MIRTE Master Assembly Instructions

Top & Arm

1

1.1

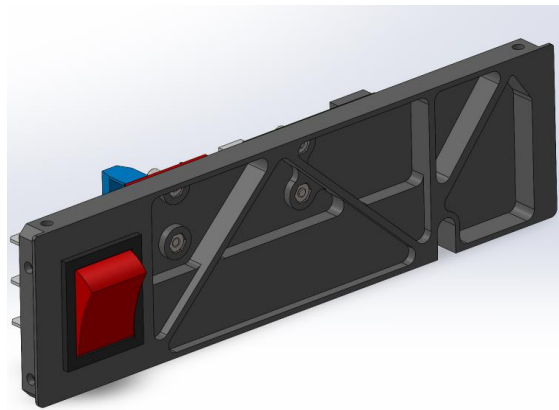| Parts needed	
1x Electronics box front panel	
4x M2.5 nut	

Push the M2.5 nuts into the holes

2

1.2
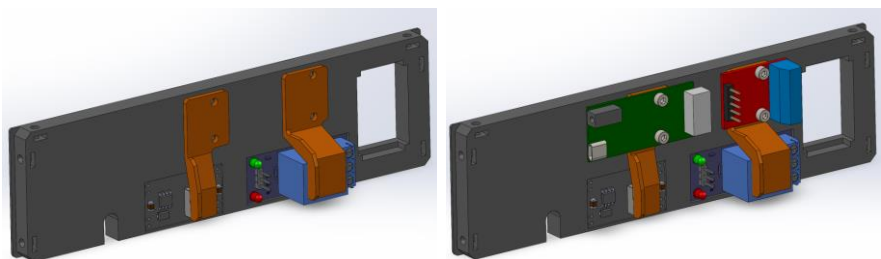
Bolt the components as shown in the picture. Check that the orientation of all electronics are correct.

Parts needed	
1x Lidar driver	
1x Voltage & current sensor	
1x Buck module	
1x Relays	
1x clip A	
1x clip B	
4x M2.5x6 bolt	

3

1.3

Push the switch into the panel
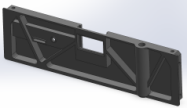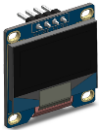
Parts needed	
1x Switch	

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2

Parts needed	
1x Electronics box rear panel	
1x OLED screen	
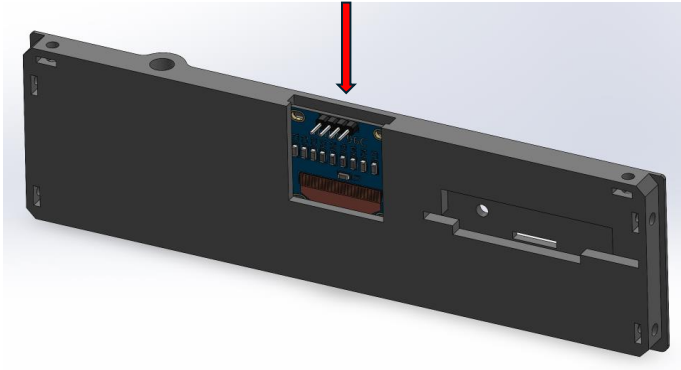
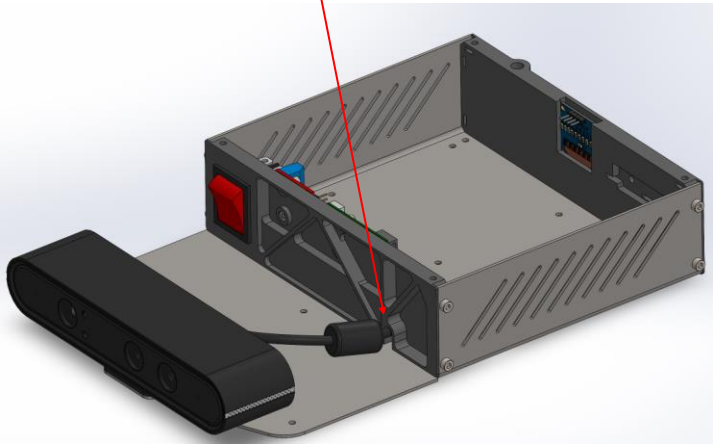Slide the OLED screen into the panel

