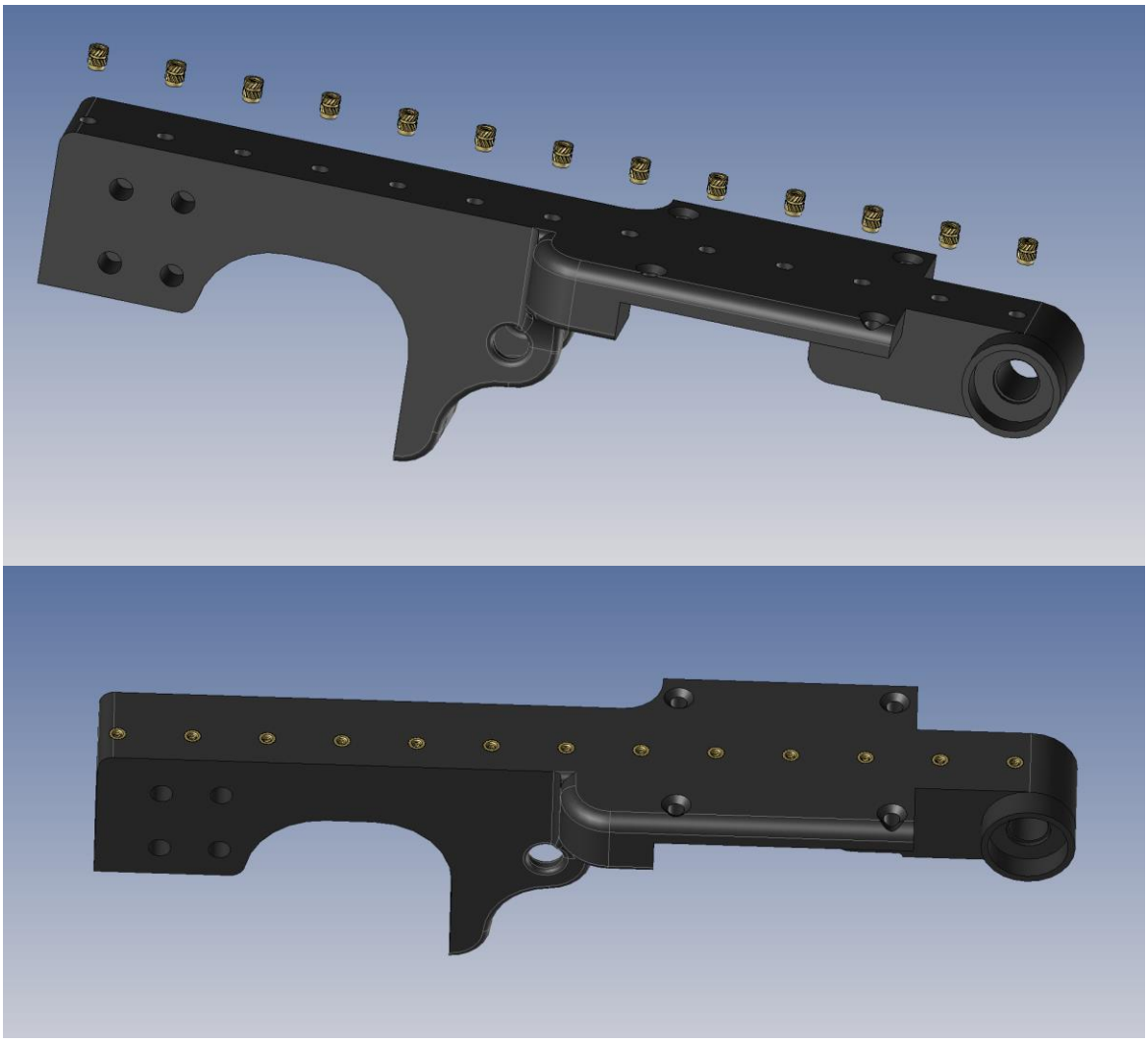
Z- axis Assembly Manual for Voron Trident 250mm

Assembly manual for complete Z axis with Hotend and Extruder – **DIRECT DRIVE version**

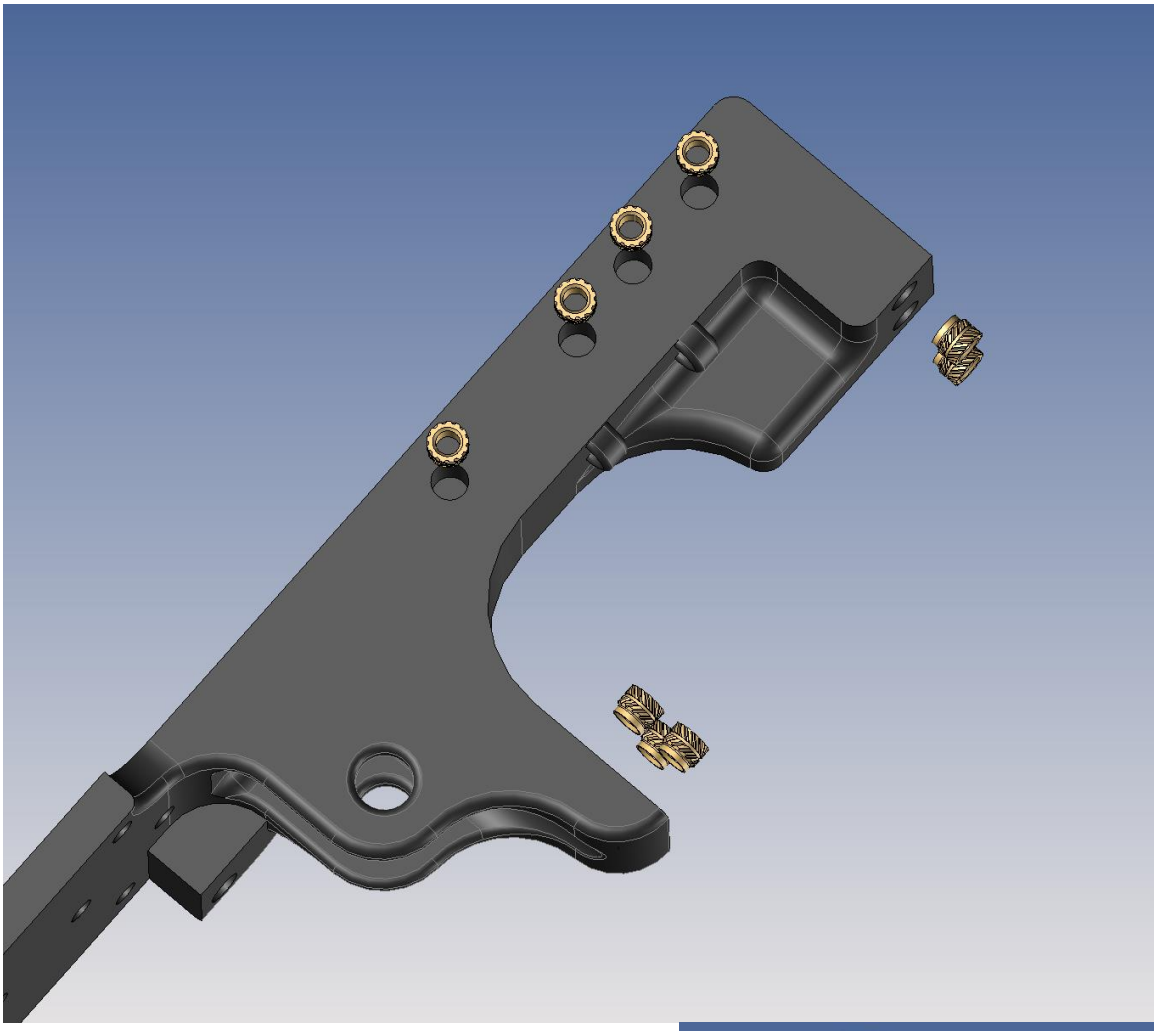
All 3D printed parts are designed to be printed from ABS filament . The optimal slicer settings for prints are:

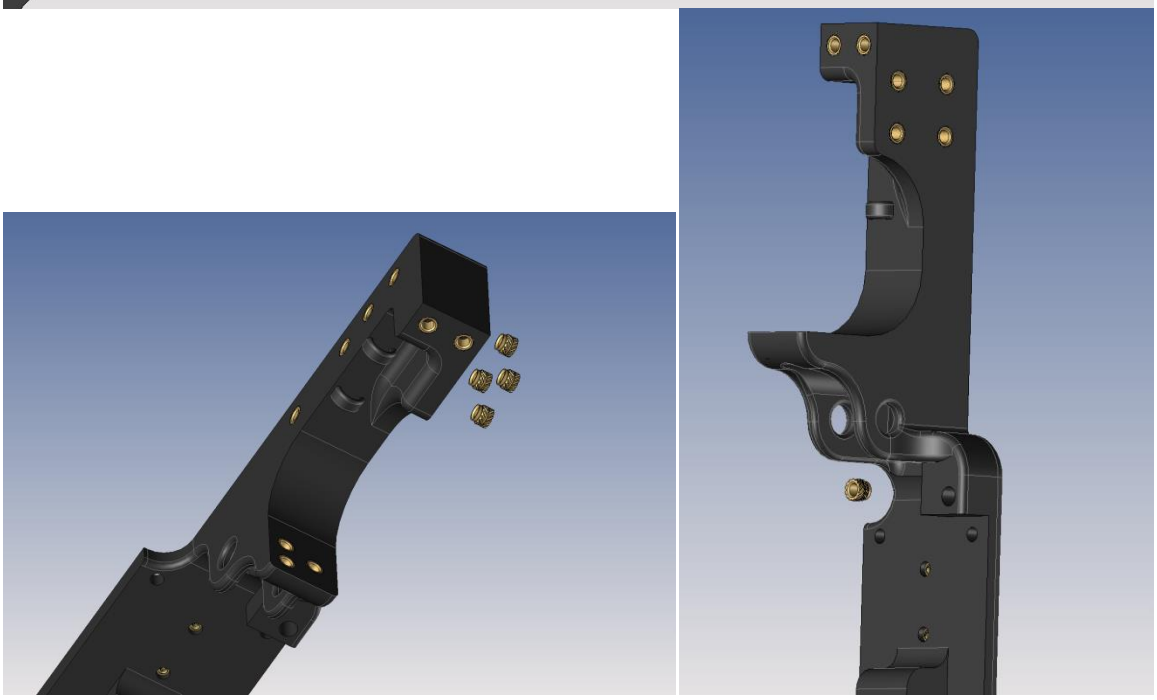
```
Layer height: 0.2mm
Extrusion width: 0.4mm, forced
Infill pecentage: 50%
Infill type:  gyroid, honeycomb, triangle, or cubic
Wall count: 5
Solid top/bottom layers: 5

NO WARPING!
```

