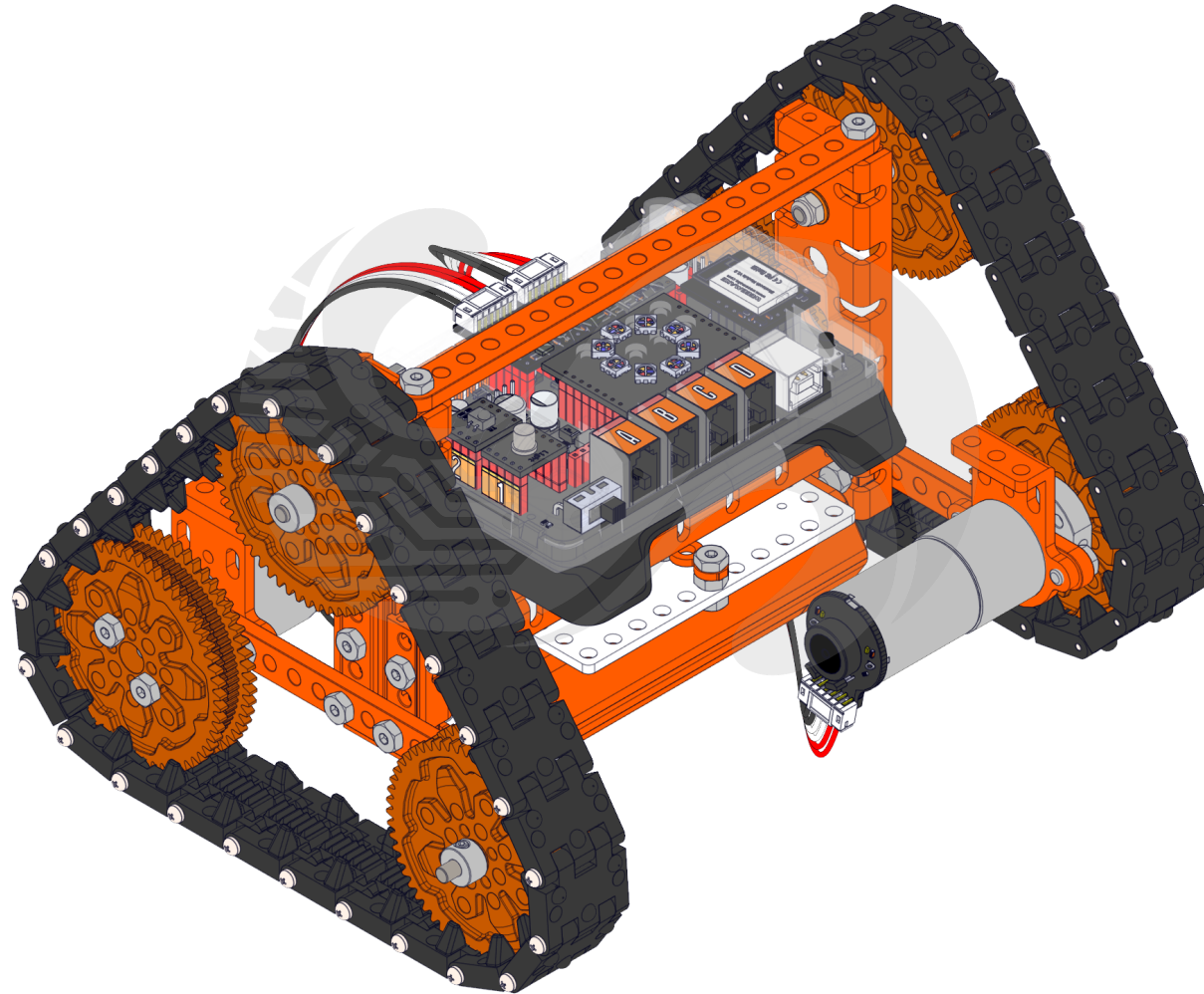


「 Chapter 7 Rolling Tank 」



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)



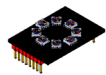
1xELF Mainboard



1xELF Mainboard Lid



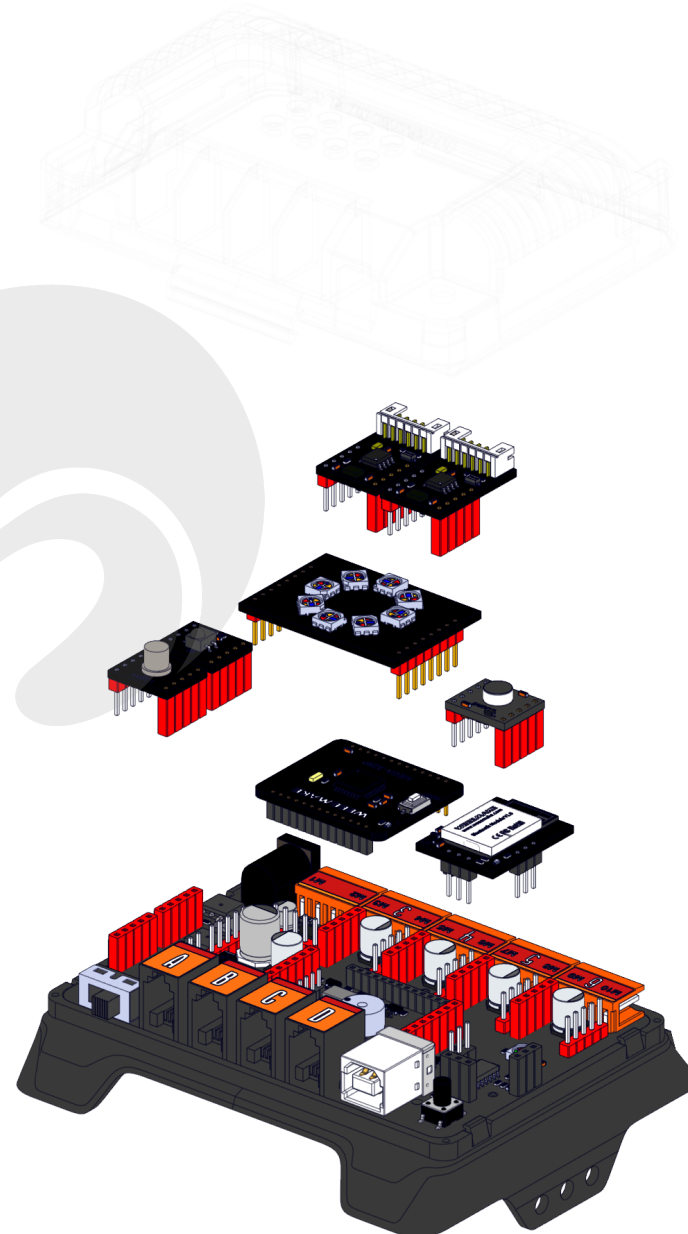
1xELF Mainboard Base



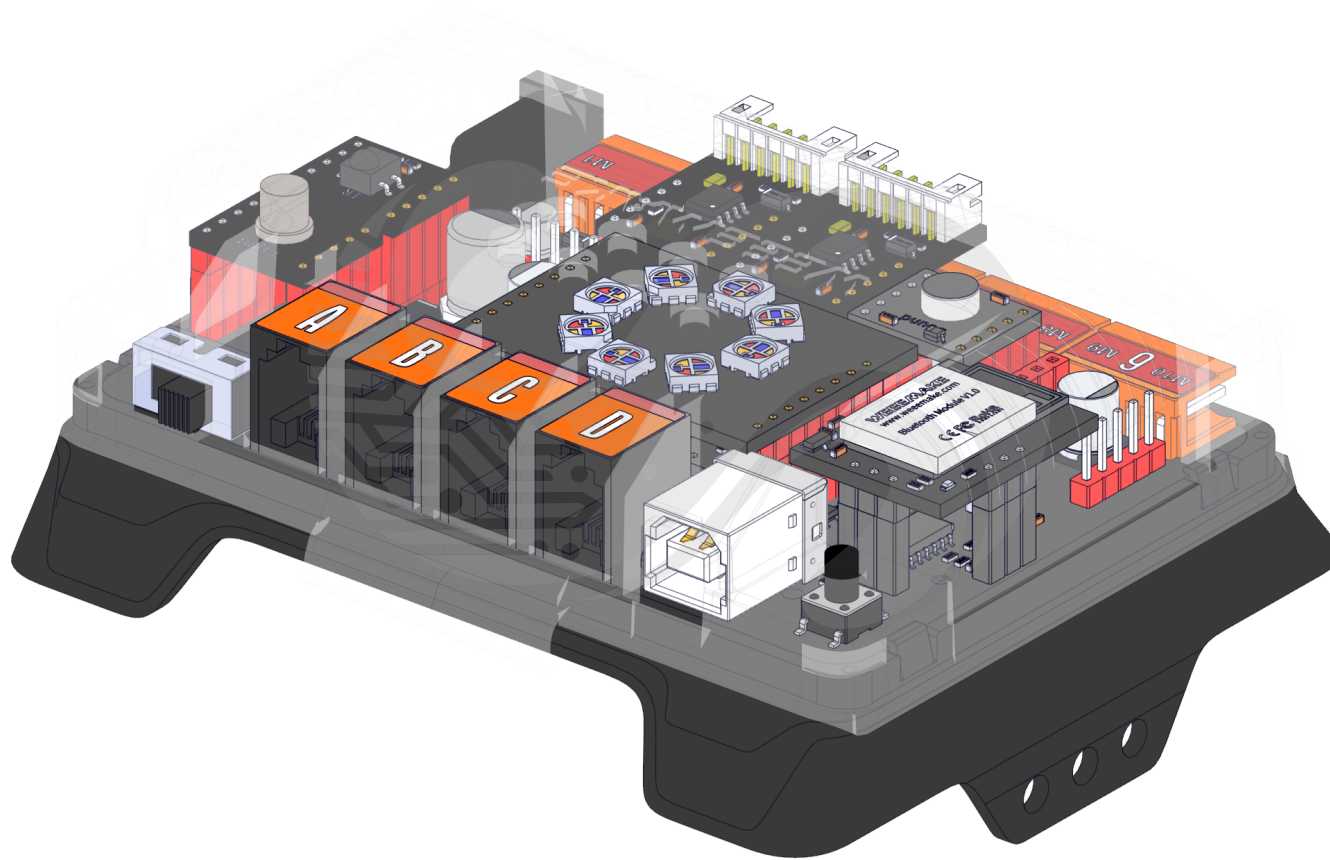
1xRGB LED - 8 (Pin)



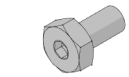
2xDC/Encoder Motor Driver



0.Common module installation—Assembly Guide of Mainboard ELF



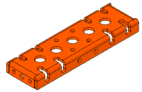
0.Common module installation—Assembly Guide of Mainboard ELF



