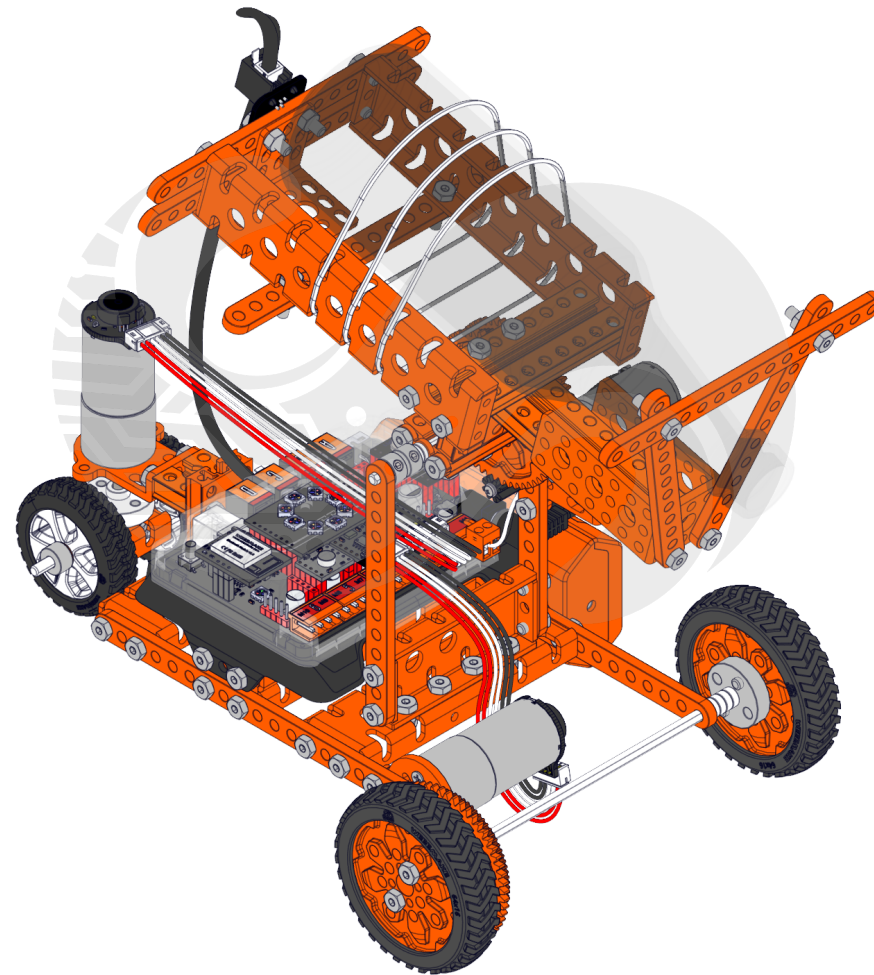


「 Chapter 13 Bartender Robot 」



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)