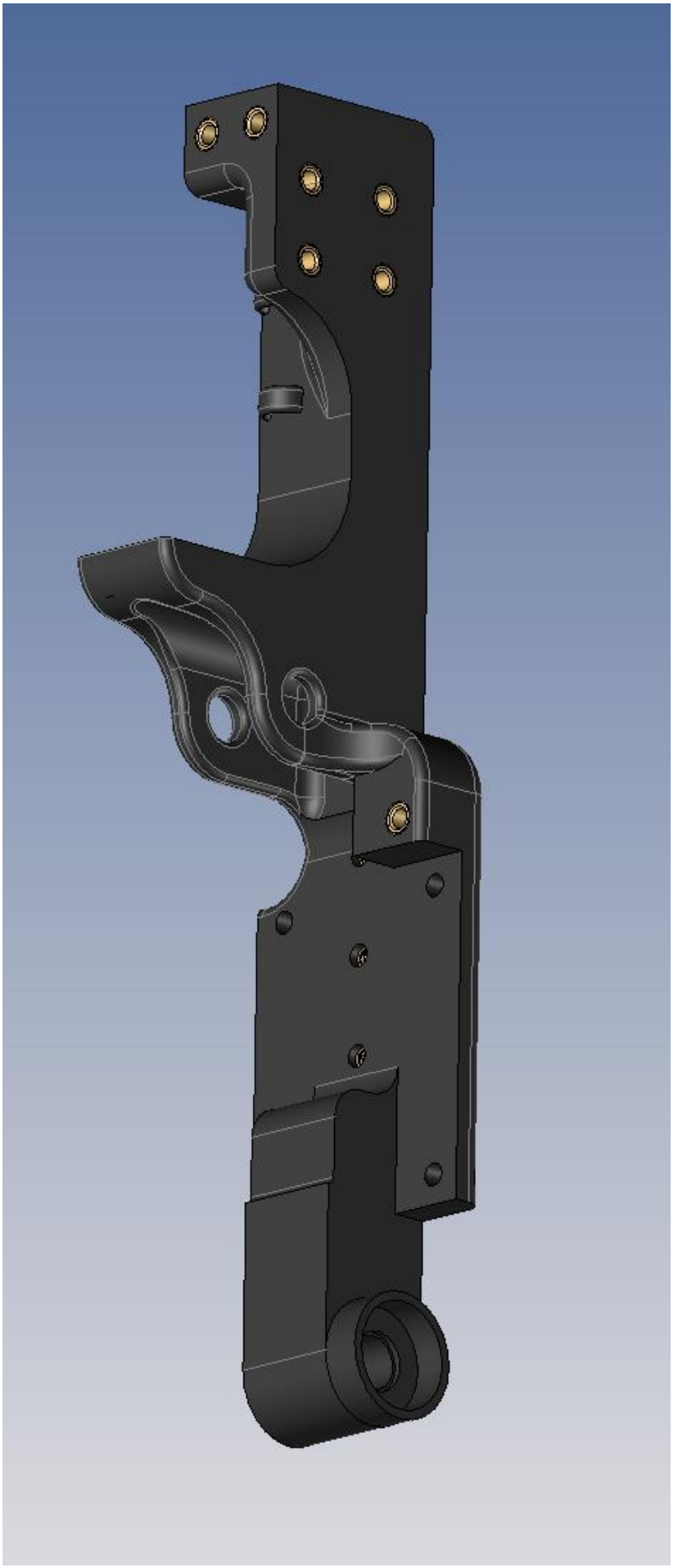


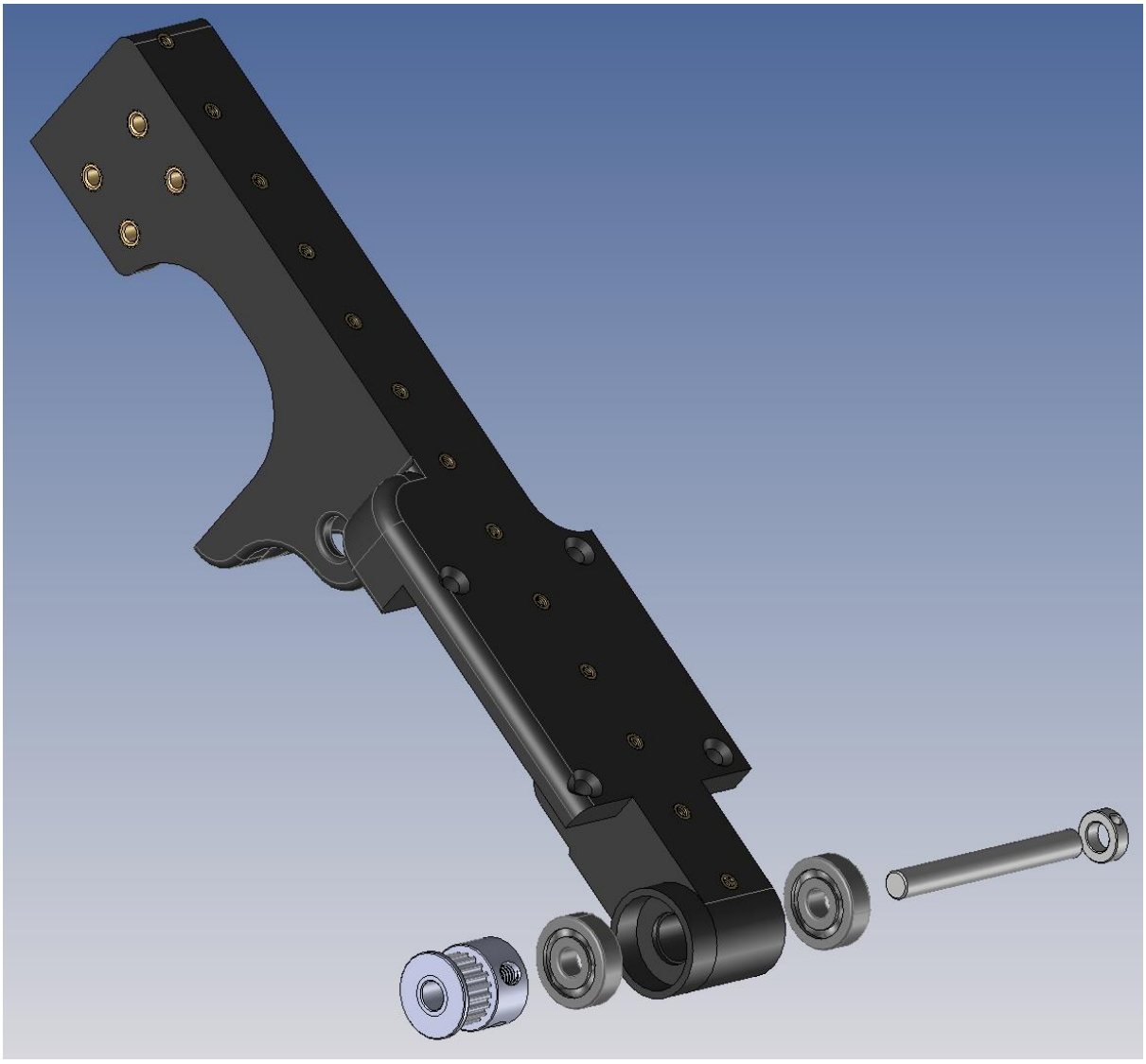
NOTE: **the heat inserts used, are M2 x 4mm**





