MIRTE Master Assembly instructions

Base

1

1
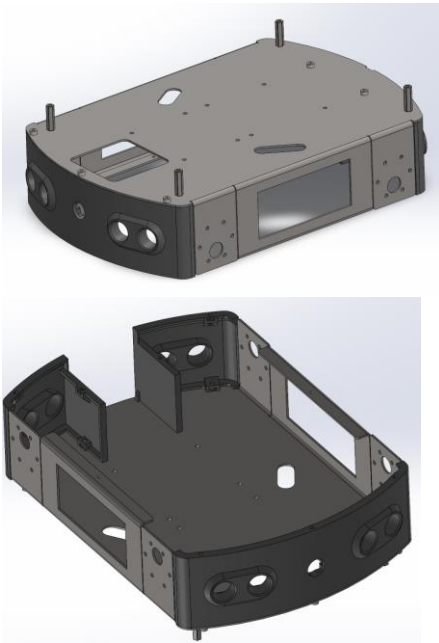
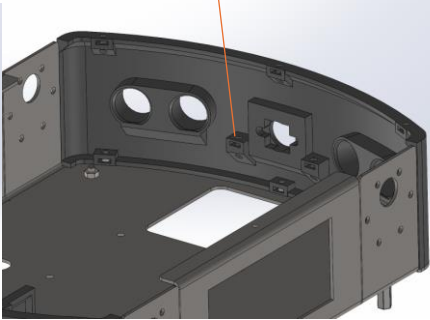| Parts needed	
1x base	
2x standoff M3x20	
2x M3 nut	

Mount the standoffs to the base with M3 nuts

2

2

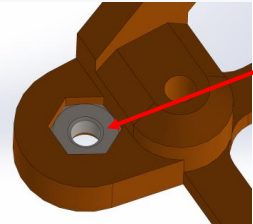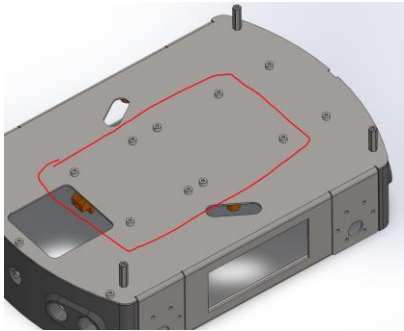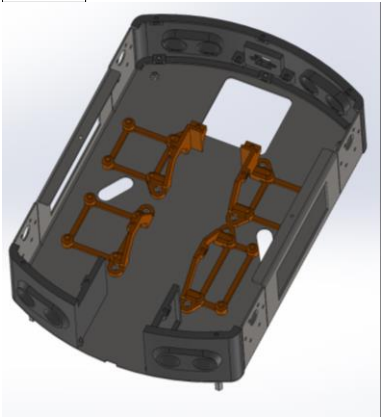Mind the orientation of the front bumper

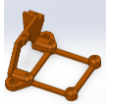Use the standoffs and M3x6 bolts to mount the bumpers to the base (the 2 standoffs screw into the rear bumper pieces)
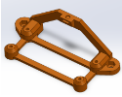
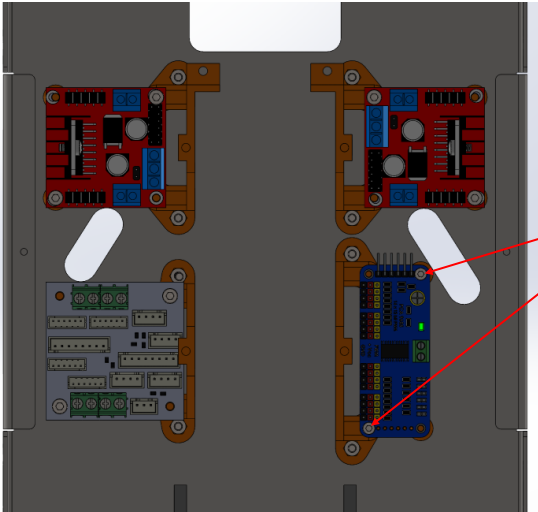| Parts needed	
1x front bumper	
2x standoff M3x20	
1x Rear bumper A	
1x Rear bumper B	
5x M3x6 bolt	

