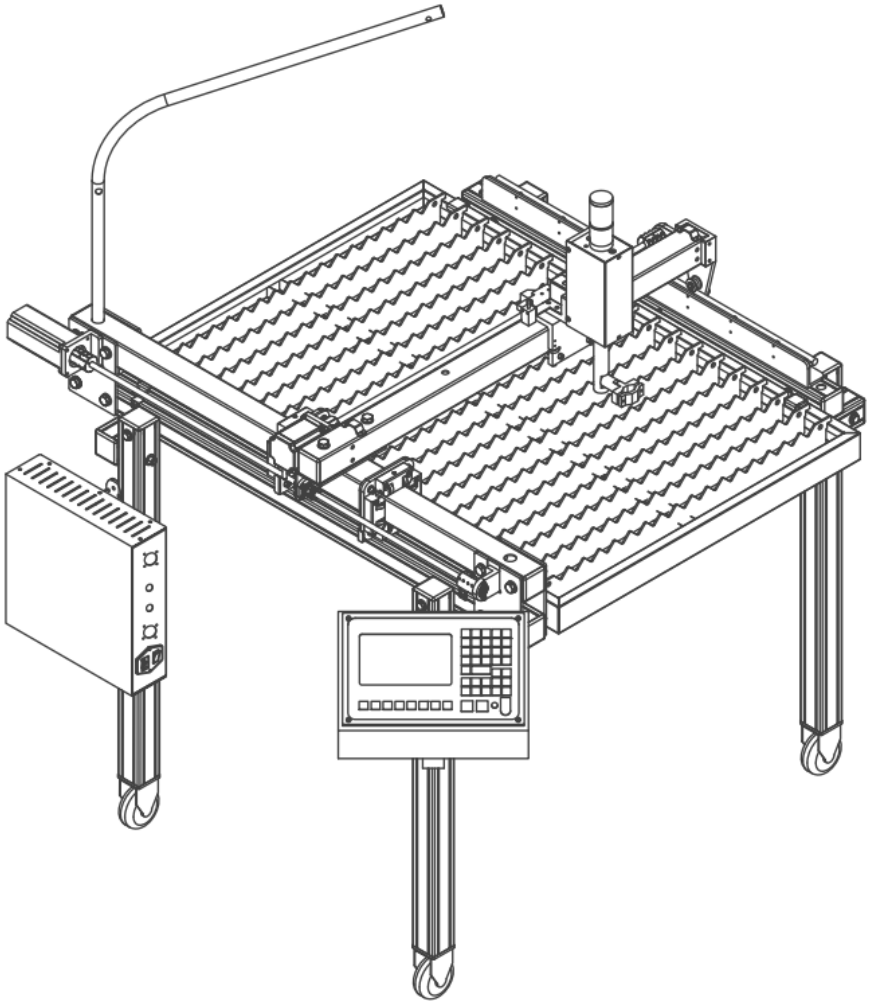
HC-2400

2'x2' CNC Plasma Table

Assembly Instructions



STOP!

Both boxes will need to be unpacked to locate the parts needed for each step of the assembly.

There are multiple points in the assembly that will require heavy lifting, awkward balancing of long items and holding numerous items in place at once. **It is strongly recommended to have at least two people involved in the assembly for your safety.**

Locate the equipment bag and keep that aside. It contains the necessary Allen keys and wrenches that will be used regularly throughout the assembly. Most of the bolts, nuts and washers are pre-installed on the parts required for each step.

Do not manually move the gantry or truck while the motors are plugged into the controller.

After dressing the control wires be sure that the Gantry and carriage can travel the full range of the cutting area with out pulling tight or getting pinched.

Table of Contents

Specifications

Model: HC-2400 ~ Halo 2'x2' CNC Plasma Table*

Plasma Table Power Requirements: 120±10% VAC, 50/60Hz, 5A
240±10% VAC, 50/60Hz, 5A

Plate Capacity: 27.75"(length) x 40.06" (width) x 0.375" (thickness)

Weight Capacity: 200lbs (90kg) – Includes the workpiece and a filled Water Table.

Water Table Fluid Capacity: 10.4 gal (39.4L)

CNC Torch Travel:

- **X-Axis:** 24" (609mm)
- **Y-Axis:** 23.6" (599mm)
- **Z-Axis:** 2" (50mm)

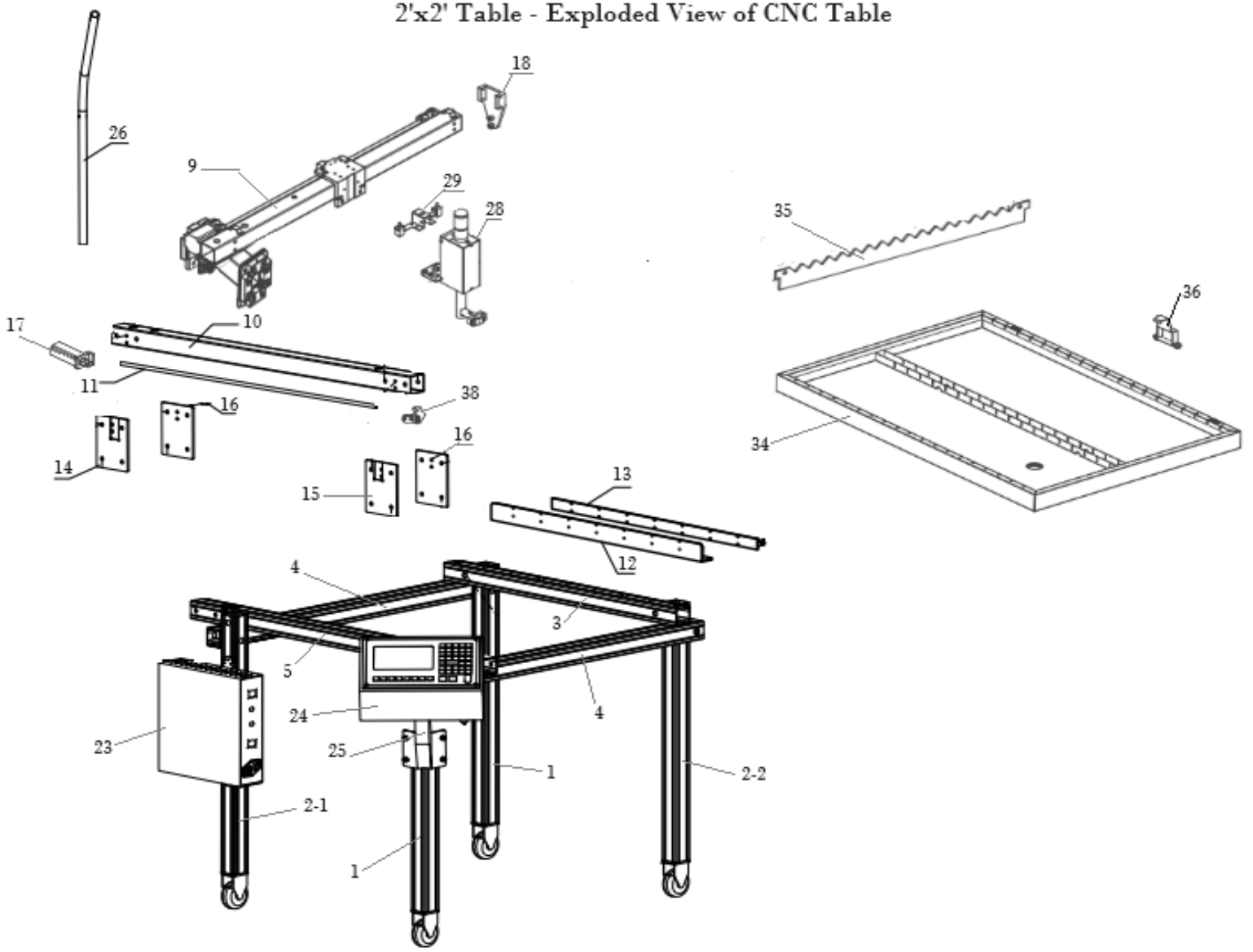
Overall Dimensions once Assembled (Width x Depth x Height):
52.5" (1333mm) x 55" (1397mm) x 62" (1574mm)

