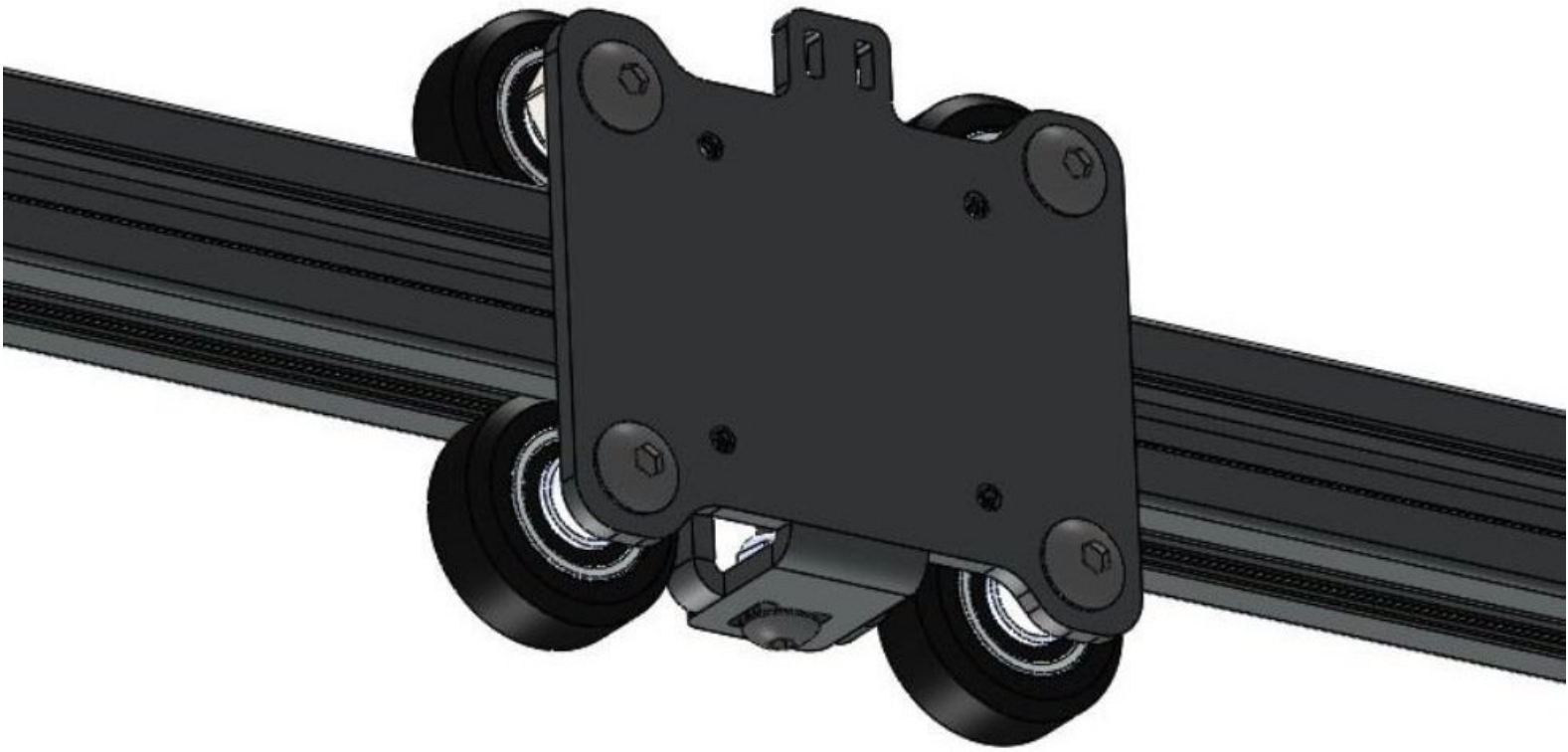


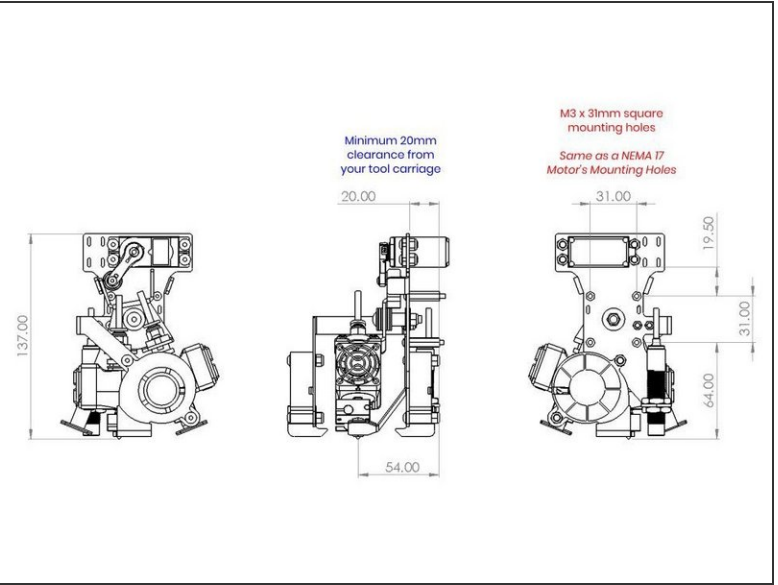