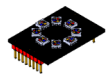
1xELF Mainboard



1xELF Mainboard Lid



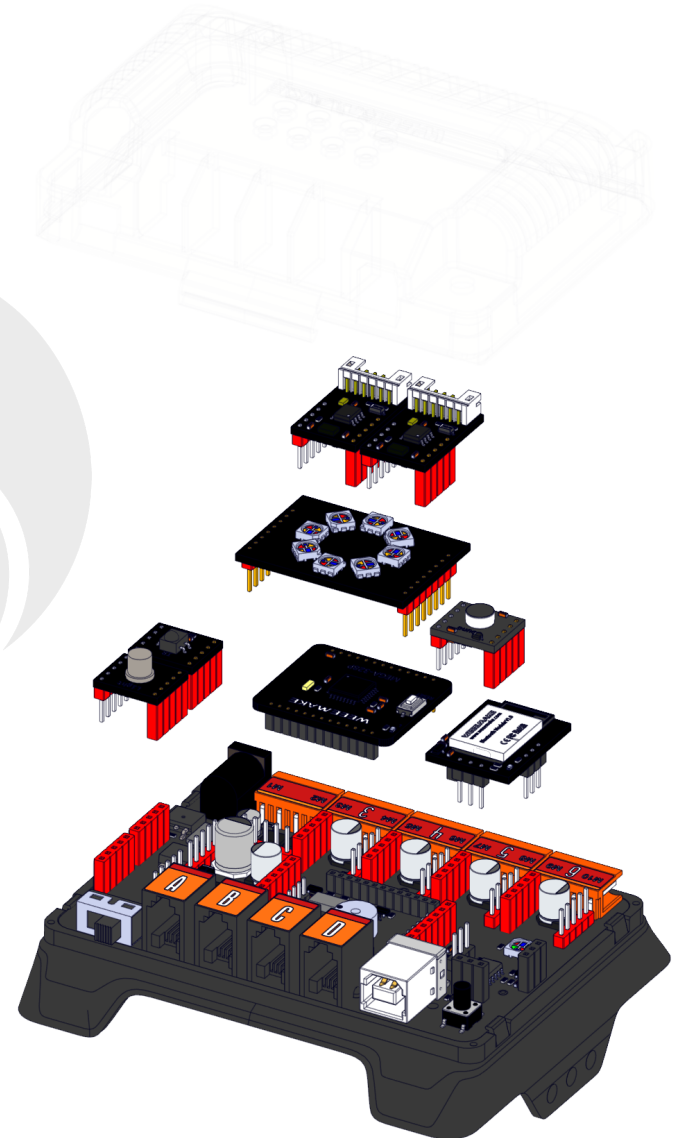
1xELF Mainbaord Base



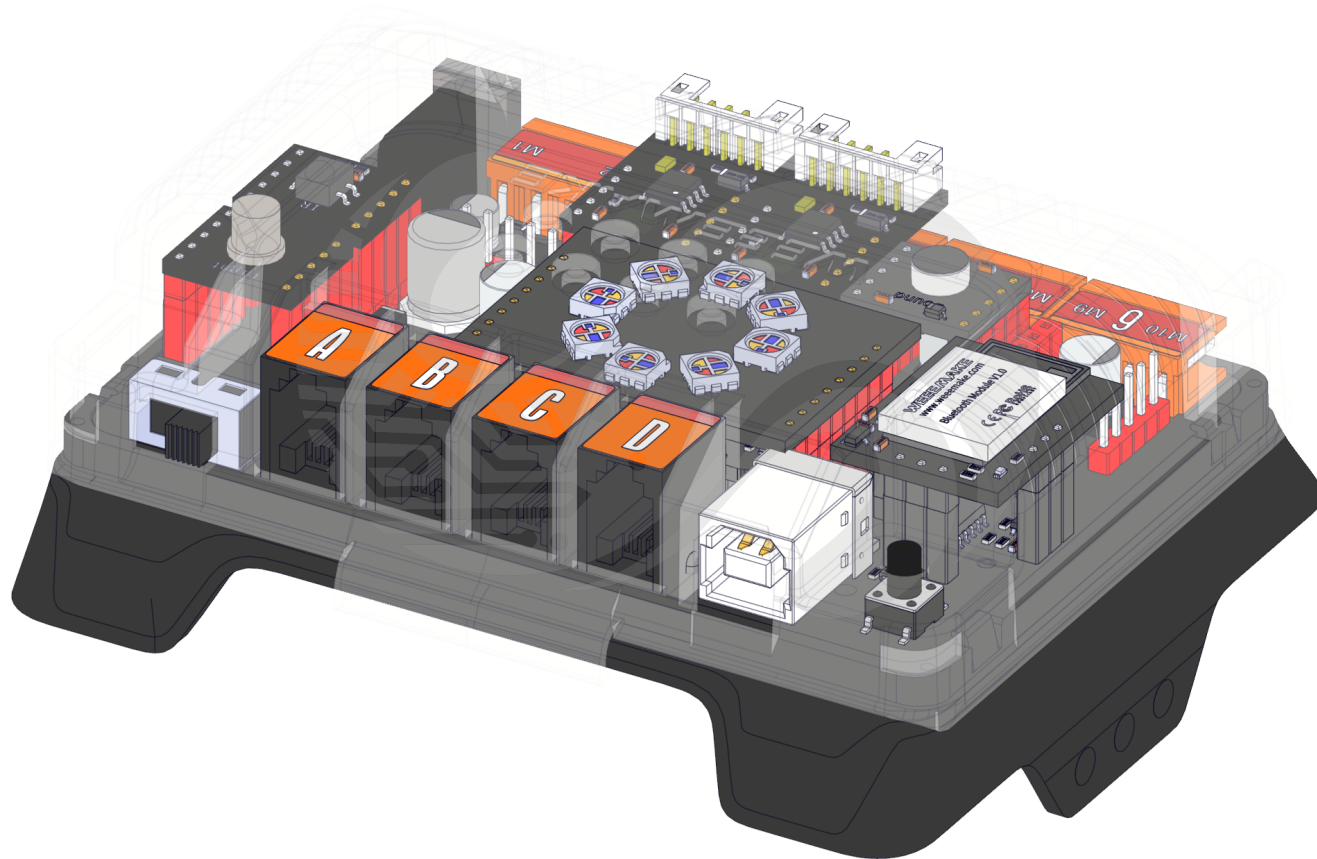
1xRGB LED - 8 (Pin)