Overall Unit Weight once Assembled: 158lbs (72kg)

Movement Accuracy: ±0.2mm

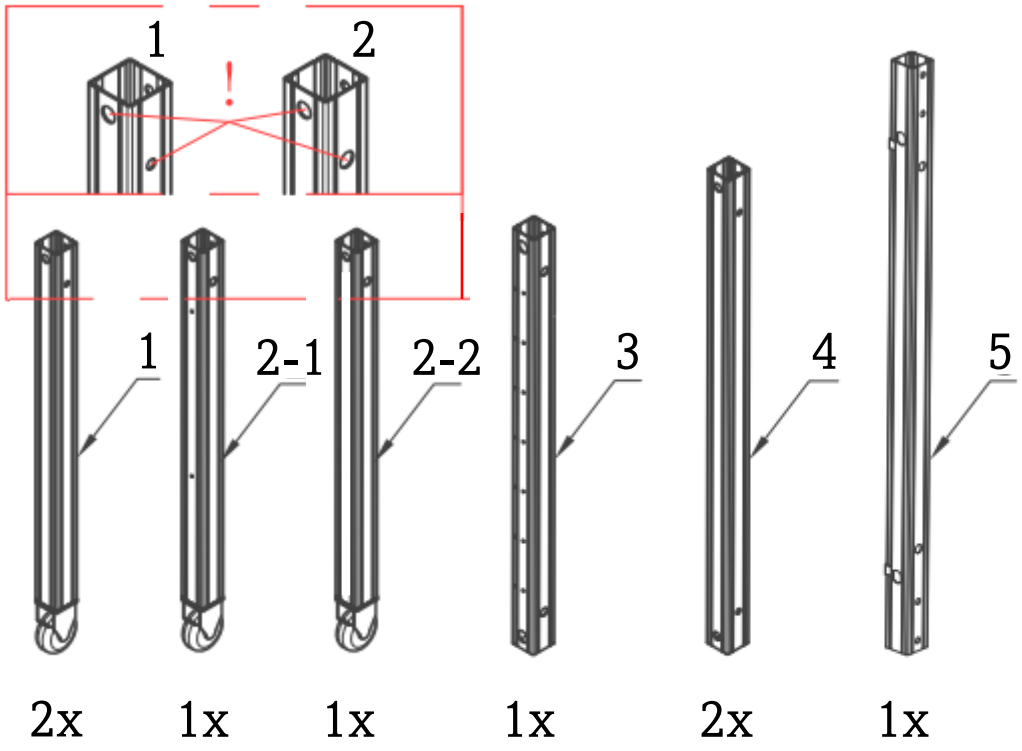
Cutting Accuracy: ±0.5mm

2'x2' Table - Exploded View of CNC Table



Model: 2′x2′ CNC Plasma Table			
SN	**Part Name**	**Quantity**	**Remarks**
1	Standing Leg	2	Approx. 28½" tall without caster wheel
2-1	Standing Leg	1	Approx. 28½" tall without caster wheel
2-2	Standing Leg	1	Approx. 28½" tall without caster wheel
3	Rear Frame	1	Approx. 33¼" long
4	Side Frame	2	Approx. 38" long
5	Front Frame	1	Approx 42" long
6	M8x113 with Nut	8	Use 13mm wrench
7	Bolt Sleeve	20	Pre-installed on #6 and #8 Bolts
8	M10x76 with Nut and Washer	4	Use 14mm wrench
9	X-Axis Gantry Assembly	1	Approx 36" long
10	Front Y-Axis Gantry Rail	1	Approx 42" long
11	Drive Screw Rod	1	Approx 35½" long
12	Gantry Rail Mounting Plate	1	Approx 30" long
13	Rear Y-Axis Gantry Rail	1	Approx 29¼" long
14	Gantry Rail Clamping Plate	1	
15	Gantry Rail Clamping Plate	1	
16	Gantry Rail Clamping Plate	2	
17	Stepper Motor	1	
18	Rear X-Axis End Assembly	1	
19	M10x76 with Nut and Washers	8	Use 14mm wrench
20	M5x8 Sunk Head	8	Use Phillips head screwdriver Pre-installed on rear Transverse Support
21	M4x8 Sunk Head	14	Use Phillips head screwdriver Pre-installed on Plate for Fixing Guide Rail
22	M6x16	4	Use 3/16" Allen key Pre-installed on Stepper Motor and Drive Screw Seat
23	Control Box	1	
24	Operator Station	1	
25	Control Panel Mount Arm	1	
26	Cable Support Arm	1	
27	Mount Arm Bracket	1	
28	THC Motor Assembly	1	
29	X-Axis Limit Mounting Seat	1	
30	M5x12	4	Use 4mm Allen key Pre-installed on #2-1 Standing Leg
31	M4x15 with Washer	4	Use 5mm Allen key Pre-installed on Table Mounting Bracket
32	M6x25	4	Use 5mm Allen key Pre-installed on X-Axis Gantry Assembly
33	M6x16	4	Use 3mm Allen key Pre-installed on Operator Station
34	Water Table	1	Approximately 40¼" x 27¾".
35	Slat	19	Approximately 27" long.
36	Table Mounting Clamp	4	
37	Spare Parts	3	
38	Drive Screw Seat	1	
39	Control Panel Cable	1	Approximately 59" long.
40	THC Cable	1	Approximately 80" long.
41	Power Cable	1	Approximately 68" long.
42	Plasma Cutter Control Cable	1	Approximately 240" long.