NOTE: **the heat inserts used, are M3 x 5mm**





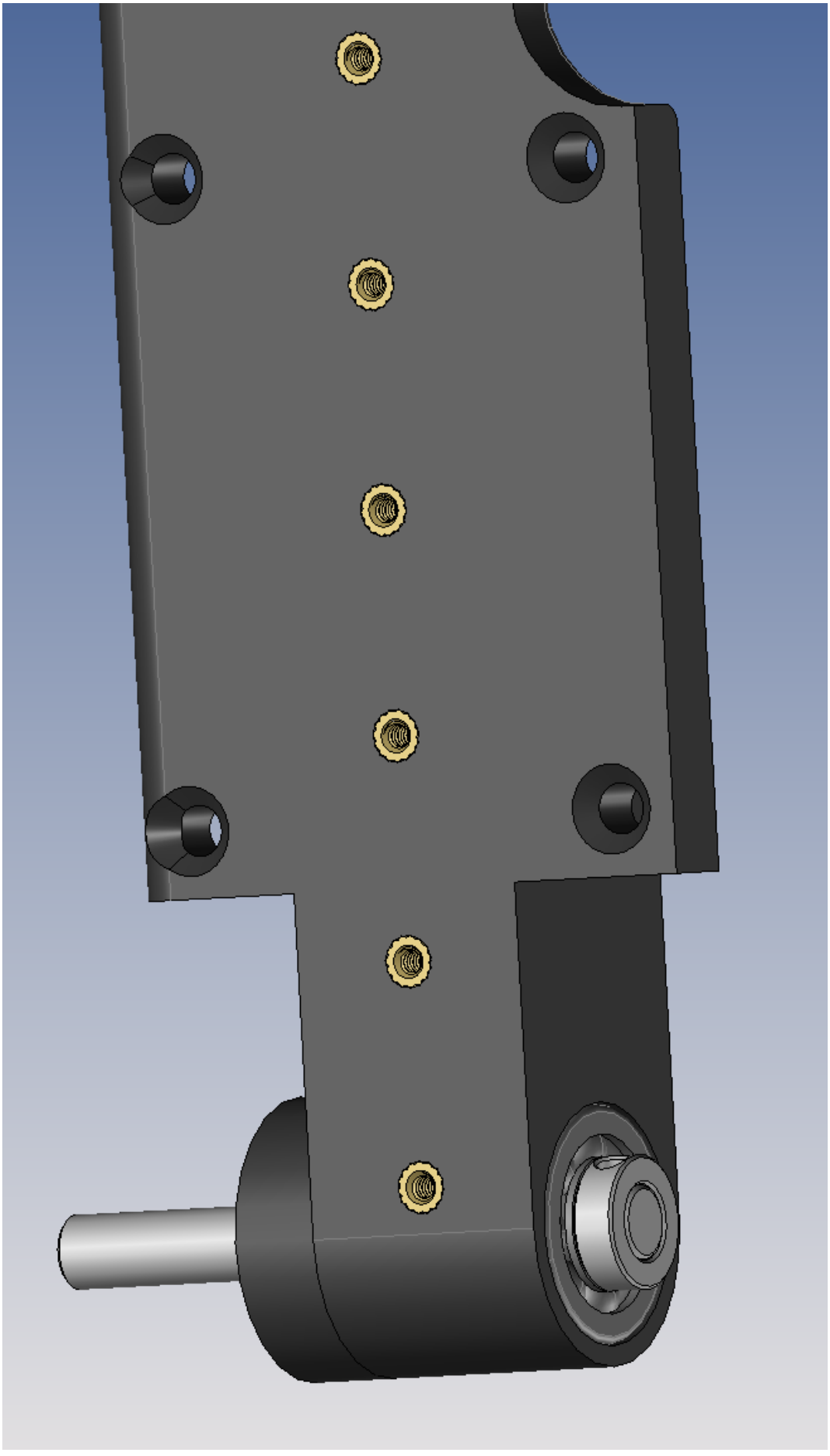
NOTE: **Pulley GT-2 20T 5mm dia**

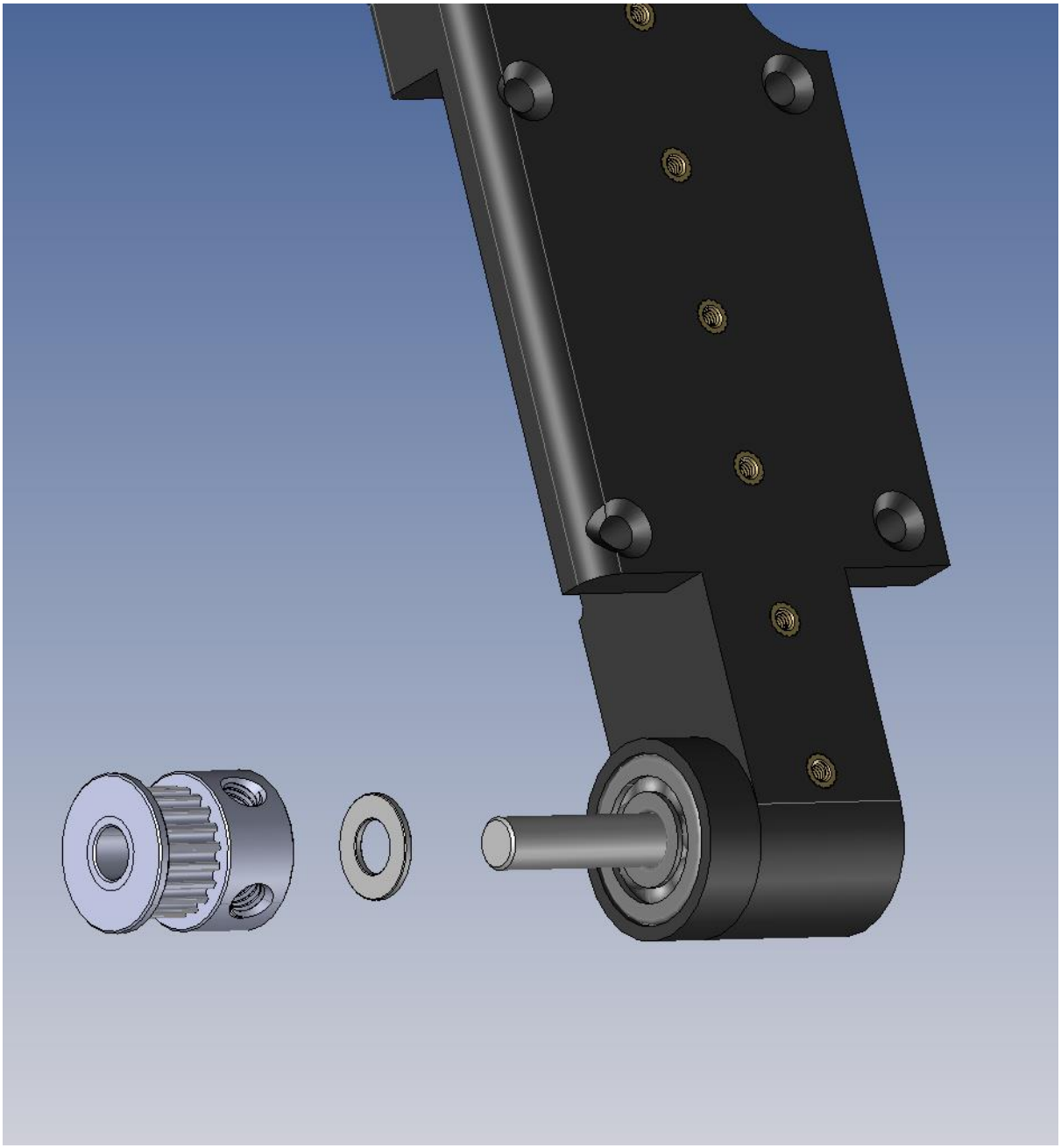
Bearing 625 ZZ

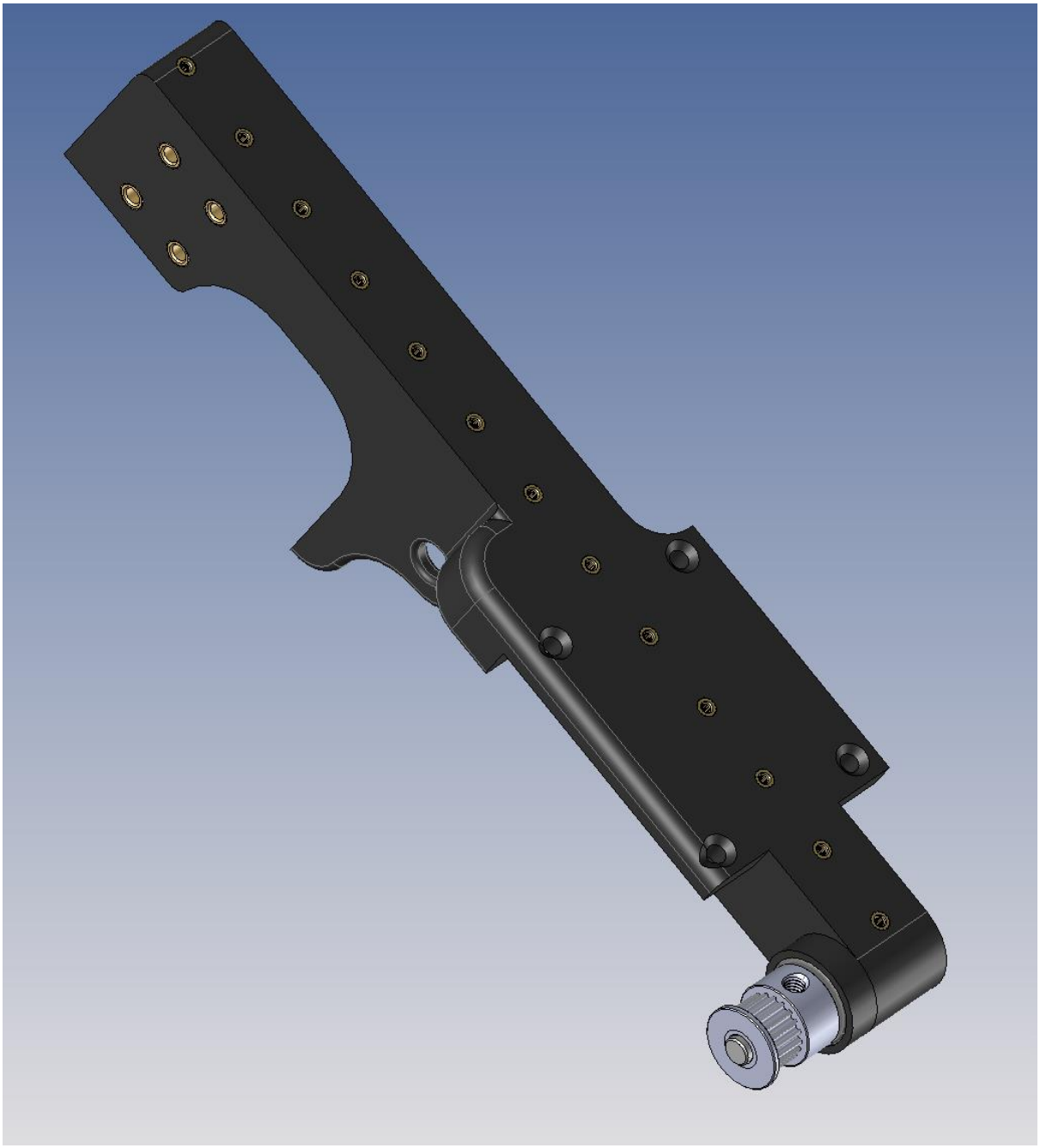
Shaft 5mm, Lenght 45mm

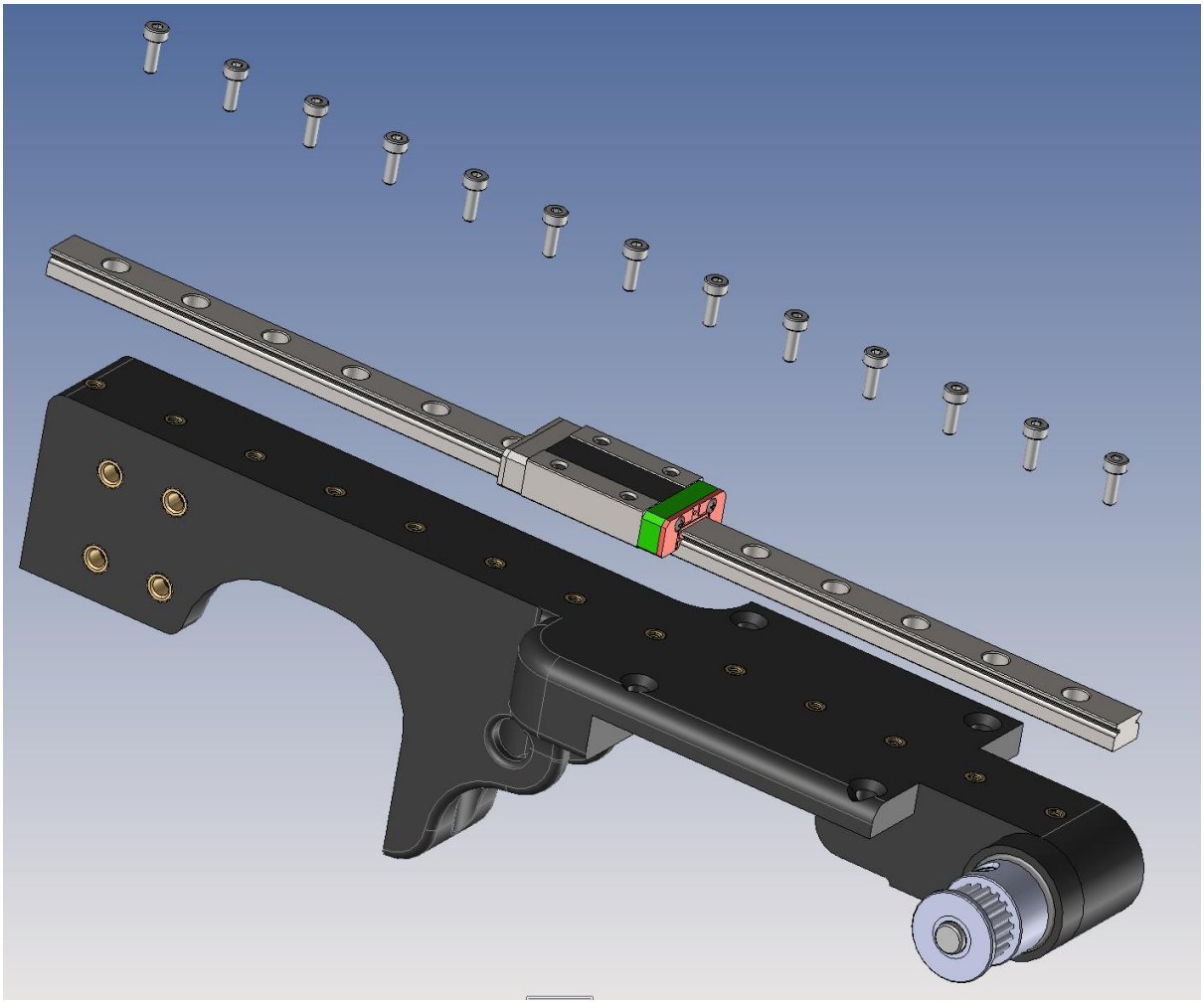
Shaft collar ID 5mm

Spacer M5 x 1mm







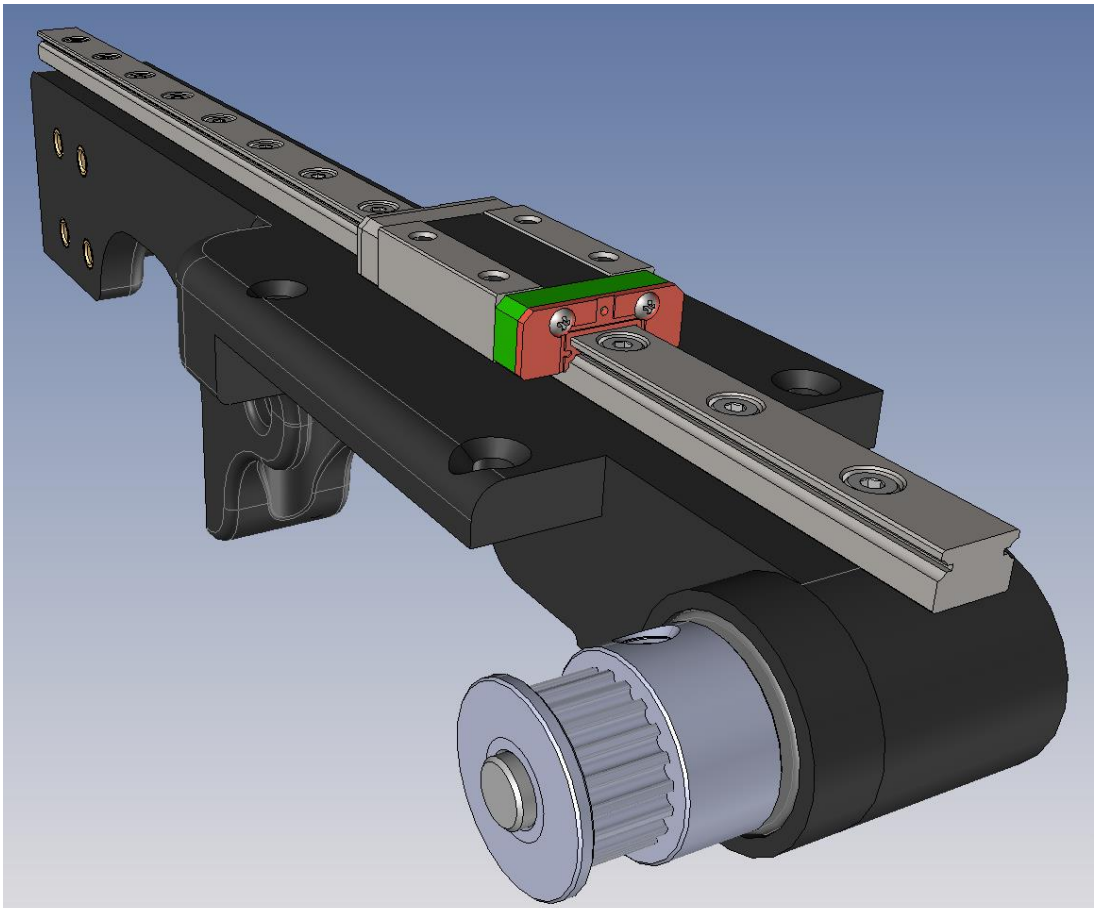


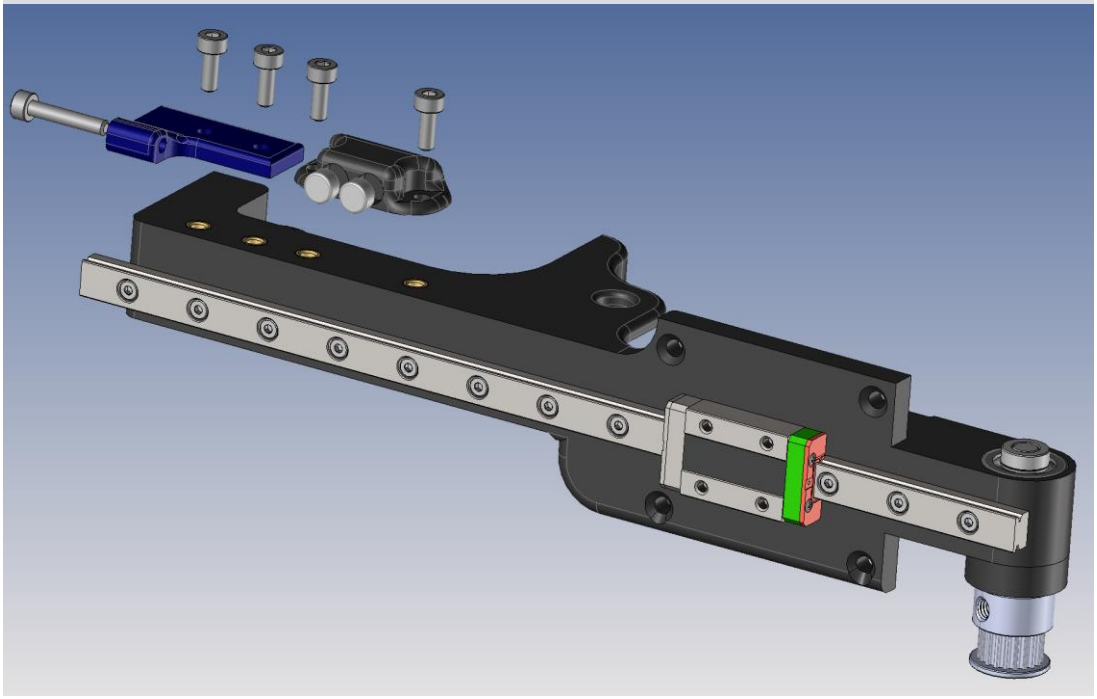
NOTE: **Screw SHCS M2 x 6mm**

Linear Rail MGN7 – H 200mm (use only hight quality Linear Rail)

Please secure the linear rail slider so will not fell out from the rail use rubber stoppers or 3D print them from printables

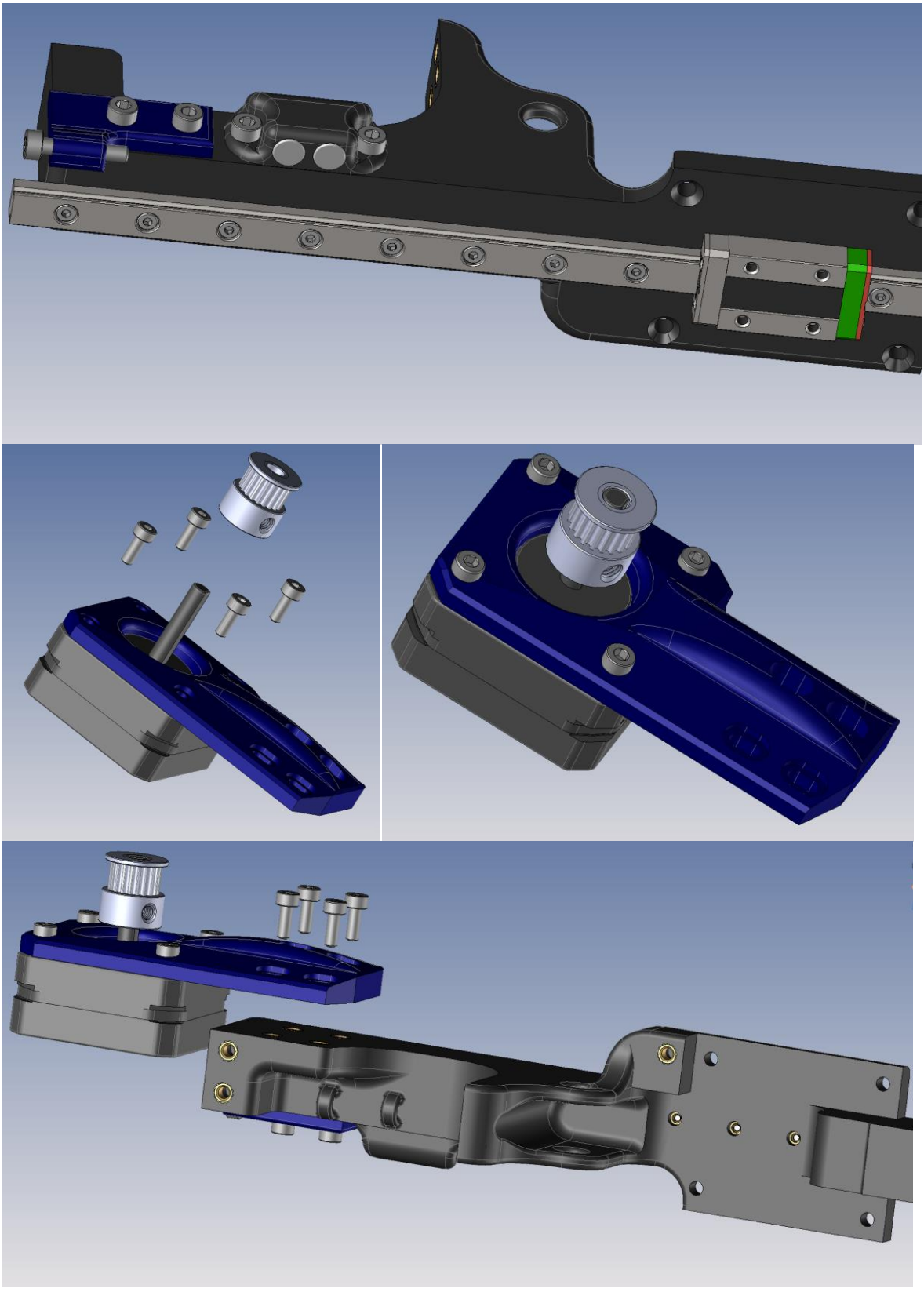
https://www.printables.com/model/347545-linear-rail-carriage-stop