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



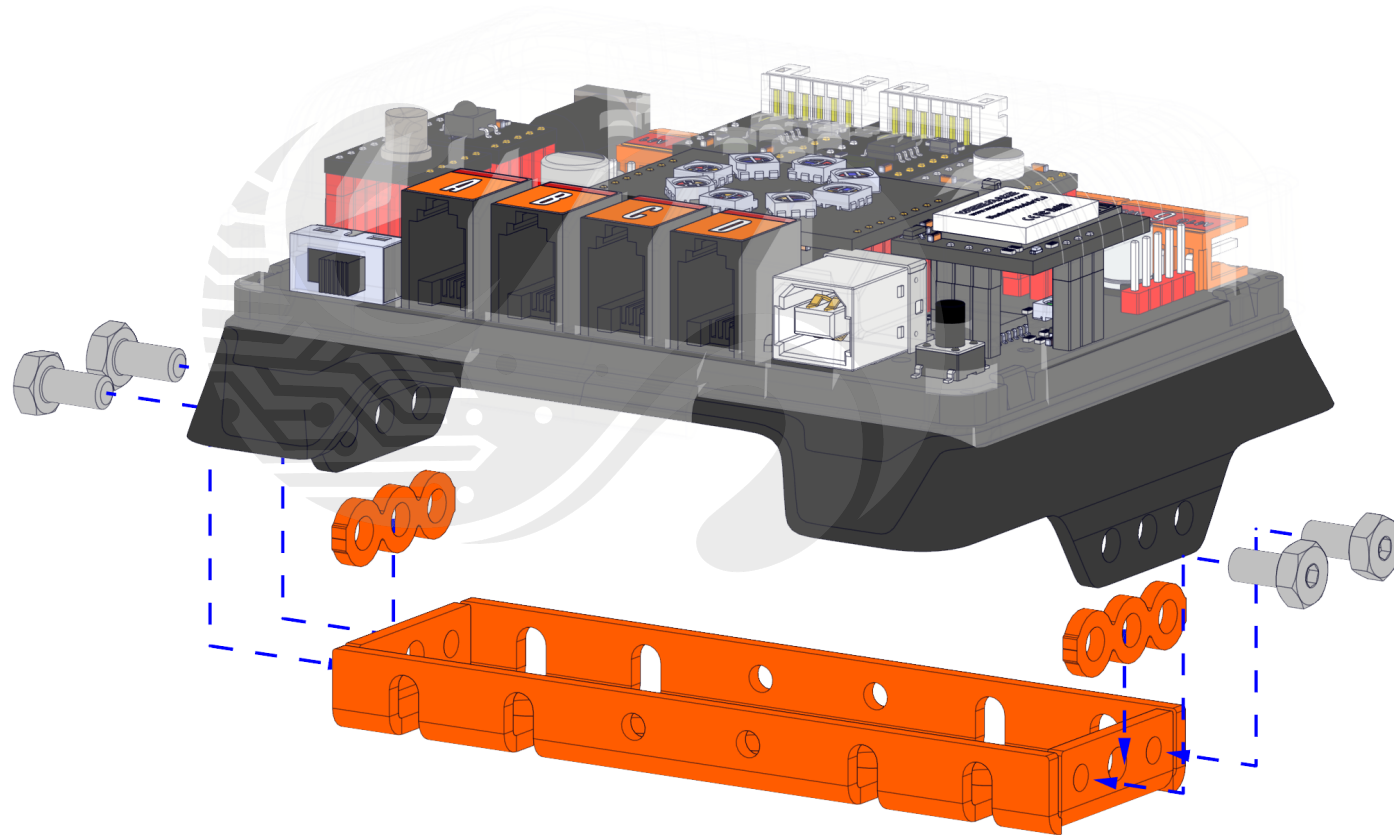
2xLinkage 0208-24



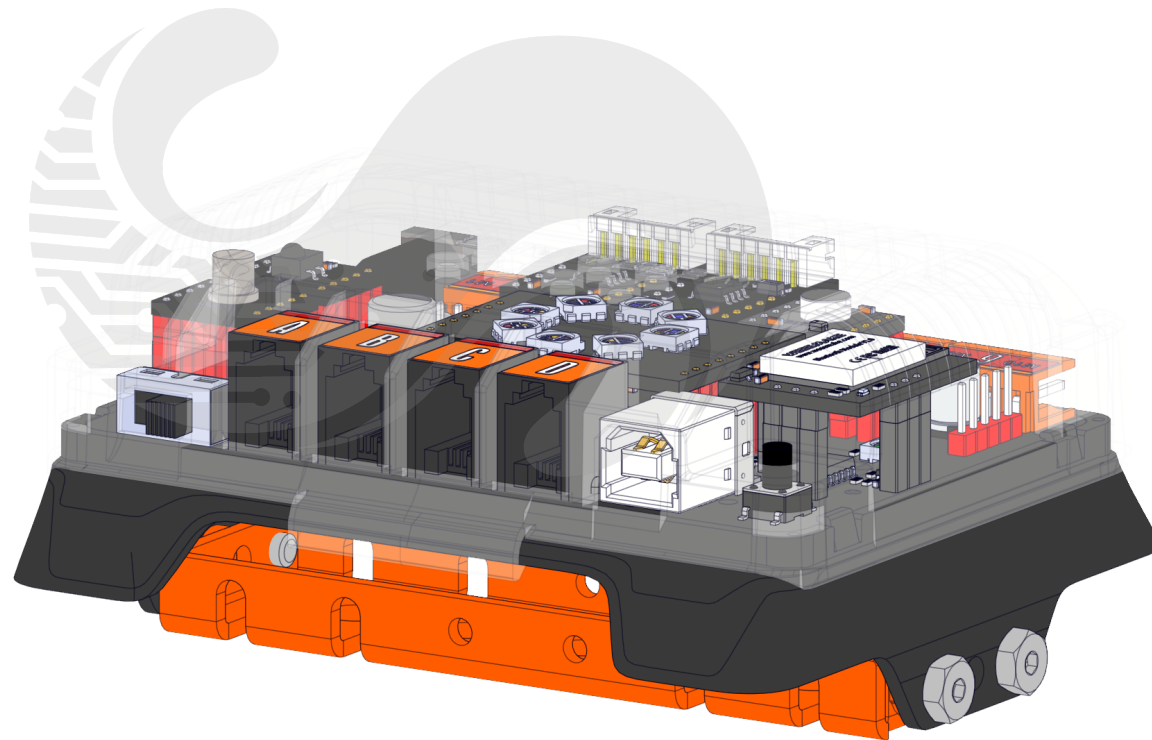
1xBeam 1030-100-B



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

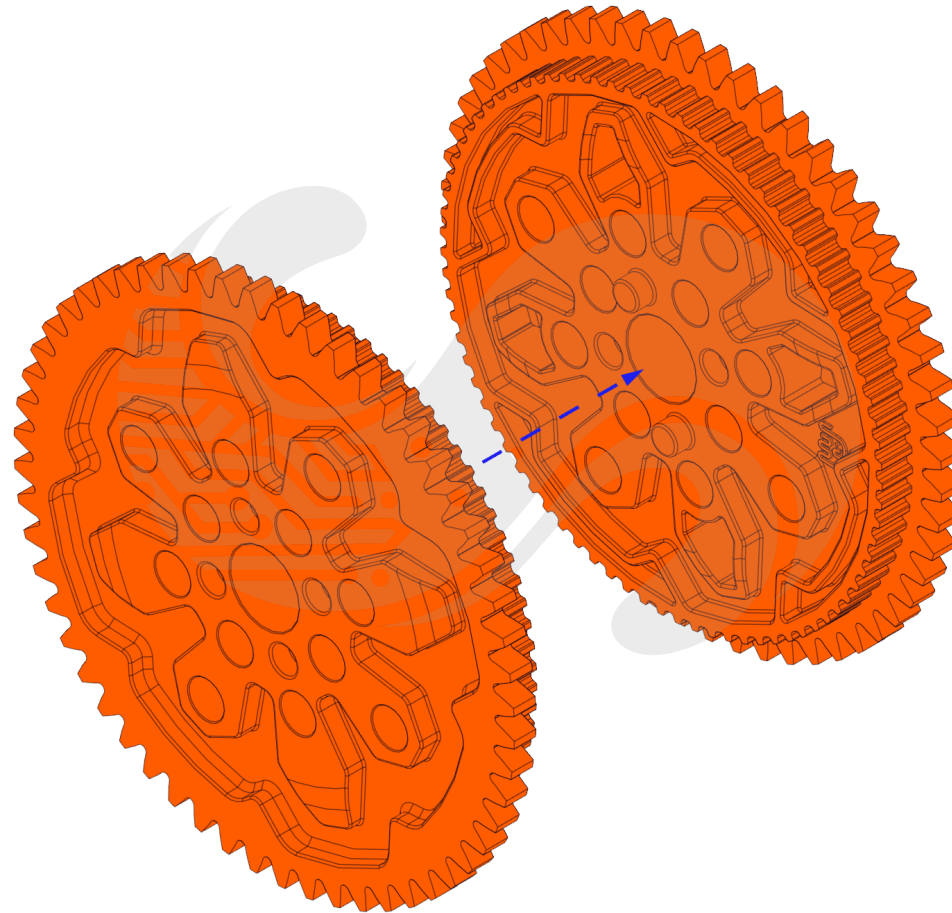
Communication Port - Bluetooth Module

Special port - RGB LED -8 Module

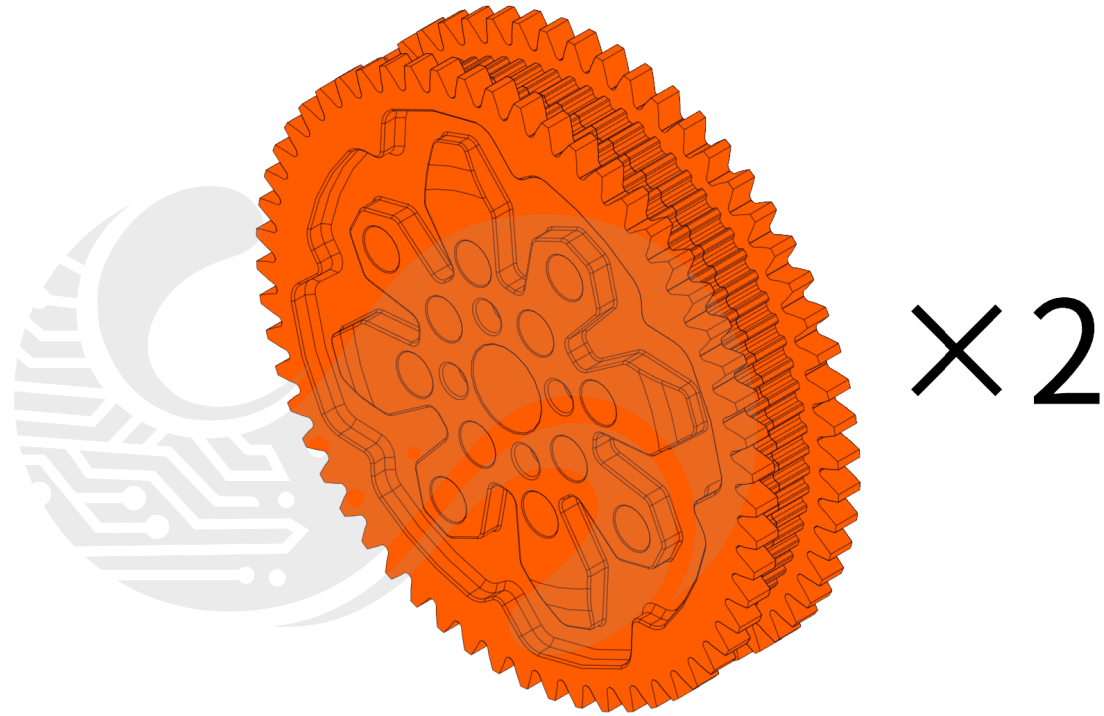
