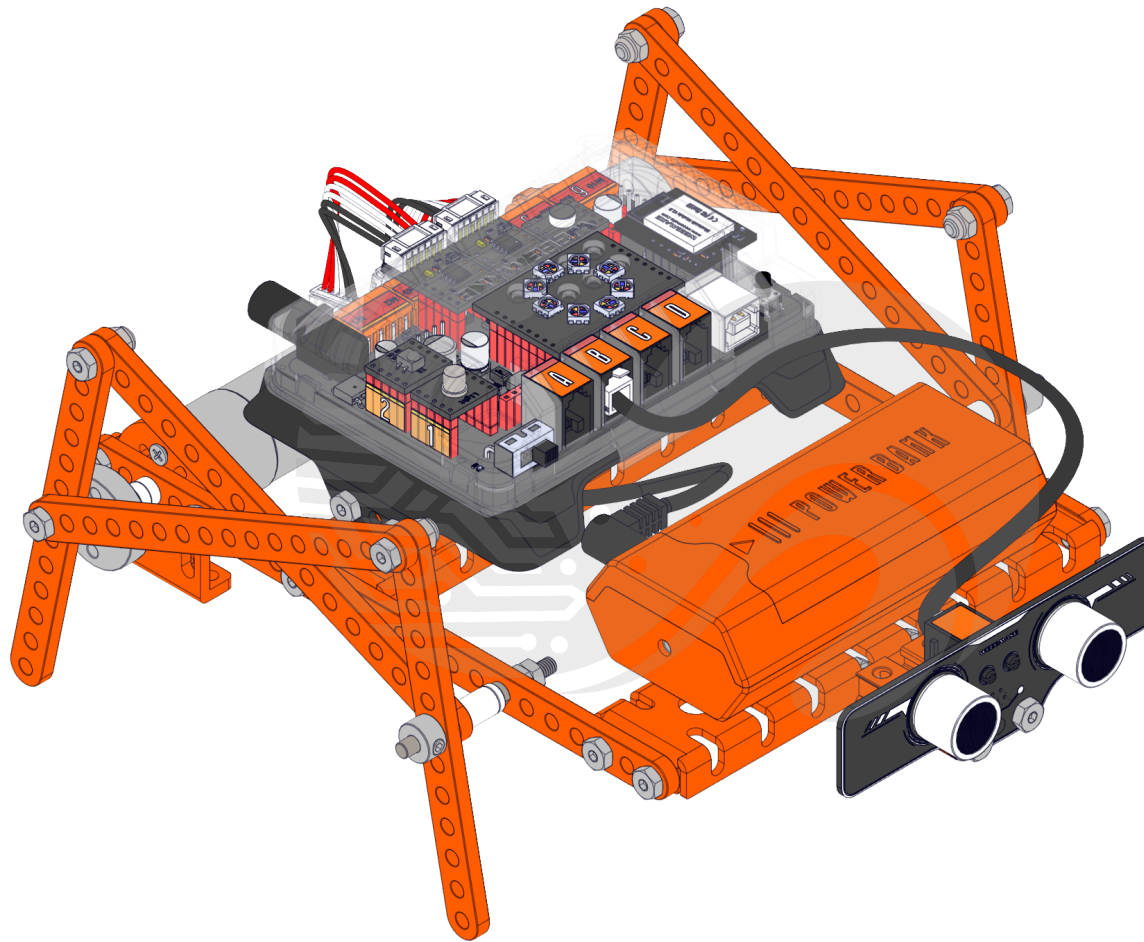


「 Chapter 8 Spider Robot 」



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)



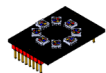
1xELF Mainboard



1xELF Mainboard Lid



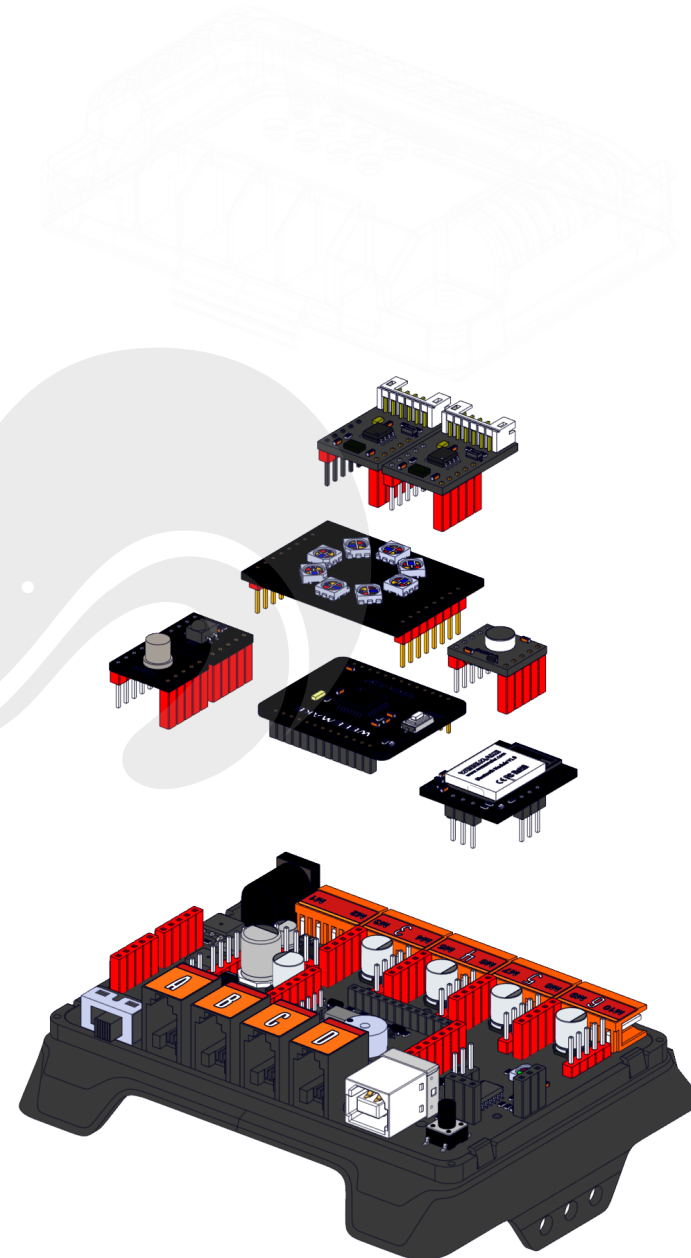
1xELF Mainbaord Base



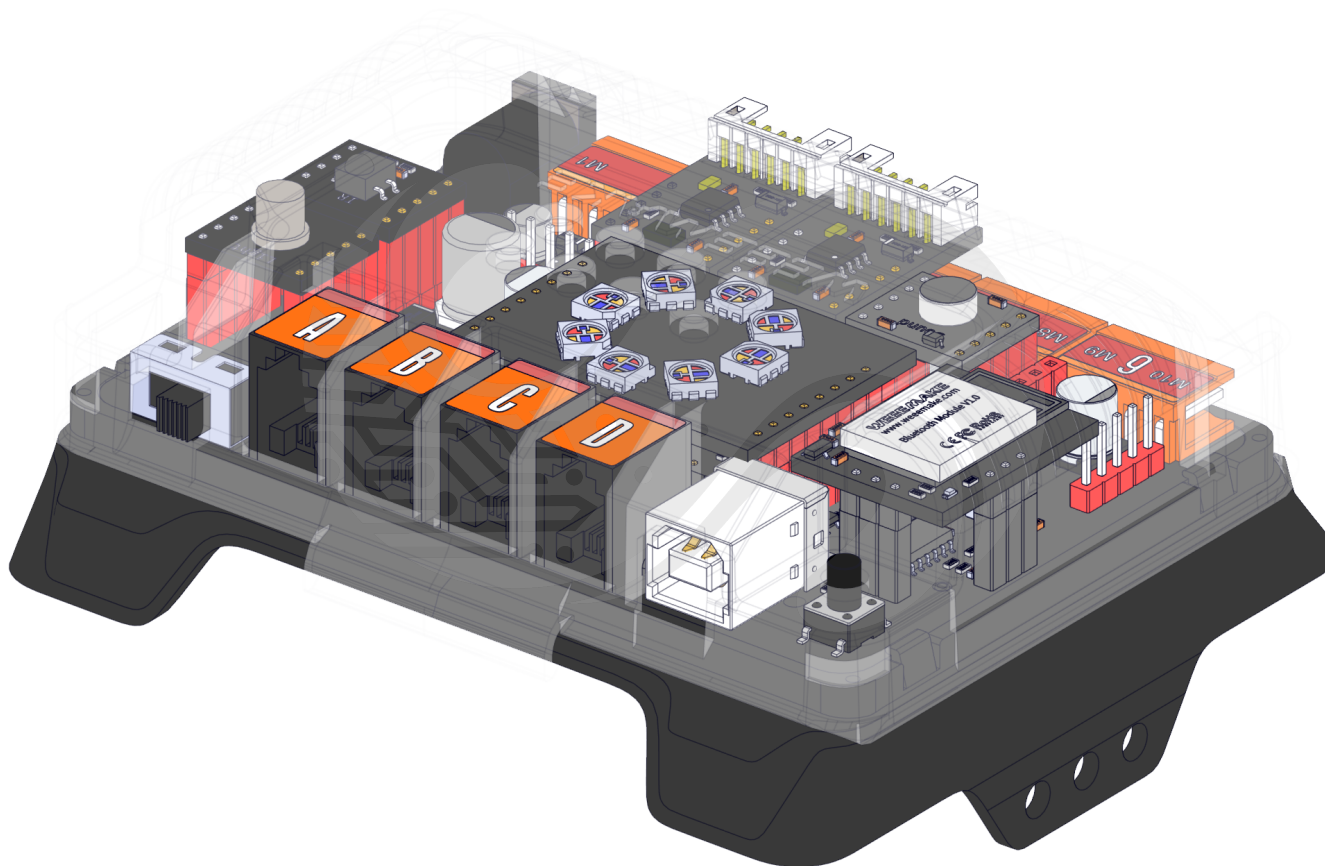
1xRGB LED - 8 (Pin)



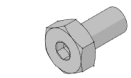
2xDC/Encoder Motor Driver



0.Common Module Installation—Assembly Guide of Mainboard ELF



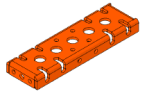
0.Common Module Installation—Assembly Guide of Mainboard ELF