1-0 Building the Base



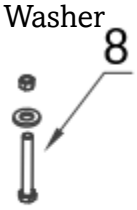
2x 1x 1x 1x 2x 1x

M8x113 with Nut

8x

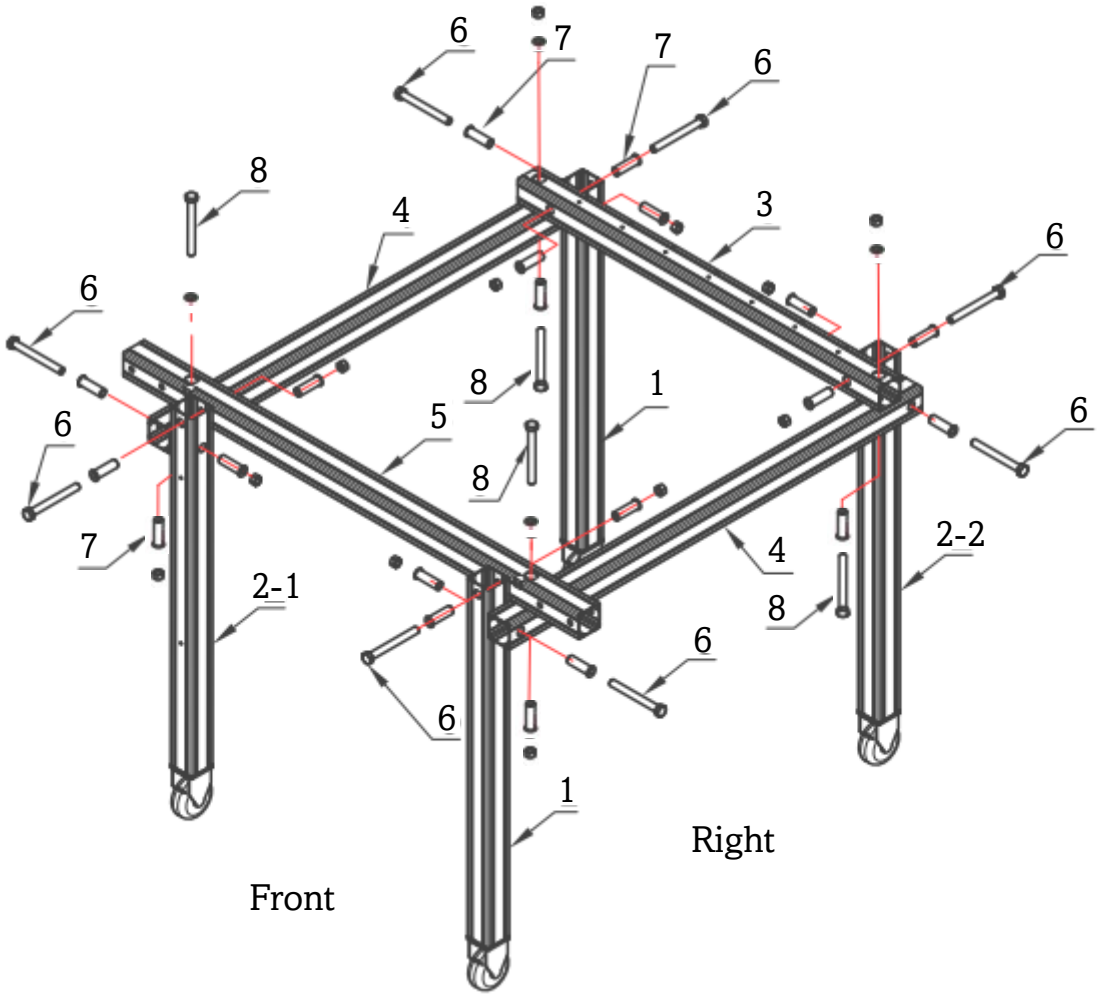
20x

M10x76 with Nut and Washer

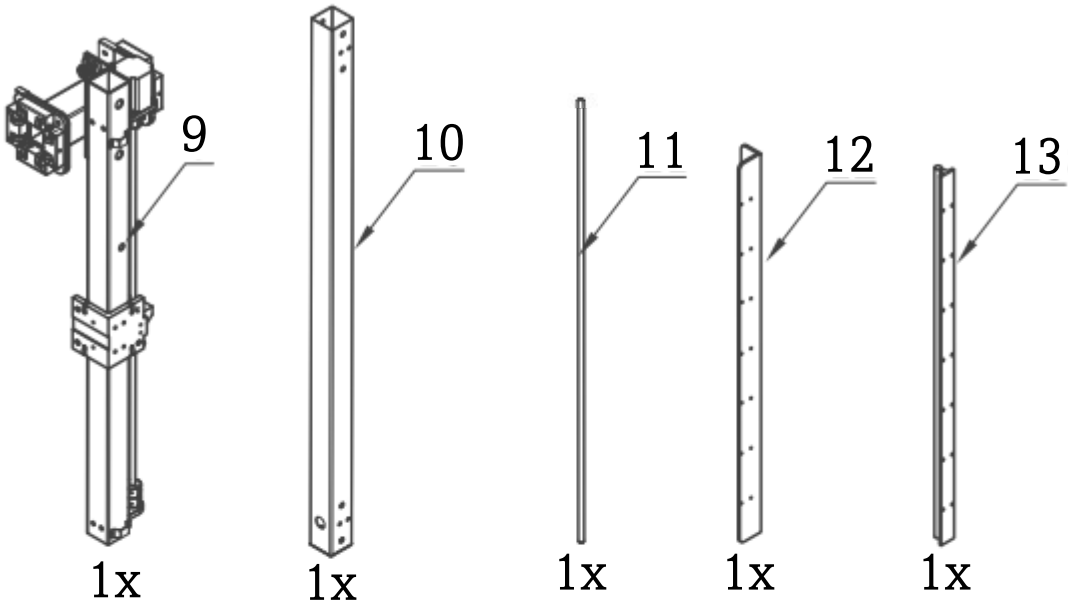


