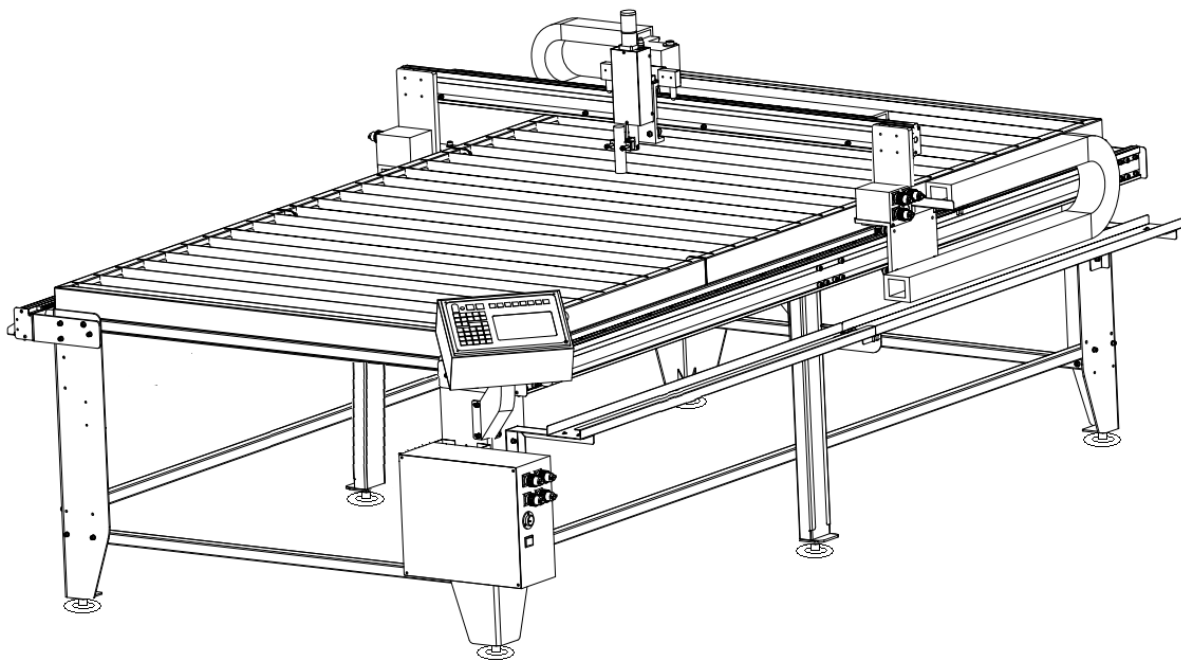




**HC-9600**

**4'x8' CNC Plasma Table**

**Assembly Instructions**



## STOP!

Both crates 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 through the assembly. Most of the bolts, nuts and washers are pre-installed on the parts required for each step.

Take the time to level the table once the feet have been attached.

Be sure to check the alignment of the gantry before operating.

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

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## Specifications



**Model:** HC-9600 ~ Halo 4'x8' CNC Plasma Table

**Plasma Table Power Requirements:** 120 VAC $\pm$ 10%, 50/60Hz, 5A  
240 VAC $\pm$ , 50/60Hz, 5A

**Plate Capacity:** 52.5"(length) x 107" (width) x 0.5" (thickness)

**Weight Capacity:** 900lbs (408kg) – Includes the workpiece and a filled Water Table.

**Water Table Fluid Capacity:** 54 gal (204.4L)

**CNC Torch Travel:**

- **X-Axis:** 49.5" (1257mm)
- **Y-Axis:** 94" (2387mm)
- **Z-Axis:** 3.5" (88.9mm)

**Overall Dimensions once Assembled (Width x Depth x Height):**

84" (2133mm) x 125" (3175mm) x 55" (1397mm)

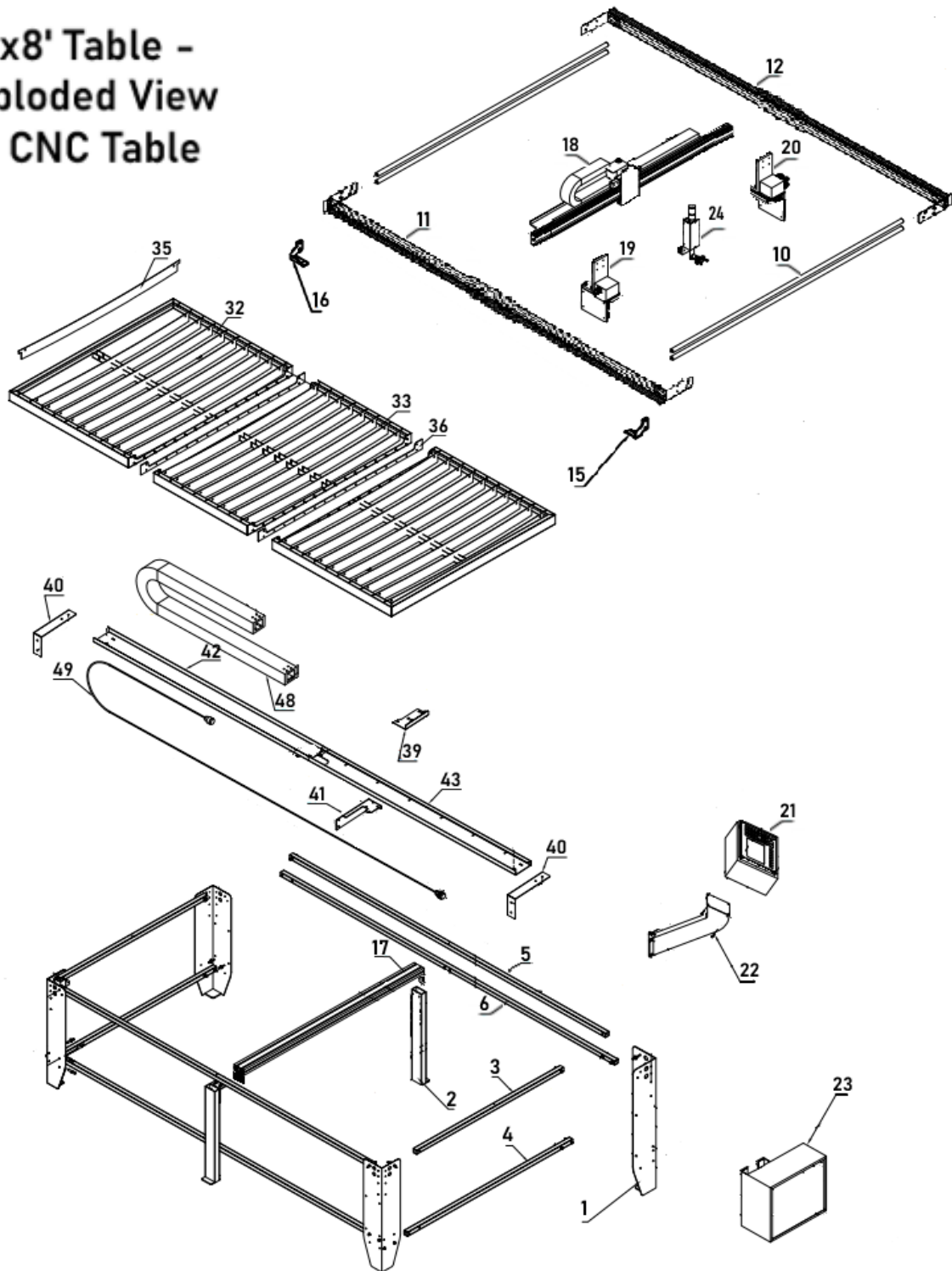
**Overall Unit Weight once Assembled:** 750lbs (340kg)