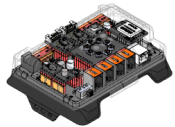
4xScrew M4*8



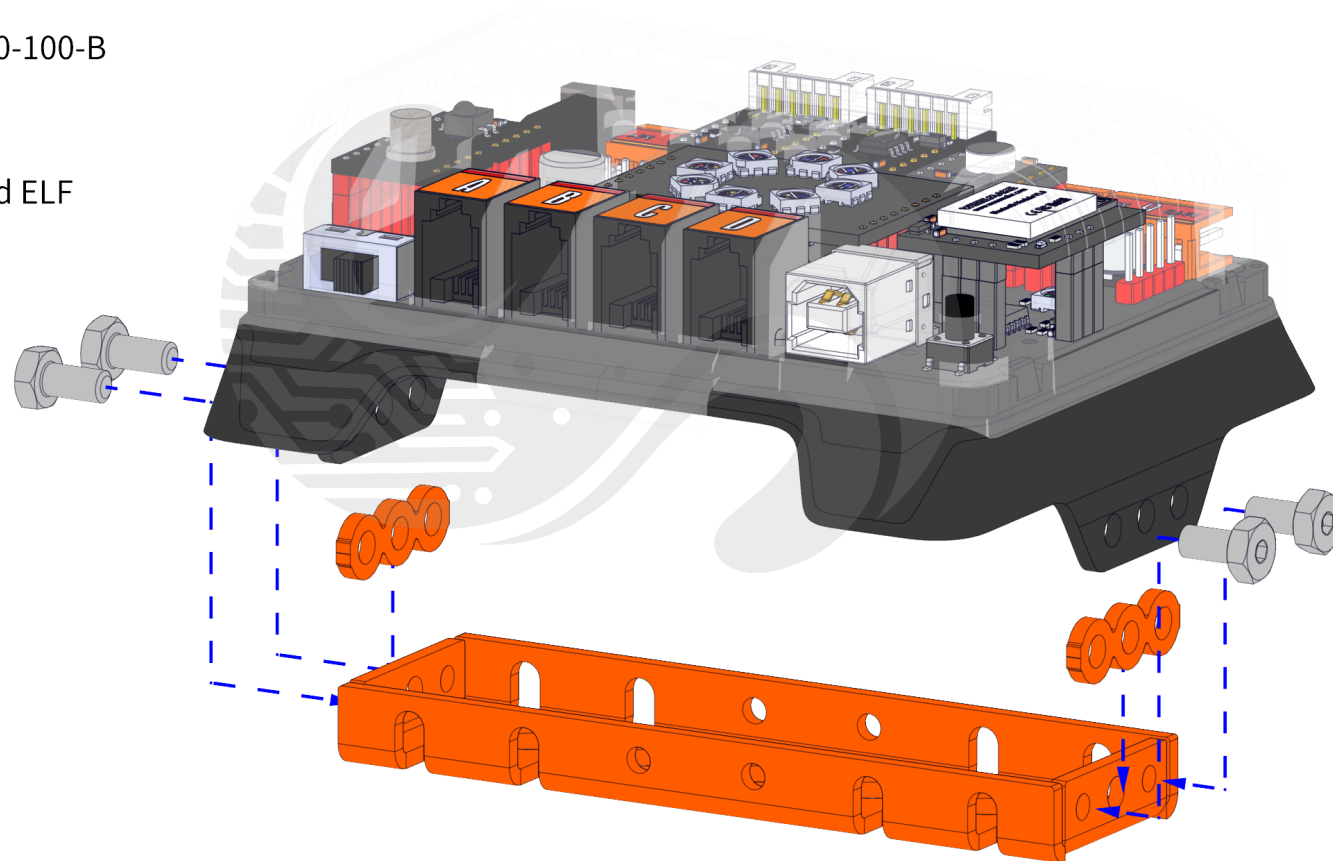
2xLinkage 0208-24



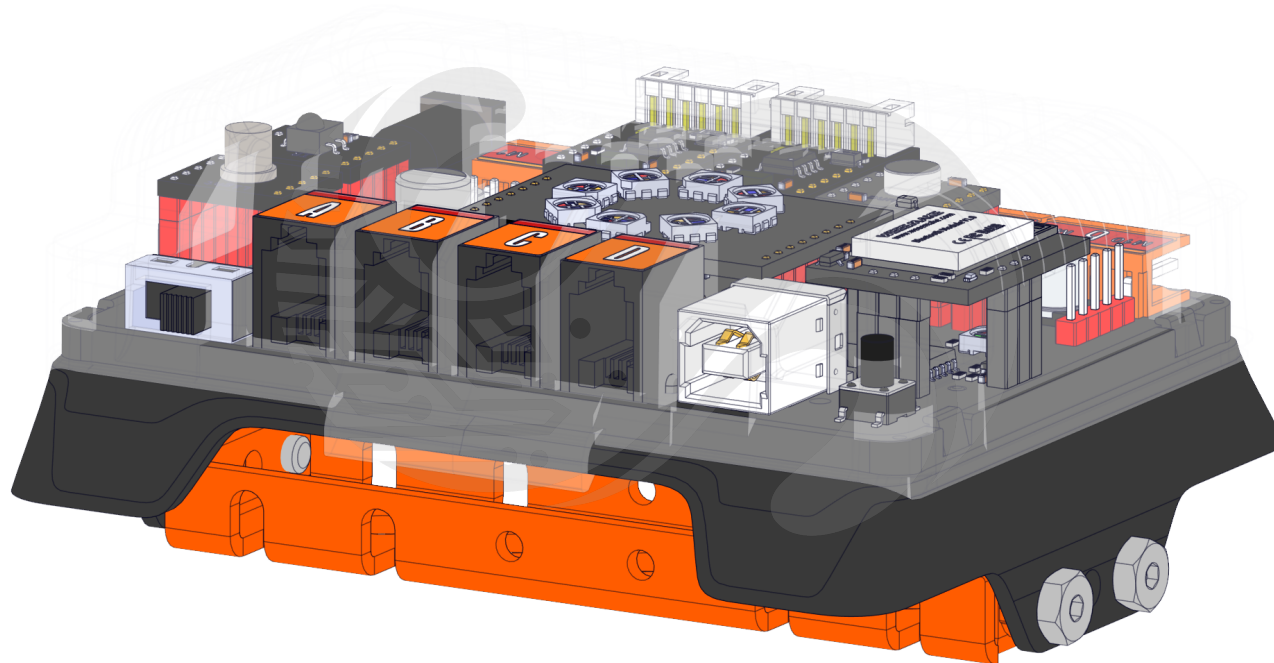
1xBeam 1030-100-B



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

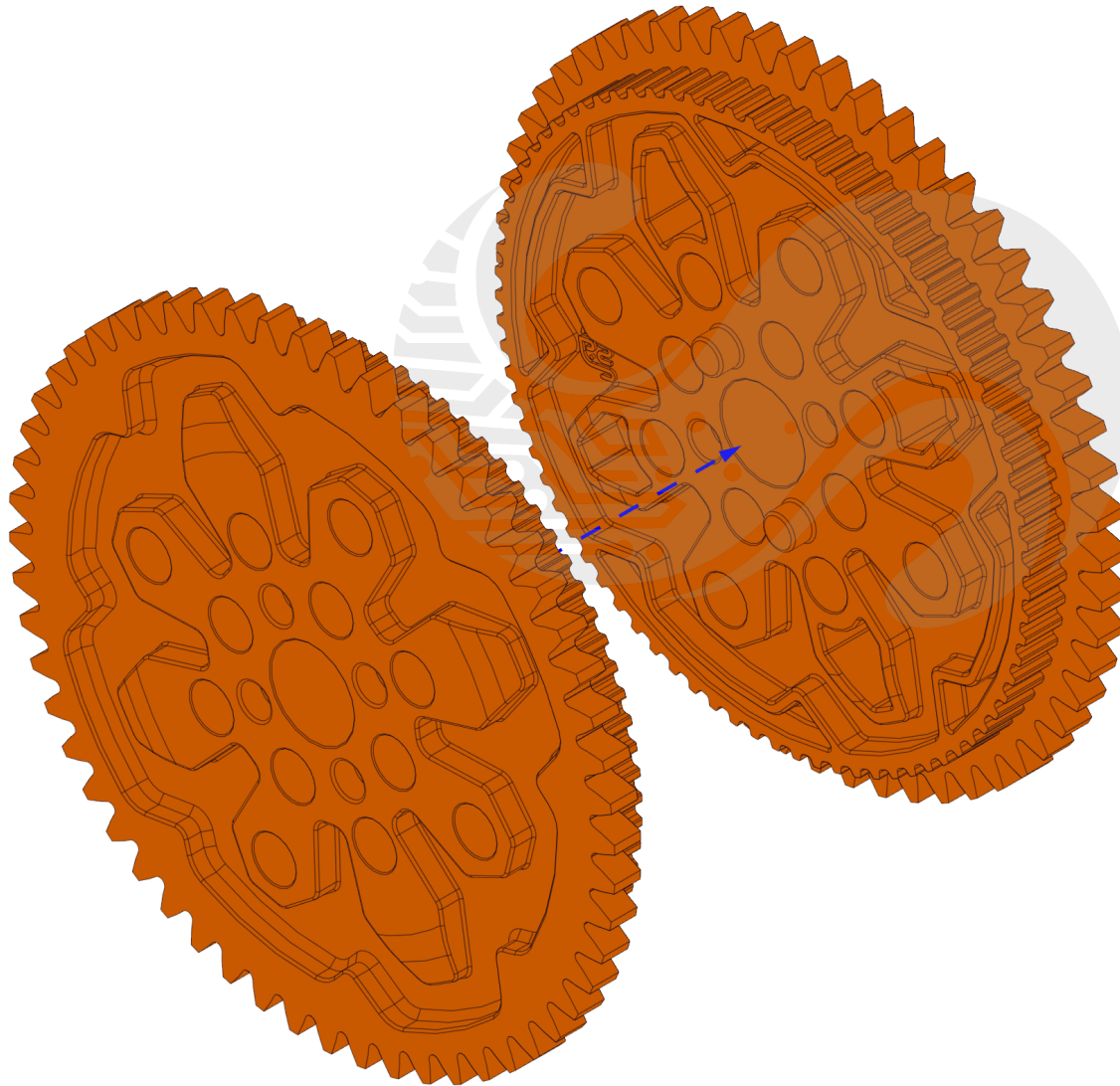
Communication Port - Bluetooth Module

Special port - RGB LED -8 Module

1.Assemble 56T Plastic Gear



2x56T-Plastic Gear



1.Assemble 56T Plastic Gear



× 6

2.Assembly Active Wheel



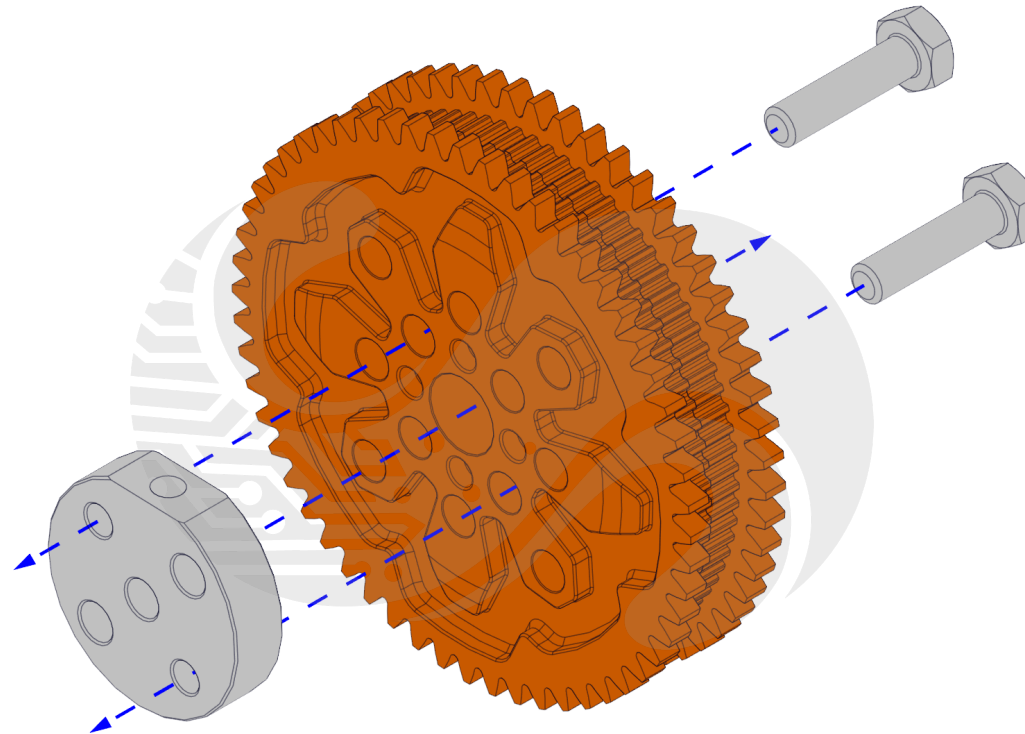
1xDriving Flange Hub 4mm



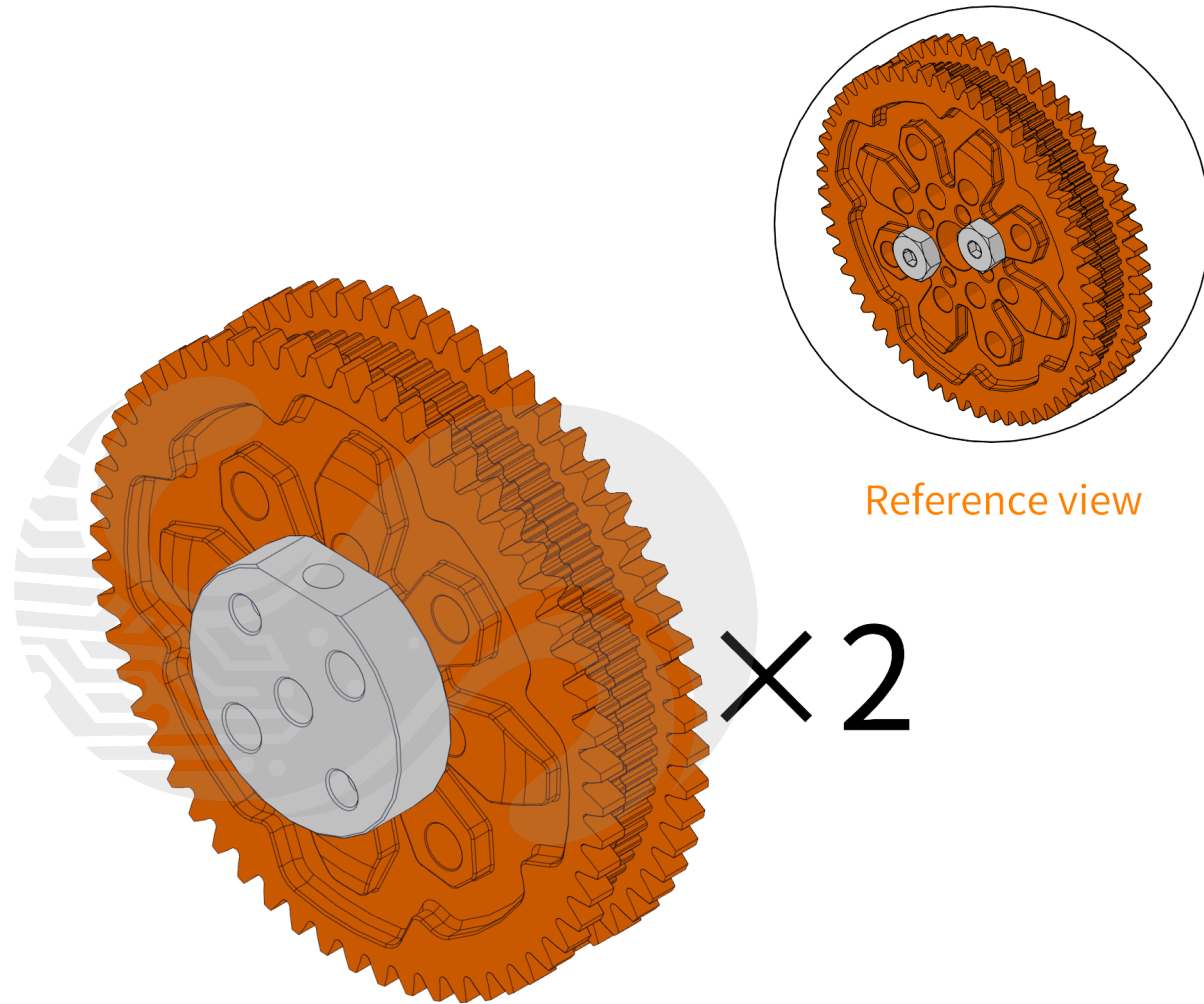
1x56T-Plastic Gear Assembly



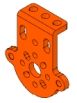
2xScrew M4*20



2.Assembly Active Wheel



3.Assemble Encoder DC Motor-25