3

3

1. Push the M3 nuts into the 3D prints.

2. Mount the 3D prints to the base using M3x6 bolts.

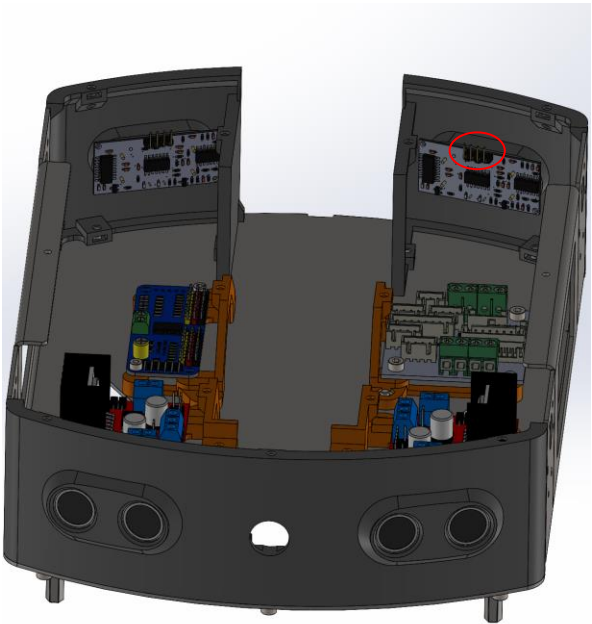| Parts needed	
1x H-bridge mount A	
1x H-bridge mount B	
1x Electronics mount 1	
1x Electronics mount 2	
8x M3x6 bolt	
8x M3 nut	

4

4

5

Mount the electronics to the 3D prints. Only use 2 diagonal bolts each time.

The two smaller bolts (M3x2.5) are used here.

Parts needed	
2x H-bridge	
1x MIRTE PCB small	
1x I2C 12 channel PWM module	
6x M3x6	
2x M2.5x6	

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6

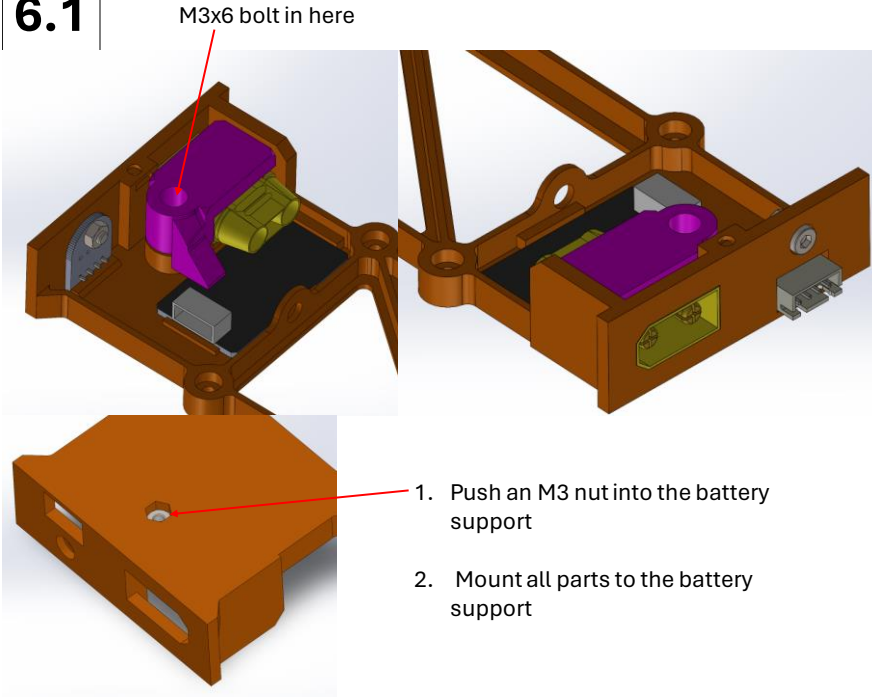| Parts needed	
4x Sonar	

Push fit the sonars into the front and rear bumper. Mind the orientation of the pinout.

You might need to use a round file to smoothen the rough edges of the holes of the bumper.
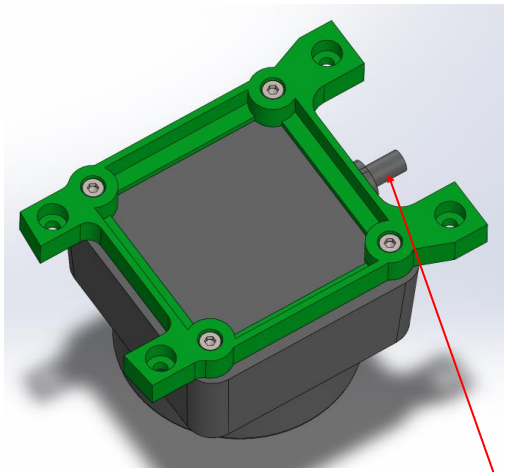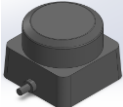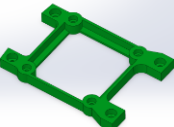
6.1