**Movement Accuracy:**  $\pm$ 0.2mm

**Cutting Accuracy:**  $\pm$ 0.5mm

## Assembly of the 4'x8' CNC Plasma Table

### 4'x8' Table - Exploded View of CNC Table

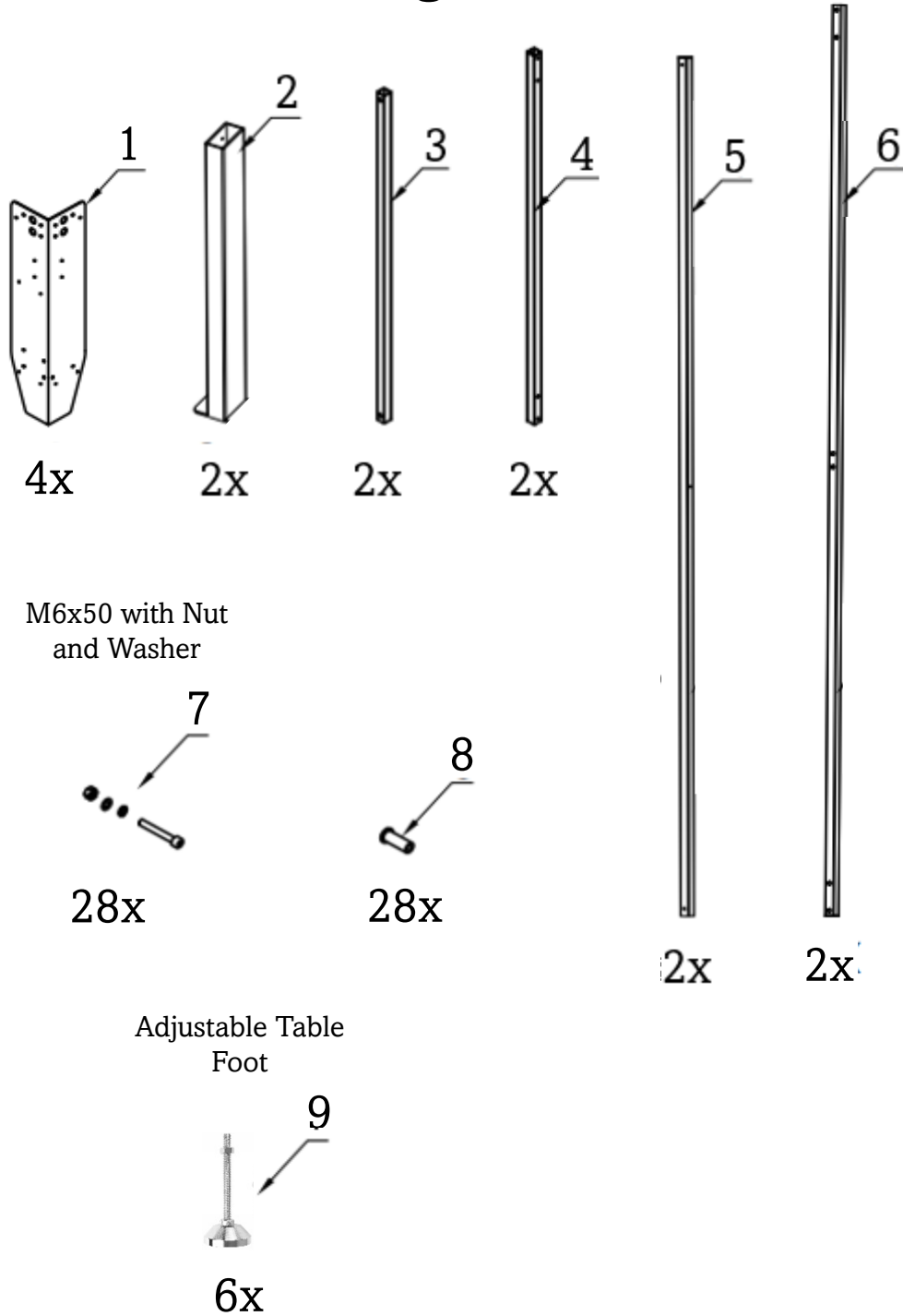


<b>Model: 4'x8' CNC Plasma Table</b>		<b>Crate 1 (71"x42"), Crate 2 (114"x18")</b>	
<b>PN</b>	<b>Part Name</b>	<b>Quantity</b>	<b>Remarks</b>
1	Corner Standing Leg	4	Approx. 29.5" tall ~ Crate 1
2	Central Standing Leg	2	Approx. 26" tall ~ Crate 1
3	X-Axis Upper Frame Square Tube	2	Approx. 47.5" long ~ Crate 2
4	X-Axis Lower Frame Square Tube	2	Approx. 53" long ~ Crate 2
5	Y-Axis Upper Frame Square Tube	2	Approx. 103" long ~ Crate 2
6	Y-Axis Lower Frame Square Tube	2	Approx. 107.5" long ~ Crate 2
7	M6x50 with Nut and Washer	28	Use 5mm Allen key and 10mm wrench Pre-installed on Frame Square Tubes
8	Bolt Sleeve	28	Pre-installed on Frame Square Tubes
9	Adjustable Table Feet	6	Use 19mm wrench ~ Crate 1
10	Connecting Rod	4	Approx. 61" long ~ Crate 2
11	Left Y-Axis Gantry Rail	1	Approx. 108" long ~ Crate 2
12	Right Y-Axis Gantry Rail	1	Approx. 108" long ~ Crate 2
13	M6x16 with Washer	12	Use 5mm Allen key; Pre-installed on Standing Legs
14	M8x45 with Washer	16	Use 6mm Allen key Pre-installed on Connecting Rods and Central Support Rail
15	Front Y-Axis Limit Bracket	1	Located in the Equipment Bag ~ Crate 1
16	Rear Y-Axis Limit Bracket	1	Located in the Equipment Bag ~ Crate 1
17	Central Support Rail	1	Approx. 58.5" long ~ Crate 2
18	X-Axis Gantry Assembly	1	Approx. 63" long ~ Crate 1
19	Left X-Axis End Assembly	1	Approx. 15.5" tall ~ Crate 1
20	Right X-Axis End Assembly	1	Approx. 15.5" tall ~ Crate 1
21	Operator Station	1	Approx. 12.5"x8.5" ~ Crate 1
22	Control Panel Mount Arm	1	~ Crate 1
23	Control Box	1	Approx. 14.5"x12.5" ~ Crate 1
24	THC Motor Assembly	1	Approx. 15" tall ~ Crate 1
25	Gantry Rail End Cap	2	Pre-installed on Y-Axis Gantry Rails
26	M3x8	6	Use 2.5mm Allen key Pre-installed on Y-Axis Gantry Rails
27	M6x55 with Washer	8	Use 5mm Allen key Pre-installed on X-Axis End Assemblies
28	M5x16 with Washer	4	Use 4mm Allen key Pre-installed on Control Box
29	M6x16 with Washer	4	Use 5mm Allen key Pre-installed on the correct Standing Leg
30	M6x12	2	Use 5mm Allen key Pre-installed on X-Axis Gantry Assembly

<b>Model: 4'x8' CNC Plasma Table</b>		<b>Crate 1 (71"x42"), Crate 2 (114"x18")</b>	
<b>PN</b>	<b>Part Name</b>	<b>Quantity</b>	<b>Remarks</b>
31	M4x16 with Washer	4	Use 3mm Allen key Pre-installed on Operator Station
32	Water Table Outer Section	2	Approx. 52.5"x38.5" ~ Crate 1
33	Water Table Central Section	1	Approx. 52.5"x30.5" ~ Crate 1
34	Sealing Plate	4	Approx. 50.5" long ~ Crate 2
35	Slat	28	Approx. 52" long ~ Crate 2
36	Silicone Seal	2	Approx. 53" long ~ Crate 1
37	Silicone Sealant	1	Located in the Equipment Bag ~ Crate 1
38	M6x16 with Nut and Washers	36	Use 10mm wrench Located in the Equipment Bag ~ Crate 1
39	Drag Chains Mounting Plate	1	~ Crate 2
40	Y-Axis Tray Outer Support	2	~ Crate 2
41	Y-Axis Tray Central Support	1	~ Crate 2
42	Y-Axis Rear Tray	1	Approx. 55" long ~ Crate 2
43	Y-Axis Forward Tray	1	Approx. 52" long ~ Crate 2
44	M6x16 with Washer	6	Use 5mm Allen key Pre-installed on Right-Side Standing Legs
45	M5x10 Sunk Head	8	Use Phillips-Head Screwdriver Pre-installed on Y-Axis Supports
46	M5x20 with Washer and Nut	4	Use 4mm Allen key Pre-installed on Y-Axis Rear Tray and Drag Chains Anchor Point
47	M8x30 with Washer	2	Use 8mm Allen key Pre-installed on Right X-Axis End Assembly
48	Y-Axis Drag Chain	1	WTFK ~ Crate 2
49	Y-Axis Gantry Cable	1	Approximately 161" long ~ Crate 1
50	Control Panel Cable	1	Approximately 20" long ~ Crate 1
51	THC Cable	1	Approximately 13" long ~ Crate 1
52	Power Cable	1	Approximately 71" long ~ Crate 1
53	Plasma Cutter Control Cable	1	Approximately 240" long ~ Crate 1

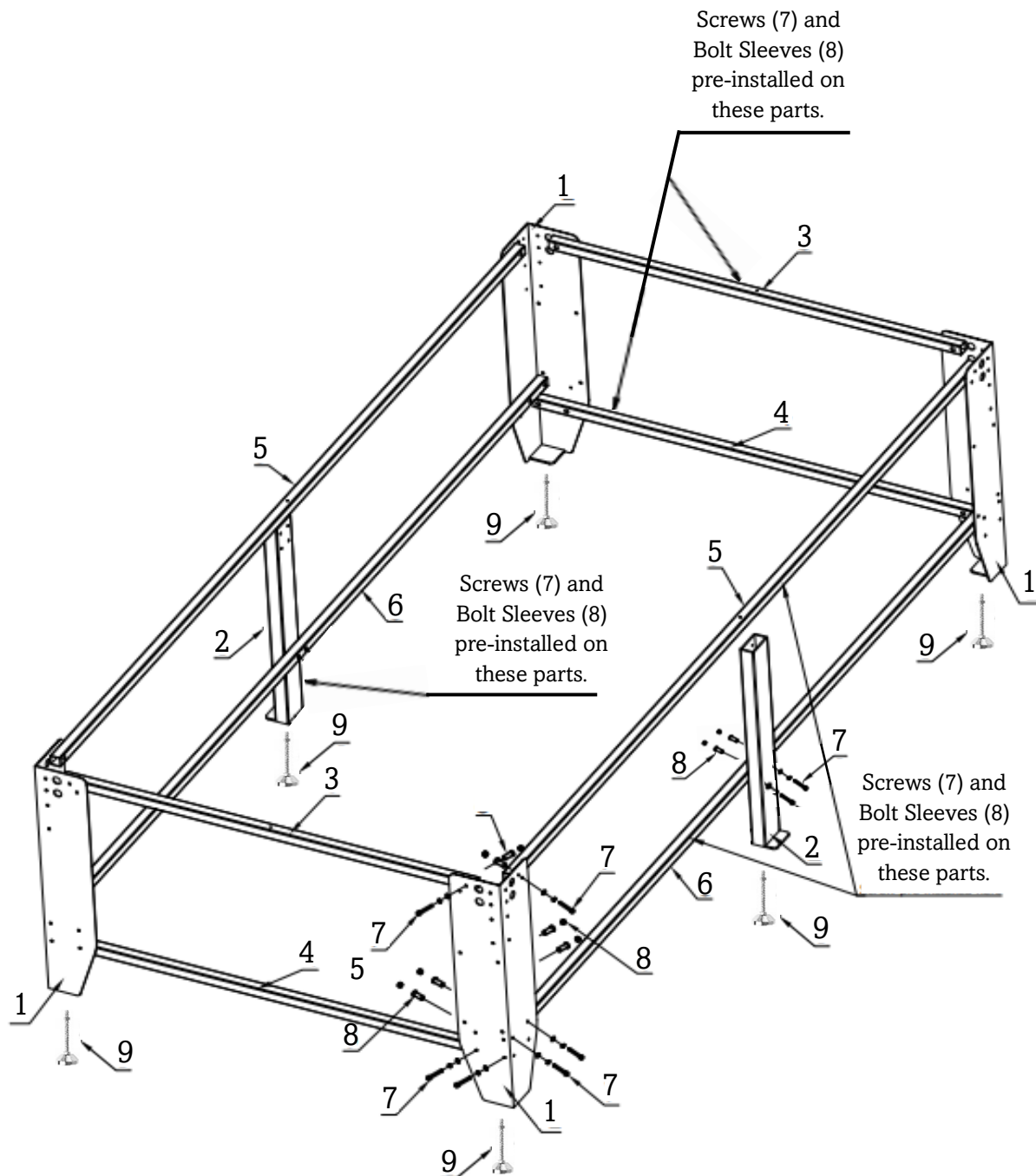
1-0

## Building the Base

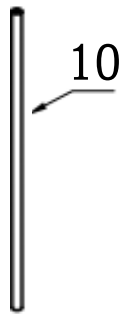




1-1



## 2-0 Adding the Gantry Rails



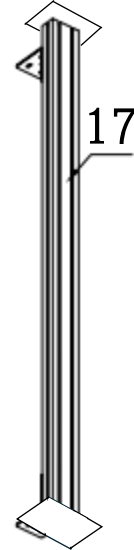
4x



1x

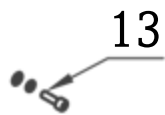


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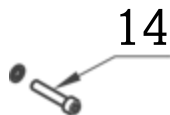
1x

