Mechanical assembly of COSI Measure v.1.0

Please find below the documentation to mechanically assemble COSI Measure v.1.0. If you find any flaws or if you have any suggestions with regards to this document or project please let us know info@opensourceimaging.org. We are only human!

Step 1

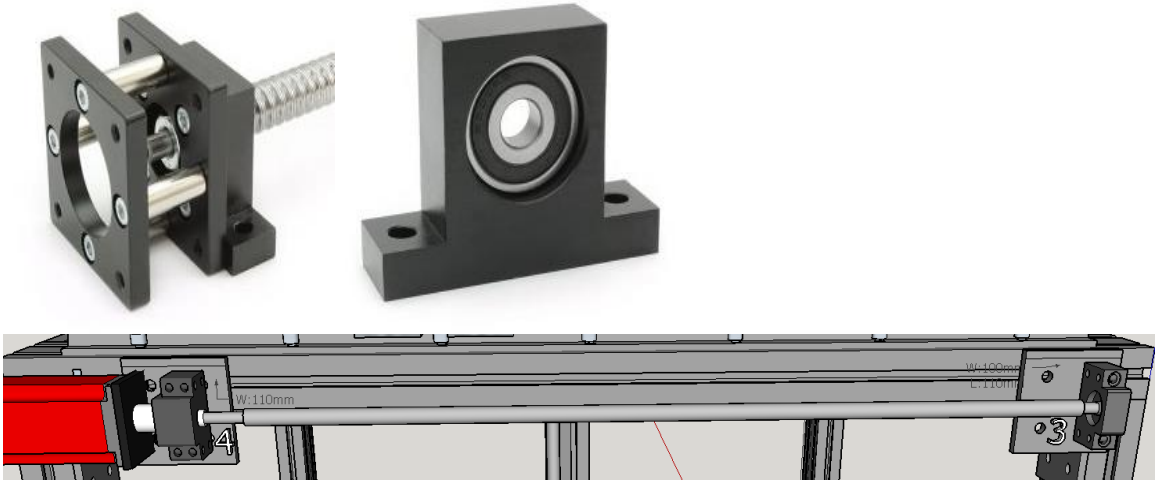
Assemble the aluminium frame according to the SketchUp design.

Step 2

Attach ball-screws (all screws should be included in the kit) to fixed and floating bearing.

Step 3

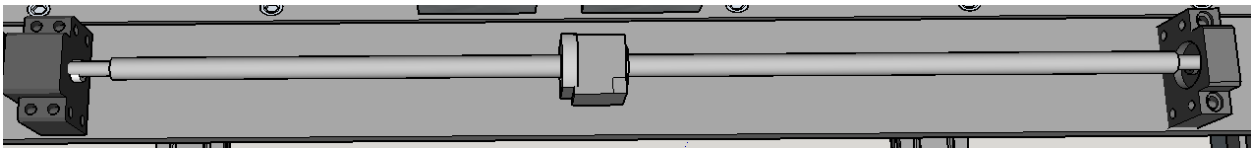
Attach fixed bearing and floating bearing to plate 3&4



Bolts: DIN912 M6x30: 3x
Hexagon nut: DIN934 M6: 4x
Bolt: DIN7991 M6x30: 1x

Step 4

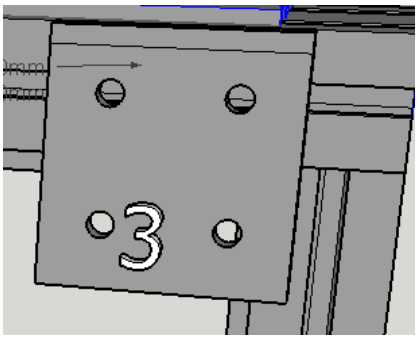
Attach fixed bearing and floating bearing to plate 1