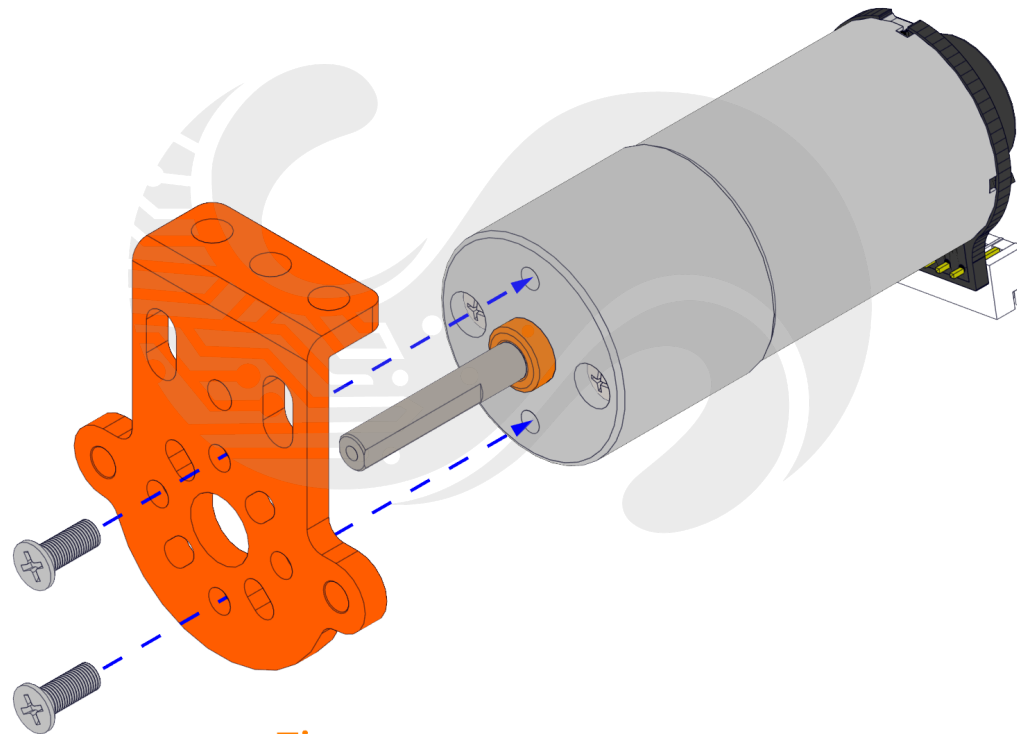
1x25 Motor Bracket



1xEncoder DC Motor-25 9V188RPM

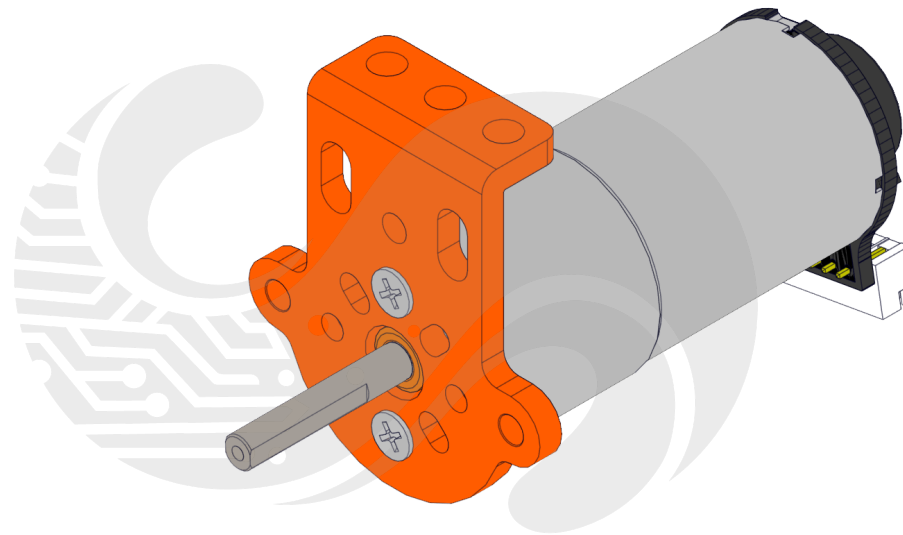


2xCountersunk Head Screw M3*6



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

3.Assemble Encoder DC Motor-25



× 2

4.Assembly the Active Wheel



1xBeam 0410-154



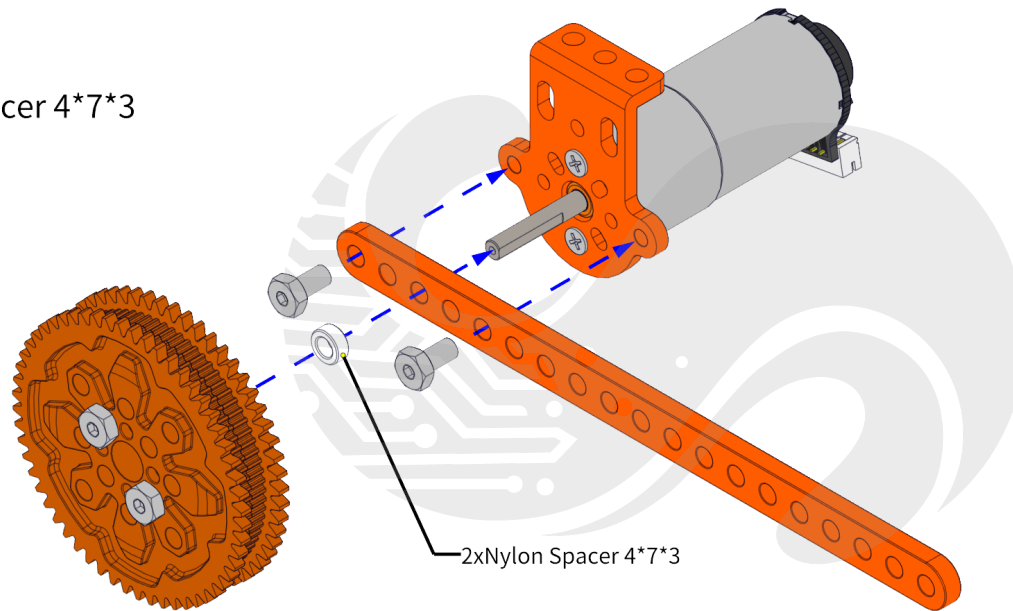
1xActive Wheel



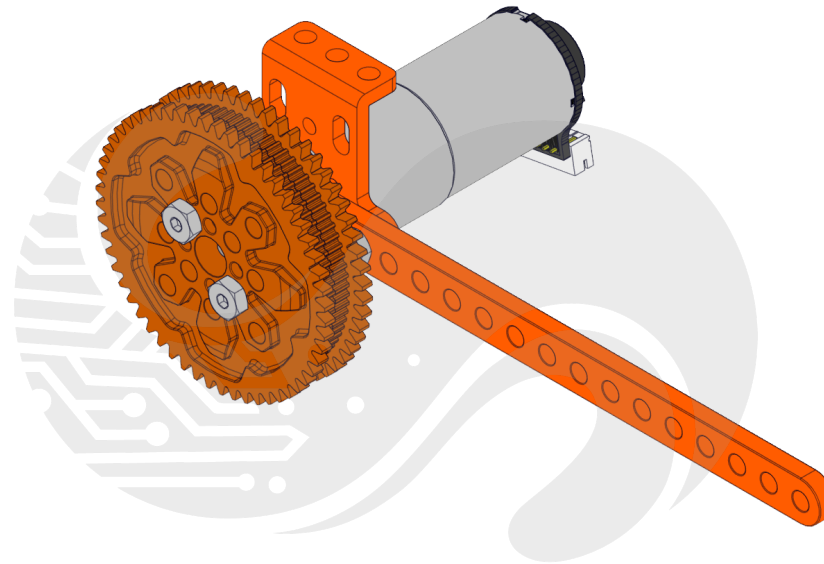
2xNut M4*8



1xNylon Spacer 4*7*3



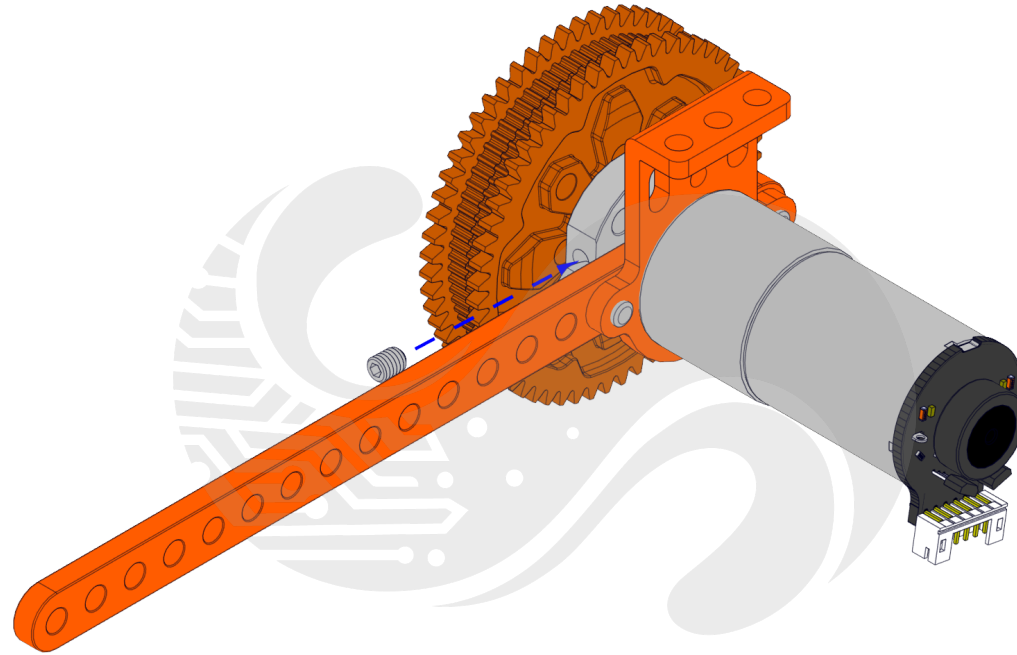
4.Assembly the Active Wheel



5. Fix the Active Wheel



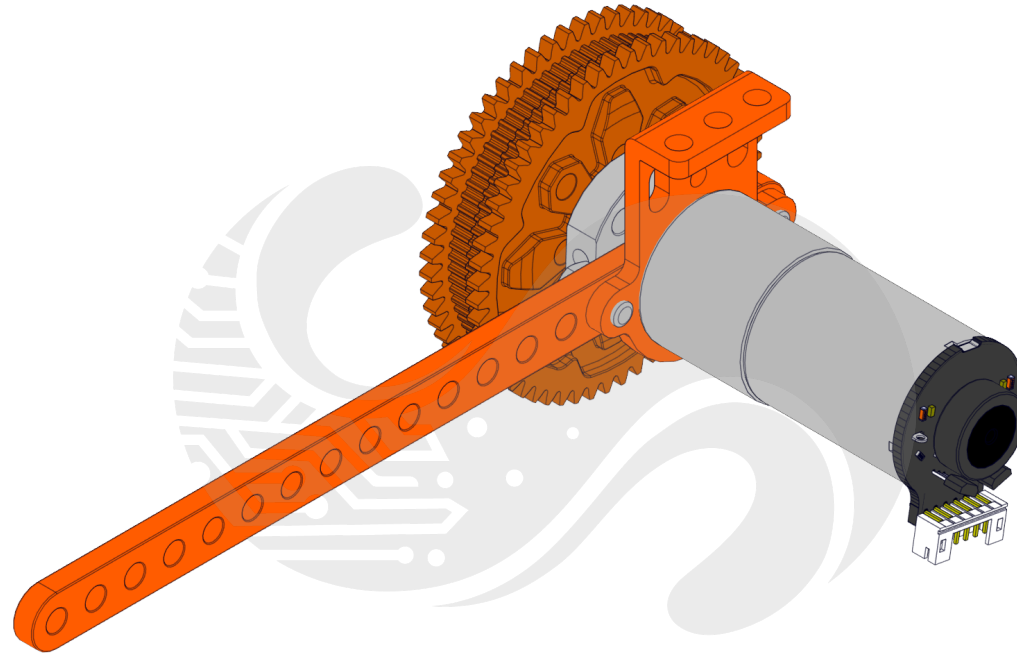
1xHeadless Screw M4*5



Tips:

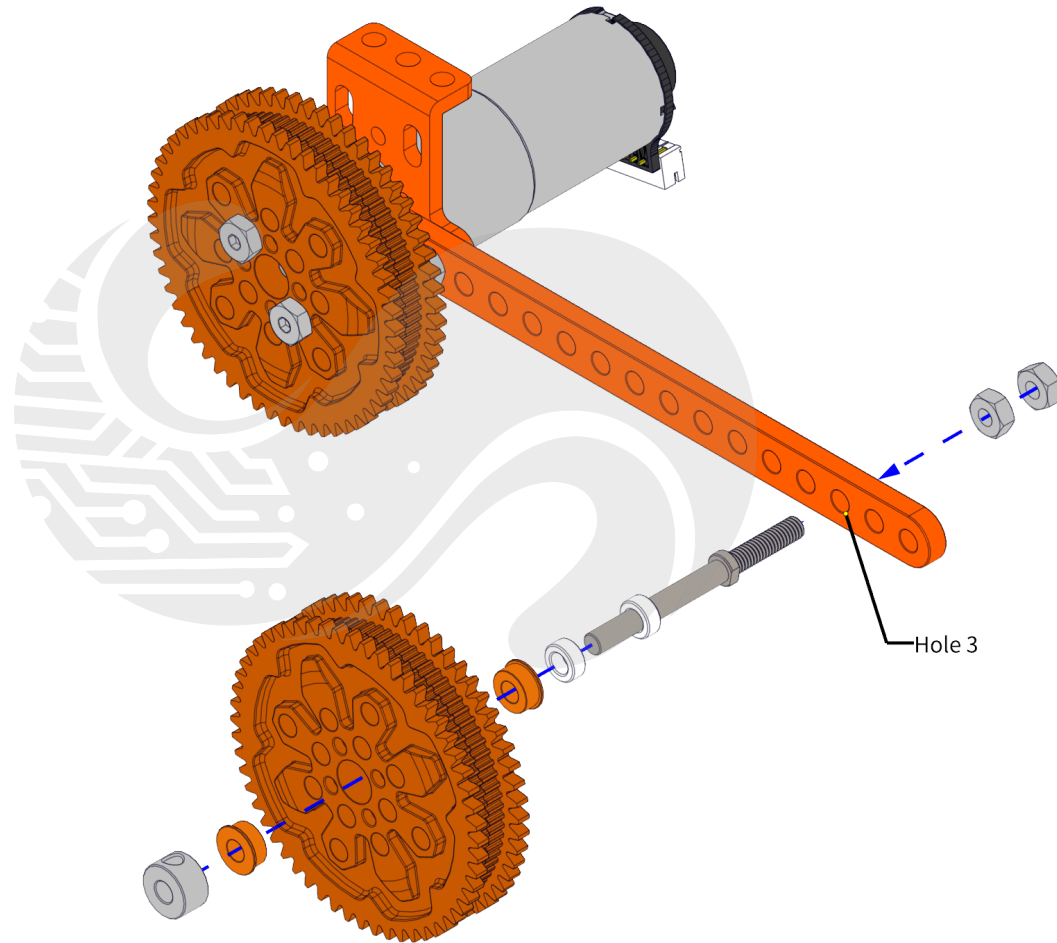
Please screw the headless screw M4*5 to the flat surface of motor shaft.

