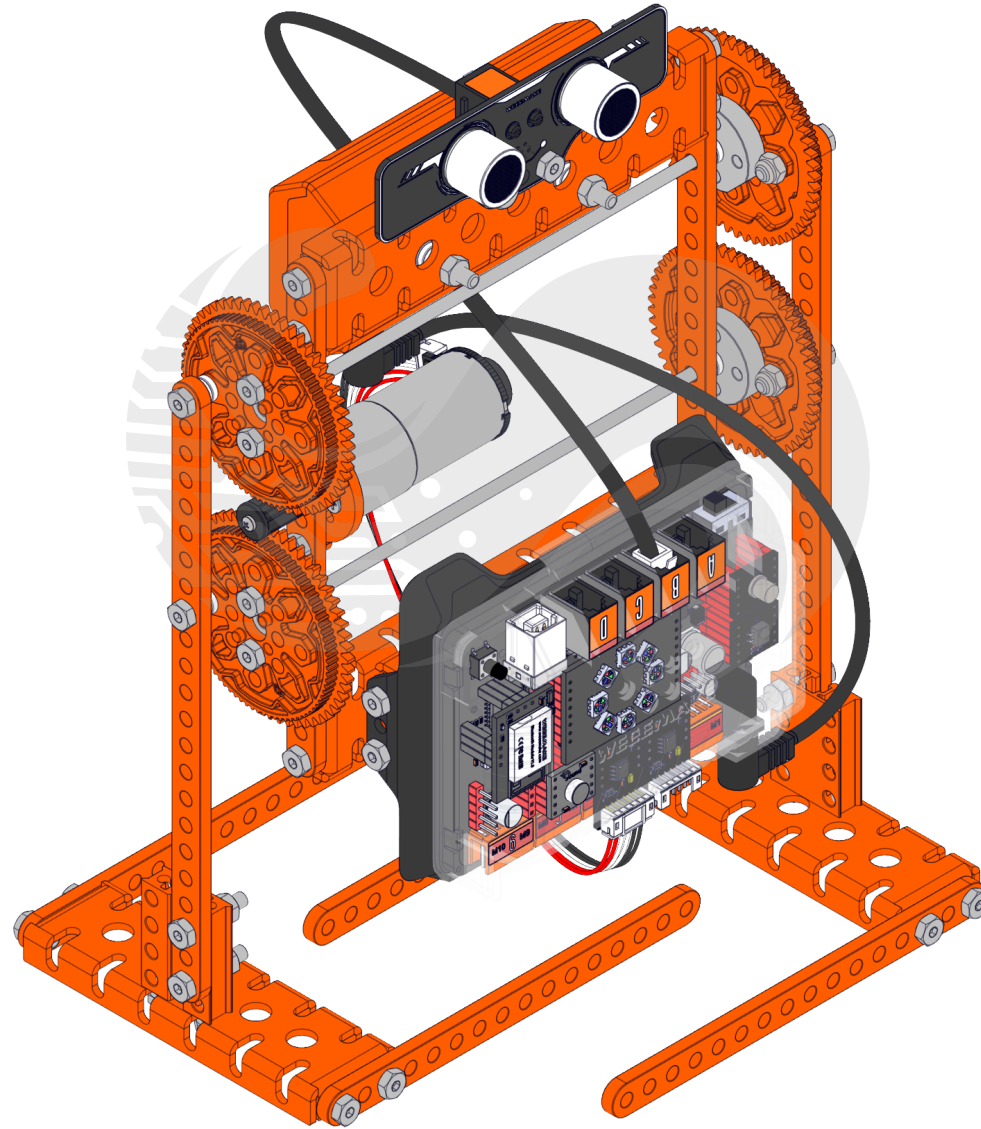


「 Chapter 6 Walking Robot 」



0.Common Module Installation—Assembly Guide of Mainboard ELF



1x328P MicroChip Module V1.0



1xWeeeMake Bluetooth 4.1 Module



1xLight Sensor (Pin)



1xIR Receiver (Pin)



1xSound Sensor (Pin)



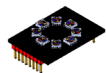
1xELF Mainboard



1xELF Mainboard Lid



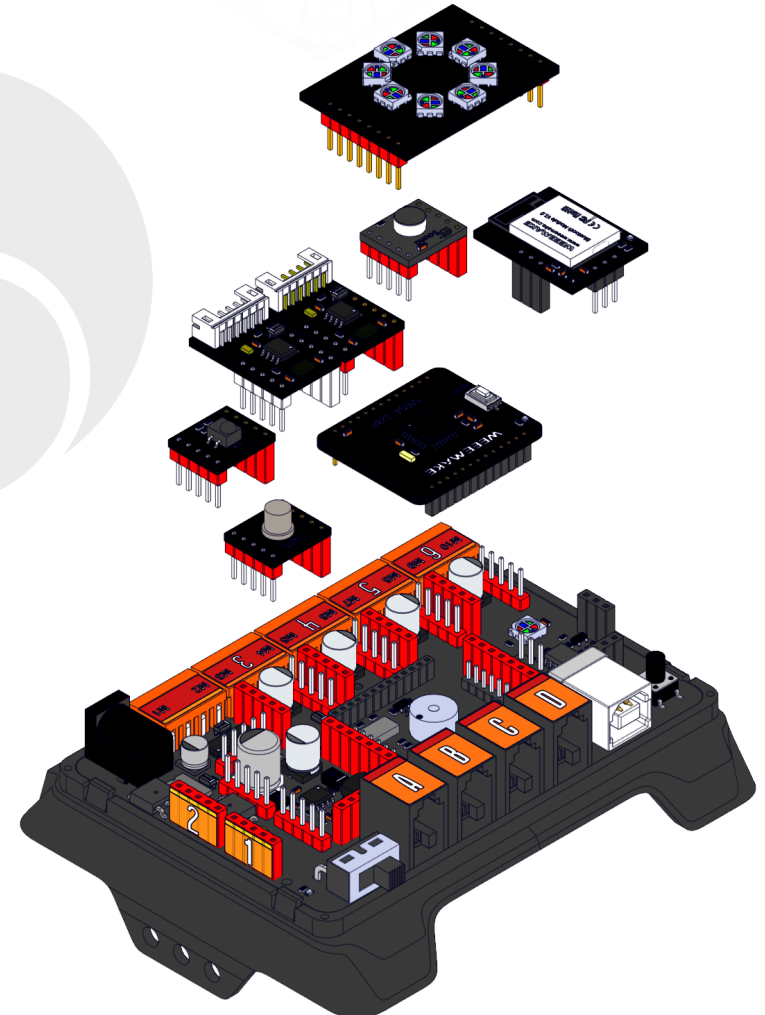
1xELF Mainbaord Base



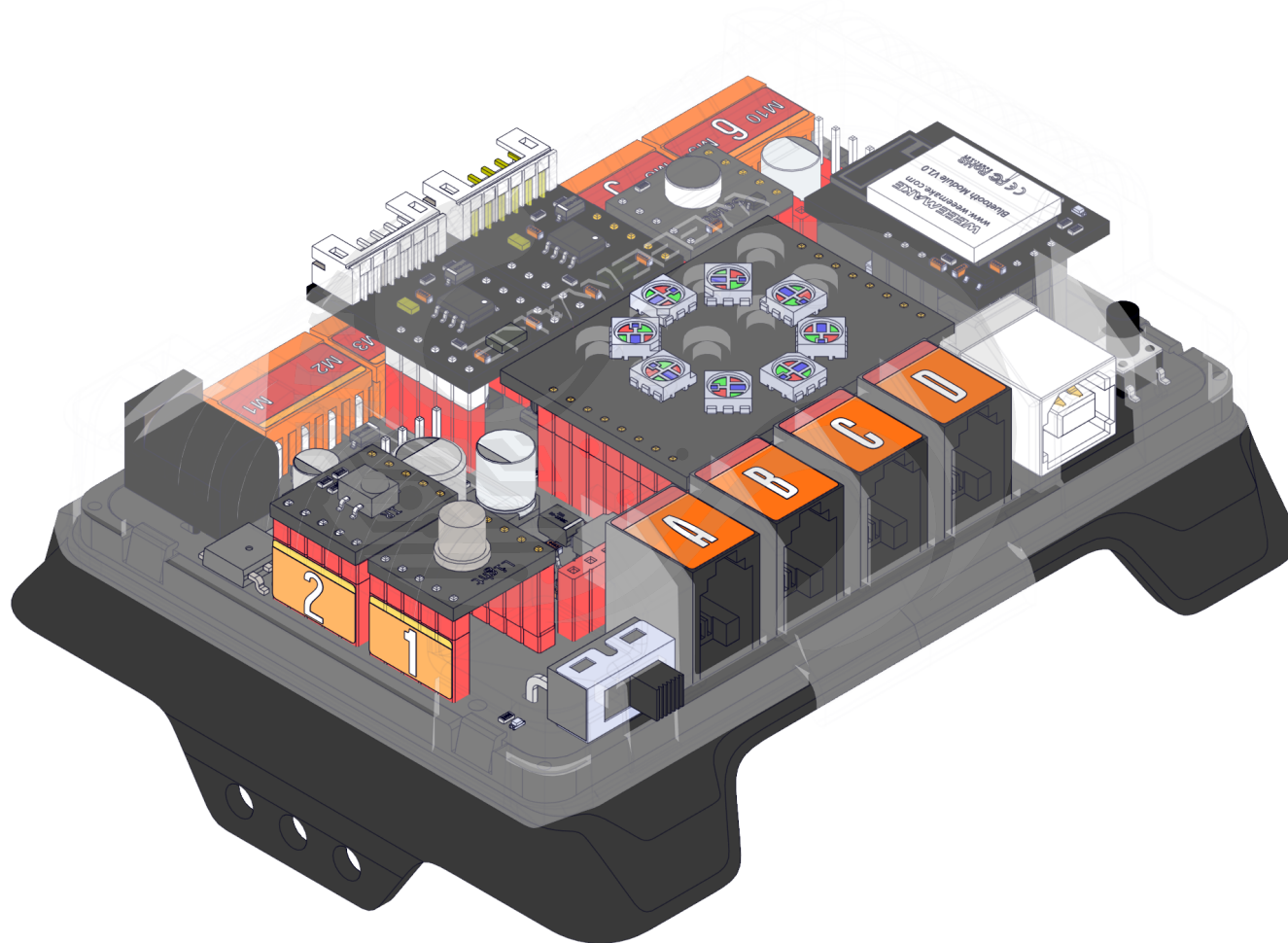
1xRGB LED - 8 (Pin)



2xDC/Encoder Motor Driver

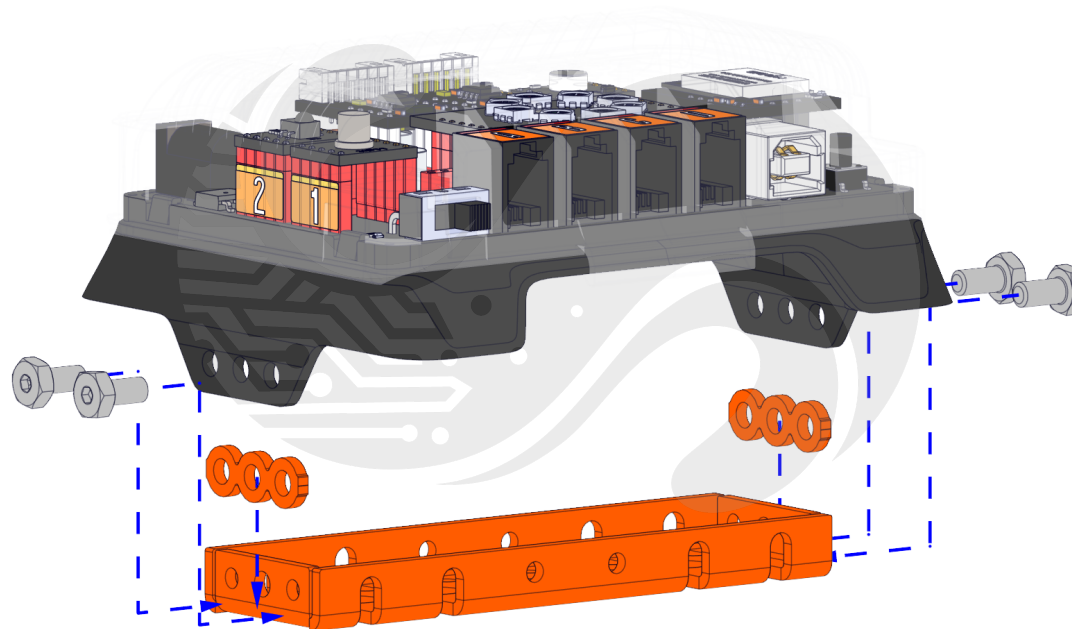


0.Common Module Installation—Assembly Guide of Mainboard ELF

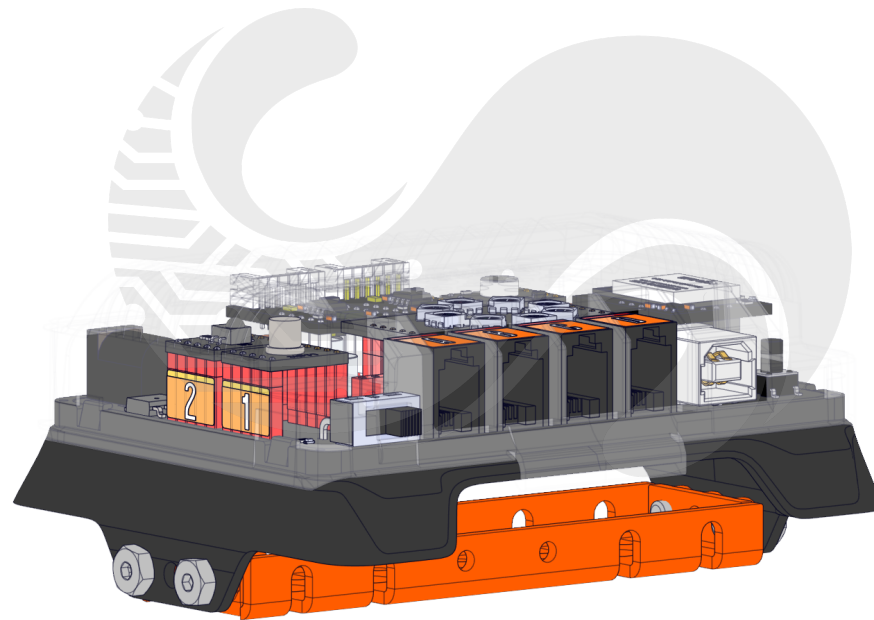


0.Common Module Installation—Assembly Guide of Mainboard ELF

-  4xScrew M4*8
-  2xLinkage 0208-24
-  1xBeam 1030-100-B
-  1xMainboard ELF



0.Common Module Installation—Assembly Guide of Mainboard ELF



Tips:

The default sensors on mainboard ELF is installed as follows:

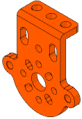
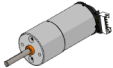
Port 1 - Light Sensor Port 2 - IR Receiver Port 3 & 4 - DC/Encoder Motor Driver Port 5 - Sound Sensor

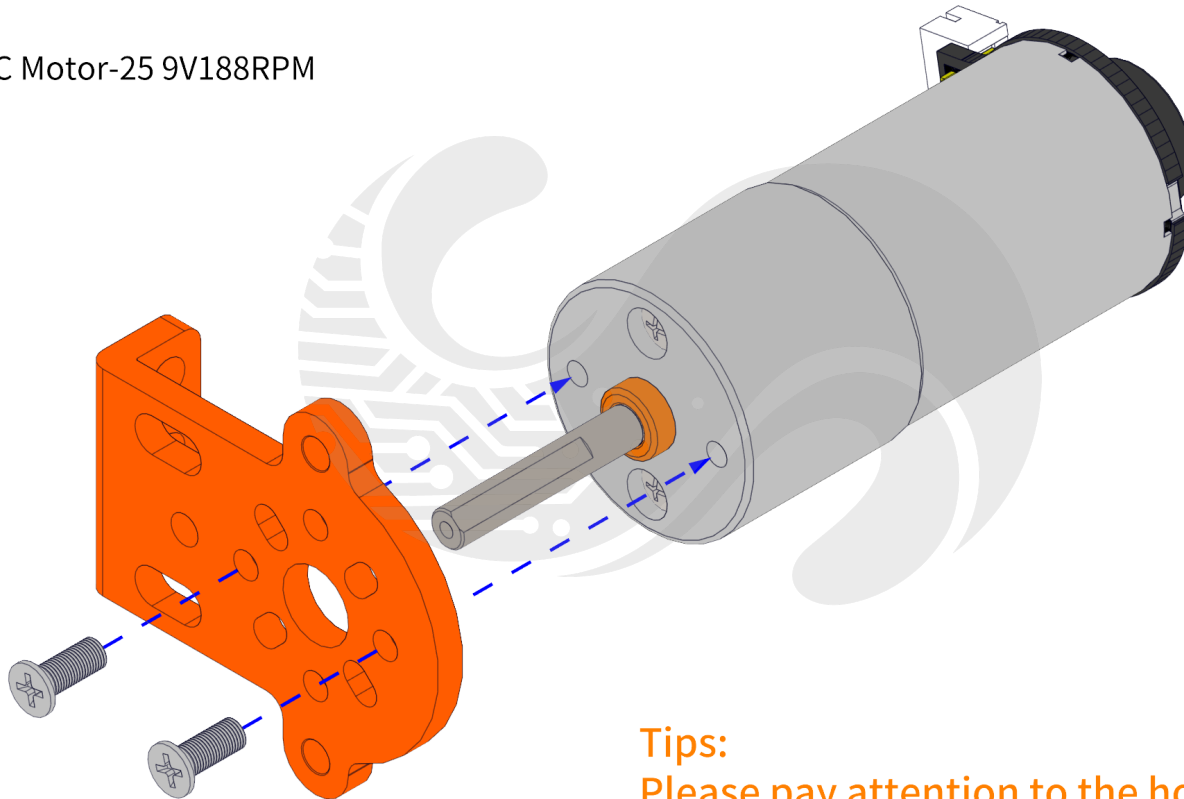
MCU Port - 328P Micro Chip

Communication Port - Bluetooth Module

Special port - RGB LED -8 Module

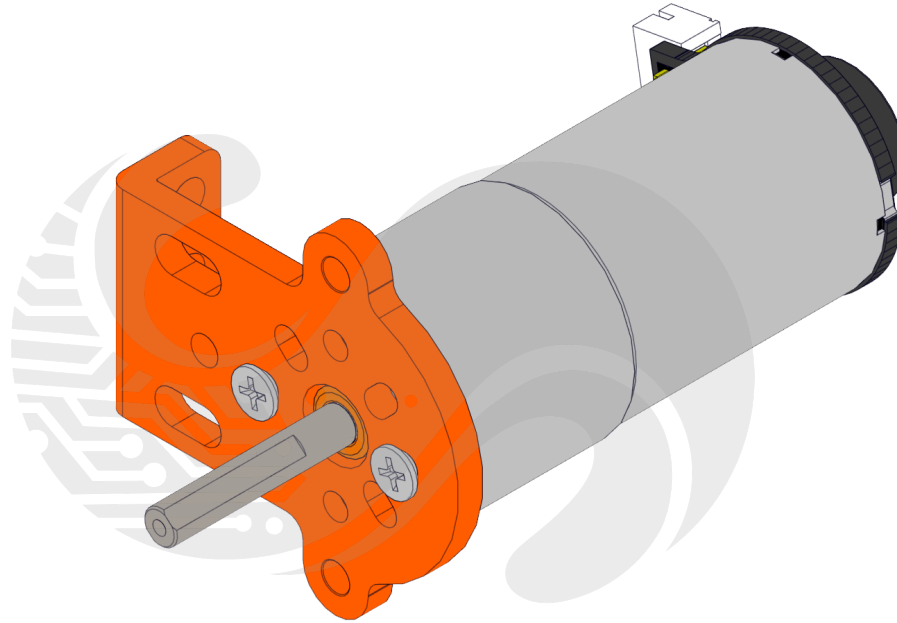
1.Assemble Encoder DC Motor-25

-  2xCountersunk Head Screw M3*6
-  1x25 Motor Bracket
-  1xEncoder DC Motor-25 9V188RPM



Tips:
Please pay attention to the hole position and direction.