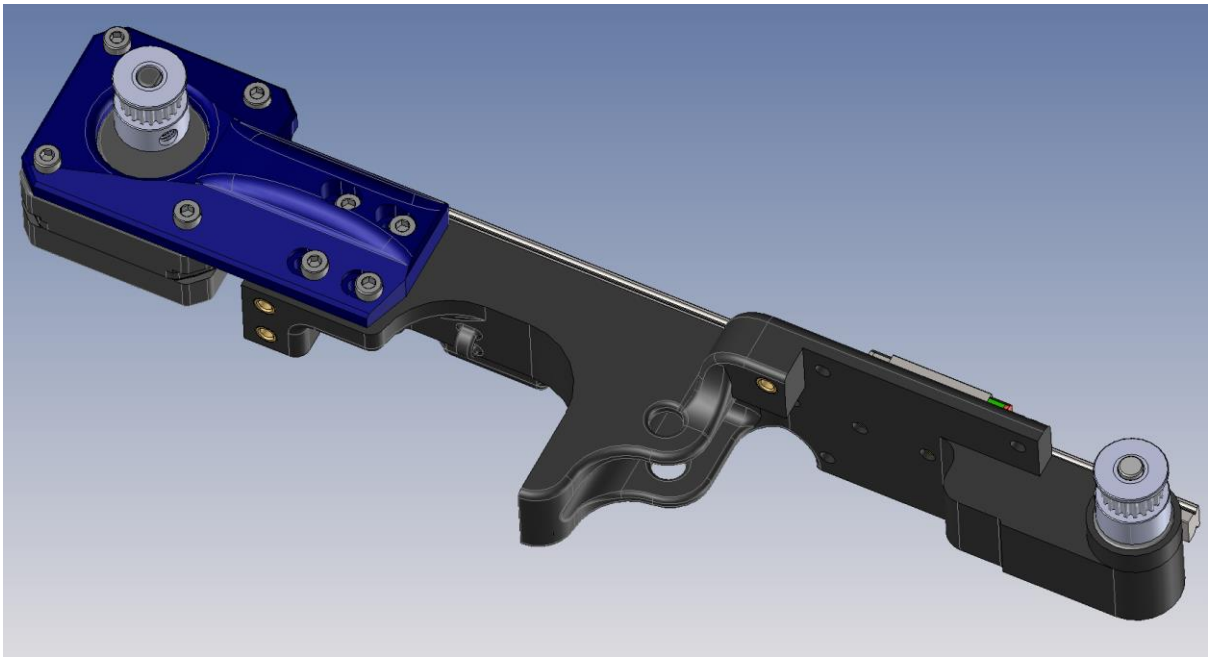
NOTE: **Screw SHCS M3 x 8mm and SHCS M3 x 16mm**

neodymium magnets 6x3mm

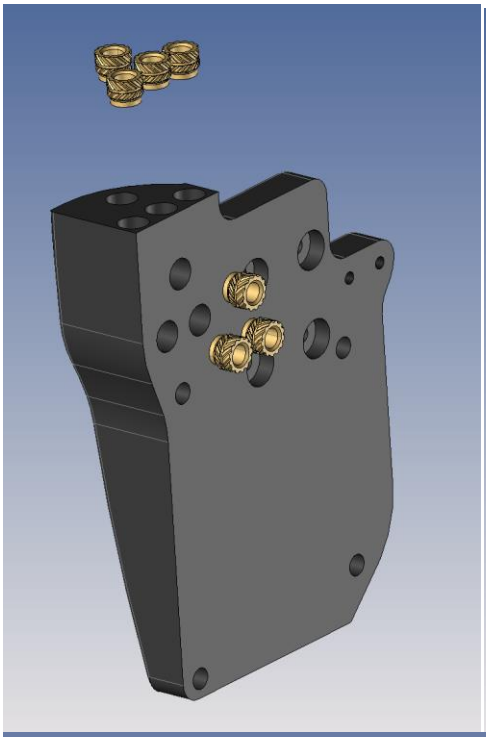


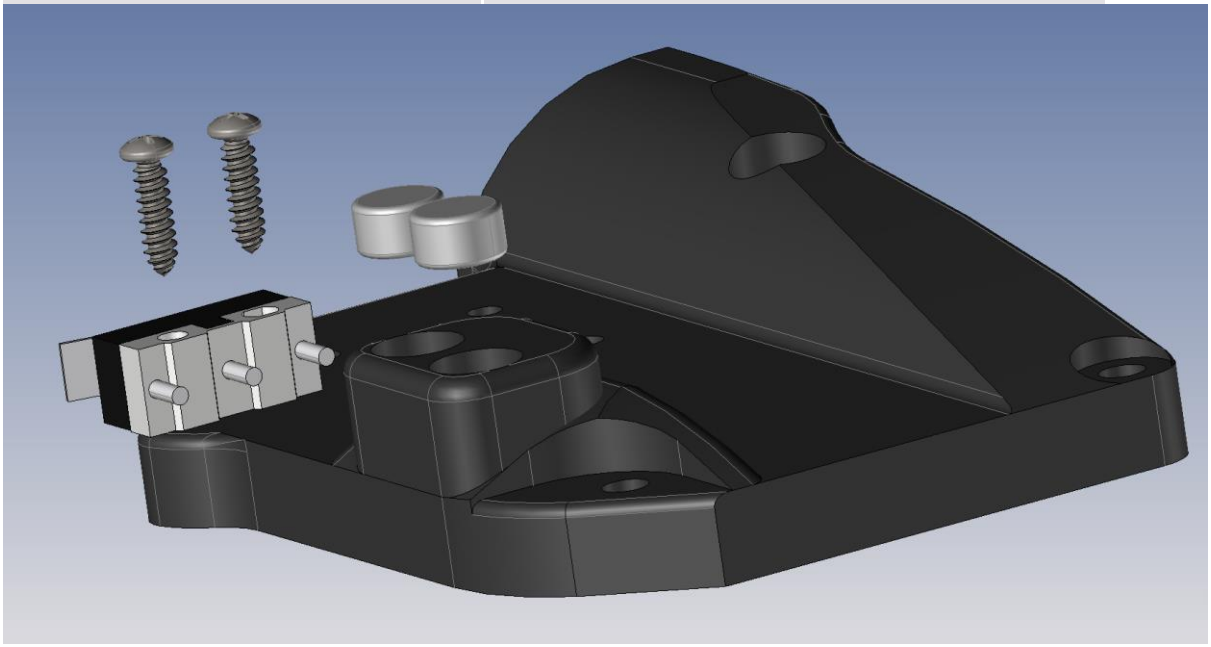
NOTE: **Screw SHCS M3 x 8mm**

Pulley GT-2 20T 5mm dia



NOTE: **Do not tight the tensions screws yet, so the stepper motor can slide**





NOTE: **heat inserts M3 x 5mm**

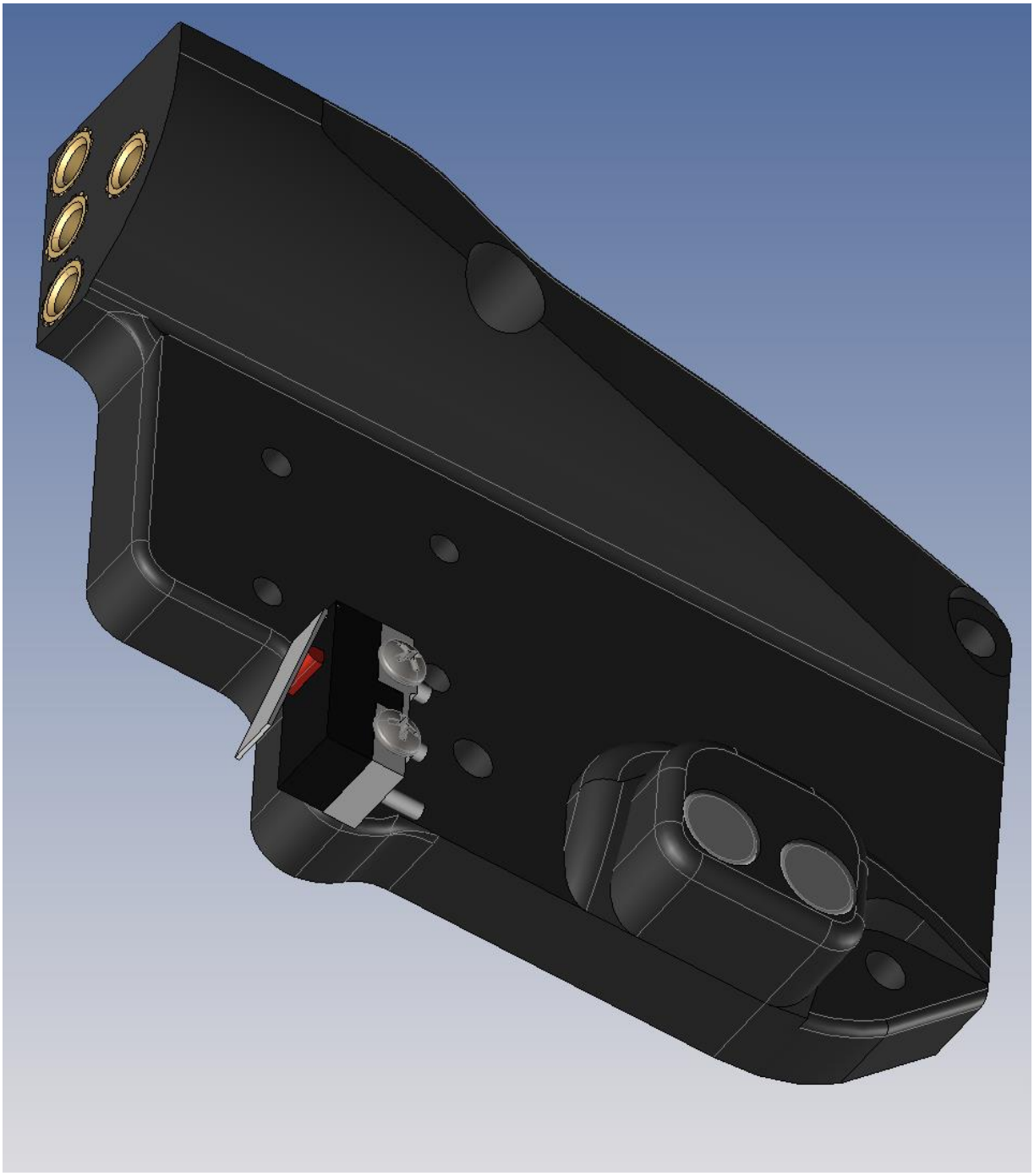
Self taping Screw size M2

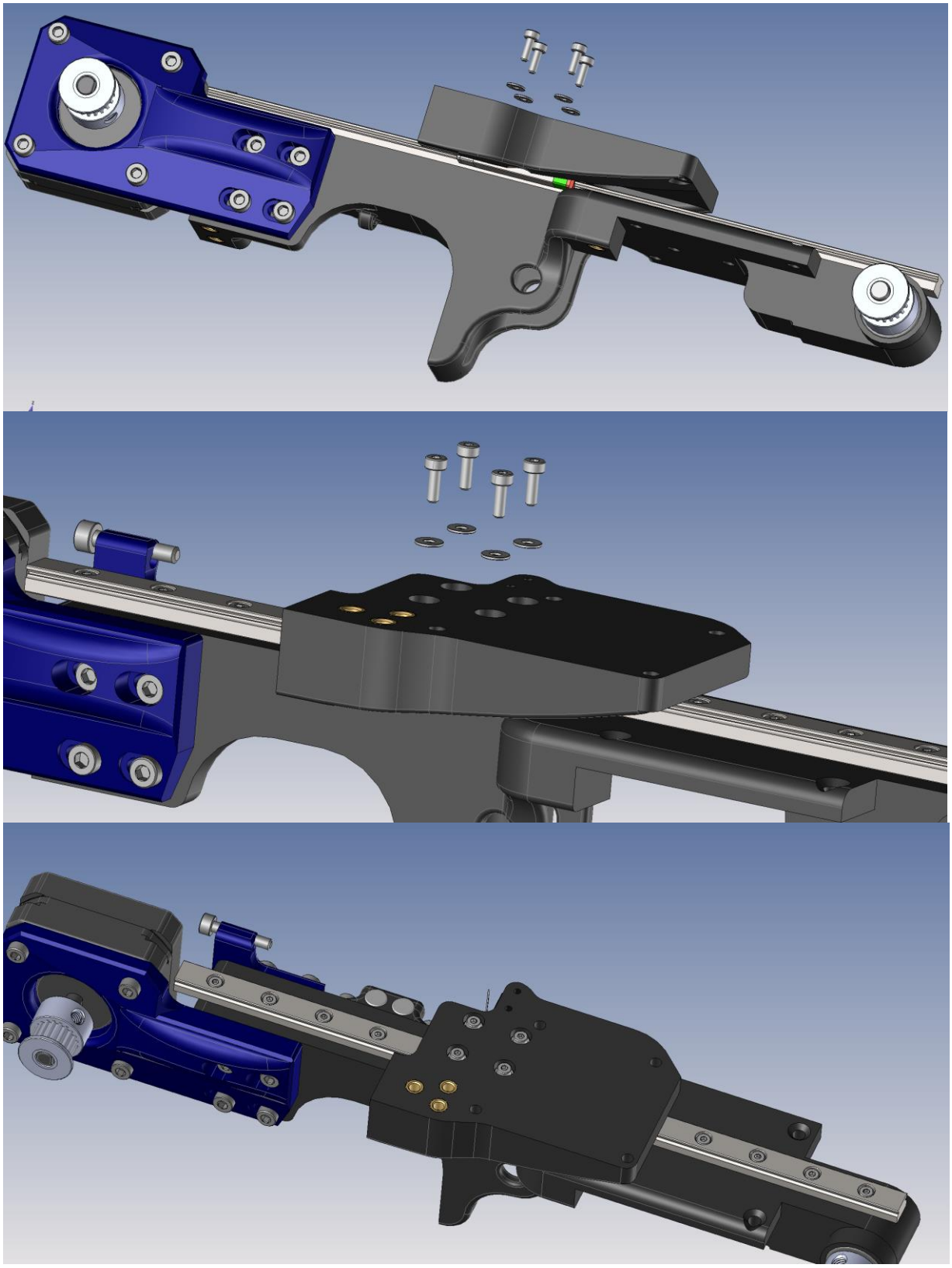
neodymium magnets 6x3mm

micro swicth

Please install magnets with polarity to hold hotend mechanisms holder on Z – axis to