5. Fix the Active Wheel



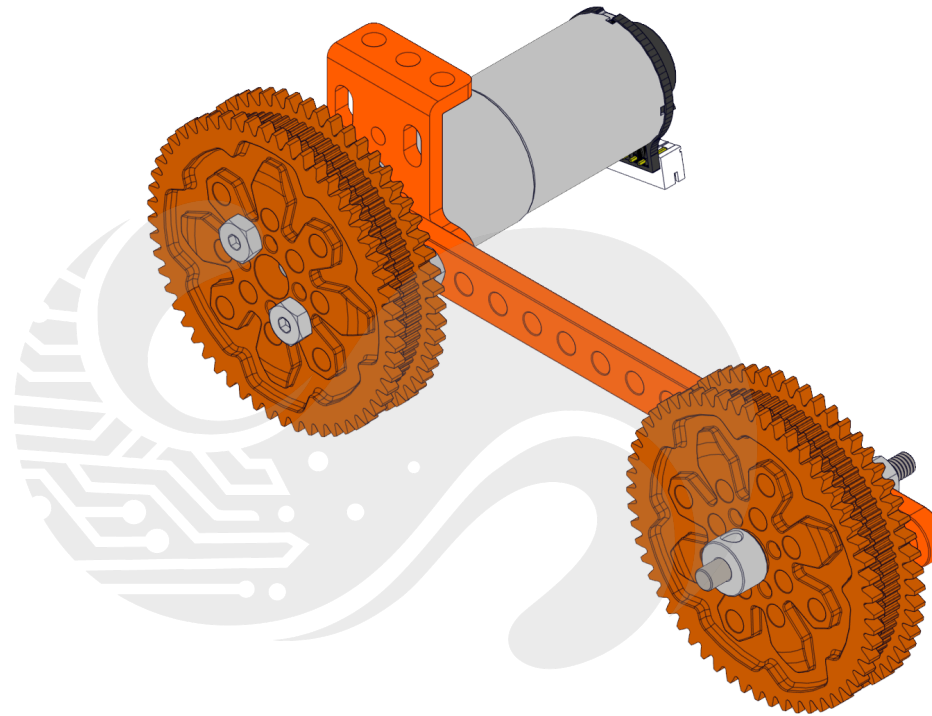
6.Assemble Driven Wheel

-  1x56T-Plastic Gear Assembly
-  2xFlange Copper Bearing 4*8*3.5
-  2xNylon Spacer 4*7*3
-  2xNut M4
-  1xShaft Collar - 4mm
-  1xThreaded shaft 4-48



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

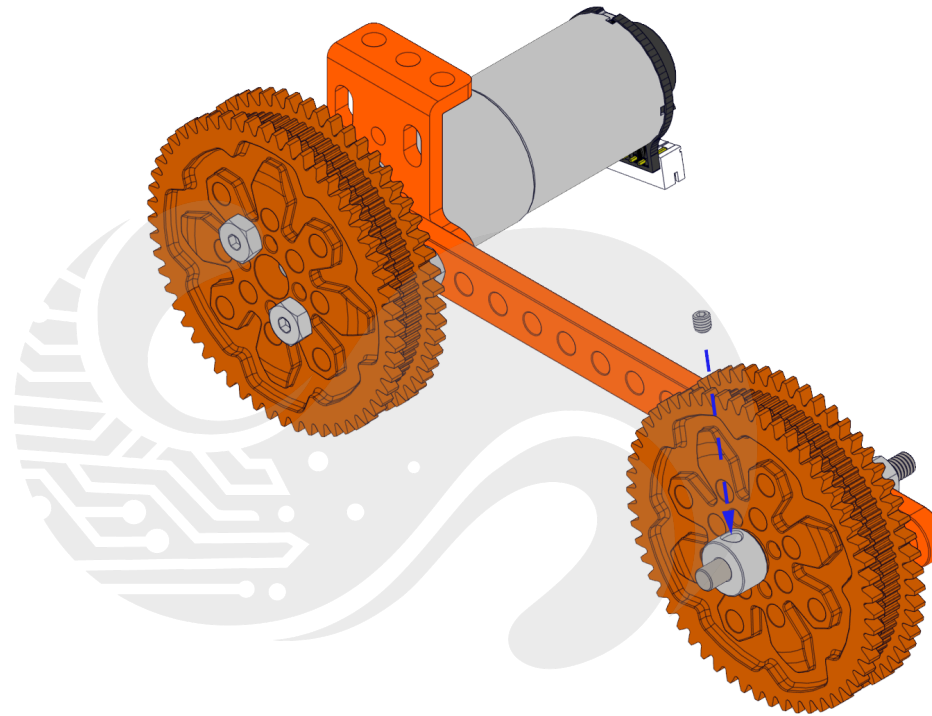
6.Assemble Driven Wheel



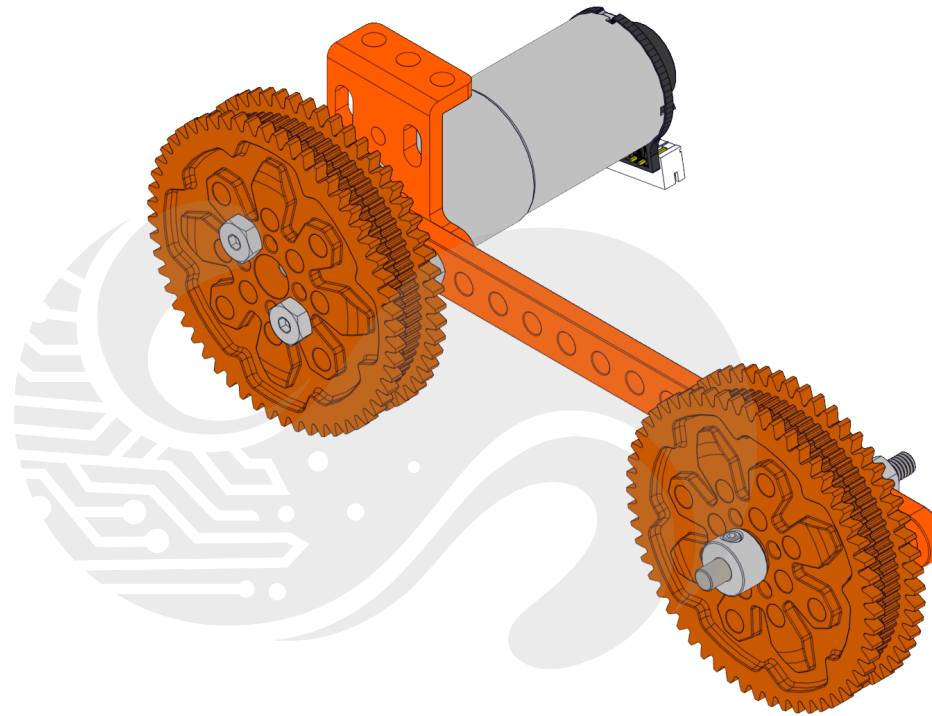
6.Assemble Driven Wheel



1xHeadless Screw M4*3

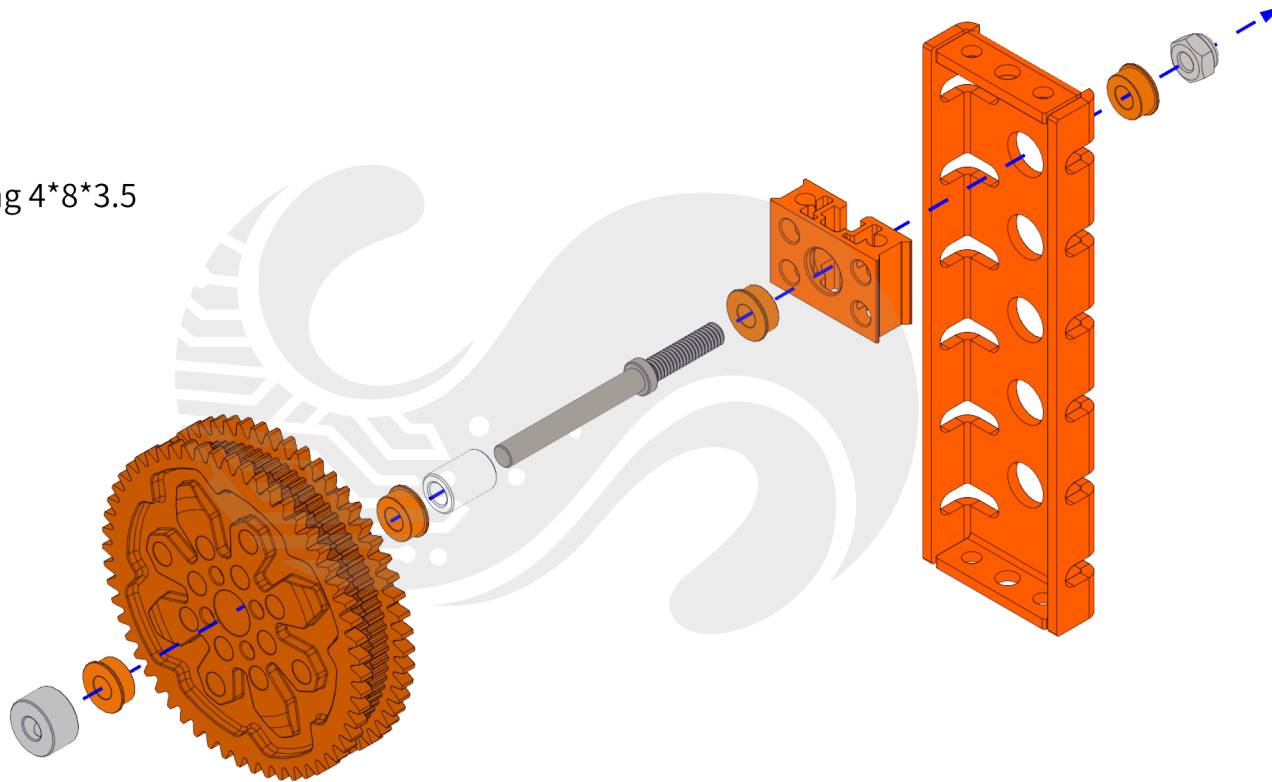


6.Assemble Driven Wheel

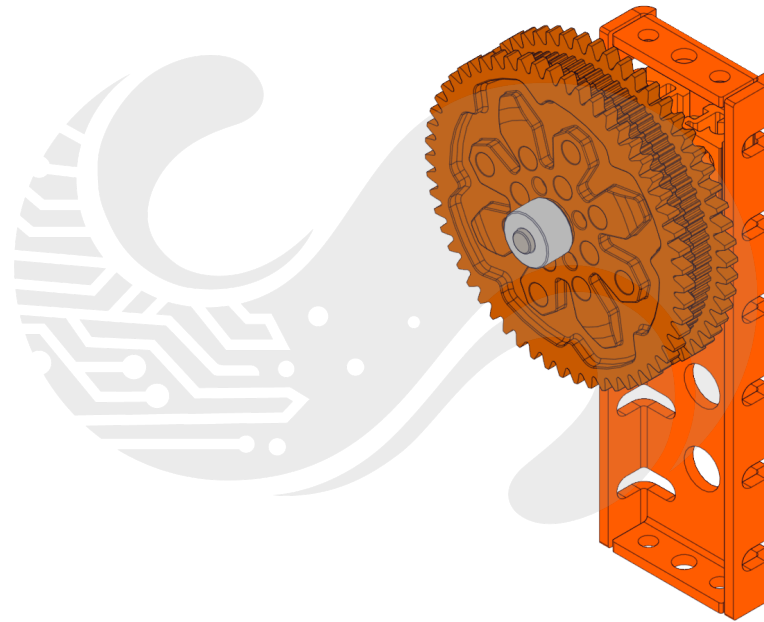


6.Assemble Driven Wheel

-  1x56T-Plastic Gear Assembly
-  1xShaft Collar - 4mm
-  1xNylon Spacer 4*7*10
-  1xNylon Lock Nut M4
-  4xFlange Copper Bearing 4*8*3.5
-  1xThreaded shaft 4-48
-  1xBeam 0824-16-A
-  1xBeam 1030-100



