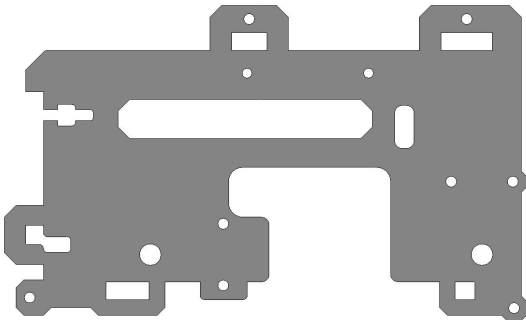
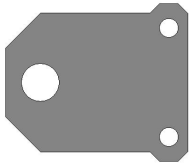
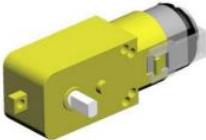


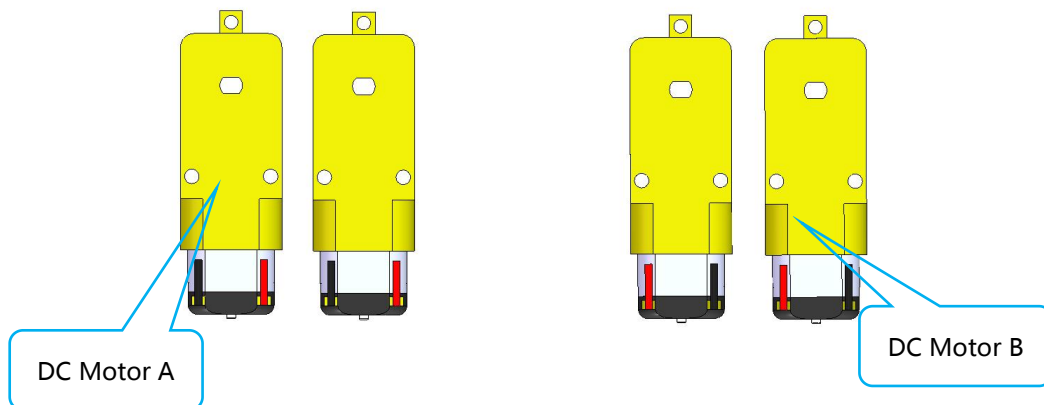
## Lesson 6 Adeept AWR of Assembly

### 6.1 Assemble the Robot's Components

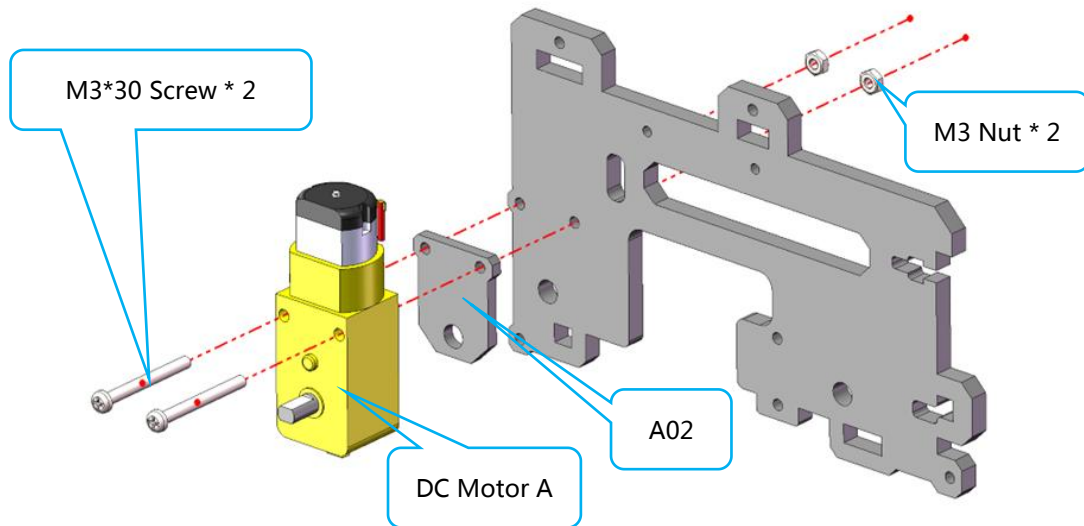
1. Fix the **DC Motor** and part A02 to part **A01** with four **M3\*30 Screws** and four **M3 Nuts**. ( This component is not symmetrical, so please be careful to identify the mounting surface of the part. )

A01	
A02	
DC Motor	

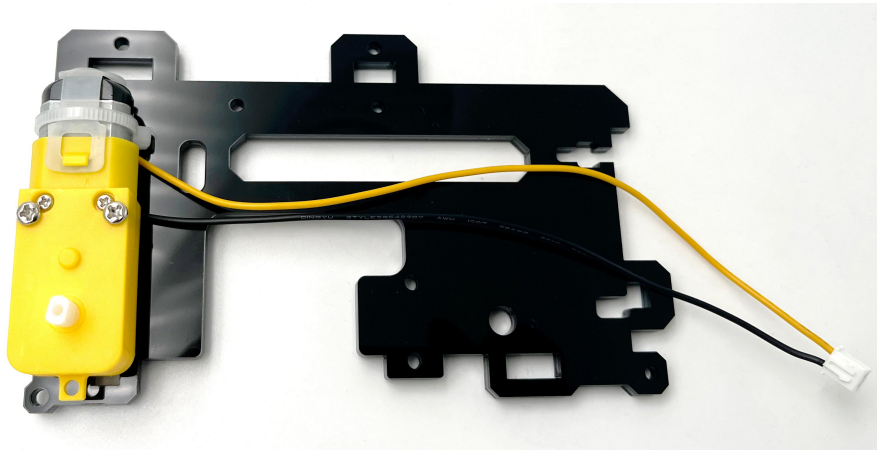
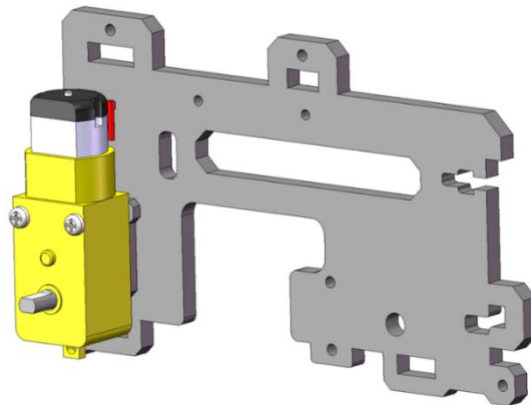
Assemble the following components:



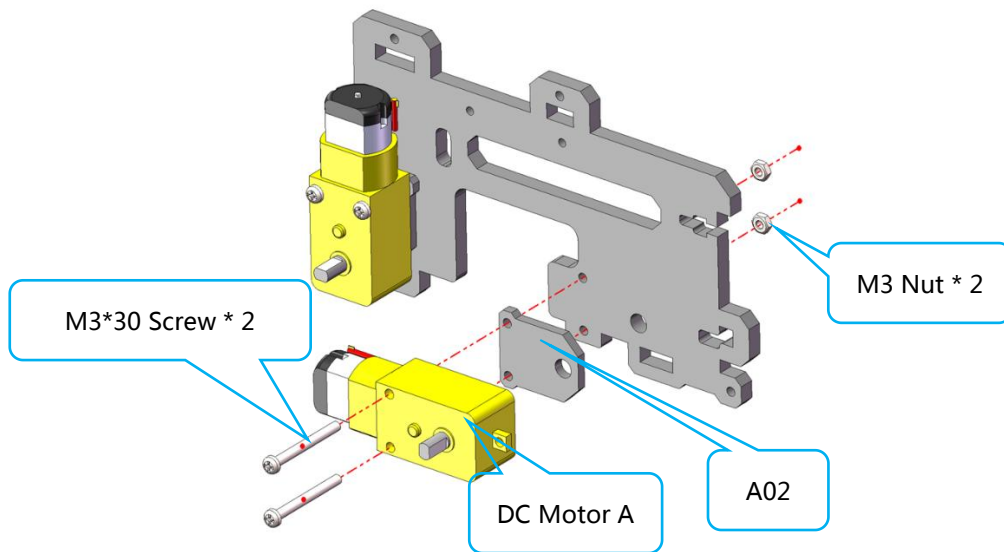
**NOTE:** The motors in this kit are divided into two types with opposite polarities; during installation, please be sure to distinguish their polarities.



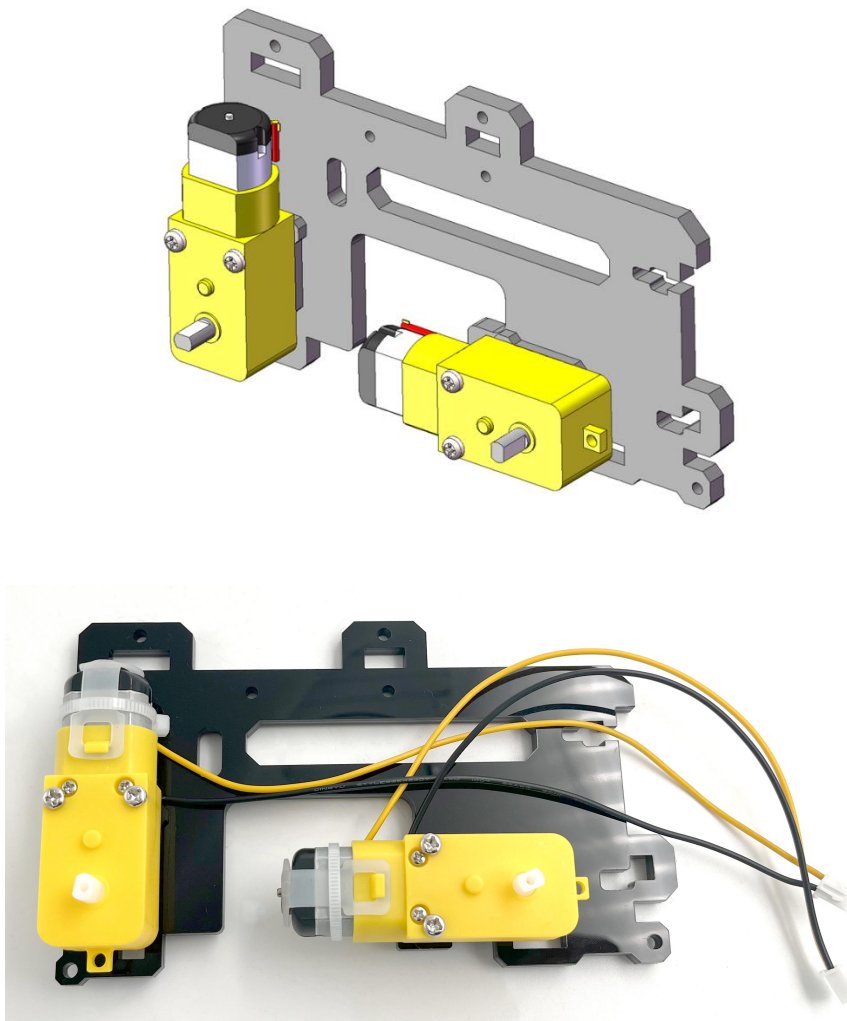
After Assembly:



Assemble the following components:

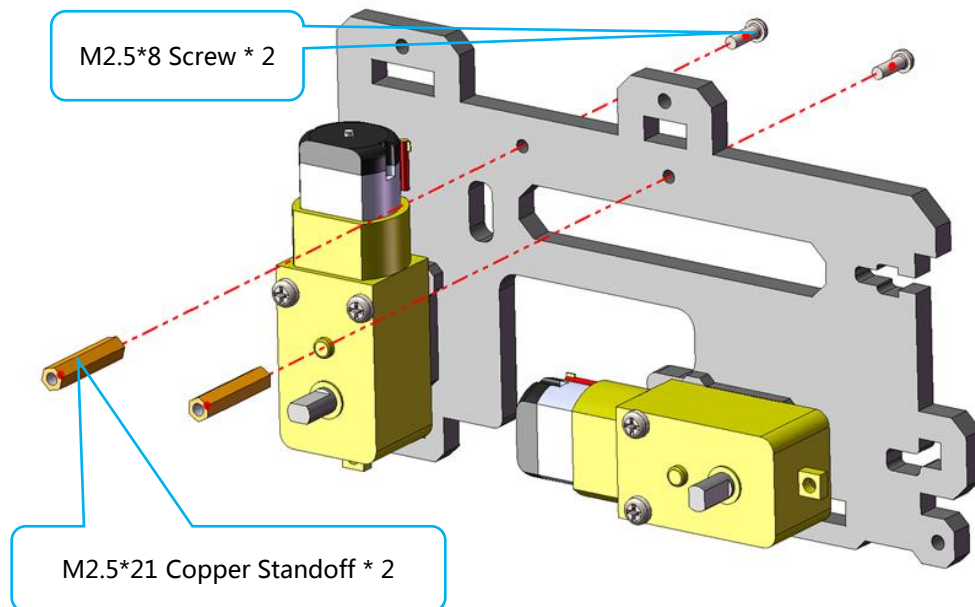


After Assembly:

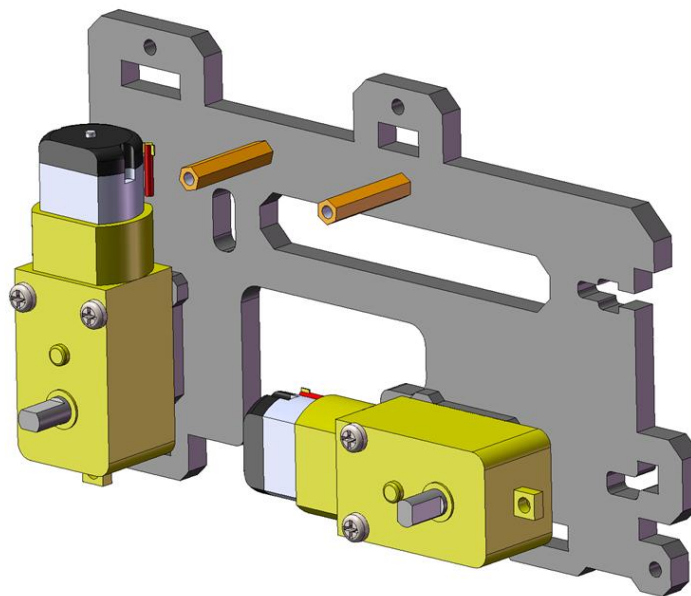


2. Use two **M2.5\*8 Screws** to fix two **M2.5\*21 Copper Standoffs** to part **A01**.

Assemble the following components:

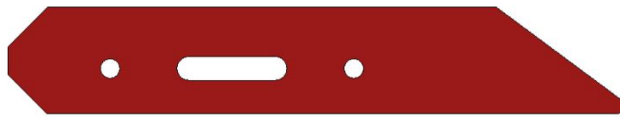


After Assembly:

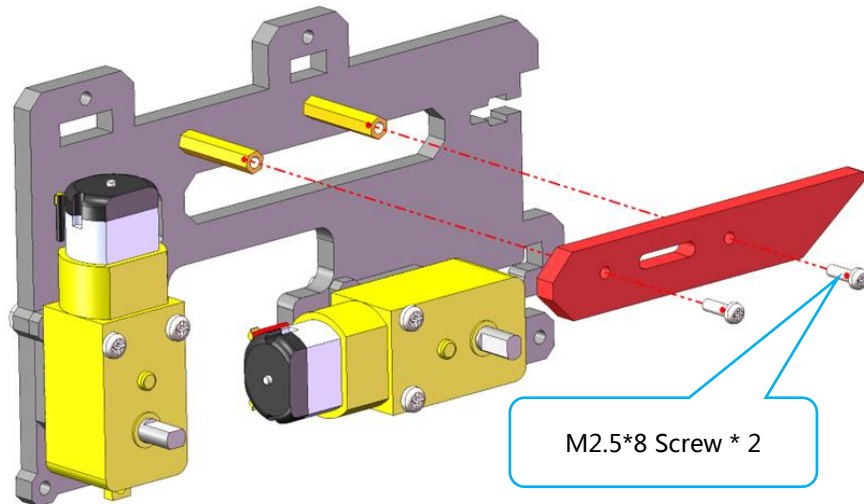


3. Fix the part **B01** to part **A01** with two **M2.5\*8 Screws**. (For ease of distinction, we can name the assembled components as NO.1).

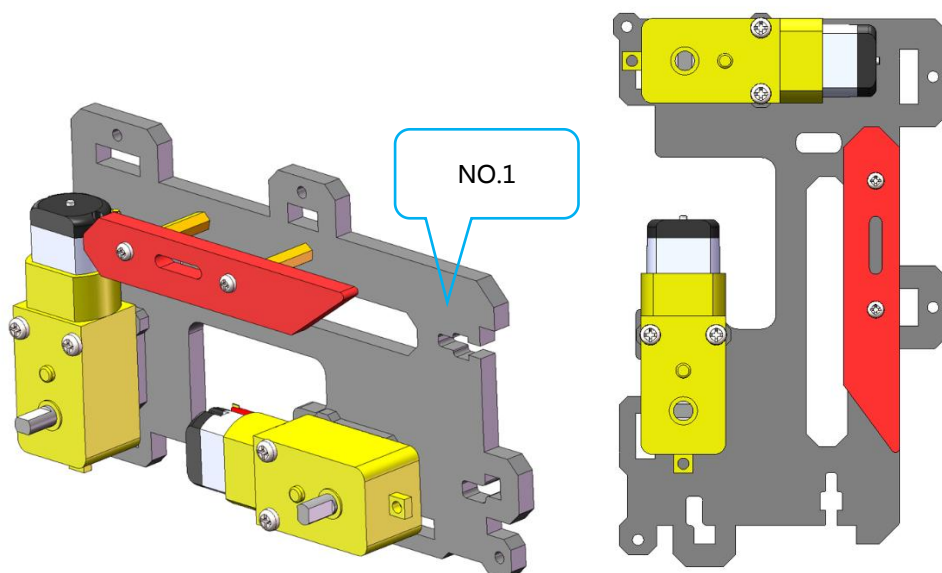
B01

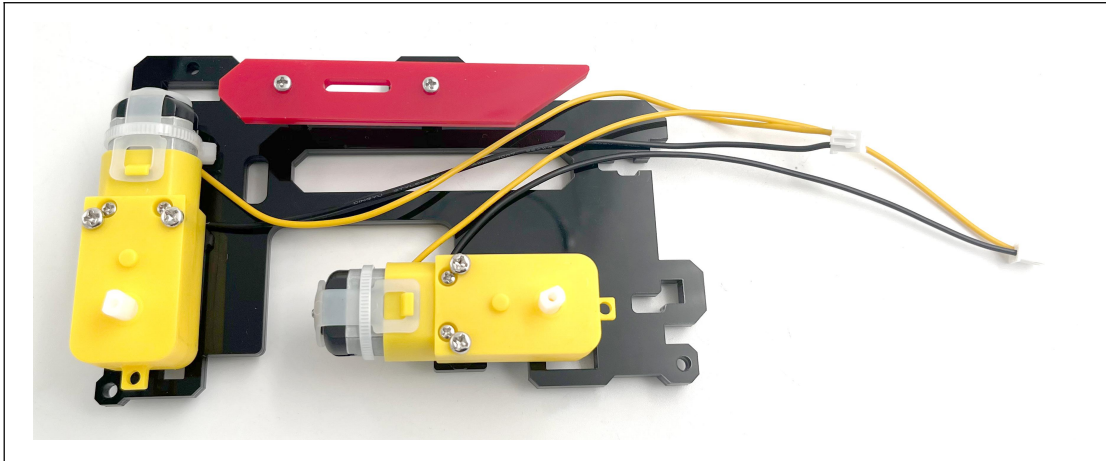


Assemble the following components:



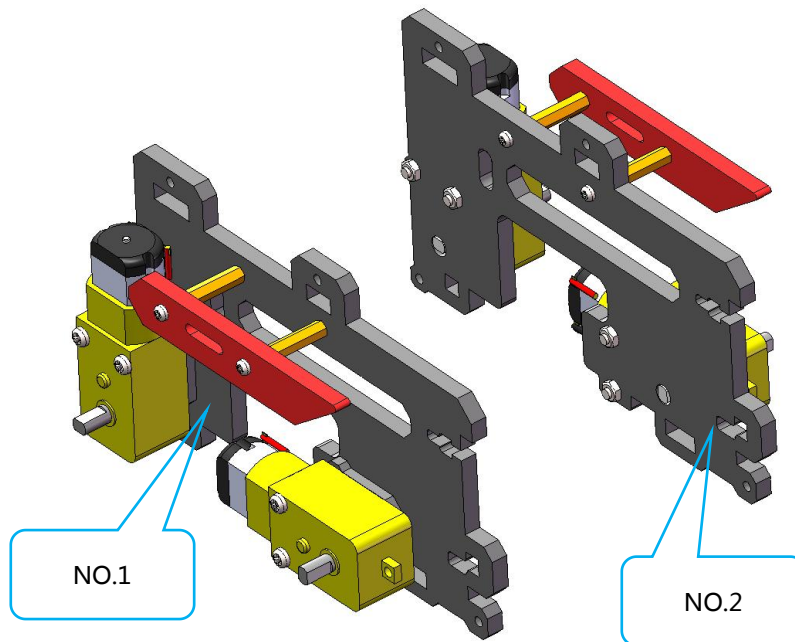
After Assembly:



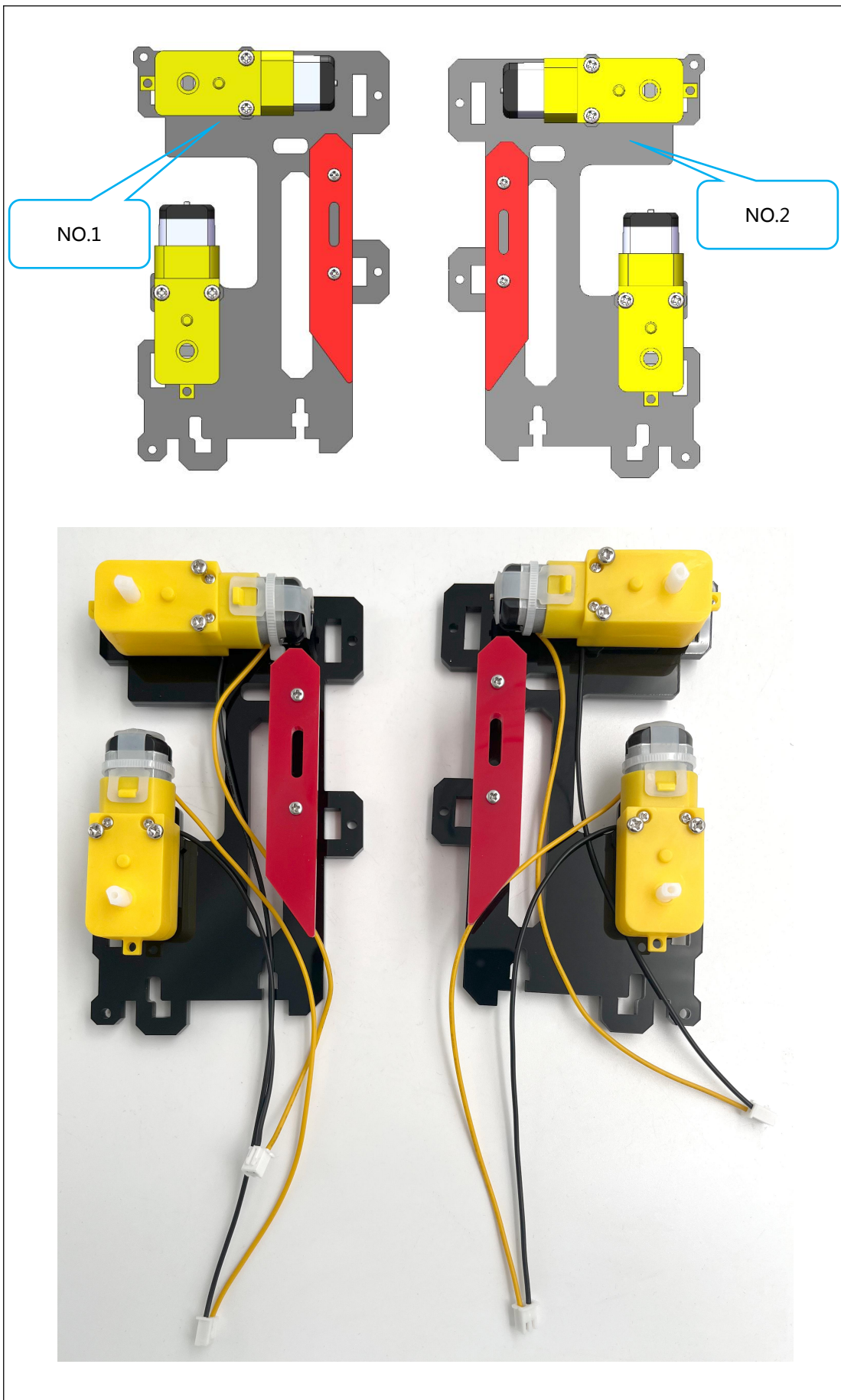


4. Using the same method, install the parts on another A01 component.( For ease of distinction, we can name the assembled components as NO.2) These sets of parts should be installed separately on the opposite sides of their respective A01 components.

After Assembly:







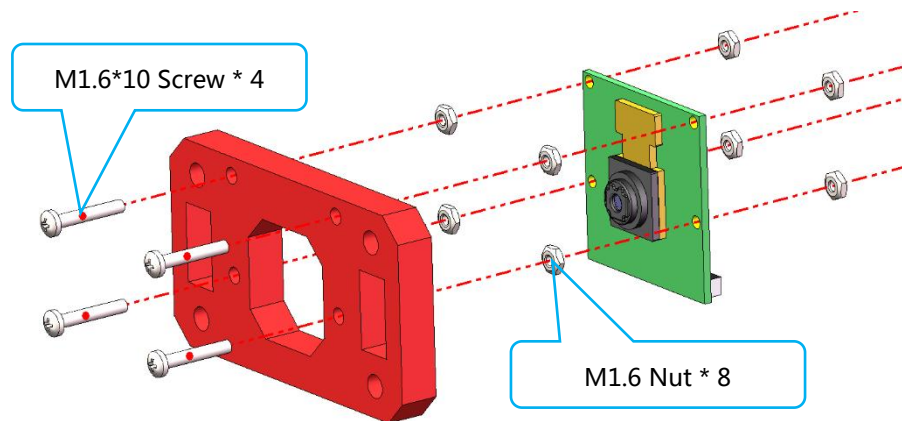


5. Fix the **Camera Module** to part **B02** with four **M1.6\*10 Screws** and eight **M1.6**

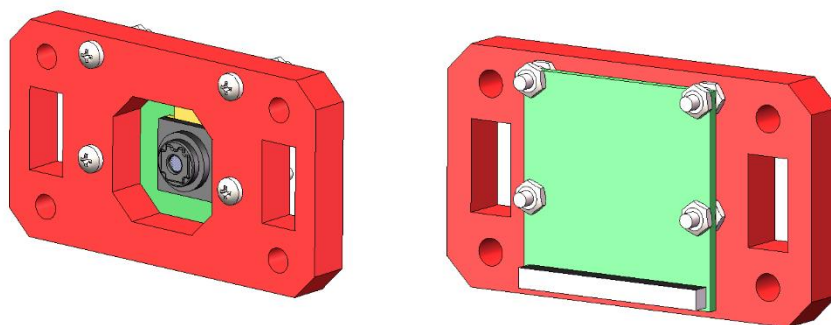
**Nuts.**

B02	
Camera Module	

Assemble the following components:(Don't tighten the screws too much)



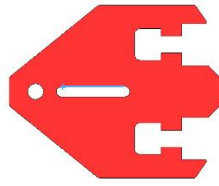
After Assembly:



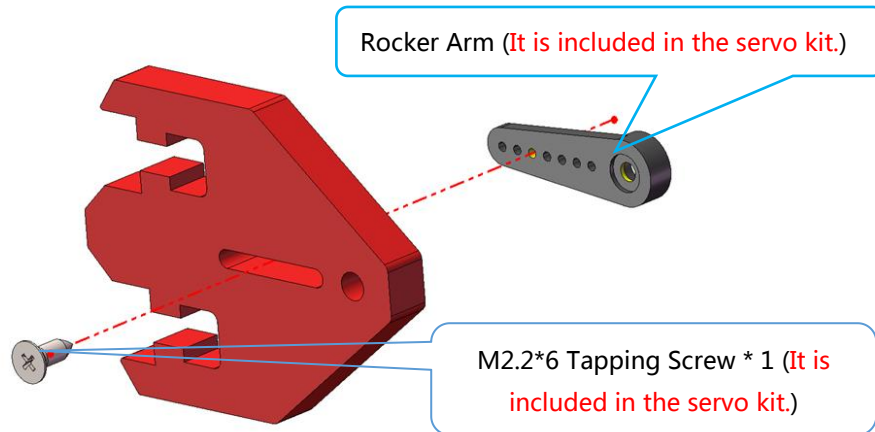
6. Fix the **Rocker Arm** to part **B03** with an **M2.2\*6 Tapping Screw**.