5

3
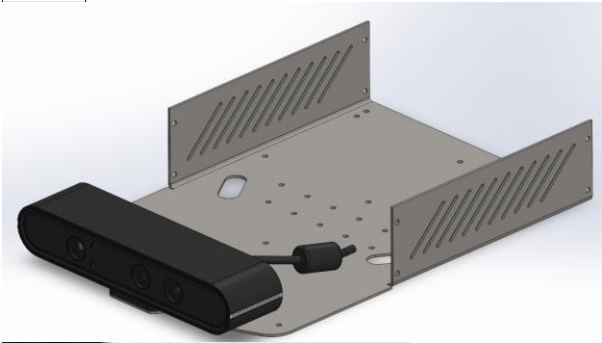
Slide the washers over the M2x8 bolts and mount the camera to the top plate using the spacer.
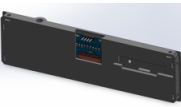
Parts needed	
1x Top plate	
1x camera	
1x camera spacer	
2x M2x8 bolt	
2x M2 washer	

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Guide the camera USB cable through the 'mouse hole'
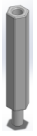
Parts needed	
1x Electronics box front panel	
1x Electronics box rear panel	
8x M3x6 bolt	

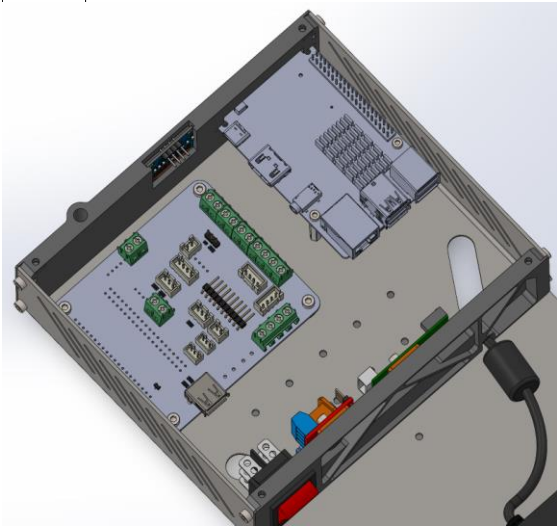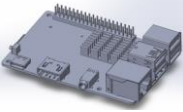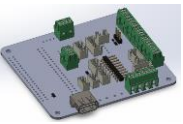Mount the panels to the top plate by using M3x6 bolts.

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5
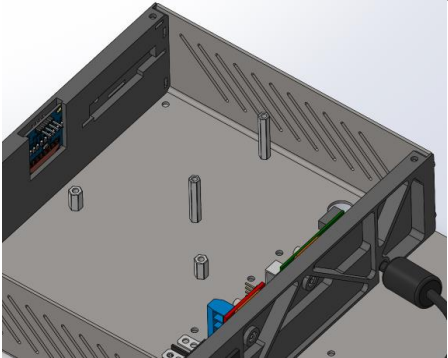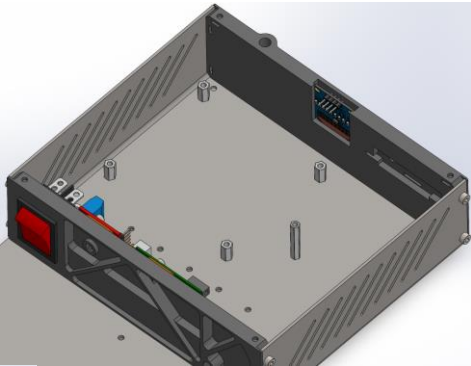
Parts needed	
4x M3 x 10 standoff	
2x M2.5 x 25 standoff	
4x M3 nut	
2x M2.5 nut	