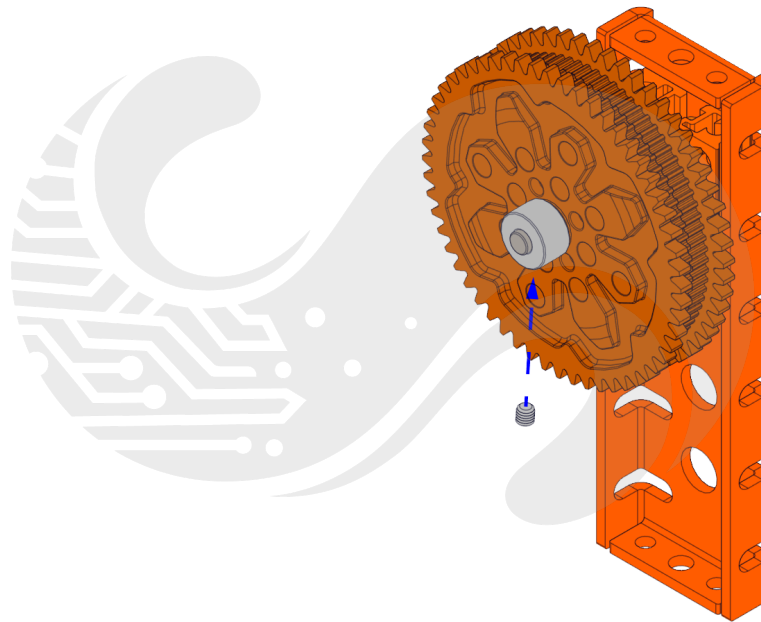
6.Assemble Driven Wheel



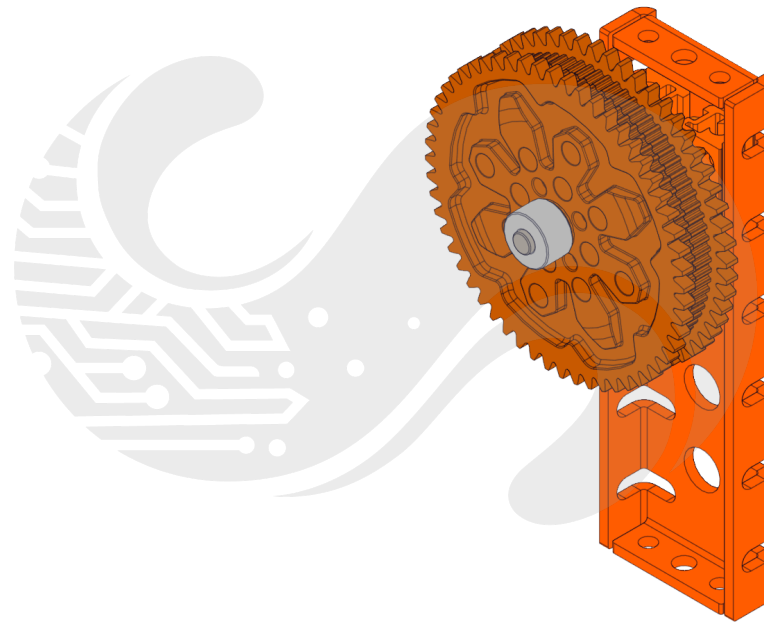
6.Assemble Driven Wheel



1xHeadless Screw M4*3



6.Assemble Driven Wheel

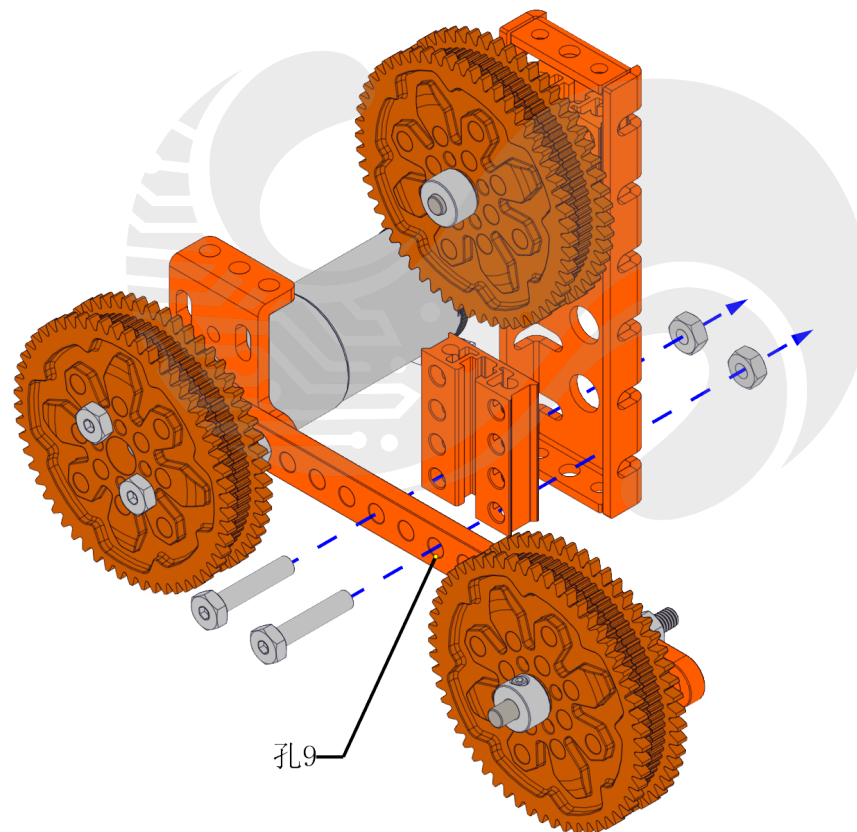


6.Assemble Driven Wheel

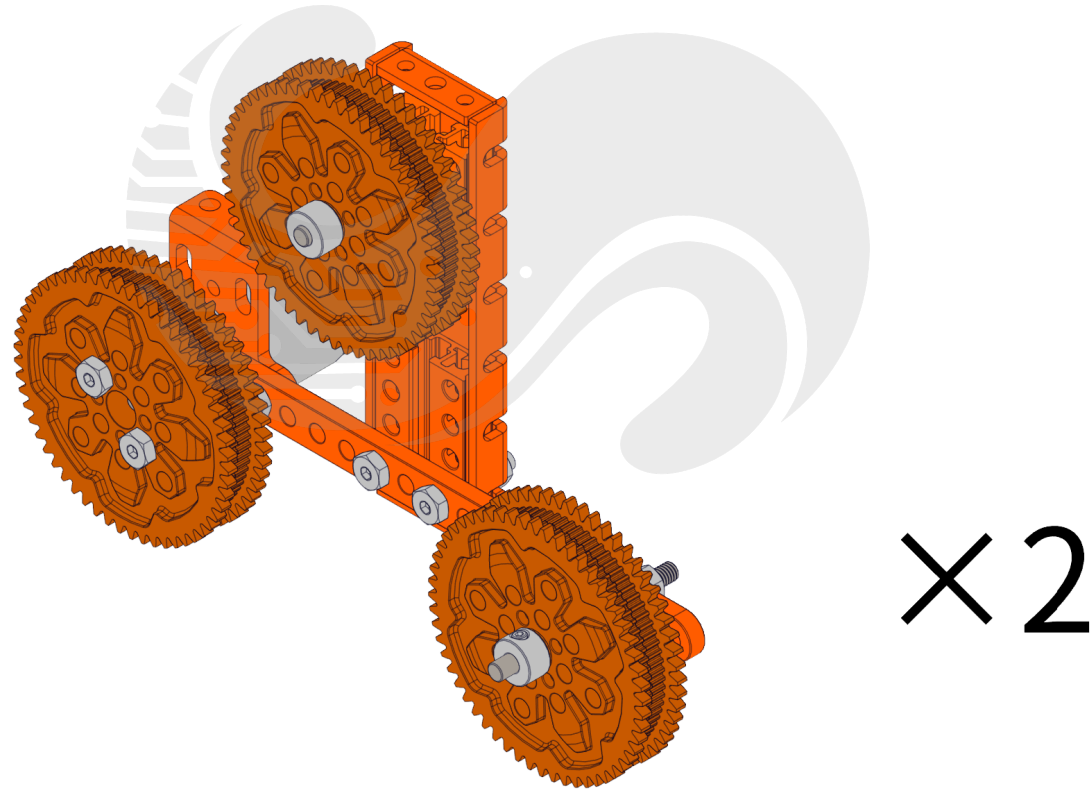
 2xScrew M4*20

 2xNut M4

 Beam 0824-32

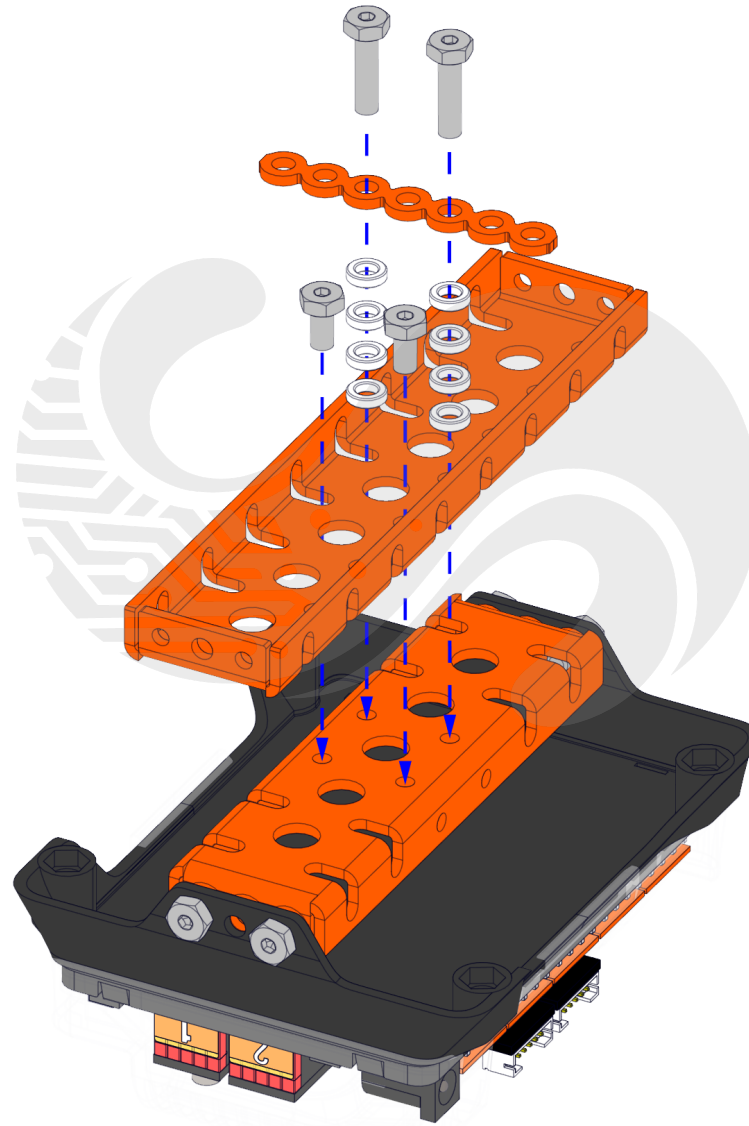


6.Assemble Driven Wheel

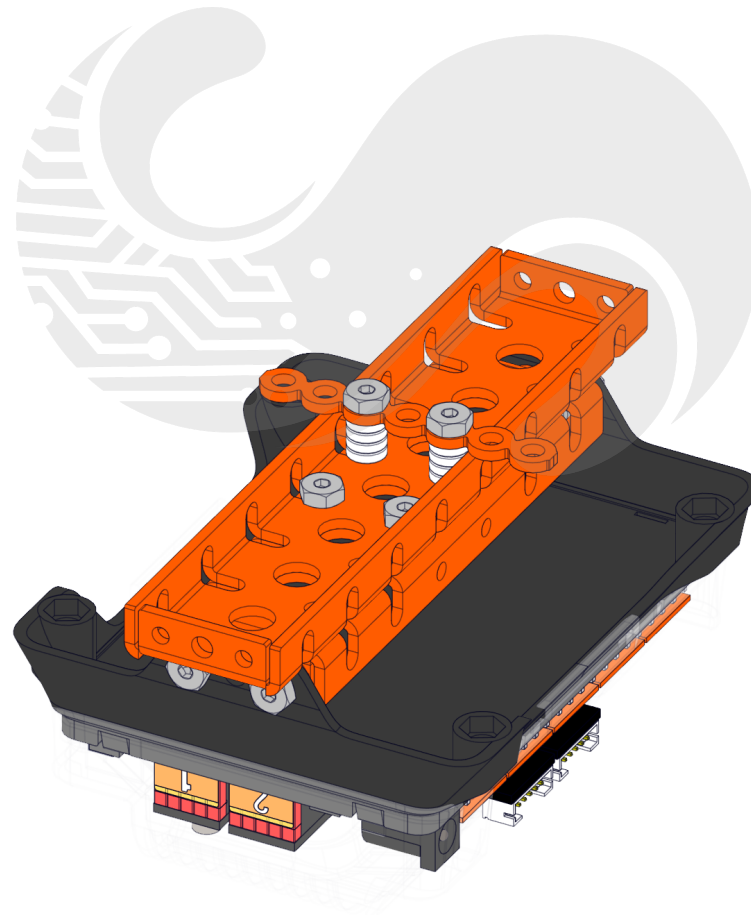


7. Assemble the Mainboard ELF

-  2xScrew M4*8
-  2xScrew M4*20
-  8xNylon Spacer 4*7*2
-  1xBeam 0208-56
-  Beam 1030-132