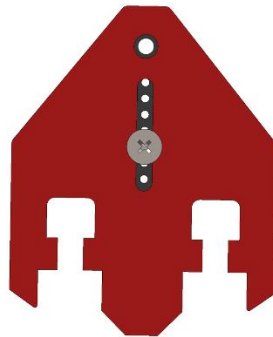
B03



Assemble the following components:

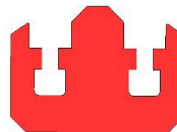


After Assembly:

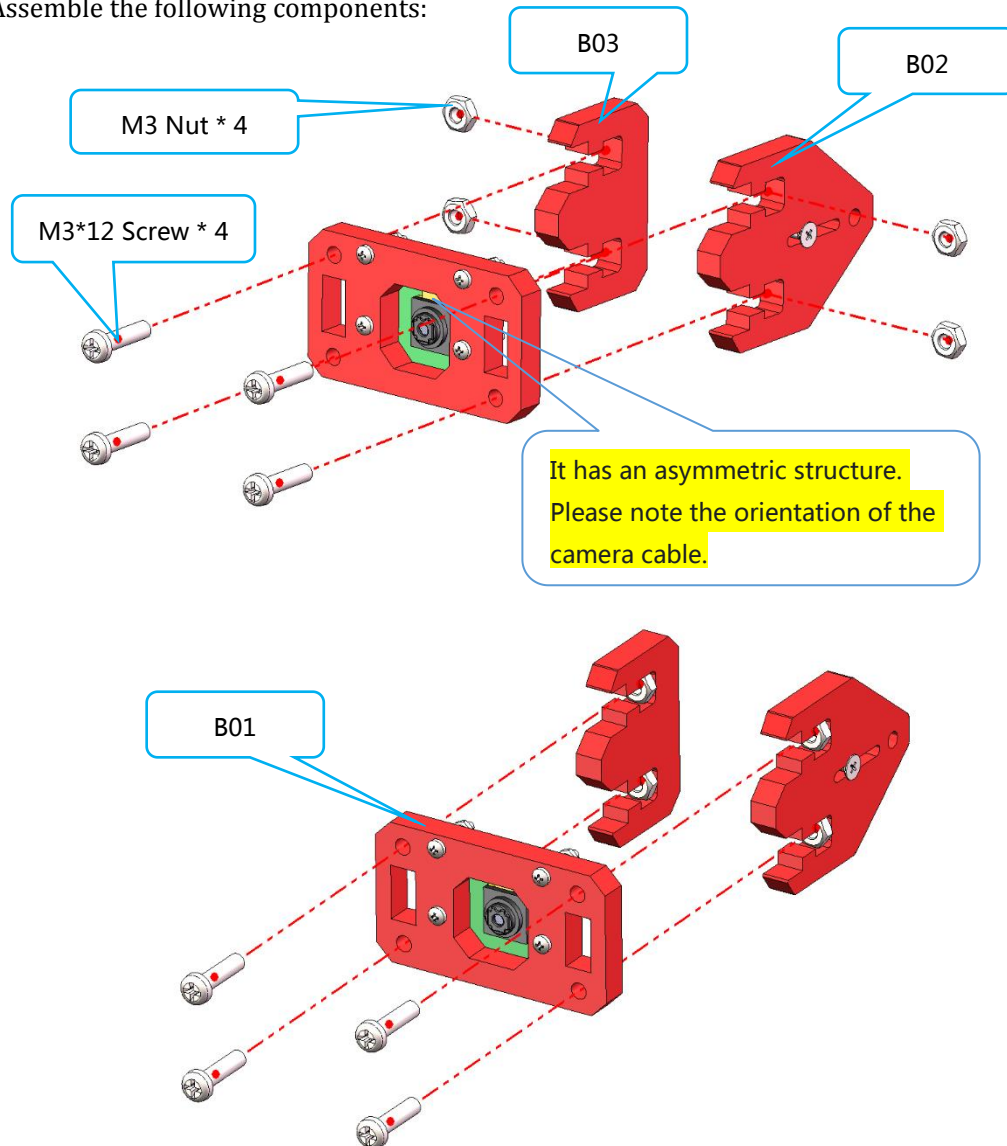


7. First, snap part **B02** and part **B03** into the corresponding slots of assembled part **B01** respectively, then use four **M3\*12 Screws** and four **M3 Nuts** to fix them.

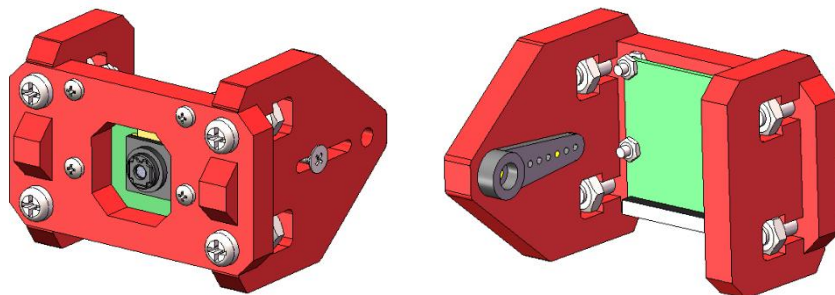
B03



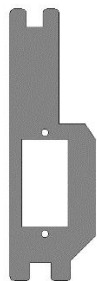

Assemble the following components:



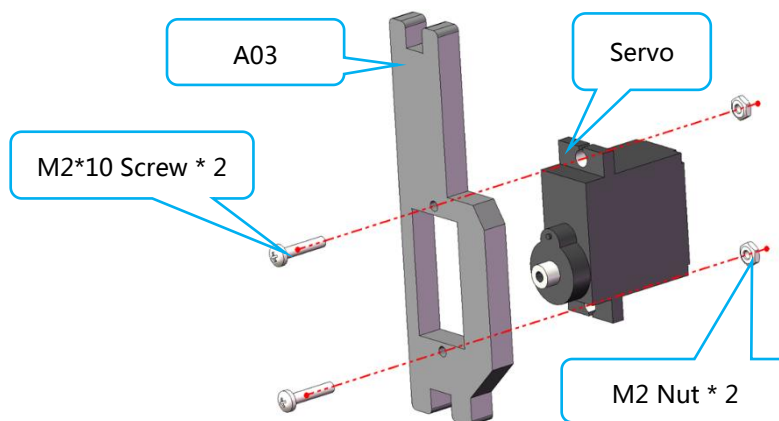
After Assembly:



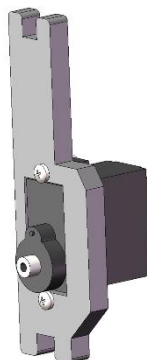
8. Use two **M2\*10 Screws** and two **M2 Nuts** to assemble the **Servo** to part **A03**.

A03	
Servo	

Assemble the following components:

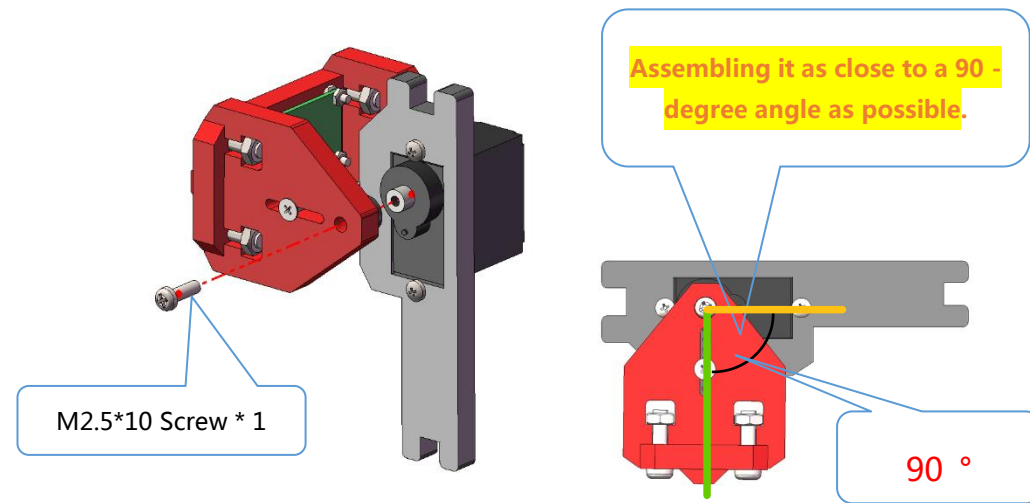


After Assembly:

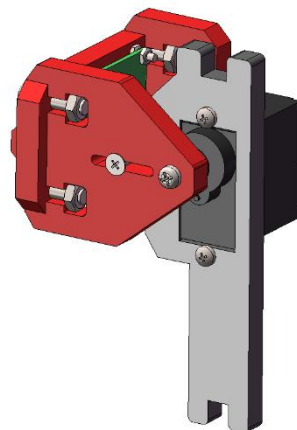


9. Connect part **A03** and part **B02** together using an **M2.5\*10 Screw**.


Assemble the following components:



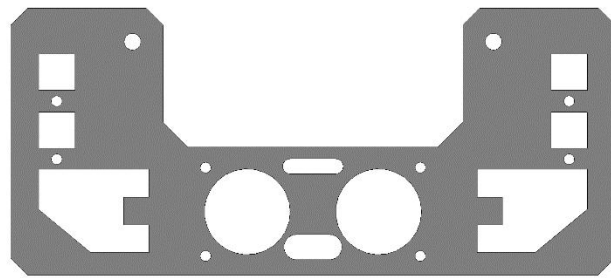
After Assembly:



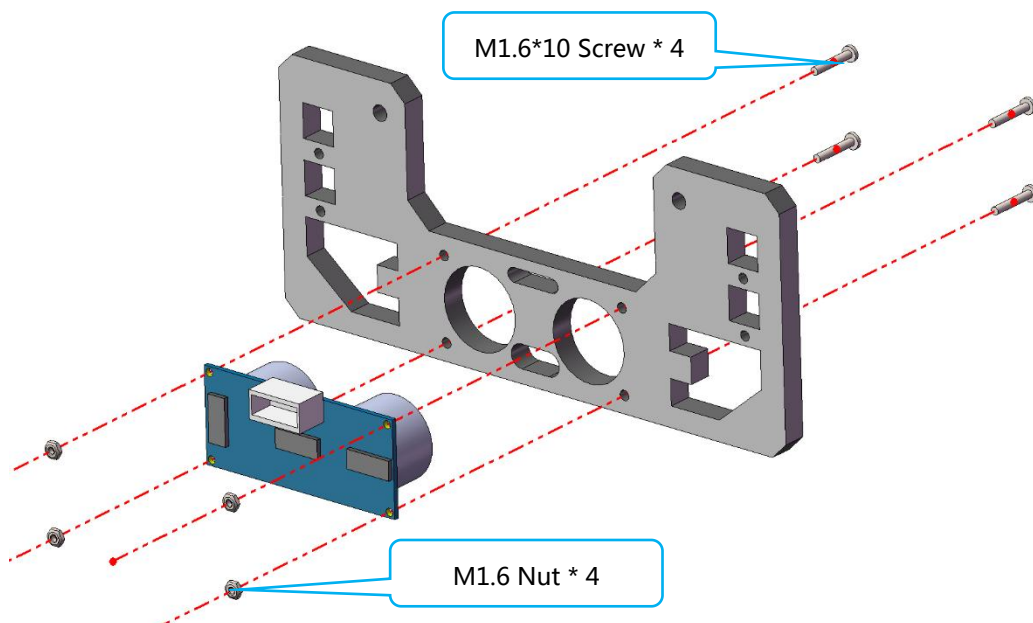
10. Use four **M1.6\*10 Screws** and four **M1.6 Nuts** to fix the **Ultrasonic Module** to part **A04**.