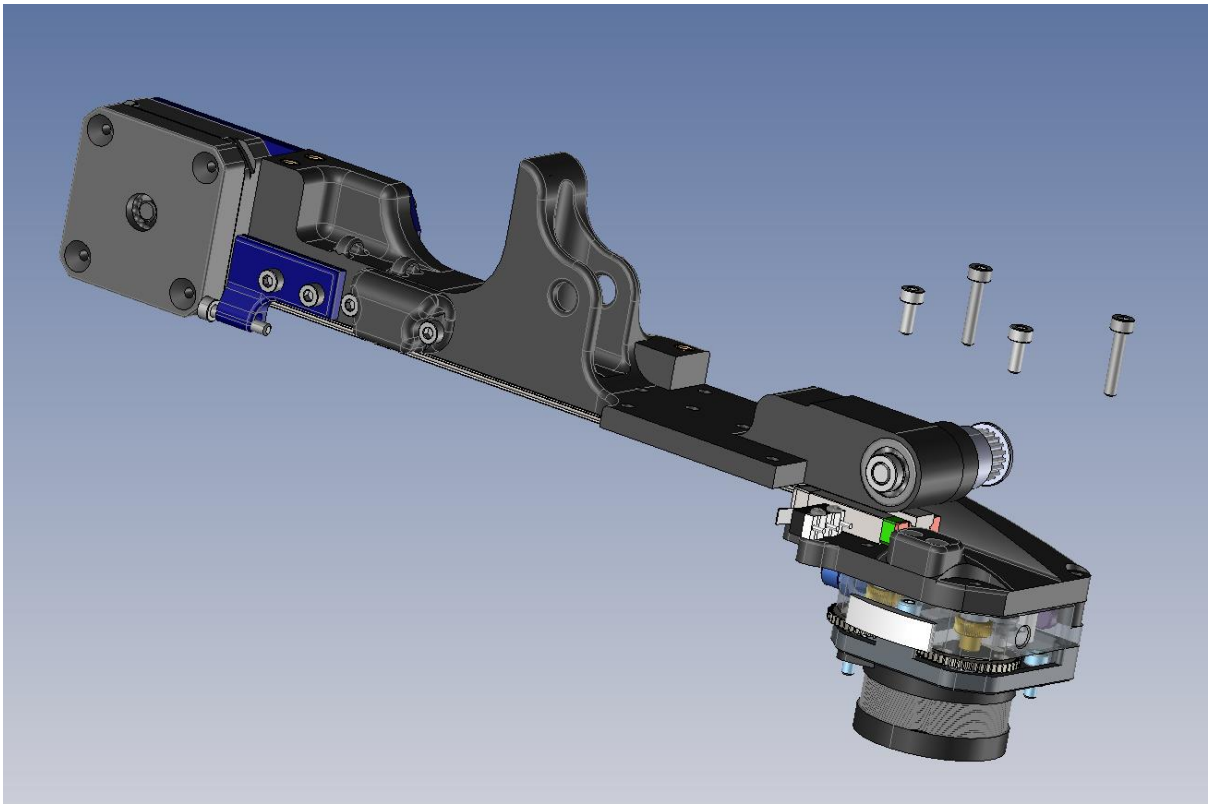
Stop falling down when stepper motor is without power (when printer is switched off)