Mount the standoffs to the top plate by using nuts on the bottom of the top plate.
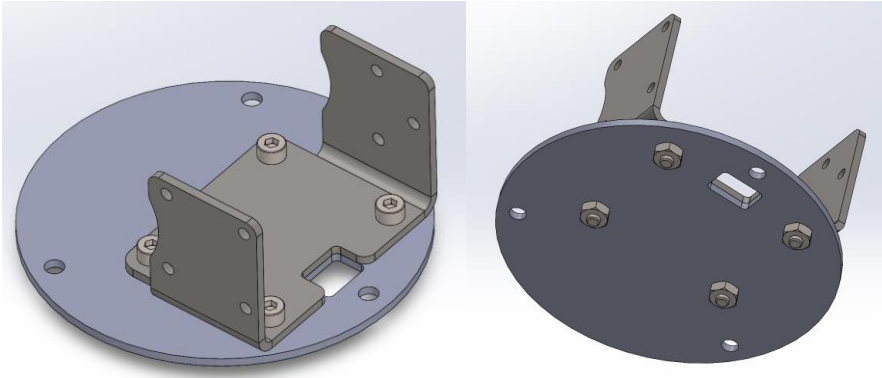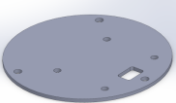
8

6
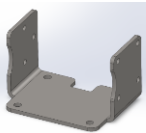
Parts needed	
1x Orange Pi	
1x MIRTE Master PCB	
4x M3x6 bolt	
2x M2.5x6 bolt	

Slide the Orange Pi into the 3D print and bolt it onto the two taller standoffs (with two M2.5 bolts). Bolt the MIRTE Master PCB onto the shorter standoffs using M3 bolts.
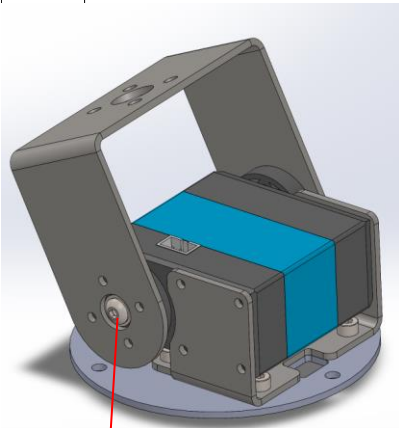
9

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Parts needed	
1x small top plate	
1x Bracket A	
4x M2.5x6 bolt	
4x M2.5 nut	

Bolt Bracket A to the small top plate

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Guide the servo cable trough this hole

M3x6 bolt

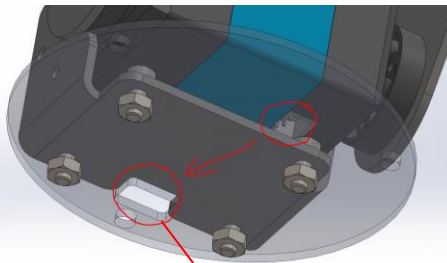| Parts needed	
1x bracket B	
1x **Orange** Servo (I know, it's not orange in the picture)	
2x M3x6 bolt	
1x Driving servo horn	
1x guiding servo horn	
1x servo cable	

- Screw the servo to bracket A using the screws that come with the servo.
- Screw bracket B onto the servo by using the servo horns. Use the screws that come with the servo between bracket B and the servo horns.
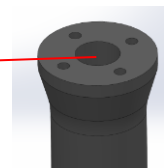
11

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Parts needed	
1x connecting rod A	
4x M3x6 bolt	