Ultrasonic Module	
-------------------	--

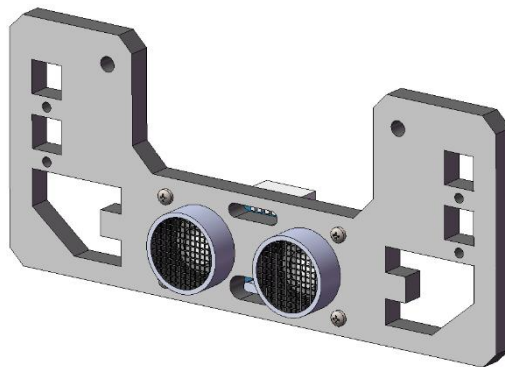
A04



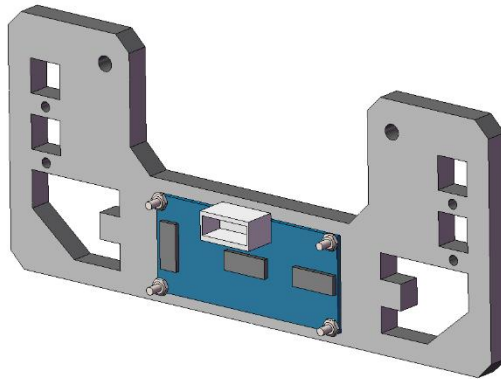
Assemble the following components: (Don't tighten the screws too much)



After Assembly:

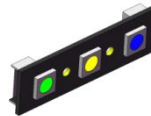




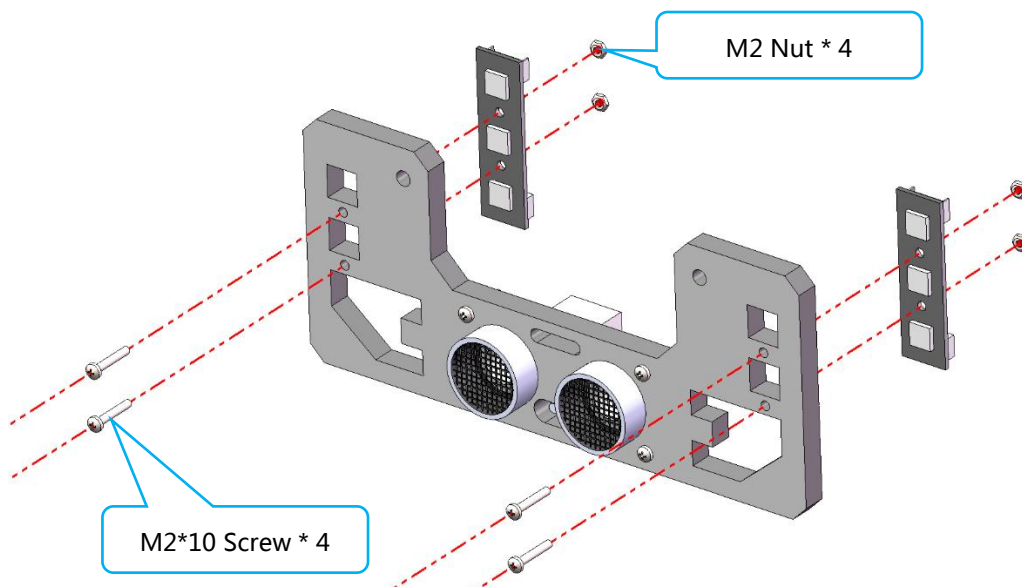


11. Fix two **WS2812 RGB LED** to part **A04** with four **M2\*10 Screws** and four **M2 Nuts**.

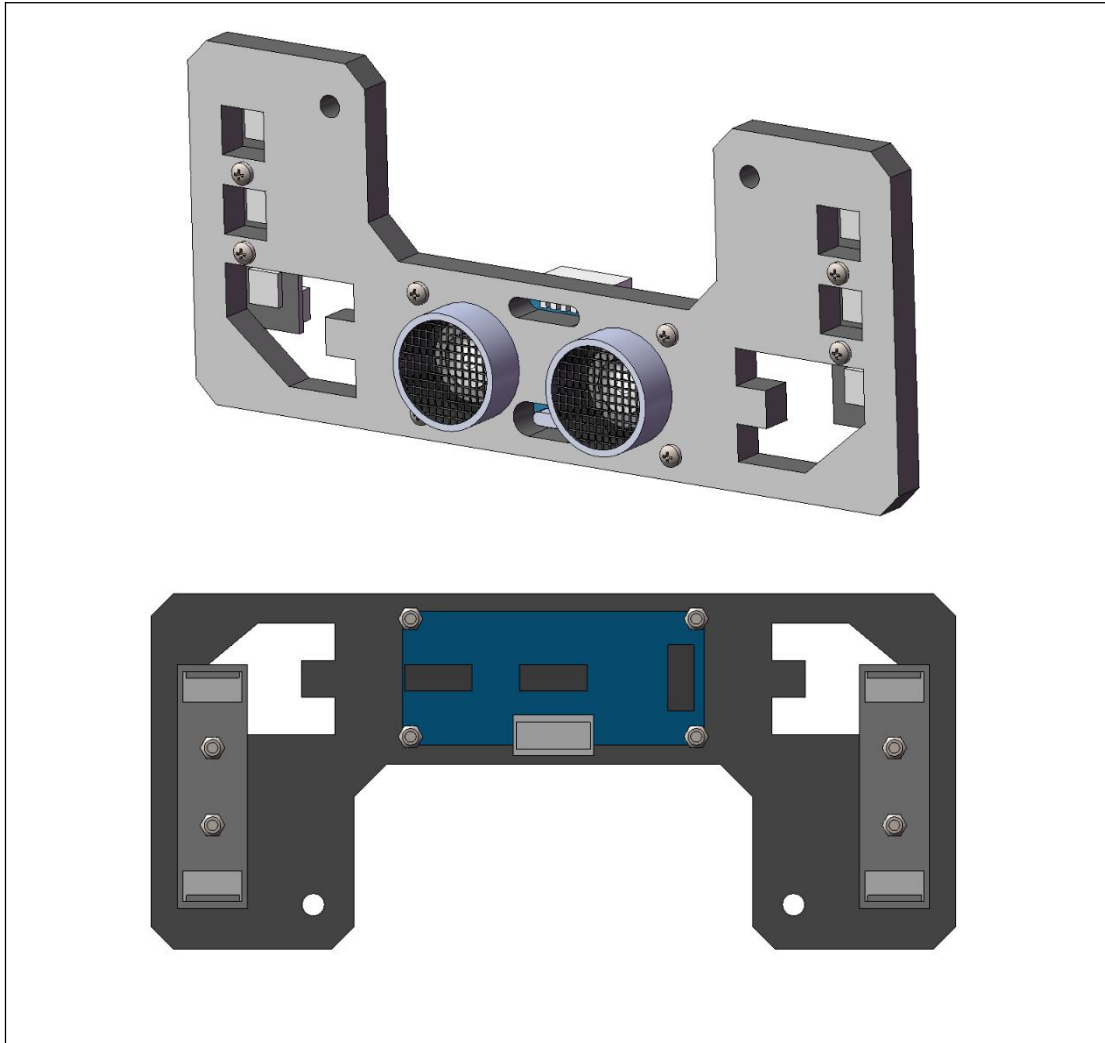
WS2812 RGB LED



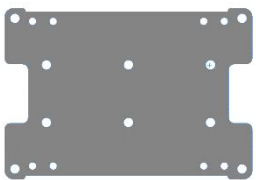

Assemble the following components:(Don't tighten the screws too much)

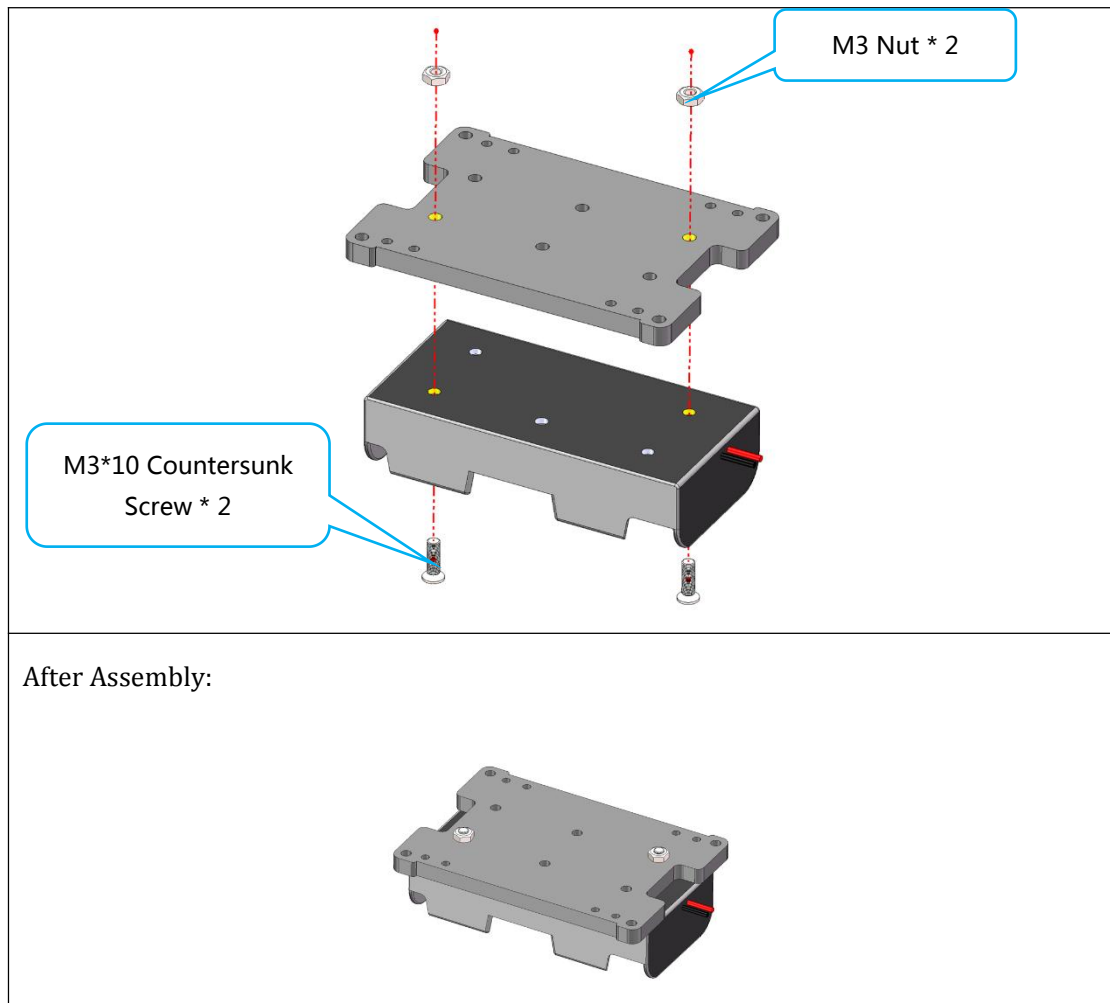


After Assembly:

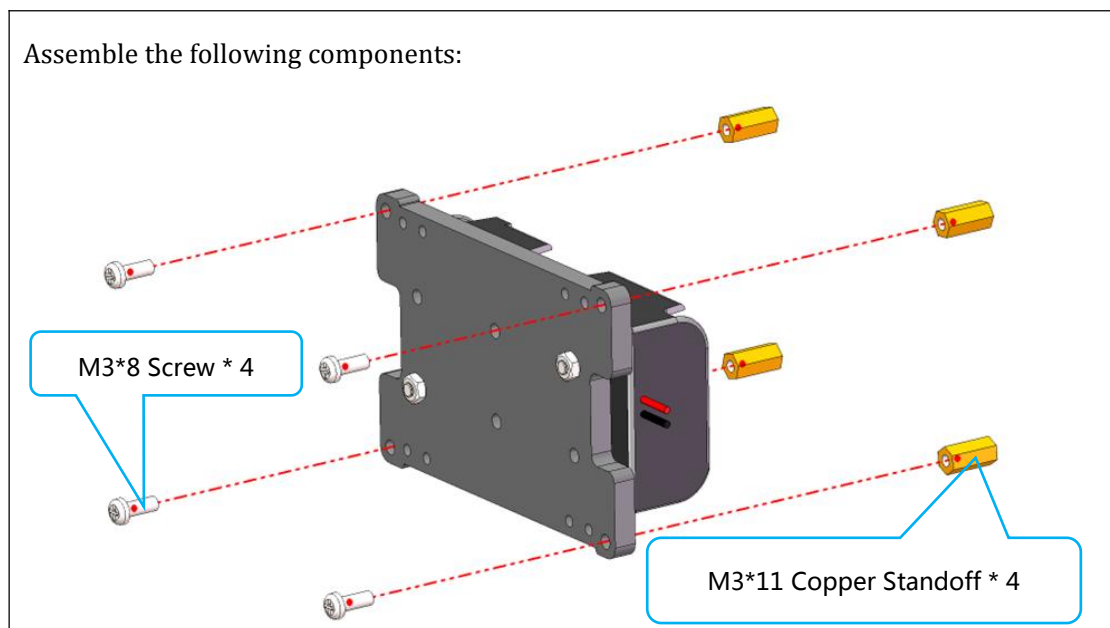


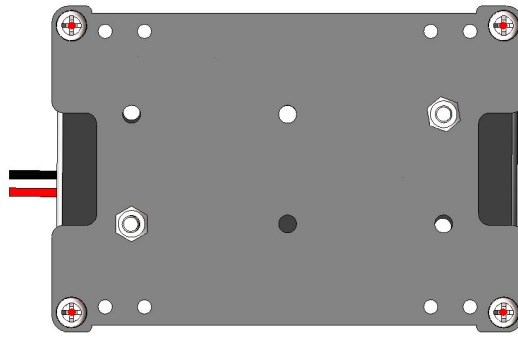
12. Fix the **18650 Battery Holder** to part **A05** with two **M3\*10 Countersunk Screws** and two **M3 Nuts**.