Bolts: DIN912 M6x30: 4x
Hexagon nut: DIN934 M6: 4x

Step 5

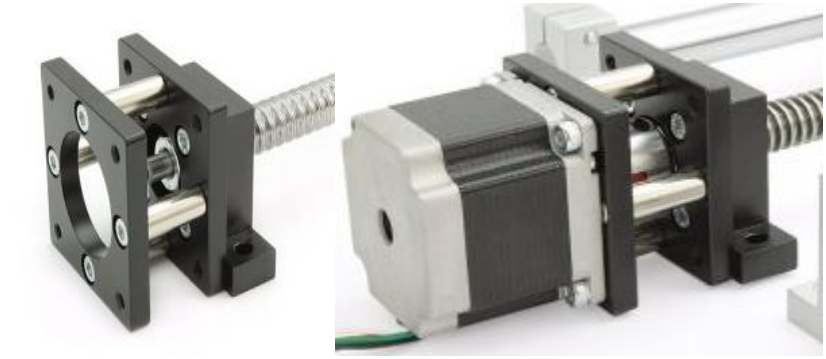
Attach plate 3&4 to frame



Sliding nuts: M8:10x
Bolts: DIN912 M8x16: 8x
Bolts: DIN7991 M8x16: 2x

Step 6

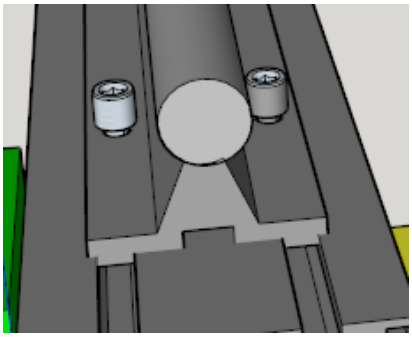
Install stepper motors to fixed bearings



Bolts: DIN912 M5x18: 12x
Hexagon nuts: DIN934 M5: 12x

Step 7

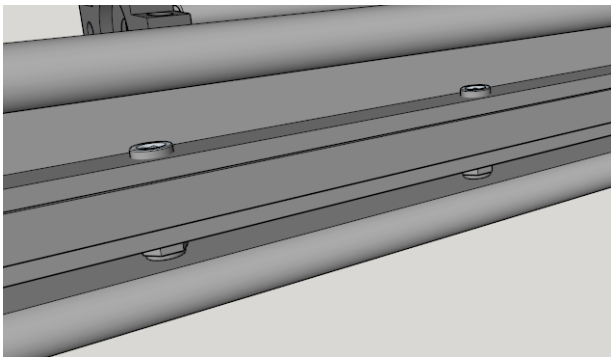
Attach supported rail to frame



Sliding nuts: M5: 24x;
Bolts: DIN912 M5x18: 24x

Step 8

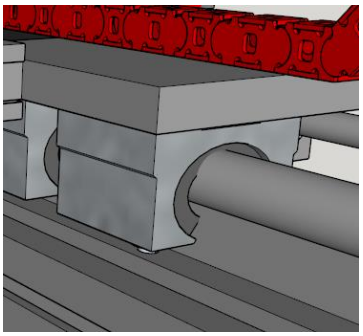
Attach supported rail to aluminium plate 1



Bolts: DIN912 M5x30: 12x
Hexagon nuts: DIN934 M5: 12x

Step 9

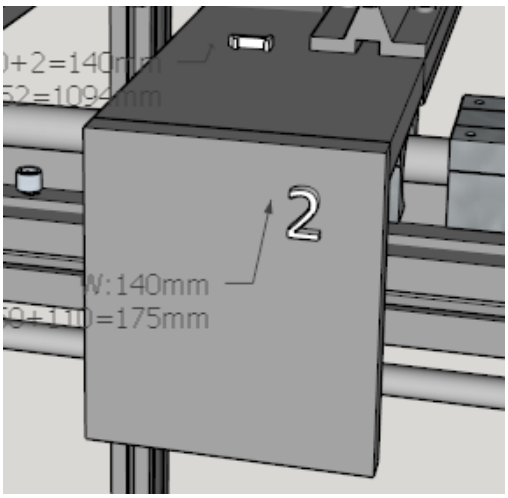
Attach linear motions to aluminium plate 1