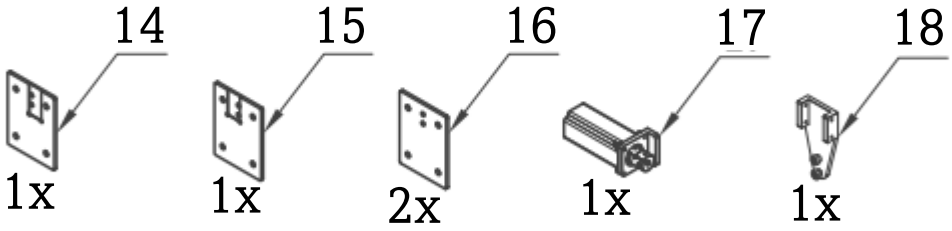
4x

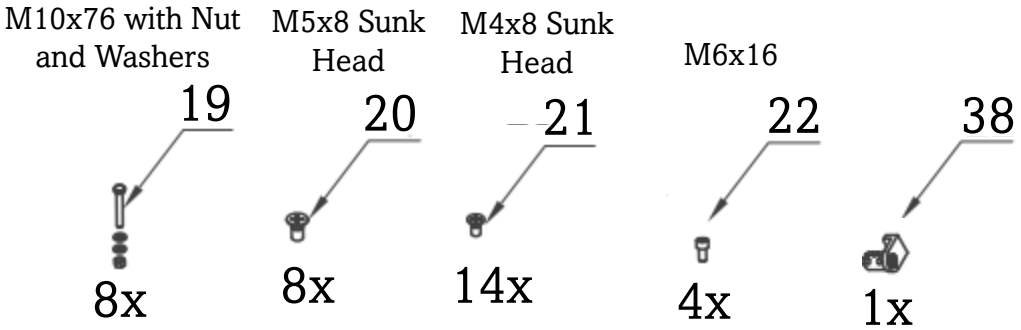
1-1



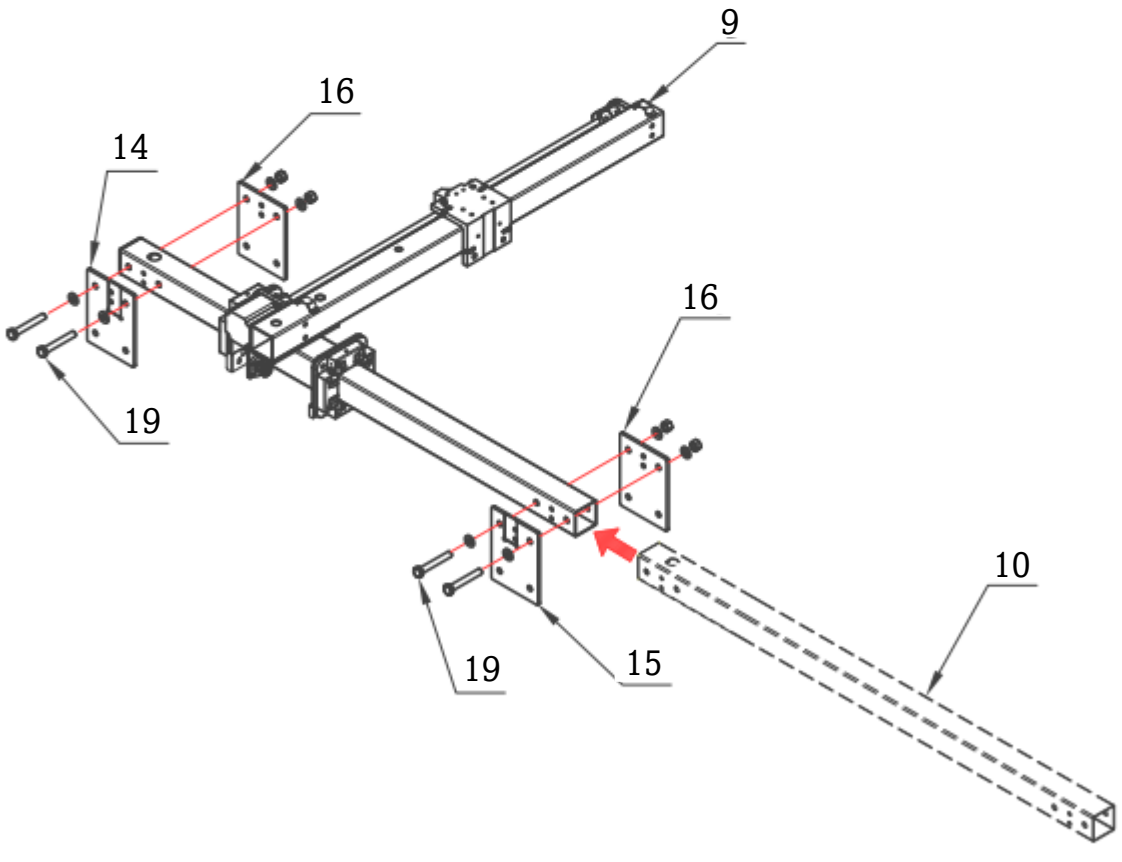
2-0 Building the X- and Y-Axis Gantries

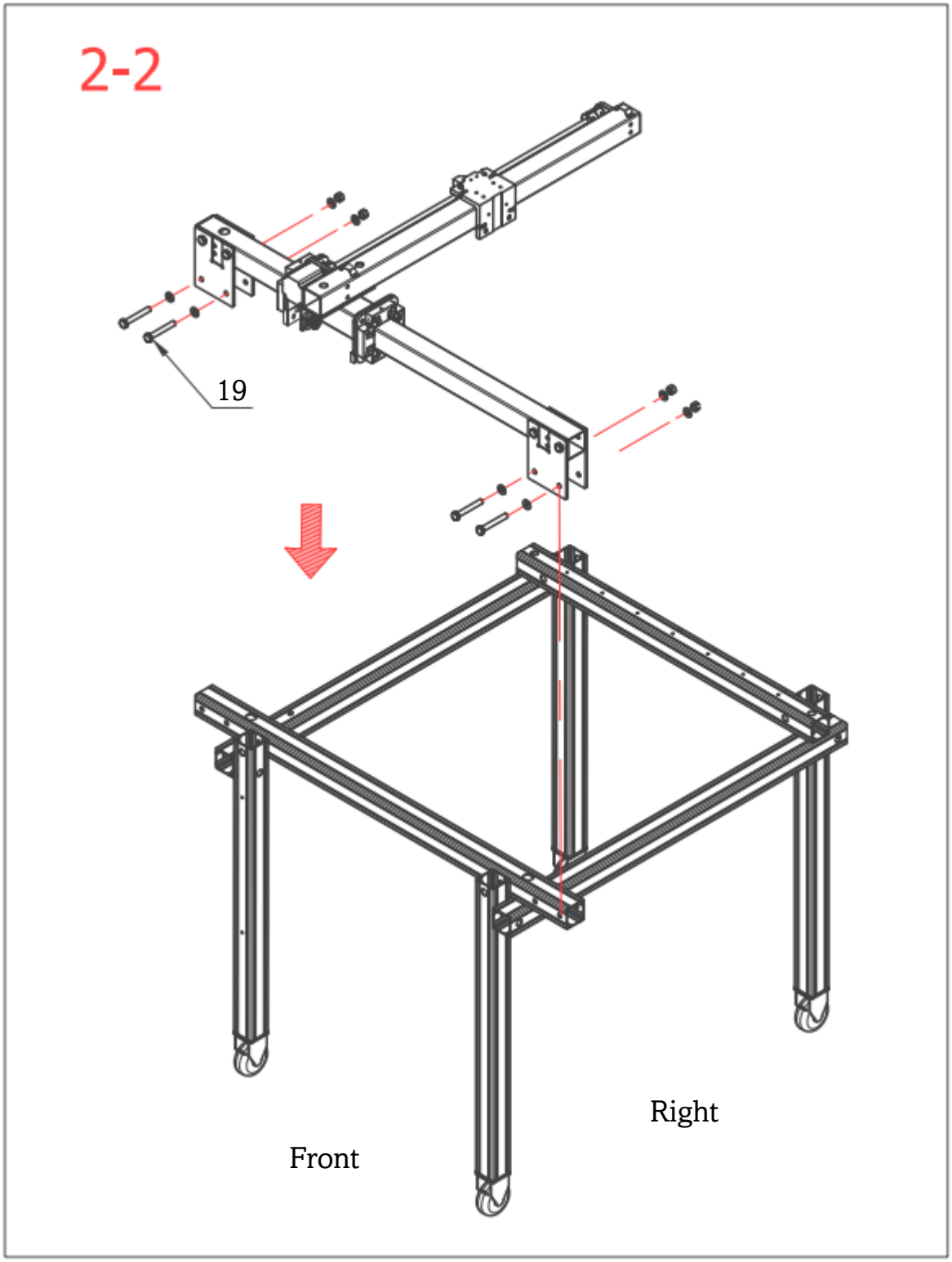




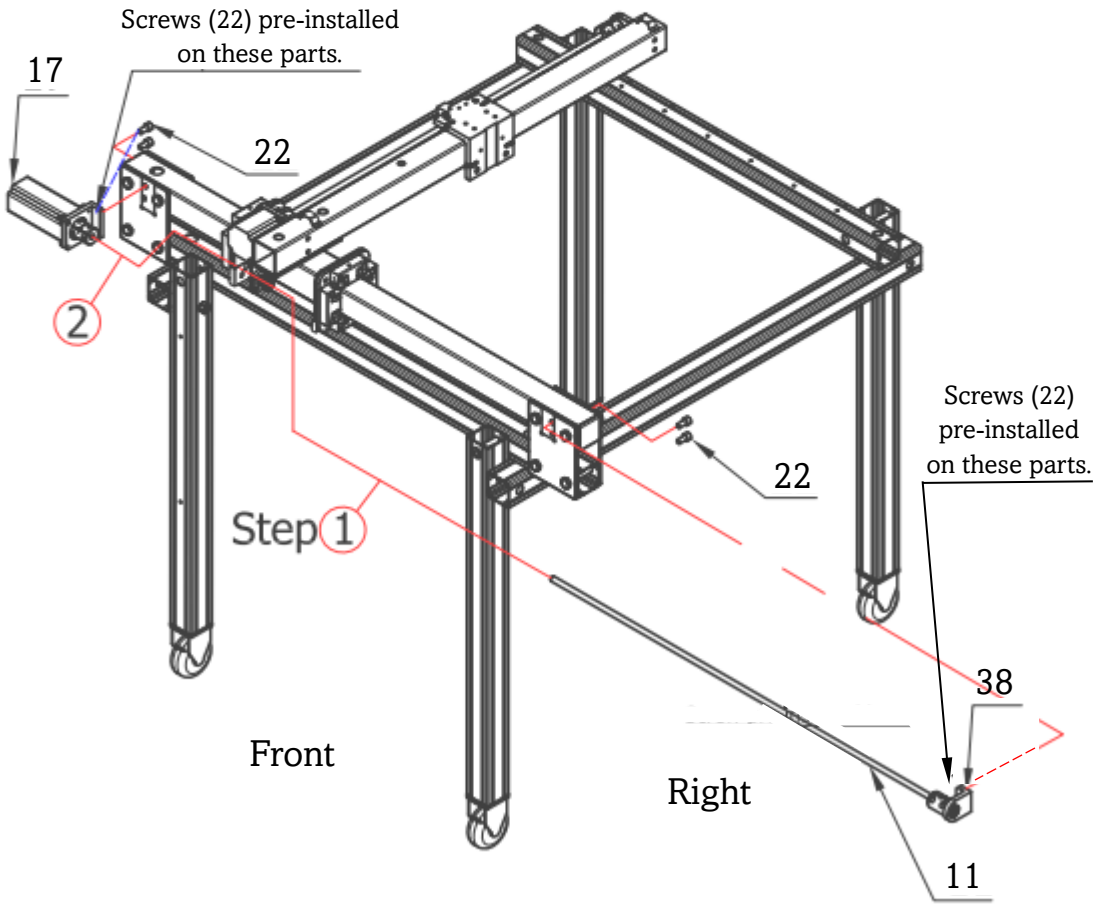