A05	
18650 Battery Holder	
Assemble the following components:	

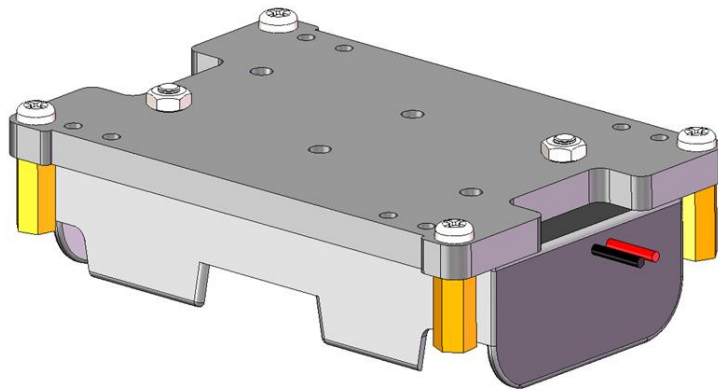


13. Use four **M3\*8 Screws** to fix four **M3\*11 Copper Standoffs** to part **A05**.



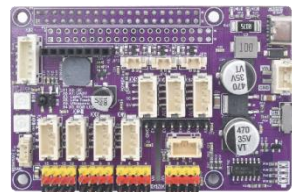


After Assembly:

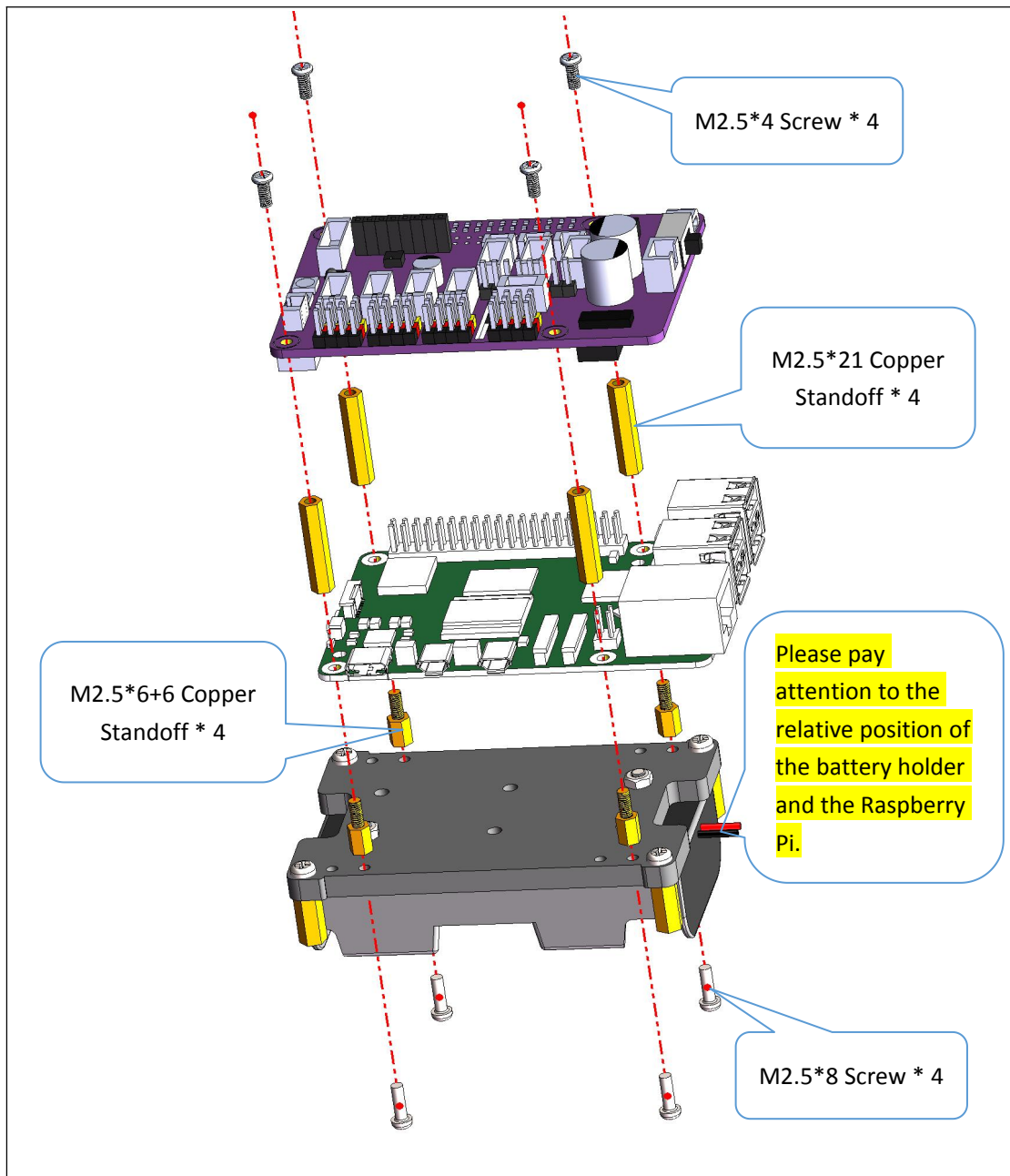


14. Fix the **Adept Robot HAT V3.2** to the **Raspberry Pi Board** (which is not included in this kit, you need to purchase it separately) using four **M2.5\*21 Copper Standoffs**, four **M2.5\*6+6 Copper Standoffs**, four **M2.5\*4 Screws**, and four **M2.5\*8 Screws**. (NOTE: Don't forget to plug the camera cable into the corresponding slot on the Raspberry Pi board!!!)

Adept Robot HAT V3.2

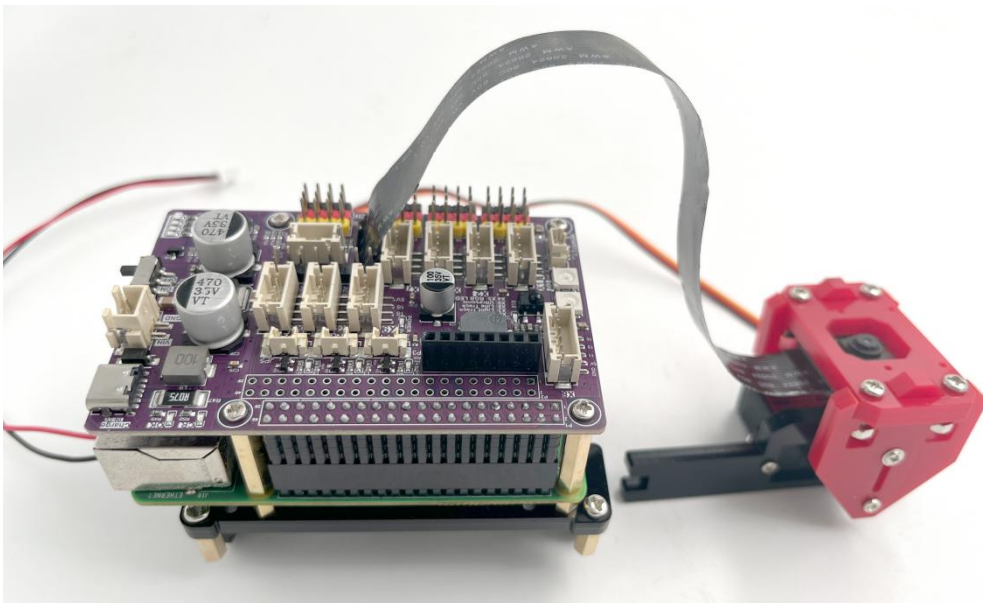
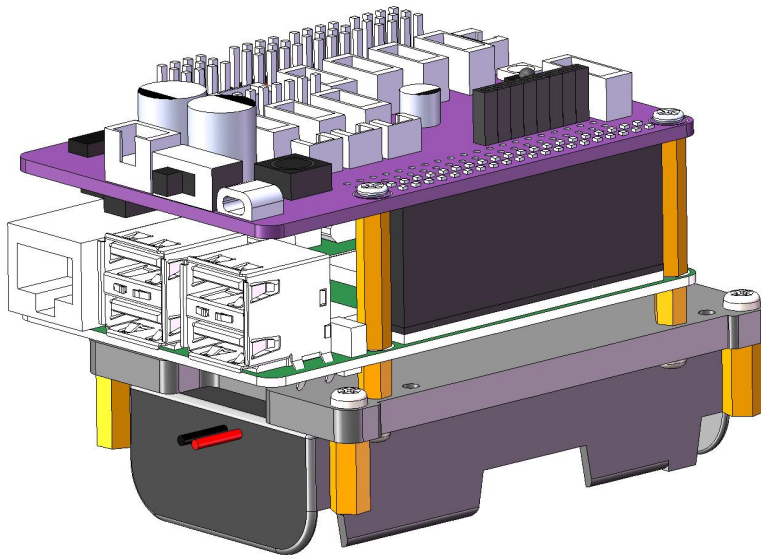
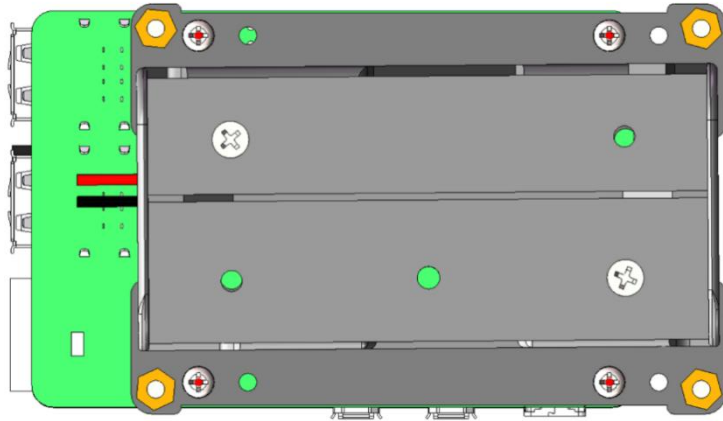


Assemble the following components:



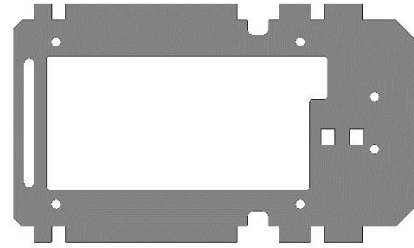


After Assembly:

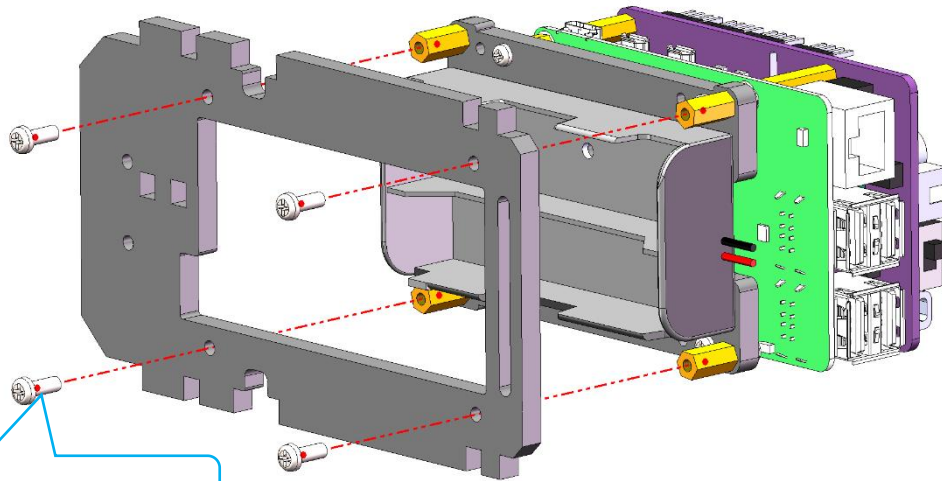


15. Use four **M3\*8 Screws** to fix part **A06** to assembled part **A05**.

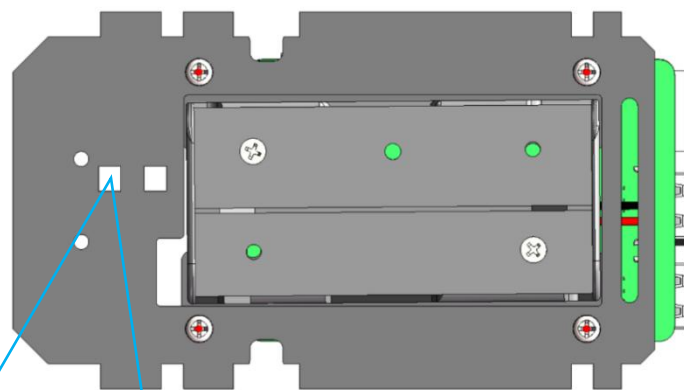
A06



Assemble the following components:

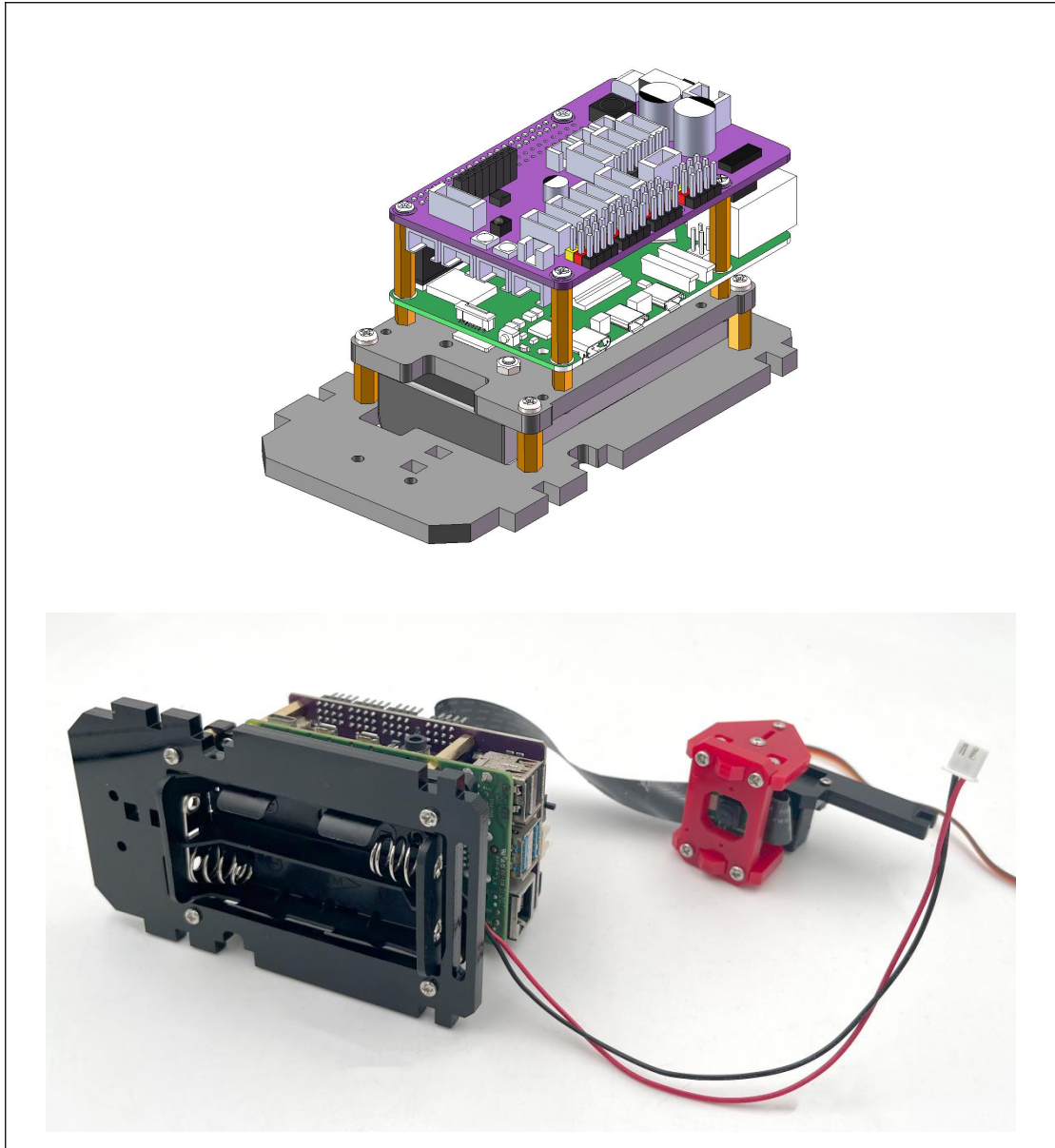


M3\*8 Screw \* 4



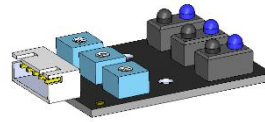
It has an asymmetric structure. Please pay attention to the relative position between the jack and the Raspberry Pi.