M3x6 bolt in here

1. Push an M3 nut into the battery support

2. Mount all parts to the battery support

Parts needed	
1x battery support	
1x XT90 clip	
1x XT90 connector	
1x BMS module	
1x BMS breakout board	
2x M3x6 bolt	
2x M3x6 nut	

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6.2

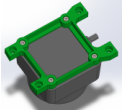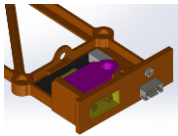| Parts needed	
1x Lidar	
1x Lidar Mount	
4x M2.5x6 bolt	

Bolt the lidar to the lidar mount. Mind the orientation of the cable.

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6.3

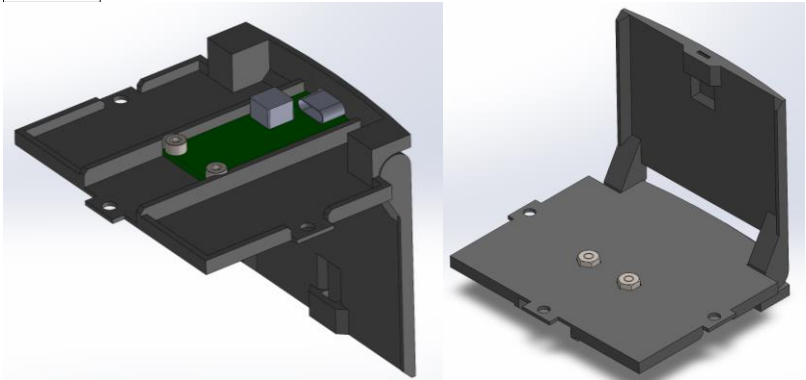(don't mind the orientation of the lidar cable. It's wrong in this picture)
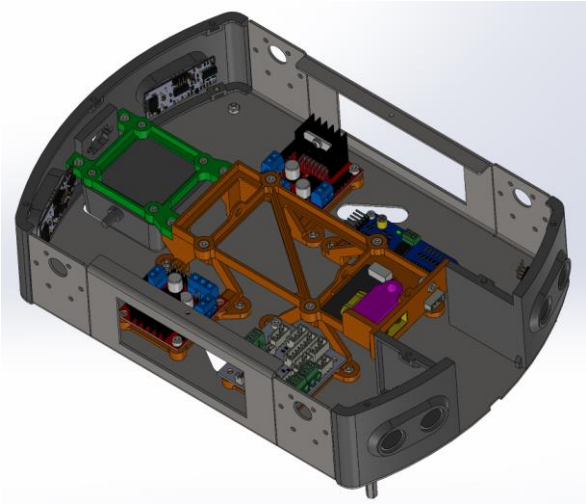
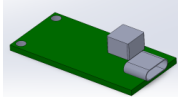| Parts needed	
1x lidar mount	
1x Battery Support	
8x M3x6 bolt	
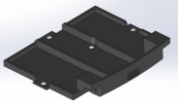
Bolt the lidar mount and the battery support to the robot.

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7.1

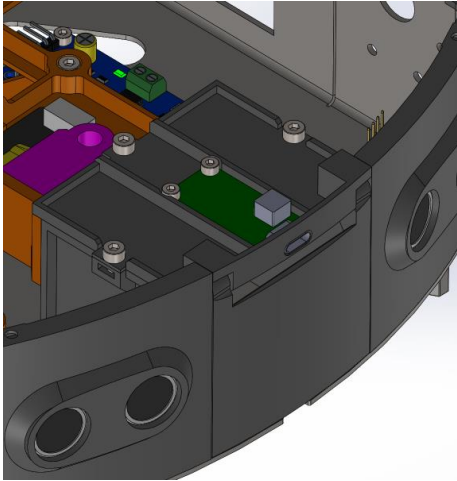| Parts needed	
1x charger mount	
1x charger module	
1x battery hatch	
2x M2.5 nut	
2x M2.5x6 bolt	