1.Assemble 56T Plastic Gear



2x56T-Plastic Gear



1.Assemble 56T Plastic Gear



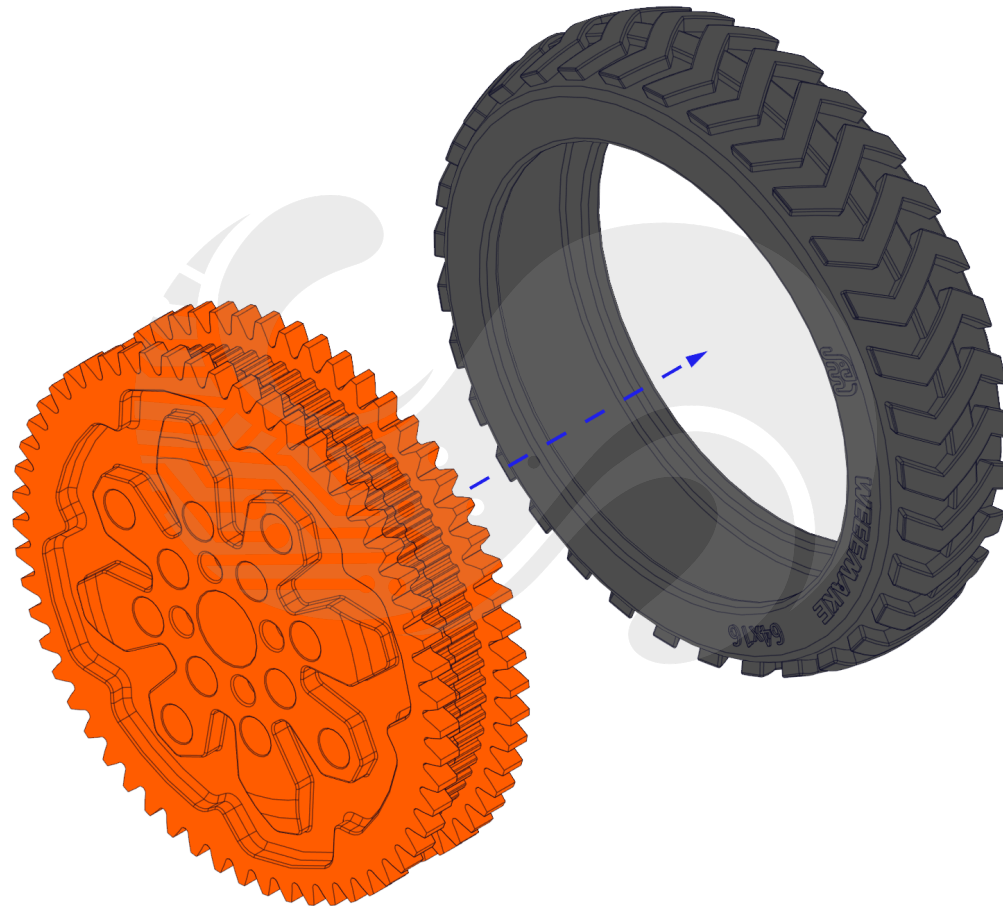
2.Assemble Tyre



1x56T-Plastic Gear Assembly



1xTyre 64*16



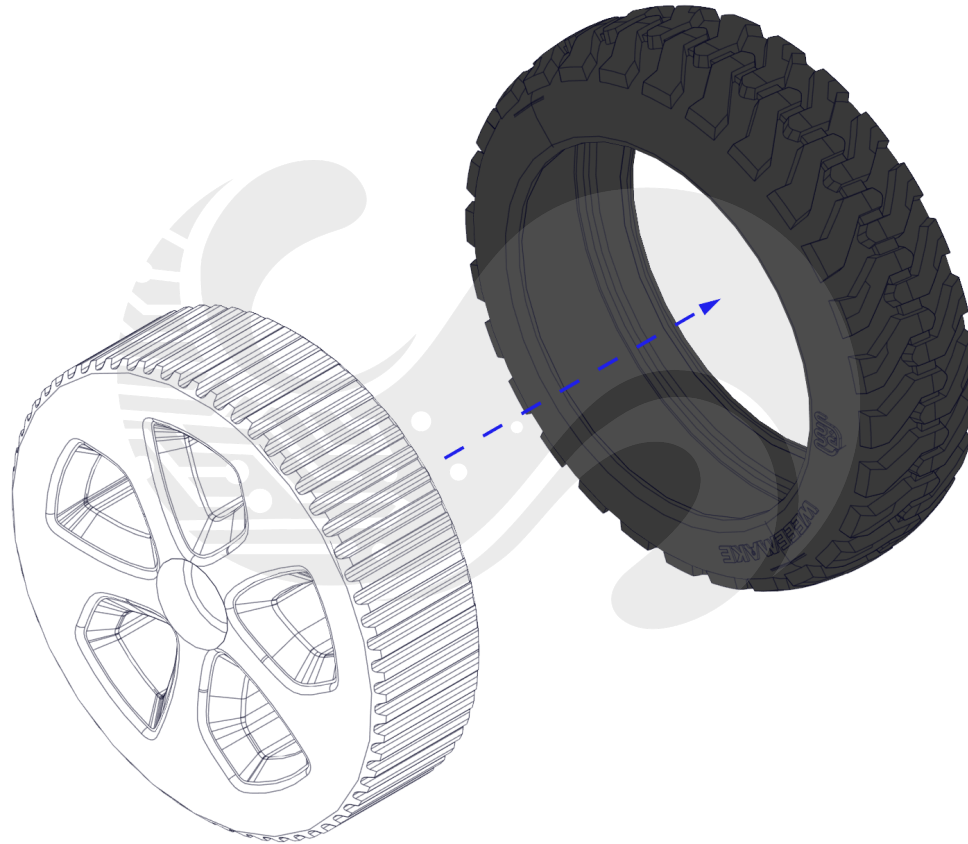
2.Assemble Tyre



2.Assemble Tyre

 1xmini Driven wheel 42x12

 1xmini Tyre 48x14 V1.0

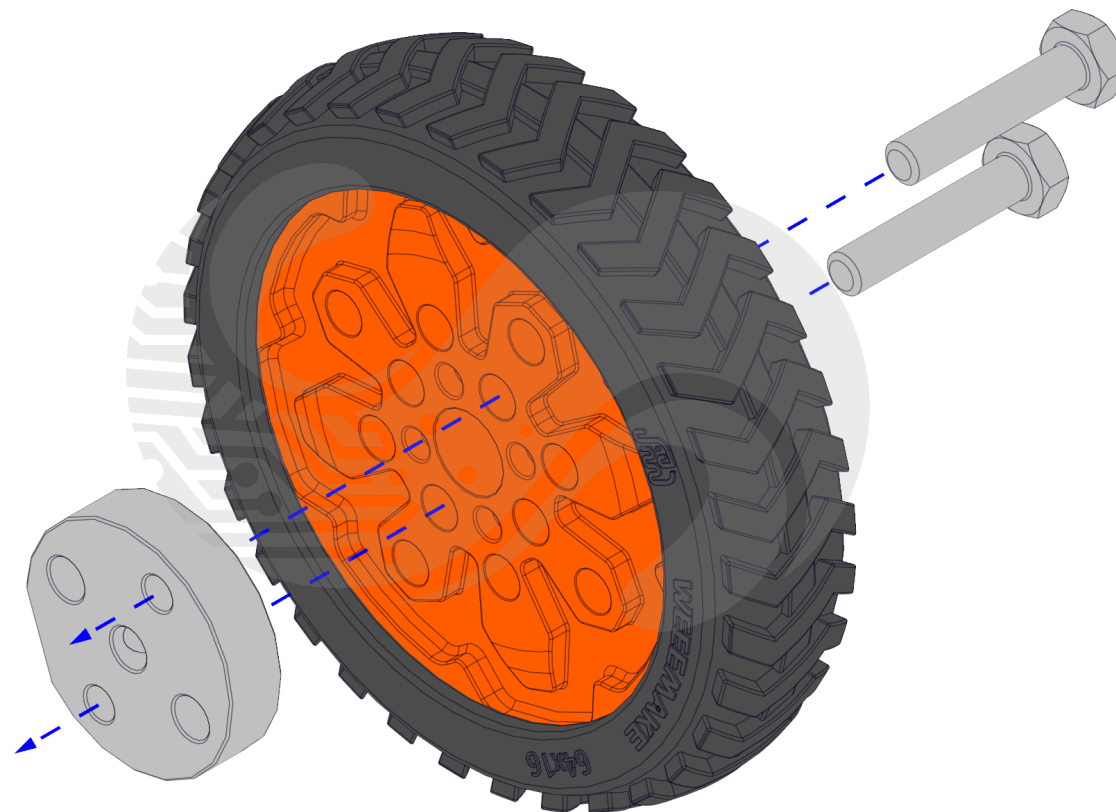