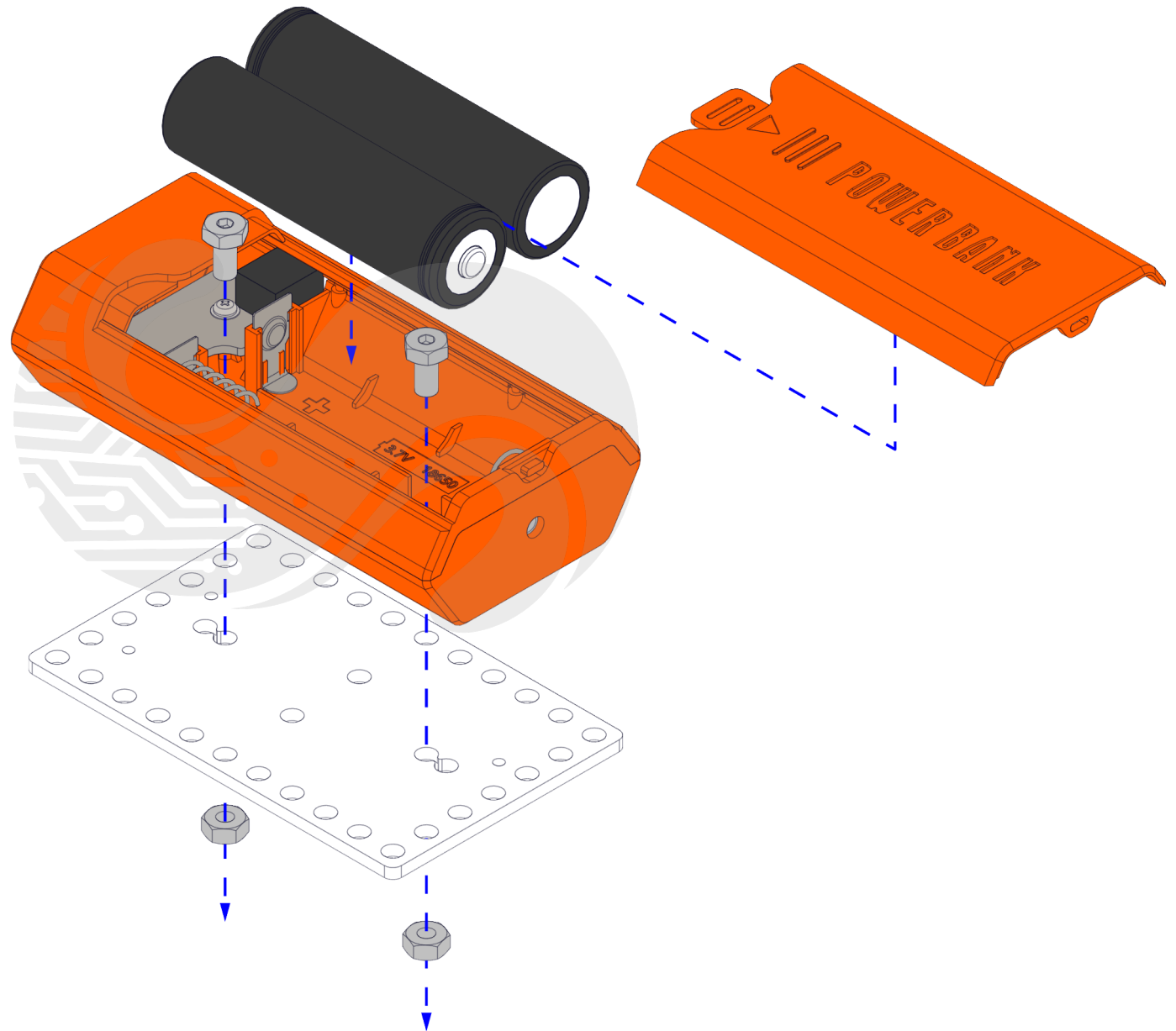


7. Assemble the Mainboard ELF

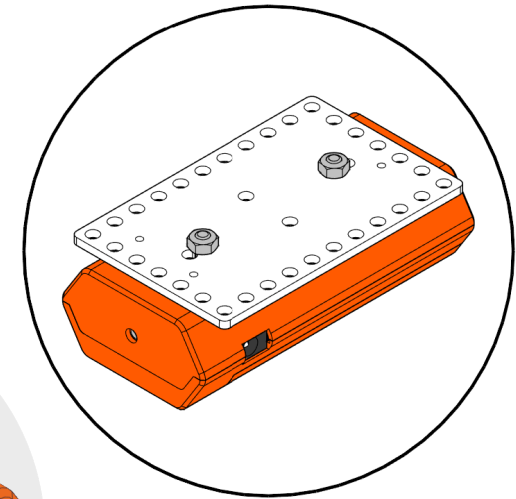
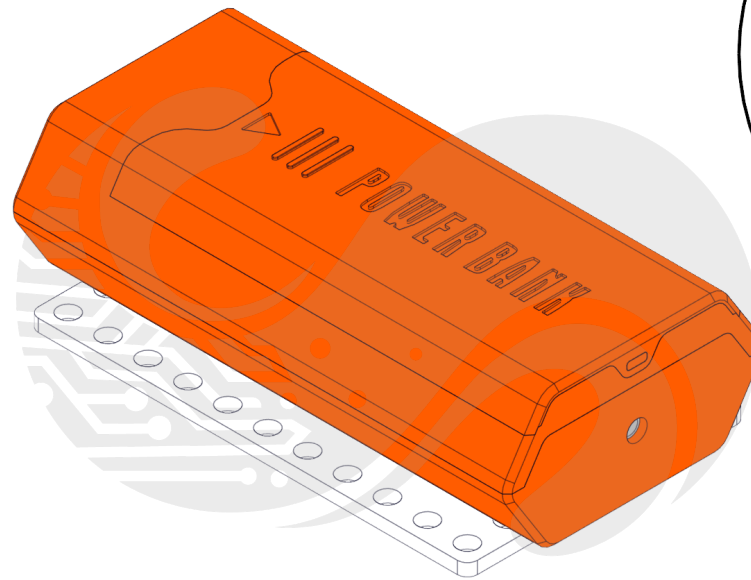


8. Assemble the 18650 Lithium Battery Holder

-  2xScrew M4*8
-  2xNut M4
-  2x18650 Lithium Battery
-  1xLithium Battery Holder Lid
-  1x18650 Battery Holder
-  1xAcrylic Bracket



8.Assemble the 18650 Lithium Battery Holder

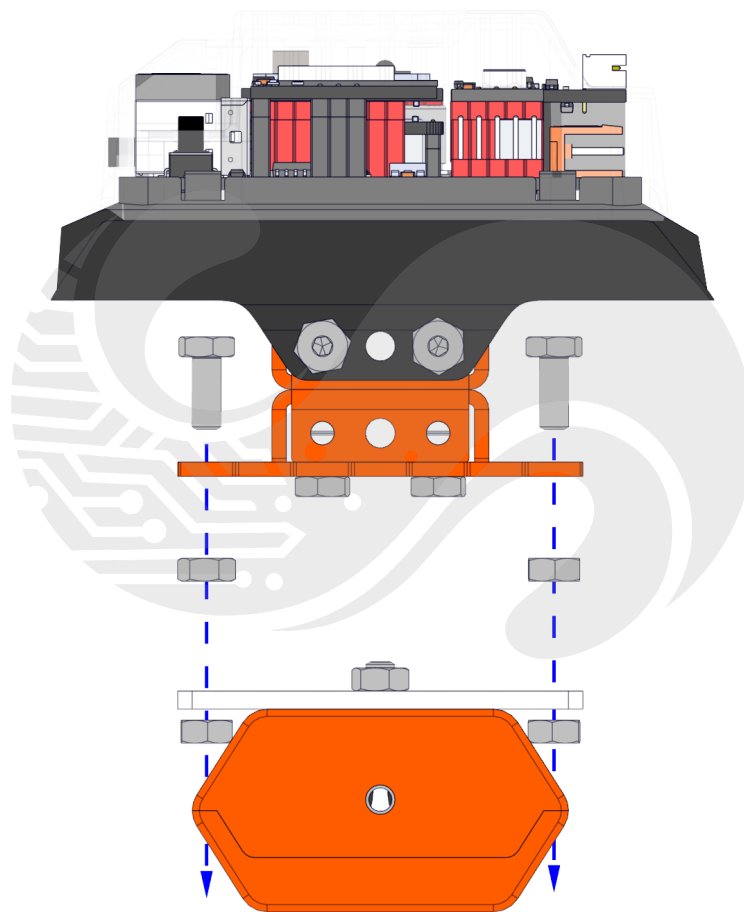


Reference view

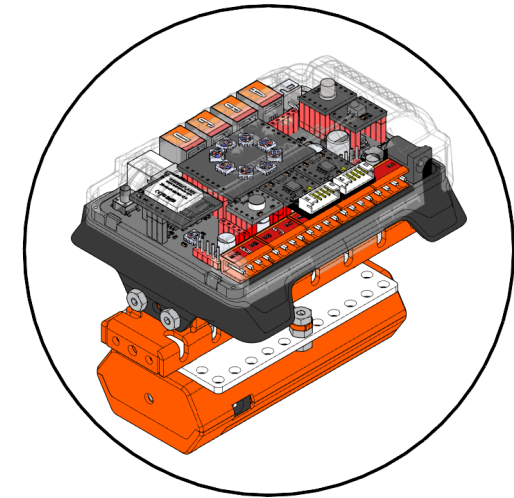
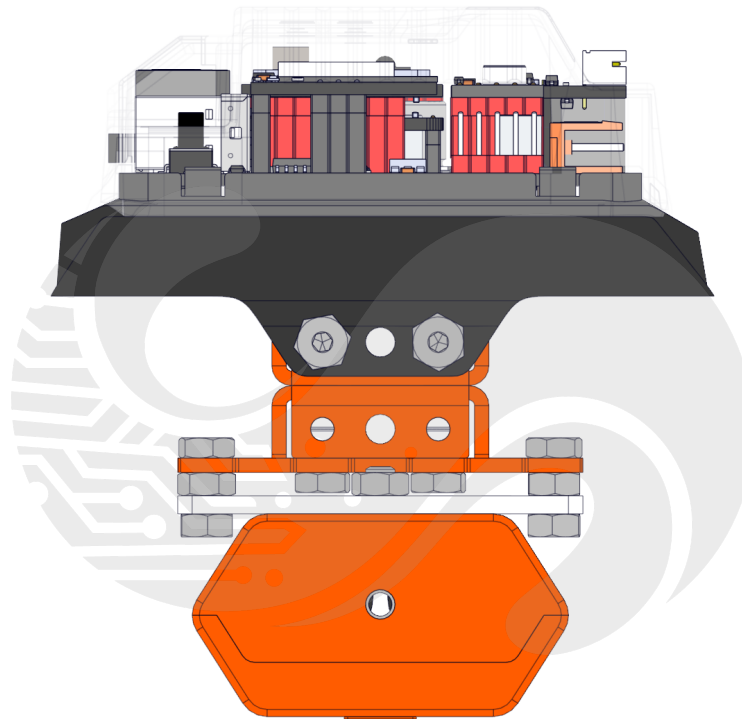
9. Assemble the Mainboard ELF and Battery Holder