1.Assemble Encoder DC Motor-25

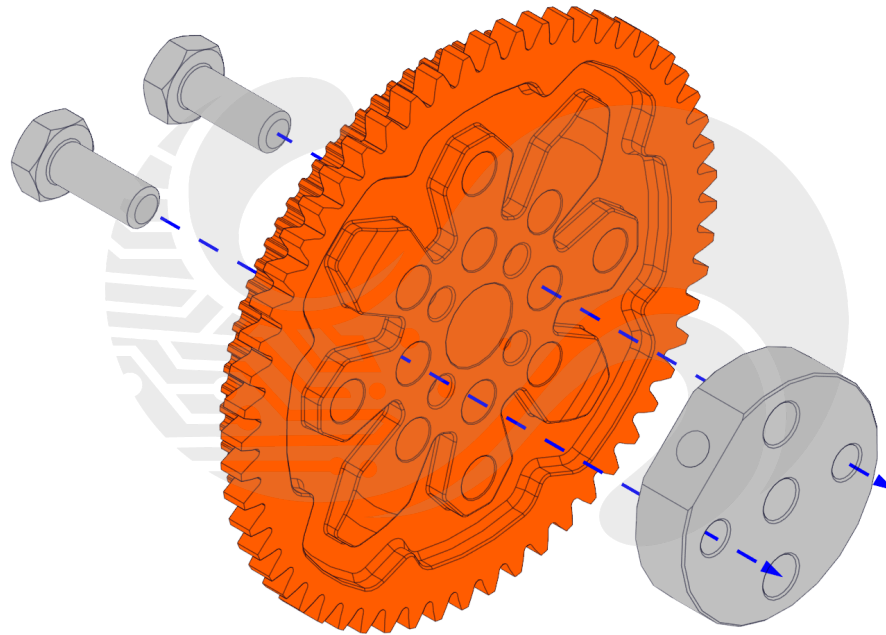


2.Assemble 56T Plastic Gear

 2xScrew M4*10

 1xDriving Flange Hub 4mm

 1x56T-Plastic Gear



2.Assemble 56T Plastic Gear



× 4

3. Assemble the Body Frame



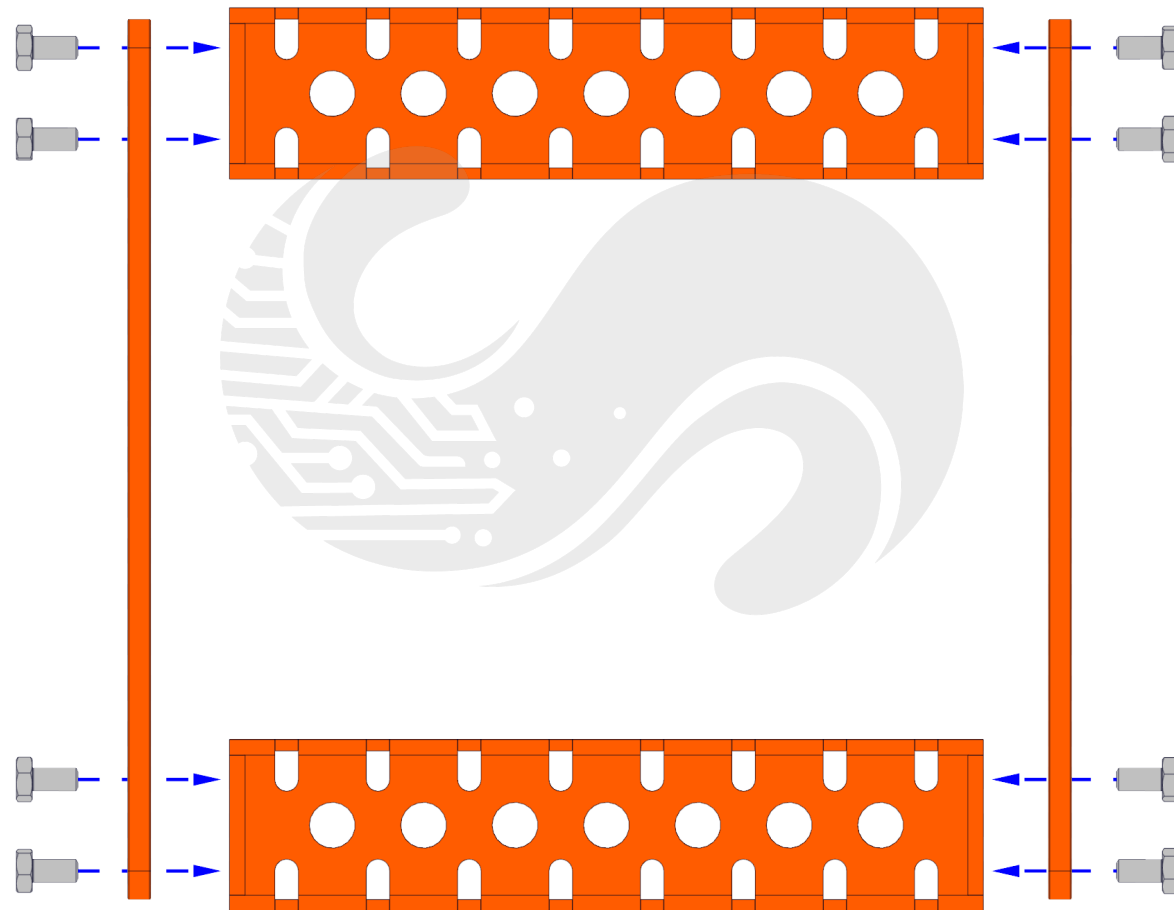
8xScrew M4*8



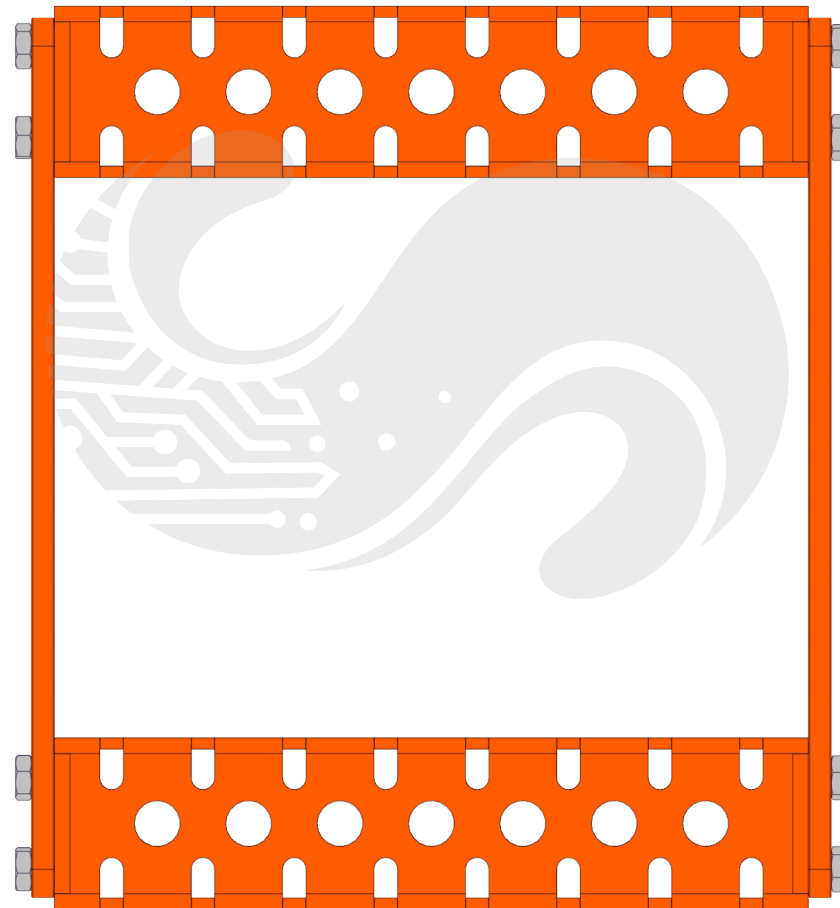
2xBeam 1030-132



2xBeam 0410-154



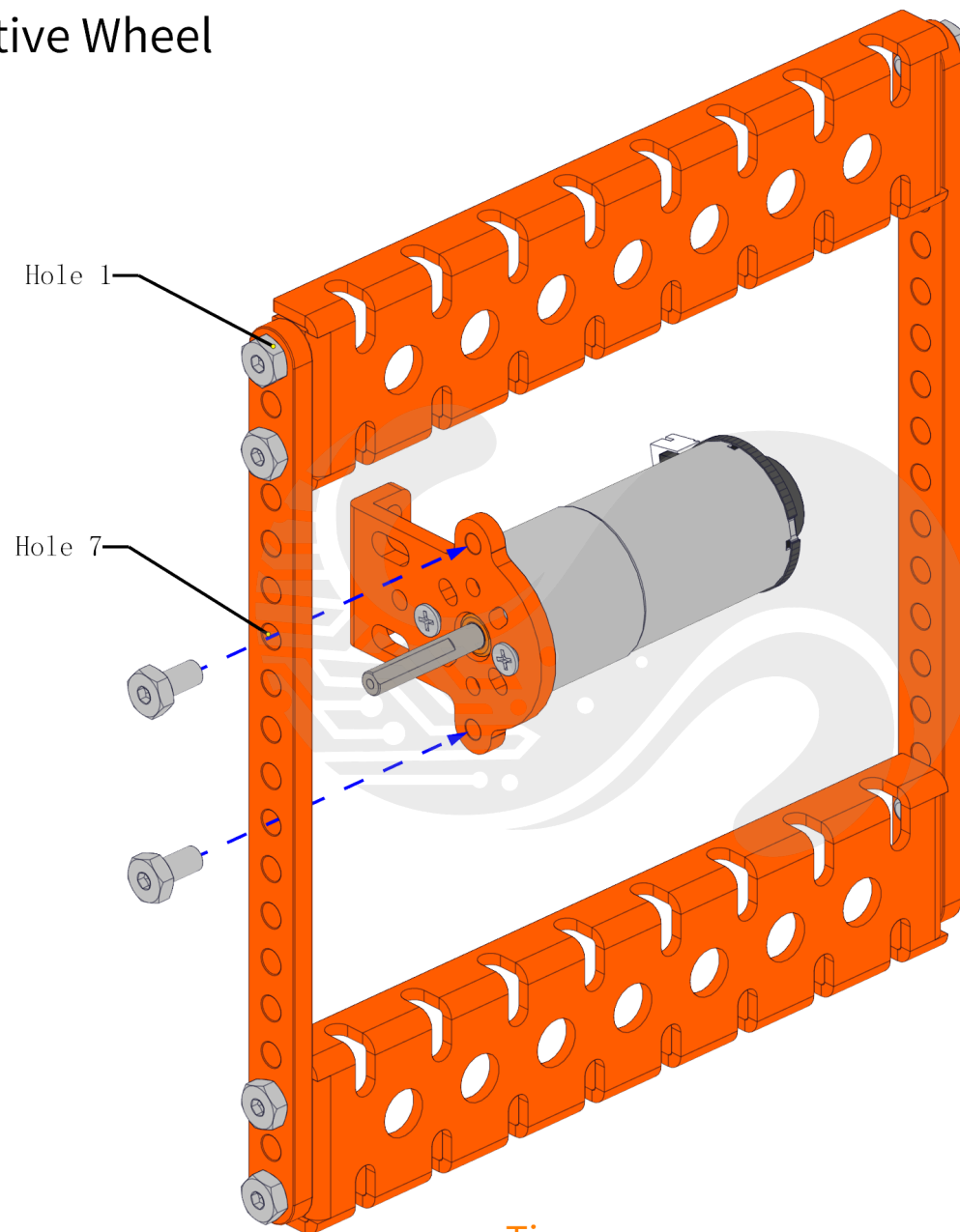
3.Assemble the Body Frame



4.Assembly Active Wheel

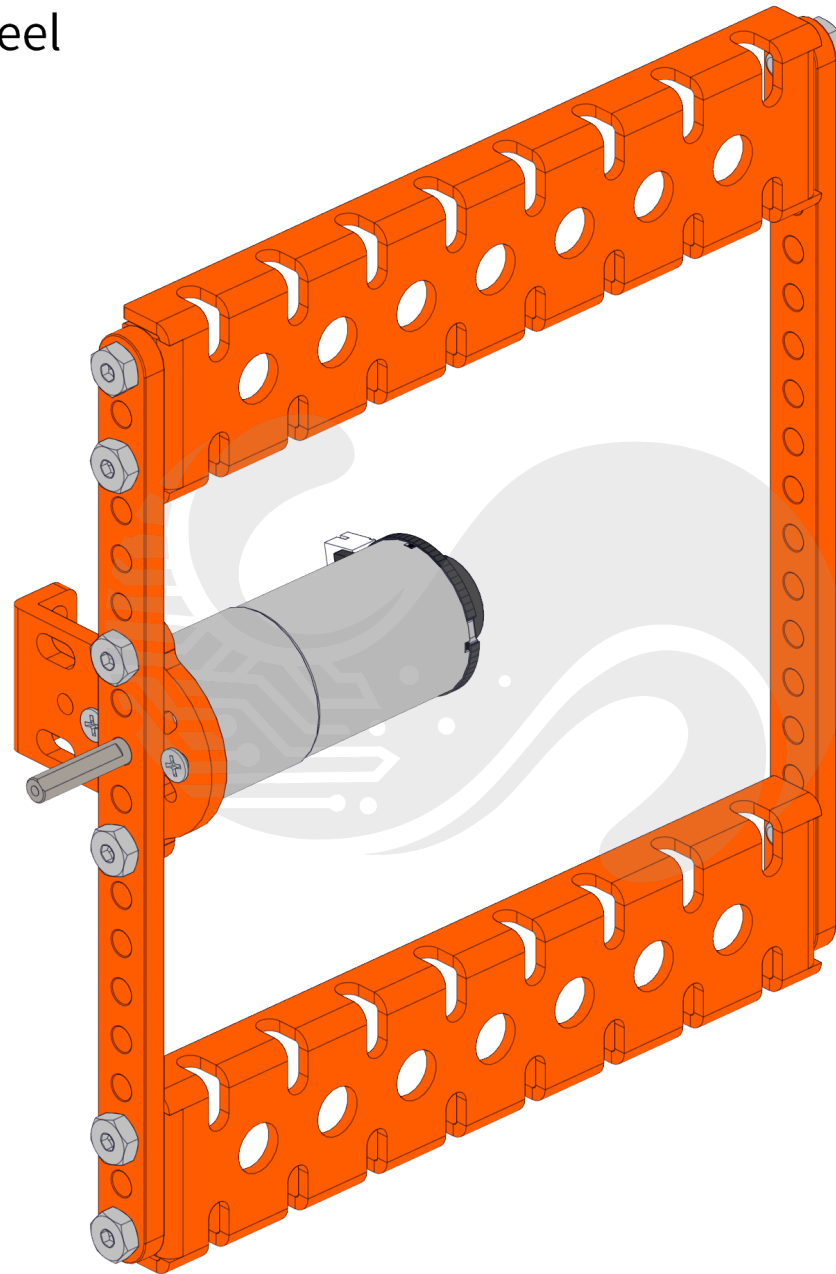


2xScrew M4*8



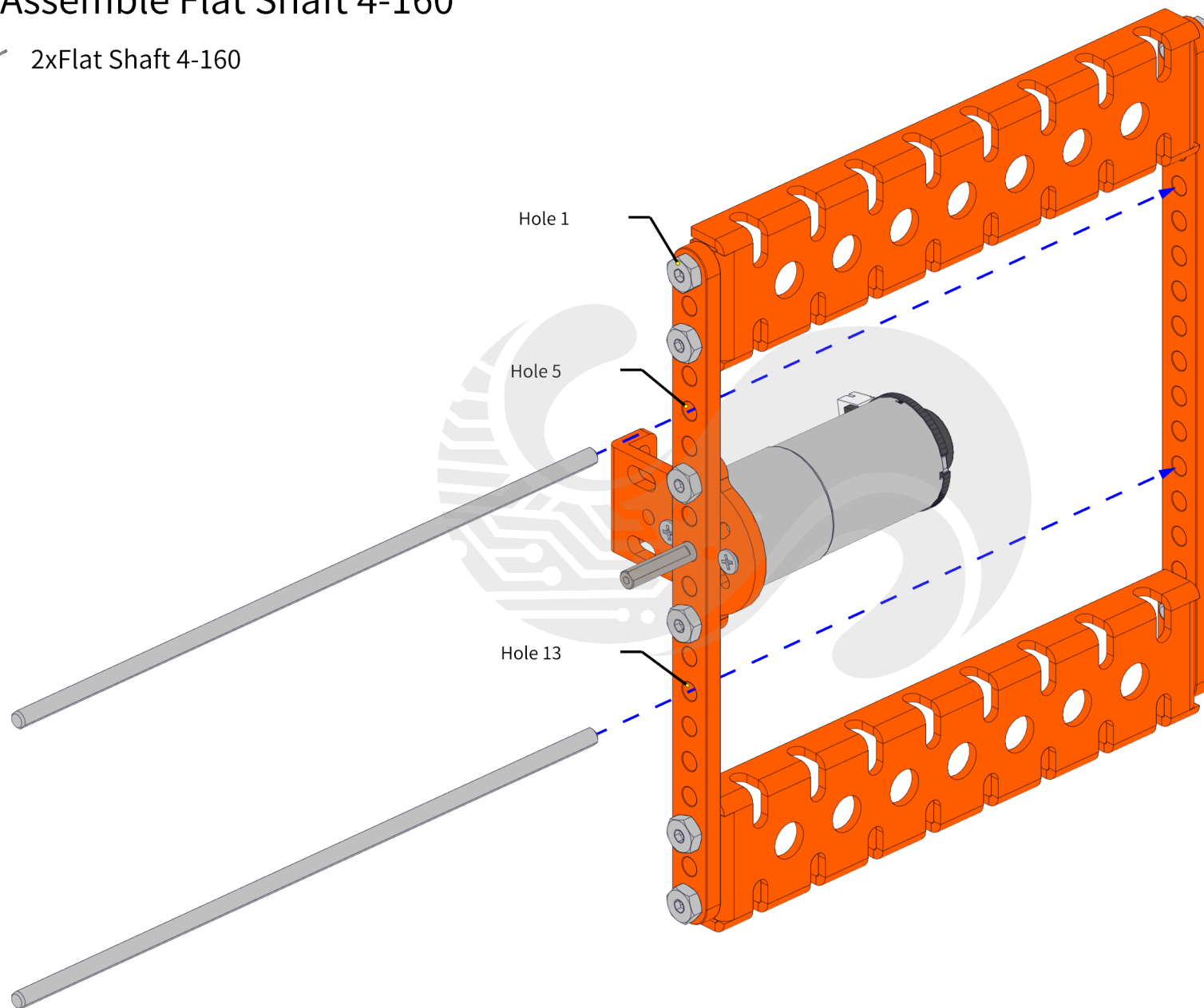
Tips:
Please pay attention to the hole position and direction.