2-1

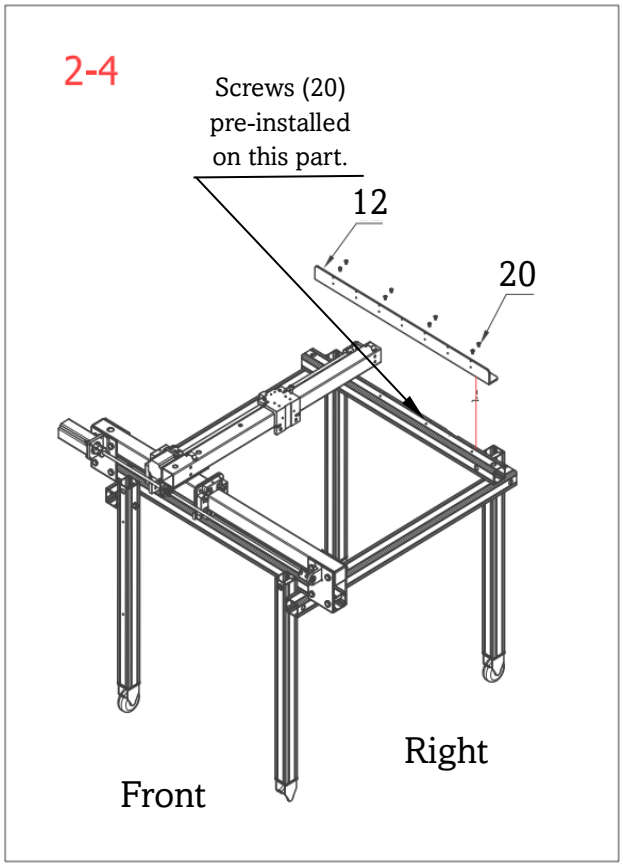



2-2
19
Front
Right

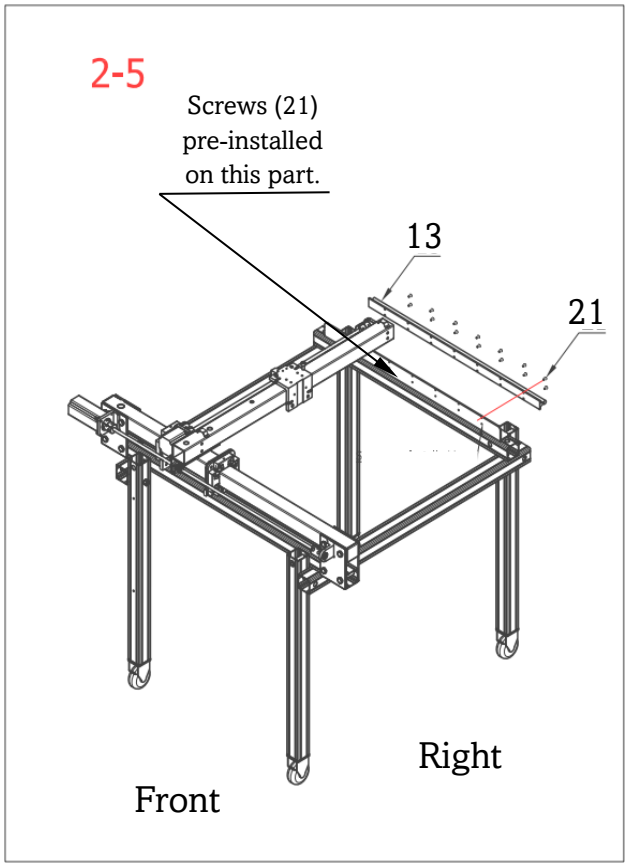
2-3


Screws (22) pre-installed
on these parts.
17
22
2
Step 1
22
Screws (22)
pre-installed
on these parts.
38
Front
Right
11