2.Assemble Tyre

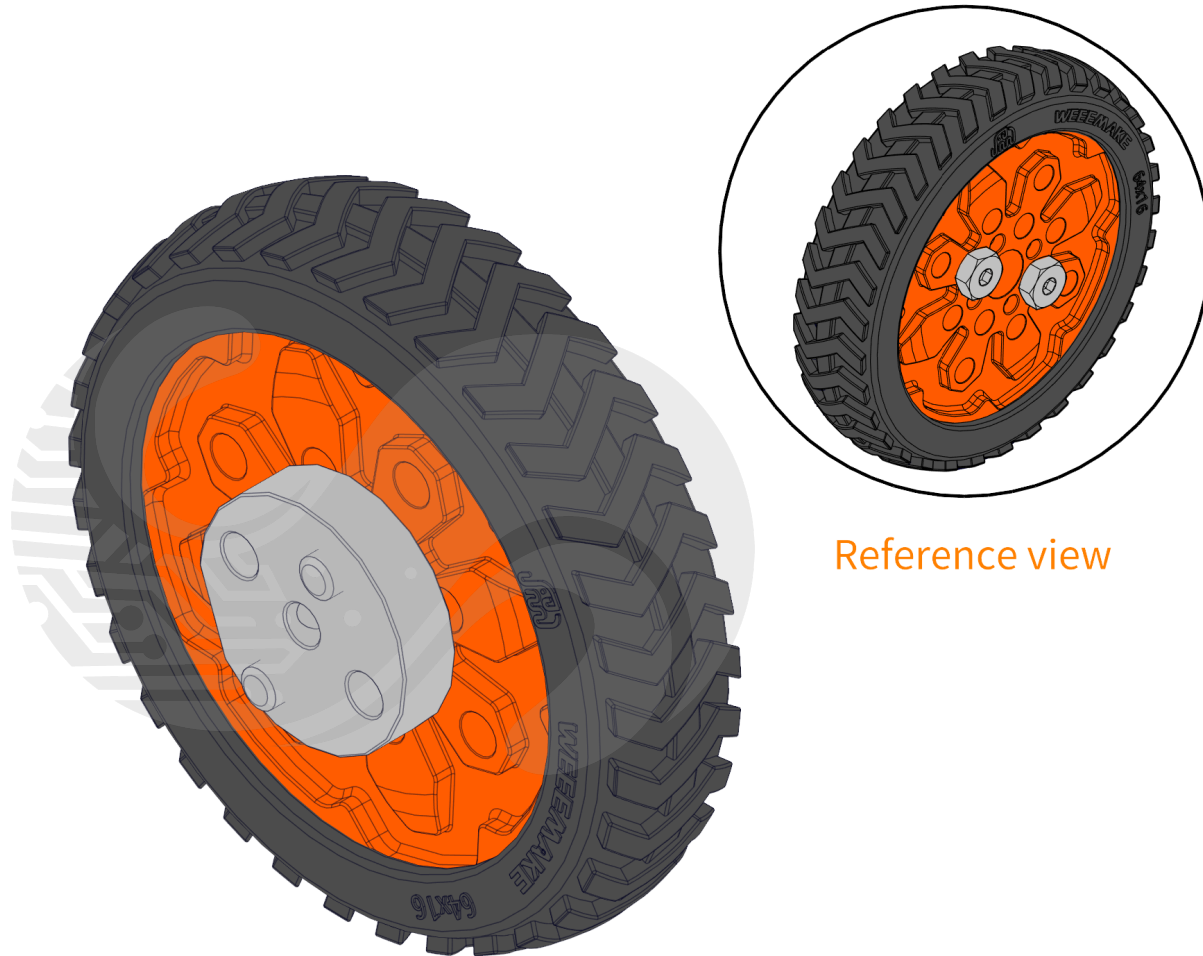


3.Assembly the Driven Wheel

-  2xScrew M4*20
-  1xDriving Flange Hub 4mm
-  1xTyre 64*16 Assembly



3.Assembly the Driven Wheel



4.Assemble Active Wheel

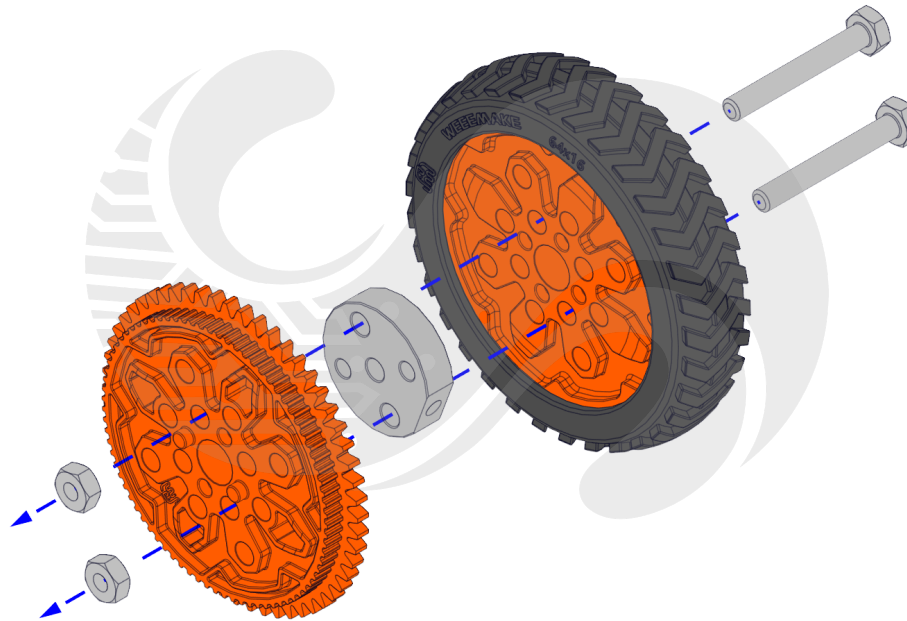
 1xDriving Flange Hub 4mm

 1x56T-Plastic Gear

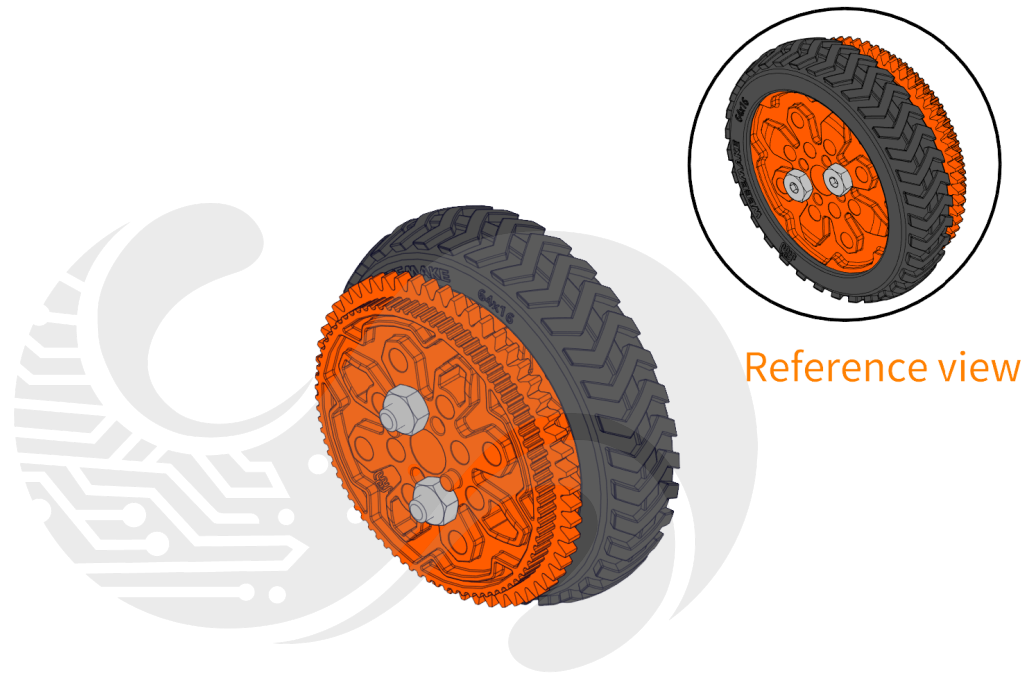
 2xNut M4

 2xScrew M4*30

