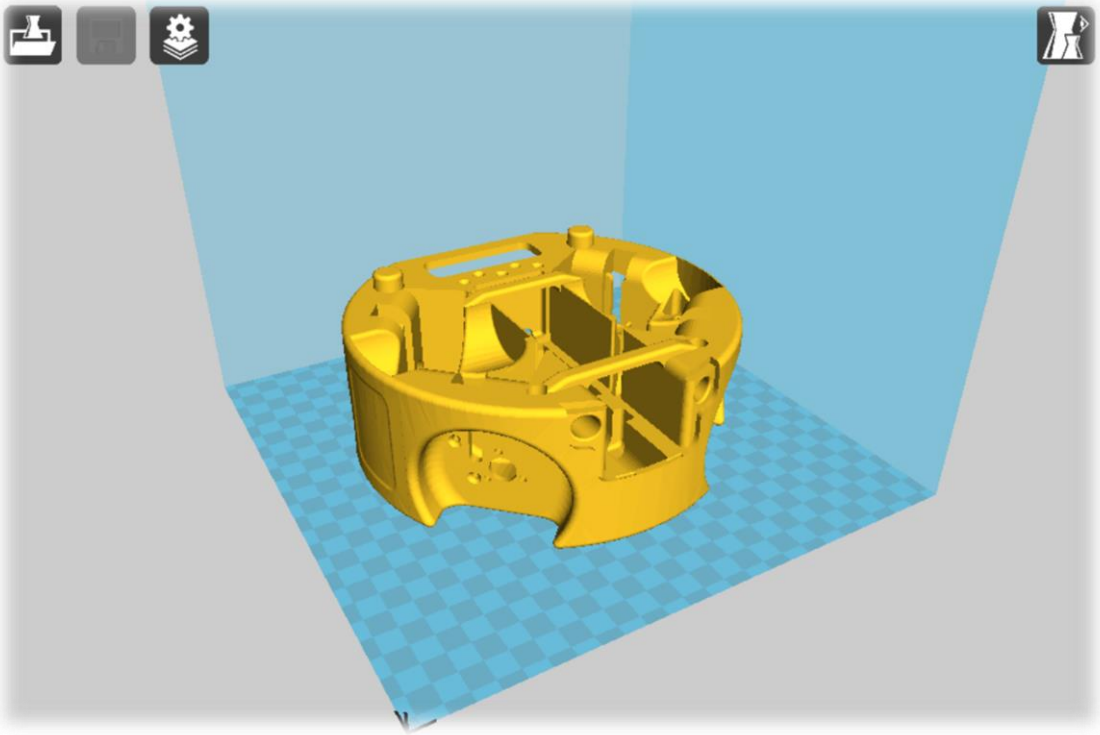
IMMORTALS

PRINTED PARTS

MAIN BODY

Base part of the 3D-printed robot which all the other parts e.g. shafts, encoders, etc. will be mounted on this part. Printing settings for main body is as below:

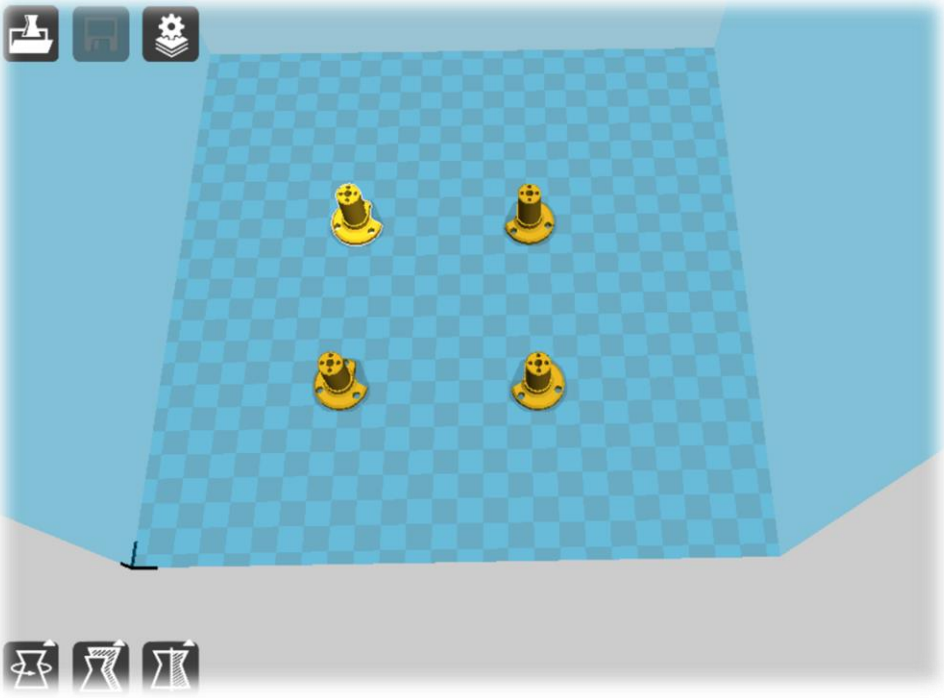
- **Material** : PLA 1.75mm diameter, for 3D-printer nozzle 0.4mm diameter
- **Infill density:** 20 to 30 percent.
- **Shell thickness** : 0.8mm (for 0.4mm nozzle means two layers of PLA for shell)
- **Layer height** : 0.2mm
- **Amount for one robot** : 1
- **Support:** Supports will touch the build plate.
- **Heated bed temperature** : 50 C