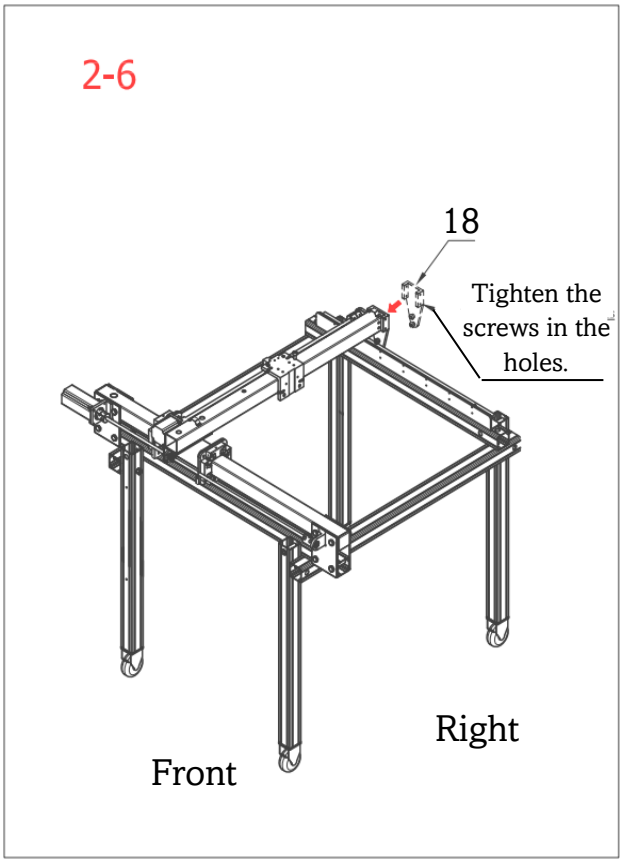
2-4


Screws (20)
pre-installed
on this part.
12
20
Front
Right

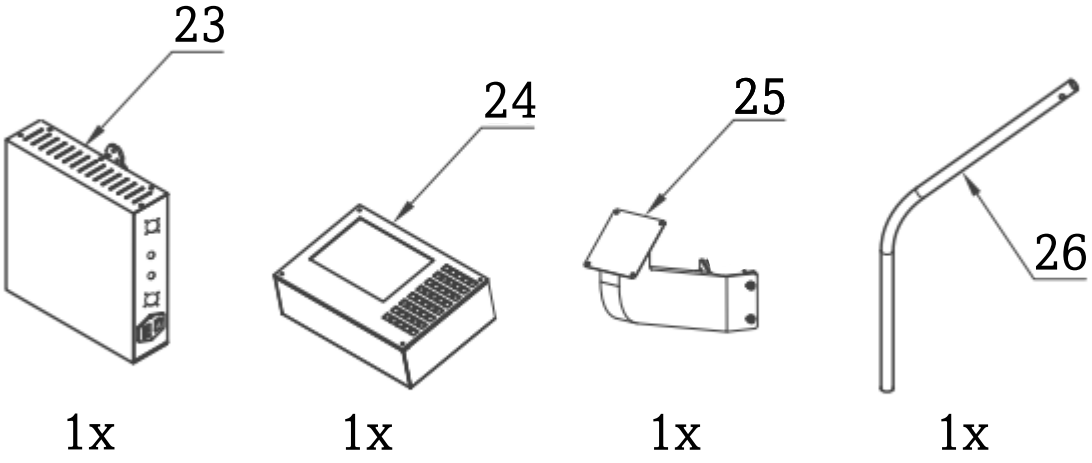
2-5


Screws (21)
pre-installed
on this part.
13
21
Front
Right

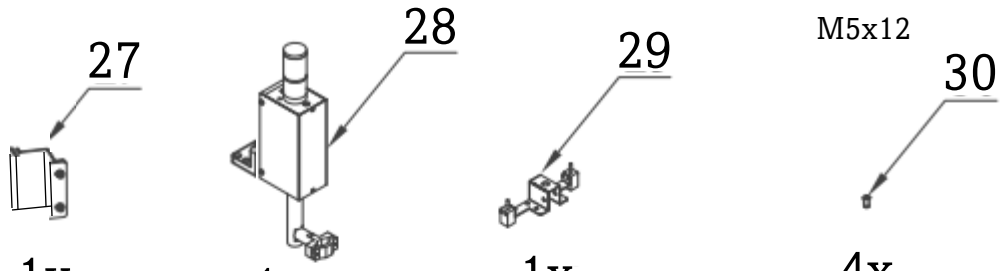
2-6


18
Tighten the
screws in the
holes.
Front
Right

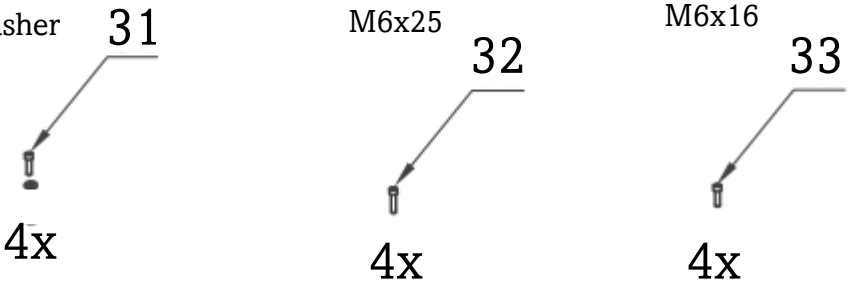
3-0 Completing the Table



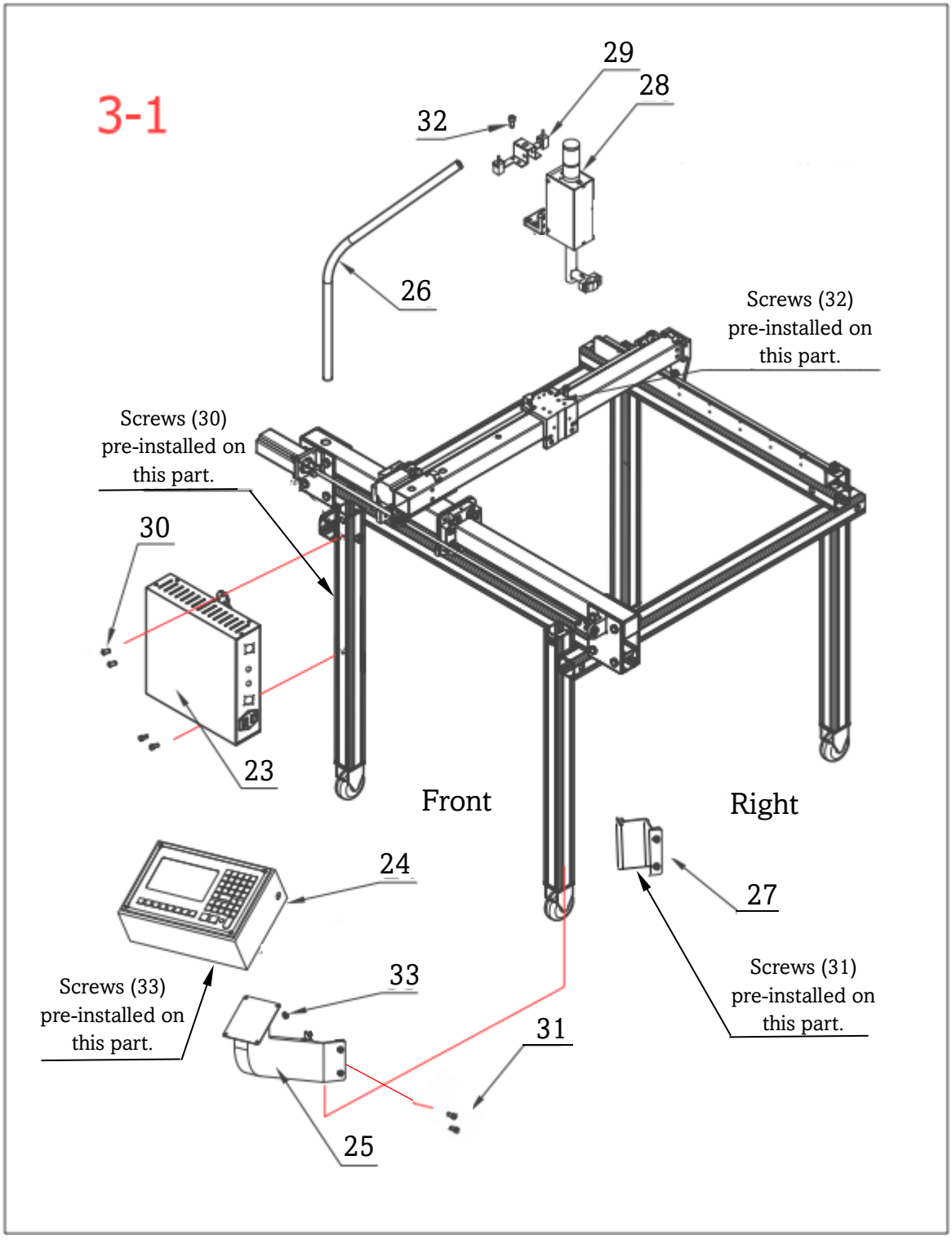
1x 1x 1x 1x



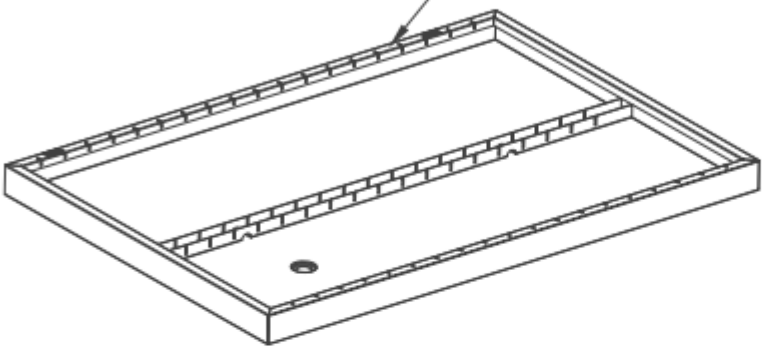
1x 1x 1x 4x



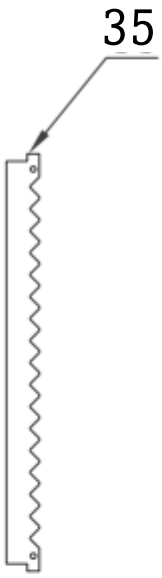
4x 4x 4x


3-1
29
28
32
26
Screws (32)
pre-installed on
this part.
Screws (30)
pre-installed on
this part.
30
23
Front
Right
24
27
Screws (33)
pre-installed on
this part.
33
31
Screws (31)
pre-installed on
this part.
25