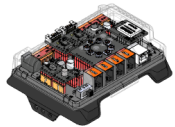
4xScrew M4*8



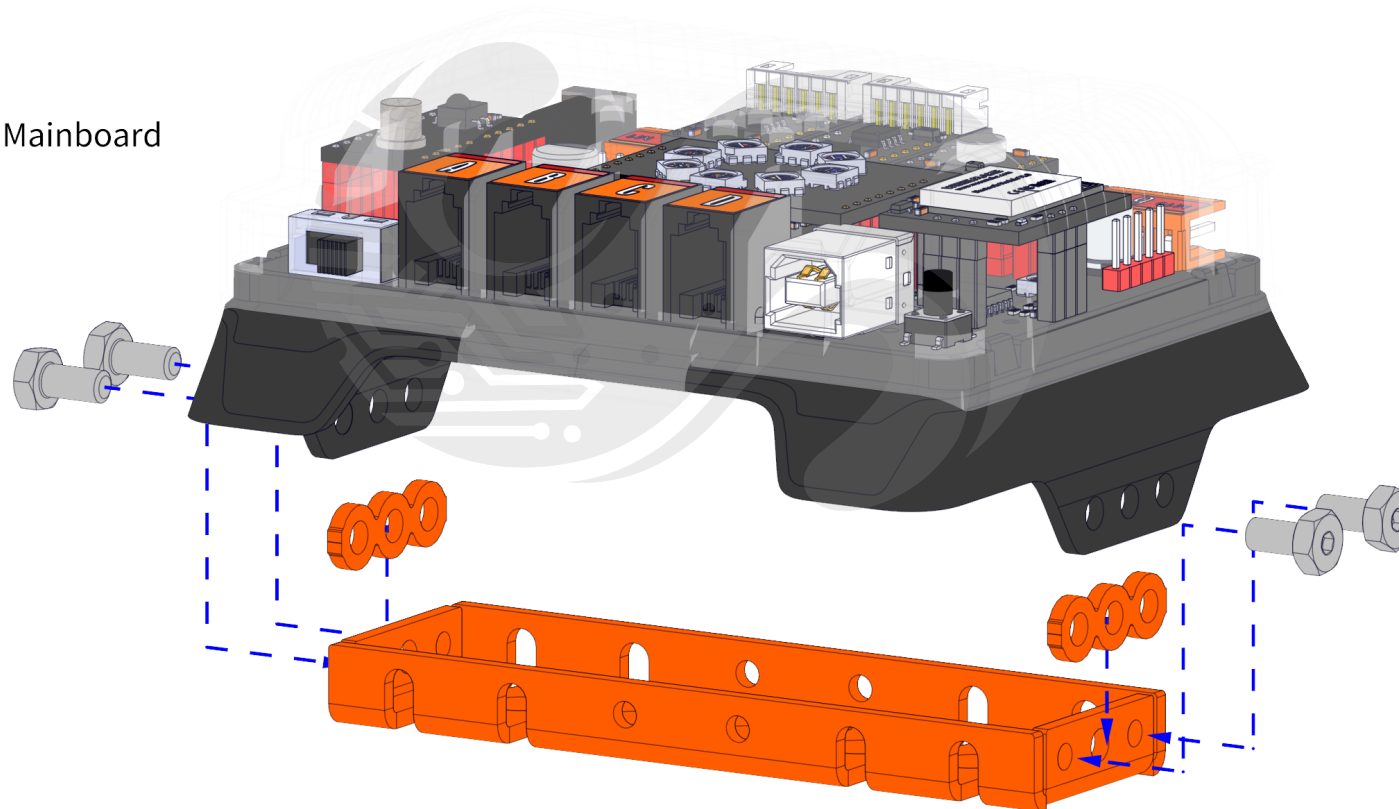
2xLinkage 0208-24



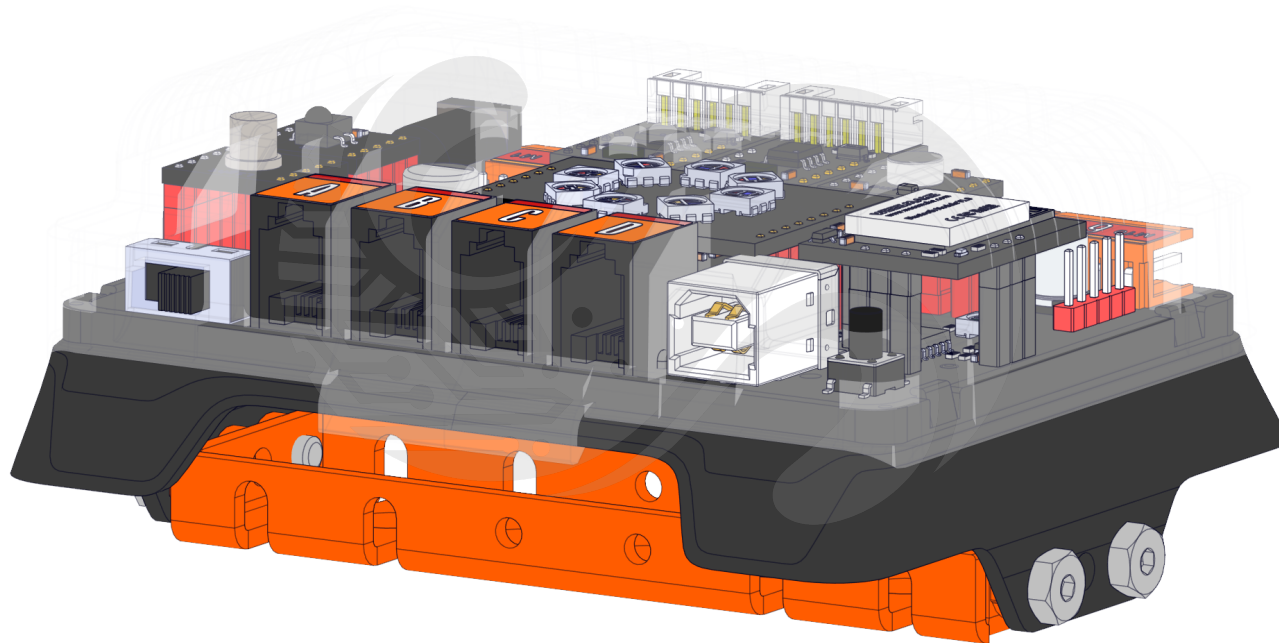
1xBeam 1030-100-B



1xELF Mainboard



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



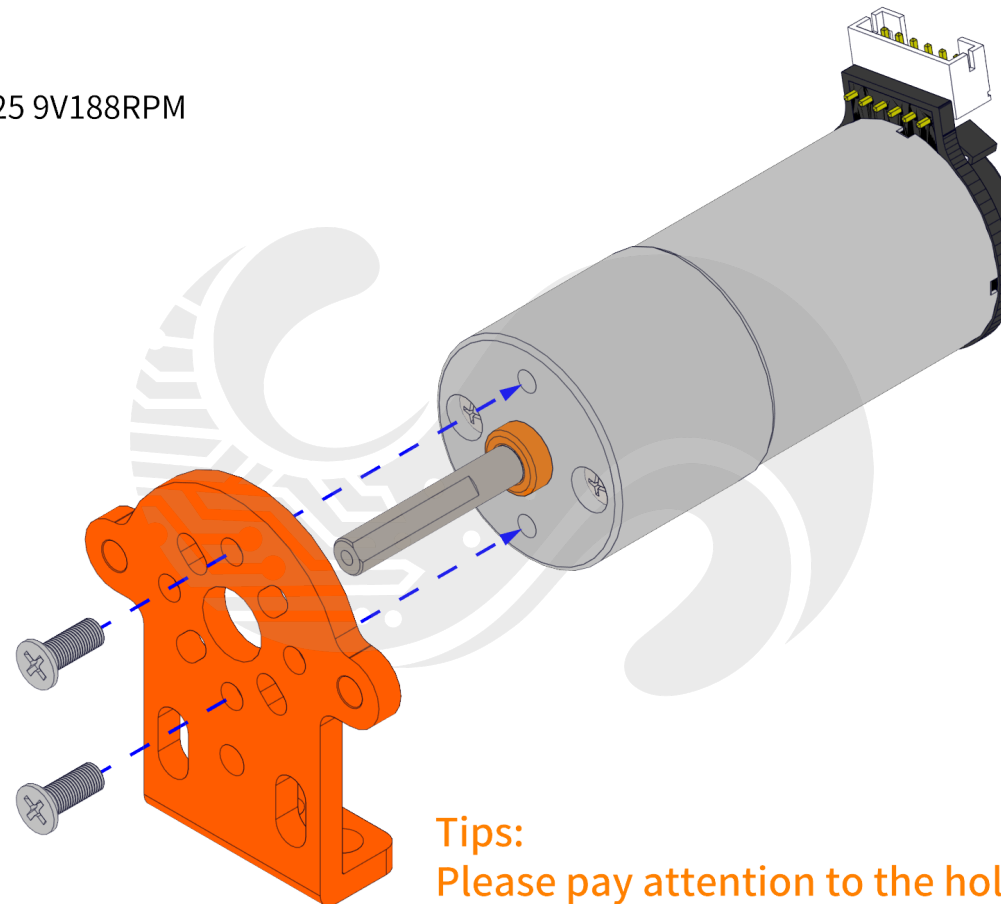
2xCountersunk Head Screw M3*6



1x25 Motor Bracket

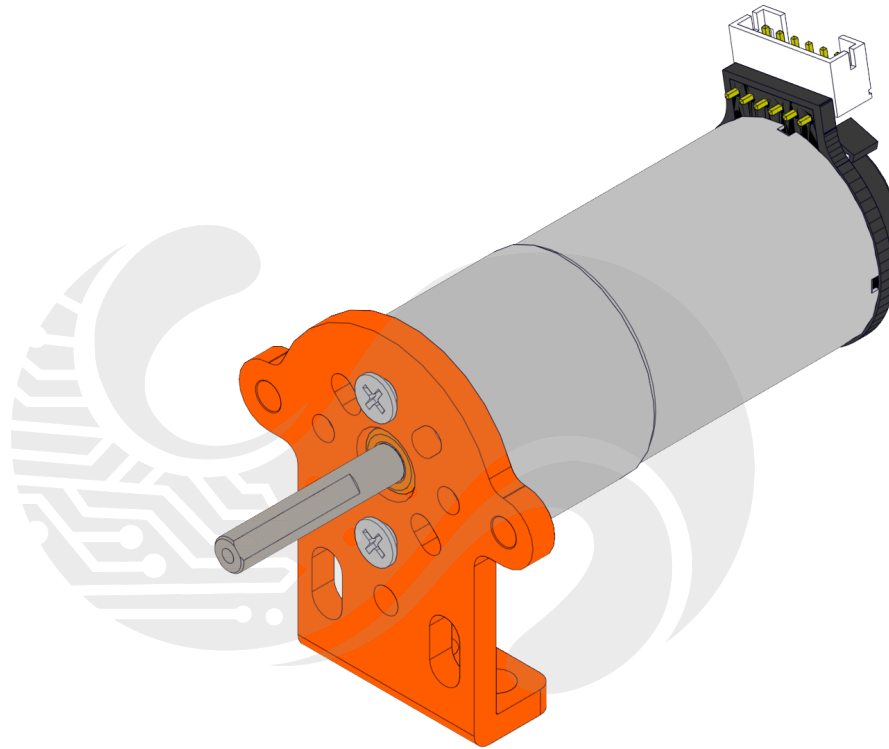


1xEncoder DC Motor-25 9V188RPM



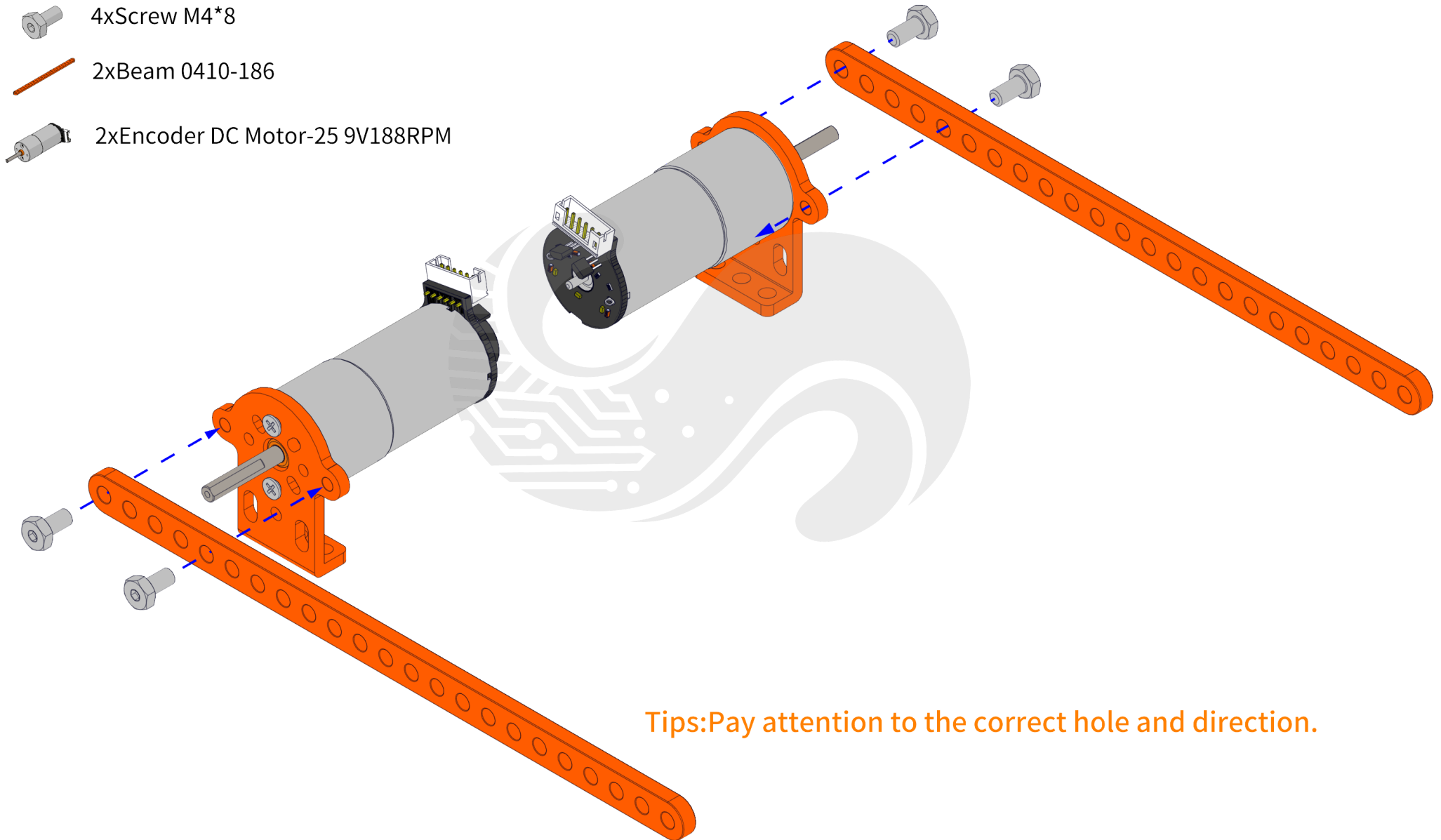
Tips:
Please pay attention to the hole position and direction.