4.Assembly Active Wheel

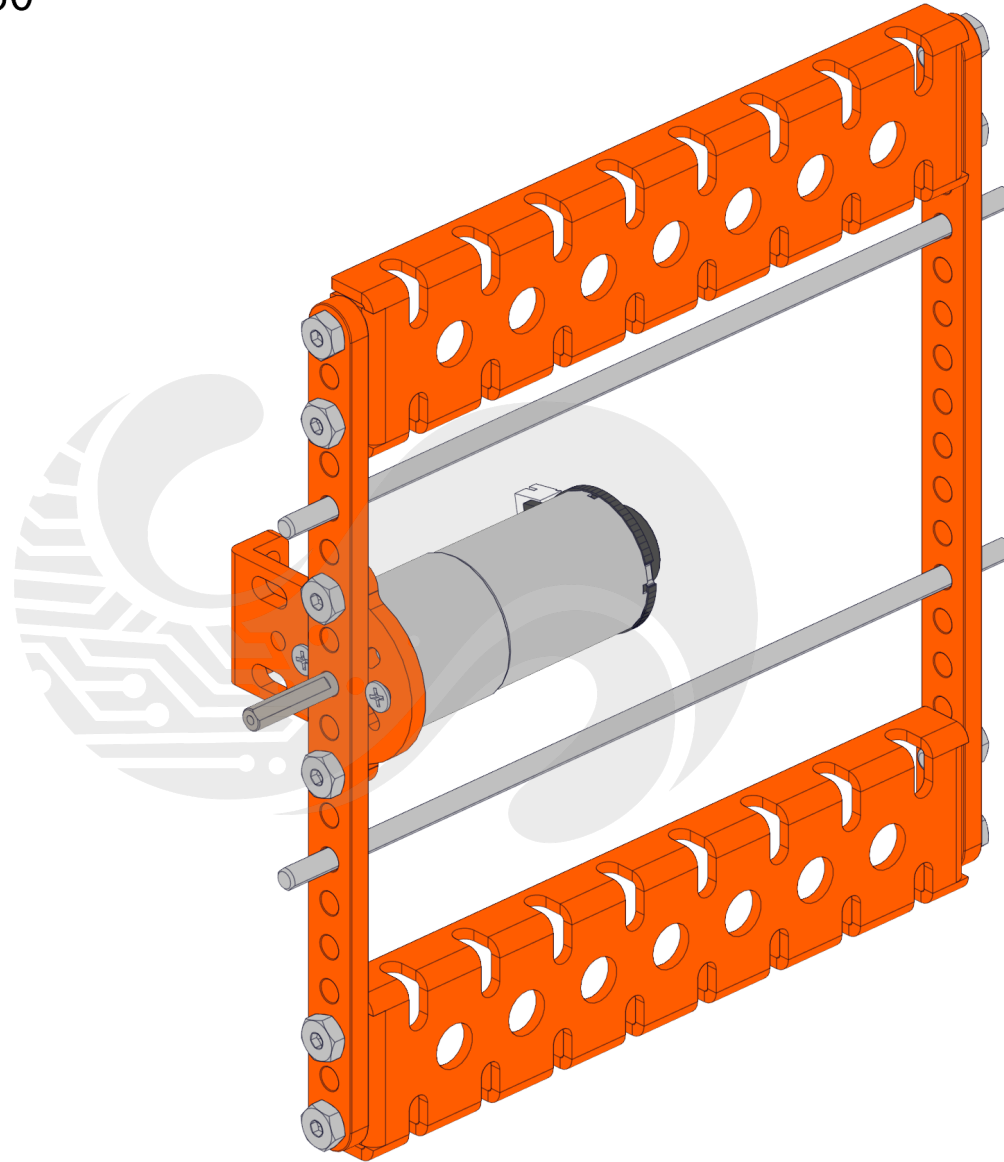


5.Assemble Flat Shaft 4-160

2xFlat Shaft 4-160



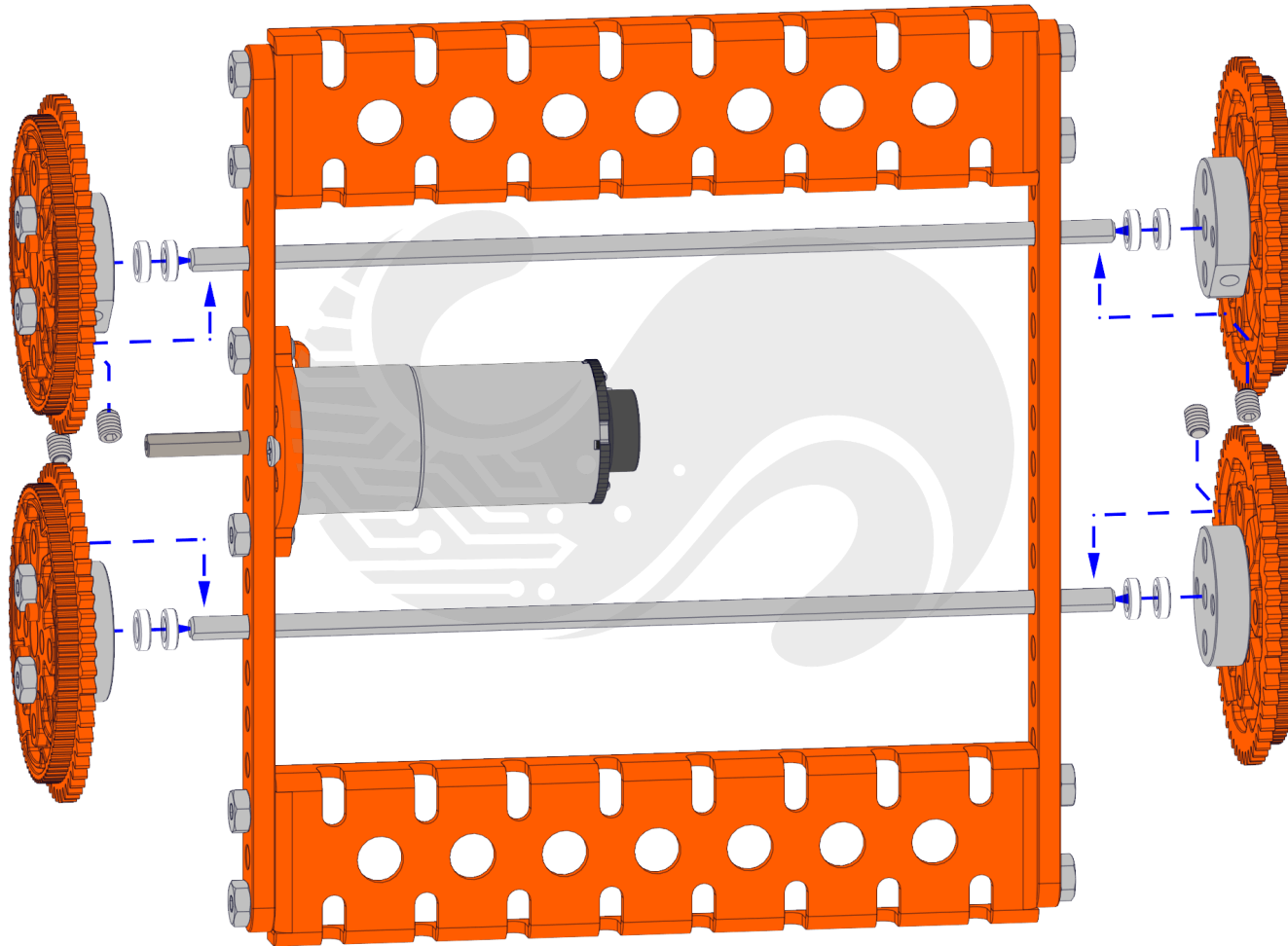
5.Assemble Flat Shaft 4-160



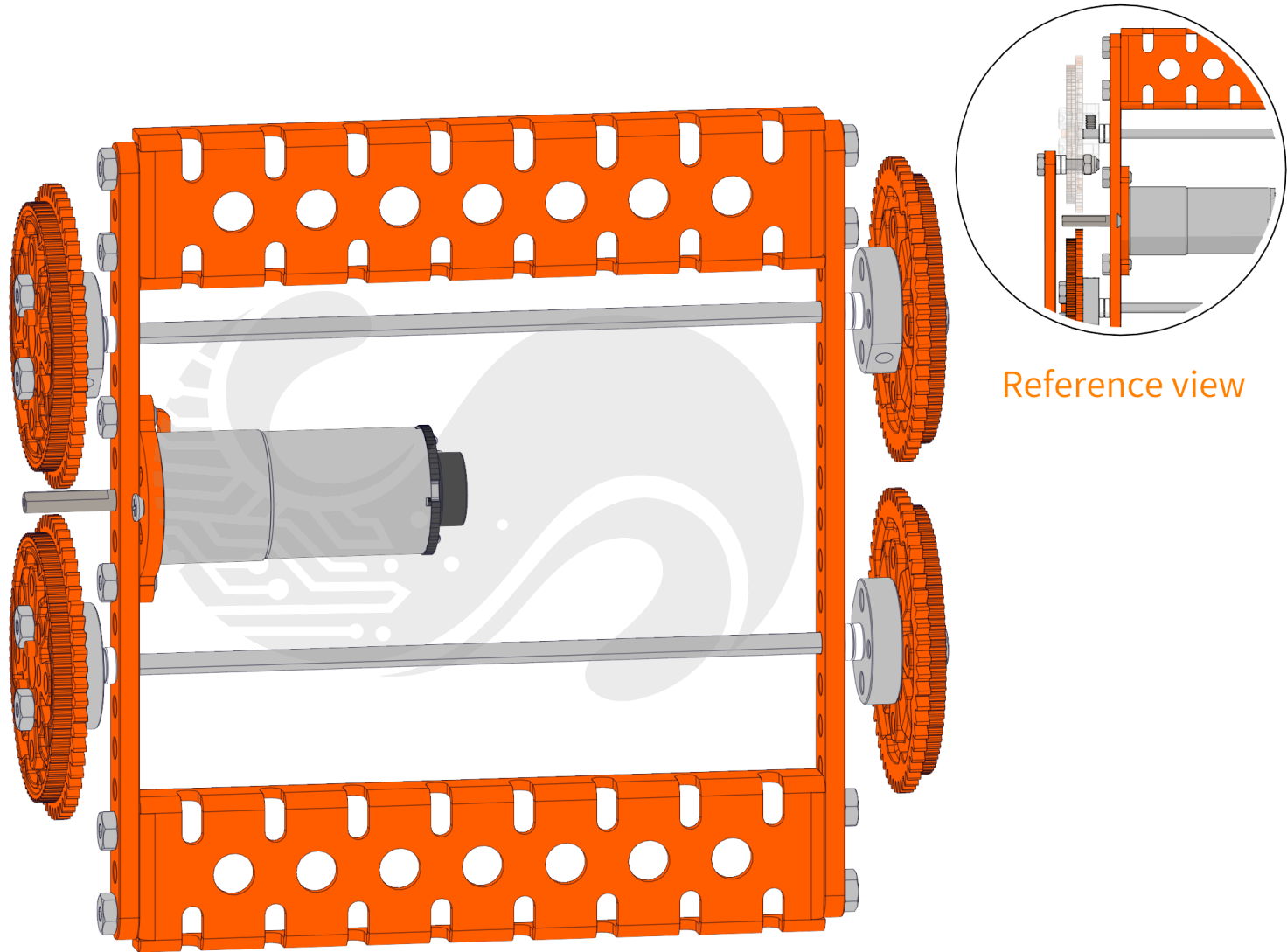
6.Assemble The 56T Plastic Gear

 4xHeadless Screw M4*5

 8xNylon Spacer 4*7*2



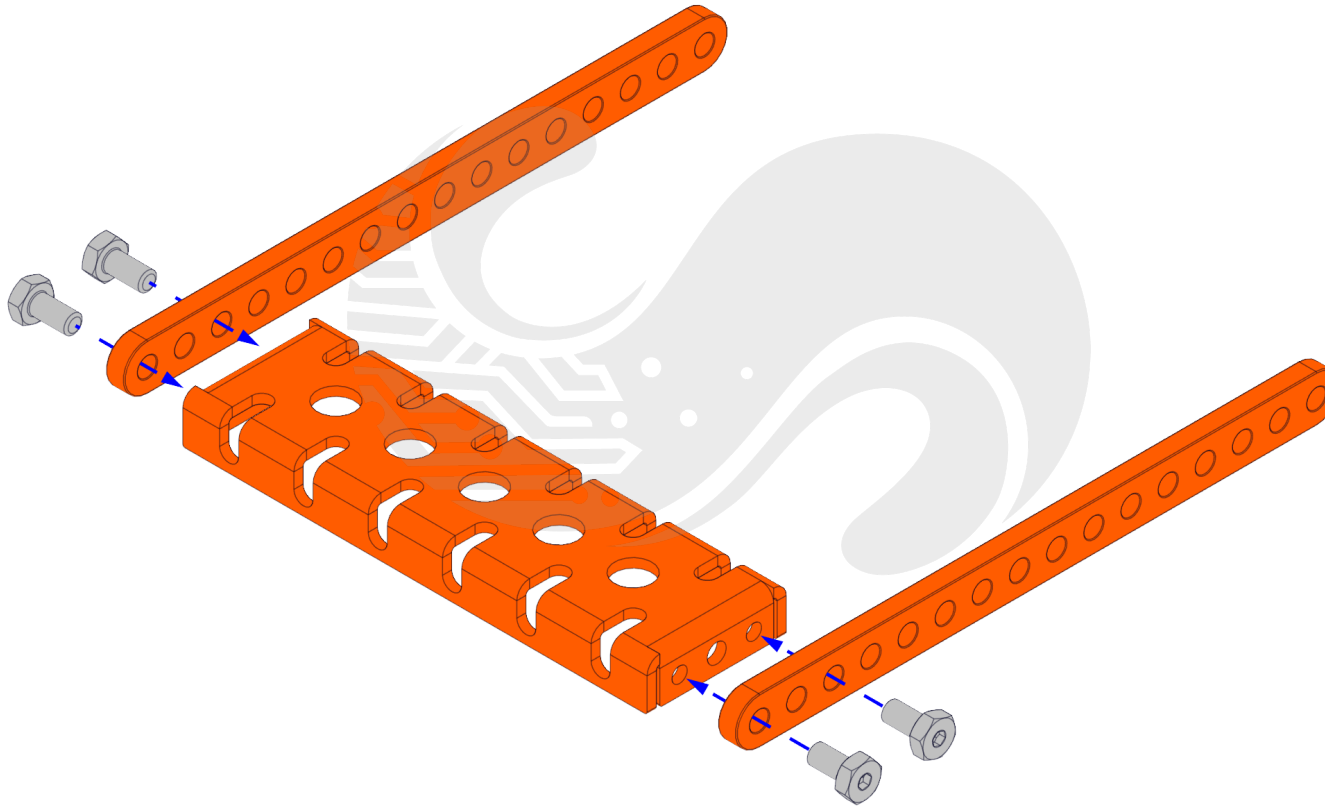
6.Assemble The 56T Plastic Gear



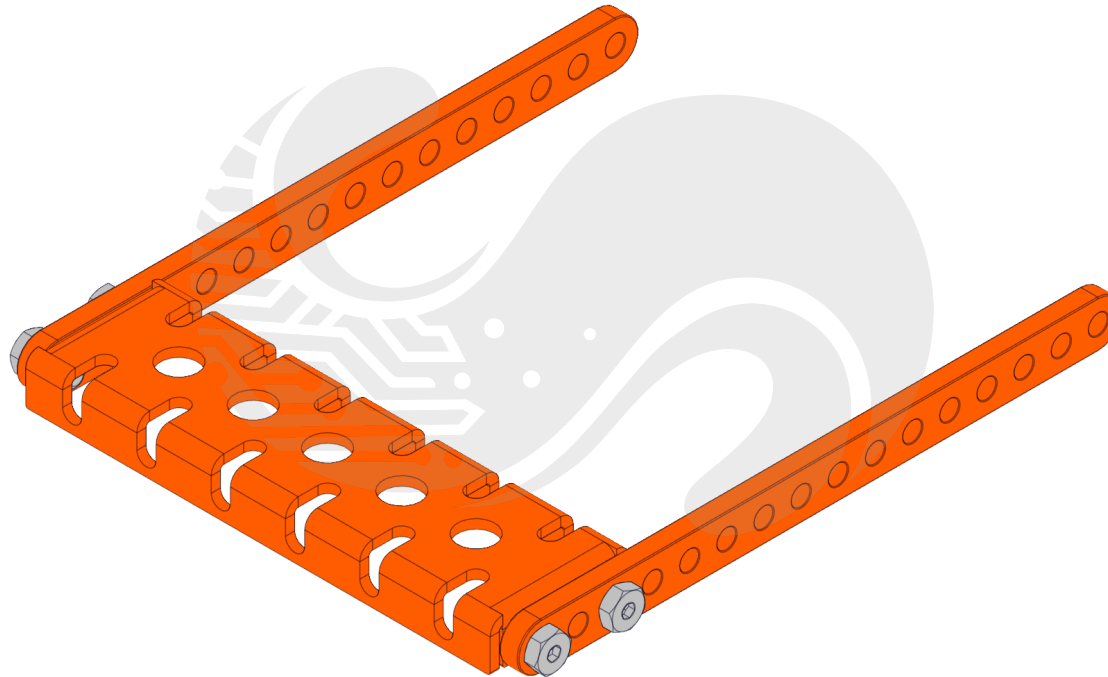
Note: Pay attention to the symmetry of the assembly when fixing the gear 56T. Headless screw M4*5 needs to be locked on the flat surface of shaft.