 1xTyre 64*16 Assembly



4.Assemble Active Wheel



5.Assemble Encoder DC Motor-25



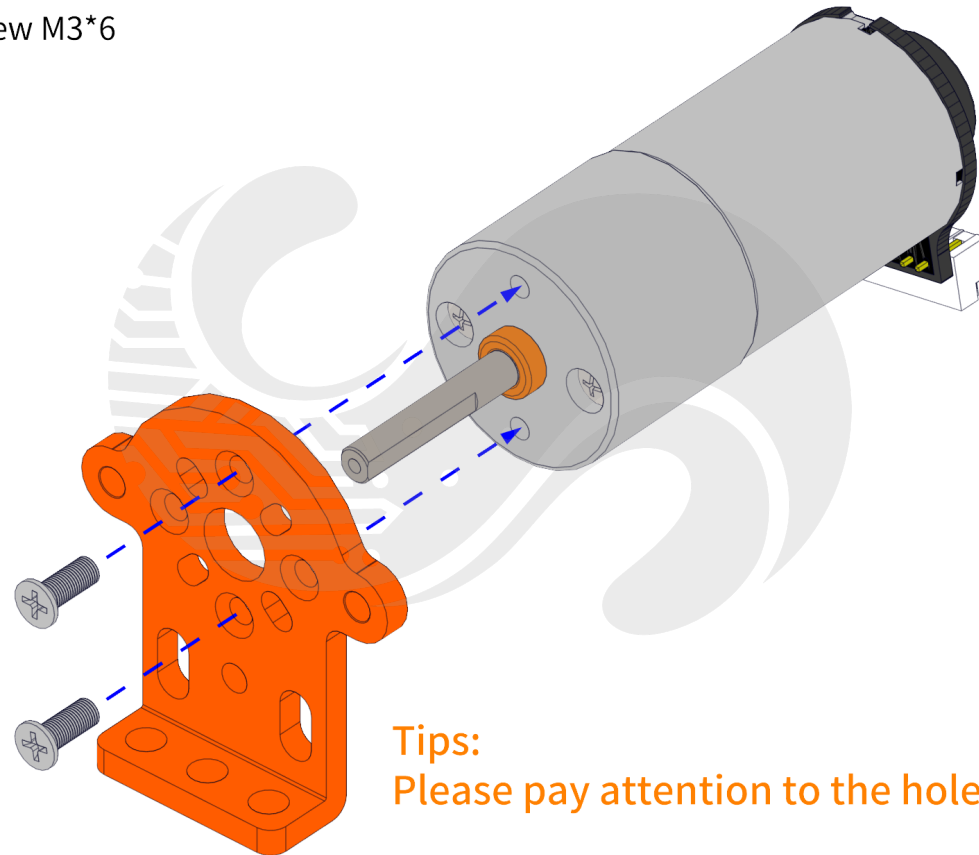
1x25 Motor Bracket



1xEncoder DC Motor-25 9V188RPM

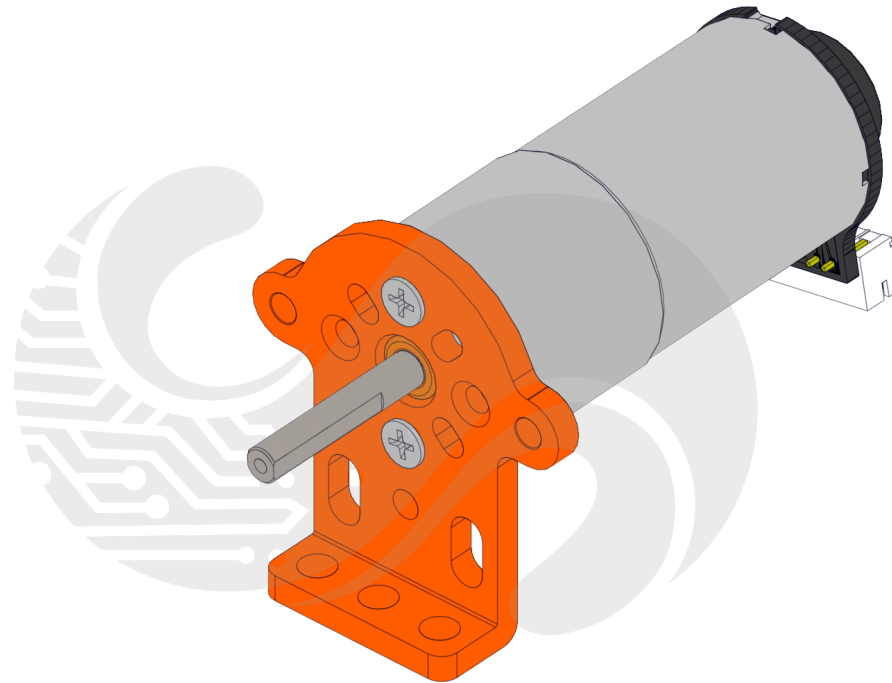


2xCountersunk Head Screw M3*6



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

5.Assemble Encoder DC Motor-25



6.Assemble DC Motor-25 (50RPM)