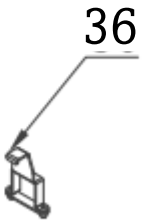
4-0 Constructing the Water Table



1x

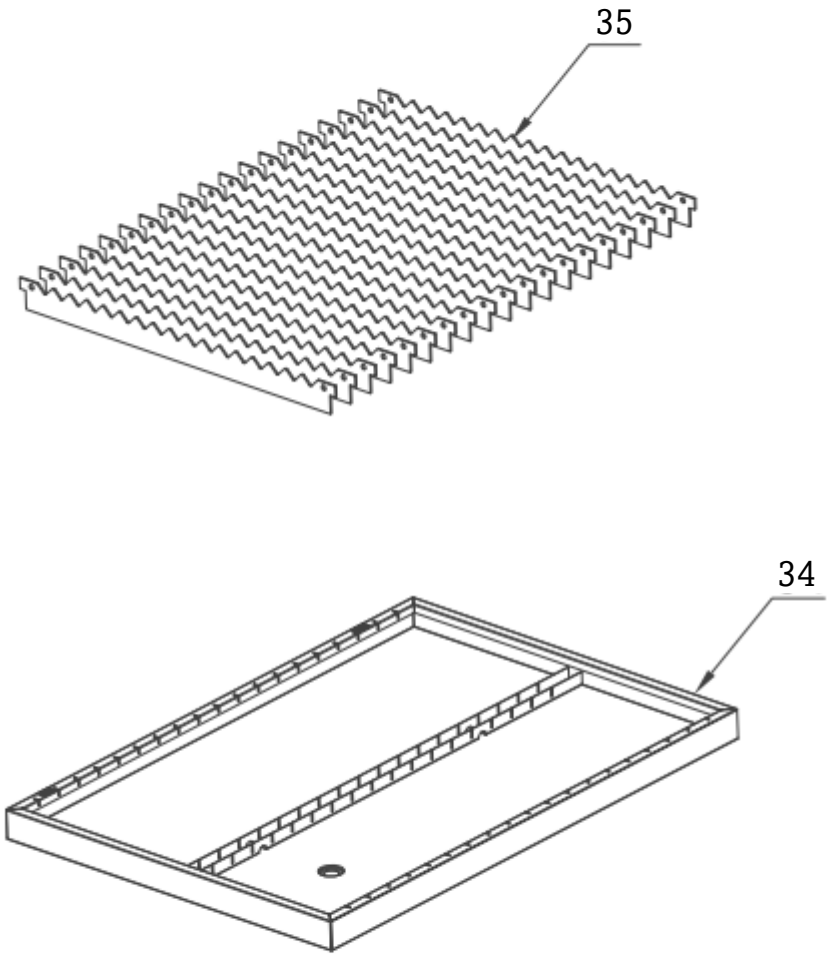


19x

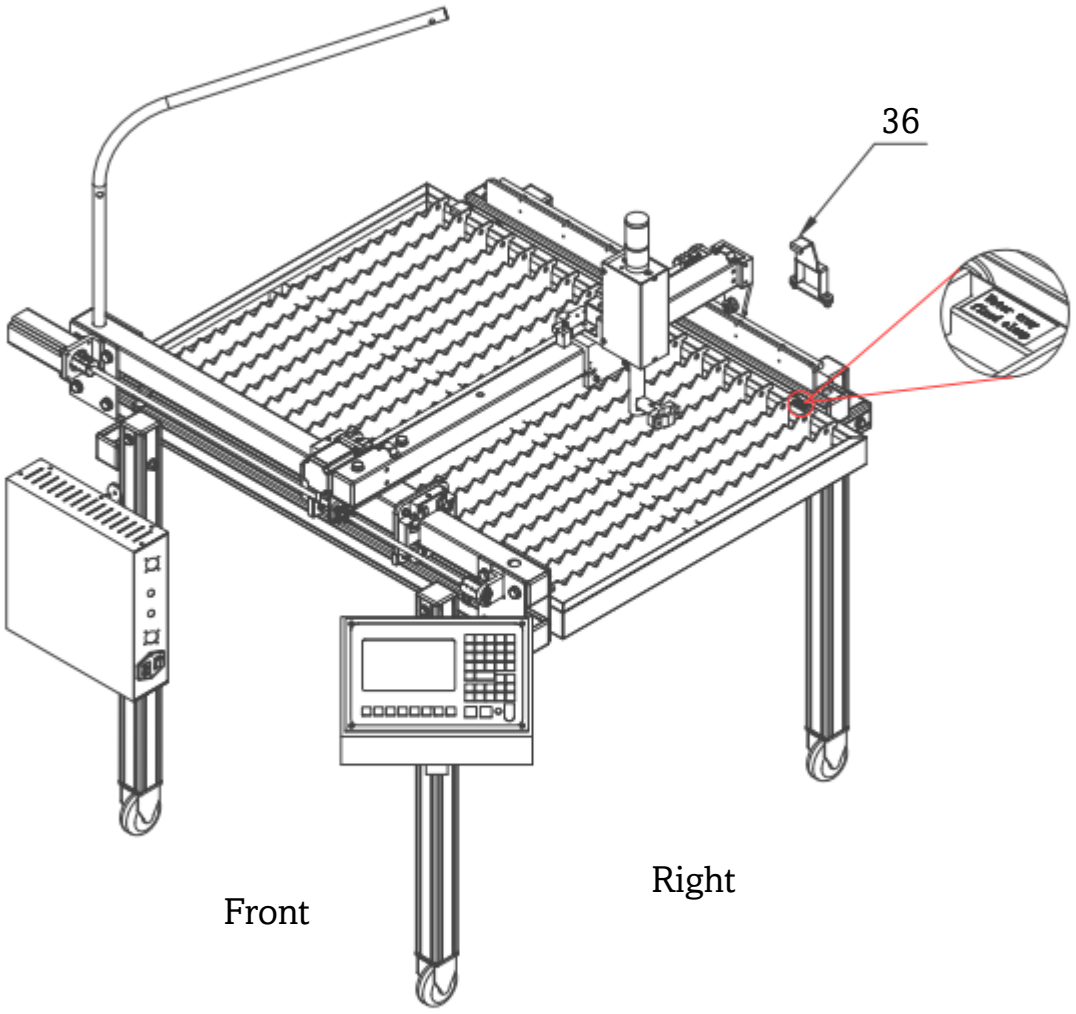


4x

4-1



4-2



5-0

Spare parts

Spare Spring Seat
(for X-Axis Gantry
Assembly)

1x

Spare Rollers
(for Rear X-Axis
End Assembly)

