	TXT or NC format
Language	English, Chinese, Spanish, Russian, French, Japanese, Czech and Slovenia
PLASMA CUTTING MODE	
Max cutting speed	0-3000mm/min
Max cutting thickness	Depends on plasma power source
THC	AVC Torch Height Controller
Accuracy	±0.3mm
FLAME CUTTING MODE	
Max cutting speed	0-3000mm/min
Max cutting thickness	80mm
Oxyfuel cutting torch	80mm neck (Can update to 120mm neck if necessary)
THC	Mechanical Torch Height Controller
Optional cutting nozzle	4 nozzles (#1, #2, #3, #4) for Acetylene or Propane
Accuracy	±0.5mm

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 — $+50^{\circ}\text{C}$

Environment humidity: 90 % RH below

Storage temperature: -20°C — $+65^{\circ}\text{C}$

Sea level elevation: An altitude of 1000 m below

Scout 2 Description

1. What is Scout 2

Scout 2 is a CNC portable Cutting Machine. It can cut any complex plane figures such as the large-sized gantry, and Scout 2 can match flame torch or plasma cutter.

Its design is compact and its structure is rational, which makes it light weight, small size and easy to move. Scout 2 is applicable both indoors and outdoors.

It is simple and efficient in drawing, nesting and cutting because of the installation of cutting software.

2. Application

Scout 2 is an ideal CNC Cutting Machine for small, medium scale enterprises.

Scout 2 is used in industry field widely. It can cut and blanking metal plates such as carbon steel (flame cutting), stainless steel, copper and aluminum (plasma cutting).

3. Starting, Programming and Nesting

The Computer Aided Design or manual drawing of parts can be prepared, nested and directly transformed into required G-code if you set proper programming parameters. The G-code can be stored in a USB key if you plug a USB key in the USB port of Scout 2 CNC cutting Machine. The G-code is automatically transmitted and the cutting operation may start. The G-code can be transmitted easily to the memory space of Scout 2 as well.

4. Composition

Scout 2 consists of a support structure and a central control unit.

The support structure composed of two longitudinal rails (Y Axis). The stability and rigidity of the rails are guaranteed by two transversal beams.

The Central Control Unit, containing the electronics commands ,the control panel, the display and keyboard, moves on these rails and hold the cross beam (X-Axis) supporting the cutting torch.

Safety

1. Information for your safety

The operator must read and understand the contents of this user's manual before any operation on Scout 2.

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 Scout 2.

1. The preparing operations have to be performed by technicians that have plentiful experience.
2. All safety precautions must be obeyed in both flame and plasma cutting mode.
3. Keep Scout 2 away from any explosive and flammable material.
4. Never try to cool, ventilate, flush Scout 2 with oxygen.
5. Grease and oily materials, even clothes, must be kept away from the oxygen.
6. The connectors of gas pipes and torch must be sealed without any leaks in safety.
7. The torch's nozzle has to be selected according to the cutting to be performed.
8. Only Oxygen gas is available as combustion-supporting gas.
9. The Acetylene or Propane or Methane or Gasoline can be used as fuel gas.
10. Adjust the gas pressure to the following values:
 1. Pre-heating Oxygen: Max 1.5 Mpa
 2. Cutting Oxygen: Max 1.5 Mpa
 3. Fuel: Max 0.1 Mpa
11. Torch ignition and flame adjustment have to be performed according to this user's manual.
12. The gas supply has to be turned off in accordance with the following order in case of backfire or blockage of the nozzle.
 - a) Turn off fuel valve
 - b) Turn off pre-heating oxygen valve
 - c) Turn off cutting oxygen valve
13. All valves must be turned off when Scout 2 is not in use.

Service Support Spirit

14. Maintenance must be carried out according to this user's manual, and any maintenance or repair operations must be performed in the situation that the power supply is cut off.

15. Replacement of any parts must be performed by technicians that have plentiful experience and only original parts are available.

16. Before operation, the operators must wear protective gloves, glasses, clothes, cross shoes, etc.

17. Handling means: because of equipment base guide at both ends long enough, with a handheld parts, meanwhile, weight at about 80kg equipment two young people can raise, note carefully handled and must ensure that equipment in a horizontal position (show as next picture)



Notice:

- A. handle with care;
- B. Put down, prevent hands and feet were clipped by machine;
- C. Be careful equipment dumping or tip over.