M6x16 with  
Washer

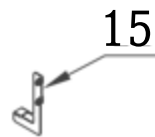


12x

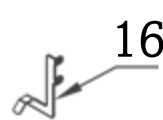
M8x45 with  
Washer



16x

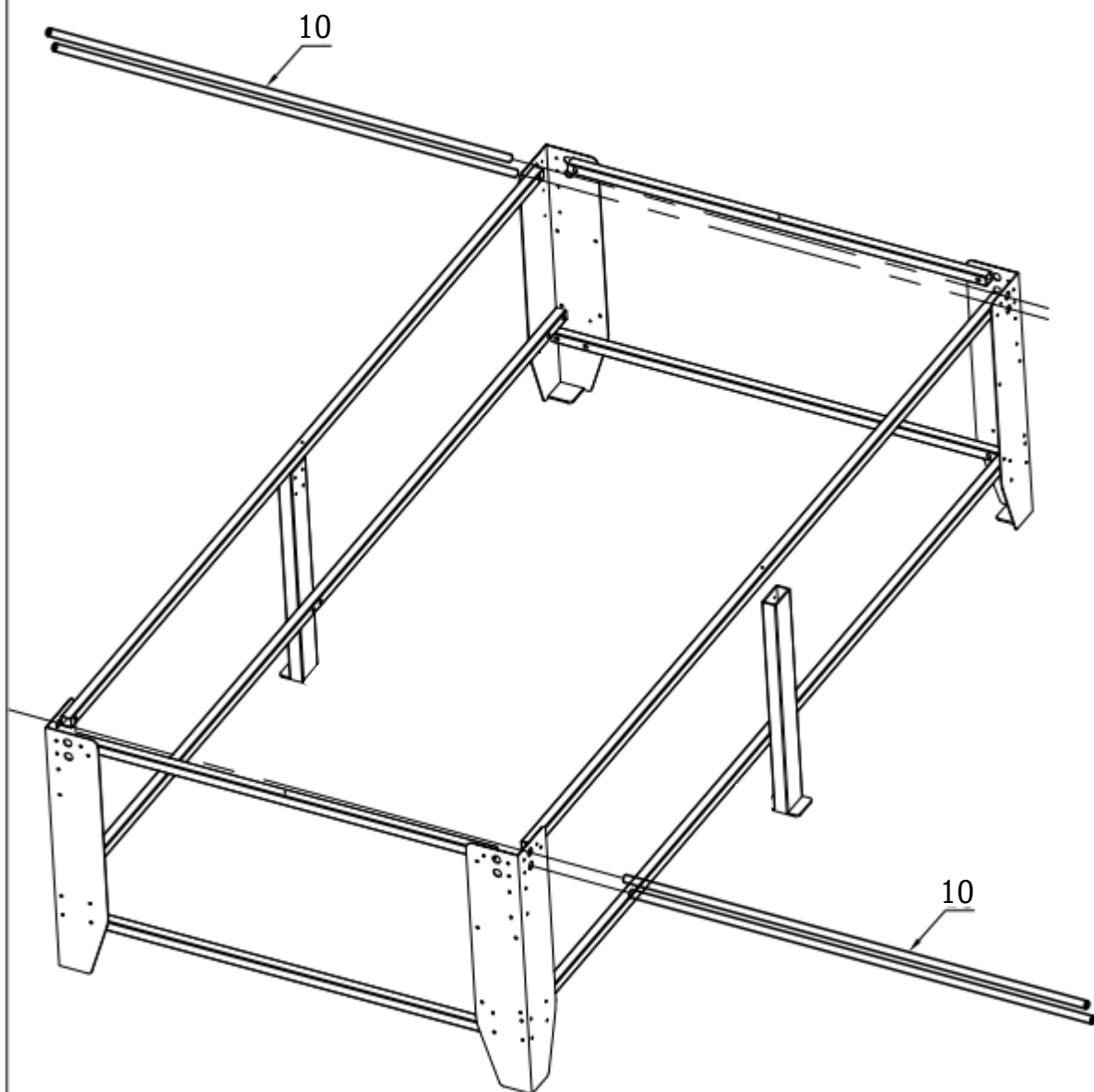


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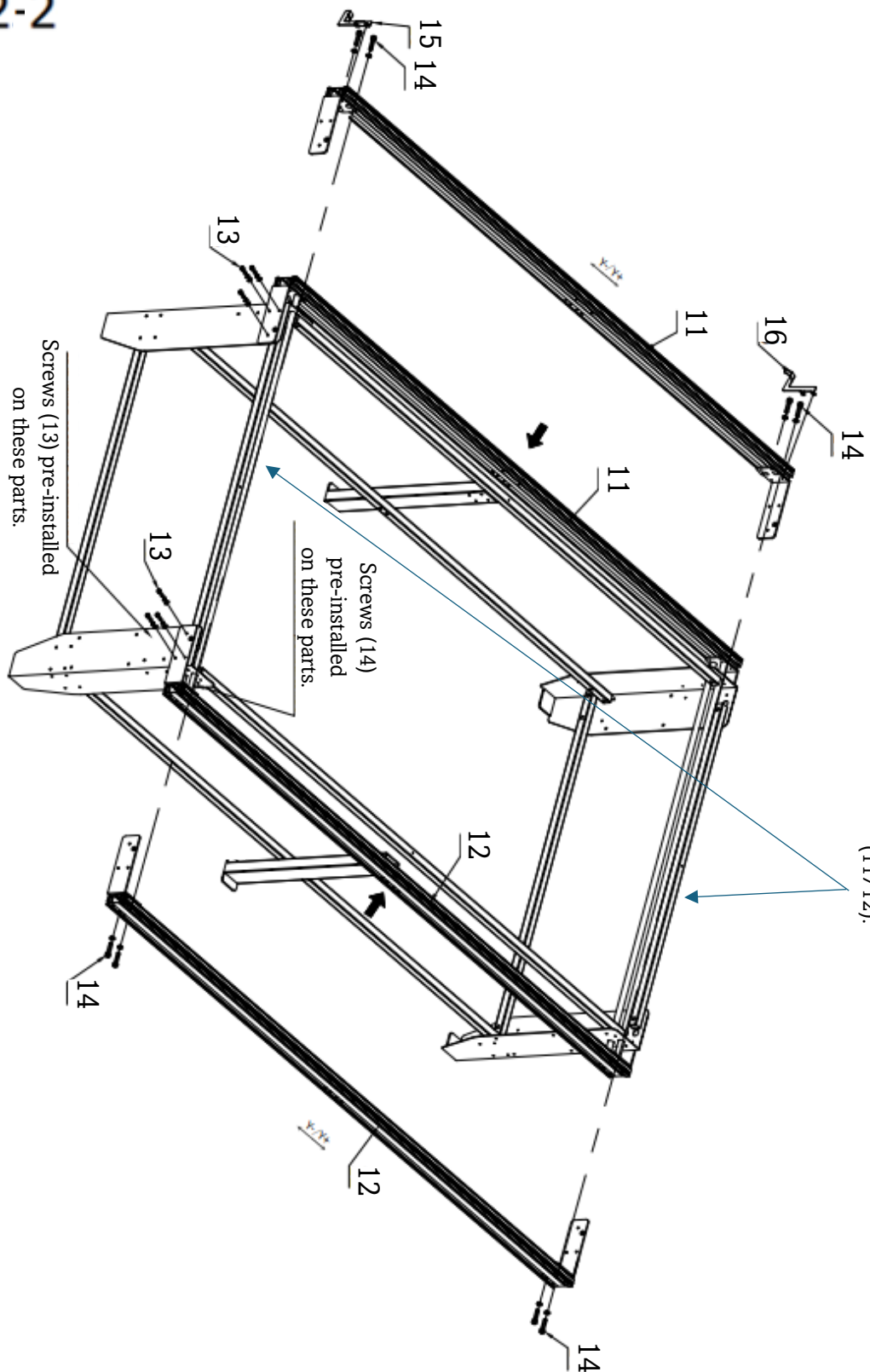


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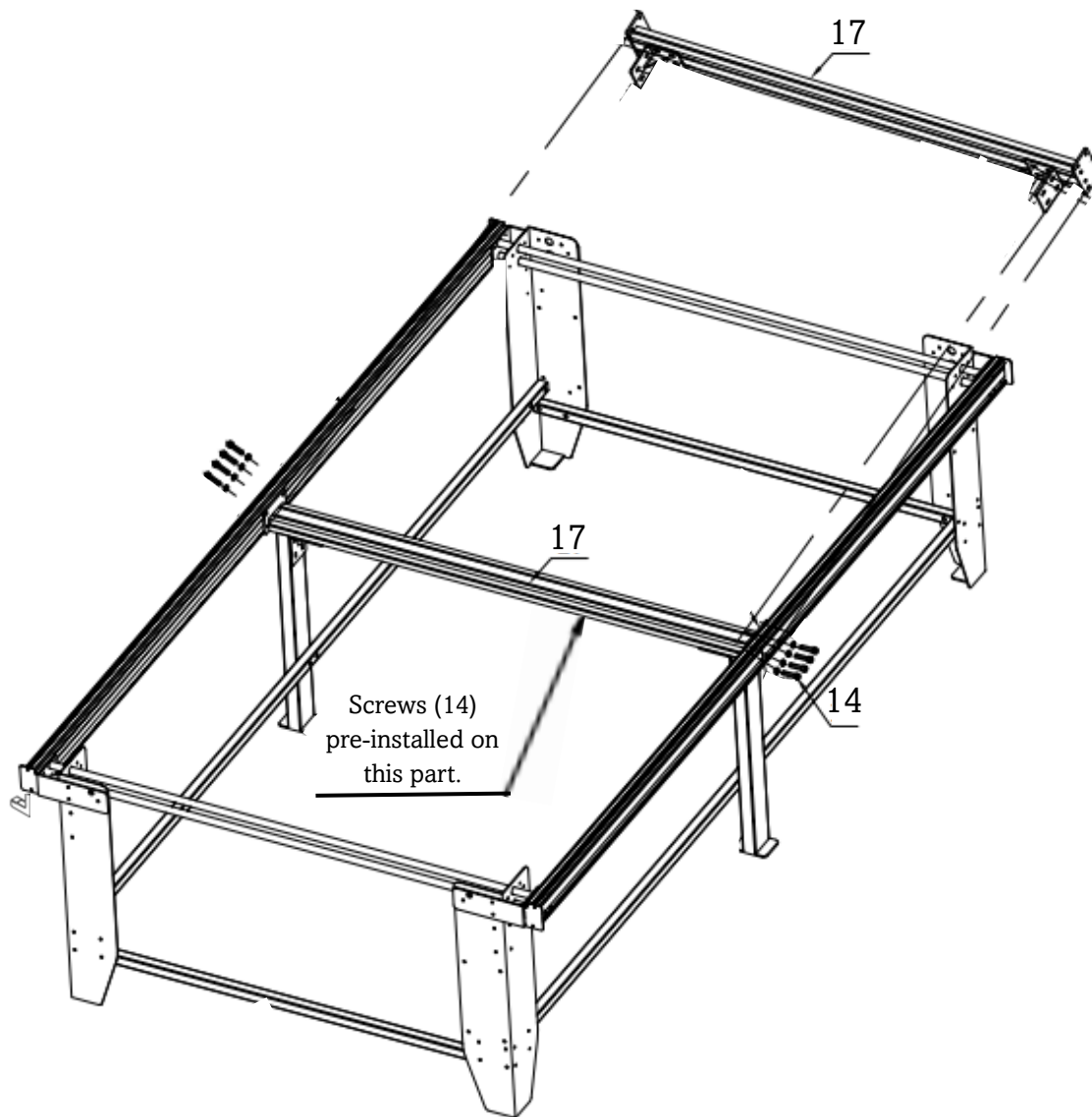
2-1