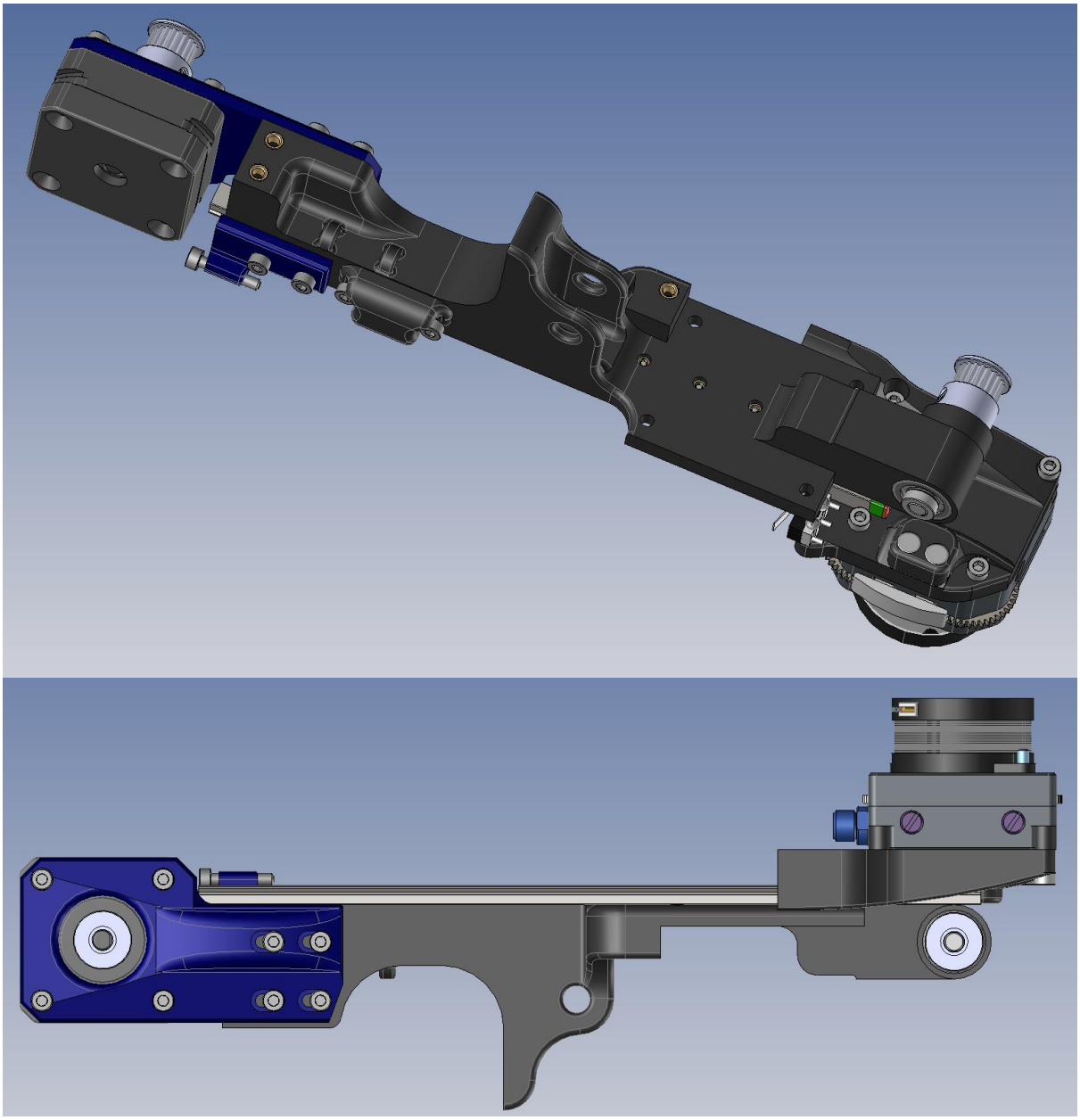
NOTE: **Screw M2 x 6mm**

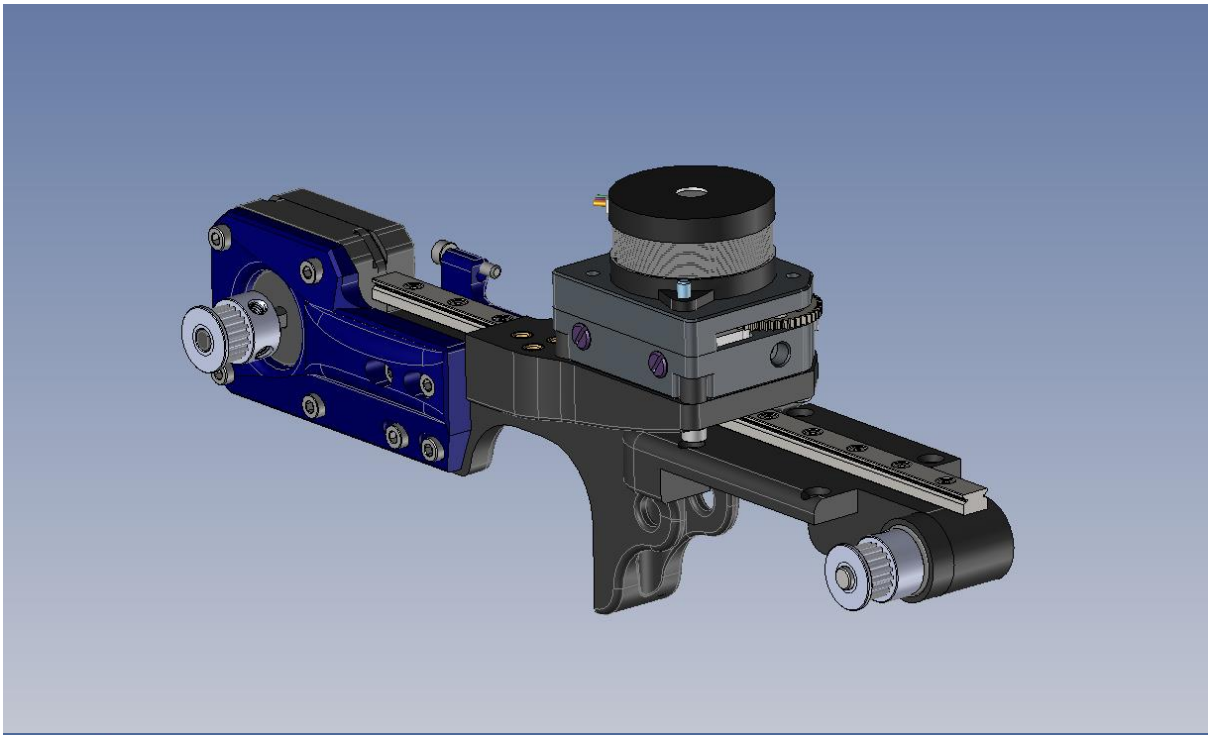
Spacer M2

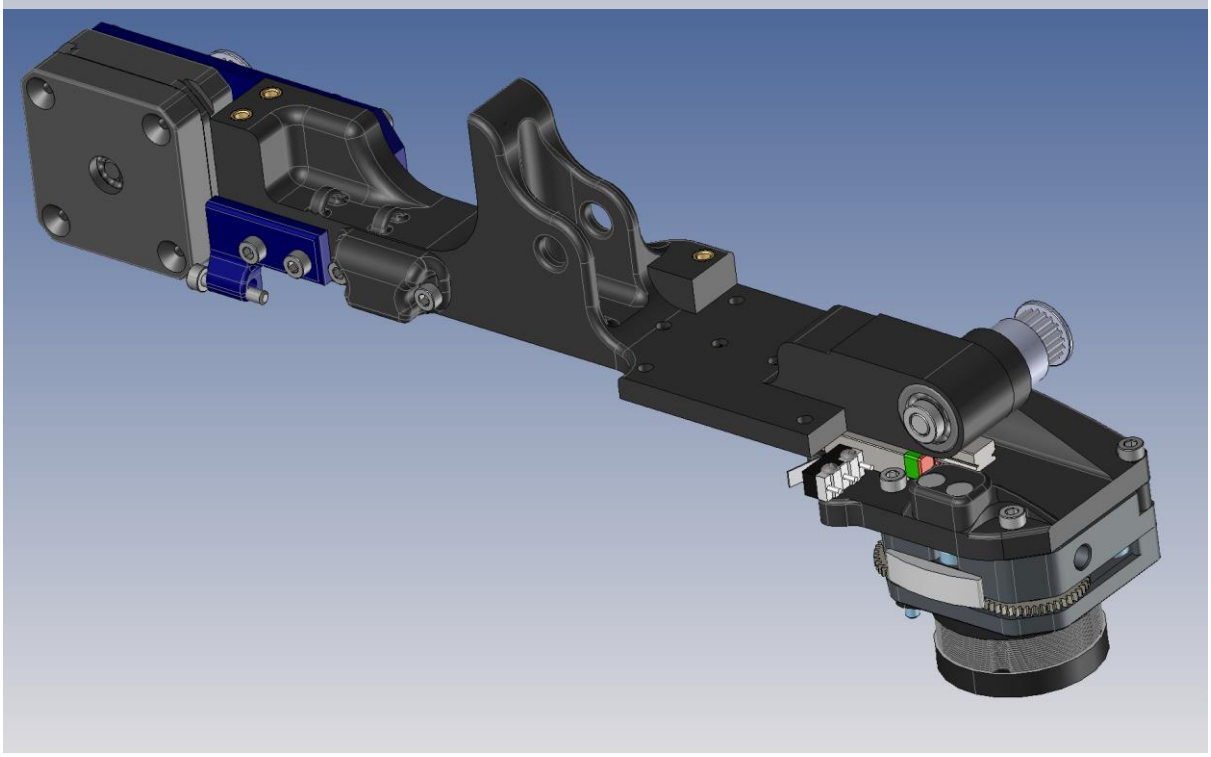


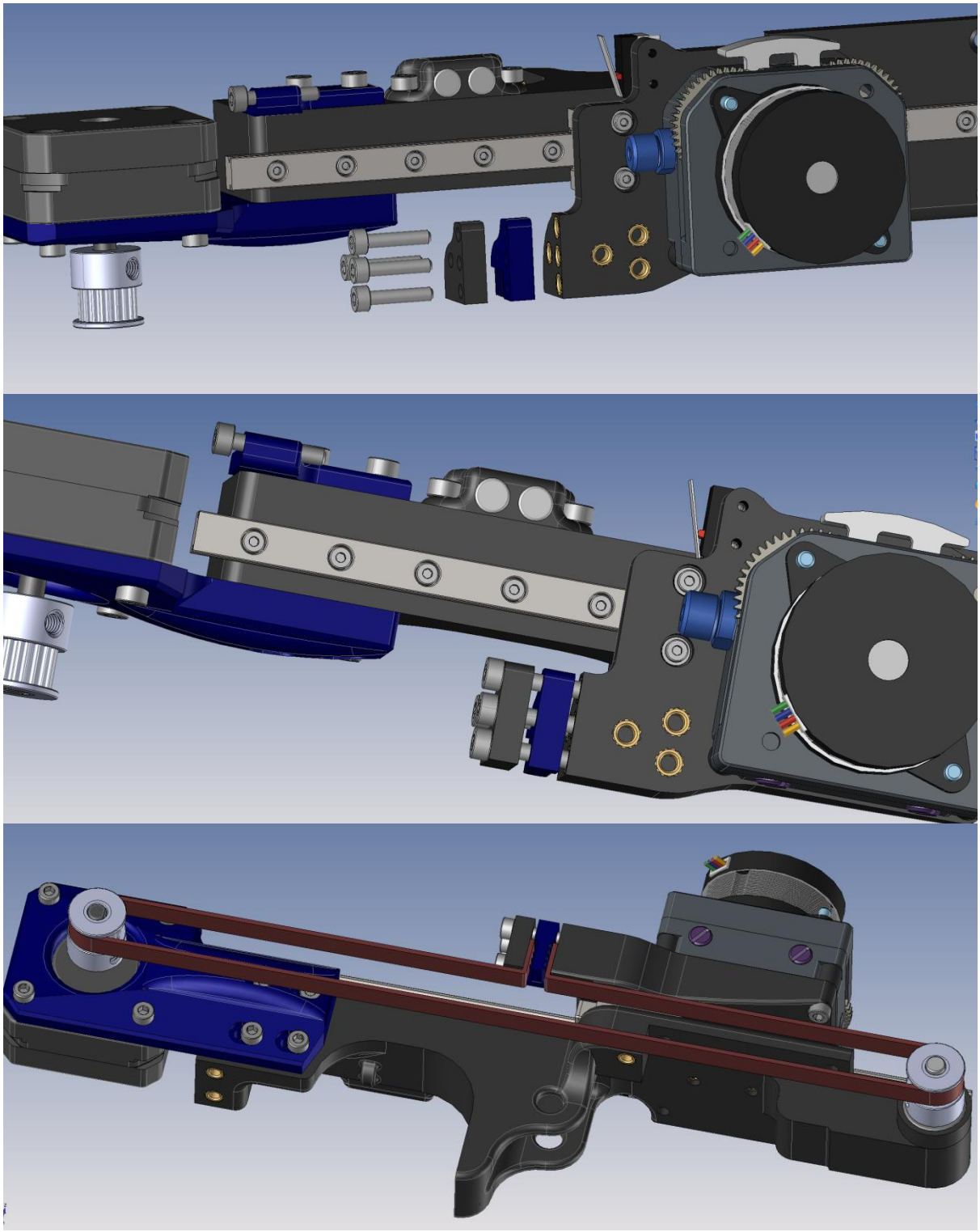
NOTE: **Screw M3 x 10mm**

Screw M3 x 16mm





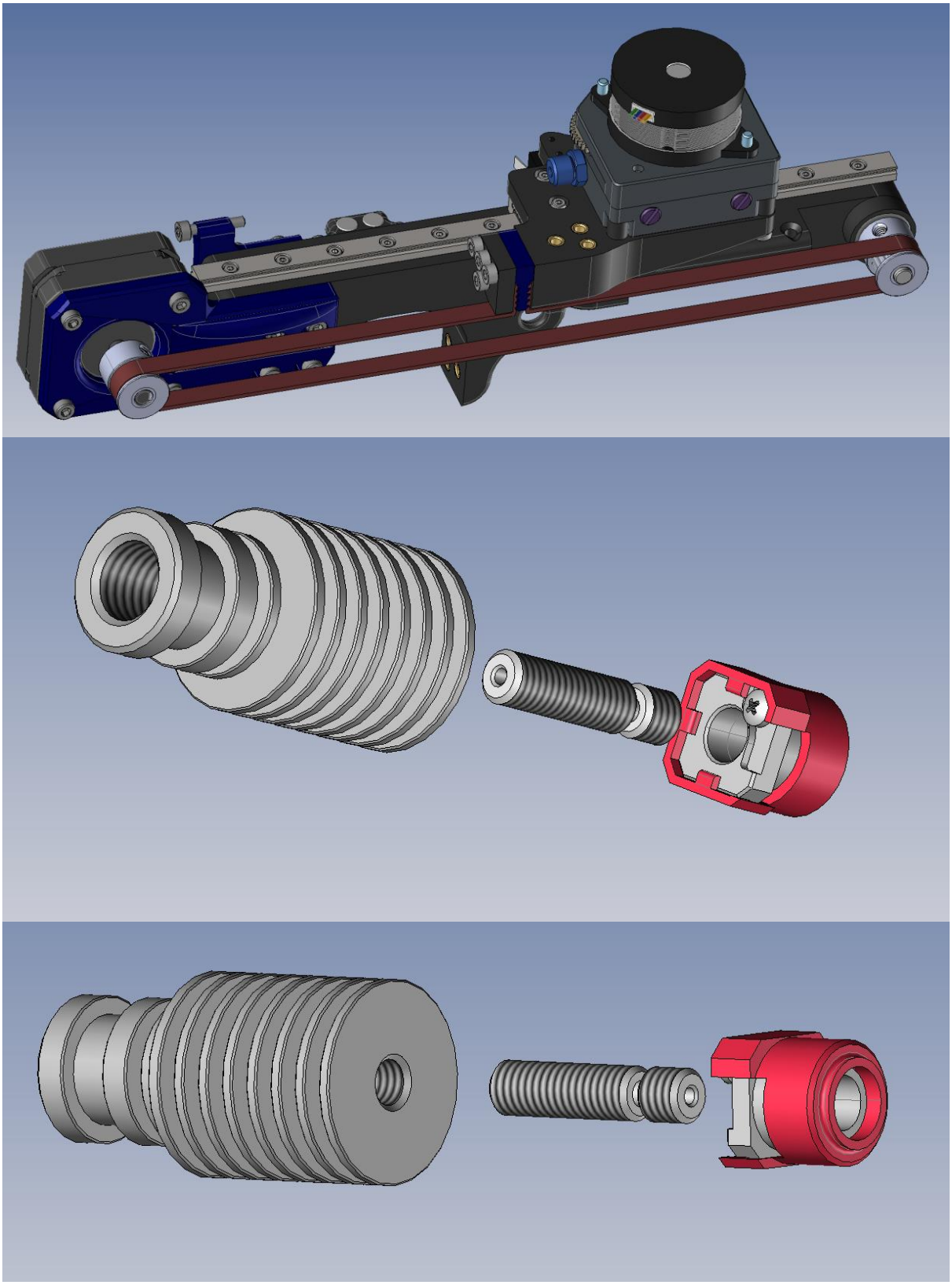




NOTE: **Screw M3 x 14mm**

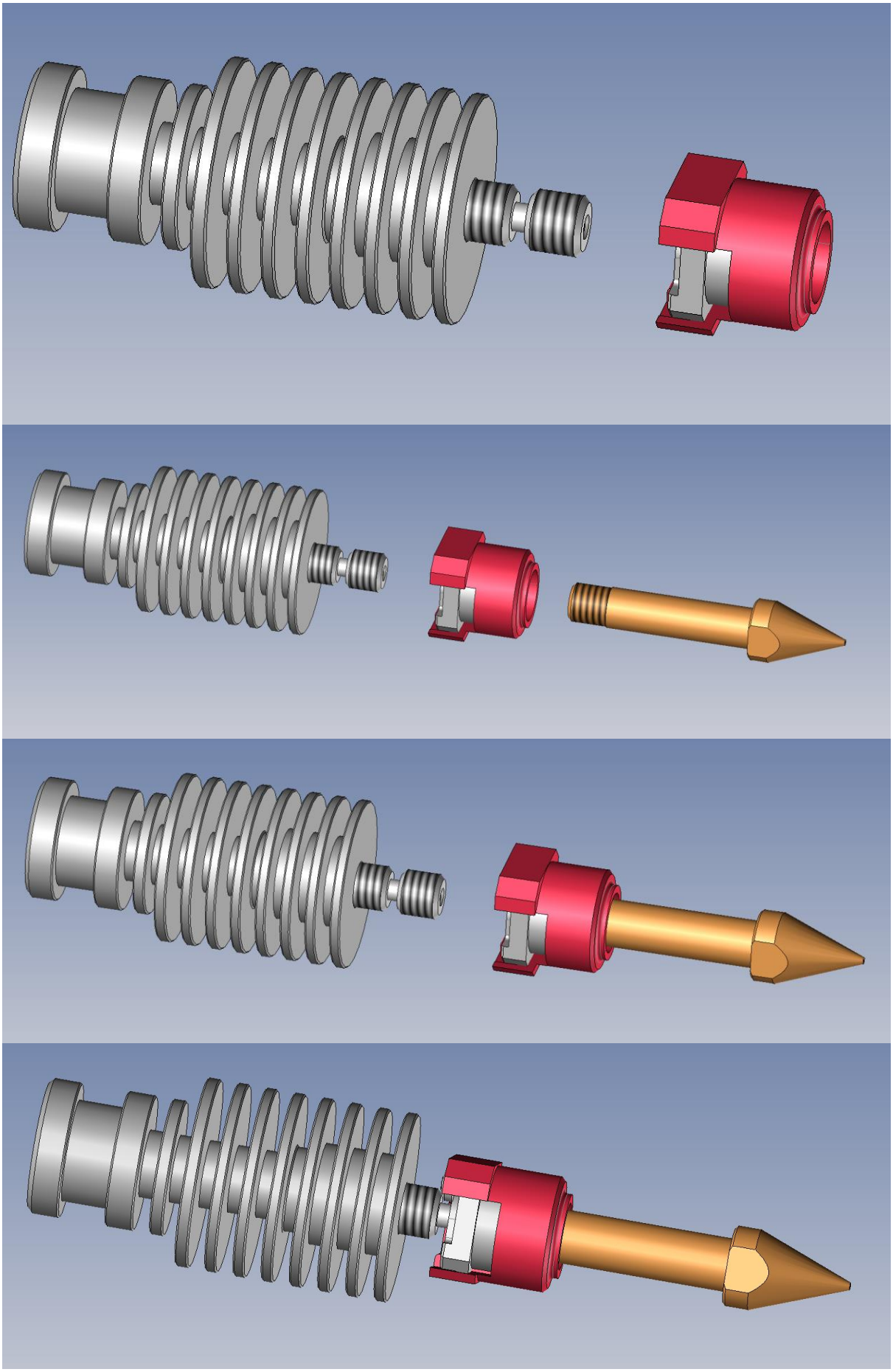
Belt GT-2

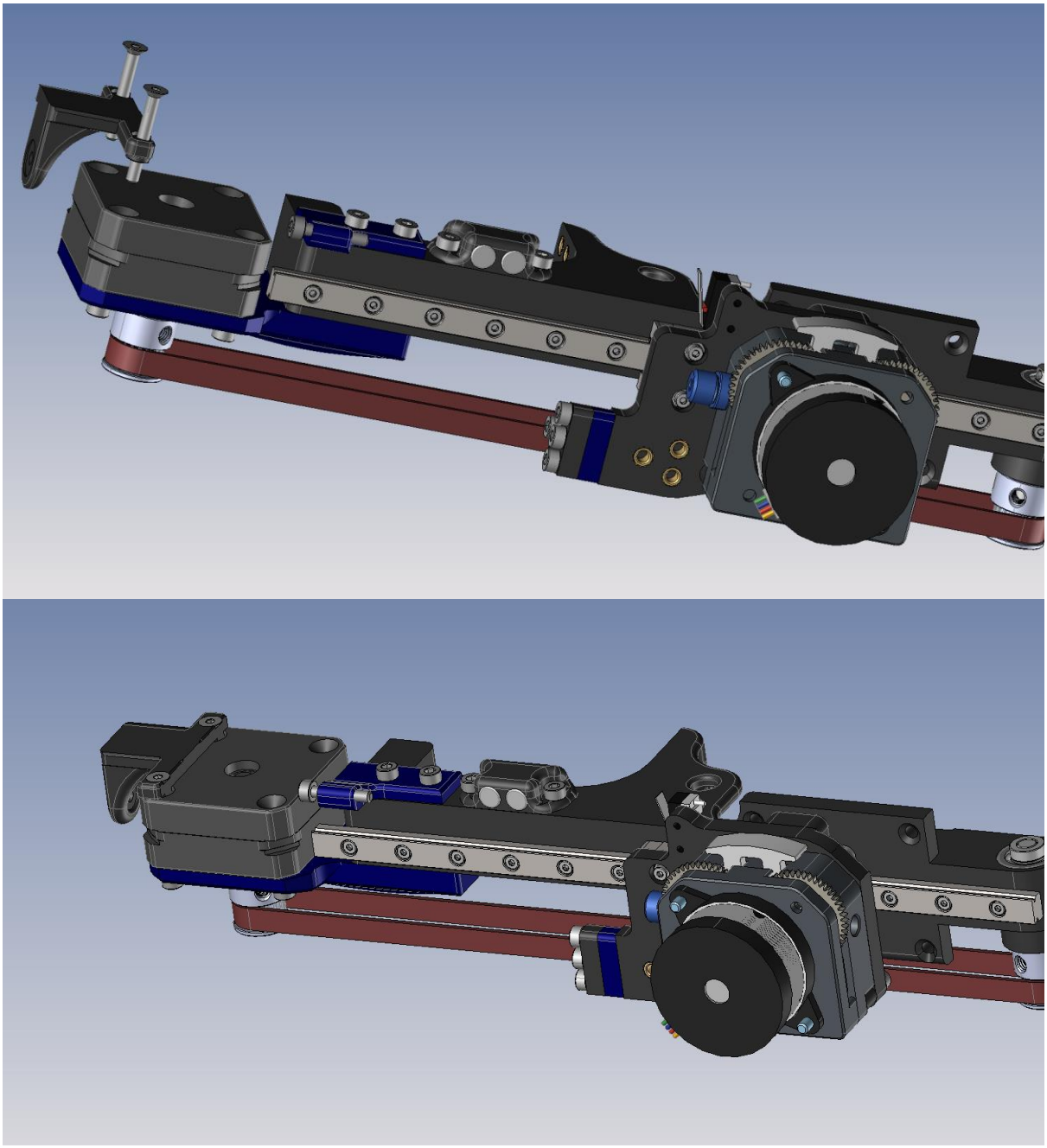
After assembling the belt, tension the stepper motor and tie-up the M3 screws