Bolt the connecting rod the bracket B. You will have to push the bolts while fastening them as the holes in de connecting rod are not threaded.
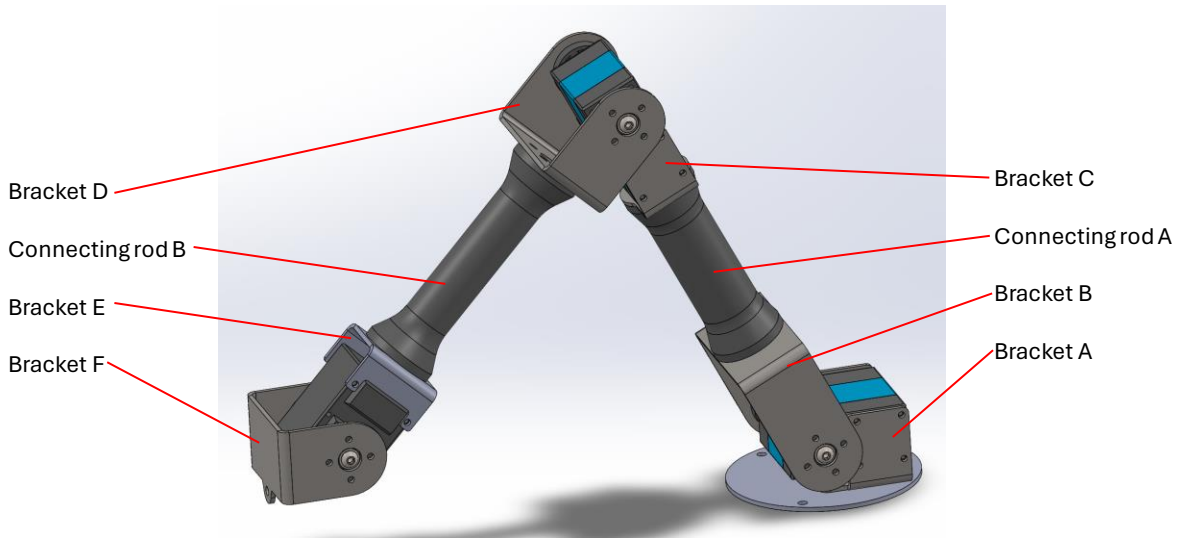
(the larger hole in the middle will be used later for guiding the servo cable)
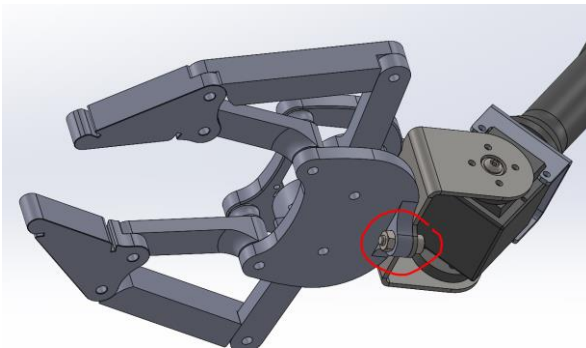
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Similarly, add the remaining brackets to the arm. Guide the servo cables through the connecting rods.
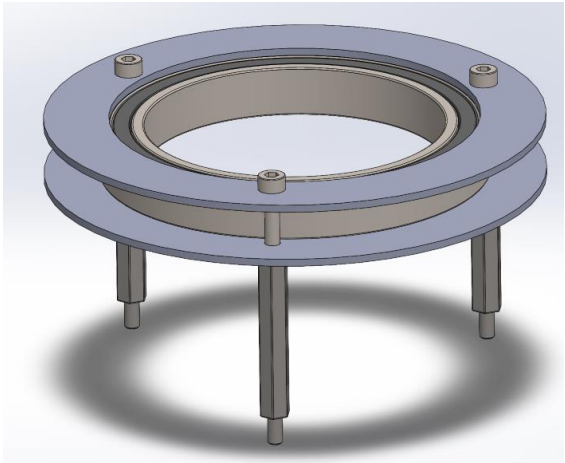

Bracket D

Connecting rod B

Bracket E

Bracket F

Bracket C

Connecting rod A

Bracket B

Bracket A

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Parts needed	
1x Gripper	
1x M3x16 bolt	
1x M3 nut	

Mount the gripper to the arm

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Clamp the large plates to the outer ring of the bearing using the standoffs and nuts.