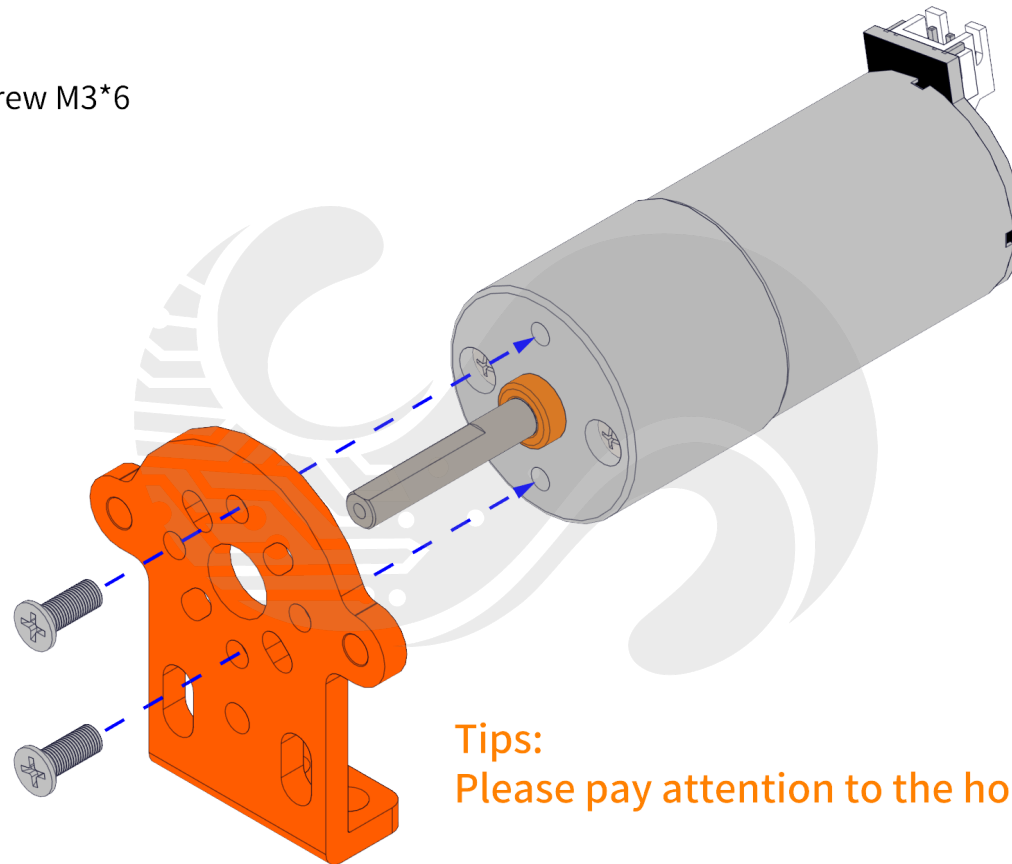
1x25 Motor Bracket



1xDC Motor-25 (50RPM)

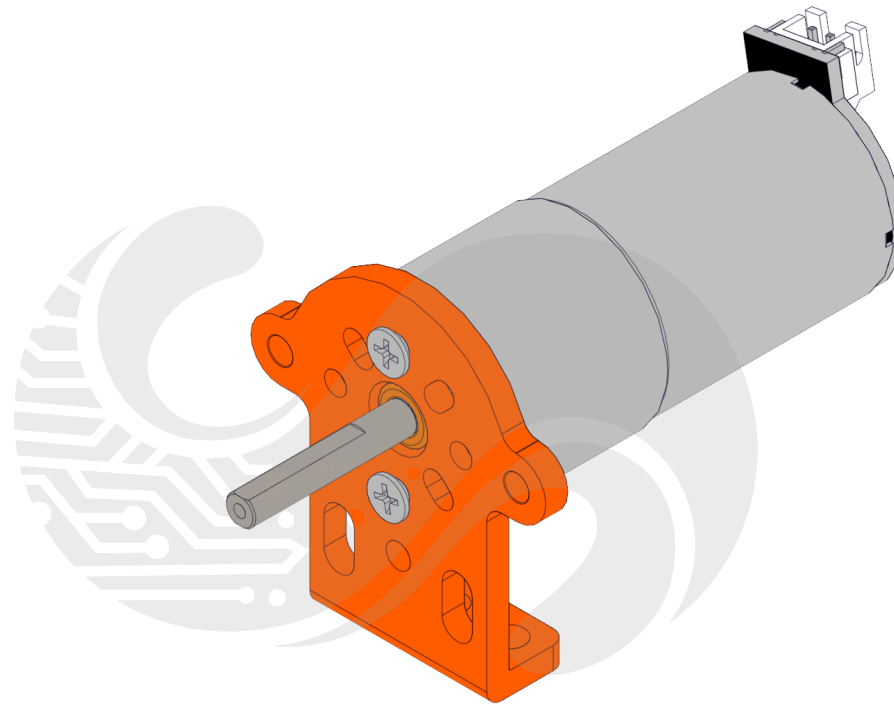


2xCountersunk Head Screw M3*6



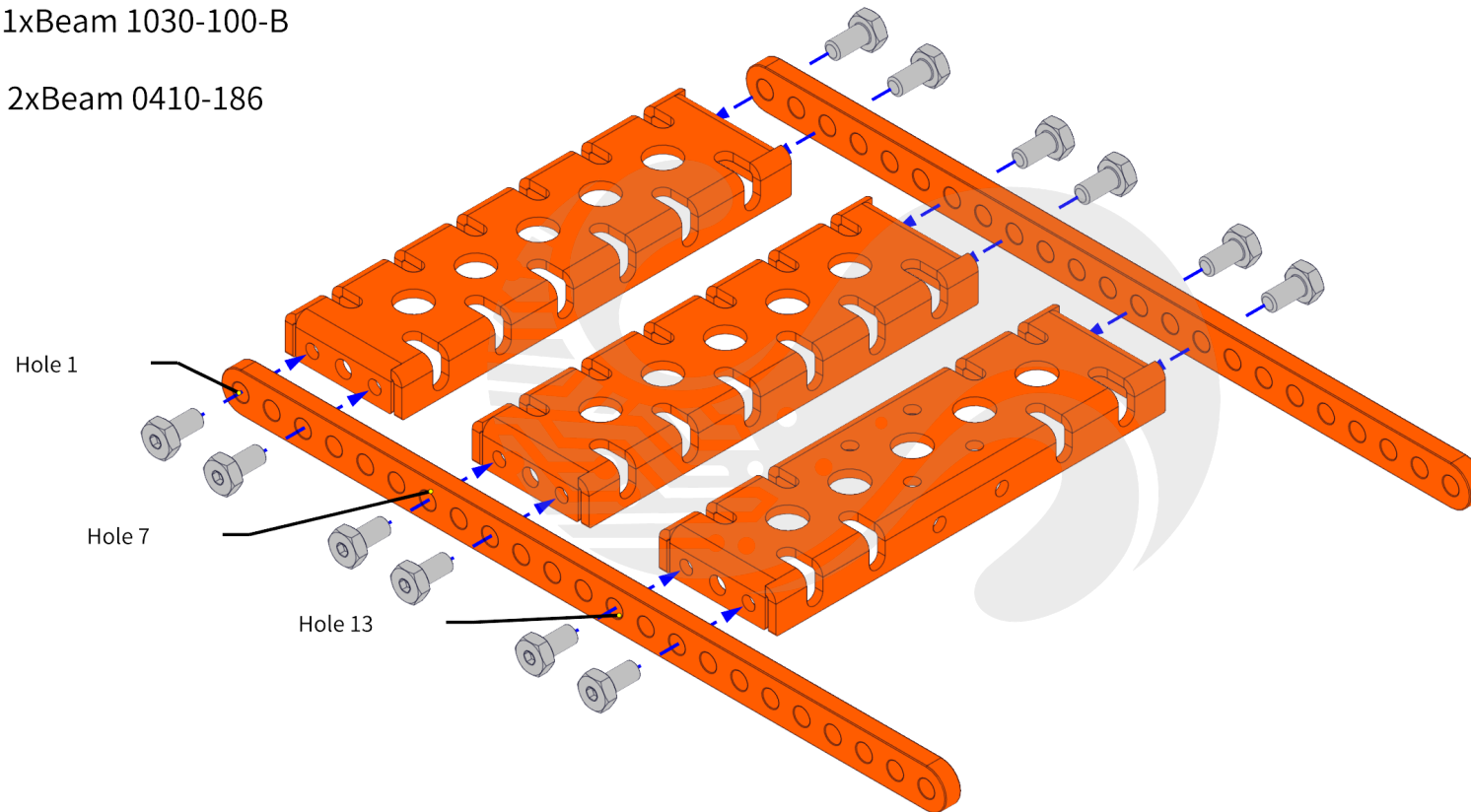
Tips:
Please pay attention to the hole position and direction.