Bolts: DIN912 M6x20: 14x
Bolts: DIN??? M6x20: 2x

Step 10

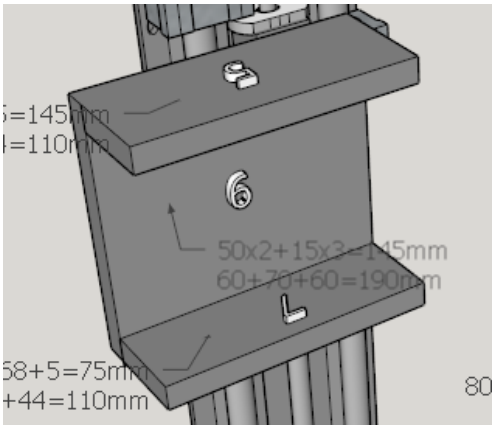
Assemble aluminium plates 1&2



Bolts: DIN912 M5x30: 4x

Step 11

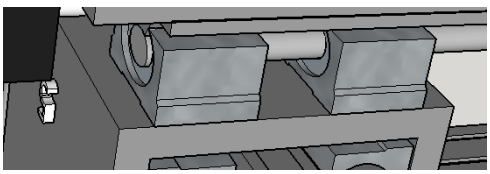
Assemble aluminium plates 5,6&7



Bolts: DIN912 M5x30: 4x

Step 12

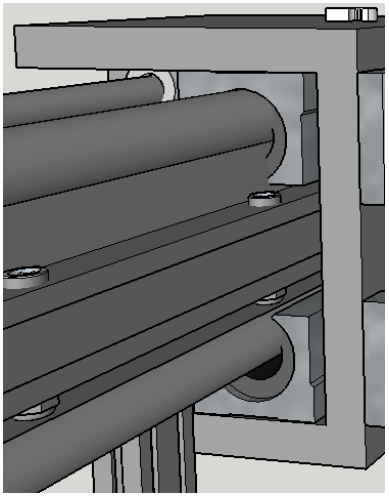
Attach linear motions to aluminium plate 6



Bolts: DIN912 M6x20: 8x
Bolts: DIN??? M6x20: 8x

Step 13

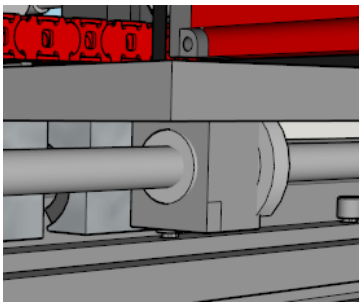
Attach linear motions to aluminium plate 5&7



Bolts: DIN912 M6x20: 16x

Step 14

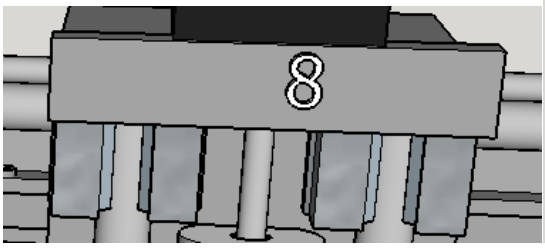
Attach ball-screws to aluminium plate 2,5 & 6

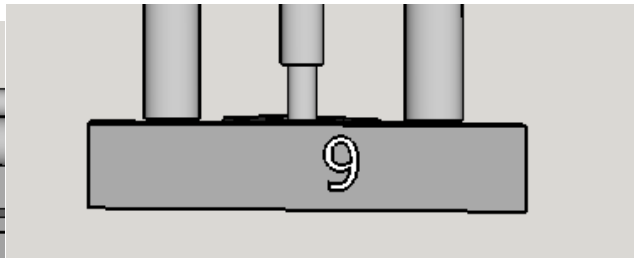


Bolts: DIN912 M5x25: 8x
Bolts: DIN912 M5x20: 4x

Step 15

Fix Z axis with plate 8&9





Bolts: DIN912 M6x25: 12x
Hexagon nuts: DIN934 M6: 12x