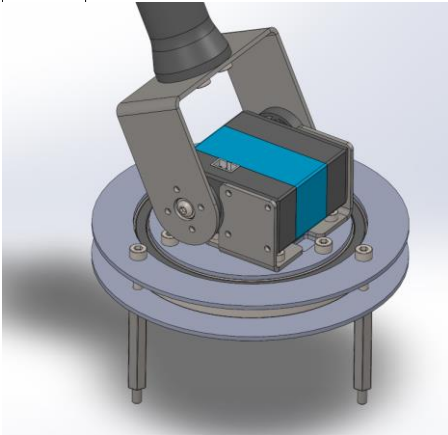| Parts needed	
2x Large plate	
3x standoff M3x35	
3x M3 nut	
1x bearing	
3x M3x20 bolt	

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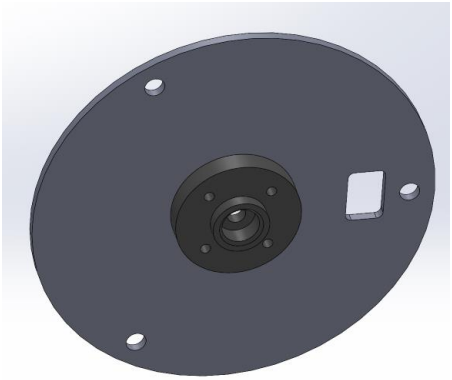
Screw the servo horn to the small bottom plate using the screws that come with the servo.
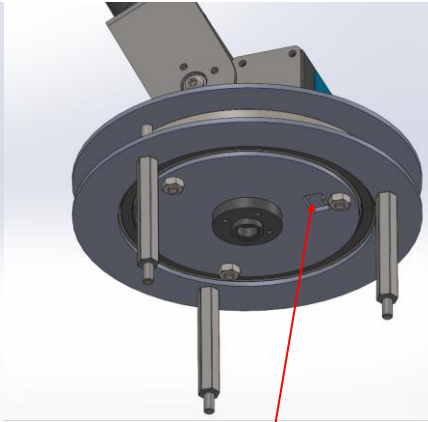
Parts needed	
1x small bottom plate	
1x Driving servo horn	

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Parts needed	
3x M3x16 bolt	
3x M3 nut	

Clamp the small bottom plate and the small top plate to the inner ring of the bearing.

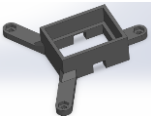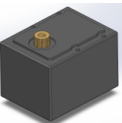Guide the servo cable through this hole.

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15
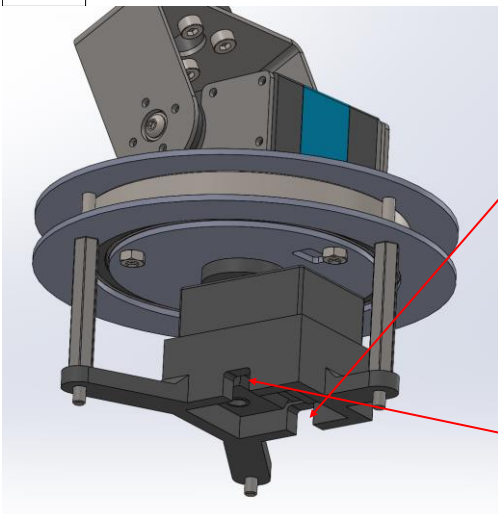
Guide the servo cable from the arm through this hole.

Guide this servo cable through this hole

Parts needed	
1x arm servo mount	
1x servo	
1x servo cable	

Put the servo into the arm servo mount. Push the arm servo mount onto the standoffs.