SHAFT

Wheels rotates around the axis of the shafts.

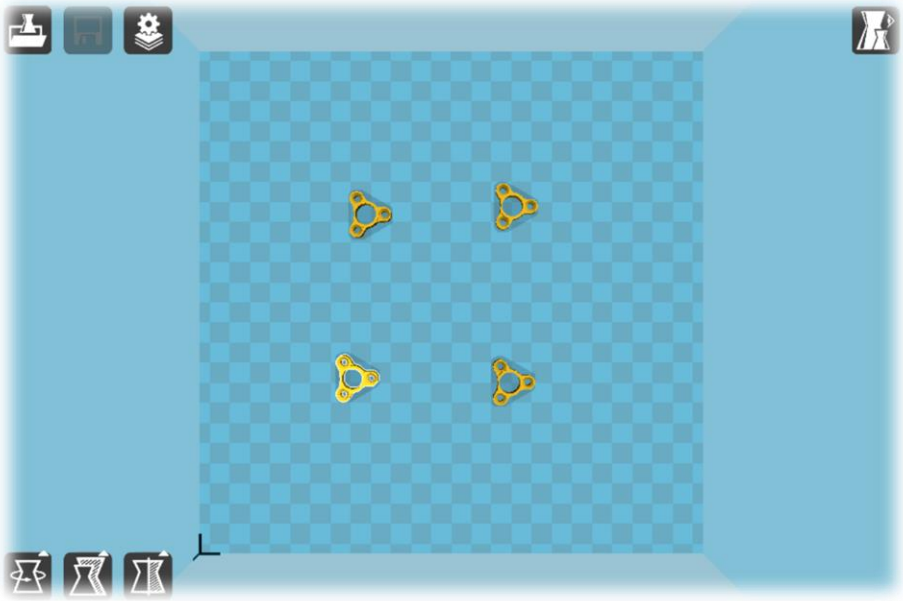
- **Material** : Carbon-Fiber 1.75mm diameter, for 3D-printer nozzle 0.4mm diameter
- **Infill density:** 100 percent.
- **Shell thickness** : 0.8mm (for 0.4mm nozzle means two layers of PLA for shell)
- **Layer height** : 0.1mm
- **Amount for one robot** : 4 (two by two mirror about X axis)
- **Support:** Supports will touch the build plate.
- **Heated bed temperature** : 70 C
- **Nozzle temperature** : 250 C



RING

Rings are used to strengthen the shafts.