7.Assemble Two Legs

-  4xScrew M4*8
-  2xBeam 0410-130
-  1xBeam 1030-100

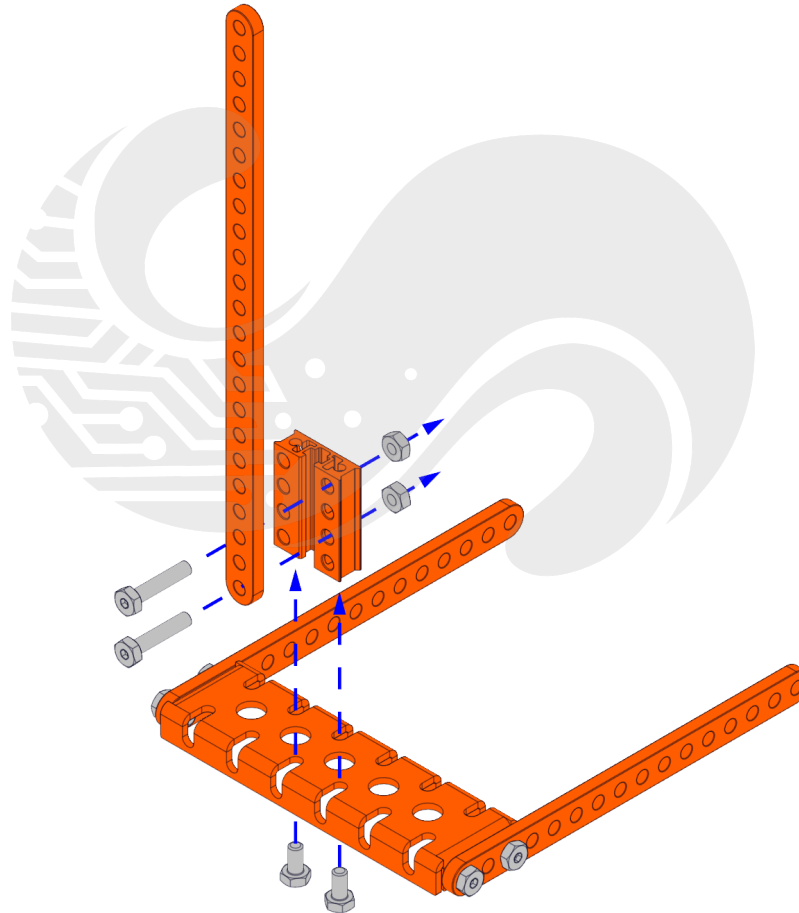


7.Assemble Two Legs

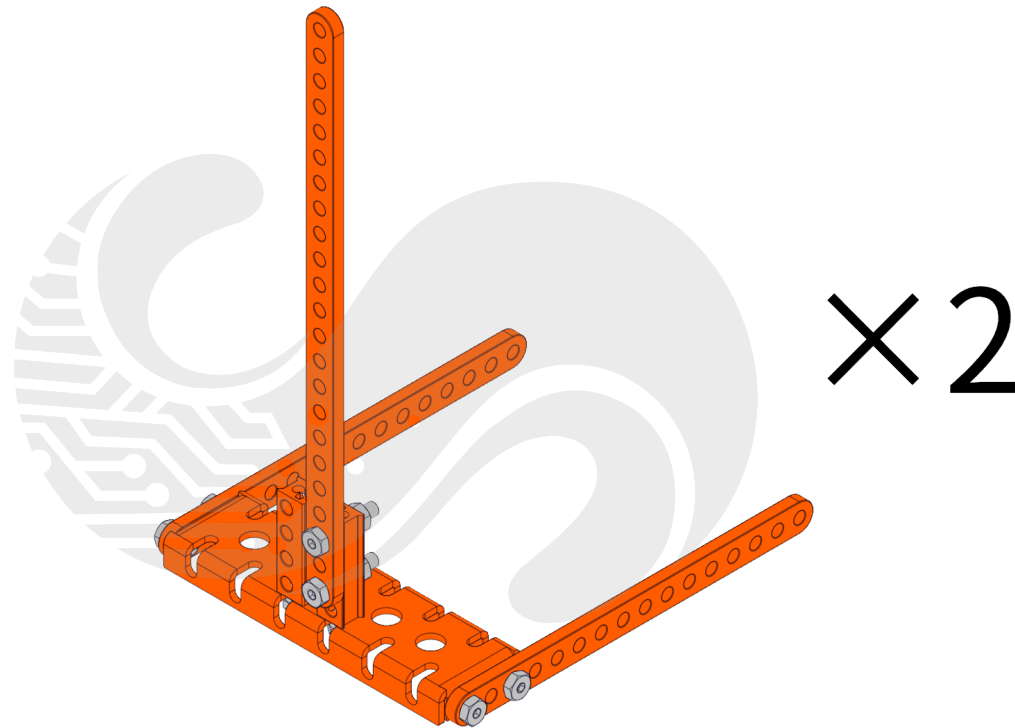


7.Assemble Two Legs

-  2xScrew M4*8
-  2xScrew M4*20
-  2xNut M4
-  1xBeam 0824-32
-  1xBeam 0410-186

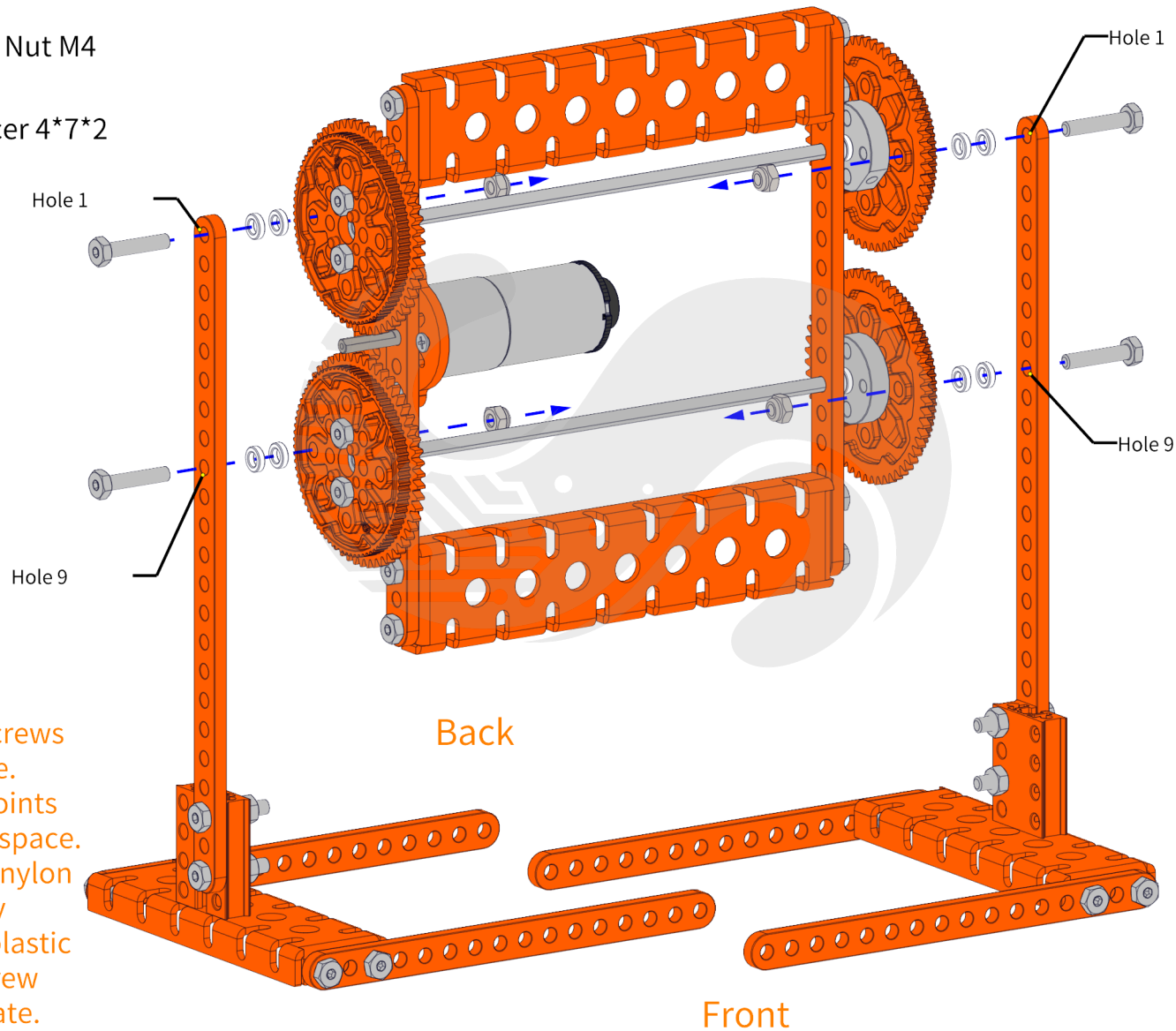


7.Assemble Two Legs



7.Assemble Two Legs

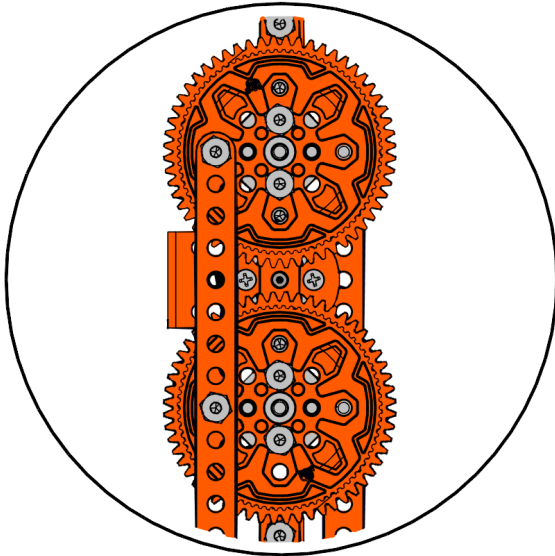
- 4xScrew M4*25
- 4xNylon Lock Nut M4
- 8xNylon Spacer 4*7*2



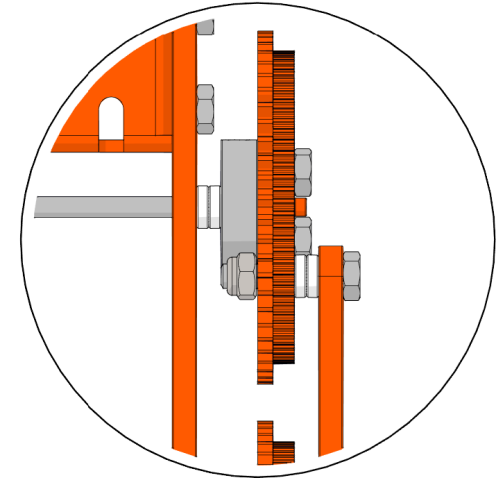
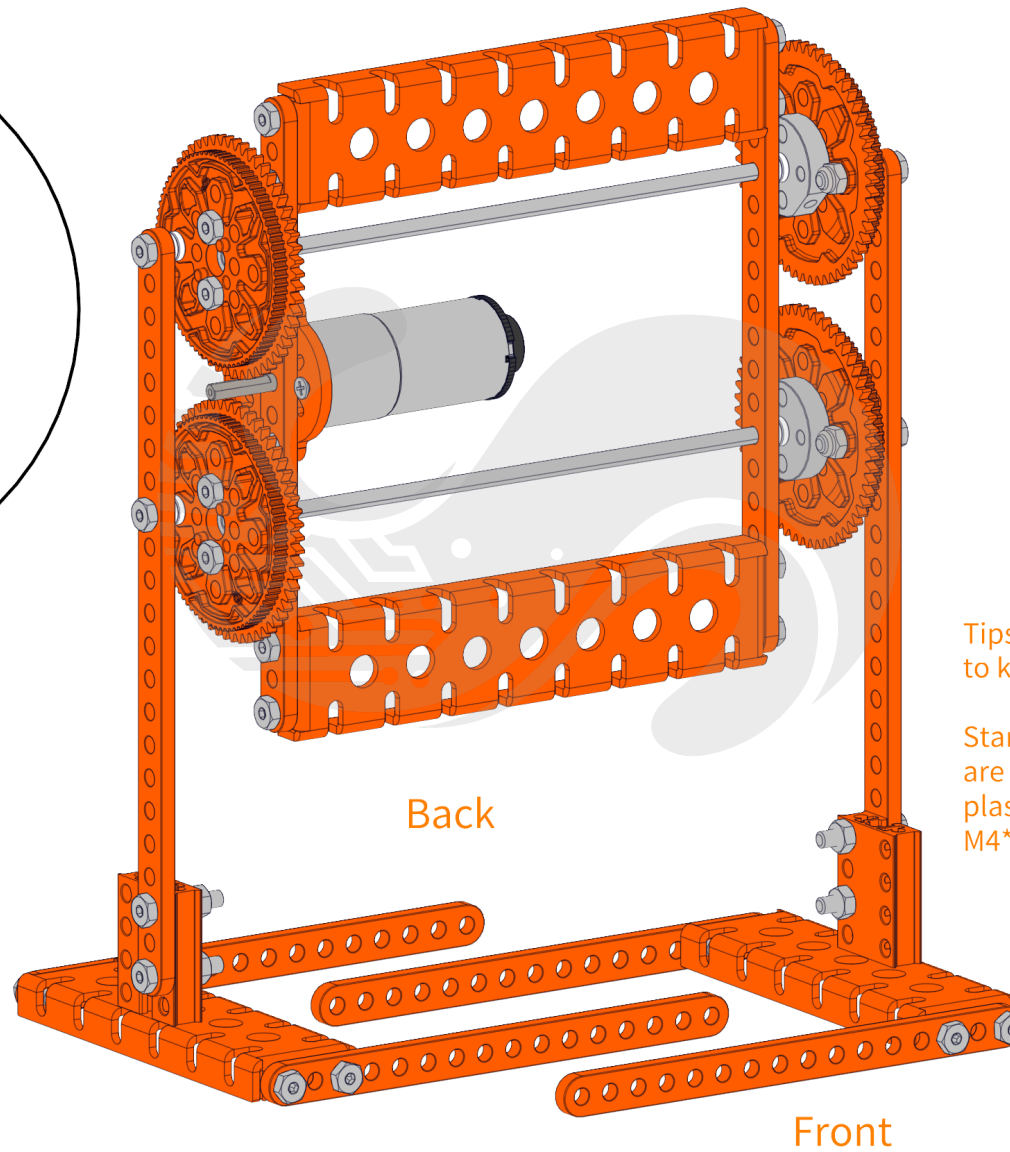
Tips:

- 1.Please install the screws as shown in the figure.
2. Those four active joints need to keep certain space.
- 3.Standard: The four nylon locknuts are basically attached to the 56T plastic gear, and the four screw M4*20 are free to rotate.

7.Assemble Two Legs



Tips: Please install the screws as shown in the figure.