1.Assemble Encoder DC Motor-25



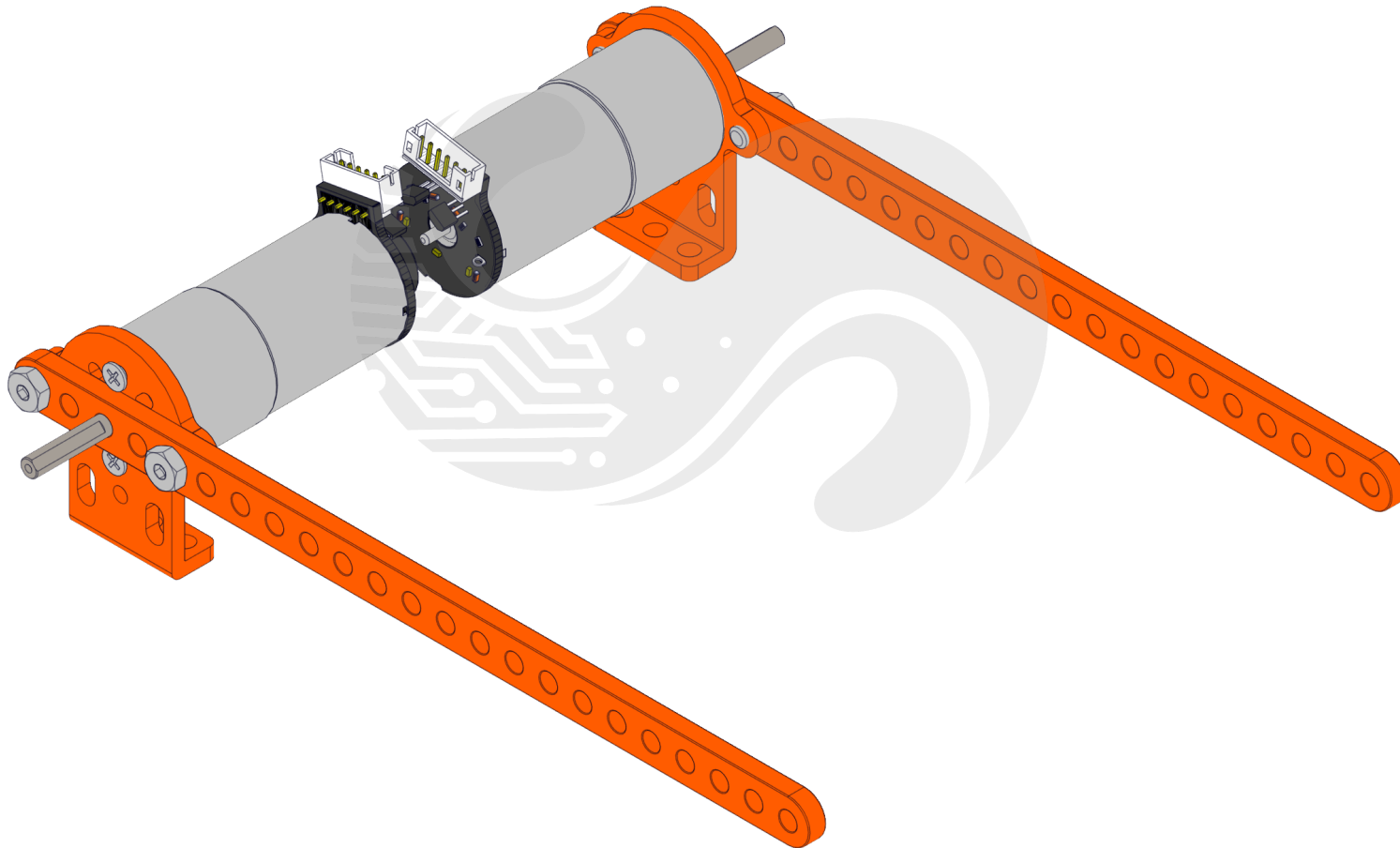
2.Fix Encoder DC Motor-25

-  4xScrew M4*8
-  2xBeam 0410-186
-  2xEncoder DC Motor-25 9V188RPM

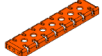


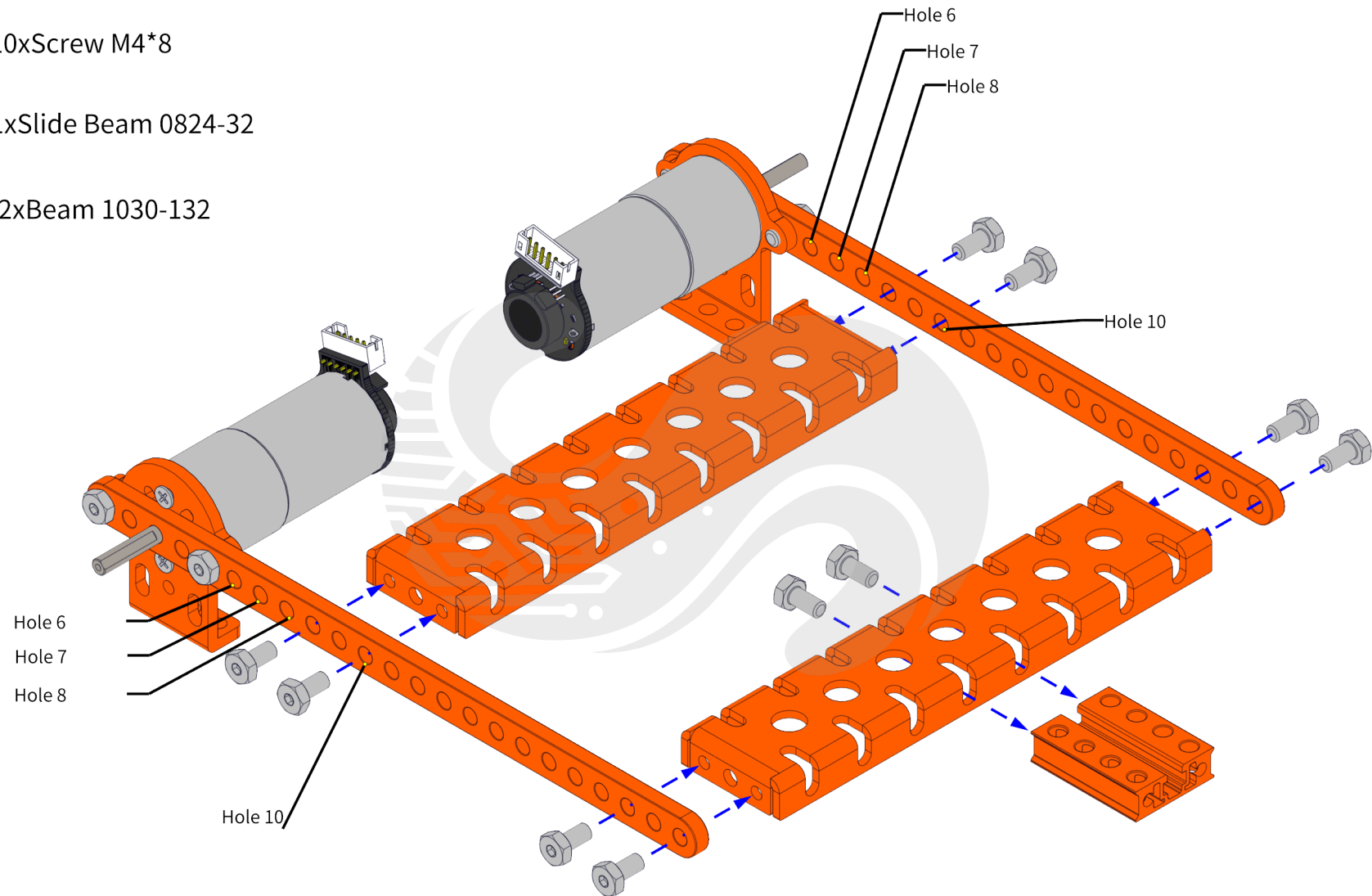
Tips:Pay attention to the correct hole and direction.

2.Fix Encoder DC Motor-25

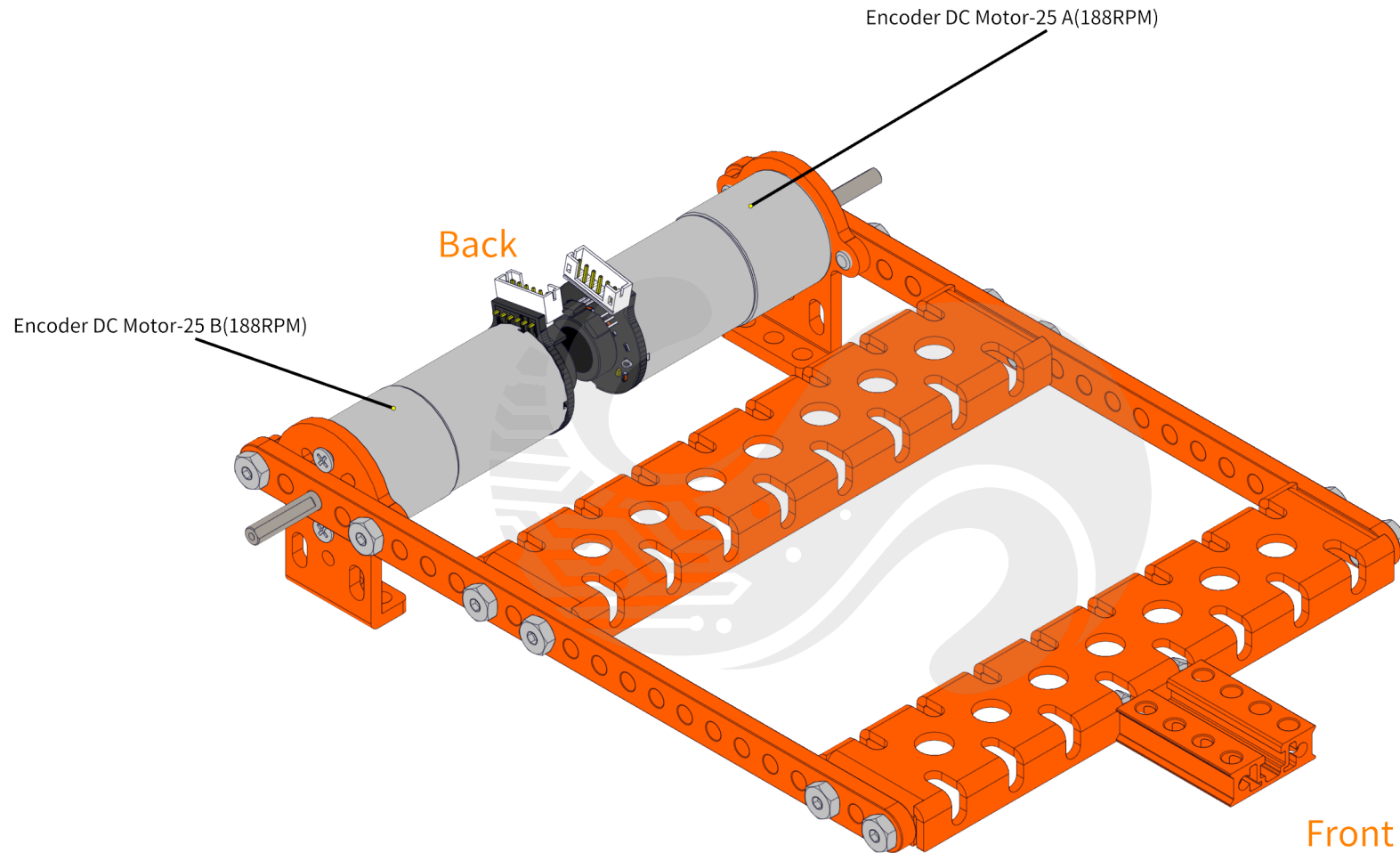


3.Assemble Base Structure

-  10xScrew M4*8
-  1xSlide Beam 0824-32
-  2xBeam 1030-132

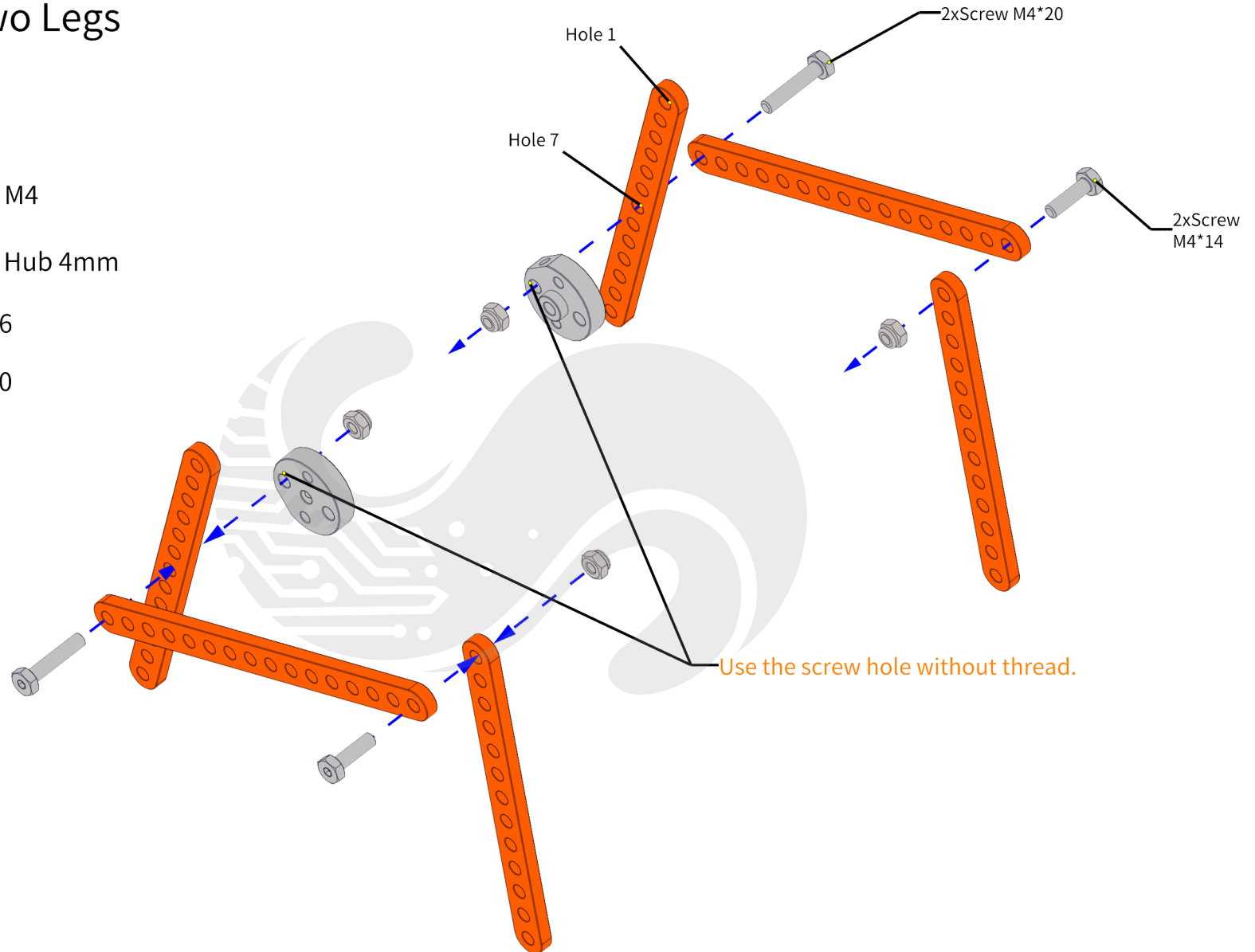


3.Assemble Base Structure

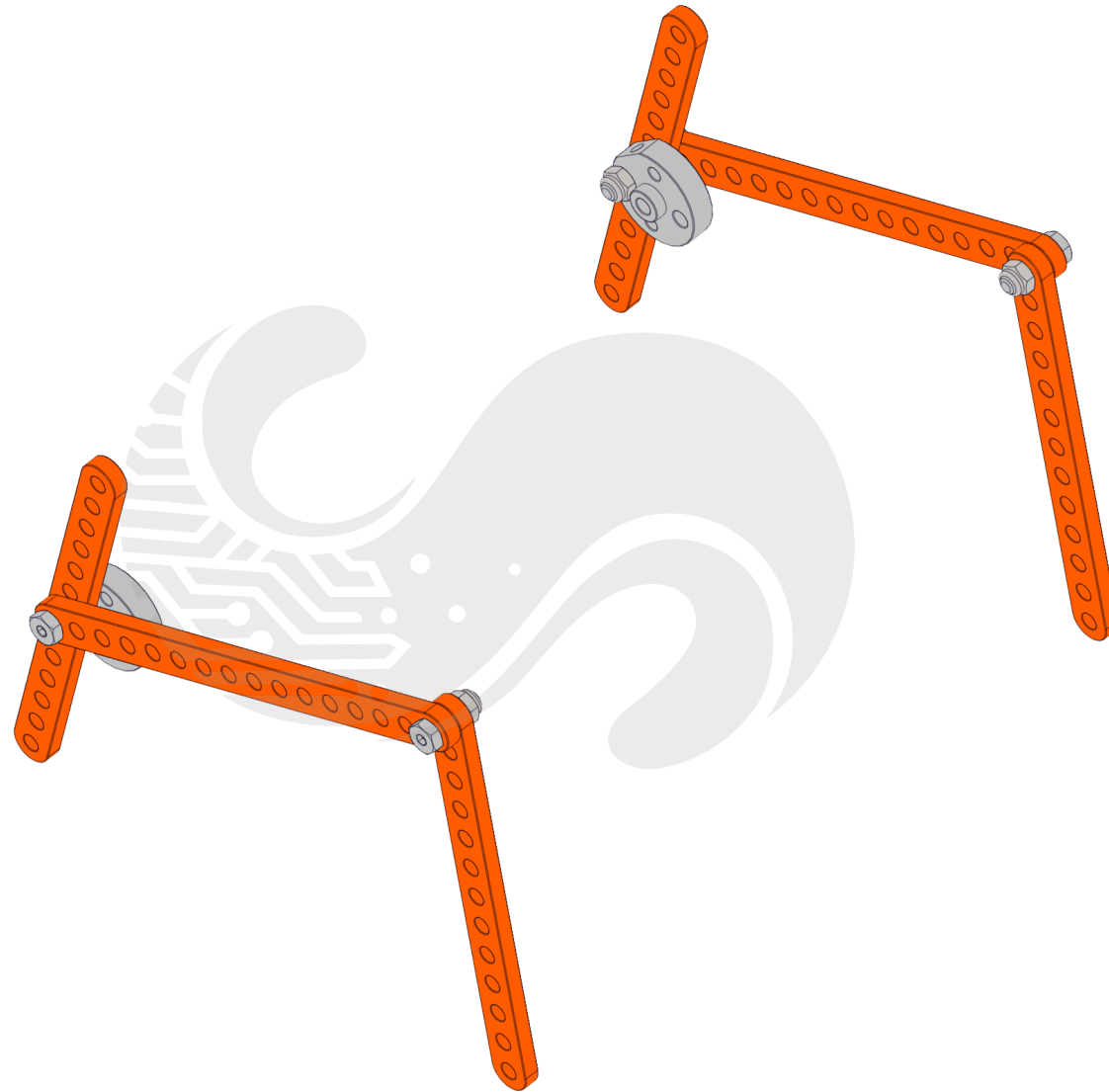


4.Assemble Two Legs

-  2xScrew M4*14
-  2xScrew M4*25
-  4xNylon Locknut M4
-  2xDriving Flange Hub 4mm
-  4xBeam 0410-106
-  2xBeam 0410-130



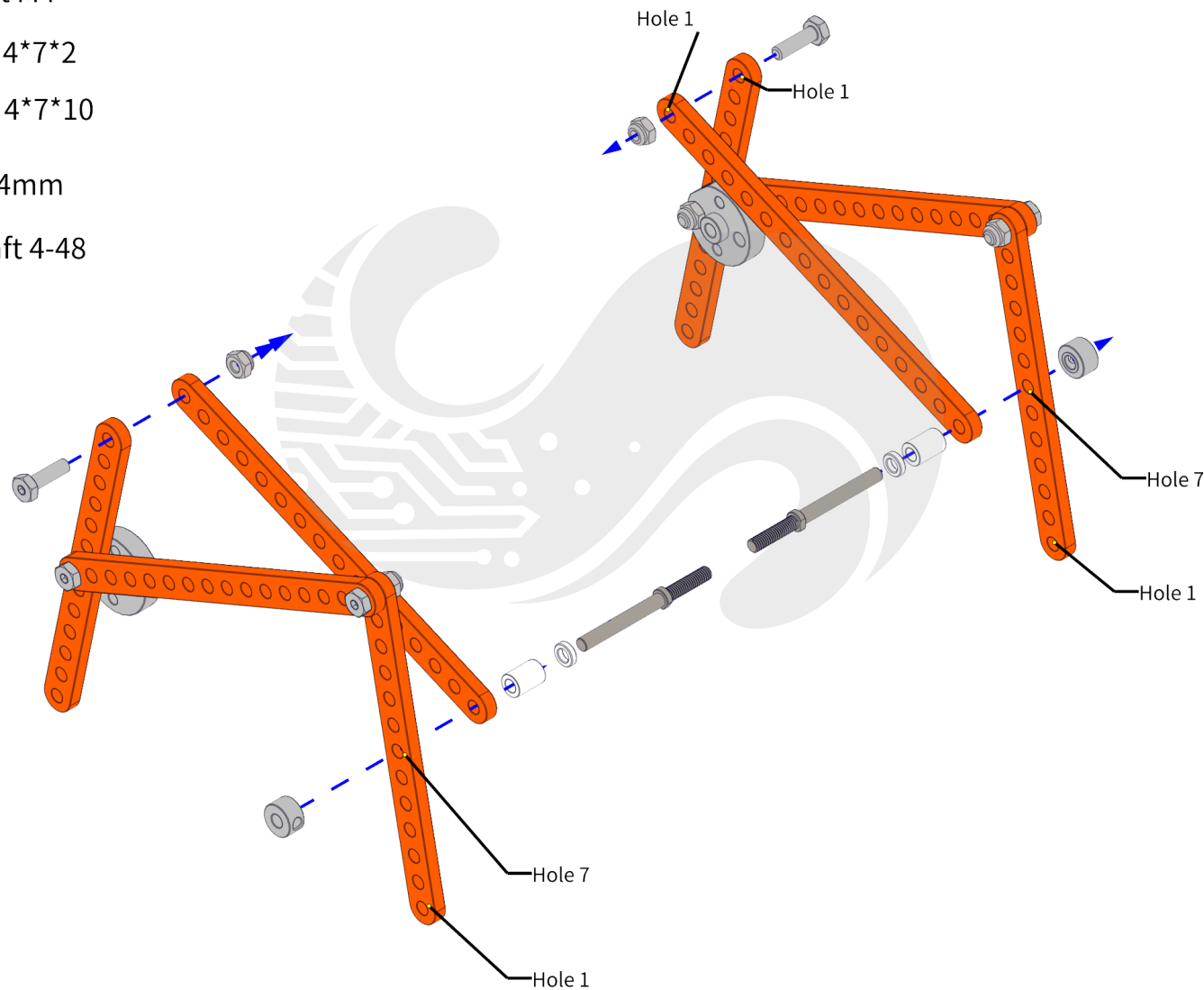
4.Assemble Two Legs



Tips: Screw the nylon locknut properly. Neither too tight to lock the driven wheel, nor too loose to shake the driven wheel.

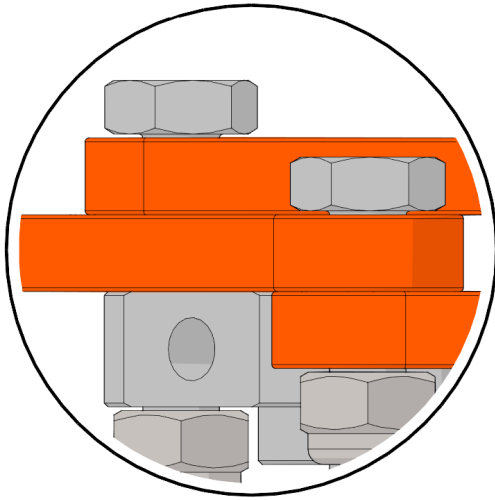
4. Assemble Two Legs

-  2xScrew M4*14
-  2xNylon Locknut M4
-  2xNylon Spacer 4*7*2
-  2xNylon Spacer 4*7*10
-  2xShaft Collar - 4mm
-  2xThreaded shaft 4-48
-  Beam 0410-130

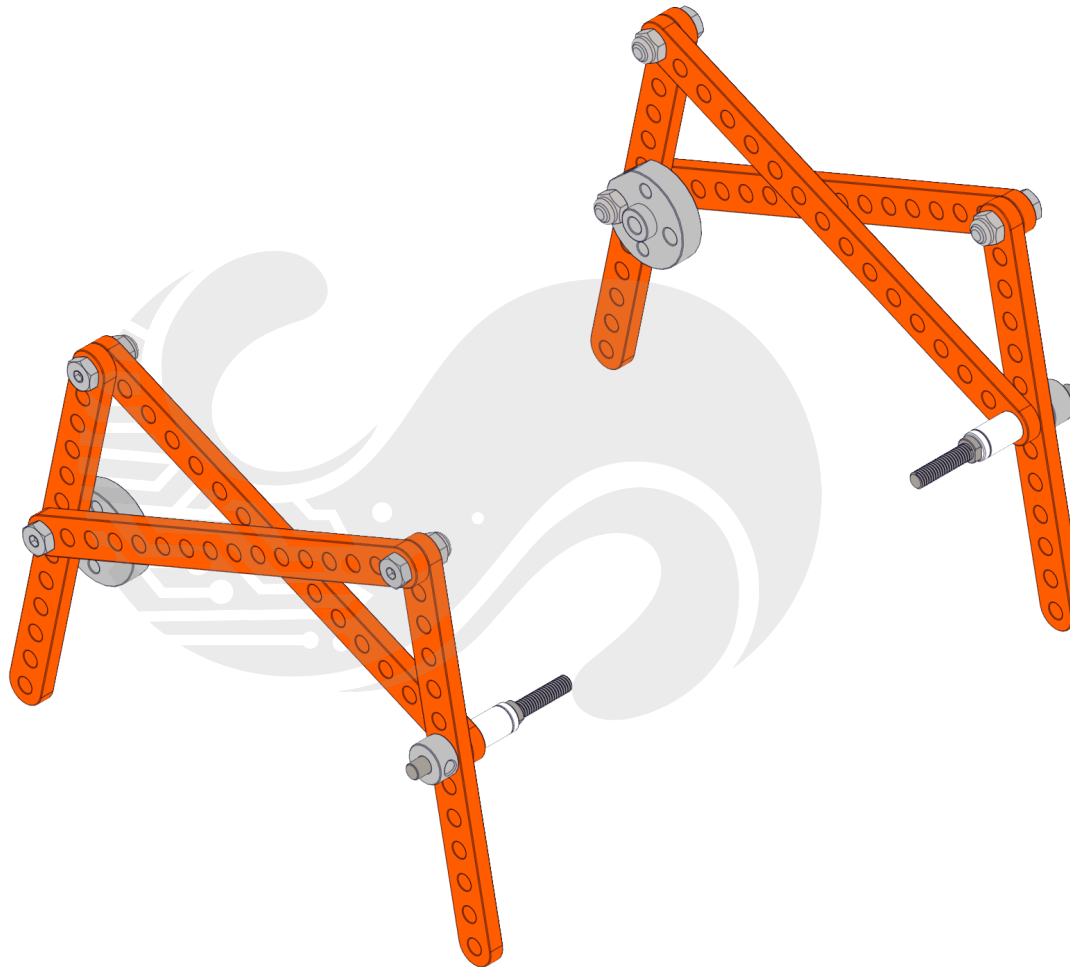


Tips: Screw the nylon locknut properly. Neither too tight to lock the driven wheel, nor too loose to shake the driven wheel.

4.Assemble Two Legs



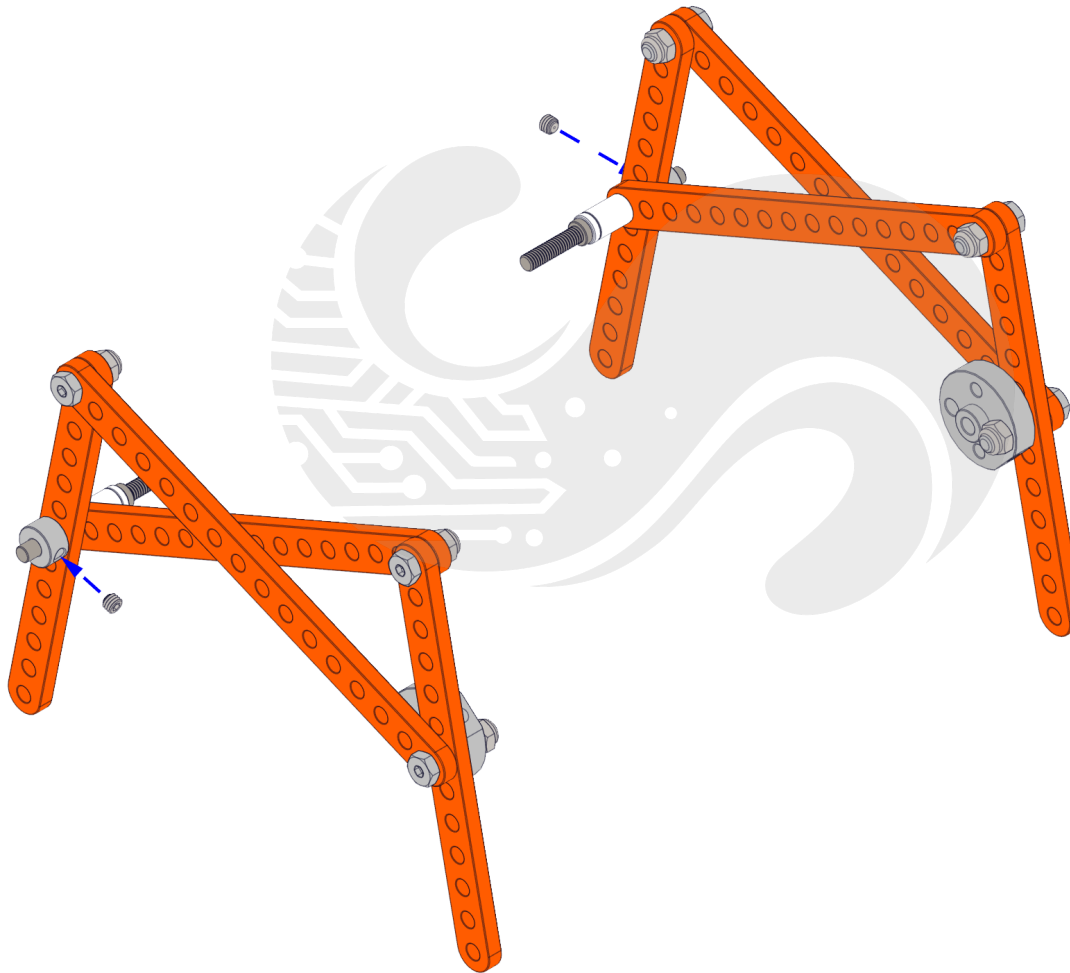
Reference view



Tips: Screw the nylon locknut properly. Neither too tight to lock the driven wheel, nor too loose to shake the driven wheel.