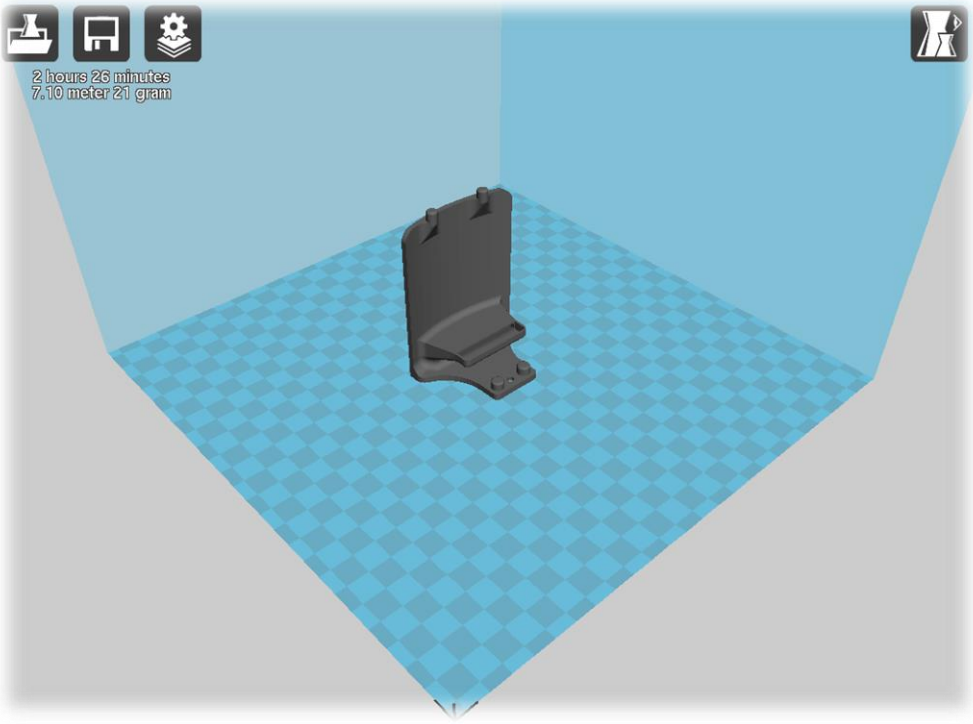
- **Material** : Carbon-Fiber 1.75mm diameter, for 3D-printer nozzle 0.4mm diameter
- **Infill density:** 100 percent.
- **Shell thickness** : 0.8mm (for 0.4mm nozzle means two layers of PLA for shell)
- **Layer height** : 0.1mm
- **Amount for one robot** : 4 (two by two mirror about X axis)
- **Support:** Supports will touch the build plate.
- **Heated bed temperature** : 70 C
- **Nozzle temperature** : 250 C



Window

This is a part which can easily remove for changing the battery and access to the main PCB buttons.

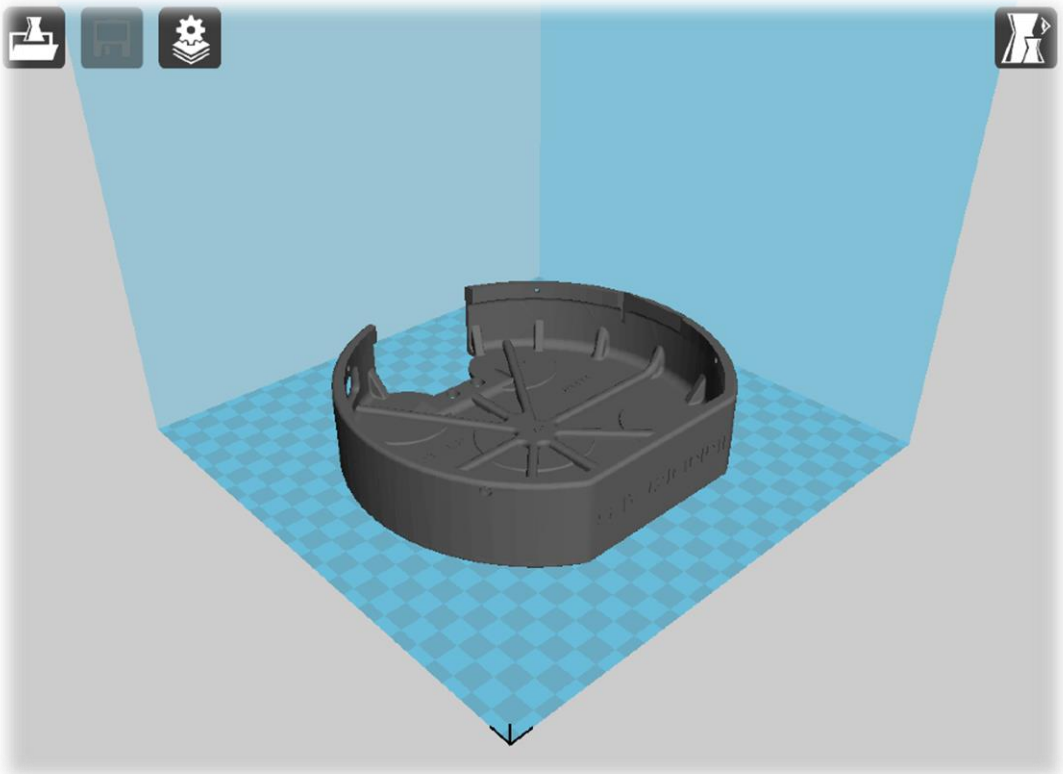
- **Material** : PLA 1.75mm diameter, for 3D-printer nozzle 0.4mm diameter
- **Infill density:** 25 to 30 percent.
- **Shell thickness** : 1.2mm
- **Layer height** : 0.2mm
- **Amount for one robot** : 1
- **Support:** Everywhere
- **Heated bed temperature** : 50 C
- **Nozzle temperature** : 220 C