After Assembly:

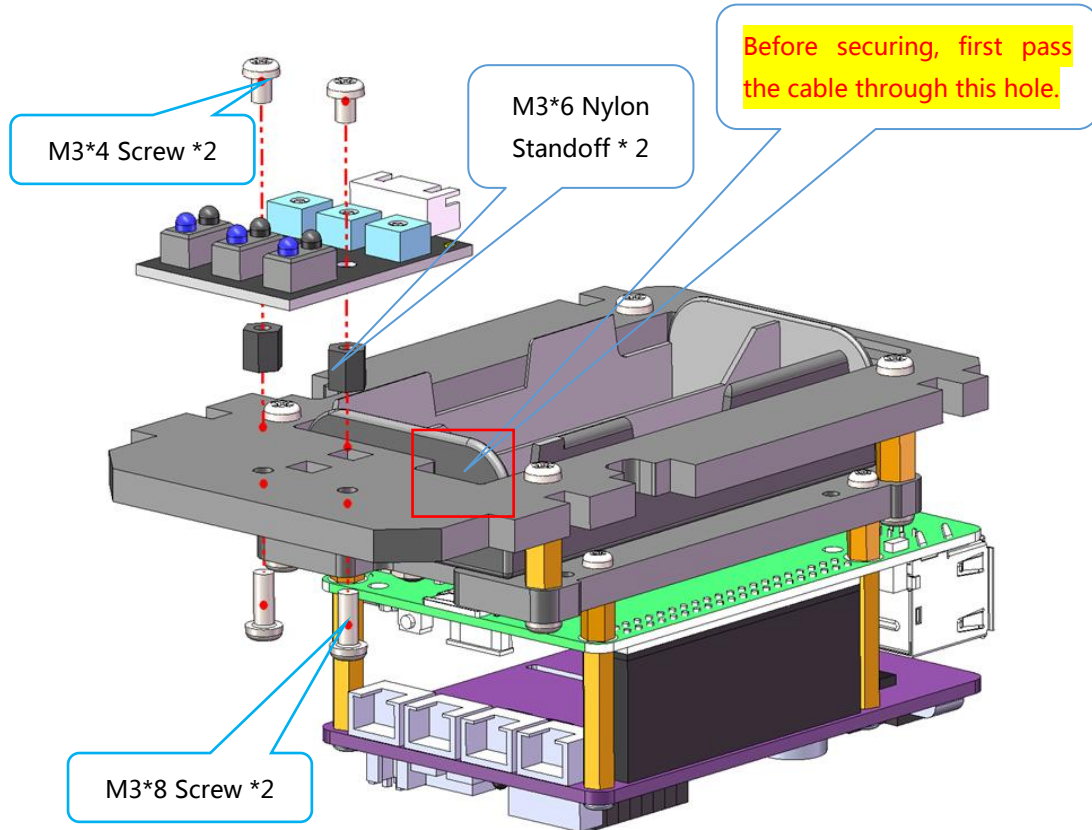


16. Use two **M3\*8 Screws**, two **M3\*4 Screws** and two **M3\*6 Nylon Standoffs** to fix the **3-CH Line Tracking Module** to part **A06**.

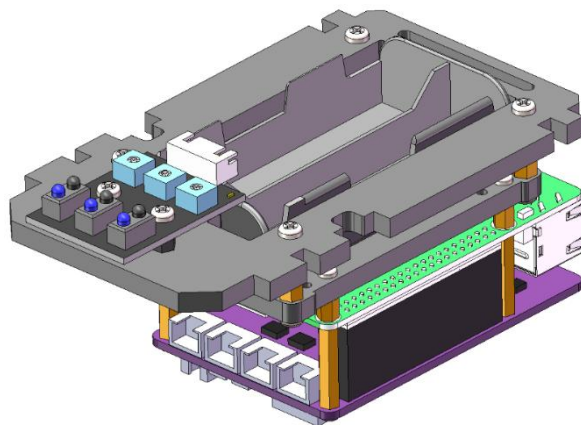
### 3-CH Line Tracking Module



Assemble the following components:

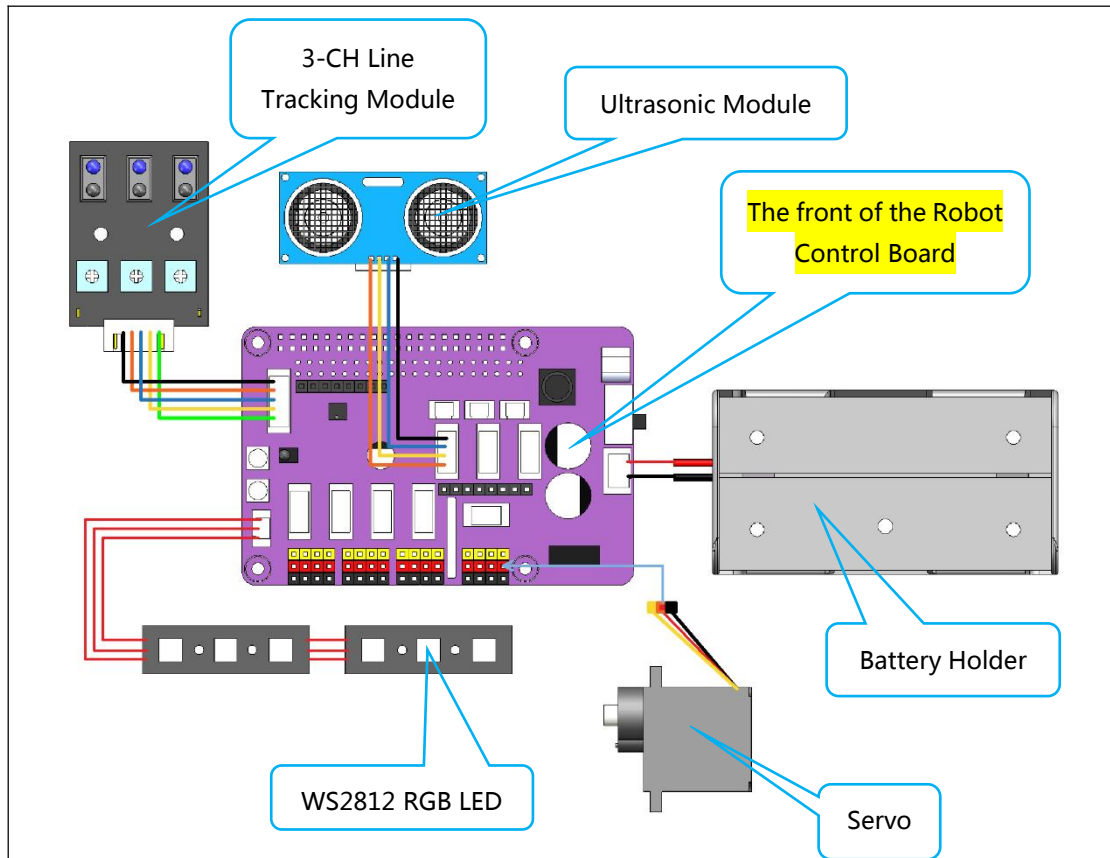


After Assembly:

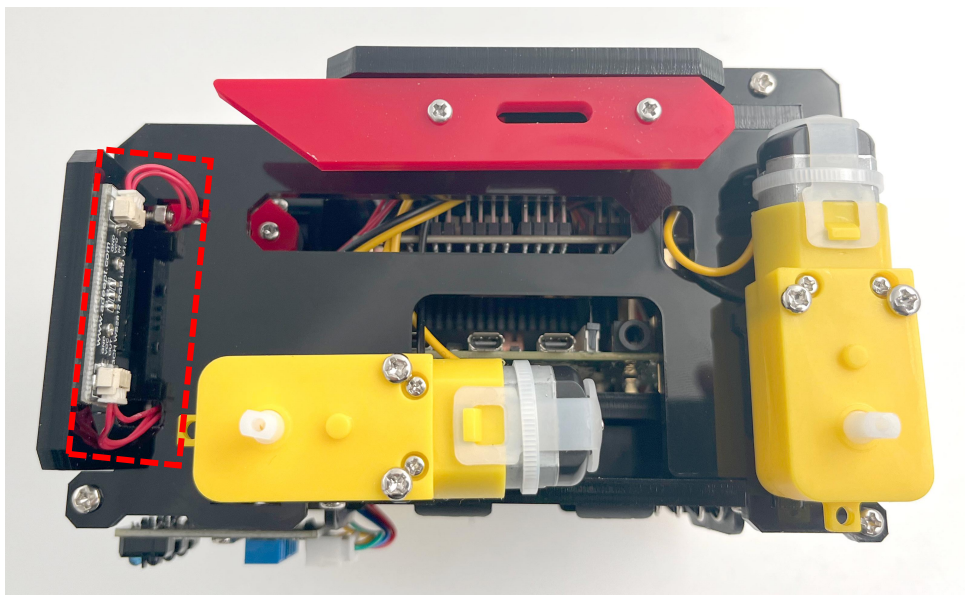


## 6.2 Connect the Circuits of Modules to the Adept HAT

1. Please connect the circuit correctly as shown in the following picture.

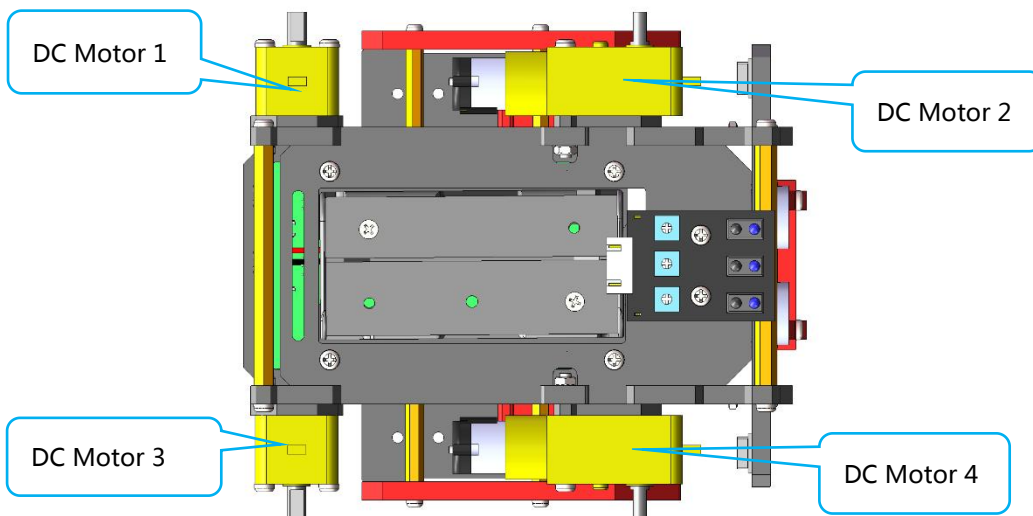
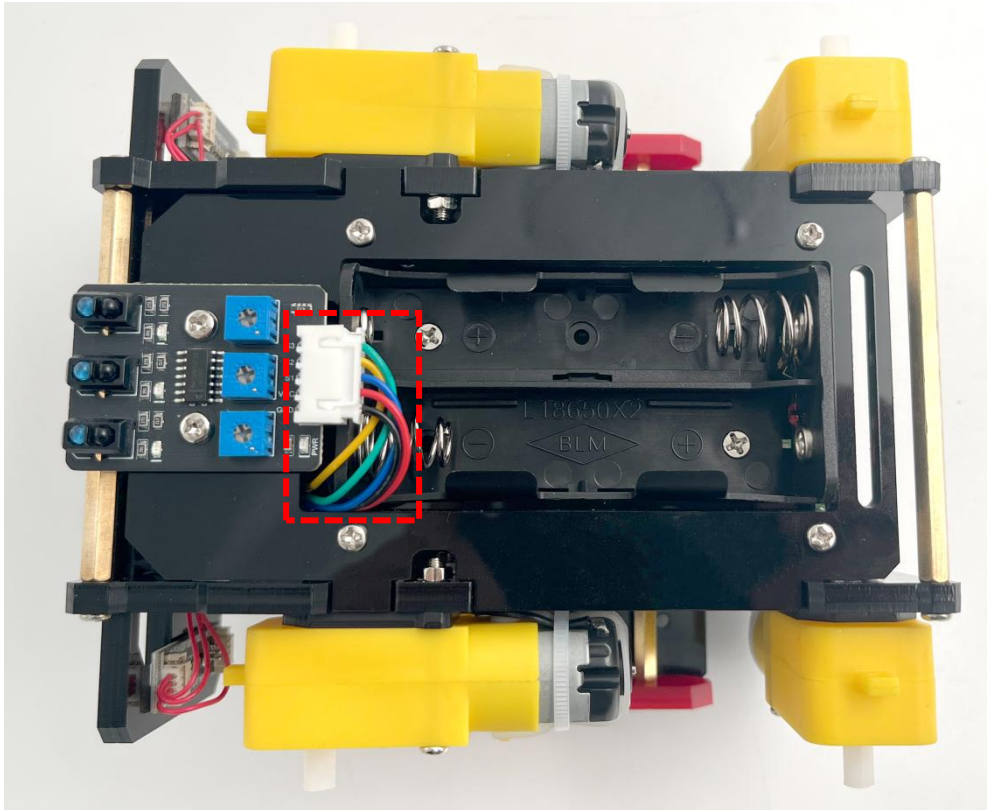