1. Bolt the charger module to the charger mount

2. Push the battery hatch onto the charger mount (try not to break it ;)).

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7.2

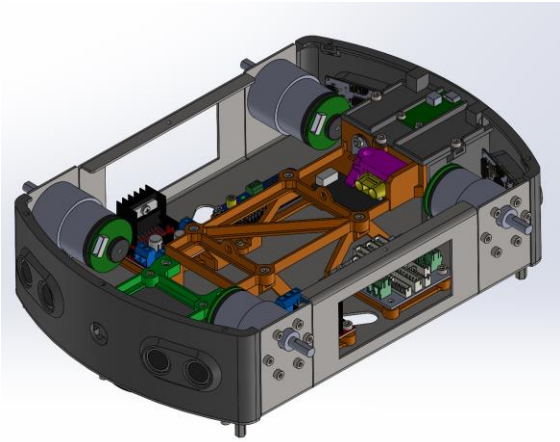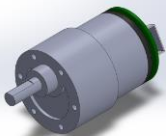

Parts needed	
1x charger mount	
3x M3x6 bolt	

Bolt the charger mount (with battery hatch) to the robot.
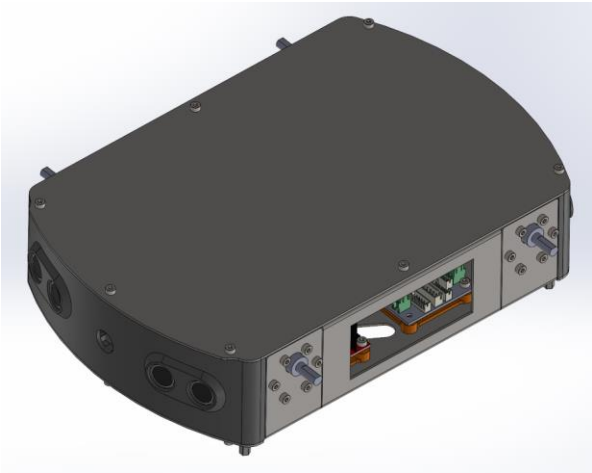
11

8

Parts needed	
4x motor	
24x M3x6 bolt	

Mount the motors to the base

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Parts needed	
1x bottom base	
7x M3x6 bolt	

Mount the bottom base to the robot

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Parts needed	
2x base panel	
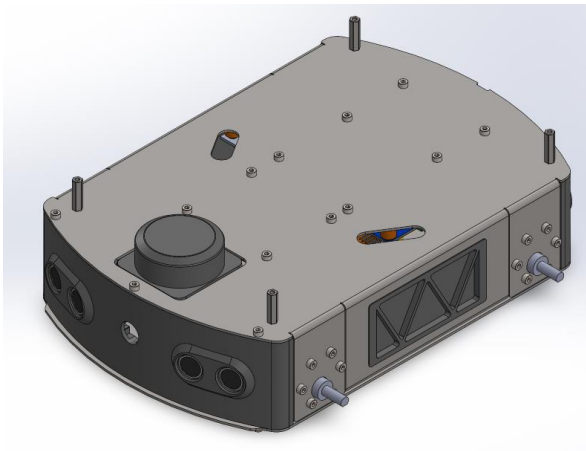
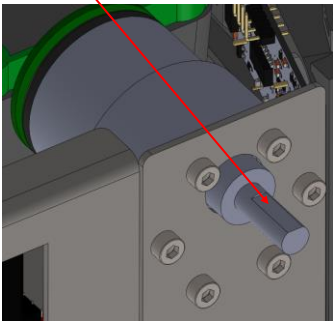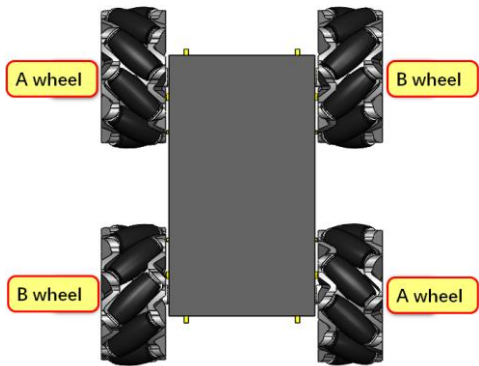Push the base panels into the side of the robot. They should snap into place.

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1. Bolt the wheel hubs to the motor axles using a set screw. Make sure that the set screw clamps onto the <u>flat surface</u> of the axle.

2. Slide a washer onto the M3 bolt and mount the wheels onto the wheel hubs. **Keep in mind that there are 2 wheel types: A and B.**

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Parts needed	
4x mecanum wheel	
4x wheel hub	
4x M3x20 bolt	
4x M3x6 set screw	
4x M3 washer	