4.Assemble Two Legs

 2xHeadless Screw M4*3



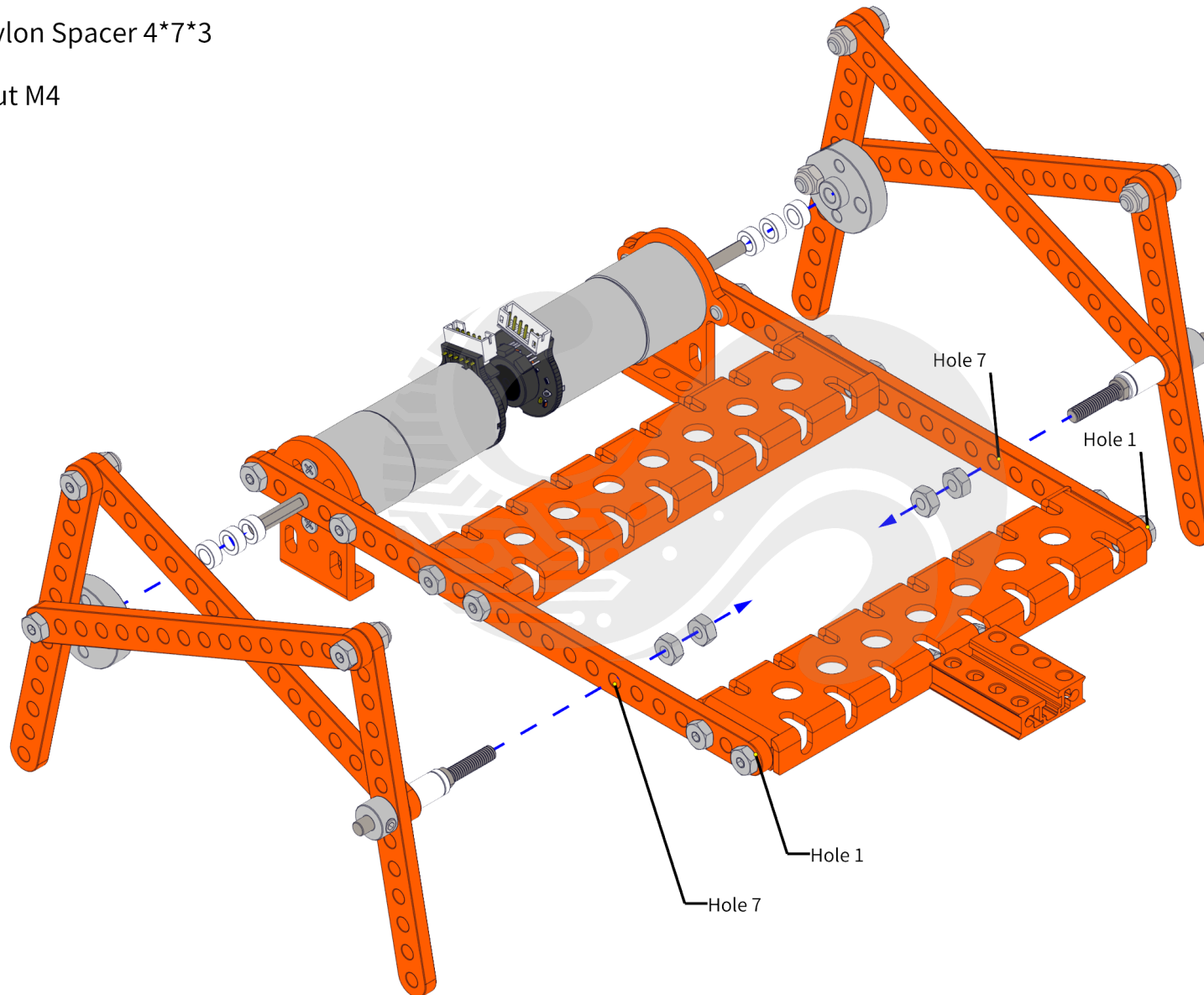
4.Assemble Two Legs



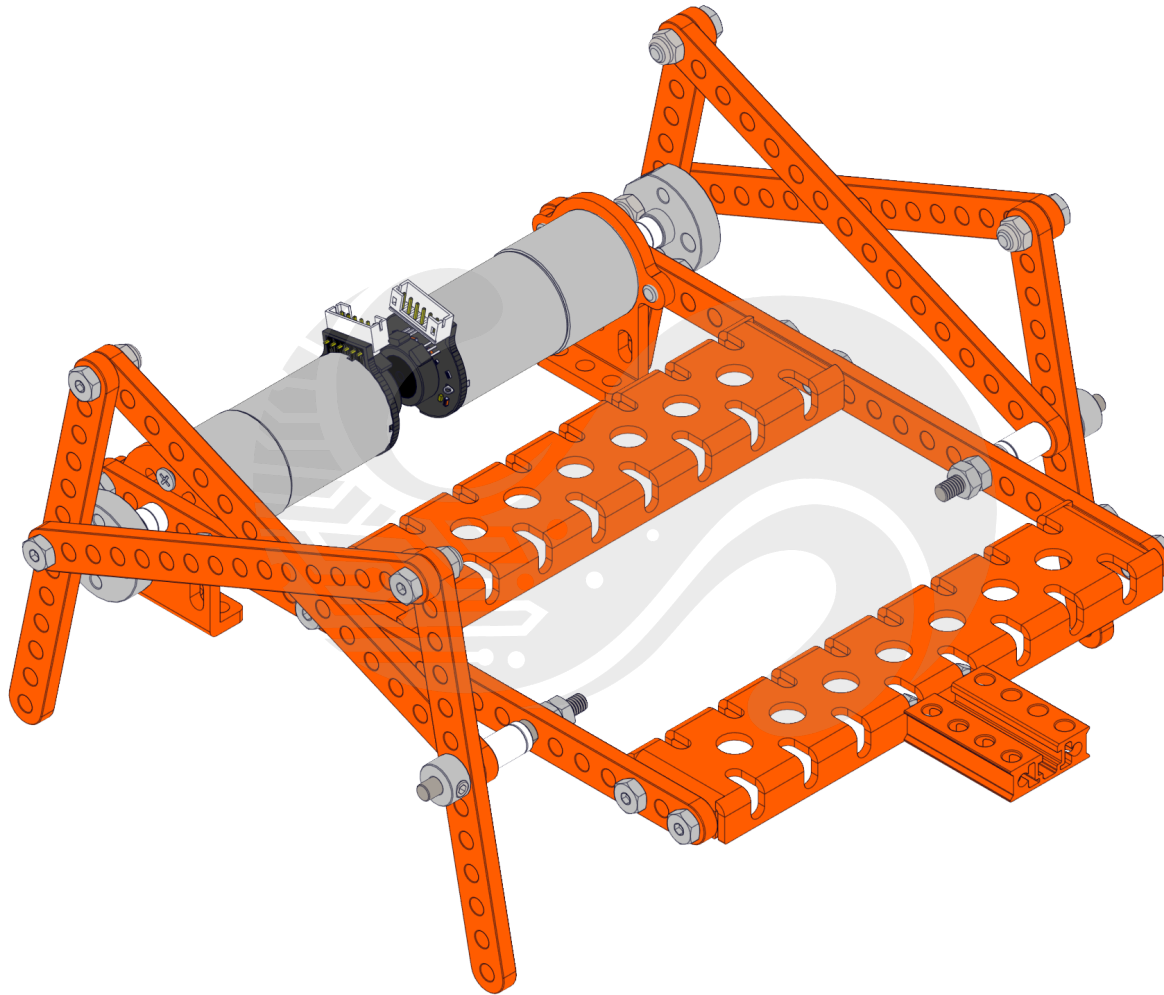
5. Assemble Four Legs

6xNylon Spacer 4*7*3

4xNut M4

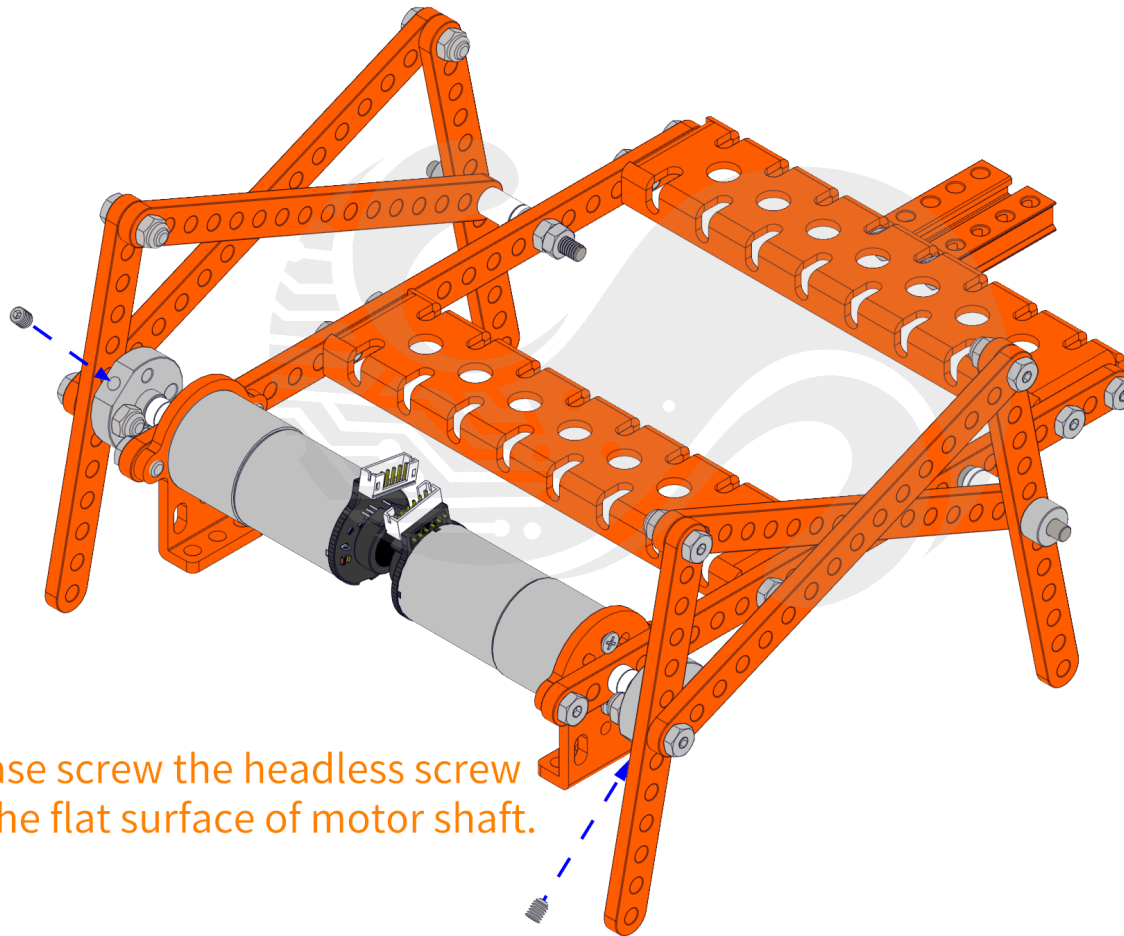


5.Assemble Four Legs



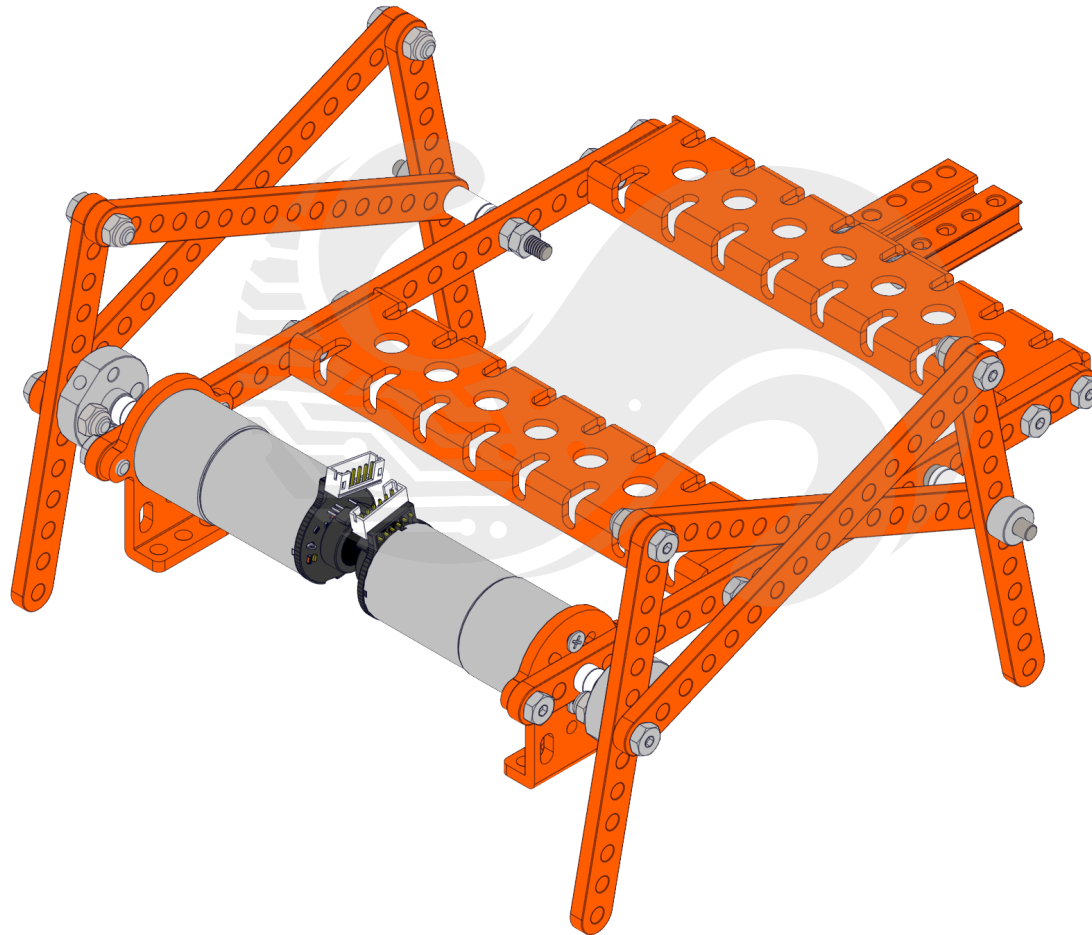
6.Assemble Headless Screw M4*5

 2xHeadless Screw M4*5



Tips: Please screw the headless screw M4*5 to the flat surface of motor shaft.

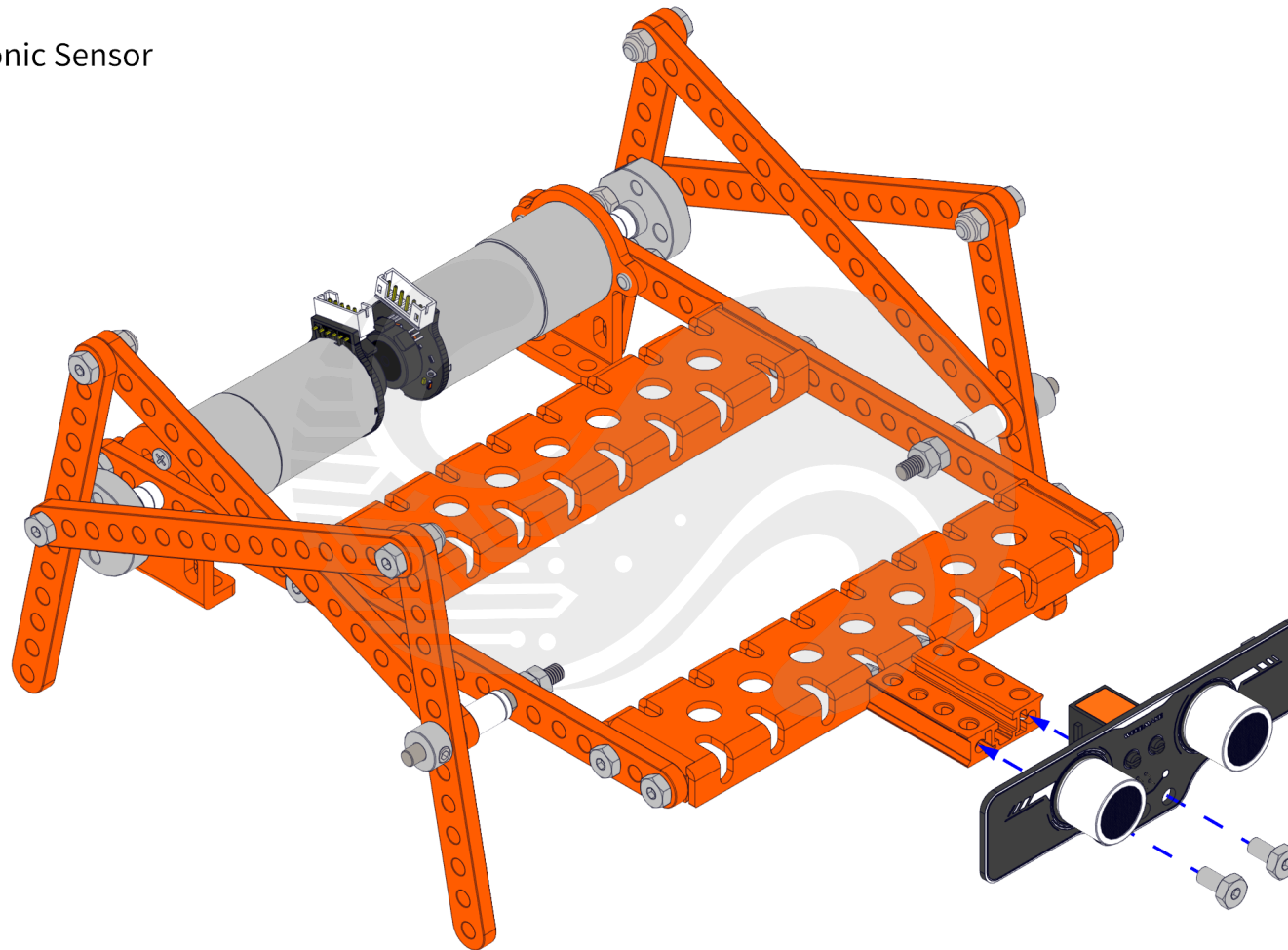
6.Assemble Headless Screw M4*5



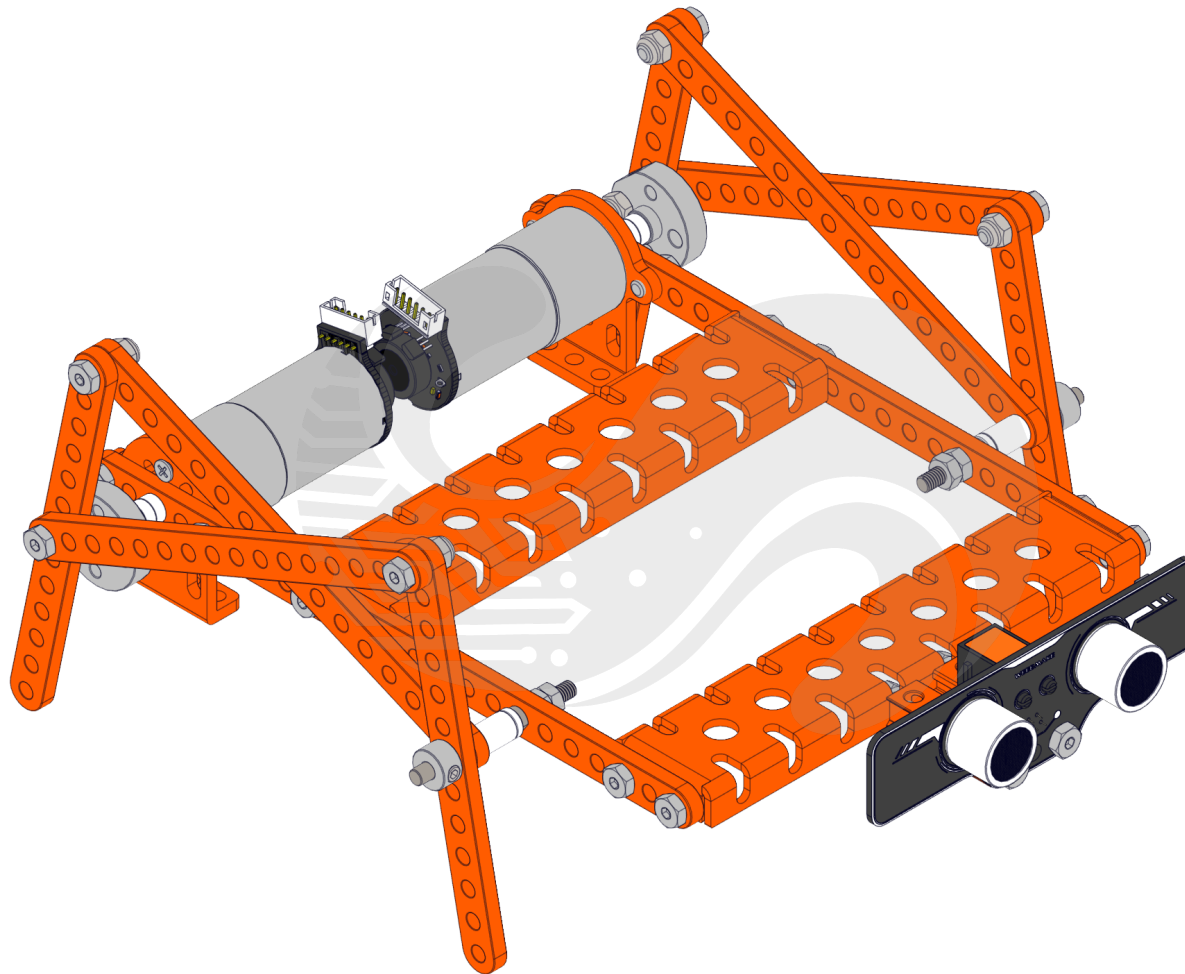
7. Assemble RGB Ultrasonic Sensor

 2xHeadless Screw M4*5

 1xRGB Ultrasonic Sensor



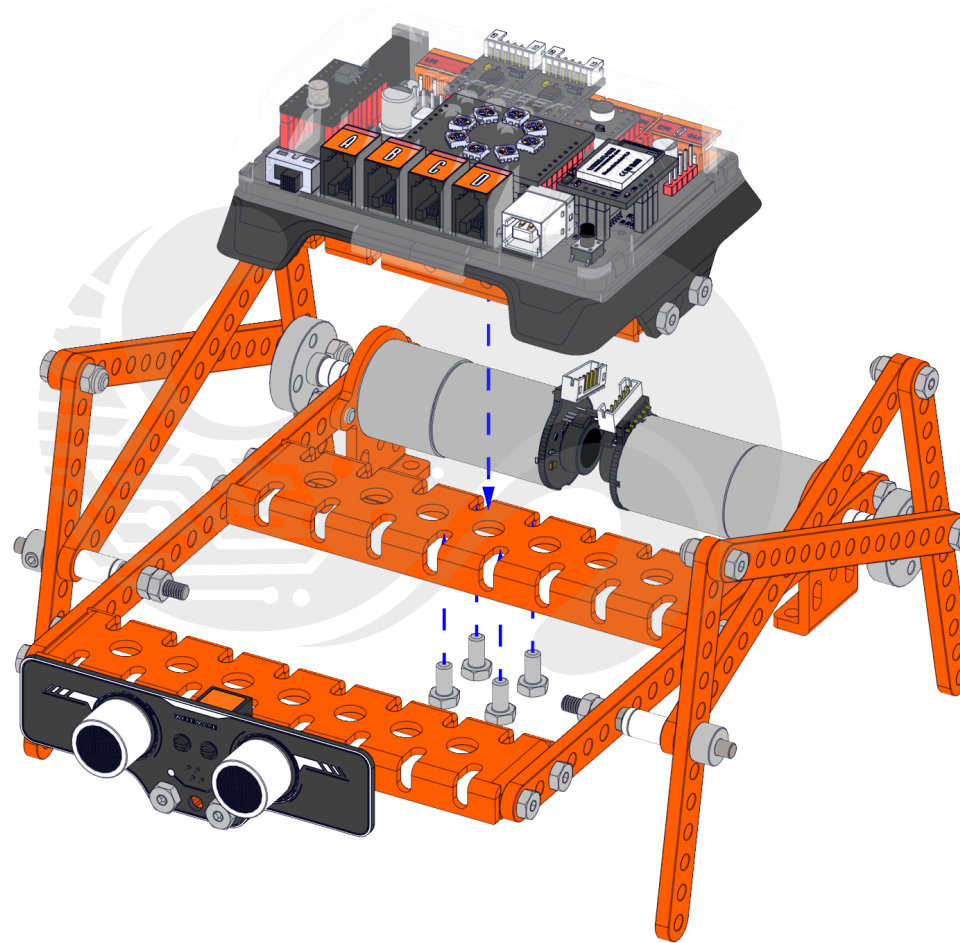
7.Assemble RGB Ultrasonic Sensor



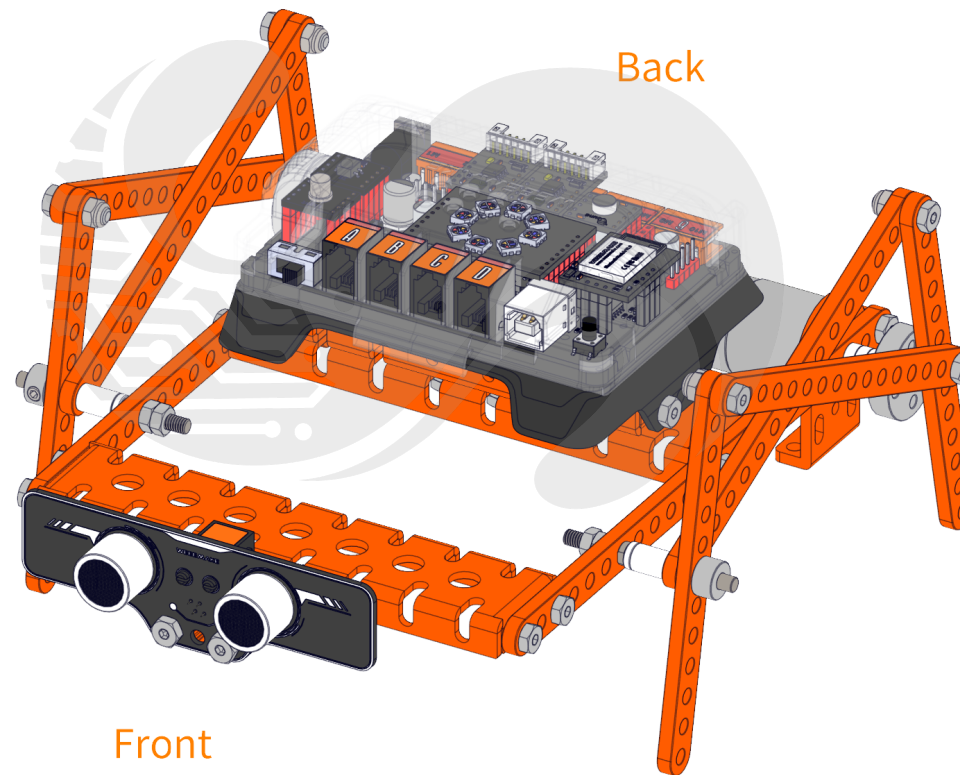
8.Assemble Mainboard ELF

 4xScrew M4*8

 1xELF Mainboard Assembly



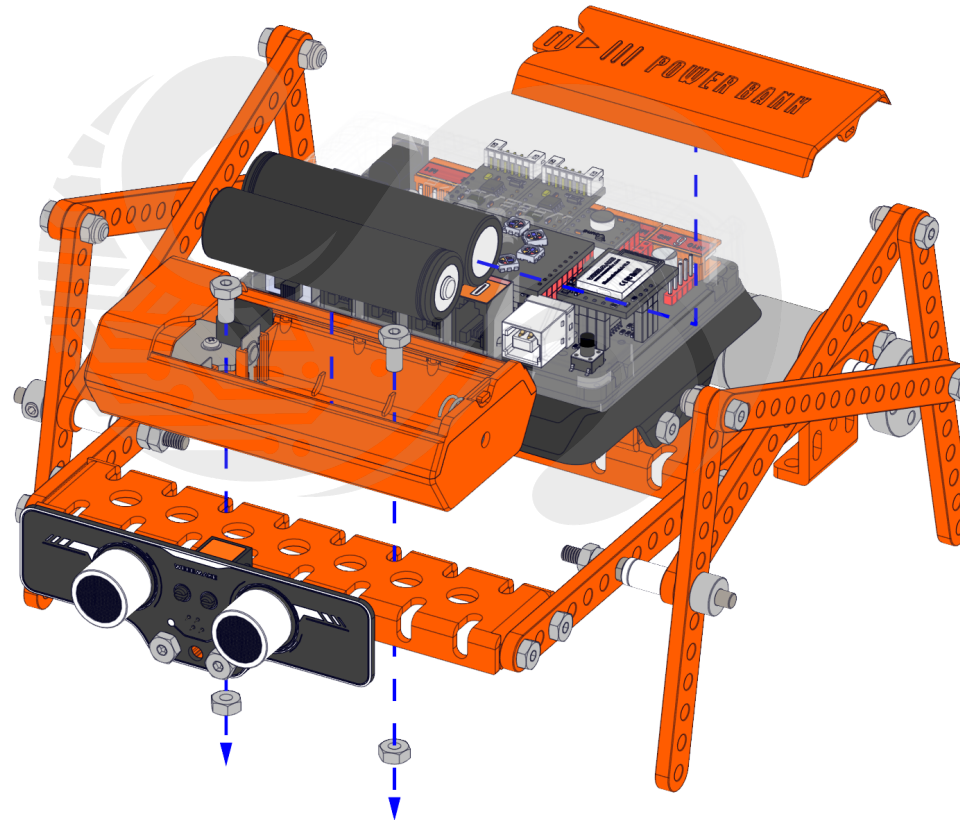
8.Assemble Mainboard ELF



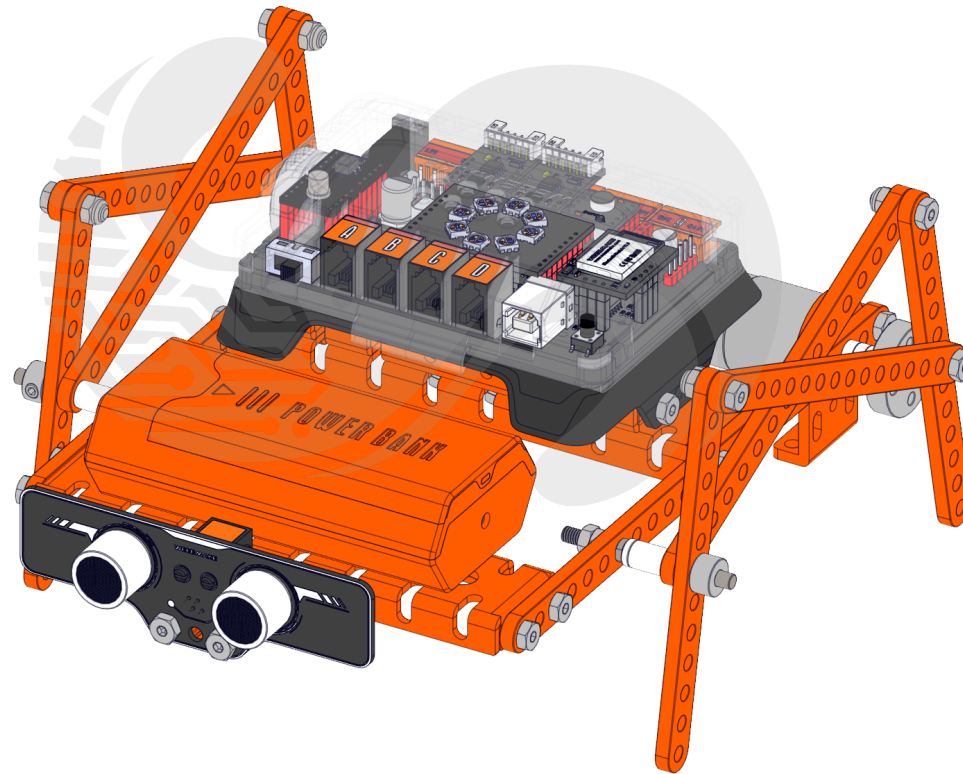
Note: While fixing the mainboard ELF, make the USB interface towards the front.

9. Assemble 18650 Lithium Battery

-  2xScrew M4*8
-  2xScrew Nut M4
-  2x18650 Lithium Battery
-  1x18650 Battery Holder Cover
-  1x18650 Battery Holder