Second Floor

Second floor is robot top cover

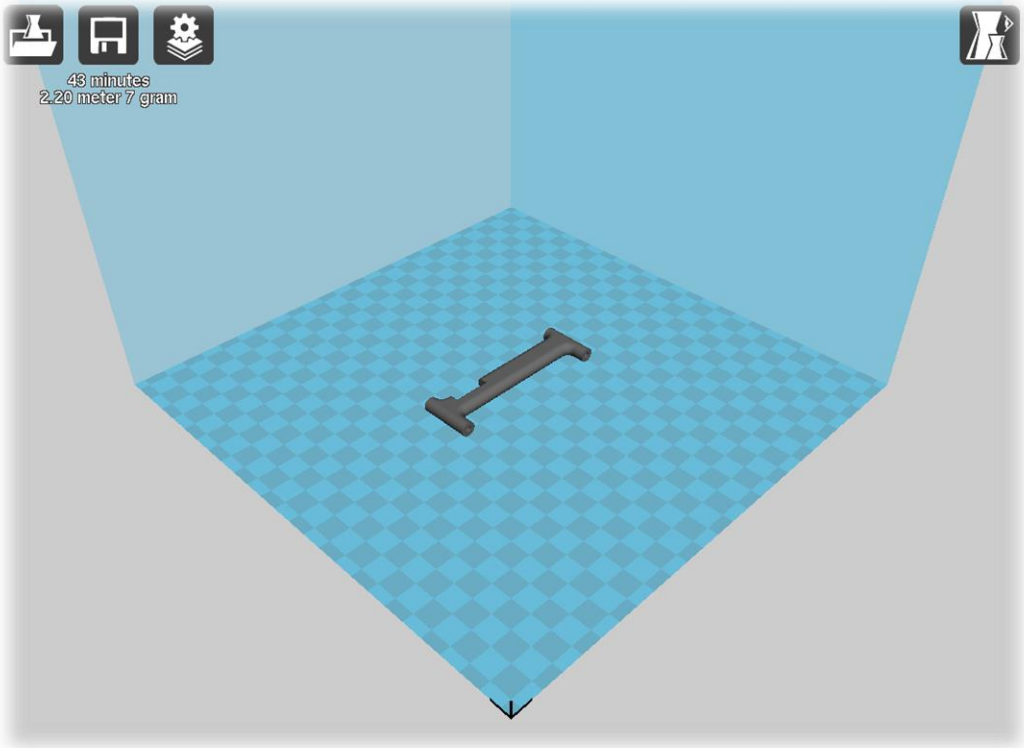
- **Material** : PLA 1.75mm diameter, for 3D-printer nozzle 0.4mm diameter
- **Infill density:** 15 to 20 percent.
- **Shell thickness** : 0.8mm (for 0.4mm nozzle means two layers of PLA for shell)
- **Layer height** : 0.2mm
- **Amount for one robot** : 1
- **Support:** Supports will touch the build plate.
- **Heated bed temperature** : 50 C
- **Nozzle temperature** : 220 C



Main PCB Spacer:

Main PCB will mount on this part.