NOTE: **Assembly the Hotend make the wires short with connectors**

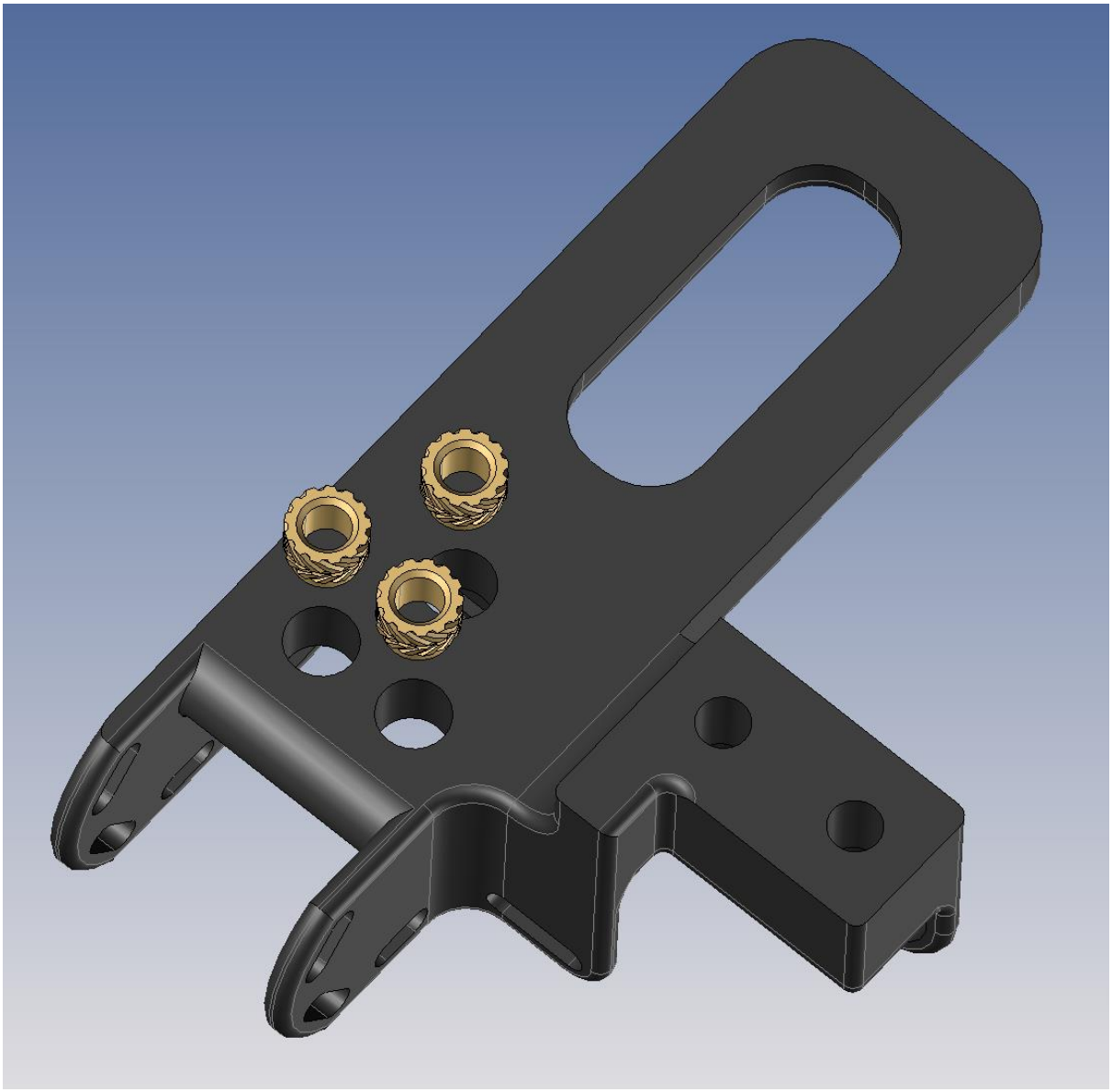
Later THE HOTEND can be swappable ! (for more see build pictures)