9. Assemble 18650 Lithium Battery

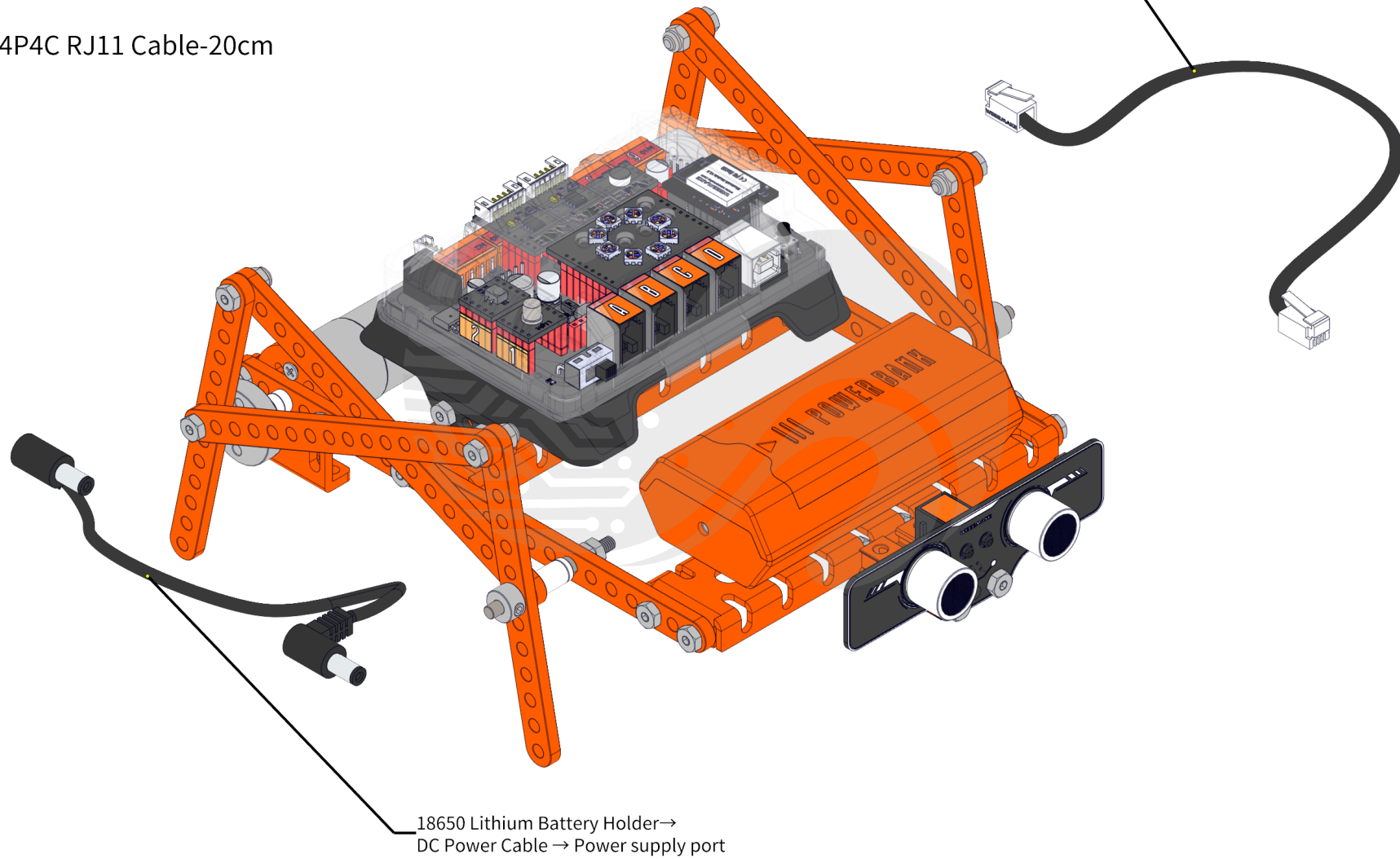


10.Wiring

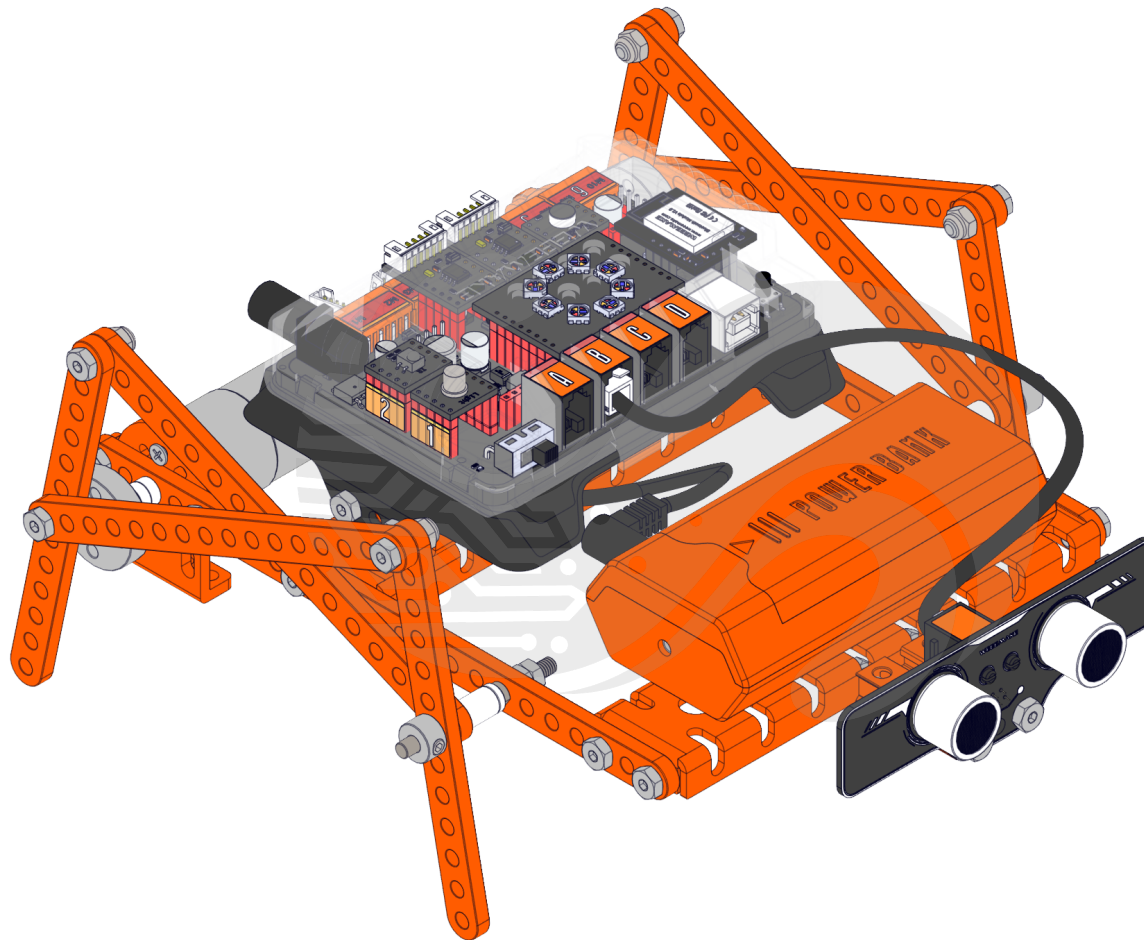
1x5.5-2.1 DC Power Cable-20cm

1x4P4C RJ11 Cable-20cm

RGB Ultrasonic Sensor→
RJ11 Cable→ 20 cm→ Port B



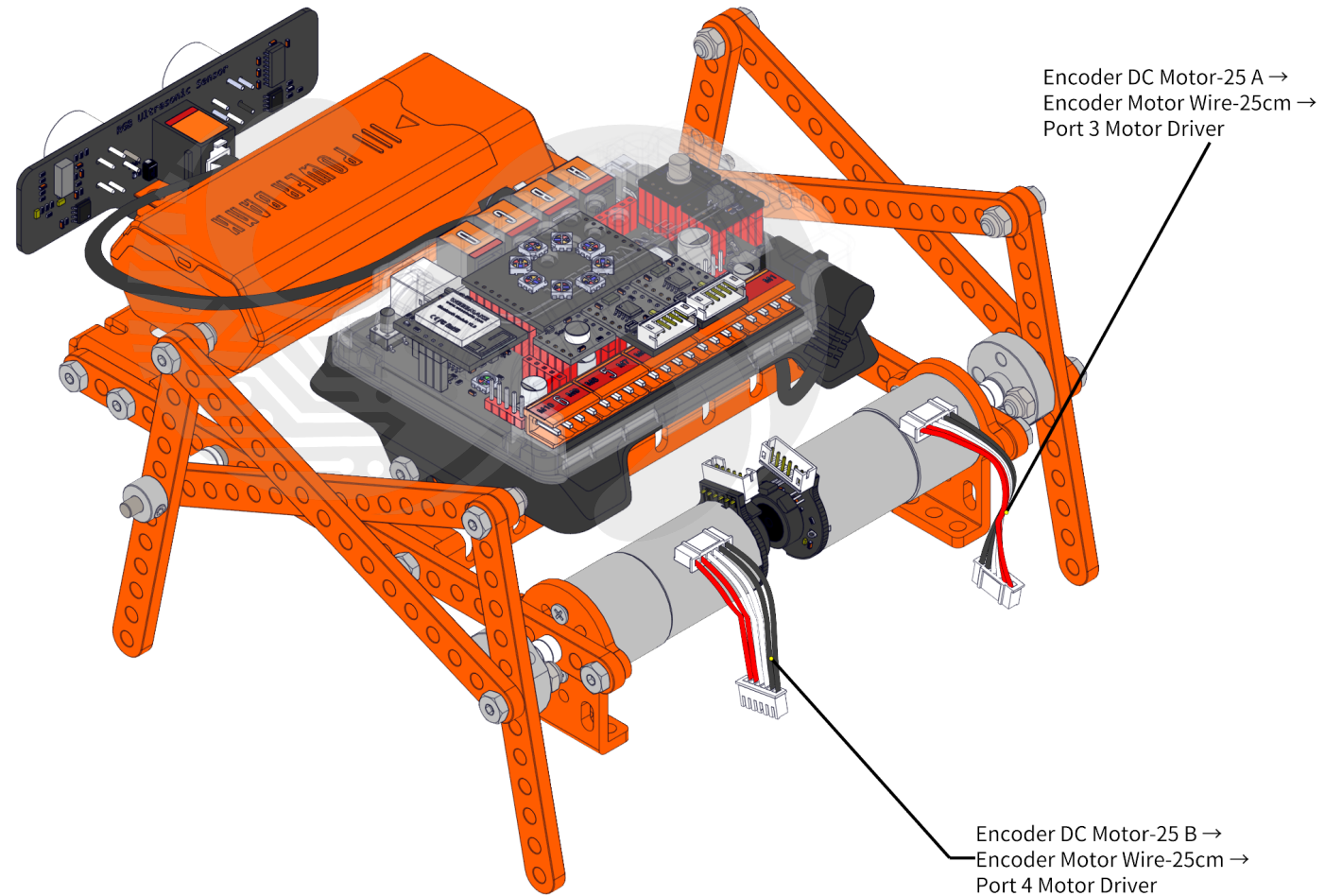
10.Wiring



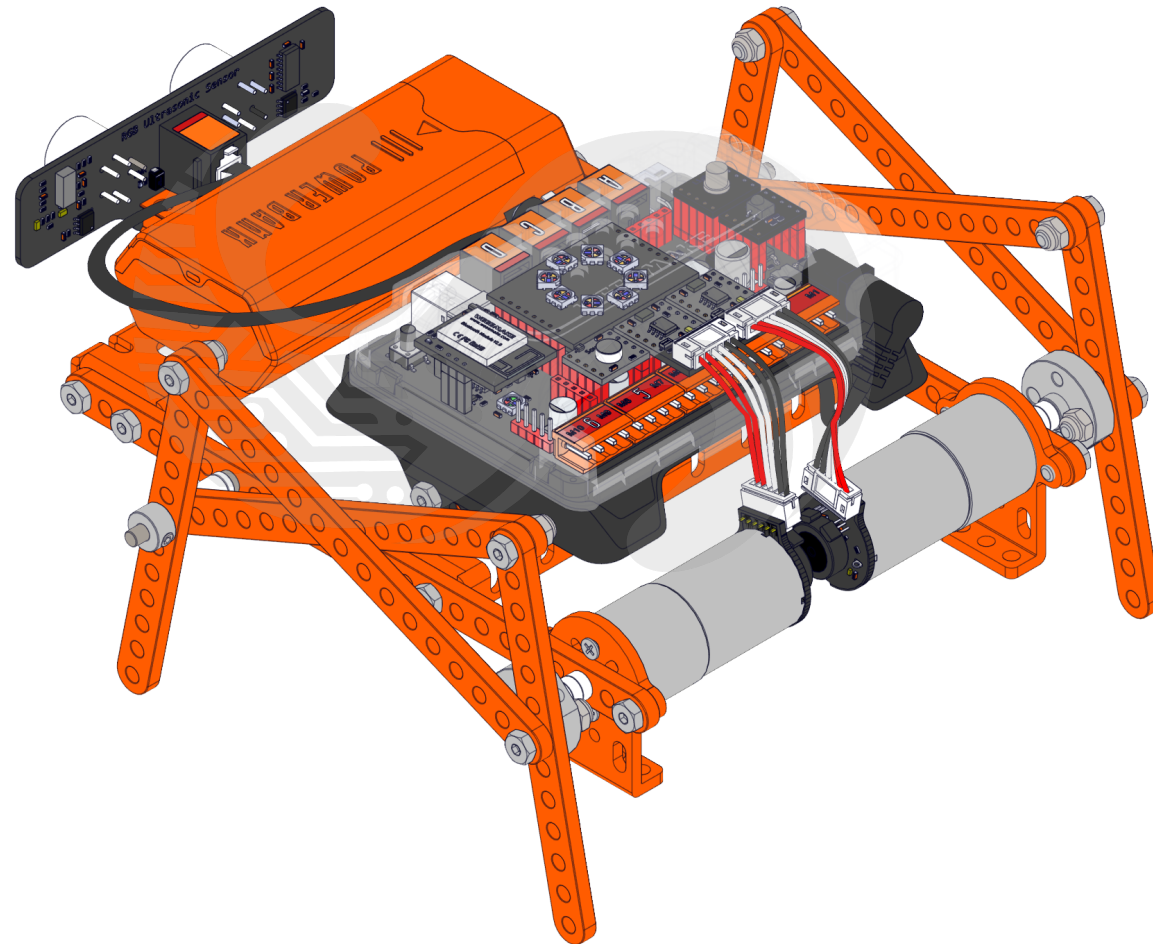
10.Wiring



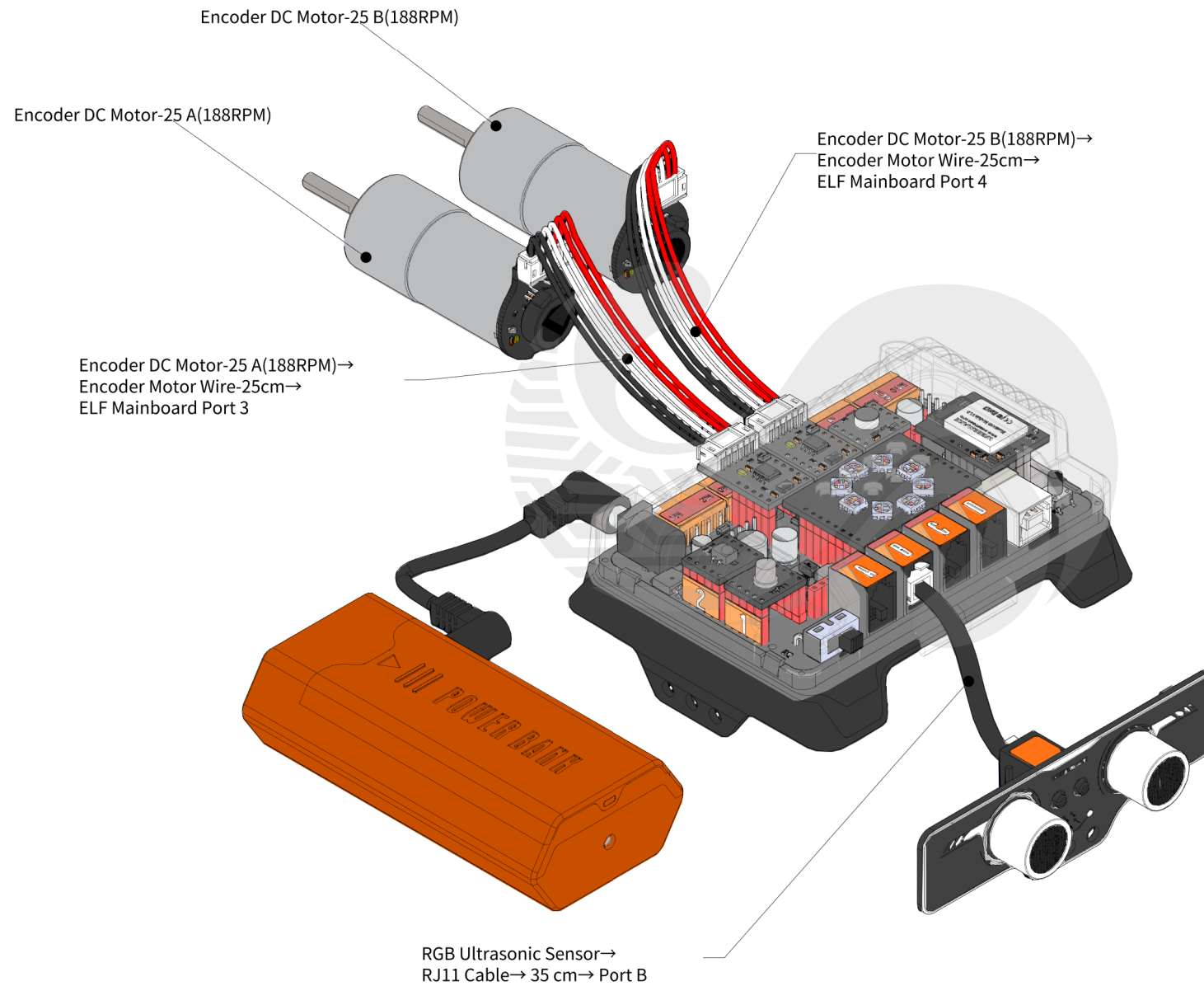
2xEncoder Motor Wire-25cm



10.Wiring



11.Wiring



12.Completion Diagram