18. The machine should be each half a month for rack-and pinion with lubricating oil.

19: The machine put in place before the ground level, ensure

Service Support Spirit

Receive your package

Open the top cover of the boxes, and remove all the screws fixing the cover to the box body. The **Scout-2** transportation boxes contain:

Note: This is a standard configuration package, if special customization, please follow the actual order;



No.	Name	No.	Name
1	USB disk and Nesting Software	2	Manual
3	Central Unit	4	Electromagnetic value cable
5	Electrical power cable	6	Torch Lifter Holder
7	Flame Torch	8	Arc+/- & Arc start cable
9	Torch mounting plate	10	Fireproof plate
11	Cross beam	12	M8*45 T-bolt*4
13	M6X50 Cylinder head bolt*2	14	Tips of propane
15	Aluminum Longitudinal rails Frame		

Mechanical Assemble Steps

This part describe how to install Scout 2 1.5x3m portable CNC cutting machine step by step. The whole machine weight is 120Kg, that needs 2 Part to finish assembling process.

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.

Basic assemble steps:

⇒ Step 1: Unpack the equipment box and remove all items

⇒ Step 2: Install longitudinal rail and control unit

⇒ Step 3: Install crossbeam

⇒ Step 4: Connect the control cable

⇒ Step 5: Assemble the lifting body

⇒ Step 6: Flame cutting part installation

⇒ Step 7: Plasma cutting part installation

Service Support Spirit

Step 1: Unpack the equipment box and remove all items

Use a flat-blade screwdriver to pry off the buckle of these two boxes and remove the top cover of the box.



There are 15 parts in these two boxes, please check them one by one; if you have not bought software accessories, reduce one accordingly;

Scout2 Standard Package



1.Nesting Software



2.USB disk



3.Central Unit



4.Electromagnetic valve cable



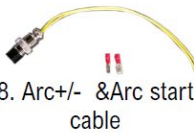
5.Electrical power cable



6.Torch lifter Holder



7.Flame torch



8. Arc+/- & Arc start cable



9. Torch mounting plate



10.Fireproof plate



12. M8 X 45 T-bolt * 4



13.M6 X 50 Cylinder head bolt * 2



14.Tips of propane



11.Cross Beam



15.Aluminium Longitudinal rails Frame

Standard configuration without THC

Note: When unpacking the parts, do not scratch the equipment parts surface

Service Support Spirit

Step 2: Install longitudinal rail and control unit

Note: Before installing the SCOUT-2 machine, you need to finish manufacturing the material table where the machine is installed. The material table needs to reserve bolt holes for fixing the base.

The machine is cut off.

1. Take out two sections of the longitudinal rails structure.

Note: If the machine is 6 meters or there is a cut-off requirement, First the two bases need to be connect;



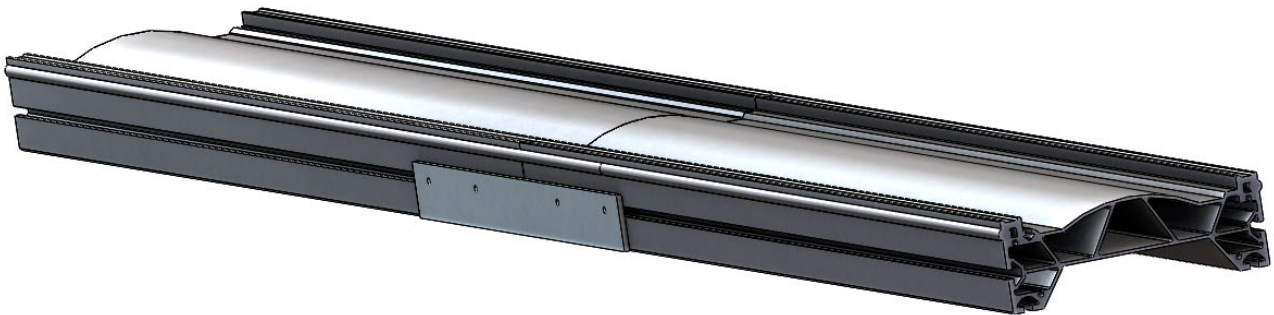
Service Support Spirit

2. Connect the two longitudinal rails together;



3. Use bolts fix the Connecting plate to the rail base.

Note: There are connecting plates on both sides of the base.