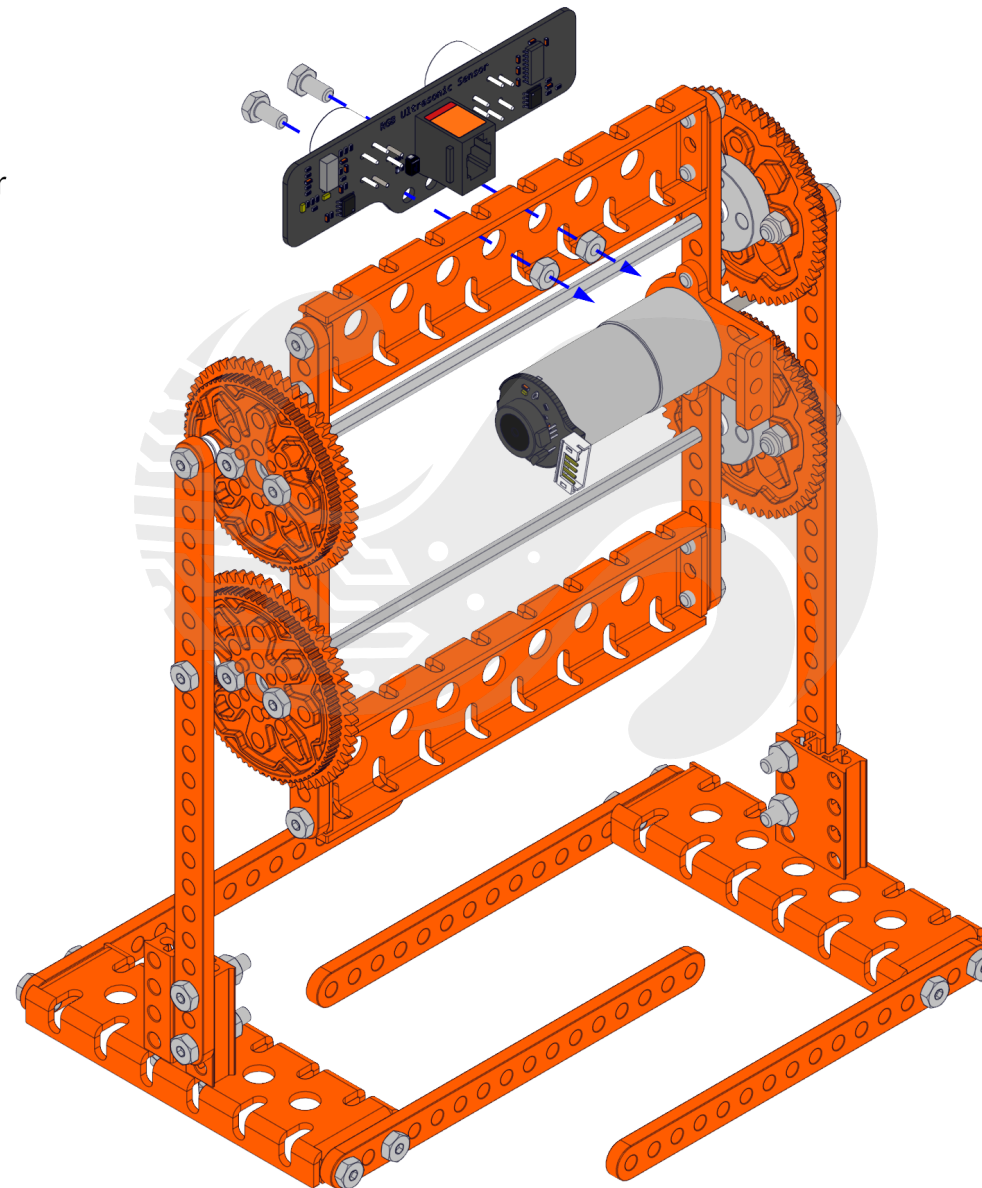


Tips: Those four active joints need to keep certain space.

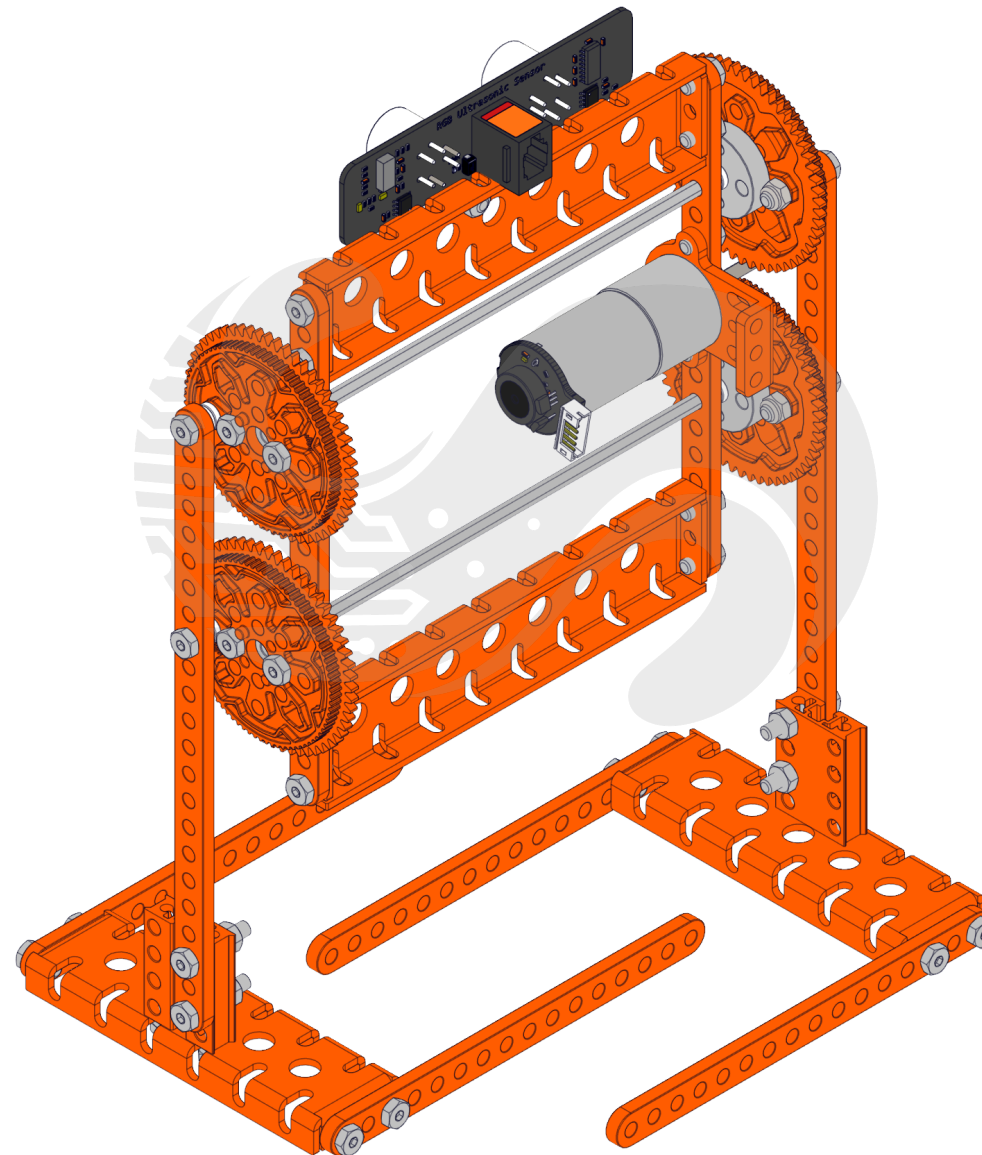
Standard: The four nylon locknuts are basically attached to the 56T plastic gear, and the four screw M4*20 are free to rotate.

8. Assemble the RGB Ultrasonic Sensor

-  2xScrew M4*8
-  2xNut M4
-  1xRGB Ultrasonic Sensor

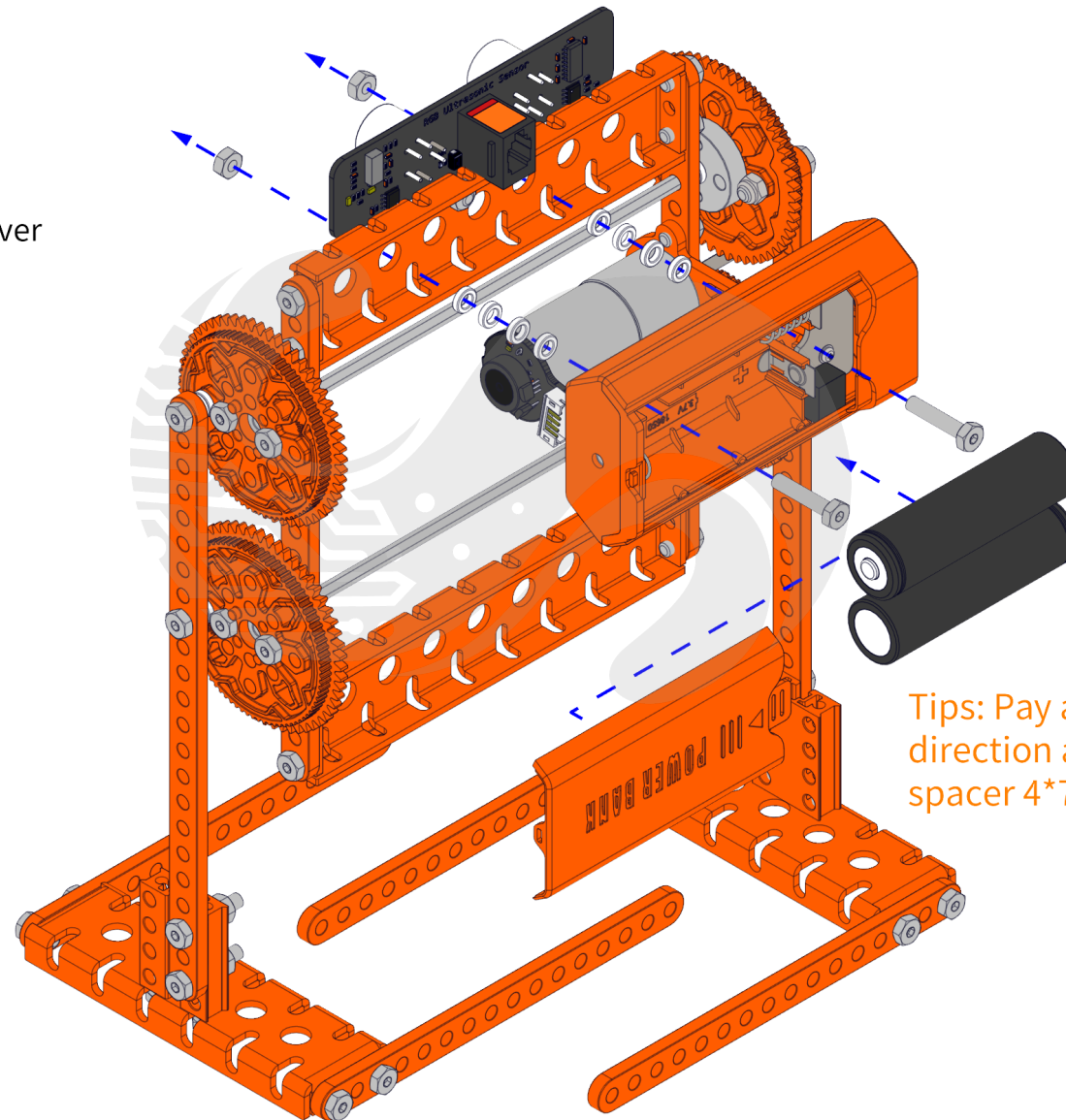


8. Assemble the RGB Ultrasonic Sensor



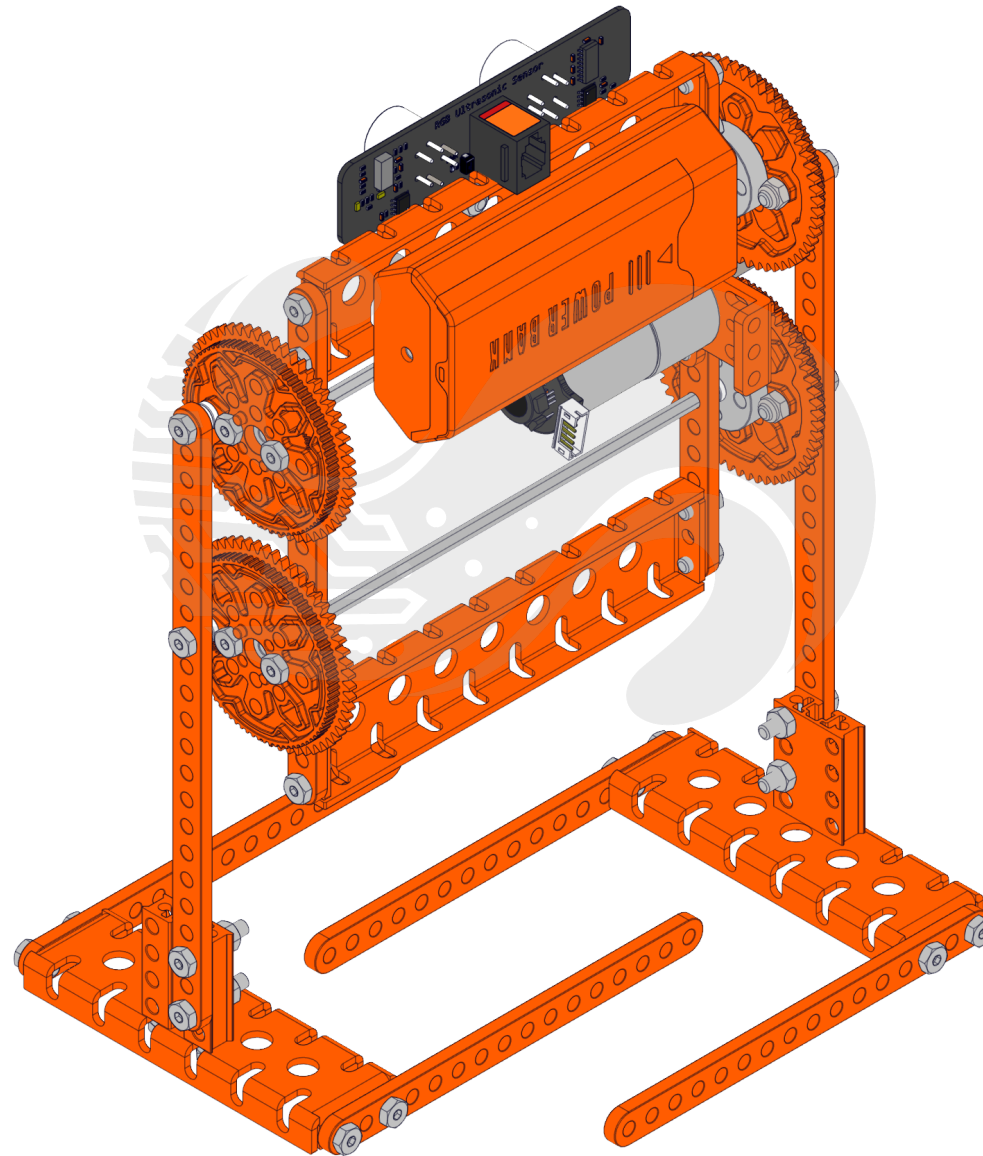
9. Assemble the 18650 Lithium Battery Holder

-  2xScrew M4*20
-  2xNut M4
-  8xNylon Spacer 4*7*2
-  2x18650 Lithium Battery
-  1x18650 Battery Holder Cover
-  1x18650 Battery Holder



TIPS: Pay attention to the correct direction and hole. Eight nylon spacer 4*7*2 are in the middle.

9. Assemble the 18650 Lithium Battery Holder



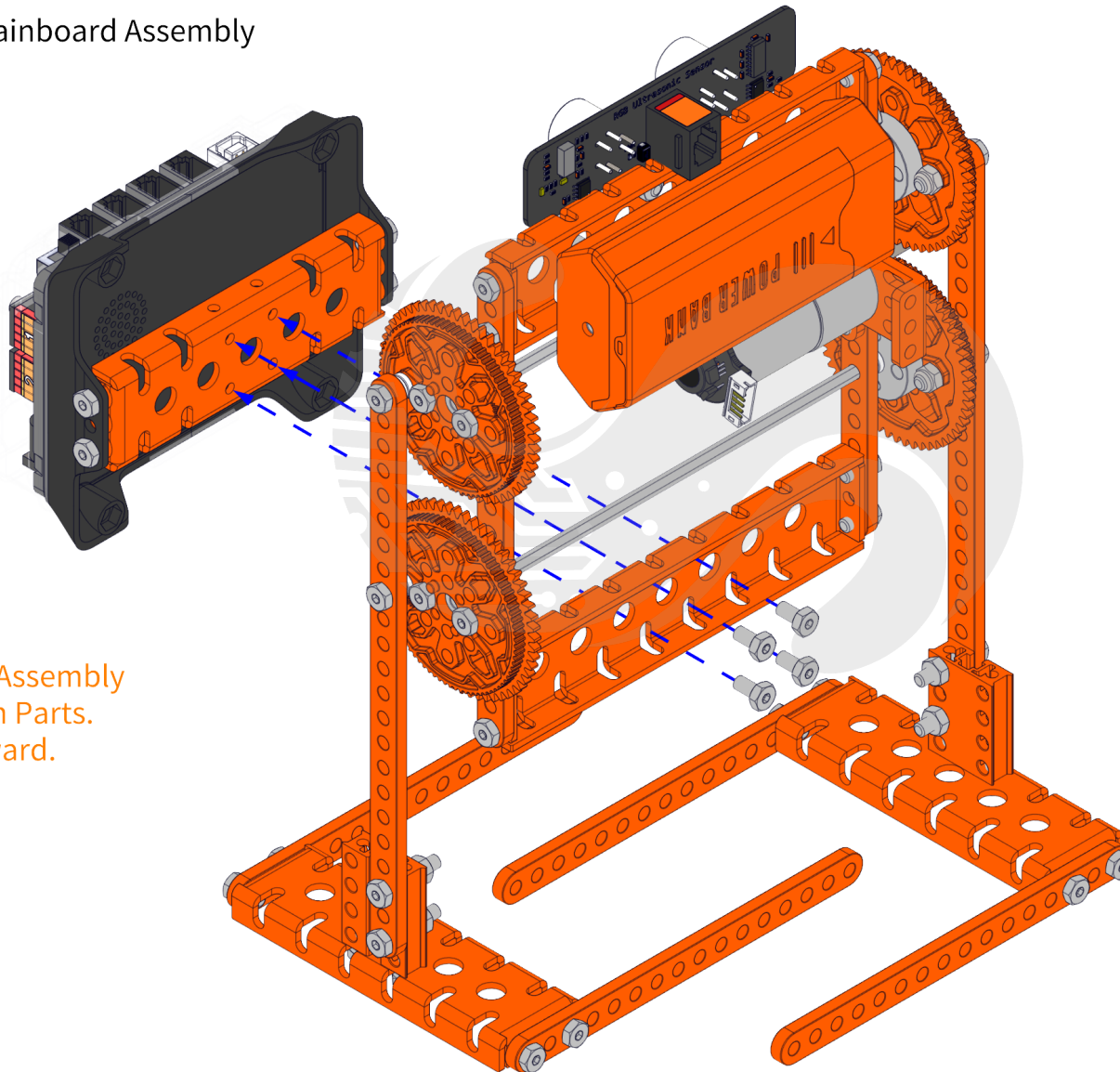
10. Assemble the Mainboard ELF



4xScrew M4*8



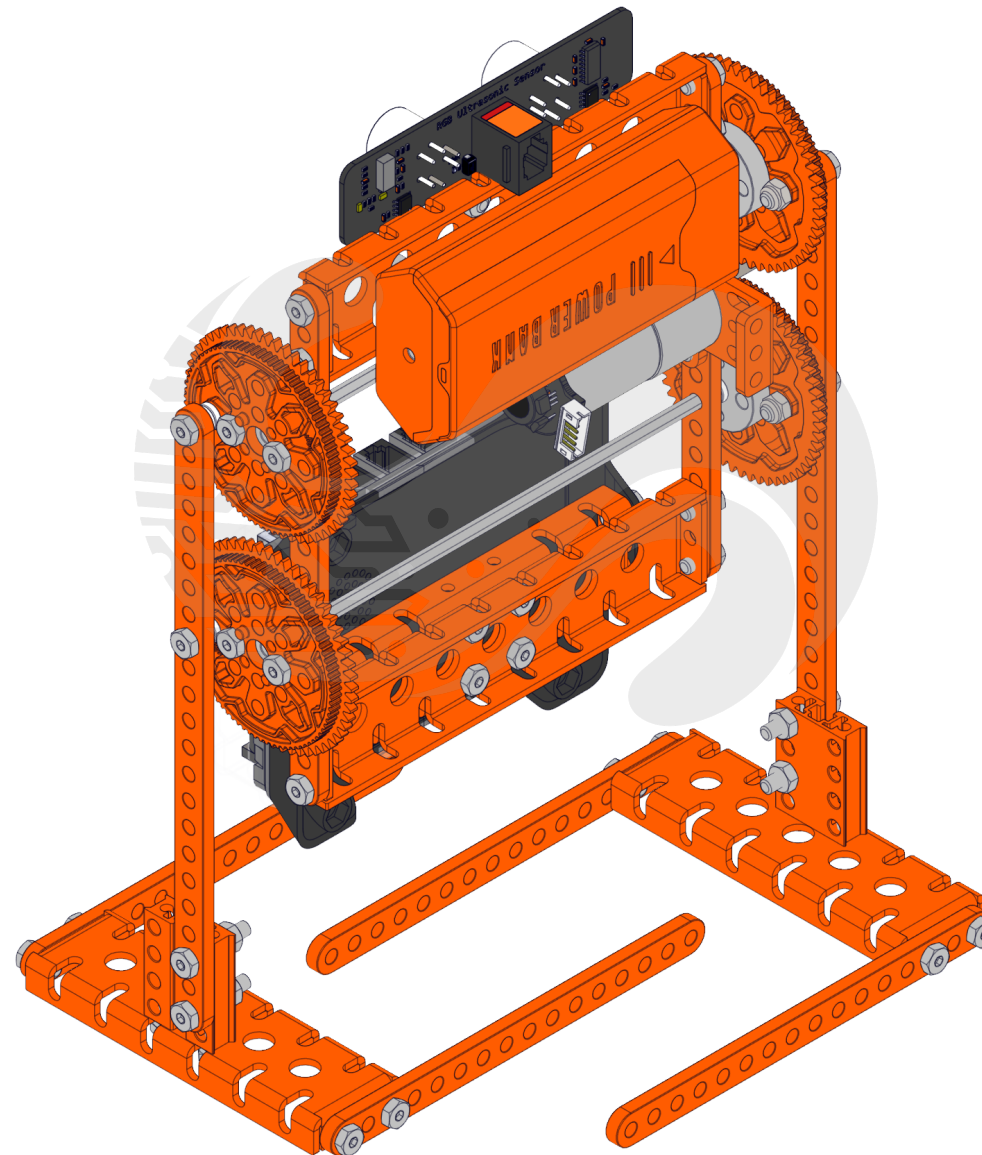
1xELF Mainboard Assembly



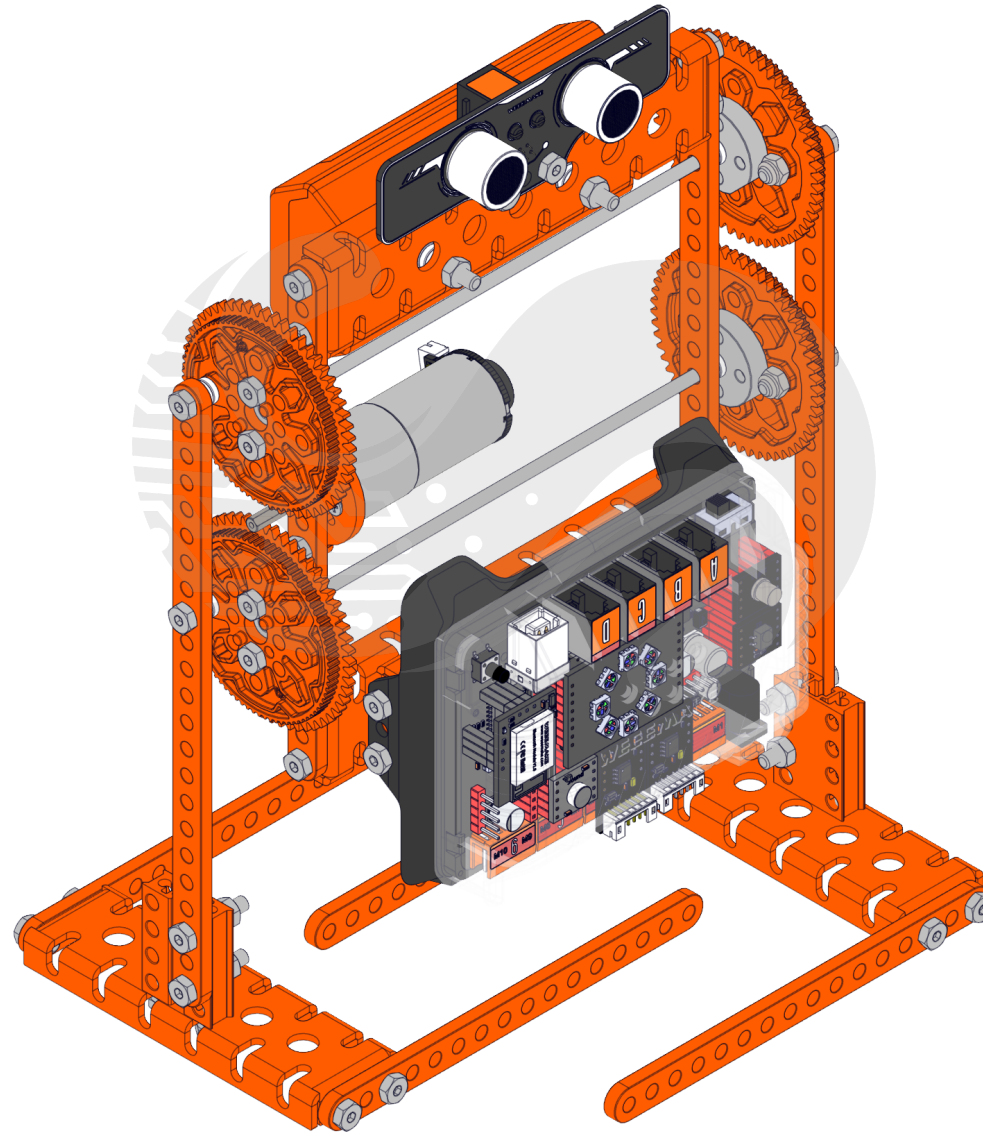
Tips:

1. Please refer to Assembly Guide of Common Parts.
2. USB port is upward.

10. Assemble the Mainboard ELF



10. Assemble the Mainboard ELF



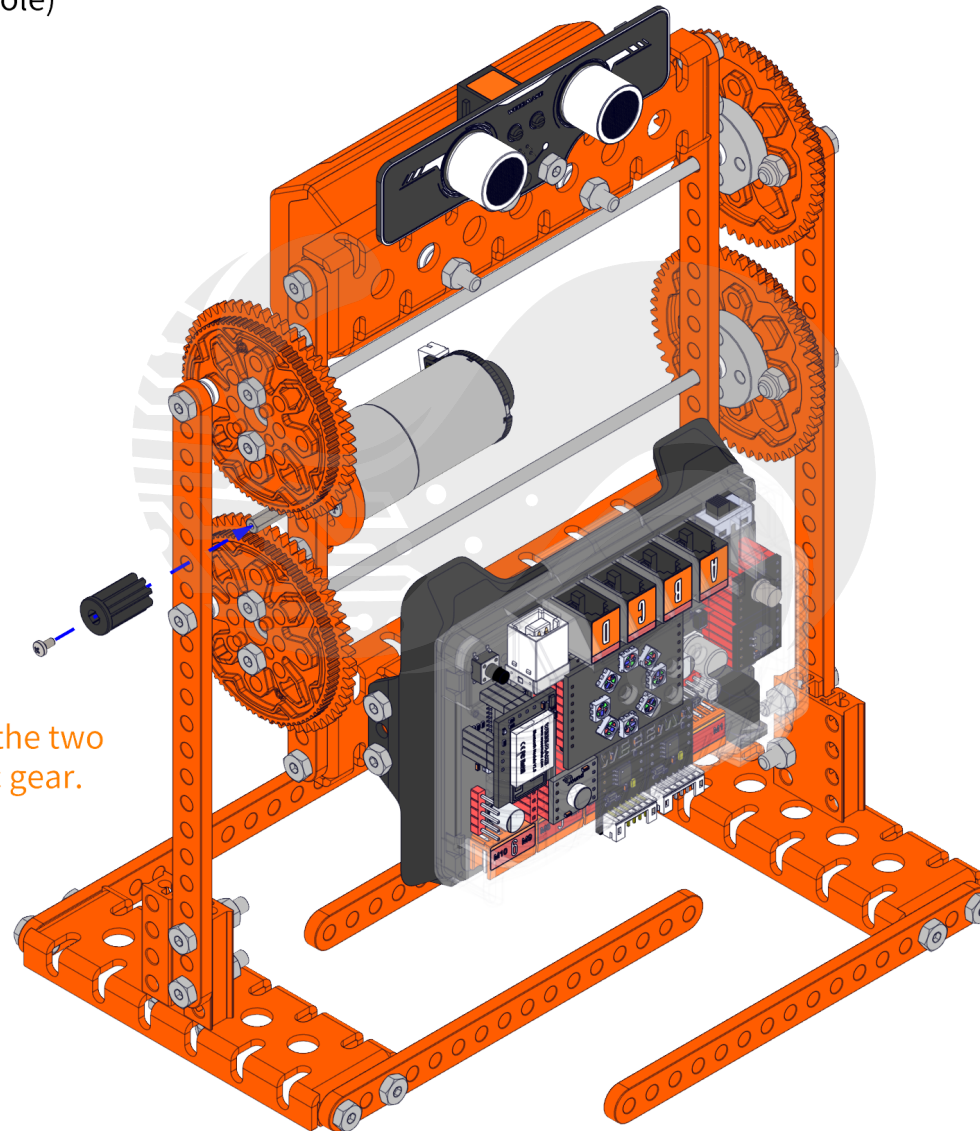
11. Assemble 8T Plastic Gear



1xScrew M2*4

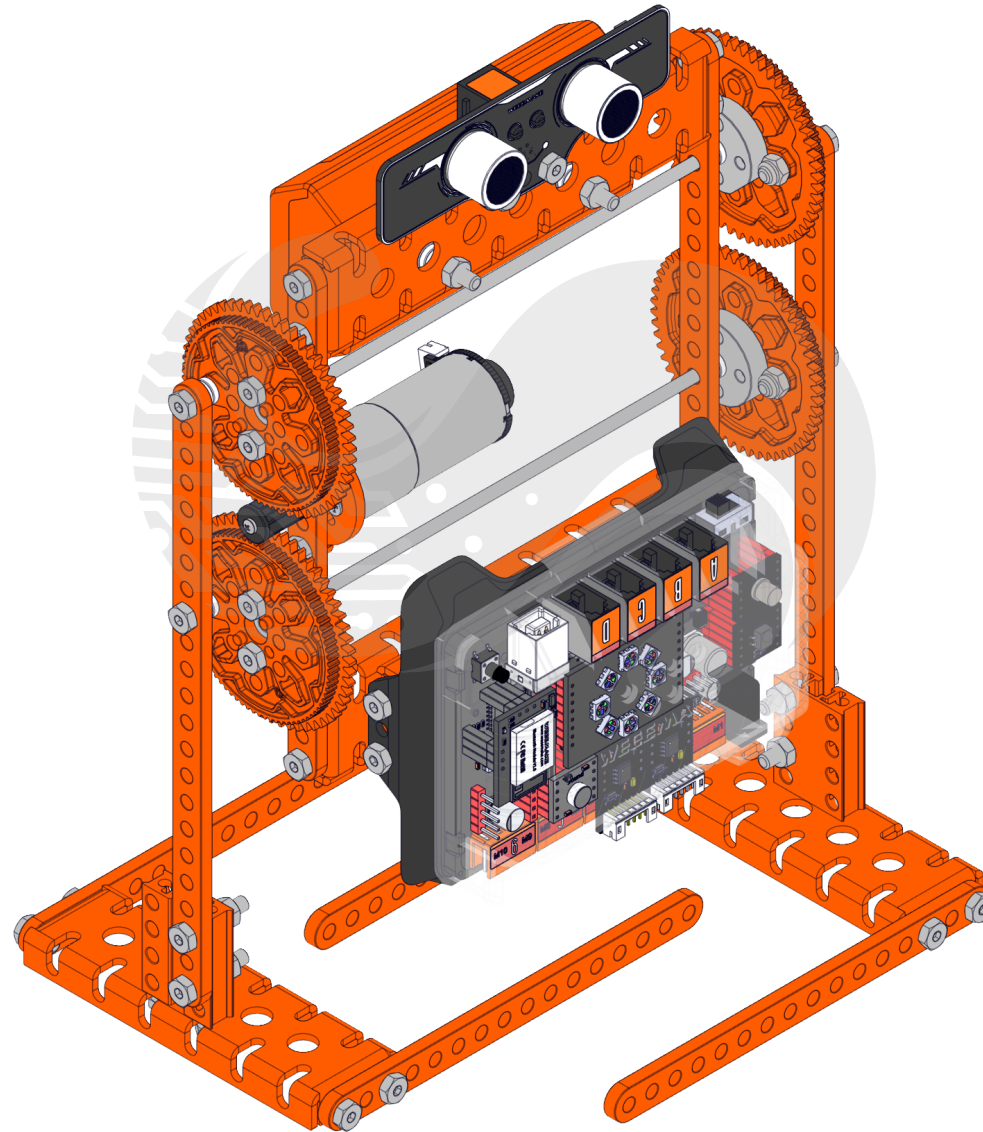


1x8T-Plastic Gear (Flat Hole)



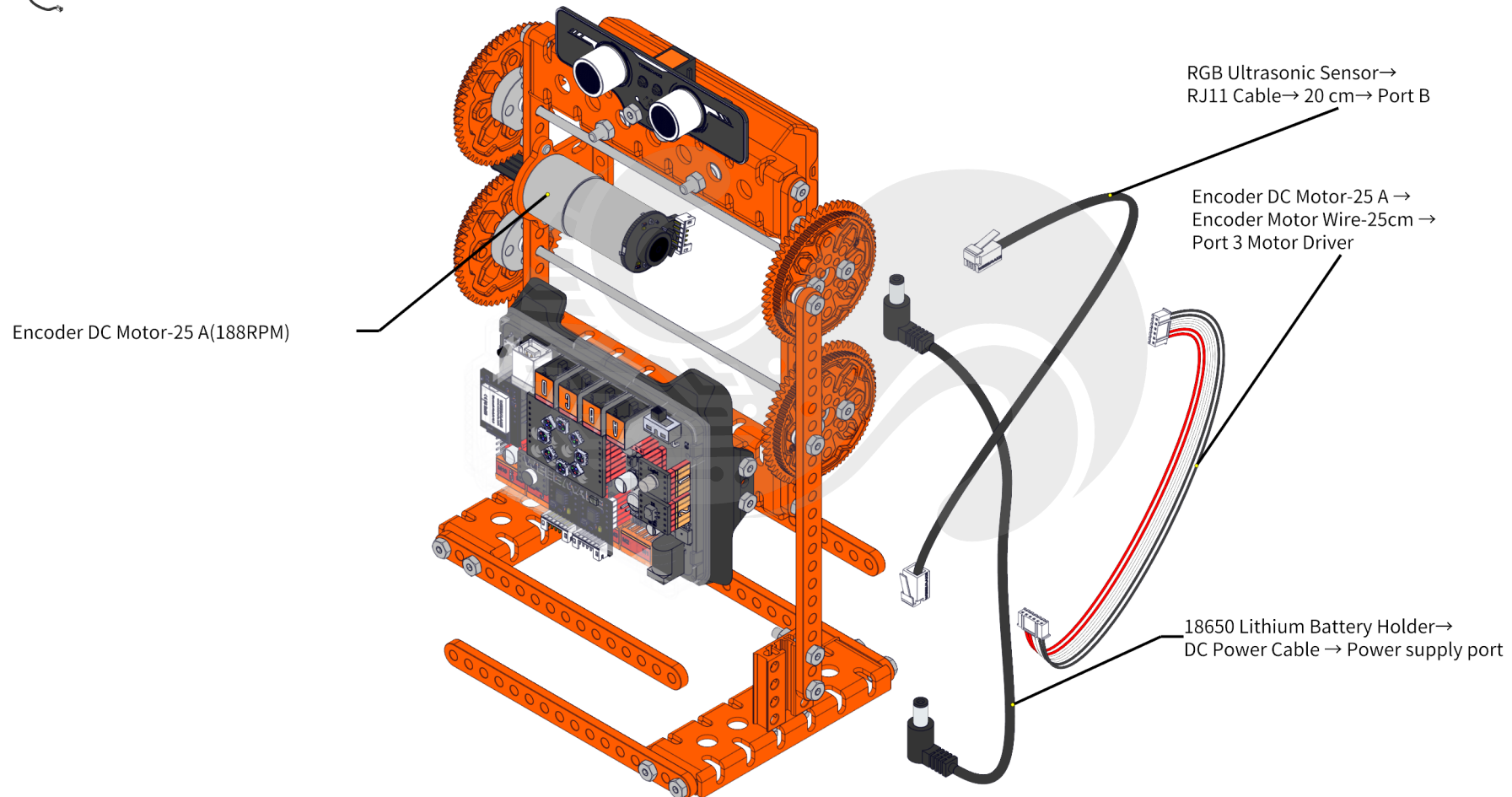
Tips: Adjust the two legs, stagger the two feet in tandem to install 8T plastic gear.

11. Assemble 8T Plastic Gear

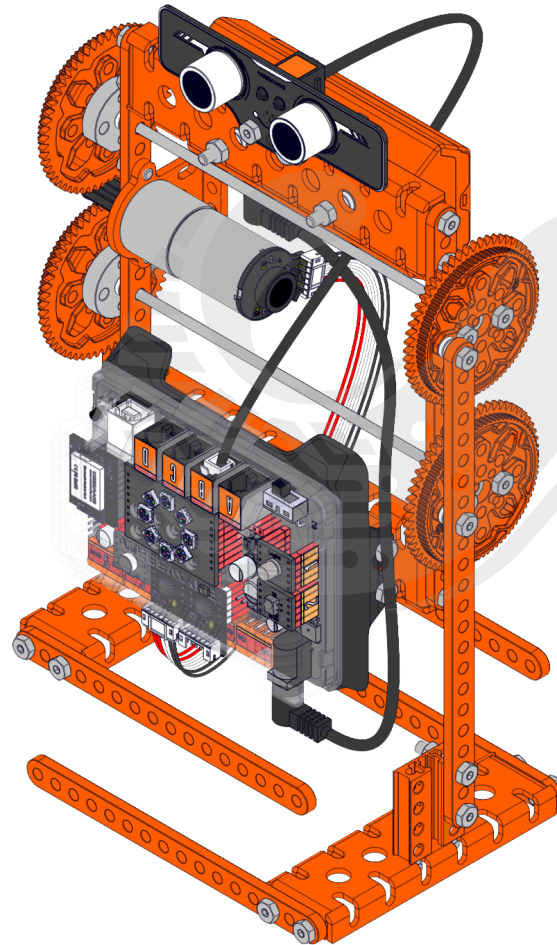


12.Wiring

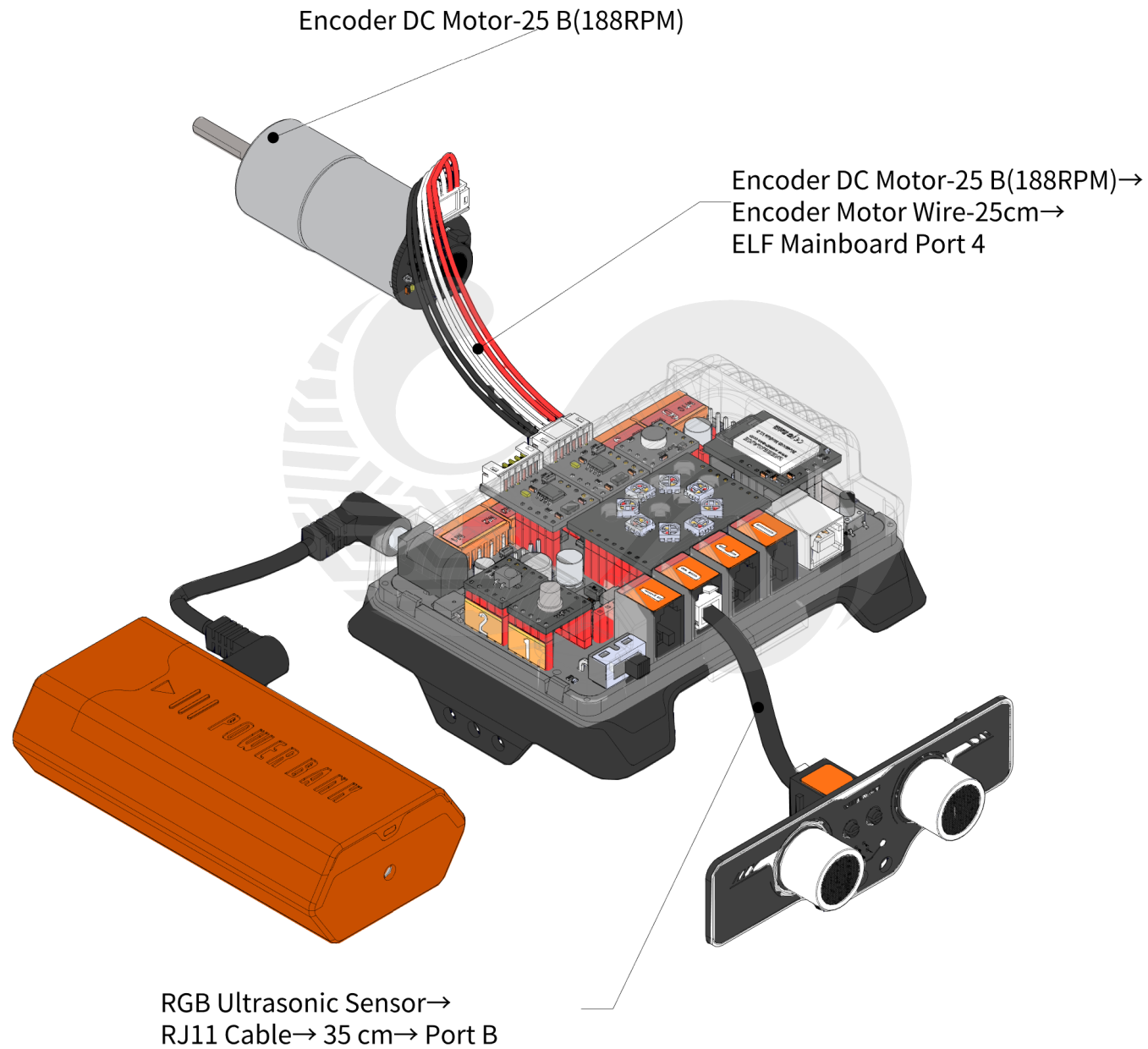
-  1x5.5-2.1 DC Power Cable-20cm
-  2xEncoder Motor Wire-25cm
-  1x4P4C RJ11 Cable-20cm



12.Wiring



13.Wiring



14.Completion Diagram