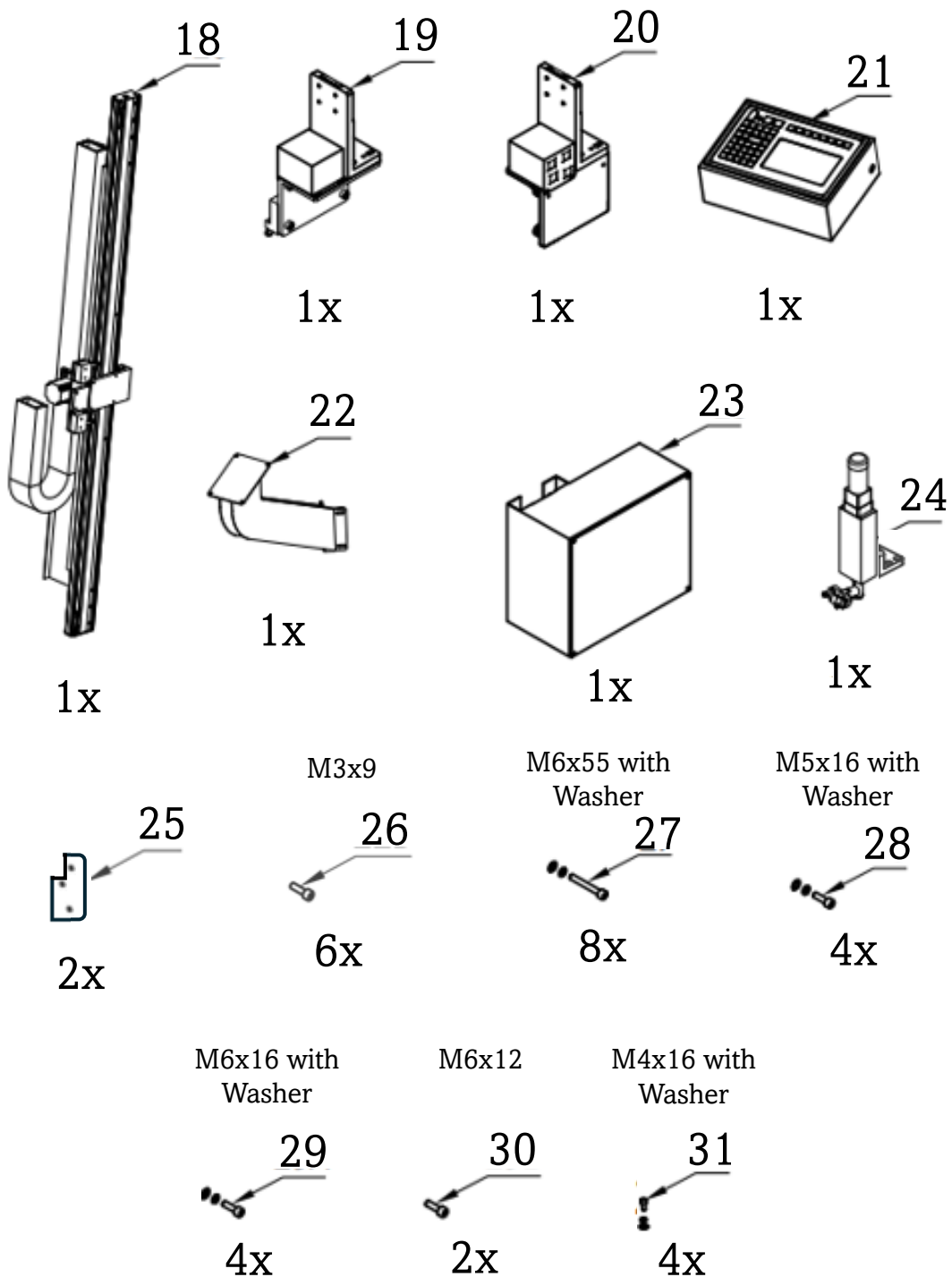
## 2-2



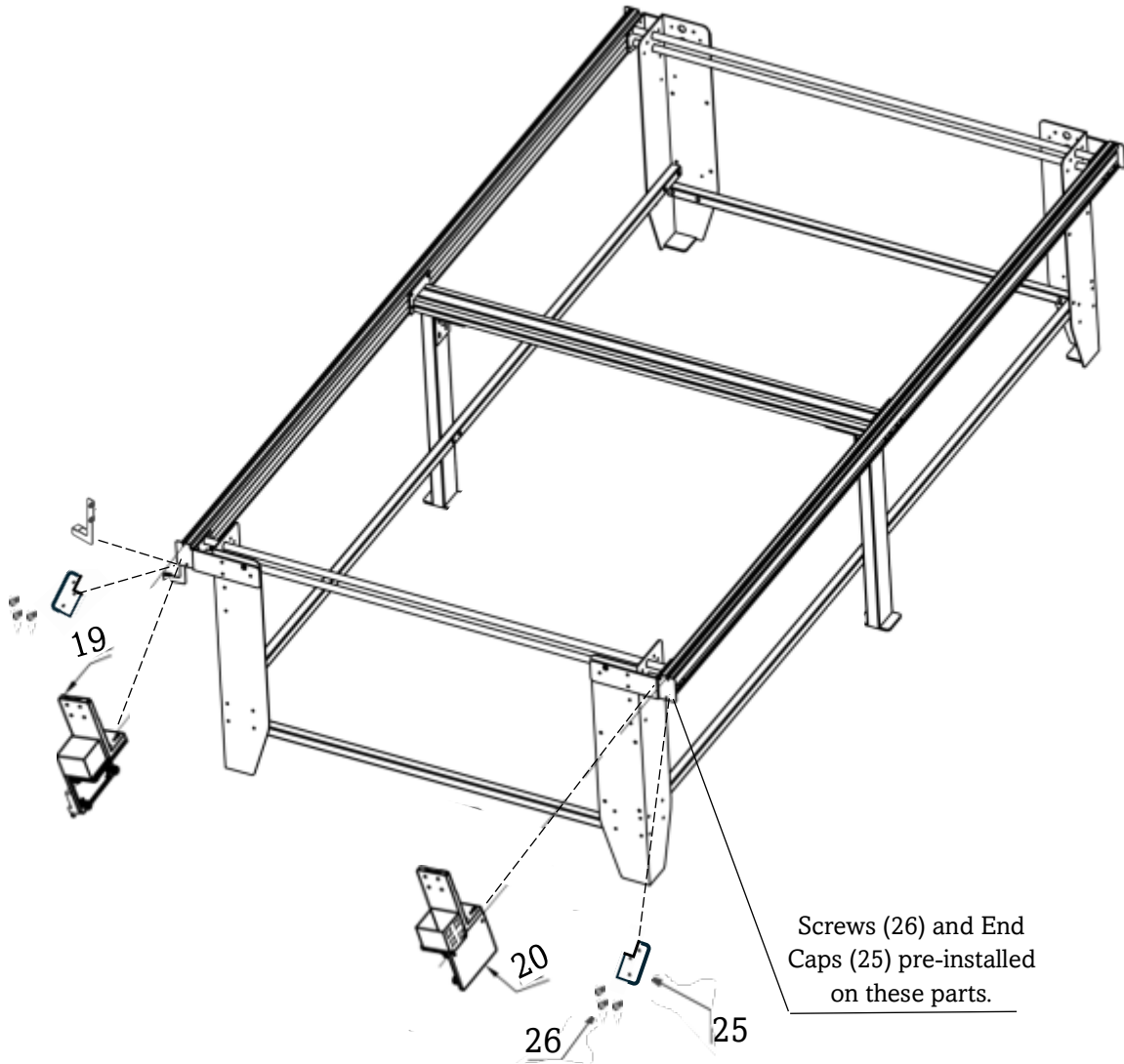
2-3



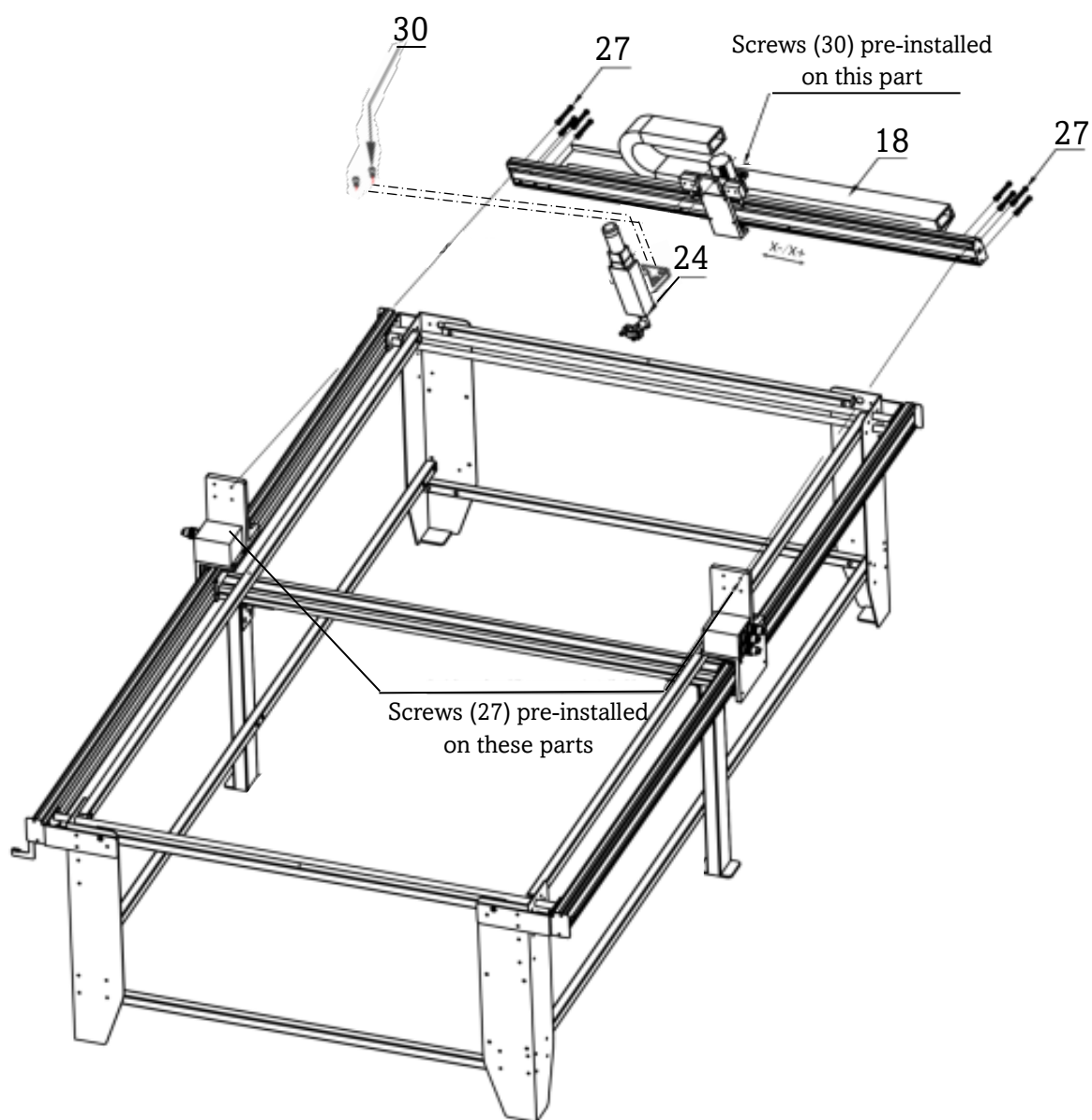
### 3-0 Adding X-Axis Assembly and Controls



3-1

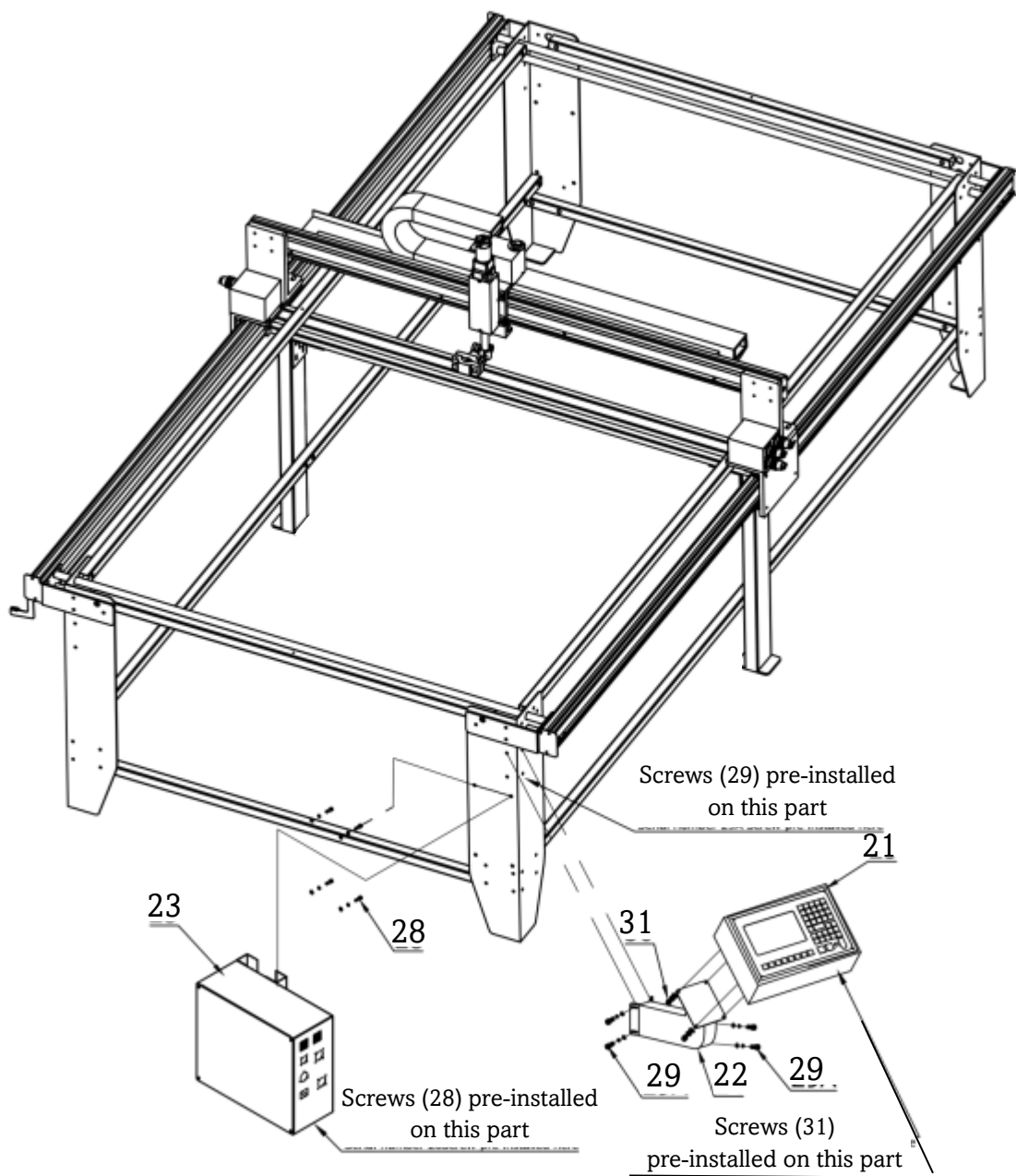


3-2

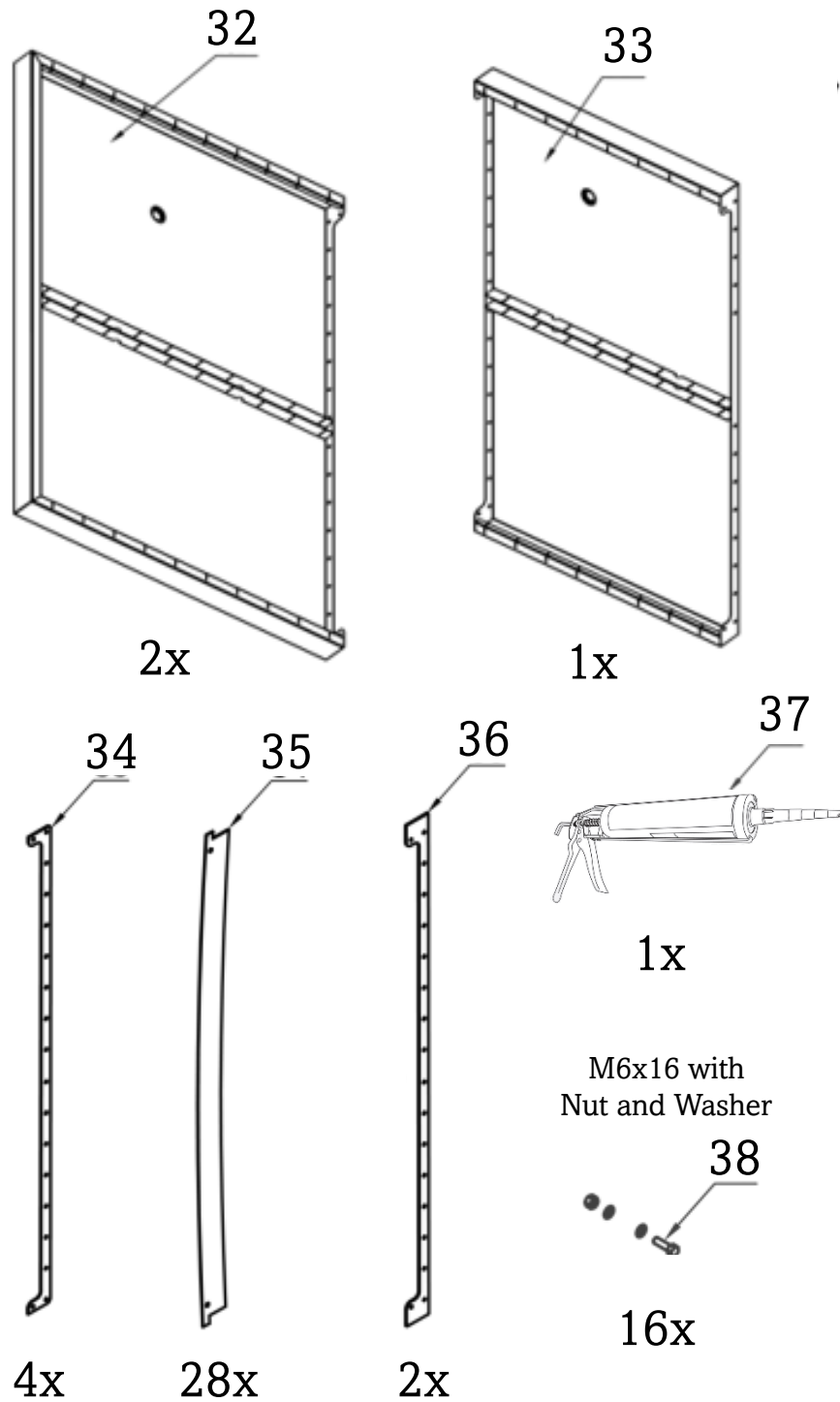




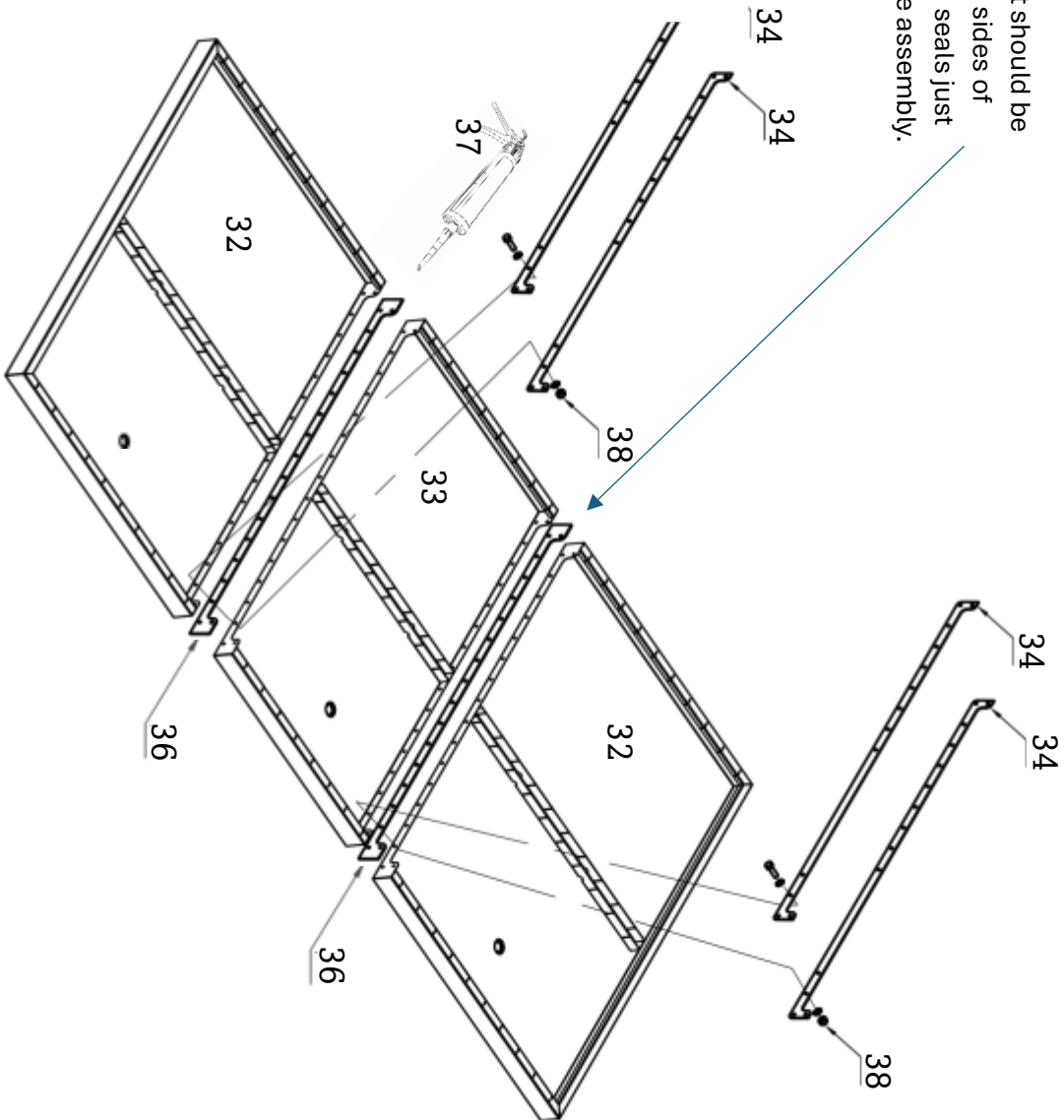
3-3



## 4-0 Constructing the Water Table

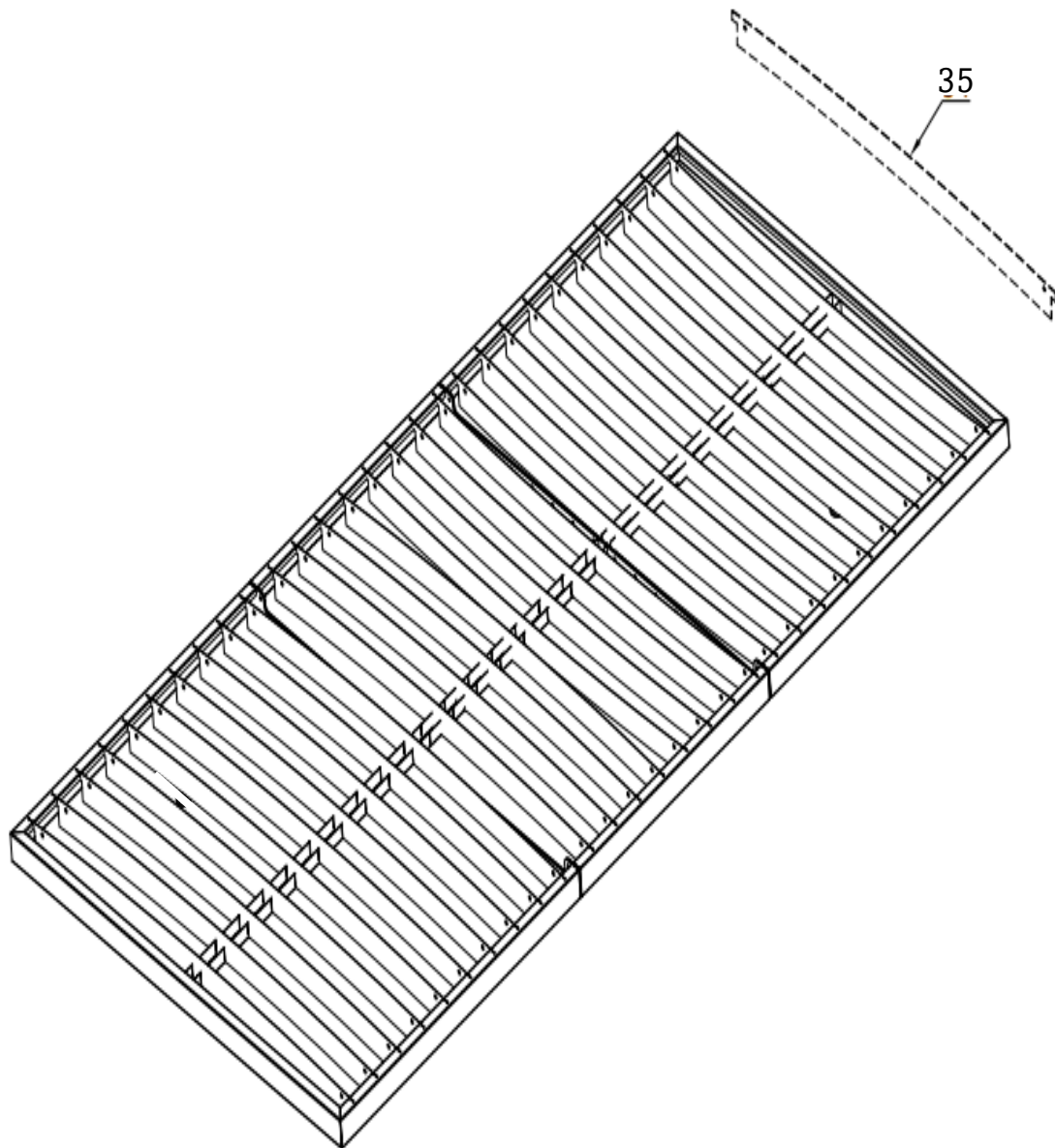


Silicone sealant should be applied on both sides of the #36 silicone seals just moments before assembly.

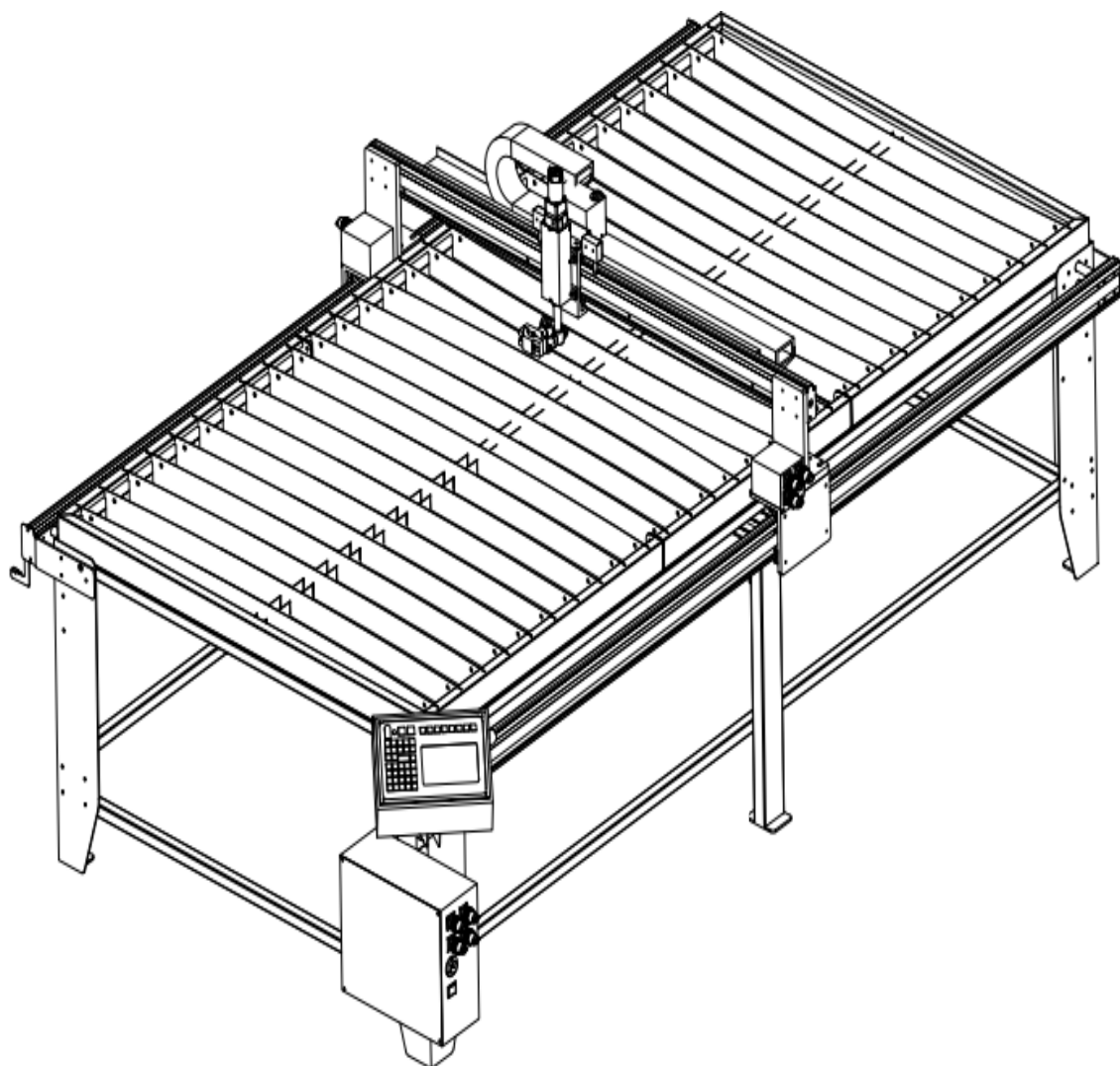


4-1

4-2

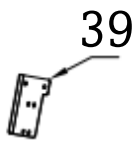


4-3



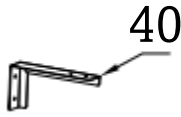
5-0

## Adding Y-Axis Assembly



1x

M6x16 with  
Nut and Washer



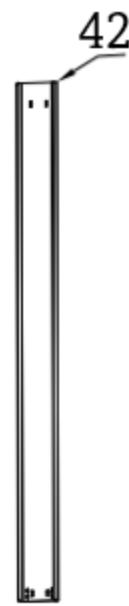
2x

M5x10 with  
Nut and Washer



1x

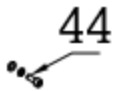
M5x20 with  
Nut and Washer



1x



1x



6x



8x

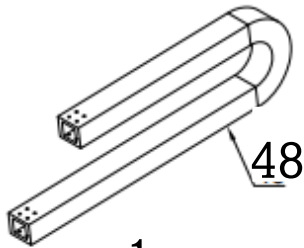


4x

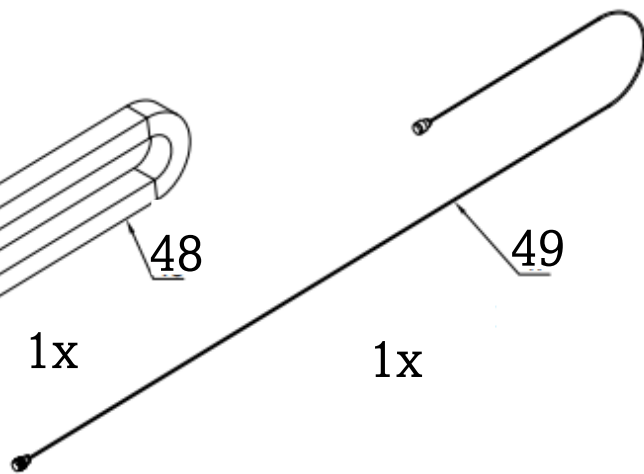
M8x30 with  
Nut and Washer



2x

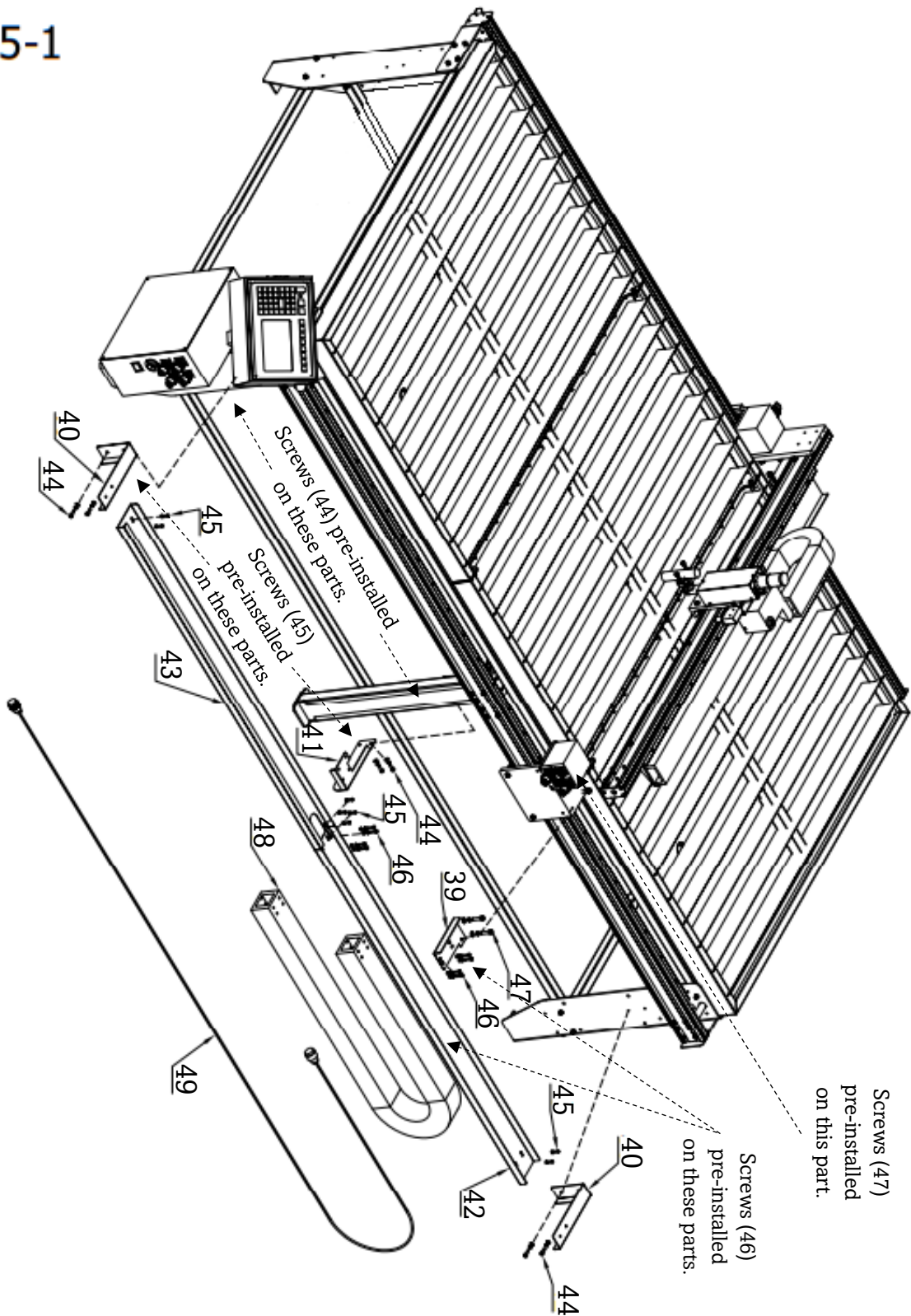


1x



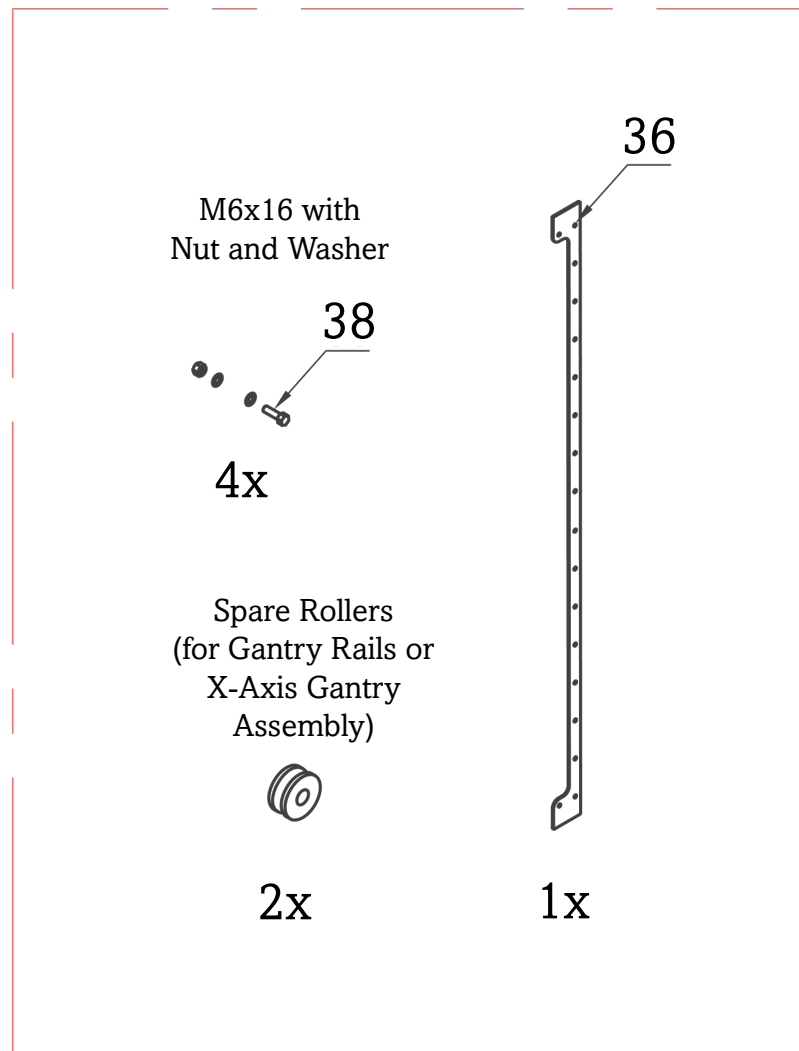
1x

5-1



6-0

## Spare parts





7-0

## Control Wiring

49

1x



50

1x



51

1x



52

1x

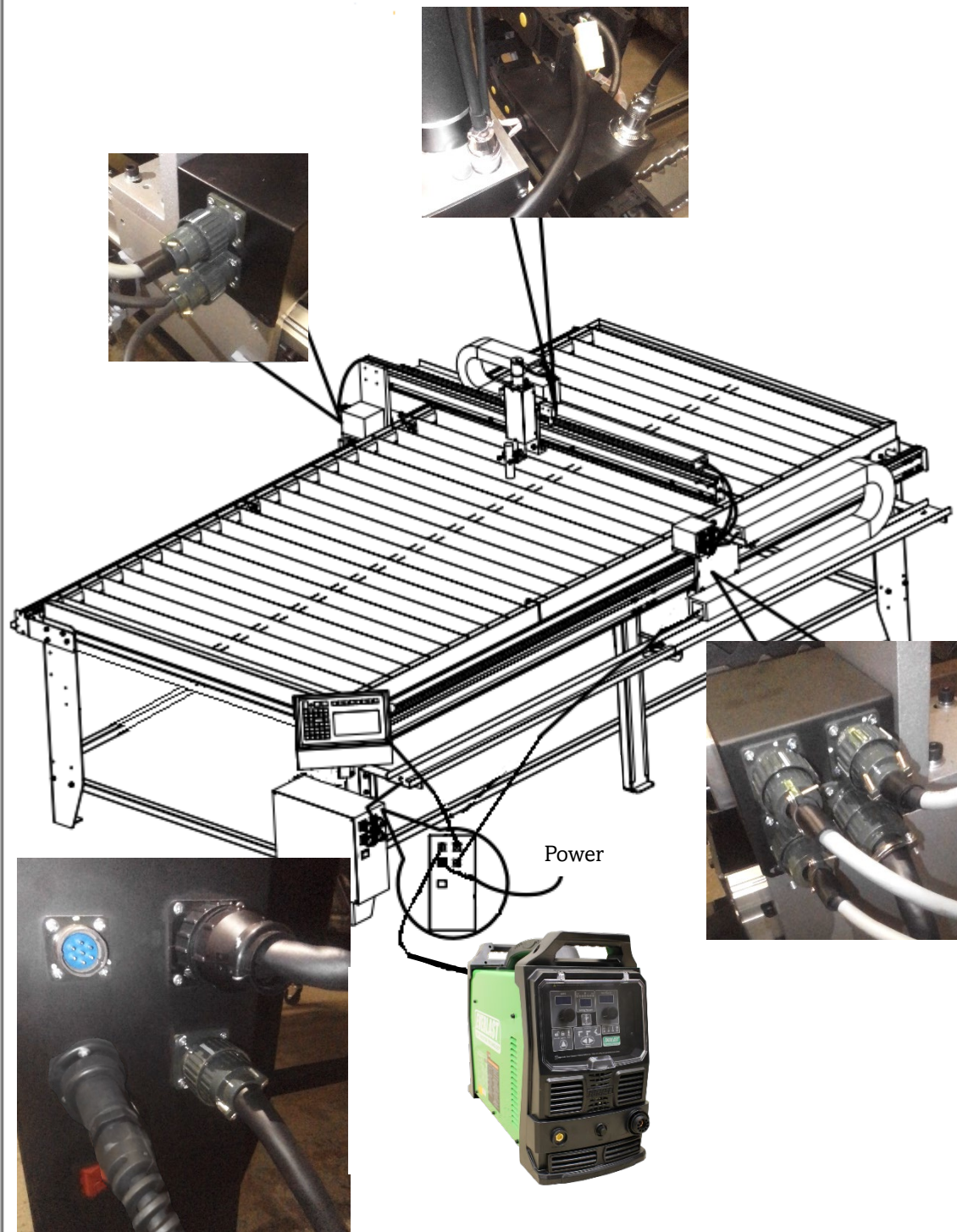


53

1x



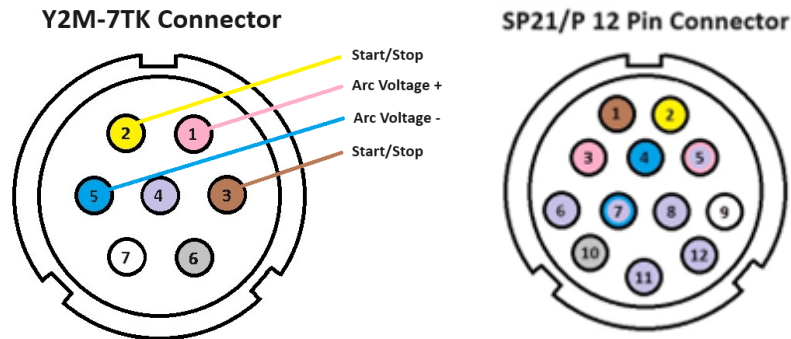
7-1



## Basic Setup of the 4'x8' CNC Plasma Table

### 8-1: 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.

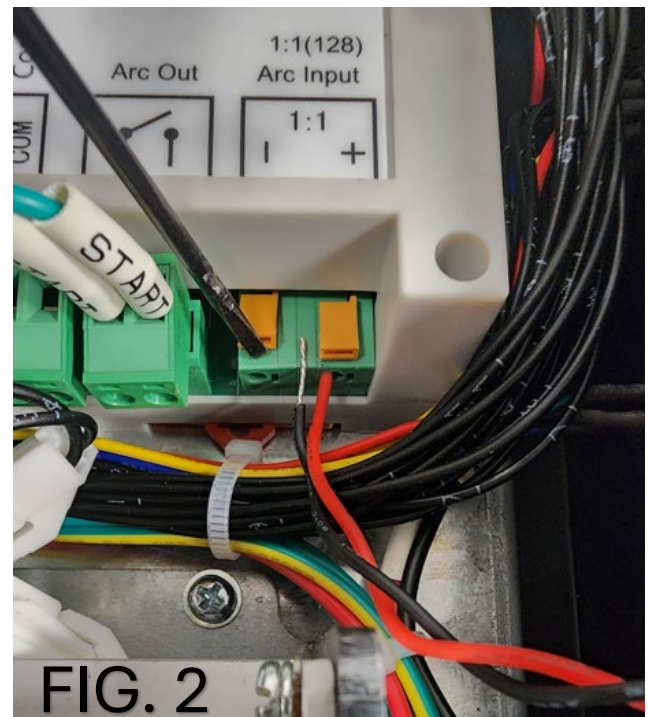
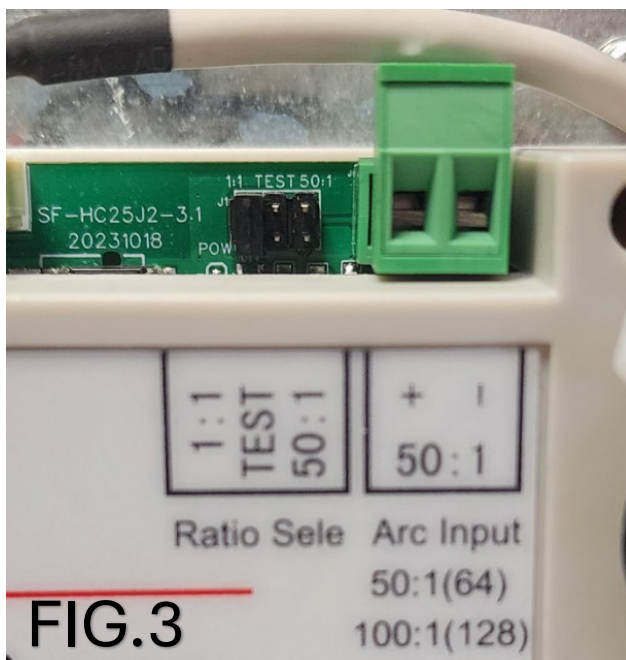
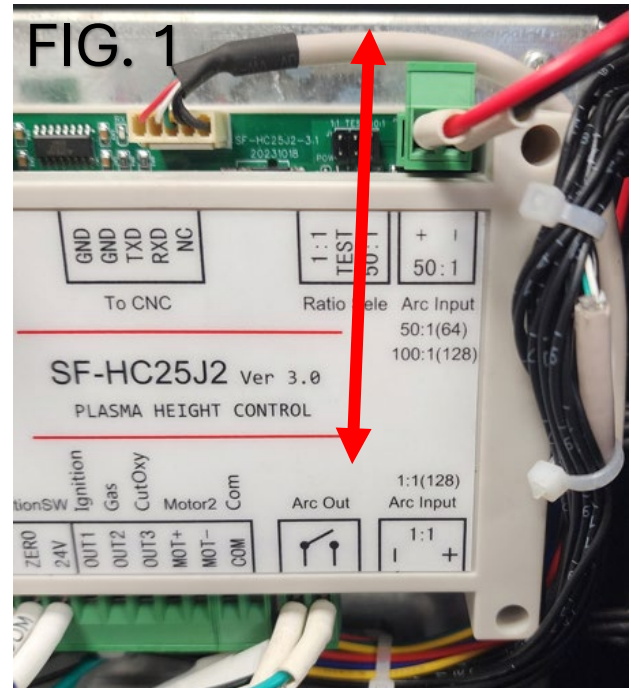
- Raw arc voltage cannot be used when using a High Frequency start machine.
- Confirm the polarity of the arc voltage before connecting the CNC
- Your plasma cutters trigger setting will need to be set to 2T, unlock or CNC mode



## 8-2: 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).



## 9-1: Running the Torch through the Drag Chains



Figure A

### Step 1:

You will need to lay out the X-Axis Drag Chain to help run the torch through. First, move the carriage over to the right end. Second, disconnect the two connectors, coming out of the Drag Chain, from the Right X-Axis End Assembly (Figure A).

Then locate your 4mm Allen key and find the bottom end of the Drag

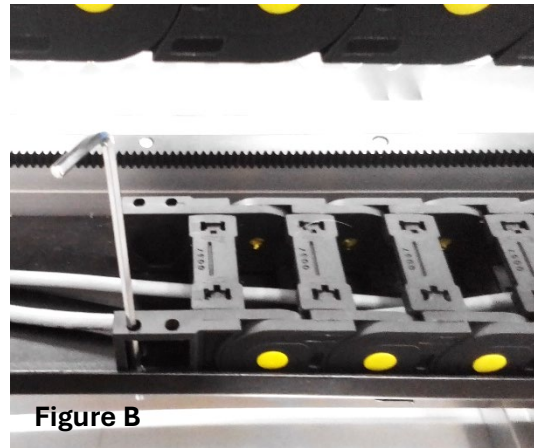


Figure B

Chain. You will find a pair of holes there through which you can access a pair of bolts with your Allen key (Figure B). Remove them and set them aside.



Figure C

### Step 2:

Gently slide the bottom of the Drag Chain towards the left side of the CNC Table, straightening out the Drag Chain as you go (Figure C). Be sure to avoid catching the two cables inside the Chain on anything.

### Step 3:

Either run the torch through the track by opening the Drag Chains and laying the torch in the open track (9-2) or by removing the Euro Connection and feeding it through (9-4). Repeat process with the Y-Axis drag chain.

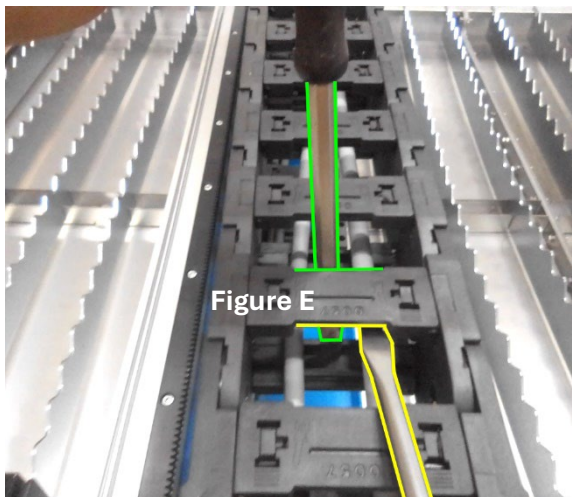
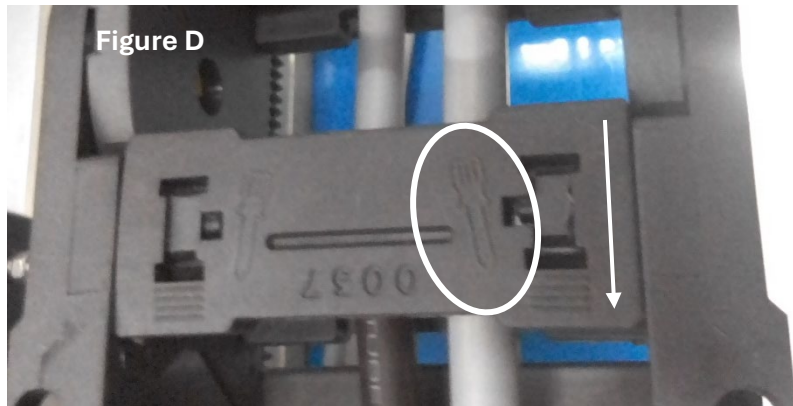




## 9-2: Running the Torch through the Drag Chain: X-Axis

Remove each of the track clips from the Drag Chain and set them aside.

On the clip that you wish to remove, first locate the two flathead screwdriver icons that will indicate the front side of the clip that will need to be lifted. (Figure D).

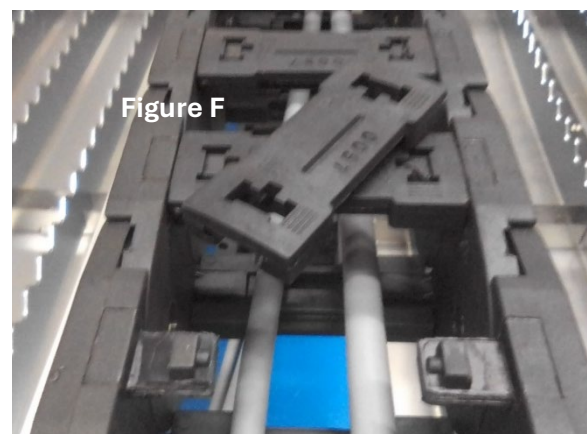


Using one screwdriver at the back of the clip, apply forward pressure, and pry up on the front of the clip with the second screwdriver. (Figure E).

**Do not pry up close to the edges of the clip,** keep your screwdrivers in the center indented portion.

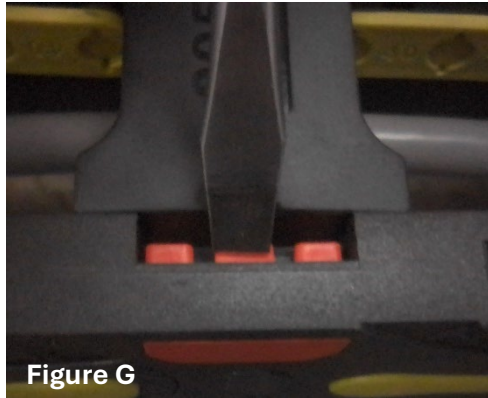
Repeat the process with every track clip on one side of the chain. Lay the torch cables in position. Re-install all of the track clips.

Once the torch cable is seated in the Drag Chain, shift the Drag Chain back into its original position. Bolt it back into place using the bolts you set aside in 9-1.



## 9-3: Running the Torch through the Drag Chain: Y-Axis

For the Y-Axis Drag Chain, you will still need one flathead screwdriver. Select the track clip in the Drag Chain that you intend to remove.