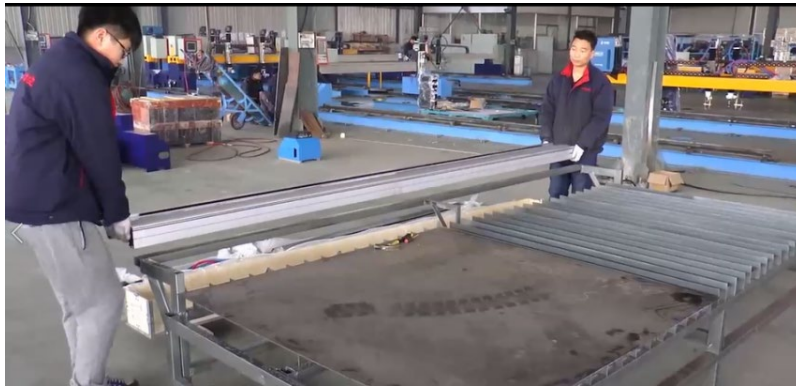
4. Use bolts fix the rack to the rail base.

Note: There are connecting plates on both sides of the base.

Service Support Spirit

The machine is not cut off.

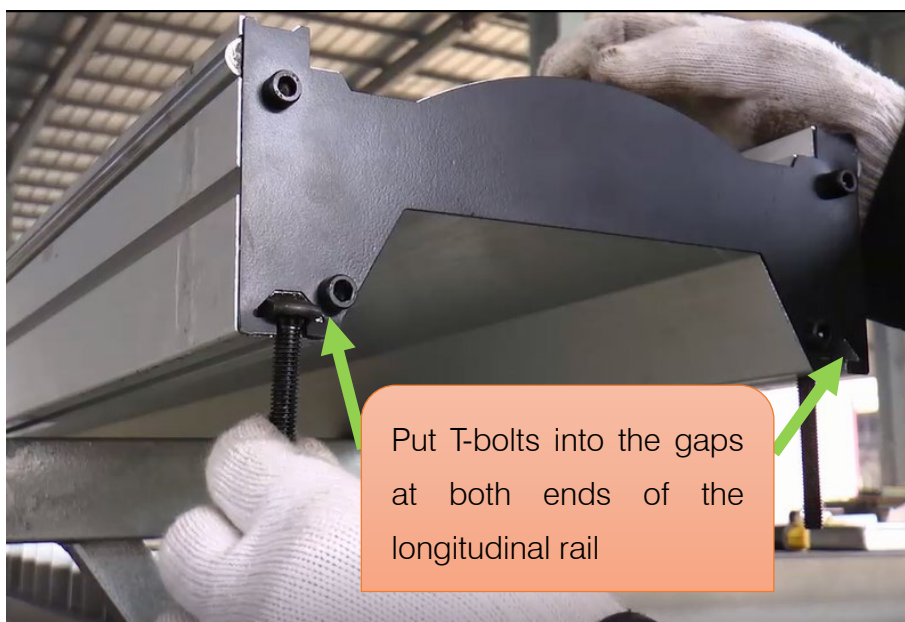
1. Take the longitudinal rail out of the box and place it on the cutting table.



2. Remove the T-bolt from the accessories in the square box.

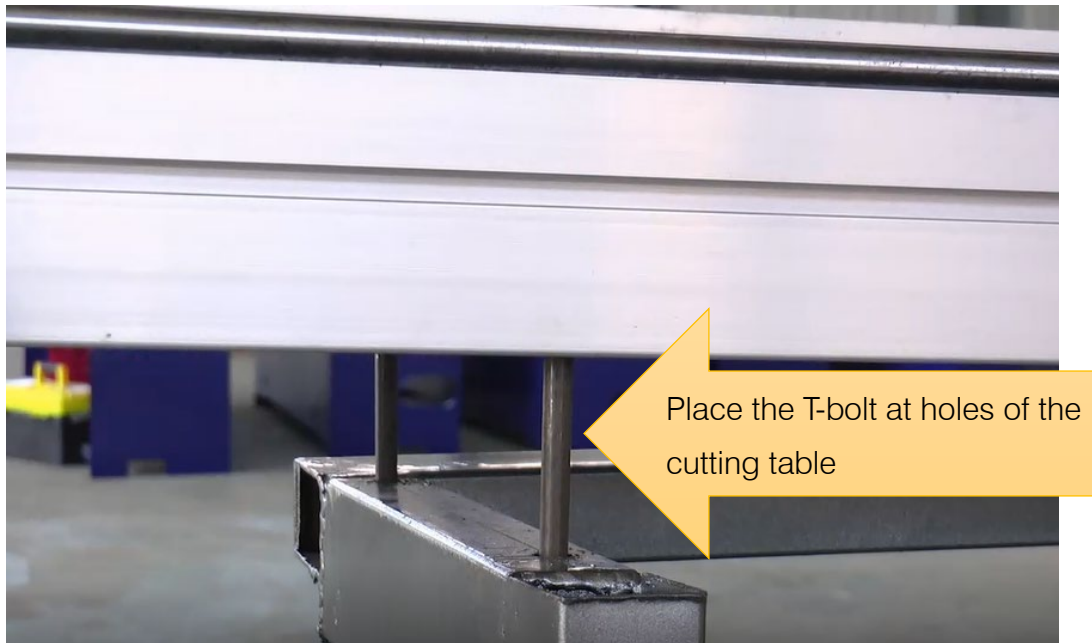


3. Put the T-bolt into the gap under the longitudinal rail.



Service Support Spirit

4. Insert the T-bolt into the opening of the cutting table and fix it with a nut.



Use nuts to tighten T-bolts

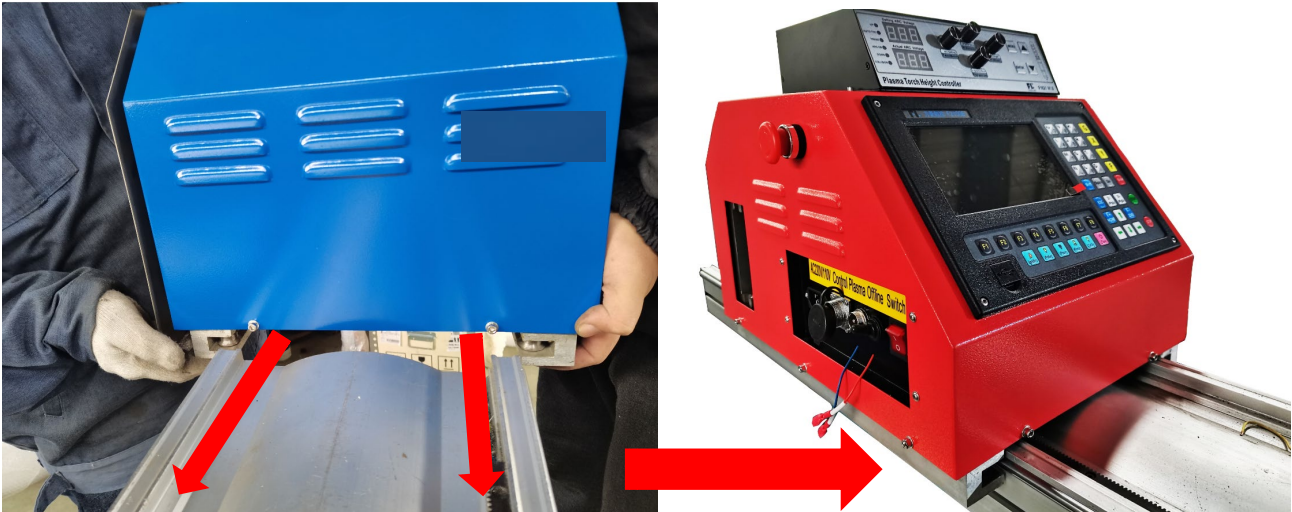


Note: 1. When the T-bolt penetrates the longitudinal rail, it should be prevented from being crushed by the rail.

2. Tighten the T-bolt tightly with a nut to prevent vibrating during the operating of the machine and affect the cutting quality.

Service Support Spirit

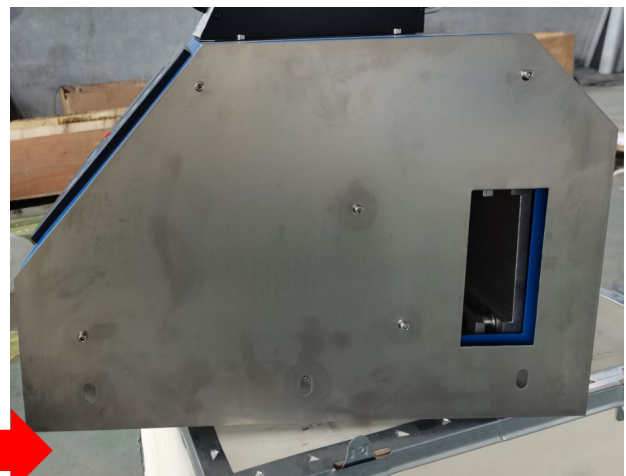
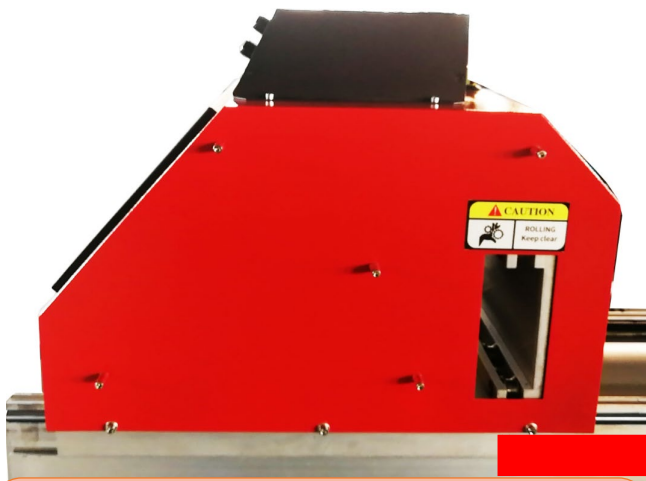
5. Clamp the V-wheels at the front and back of the control unit to the optical axis of the longitudinal rail, and gently push the control unit into the longitudinal rail by hand.



Align the wheels of the Controller unit and the guiding rail, Push the Controller unit to slide in along the Guide Rail.

Note: when installing of the control unit need to pay attention to the assembly of the gear of the longitudinal motor and the rack of the longitudinal rail. When the control unit is unable to enter, rotate the gear of the longitudinal motor by an angle, and then gently push the control unit until the longitudinal rail can be pushed forward.

6. Remove the bolts of the fireproof board and fix the fireproof board



Use an hexagon wrench to remove the mounting bolts of the fire board and install the fireproof board.

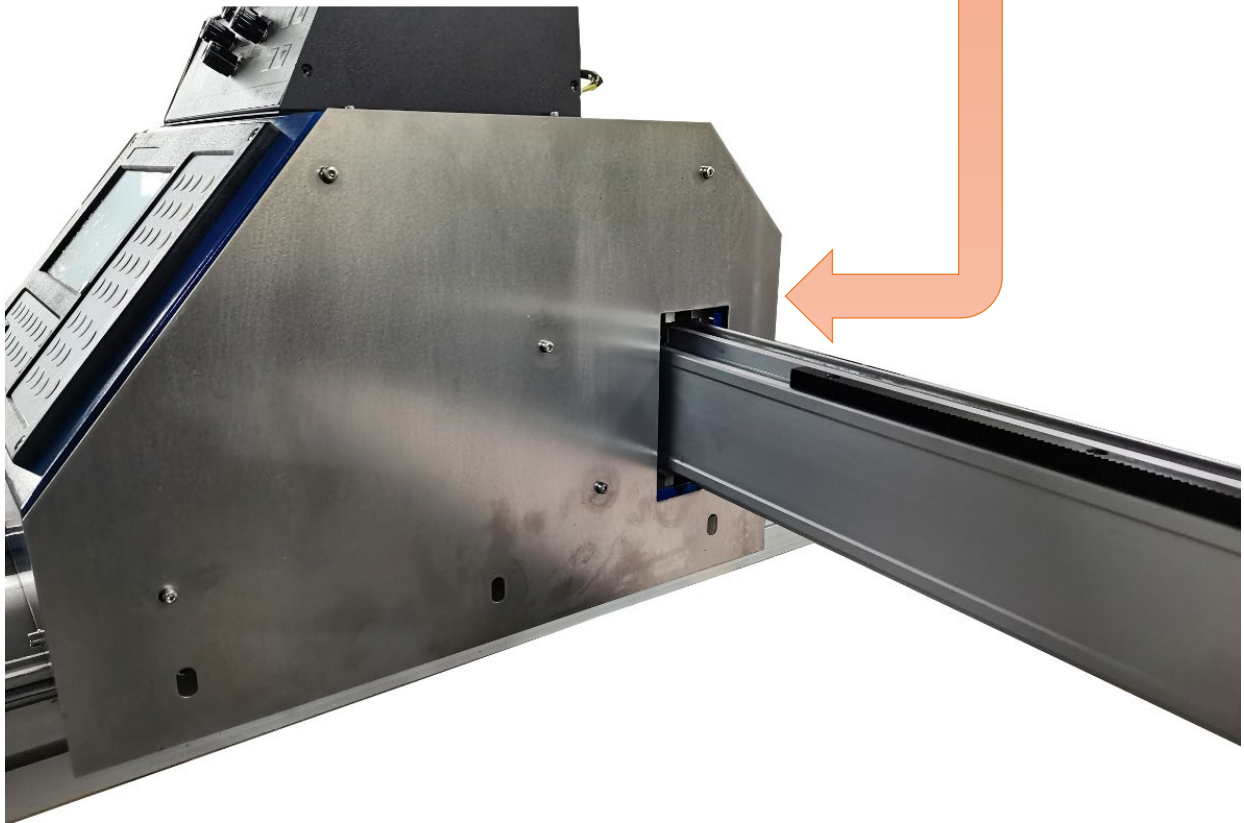
Side view of installation of the fireproof board.

Note: When installing the fireproof board, use bolts to fix the fireproof board, and prevent your hands from being cut by the fireproof board.

Service Support Spirit

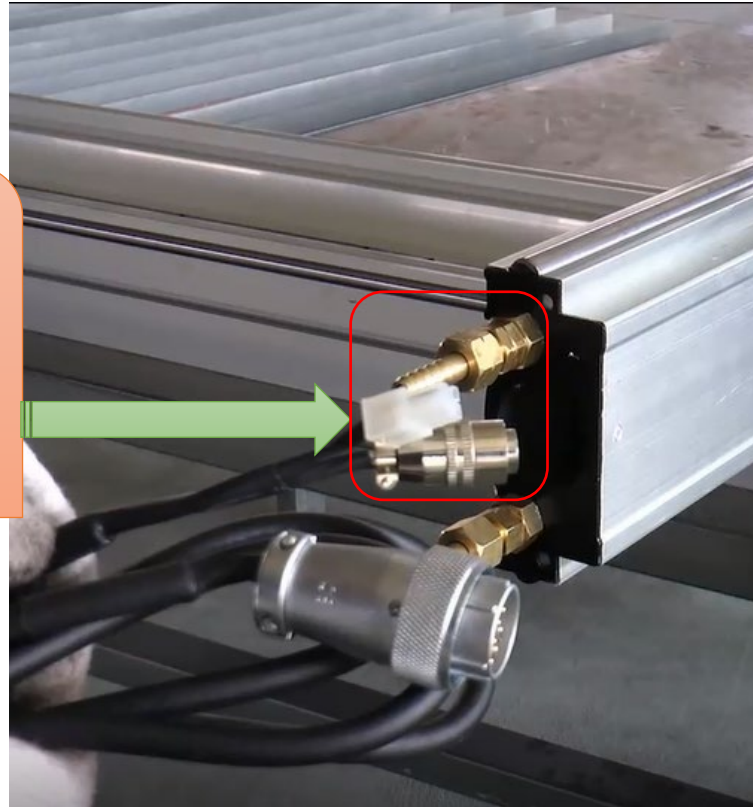
Step 3: Install crossbeam

1. Put the crossbeam into the control unit, the V-shaped wheel inside the control unit catches the optical axis above the crossbeam, and gently push the beam into the control box;



Service Support Spirit

2. Take out the crossbeam cable, pass the aviation plug and white plug end through the round hole inside the crossbeam



Insert one end of the plug into the round hole inside the beam.

Note: When passing plugs, insert in the hole inside the crossbeam at the inlet end of the crossbeam

3. Plug the aerial plug of the crossbeam control cable to the control aerial plug interface;



Insert the crossbeam control cable into the control unit

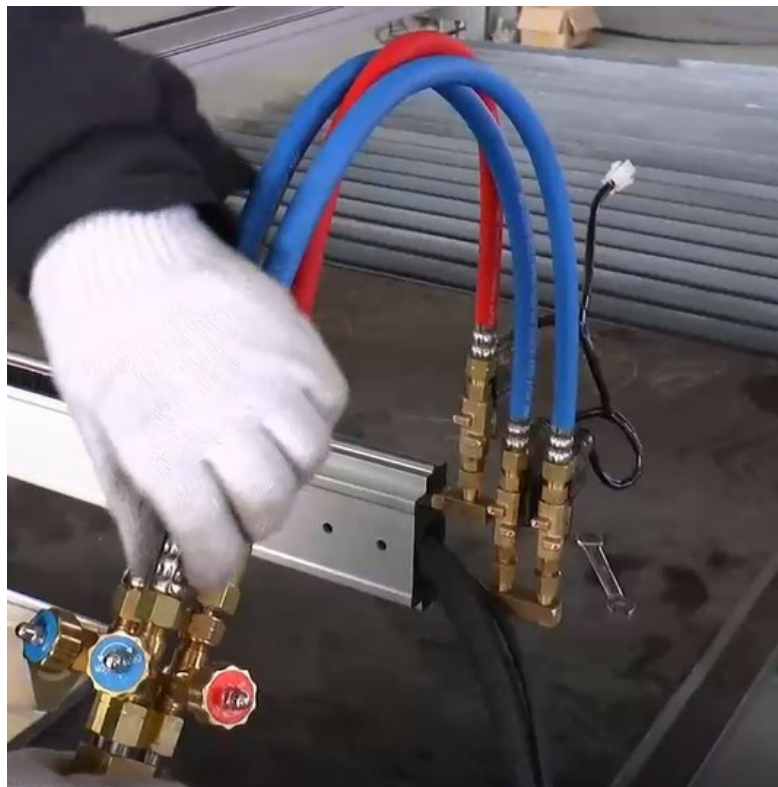
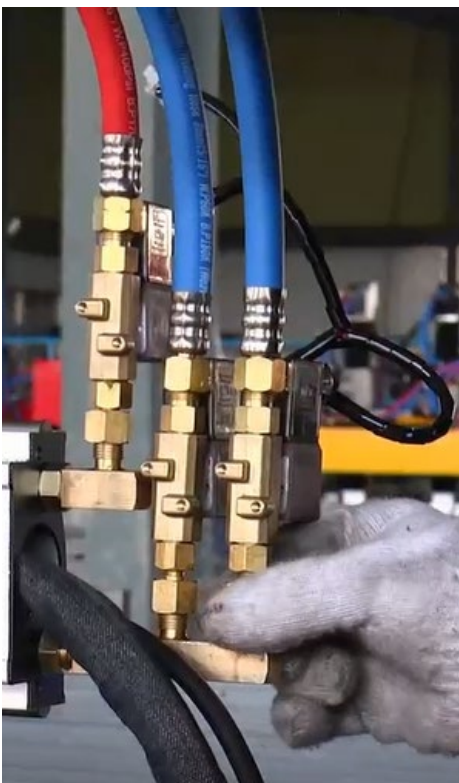
Service Support Spirit

Step 4: Install the flame cutting section

1. Remove the lifting body, flame torch placement plate, bolts and gaskets



2. Install flame torch

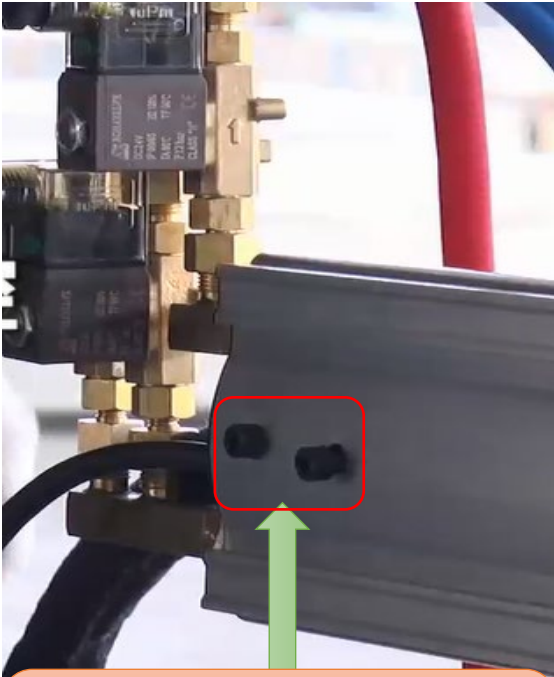


Note: when installing the flame cutting torch, use a wrench to tighten the air pipe interface to prevent accidents caused by air leakage.

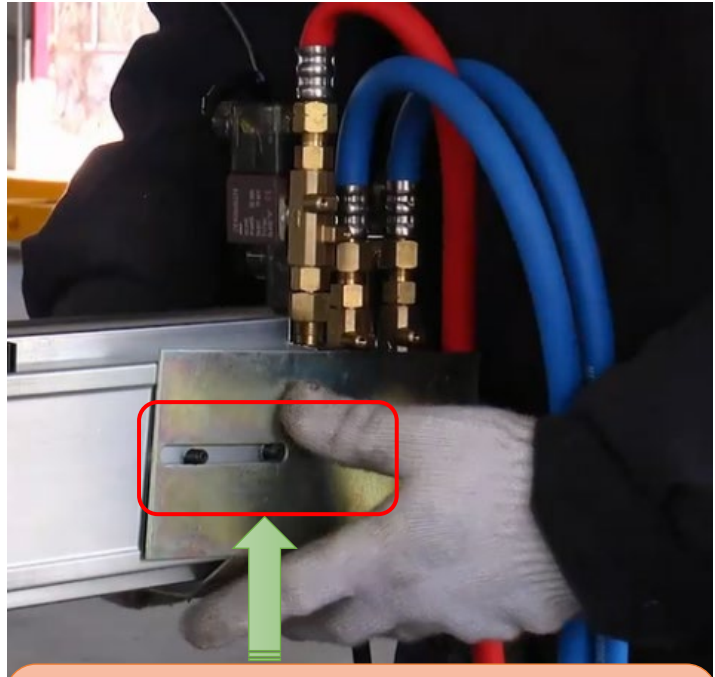
Service Support Spirit

3. Install the flame torch placement plate

1. Install lifting body bolts



Insert the bolt into the bolt installation hole reserved for cross beam



Place the flame torch placement plate on the other side, and pass the bolt through the long round hole

2. Fix the lifting body with bolts

Install the lifting body in front of the torch placement plate, use bolts to fix the lifting body



Service Support Spirit

3. Insert the beam plug in the lifting body and solenoid valve



Connect the aviation plug to the lifting body



Connect the white plug to the lifting body

Step 5: Install the plasma cutting section

1. Insert the plasma torch cable into the circular hole inside the crossbeam



Service Support Spirit

2. Fix the plasma cutting torch in the lifting body clamp



Use the torch clamp to install the plasma torch, and use the hex wrench to tighten the bolt;

Note: When the plasma torch is installed, first lower the lifting body to the minimum, leaving a proper torch line to prevent the cable of the plasma cutting torch from being tightened when the lifting body is lowered to the lowest.

3. Install the air pipe and cable in the plasma torch cable to the plasma power supply



Service Support Spirit

4、 Connect the arc starting signal line and arc voltage signal line to the control unit