 2xScrew M4*10

 4xNut M4



9. Assemble the Mainboard ELF and Battery Holder



Reference view

10. Assemble Base Structure



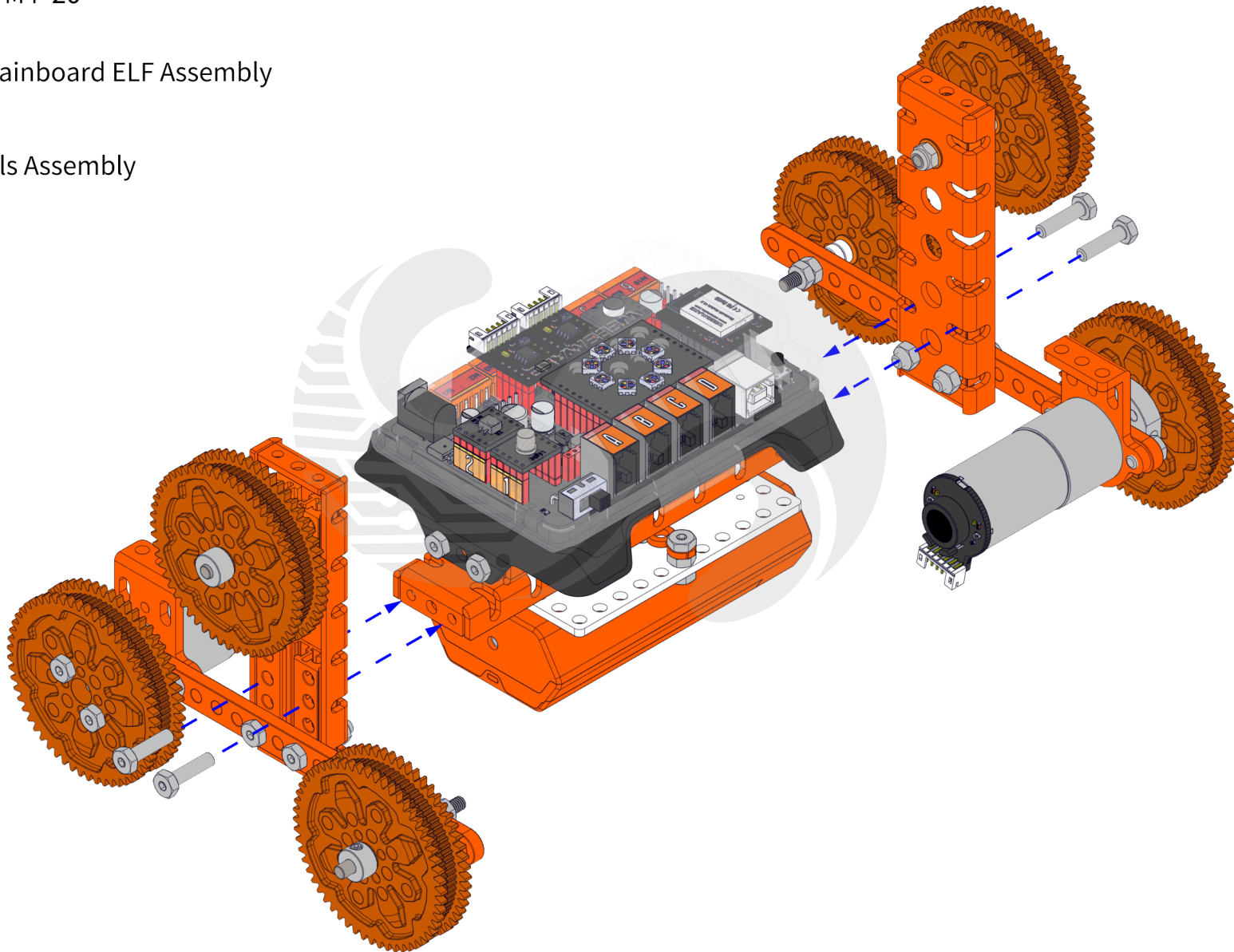
4xScrew M4*20



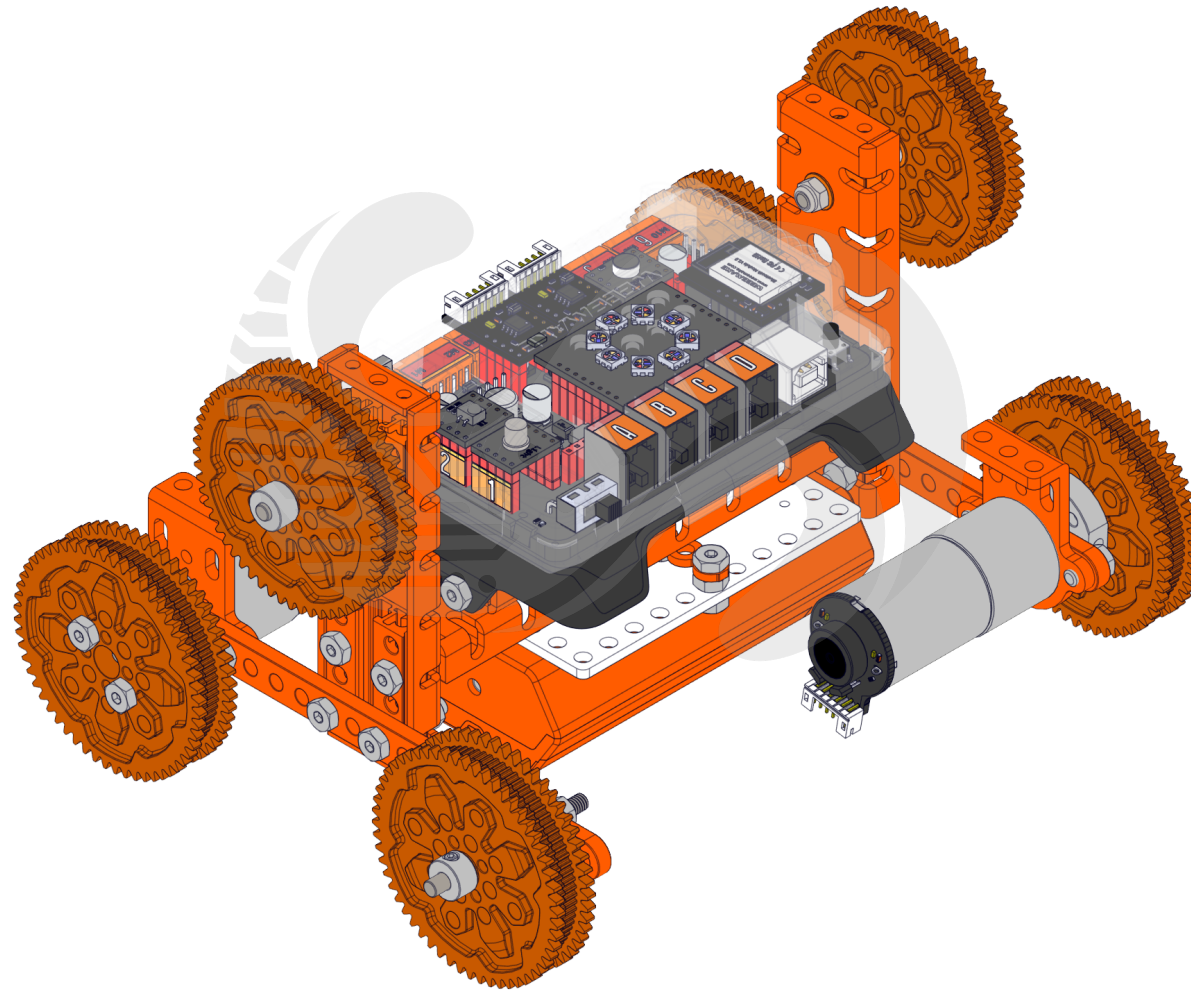
1xThe Mainboard ELF Assembly



2xWheels Assembly

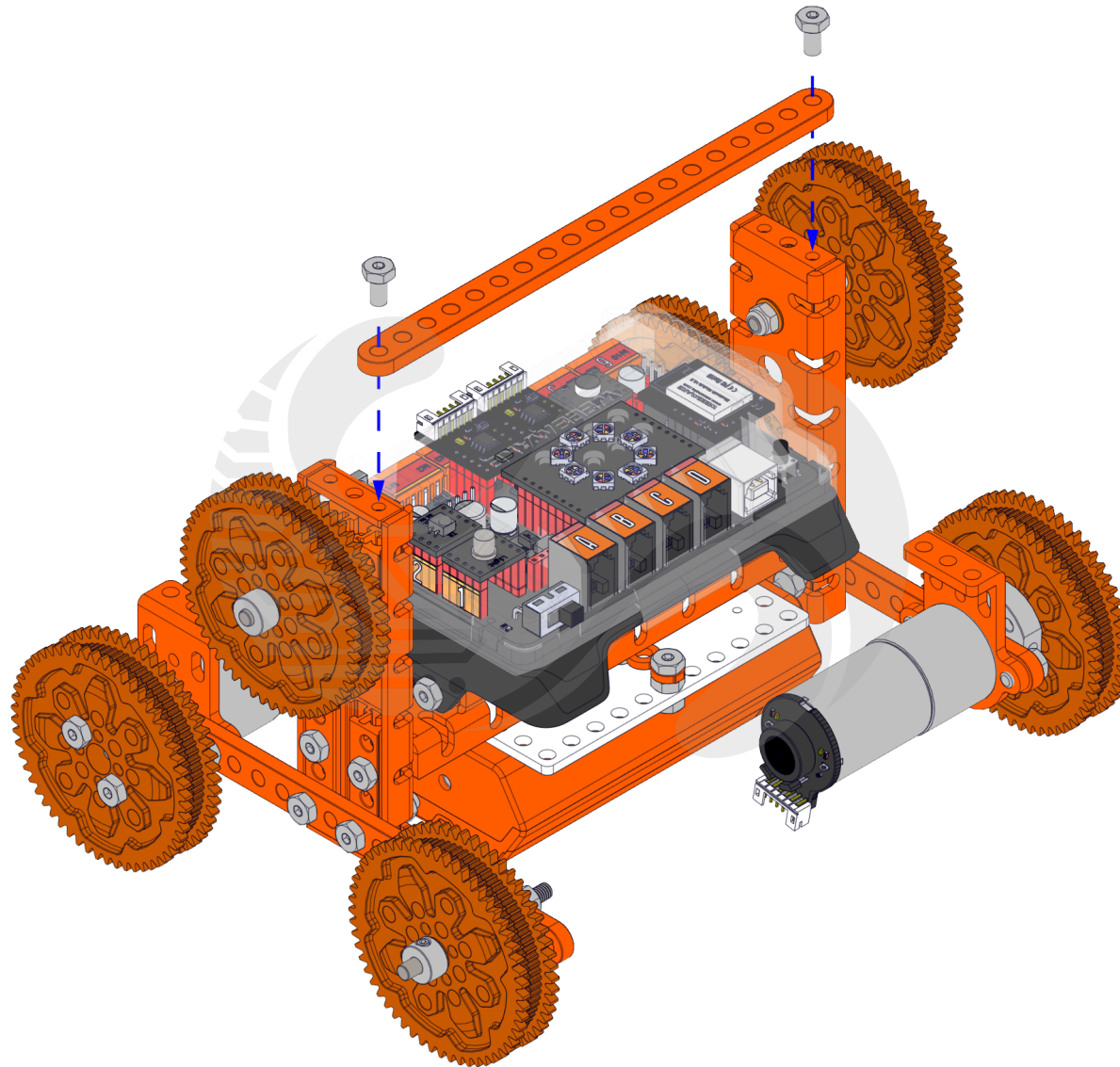


10. Assemble Base Structure

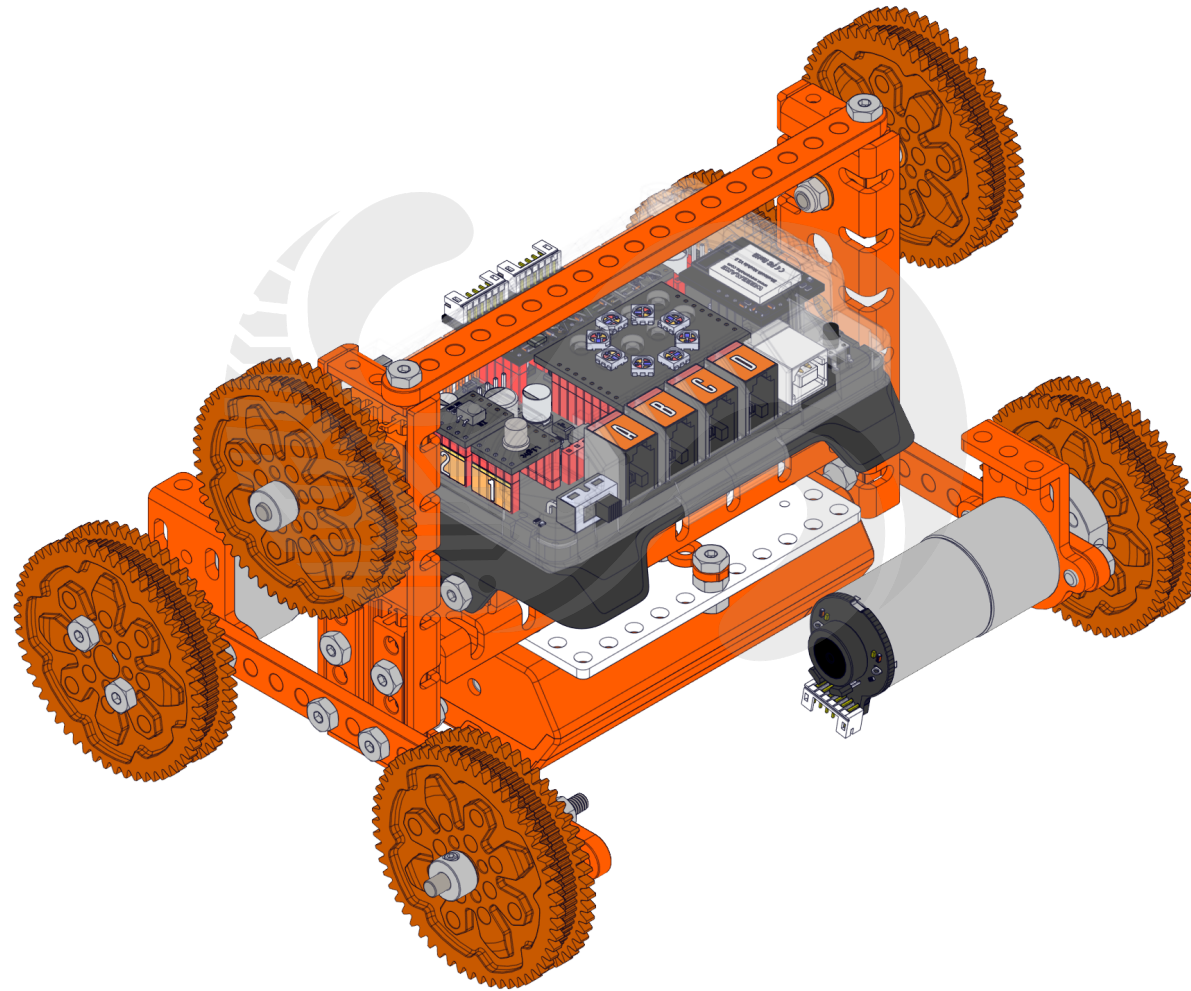


11. Fix the Base Structure

-  2xScrew M4*8
-  1xBeam 0410-154



11. Fix the Base Structure



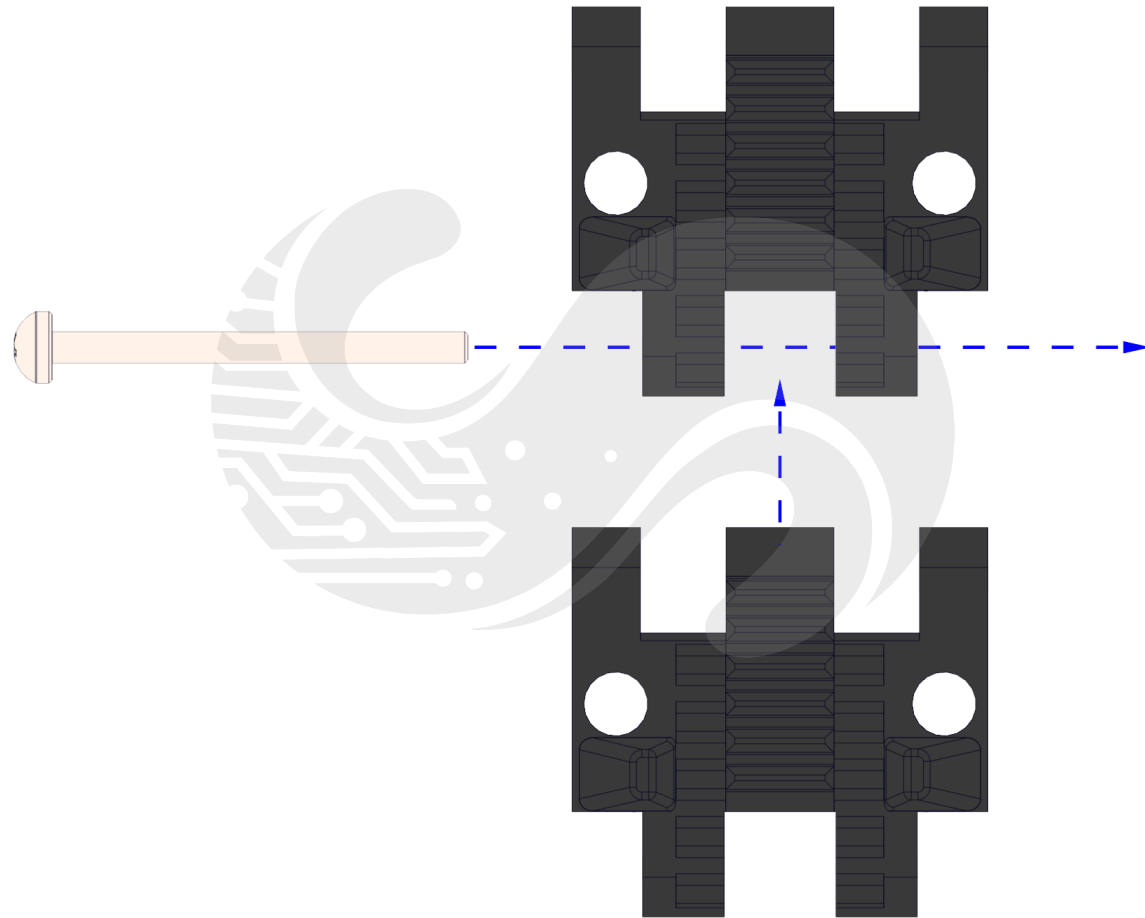
12.Assemble Caterpillar Track



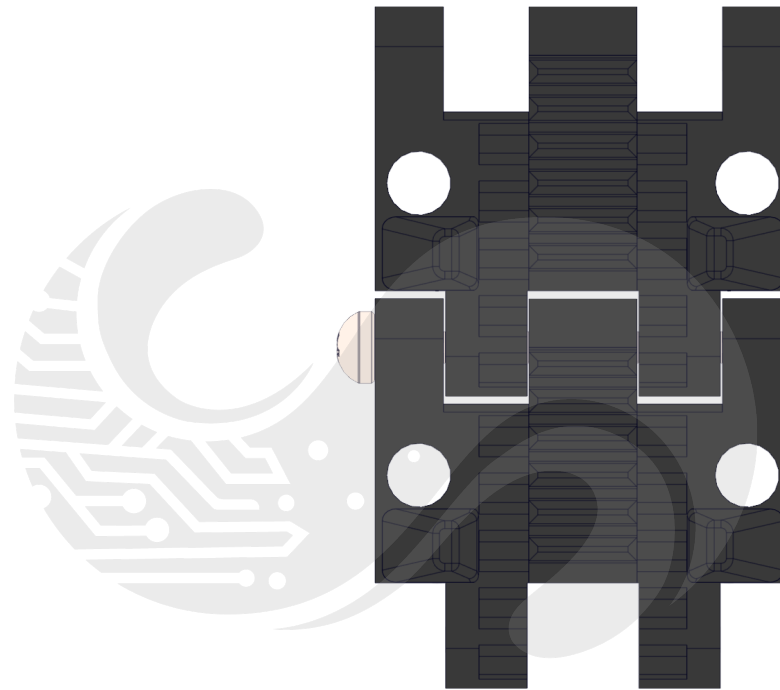