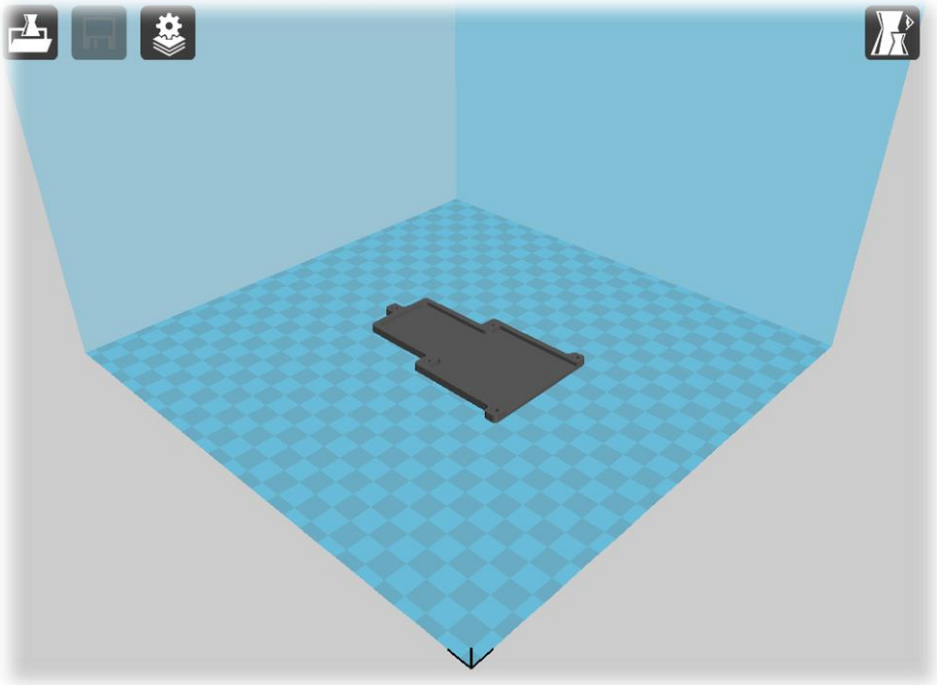
- **Material** : PLA 1.75mm diameter, for 3D-printer nozzle 0.4mm diameter
- **Infill density:** 20 to 25 percent.
- **Shell thickness** : 0.8mm (for 0.4mm nozzle means two layers of PLA for shell)
- **Layer height** : 0.2mm
- **Amount for one robot** : 1
- **Support:** no need.
- **Heated bed temperature** : 50 C
- **Nozzle temperature** : 220 C



Chip Door :

This part allow us to access chip kicker core from bottom of robot.

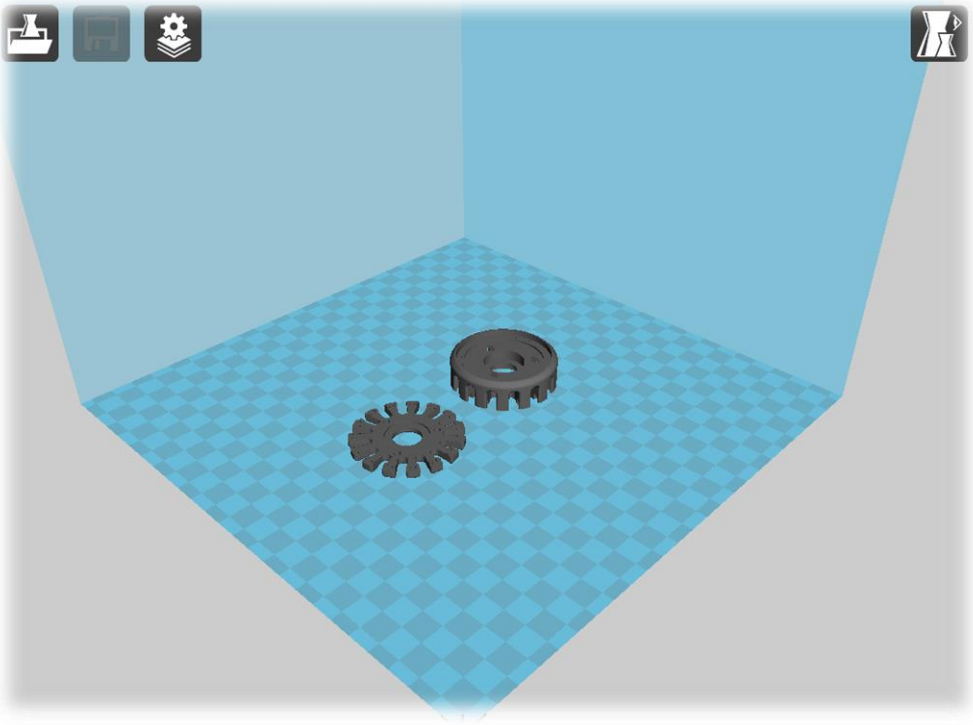
- **Material** : PLA 1.75mm diameter, for 3D-printer nozzle 0.4mm diameter
- **Infill density:** 20 to 25 percent.
- **Shell thickness** : 1.2mm
- **Layer height** : 0.2mm
- **Amount for one robot** : 1
- **Support:** no need.
- **Heated bed temperature** : 50 C
- **Nozzle temperature** : 220 C