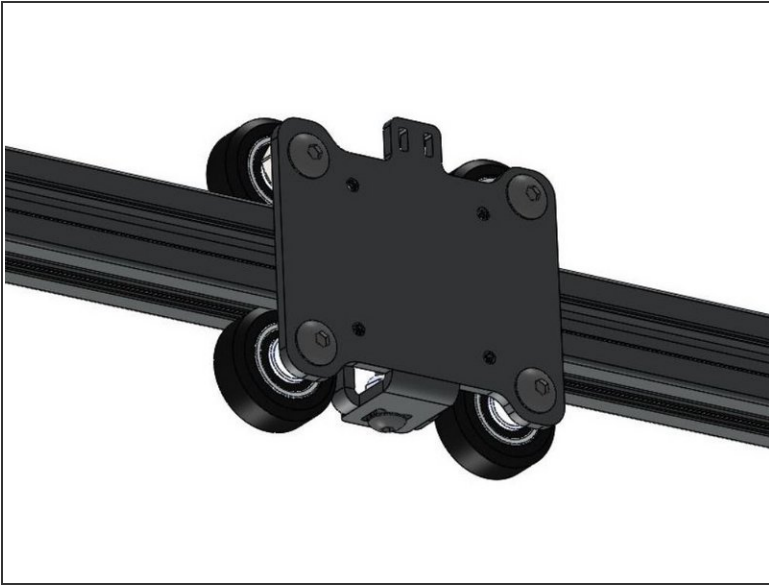
# Makertech