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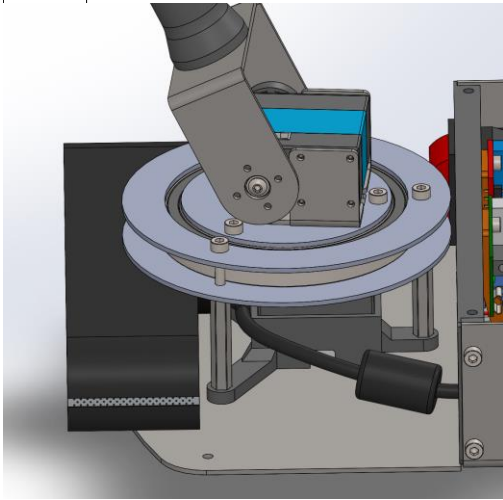
Mount the arm to the base

Parts needed	
3x M3 nut	
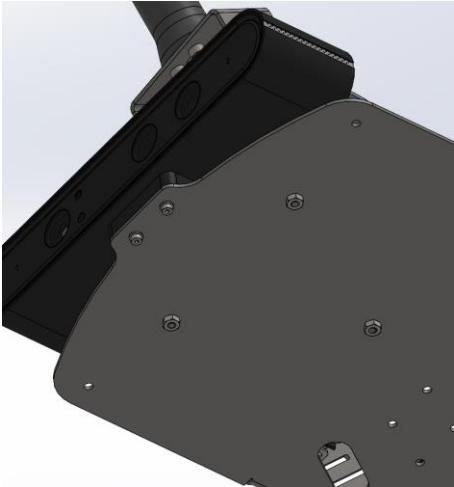
19
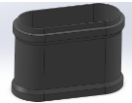
17
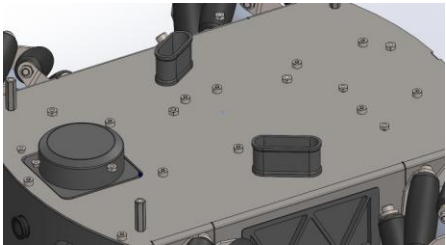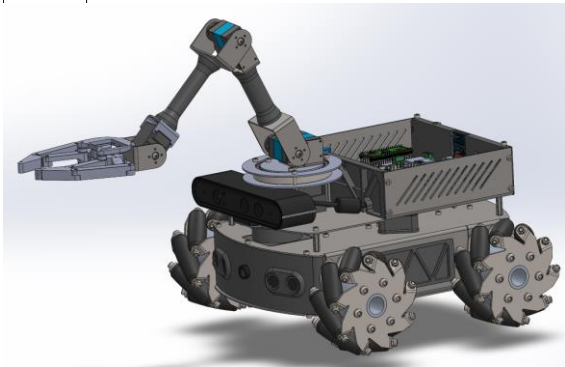
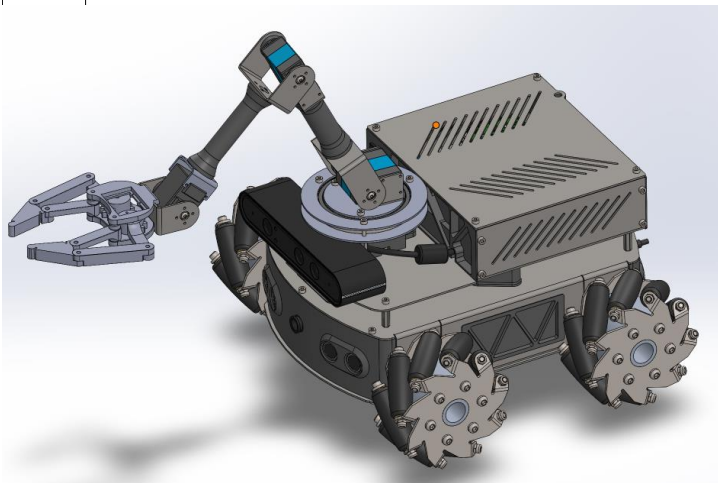

Top plate side
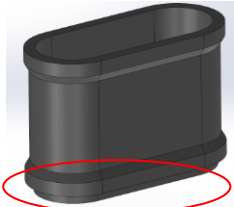
Base side

Parts needed	
1x Cable pass-through A	
1x Cable pass-through B	
4x M3x6 bolt	

Mount the top plate to the base with M3 bolts. Put the cable pass-throughs between the top plate and the base

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Parts needed	
1x Electronic box lid	
4x M3x6 bolt	

Bolt the lid onto the robot and you are done!

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