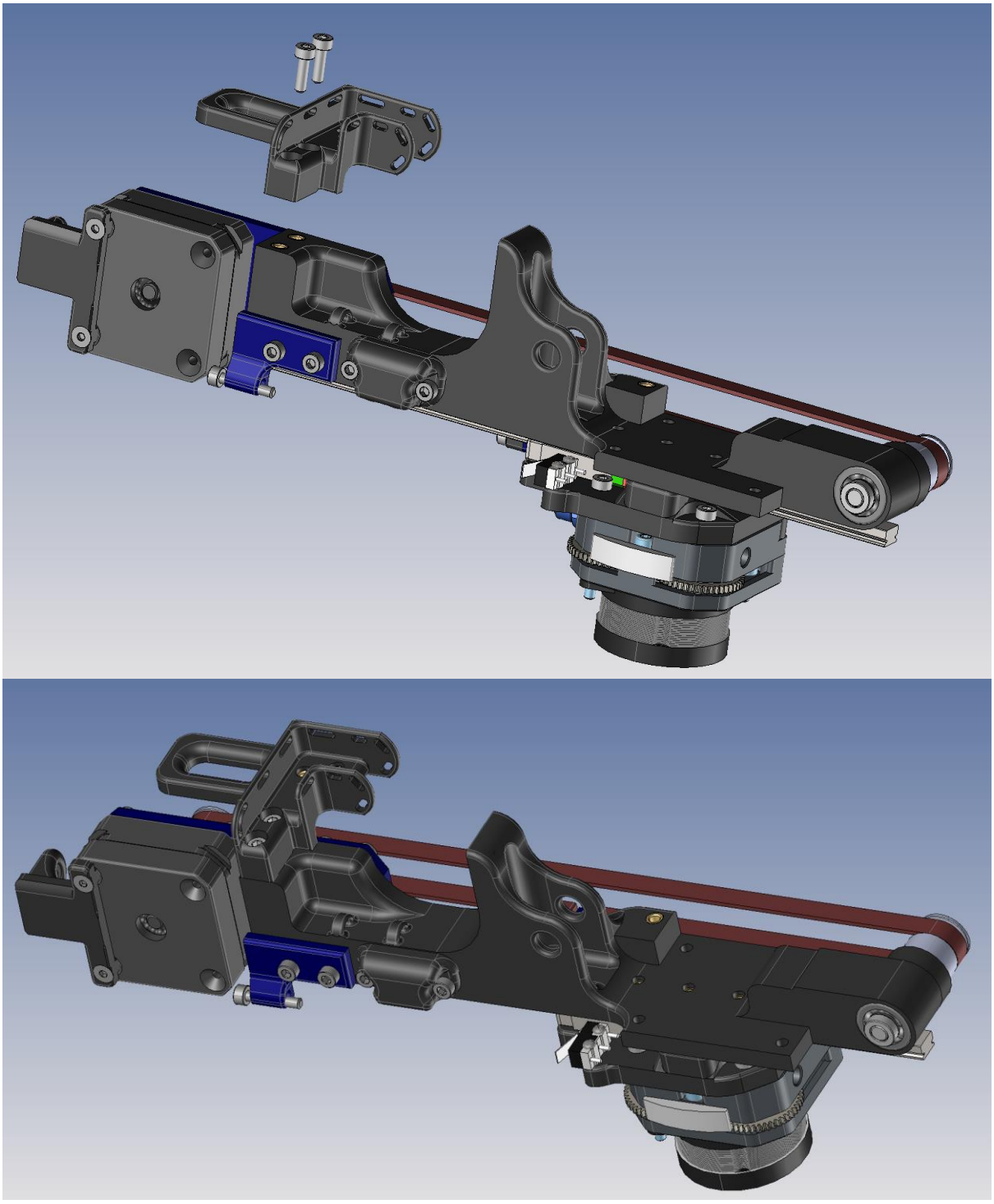


NOTE: **Screw FHSC M3 x 22mm**

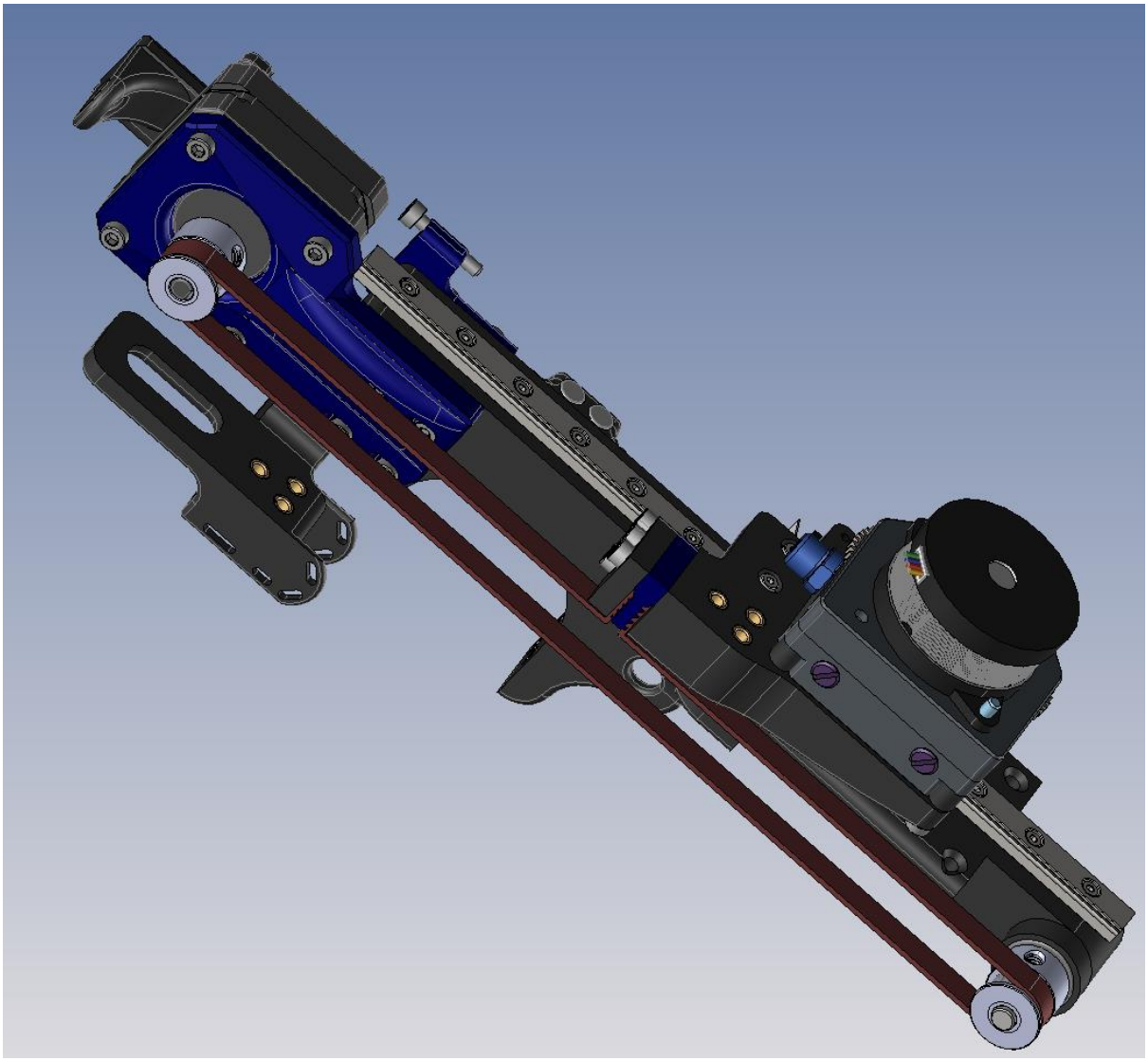
Zip tie for filament PTFE tube

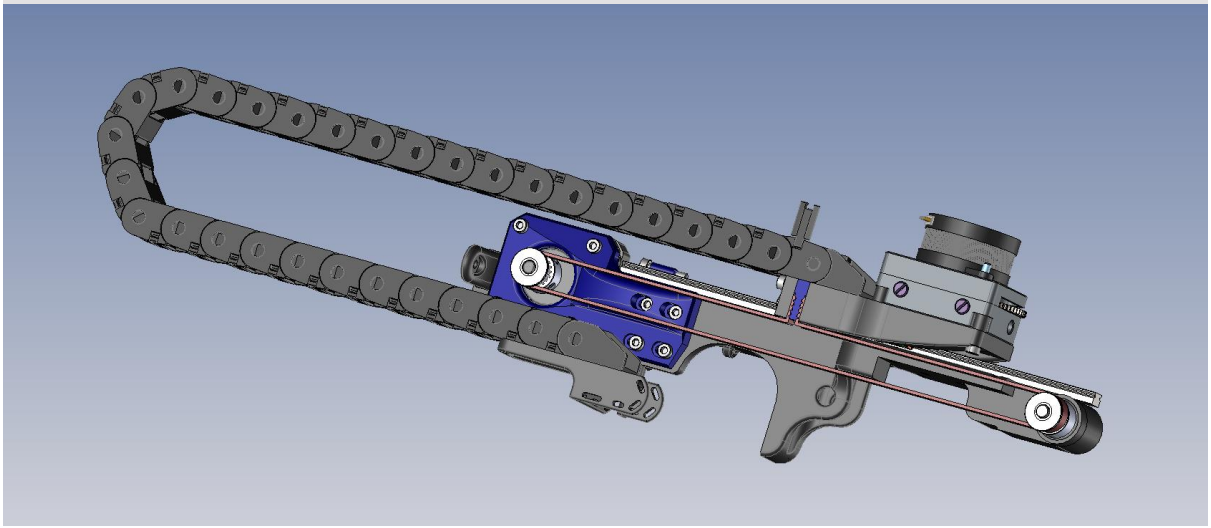


NOTE: **heat inserts M3 x 5mm**



NOTE: **Screw M3 x 10mm**

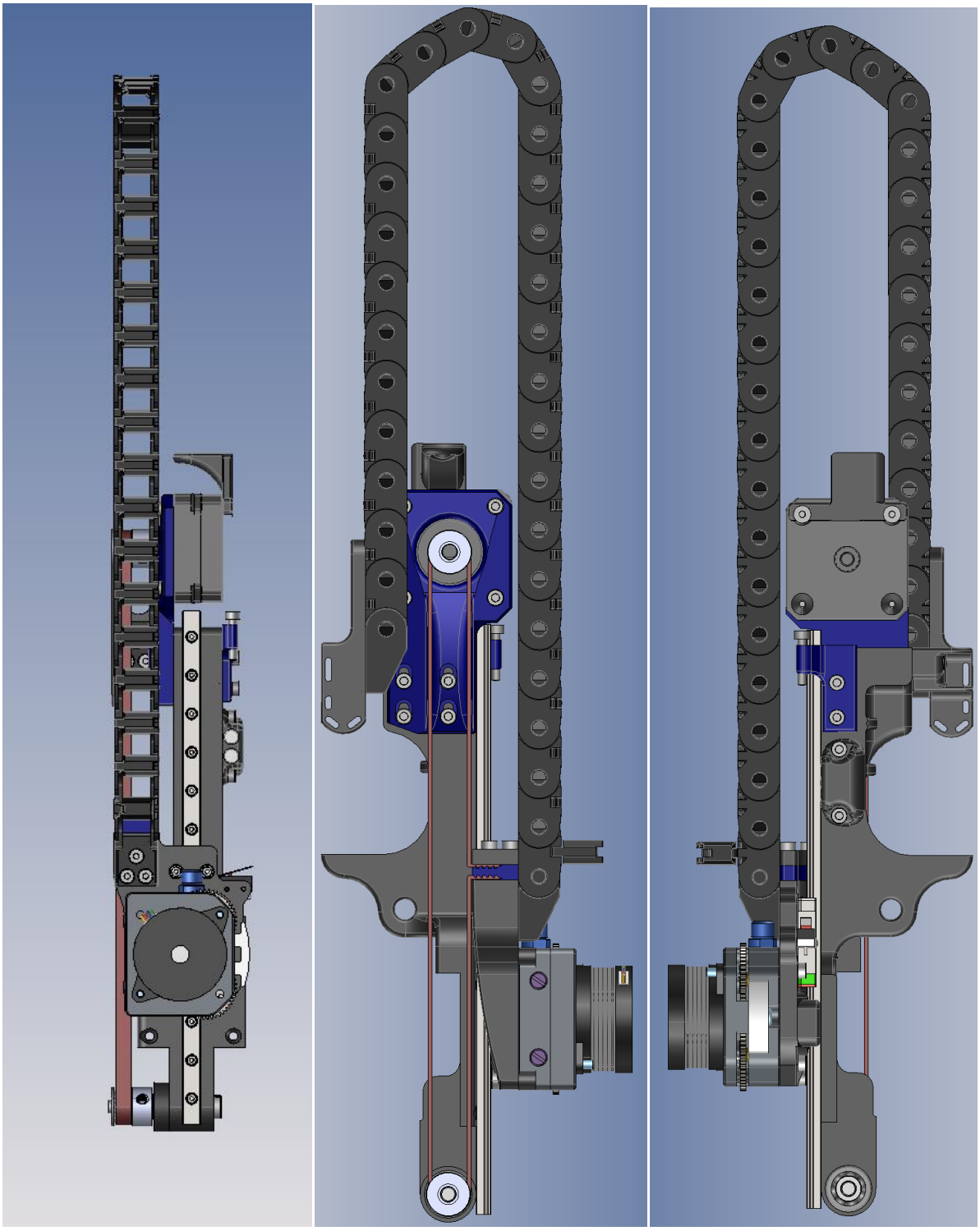


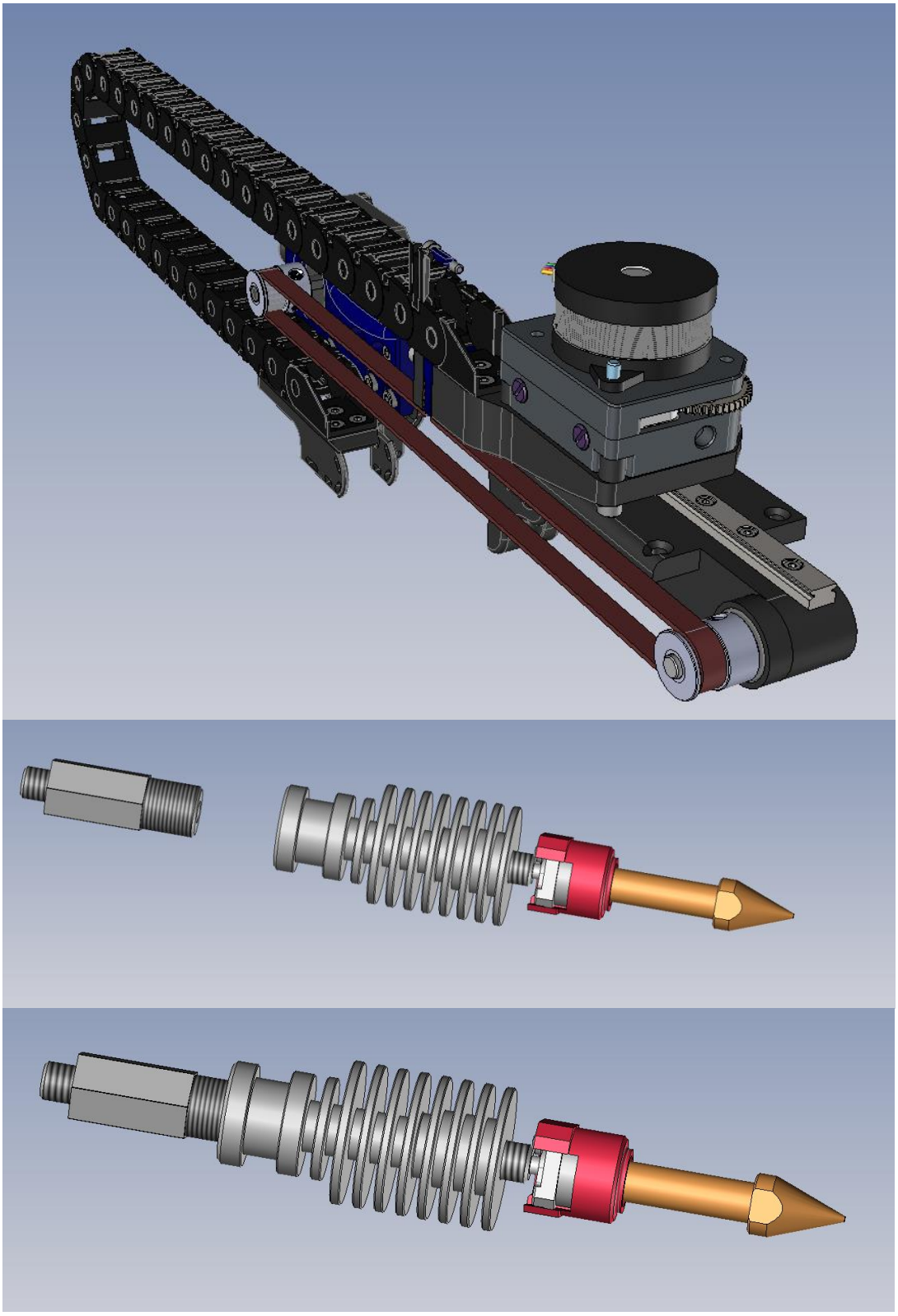


NOTE: **Screw FHSC M3 x 6mm**

Chain link 10 x 11

The lenght of the chain link enough to to not interfere with upper stepper motor mechanism when the extruder will reach max. bottom

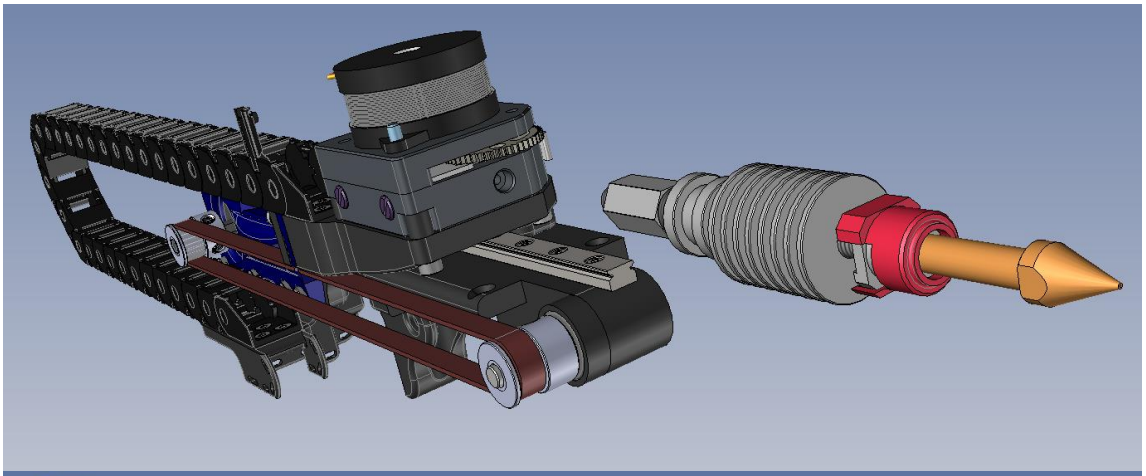


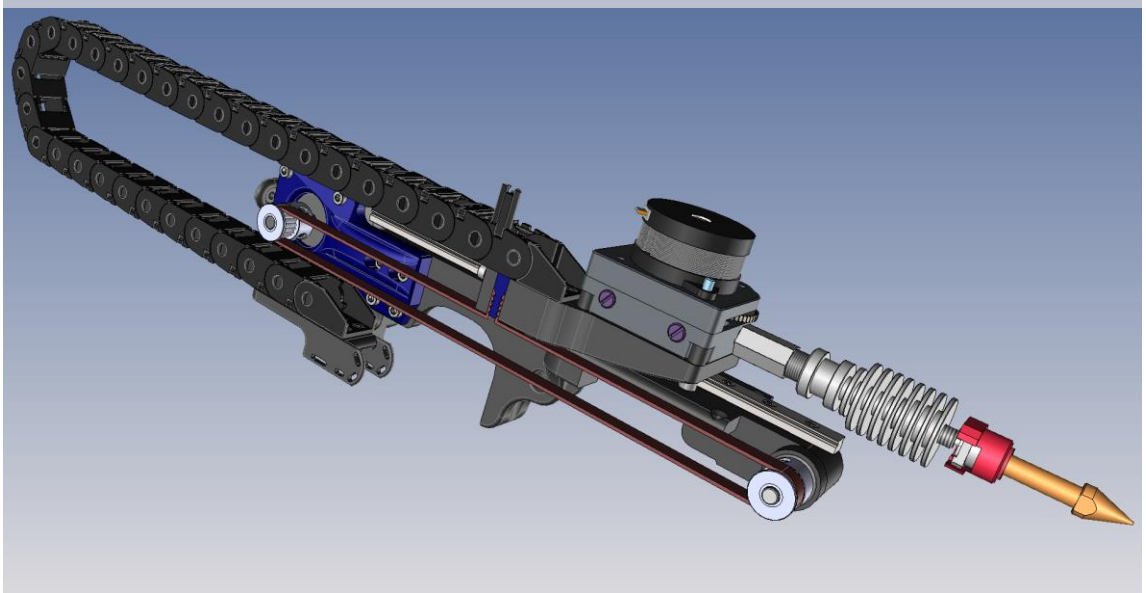


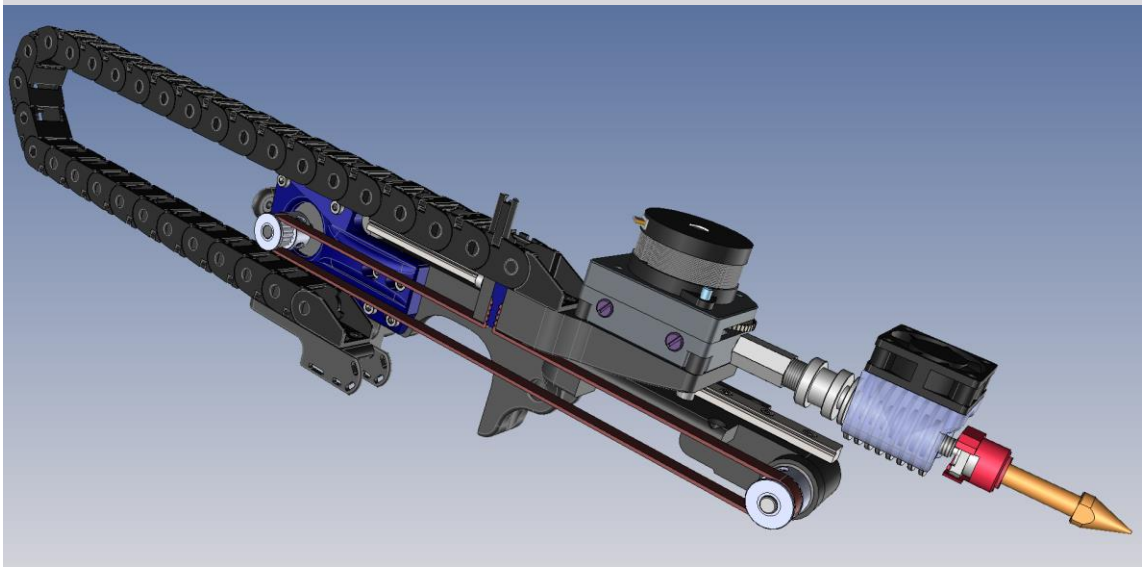
NOTE: **Adapter from the extruder kit M6 to M10**

Please use PTFE tube in between extruder and the Hotend 4mm OD, 2mm ID

Cut the lenght to the required size







NOTE: **Screw SHSC M3 x 14mm**

24V Fan 30x30x10mm