2xTrack



1xTrack Axle 2*26



12.Assemble Caterpillar Track



12.Assemble Caterpillar Track



26xTrack



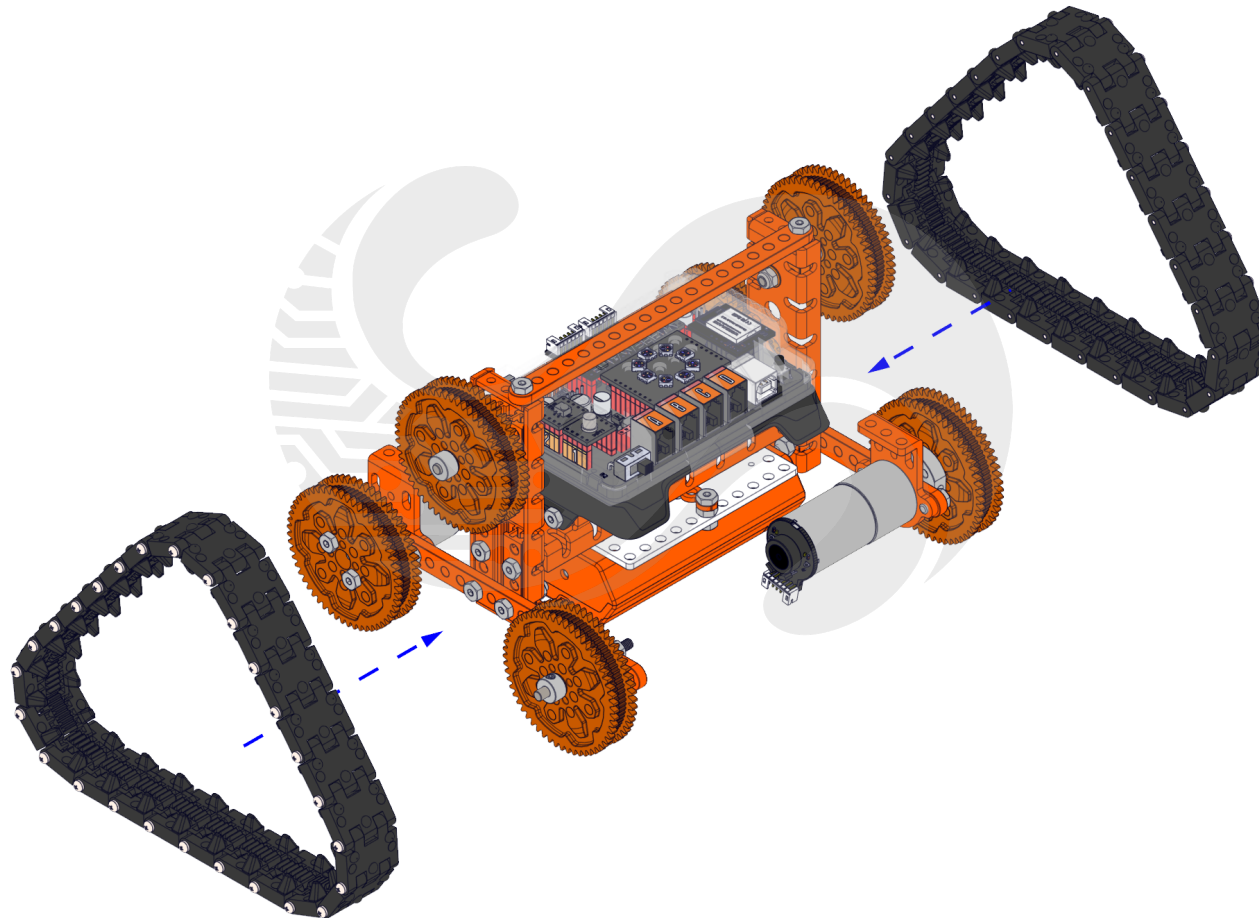
26xTrack Axle 2*26



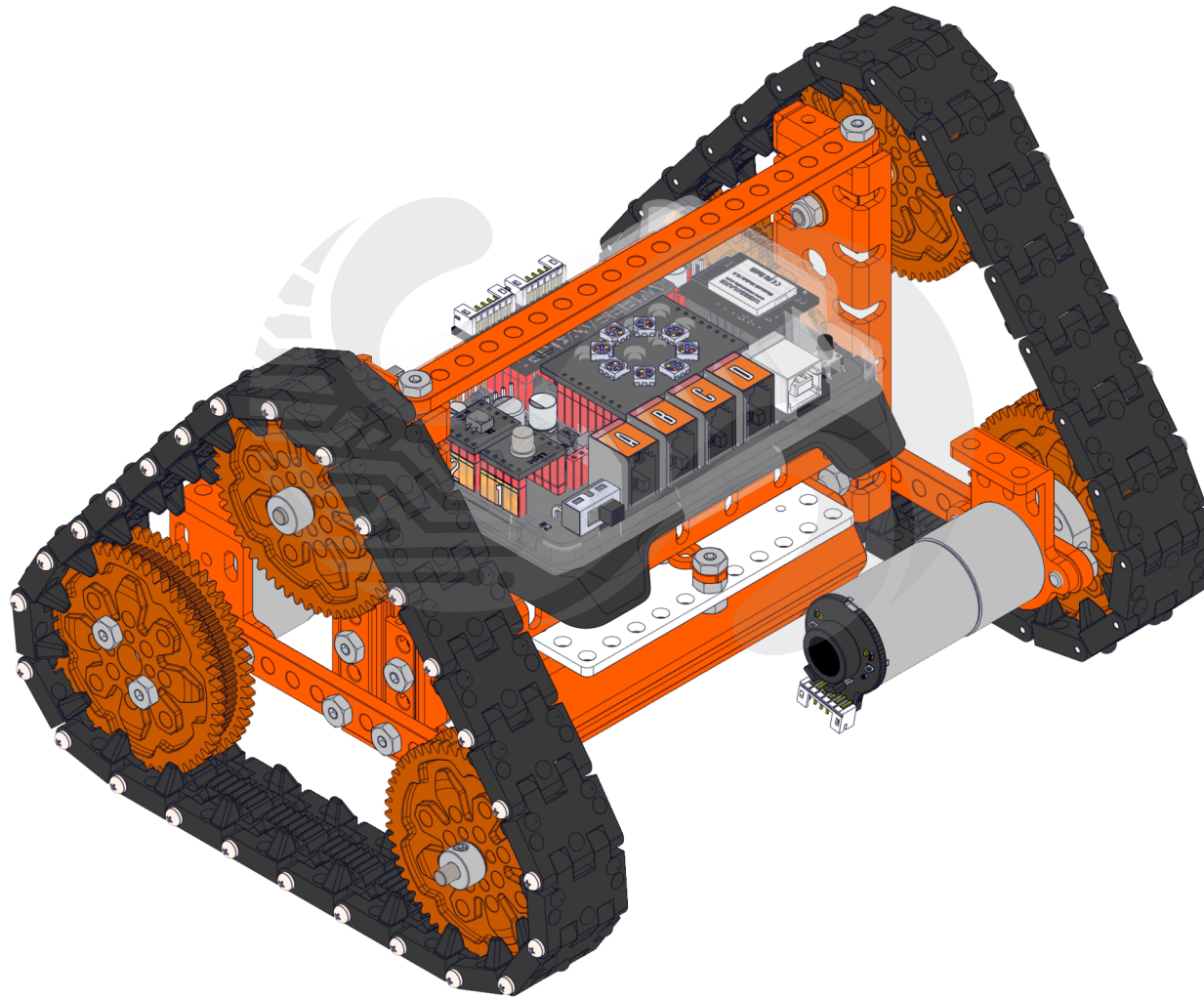
× 2

Tips: Assemble two caterpillar tracks as shown, each caterpillar track is consisted of 26 pieces of track.

12. Assemble Caterpillar Track



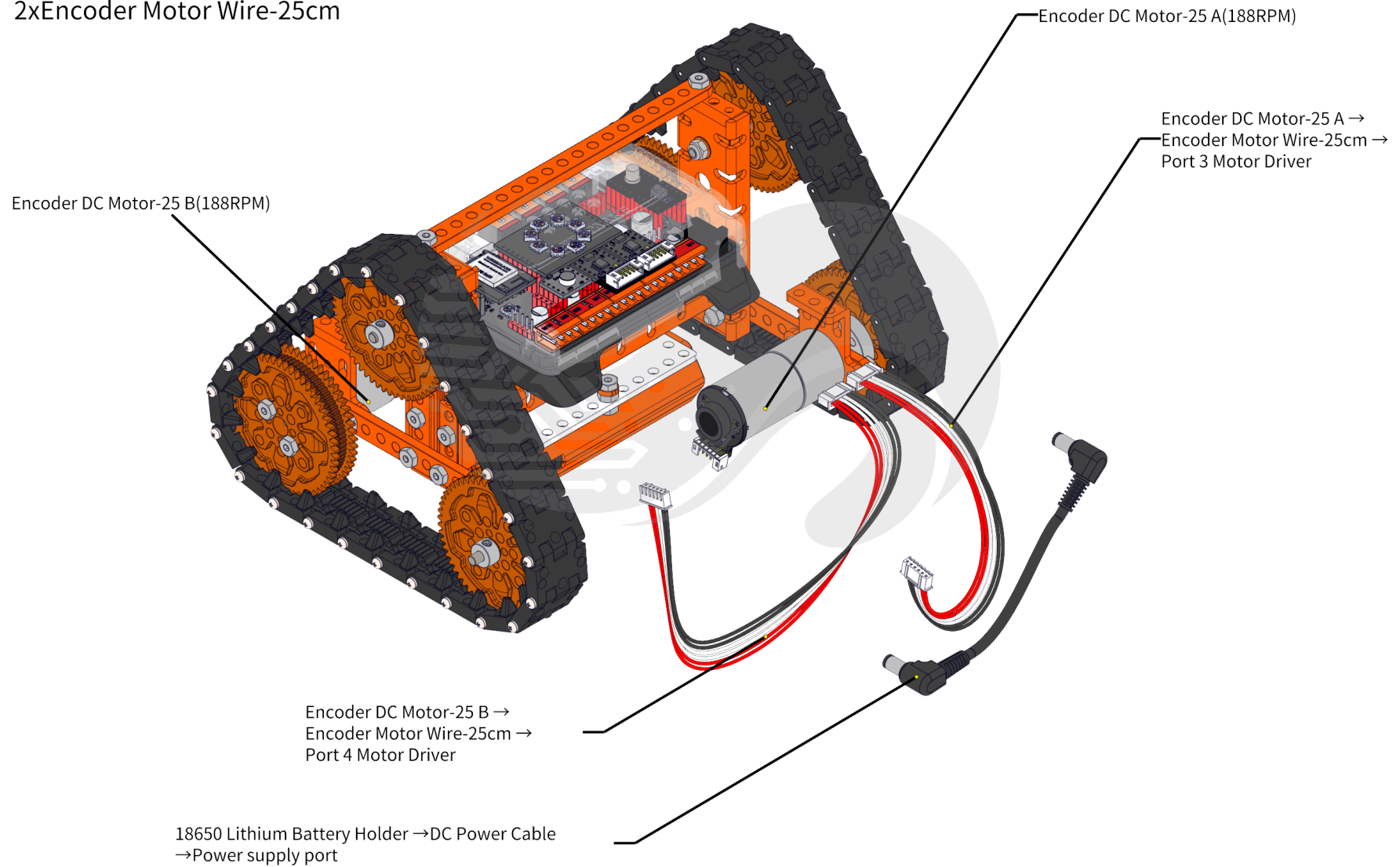
12.Assemble Caterpillar Track



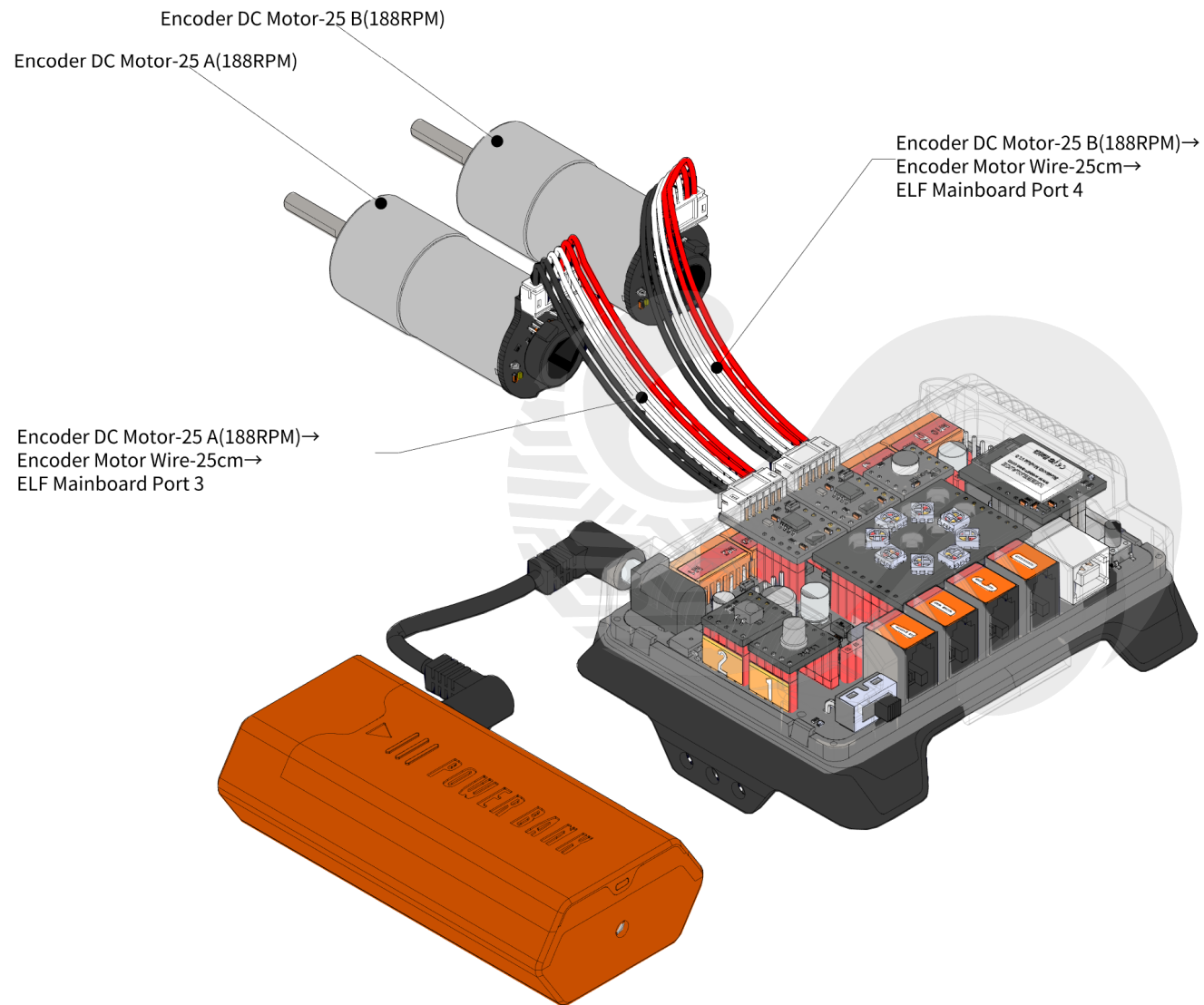
13.Wiring

1xPower cord 5.5-2.1

2xEncoder Motor Wire-25cm



14.Wiring



15.Completion Diagram