## DSE Only - Stage 04: Tool Carriage

Written By: Makertech

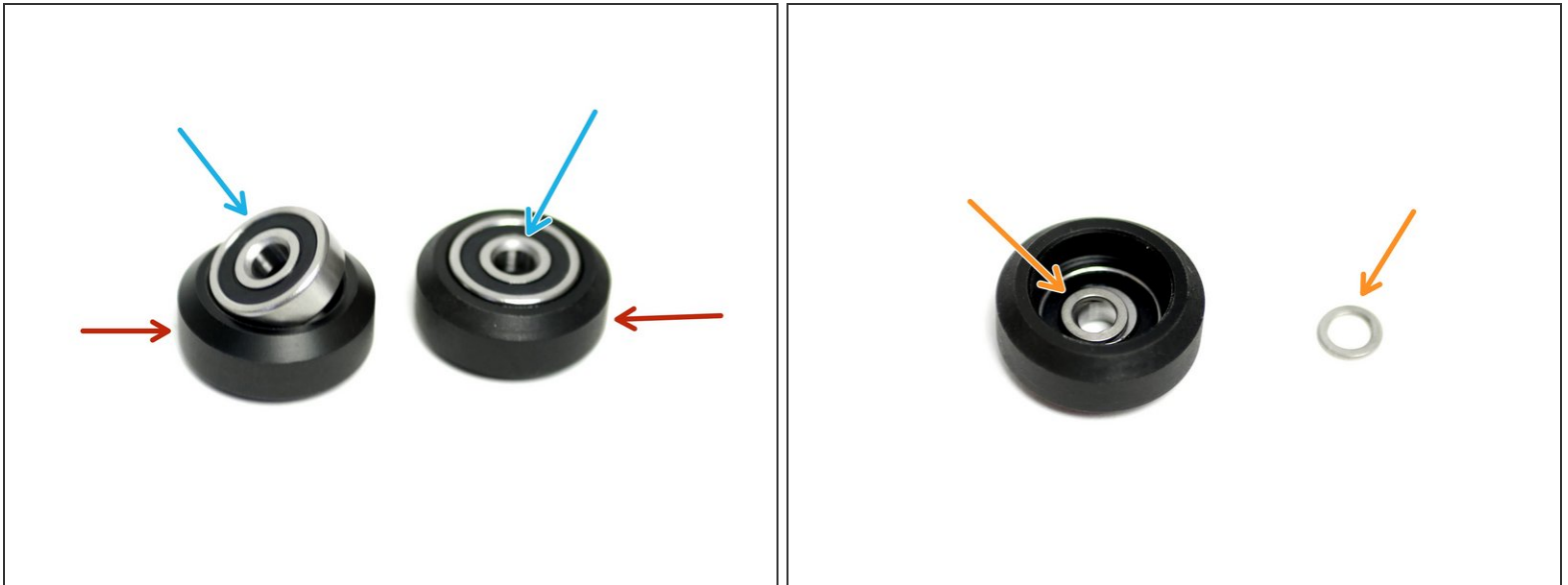


## Step 1 — Preparing the Tool Carriage




- i** The DSE requires four M3 mounting holes, 31mm apart from each other.
- i** If your printer's gantry is a piece of 2020 aluminium extrusion you may be able to use the Proforge 2S tool carriage, available for separate purchase [here](#).


## Step 2 — Installing the Proforge 2S Tool Carriage



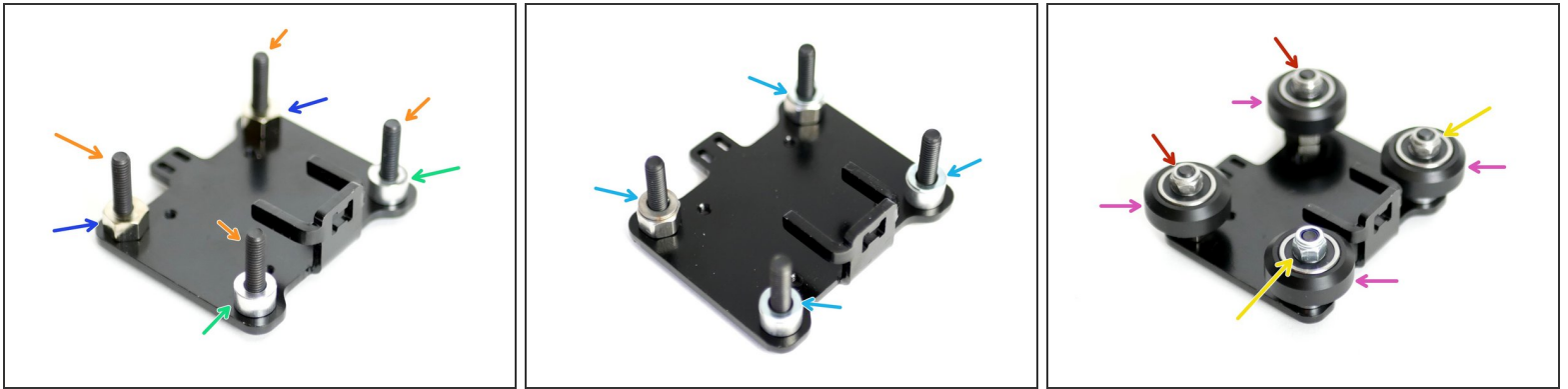
### **Roller Assembly x4:**

-  Create a roller assembly by pressing two 625zz bearings into a delrin roller wheel with a 1mm shim between them.

- Delrin Roller Wheel
- 625zz Bearing
- Precision Shim

-  You may need to use a pair of pliers to force the bearings into the delrin wheel.

### Step 3 — Tool Carriage Assembly



**i** Assemble the tool carriage rollers as shown in the images:

- 4x M5 x 25mm bolts
- 2x M5 spacers
- 2x Eccentric spacers
- 4x M5 washers
- x4 Roller assemblies
- x2 M5 Nylocs - **Tighten Firmly**
- x2 M5 Nylocs - **Tighten Loosely (eccentric spacer should still be able to turn)**

### Step 4 — Tool Carriage Install



**i** See [Stage 6](#) of the Proforge 2S build manual for instructions on installing the tool carriage to your gantry.