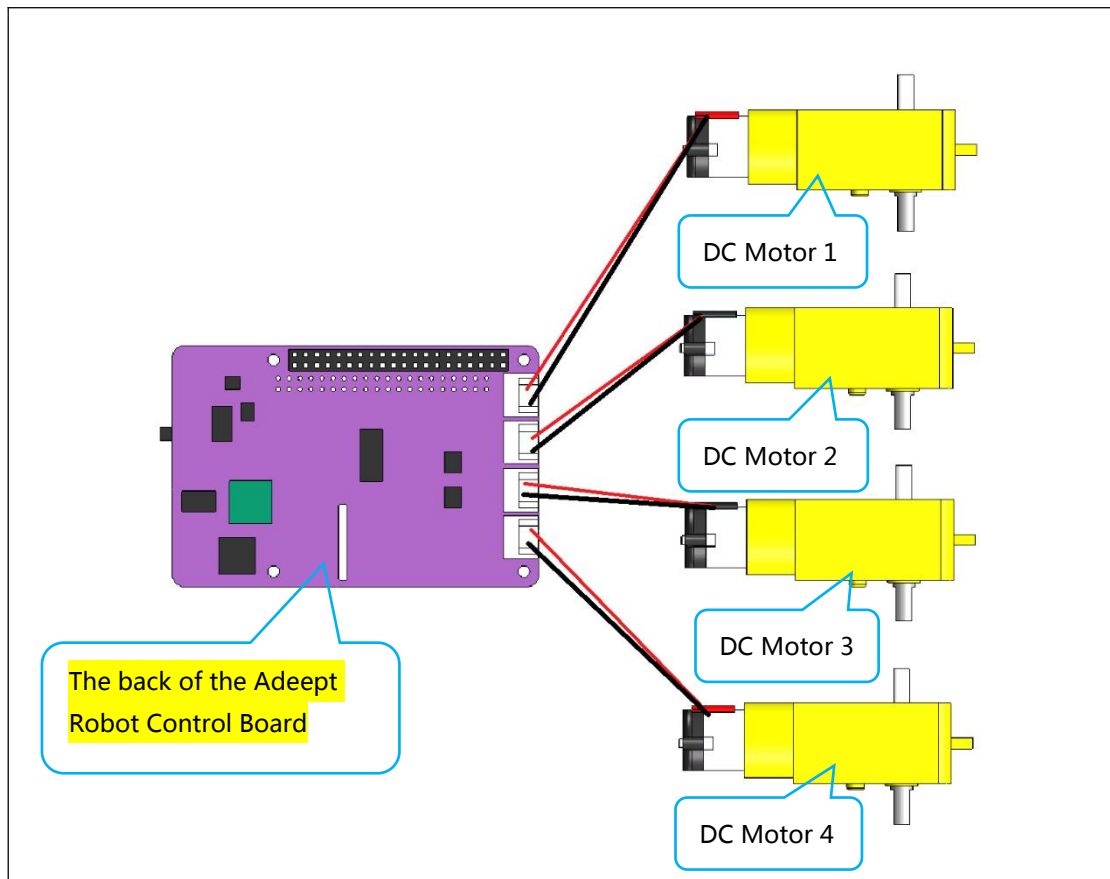
The wiring route of the WS2812 cable is as shown in the diagram below:



The wiring of the 3-CH Line Tracking Module is as shown in the diagram below:



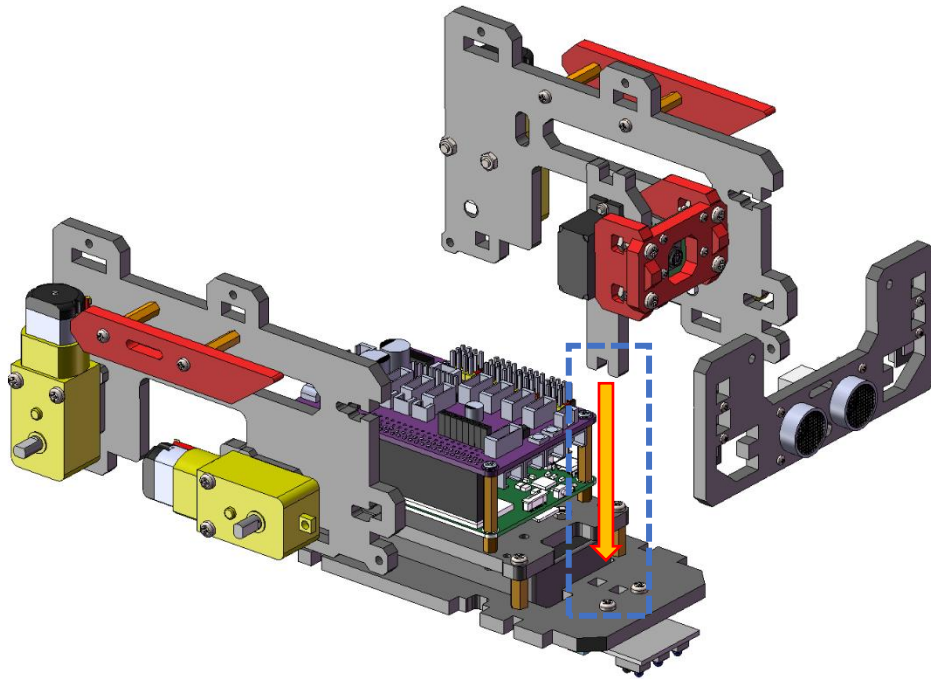




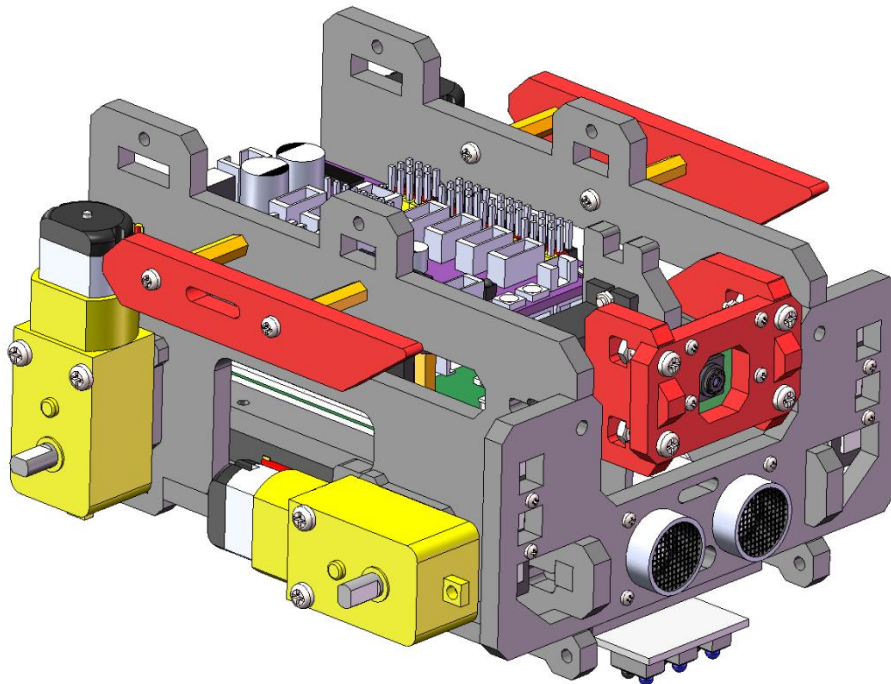
## 6.3 The Final Assembly of the Robot

1. Please refer to the diagram below to assemble the robot components put together in the previous steps.

Assemble the following components:

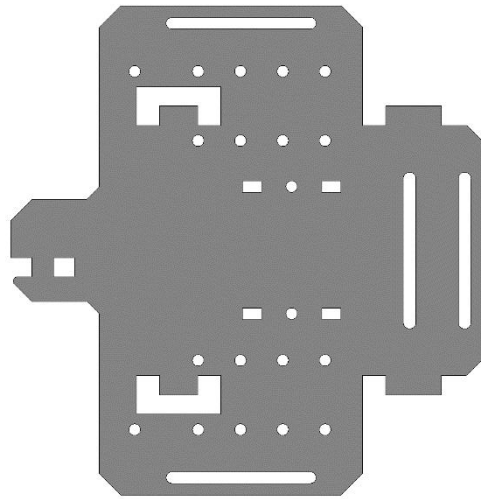


After Assembly:

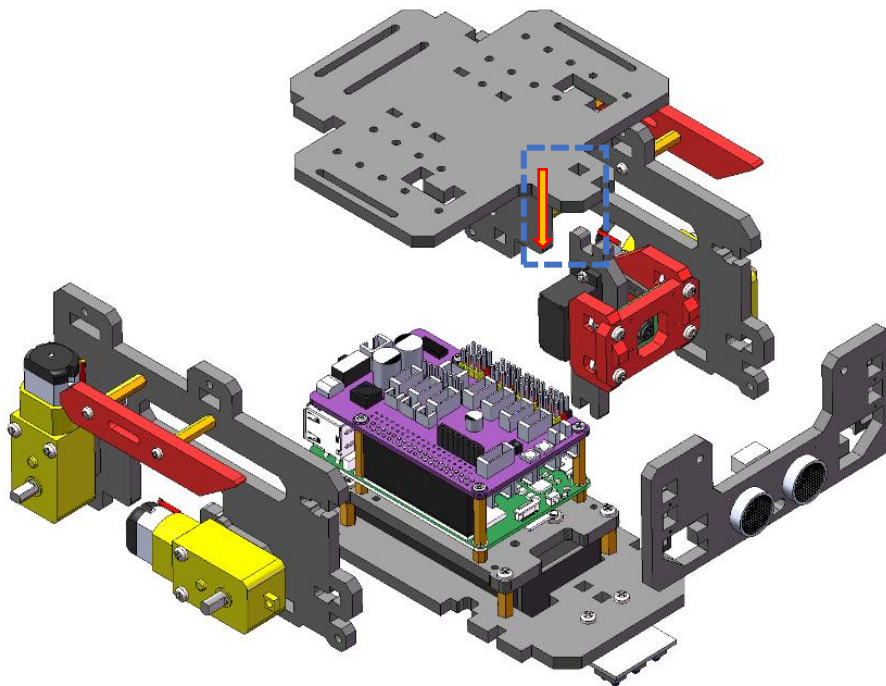


When assembling the top of the robot, pay attention to the corresponding positions of the slots.

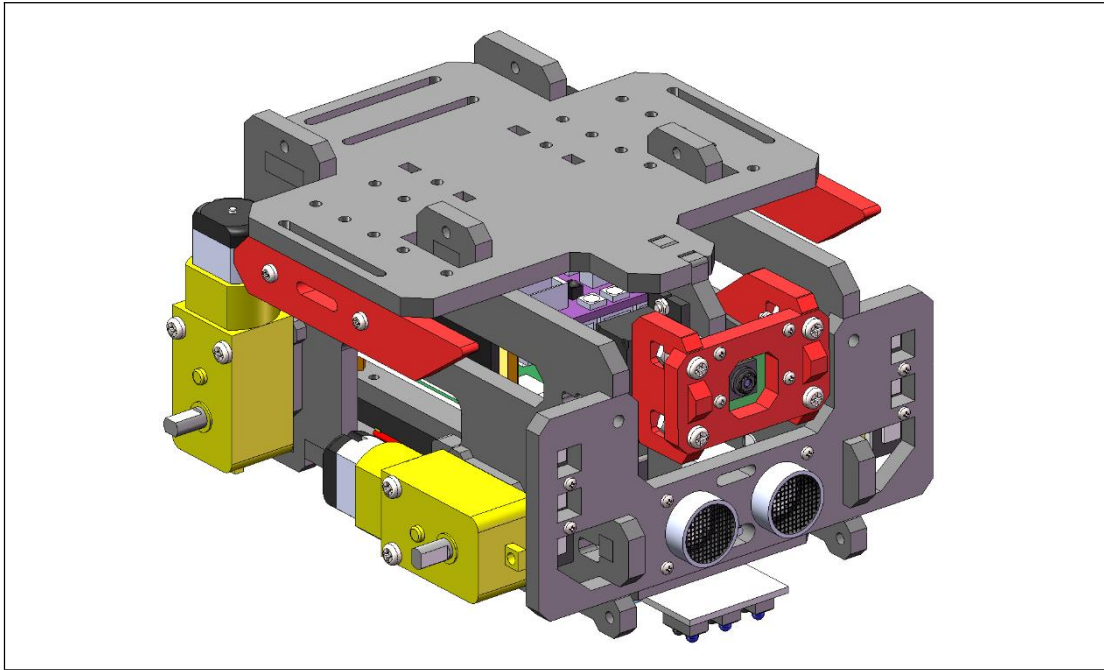
A07



Assemble the following components:

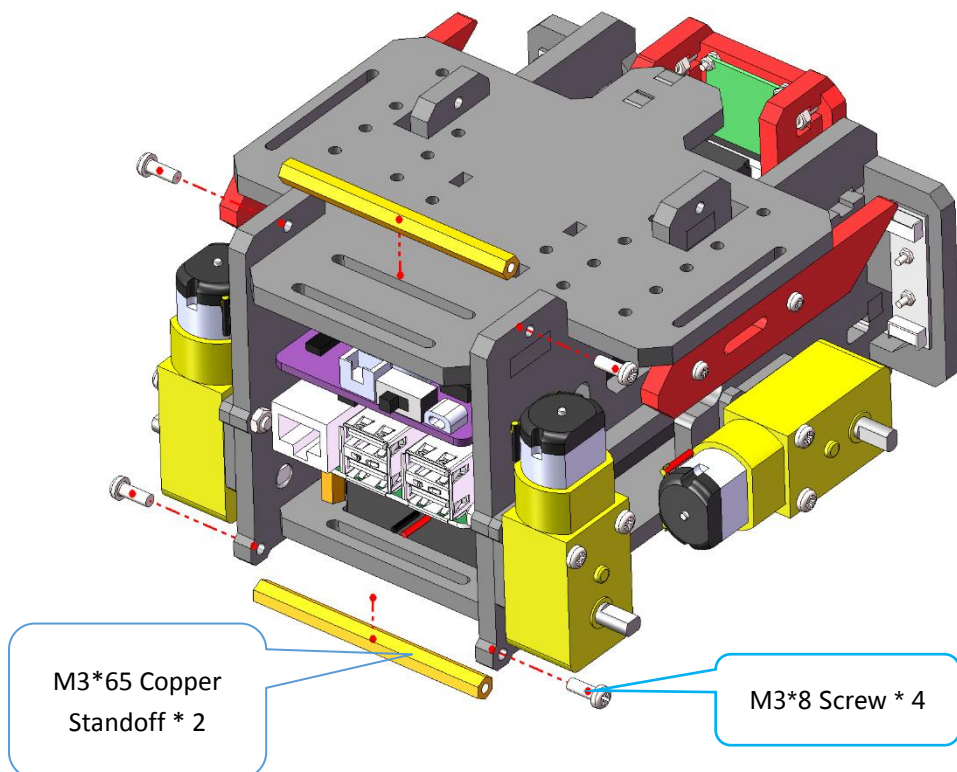


After Assembly:



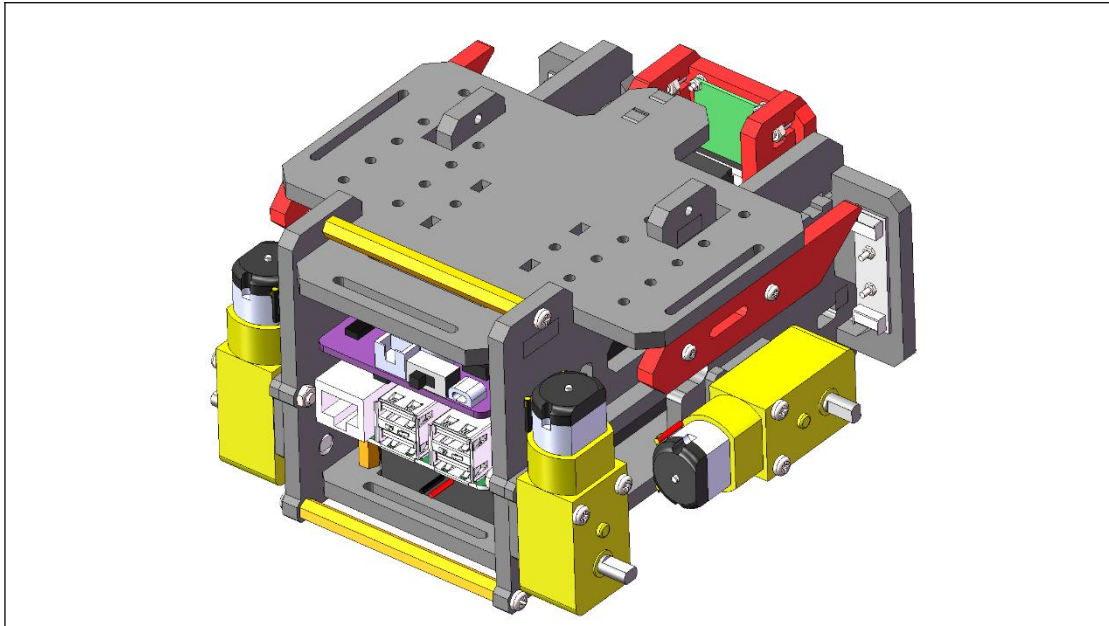
2. Fix the robot components with four **M3×8 Screws** and two **M3×65 Copper Standoffs**.

Assemble the following components:



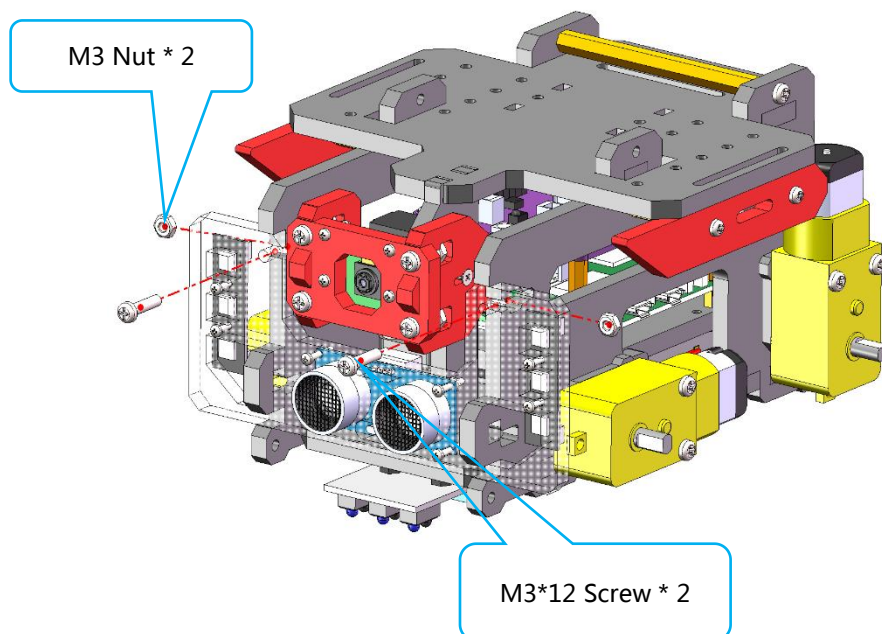
After Assembly:



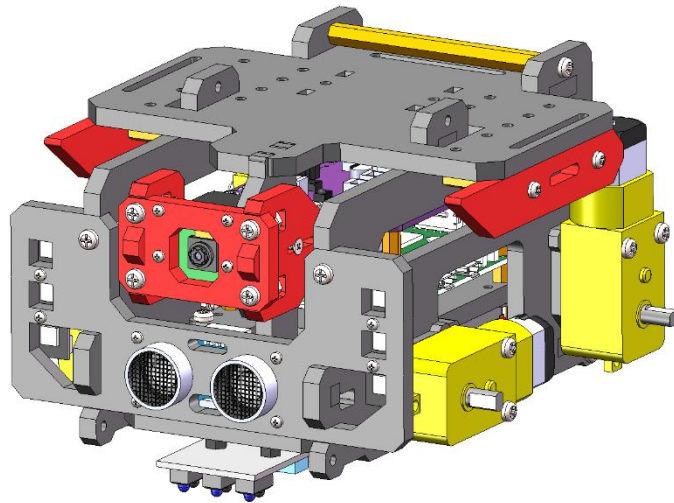


3. Fix the front part of the robot with two **M3\*12 Screws** and two **M3 Nuts**.

Assemble the following components:

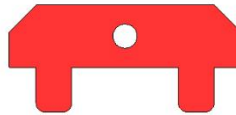


After Assembly:

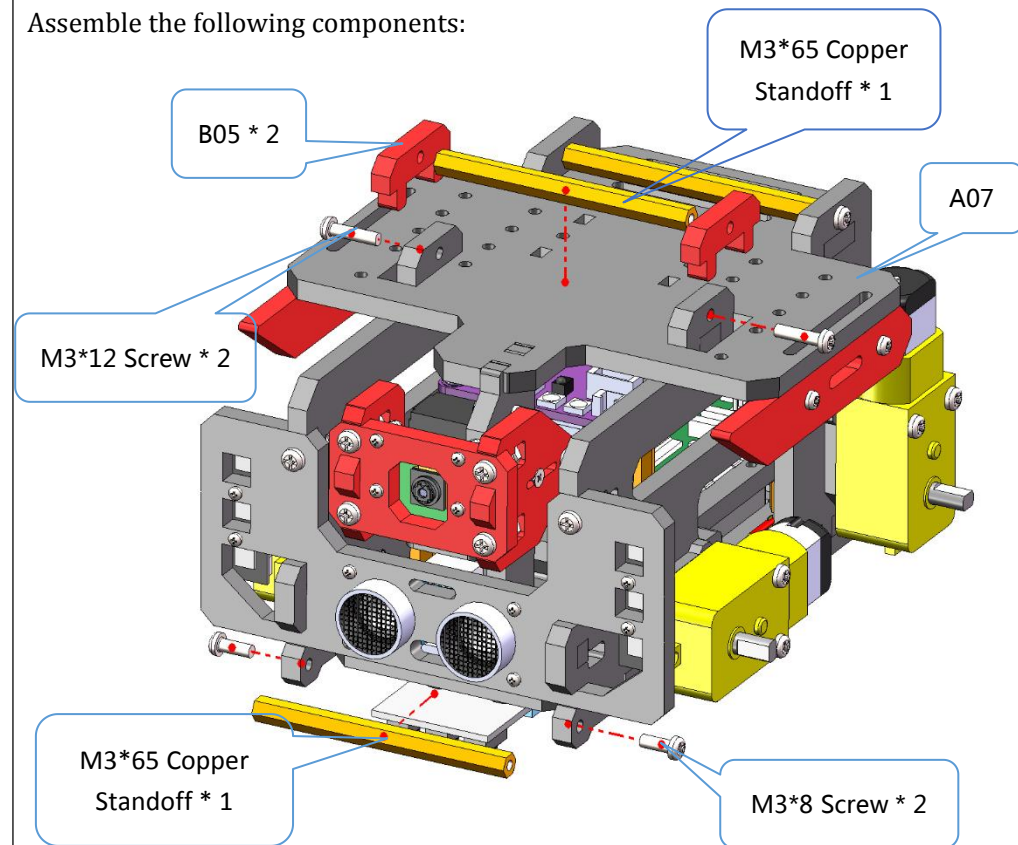


4. Fix the robot components with two **M3×8 Screws**, two **M3×12 Screws**, two **B05** parts and two **M3×65 Copper Standoffs**.

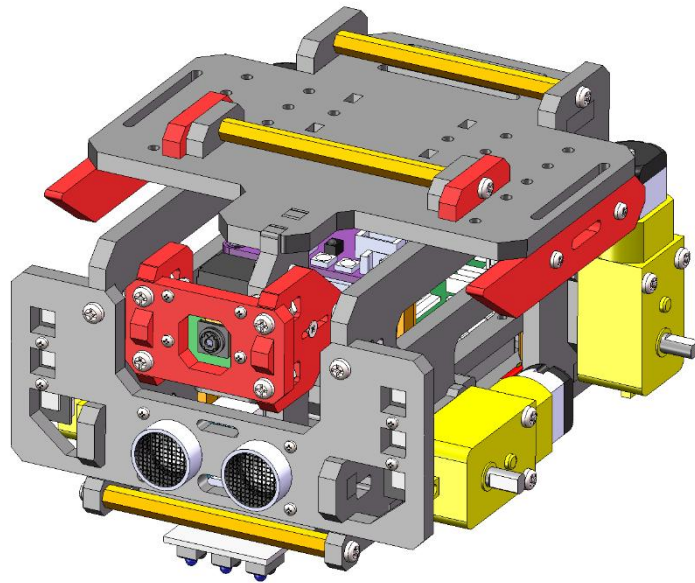
B05



Assemble the following components:



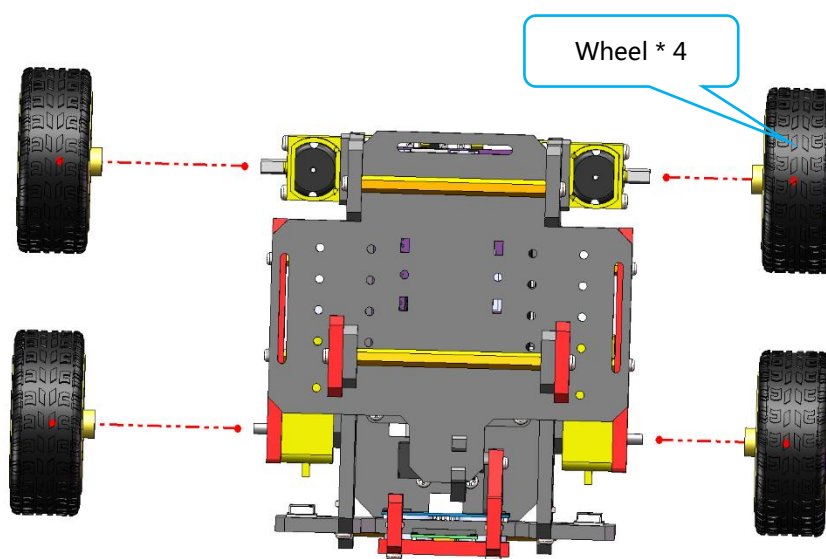
After Assembly:



5. Install four **Wheels** onto the motor shaft.

Wheel	
-------	---

Assemble the following components:



After Assembly:

