

# BlueCarve Spark Plasma CNC Set Up Guide – Legs and/or Water Tray

The following instructions are to assist in installation of the legs/table and water tray if purchased. We do little tweaks as part of continuous improvement so if your legs do not match what you see in the start of this guide, get in touch with Adam regarding older model installation guides.

1. Workflow
2. Tools required
3. Legs/Table parts
4. Legs/Table installation
5. Water tray parts
6. Water tray installation

## 1. Workflow

**Below is the workflow for the installation of legs and/or water tray.**

Prior to starting, fully assemble your CNC

### Legs Install:

- A. Corner legs
- B. Middle legs
- C. Bottoms supports
- D. C channel/side panel

### Water Tray Install:

- A. Install extra supports
- B. Insert water trays
- C. Connect water trays together
- D. Connect water drainage system
- E. Insert knife slots
- F. Insert knives

Turn on your CNC!

### Refers to:

**HS** - [Landscape and Half Sheet CNCs](#)

**FS** - [Full Sheet CNCs 1.5x3.0 and 1.8x3.3](#)

## 2. Tools Required

### Legs/Table

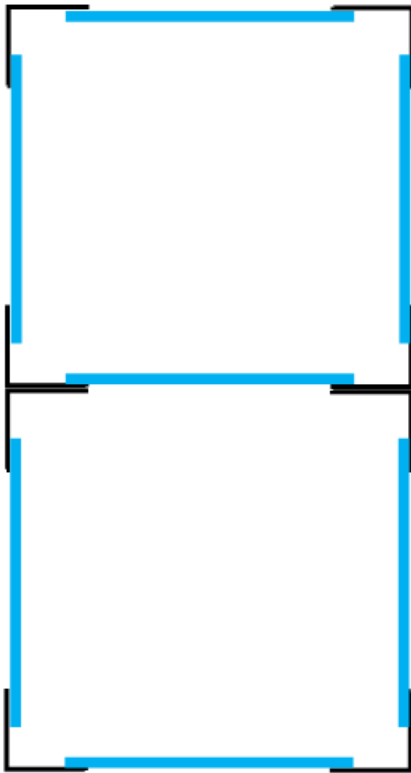
- Mate, loved one, benevolent overlord... AKA a second pair of hands
- Tape measure
- 4mm, 5mm & 7mm hex/allen key
- 8mm, 10mm & 13mm spanner

### Water Tray

- Drill and drill bits
- Silicone
- Plumbing

### 3. Legs/ Table Parts

#### FULL SHEET



#### 1.5 x 3.3 (FULL SHEET+)

- (x4) C Channel 1320mm & (x3) 1470mm
- (x4) corner legs (full) (x4) middle legs (cropped)
- (x5) support rails 1575mm (shorter)
- (x4) support rails 1645 (longer)
- (x6) castors
- Fasteners

#### 1.5 x 3.0 (FULL SHEET)

- (x7) C Channel 1170mm
- (x4) corner legs (full) (x4) middle legs (cropped)
- (x5) support rails 1340mm (shorter)
- (x4) support rails 1430 (longer)
- (x6) Castors
- Fasteners

#### HALF SHEET



#### 1.5 x 1.5 HALF SHEET

- (x4) C Channel 1170mm
- (x4) corner legs
- (x2) support rails 1340mm (shorter)
- (x2) support rails 1430 (longer)
- (x4) castors
- Fasteners

#### 1.5 x 1.0 LANDSCAPE

- (x2) C Channel 1170mm & (x2) 910mm
- (x4) corner legs
- (x2) support rails 910mm (shorter)
- (x2) support rails 1430 (longer)
- (x4) Castors
- Fasteners

#### LANDSCAPE (similar to 1x1)



#### 1.0 x 1.0

- (x4) C Channel 910mm
- (x4) corner legs
- (x2) support rails 740mm (shorter)
- (x2) support rails 930 (longer)
- (x4) Castors
- Fasteners

#### 4. Legs/Table installation

##### A. Install Corner Legs

1. Prop your CNC on a table or horses. This will allow for easier installation of the legs
2. Unpack each component and lay out for better visualization. Tip: Match same component lengths as per parts list
3. Pick out the corner legs

HS there are only 4 legs

FS there are 8 legs with 4 with a tab and 4 without. The legs with the tab are the corners

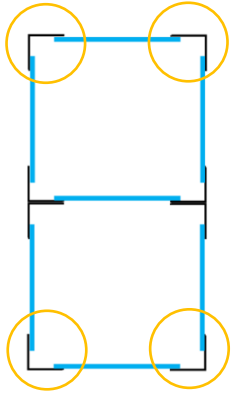


4. Attach castors to the bottom of each corner leg

Use bag **(A)** M8 x 25mm cap head bolt > washer > washer > nyloc nut



- Loosely insert bolts > washer > T nut to corner legs. The T nuts are drop in nuts meaning the nut has to drop into the V groove.



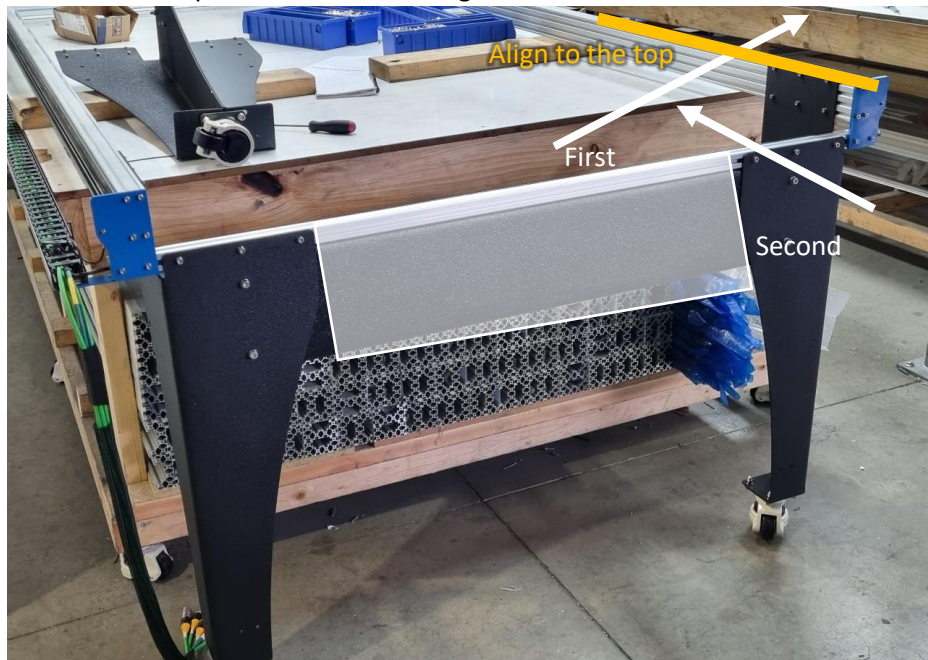
**Bag (C)**

M5x10 bolts and series 20 M5 drop in nuts

**Bag (D)**

M6x12 bolts and series 30 M6 drop in nuts

- Attach to corresponding corner with outside lip attaching to the front rail and tall lip attaching to the inside of your CNC rail. You would want to move the leg into place and attaching to the front rail then lining up the inside. Tighten bolts to lock. Repeat for all 4 corner legs



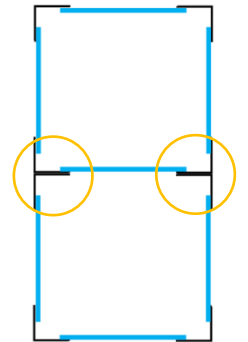
**B. Middle Legs FS ONLY HS skip to Section C**

- Join each pair to make installation easier using bag (B) to join the top and bag (D) for the smaller bottom bolts





2. Attach the castor using bag (A) aligning to the middle of the two legs  
M8 x 25mm cap head bolt > washer > washer > nyloc nut
3. Loosely attach bolts and drop in nuts to the top of the legs using bag (C)
4. Align middle of legs mid-way down the extrusion (measure from the extrusion not end plate)  
 $1.5 \times 3.0 = 1500\text{mm}$ ,  $1.8 \times 3.3 = 1650\text{mm}$



5. Level at the top and tighten bolts

### C. Bottom Support

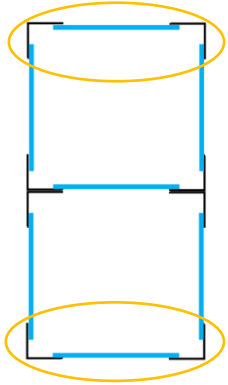
By attaching the bottom supports first, it allows for any top mis-alignment (if there is too much mis-alignment, adjust the leg by loosening the bolts). Use a tape measure to check for equal spacing for each leg by referencing from the top of the leg to the corresponding leg then checking that it's the same value at the bottom. The accuracy of the legs does not impact the functionality of the CNC within reason so do not stress about this part.

1. Using bag (D) M6x12 > washer > washer > nyloc nut, attach each support to the bottom two holes of each leg on the inside. There are two different support lengths for each CNC size. The shorter length goes left to right, longer lengths front to back. The shorter length rail will go between the middle legs left to right.

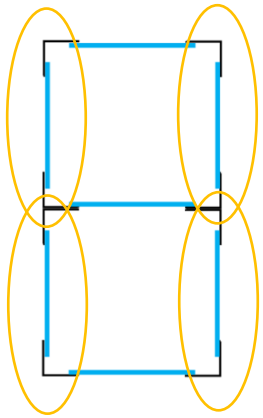


#### D. C Channel

1. Take a shorter C Channel and install onto the front and back horizontal rails. Install holes facing up. Using bag (D) M6x12 > washer > series 30 M5 T nut insert into each hole loosely tightened before installing. Install between the front and back legs up into the front rail V slot extrusion. Use bag (B) M8x20 cap head > washer > washer >> nyloc nut attach the C Channel to the leg.



2. Take a longer C Channel, these are to be installed on the left and right sides. Have the holes facing up. Attach each leg using bag (B) M8x20 cap head > washer > washer > nyloc nut



That concludes the legs installation. If you have purchased the water tray option, you will have one or two extra support bars. Please continue to the next page.

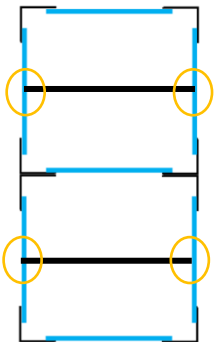
**Water Tray Install:**

- A. Install extra supports using the shorter support lengths with bag (E) M6 CSK x 16 > washer > nyloc nut

HS install half way with 1 support

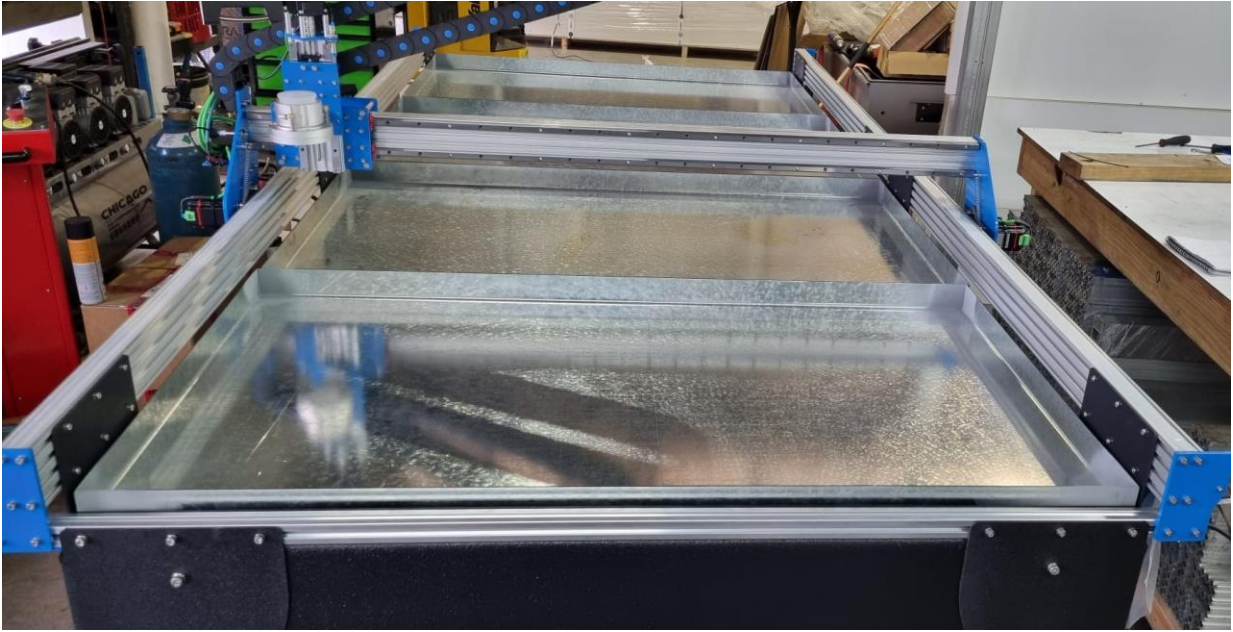
FS install 1<sup>st</sup> and 3<sup>rd</sup> quarter with 1 support each

**NOTE:** the table is rated to a 12mm sheet of mild steel. If you plan on cutting thicker material, it is advised to install additional bracing to support the heavier weight.





- B. Insert water trays  
1x1 and Landscape sizes will only have 1 tray  
HS will have 2 trays  
FS 1.5 x 3 – 3 or 4 trays, 1.8 x 3 – 3 trays



- C. Connect water trays together  
Drill holes spaced out 4 holes from one tray to the next. It is advised to silicone in-between the trays to seal from water ingress. Bolts not included.



- D. Connect water drainage system  
We have not specified a method you should use to connect your water trays to a drain. It depends on how often you will be draining your system etc. It is advisable to use a “plasma protector” fluid with a 5-10% concentration to eliminate rust on your parts and table, reduce chunks of rust forming and to inhibit bacteria growth.
- E. Insert knife slots  
Insert 2 knife slots per tray offset by 200mm from each side



- F. Insert knives