37

2x

6-0 Control Wiring

39

1x

40

1x

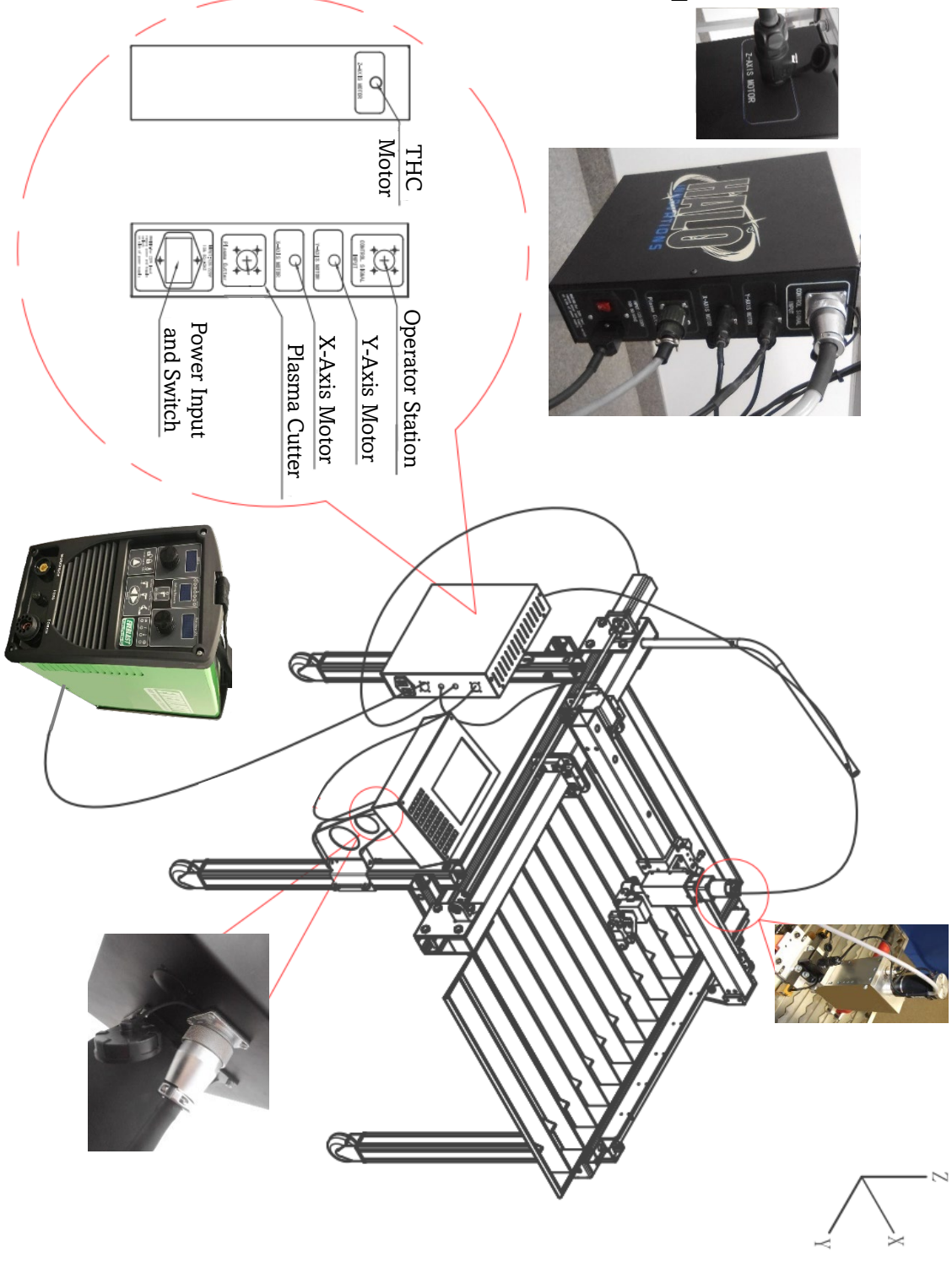
41

1x

42

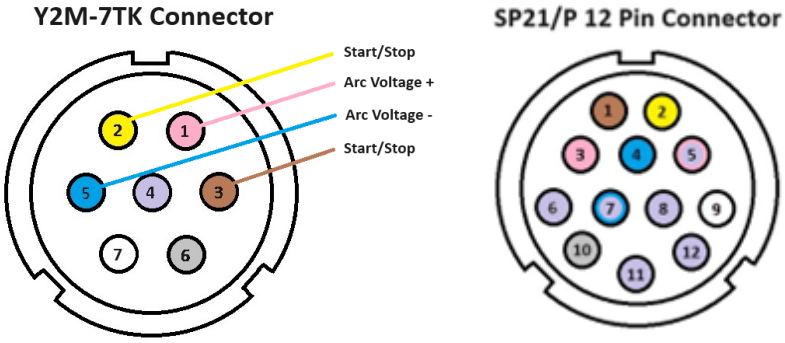
1x

6-1 Electrical connection diagram



7-1: CNC Connector Pin-Out

STOP! If your Plasma Cutter control cable comes with the SP21 Connector pre-installed, you can skip to Step 9. If Stakon connection were provided you will need to connect them to the appropriate location on your plasma cutter.



Y2M-7TK to Stakon

Arc Start/Stop

- Pins 2 (yellow) and 3 (brown) activates the plasma cutter to start an arc

Arc Voltage

- Pins 1 (pink +) and 5 (blue -) receives the arc voltage from the plasma cutter. The unit is setup as a default to receive a 1:50 arc voltage ratio. But can also be configured to receive raw arc voltage.

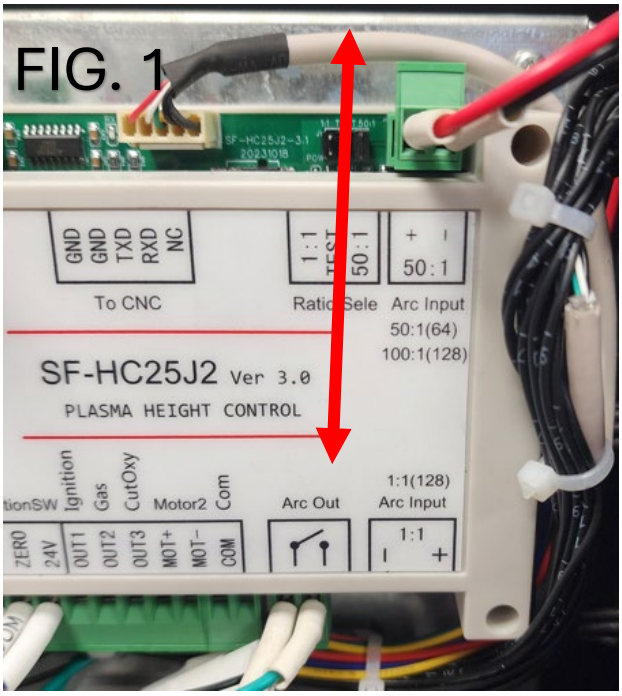
Note: Wires labeled 0V and MOVE are not used on this machine, the wires can be cut off.

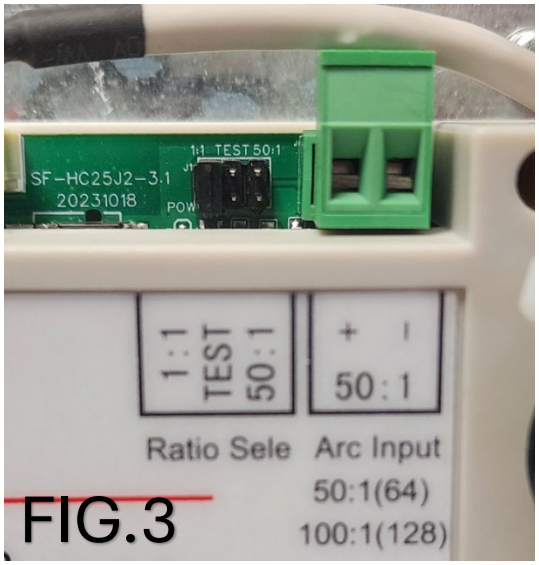
- Raw arc voltage cannot be used when using a High Frequency start machine.
- Confirm the polarity of the arc voltage before connecting the CNC
- Your plasma cutters trigger setting will need to be set to 2T, unlock or CNC mode

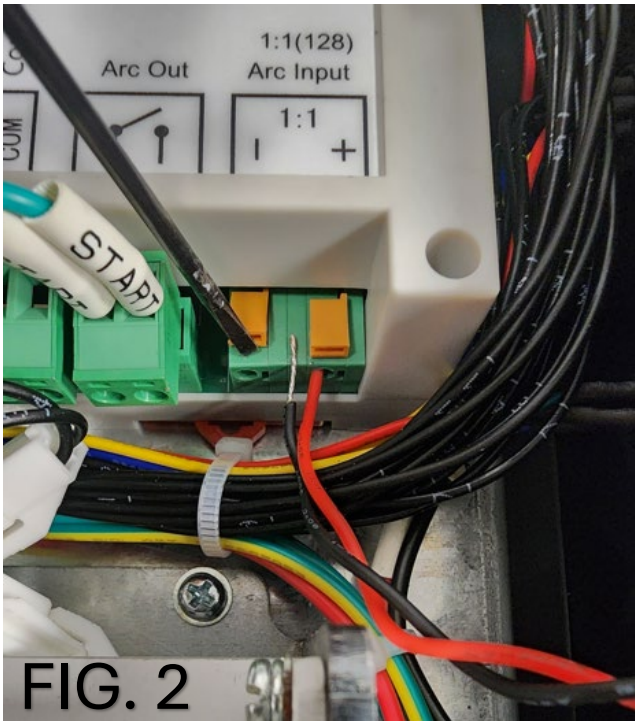
7-2: Switching the THC to Receive Raw Arc Voltage

STOP! If your Plasma Cutter control cable comes with the SP21 Connector pre-installed, you can skip to Step 9. If your plasma cutter does not have the required Divided Arc Voltage, please proceed with this step.

- Using a 2.5mm Allen key, open the Control Box and locate the plasma height controller.
- Locate and remove the wires from 50:1 Arc Input and install them into the 1:1 Arc Input connection (FIG.1).
- It will help to tin the wire with a soldering iron when inserting the wire into the connector (FIG. 2).
- Locate *Ratio Sele* then move the jumper on the Ratio Selection from 50:1 to 1:1 (FIG. 3).

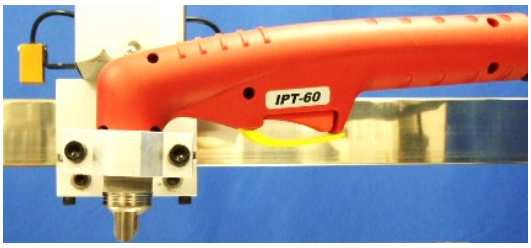






8-1: Mounting the Plasma Torch

Hand torches can be mounted, but need to be installed as far down into the mount as possible when used. Depending on the style of torch, you may lose several inches of travel along the X-Axis (left-right).



Mounting the Plasma Torch:

1. Loosen the screws on the torch clamp using the 5mm Allen key.
2. If needed, use the arrow keys to move the torch over a slat or workpiece. Adjust the THC Motor all the way up by holding the S↑ key.
3. Install the Plasma Torch so it has a minimum of ¾" (20mm) clearance over the workpiece. The torch tip should be installed at a 90° angle to your workpiece. *Fasten the torch clamp securely, but do not over-tighten*.
4. You may need to make adjustments to the bolts holding the torch clamp in order to have the torch angled correctly. **Bolt A** requires a 5mm Allen key to loosen it and will allow you to rotate the torch clamp. **Bolt B** also requires a 5mm Allen key to loosen it, which will allow you to angle the torch downwards or upwards.
5. Adjust **Bolt A** and **B** until the plasma torch tip is square with the work piece.