Wheel:

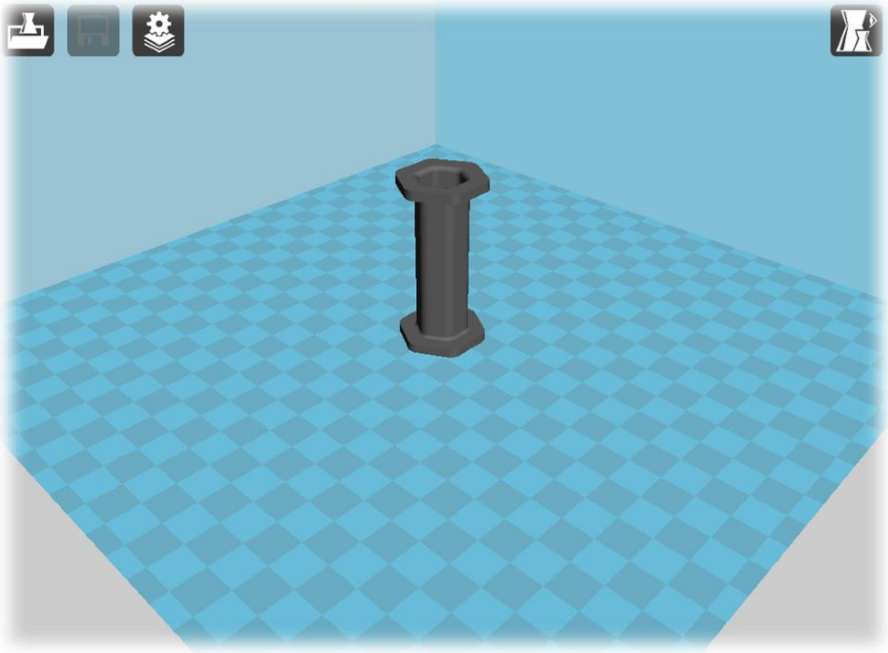
Each wheel has two printing parts which we advise print them together.

- **Material** : PLA 1.75mm diameter, for 3D-printer nozzle 0.4mm diameter
- **Infill density:** 25 to 35 percent.
- **Shell thickness** : 1.2mm
- **Layer height** : 0.2mm (for better results 0.1mm)
- **Amount for one robot** : 4
- **Support:** Supports will touch the build plate.
- **Heated bed temperature** : 50 C
- **Nozzle temperature** : 220 C



Hex Coil:

- **Material** : PLA 1.75mm diameter, for 3D-printer nozzle 0.4mm diameter
- **Infill density:** 35 to 50 percent.
- **Shell thickness** : 1.2mm
- **Layer height** : 0.2mm
- **Amount for one robot** : 1
- **Support:** Everywhere
- **Heated bed temperature** : 50 C
- **Nozzle temperature** : 220 C



Hex Plunger:

- **Material** : Carbon-fiber 1.75mm diameter, for 3D-printer nozzle 0.4mm diameter
- **Infill density:** 35 to 50 percent.
- **Shell thickness** : 1.2mm
- **Layer height** : 0.1mm
- **Amount for one robot** : 1
- **Support:** no need.
- **Heated bed temperature** : 70 C
- **Nozzle temperature** : 250 C