Take the flathead screwdriver and press the screwdriver's tip against the central red tab holding the track clip in place on one side (Figure G). Apply pressure to the red tab and the piece should slide out of the side of the chain (Figure H).



Repeat the process with the red tab on the other side.

Grip the unlocked track clip and gently pry it up and out. (Figure J).



Repeat the process with every track clip in the chain.  
Lay the torch cable in position.

Re-install all the track clips.

Once the torch cable is seated in the Drag Chain, shift the Drag Chain back into its original position and bolt it back into place.

## 9-4: Running the Torch through the Drag Chain: Alternate

Consult with Halo's Technicians for how to properly remove the Euro connection from your plasma torch so that you can run it through the Drag Chains without removing the upper links in each Drag Chain.

## 9-4: Mounting the Plasma Torch



The mount that comes installed on the table is designed for a hand torch. When installing a hand torch, be sure to place the torch head as deep into the mount as possible. Depending on the style of torch, you may lose several inches of travel along the X-Axis (left-right).

If using a CNC torch, be sure to install the torch extension arm in order to allow for a better mounting position.



### 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. If you need more clearance, you may adjust at any time. 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 6mm Allen key to loosen it and will allow you to rotate the torch clamp. You will need to use the S↓ key to lower the Lifting Body low enough to access the Bolt. **Bolt B** 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** till the torch tip is square with the workpiece.