6.Assemble DC Motor-25 (50RPM)

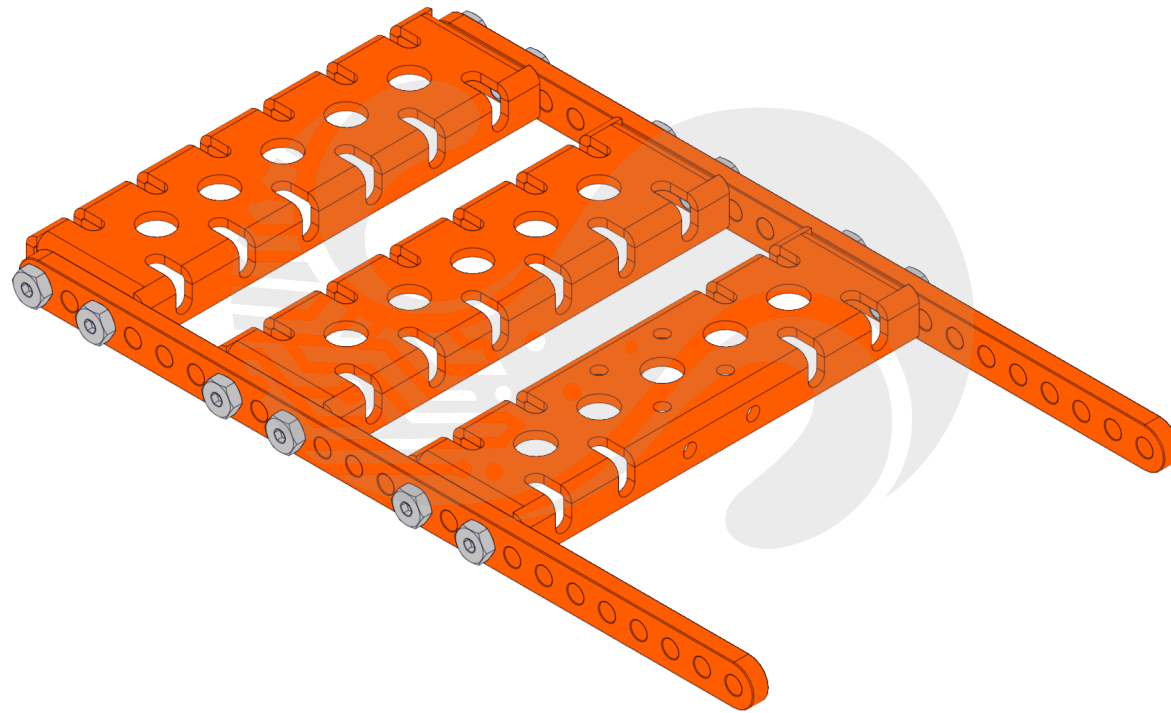


7.Assemble Base Structure

-  12xScrew M4*8
-  2xBeam 1030-100
-  1xBeam 1030-100-B
-  2xBeam 0410-186

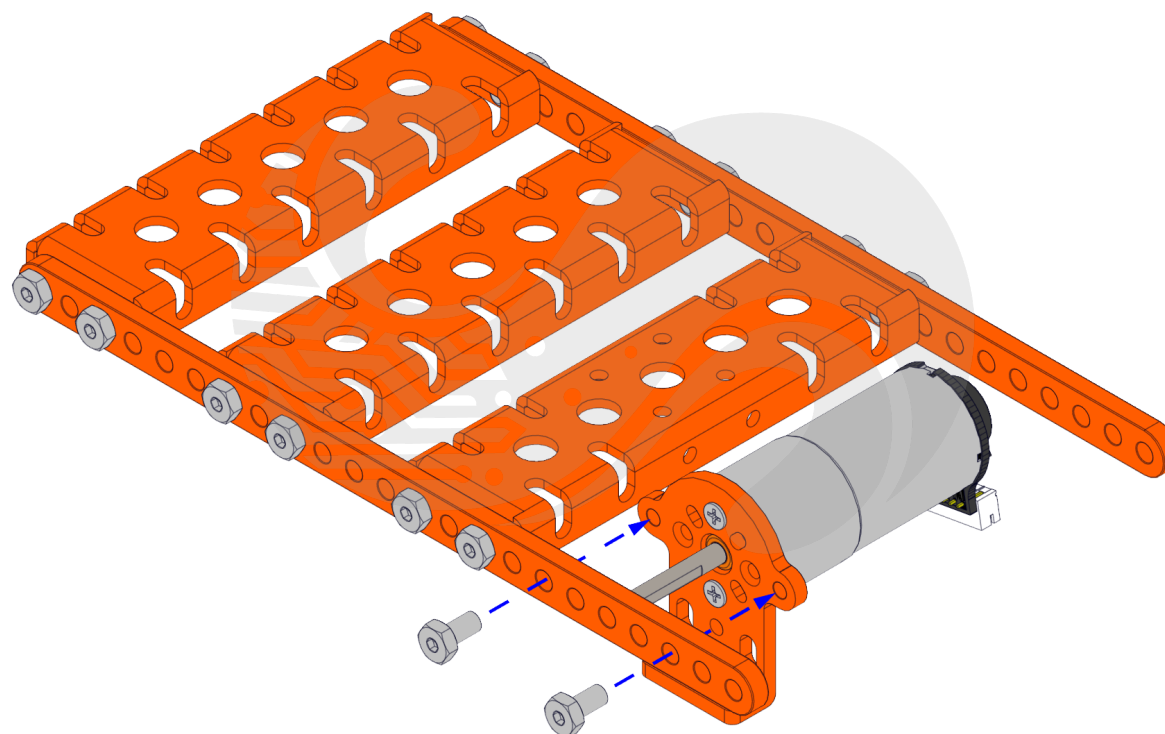


7.Assemble Base Structure



8.Assemble Base Structure Motor

 2xScrew M4*8



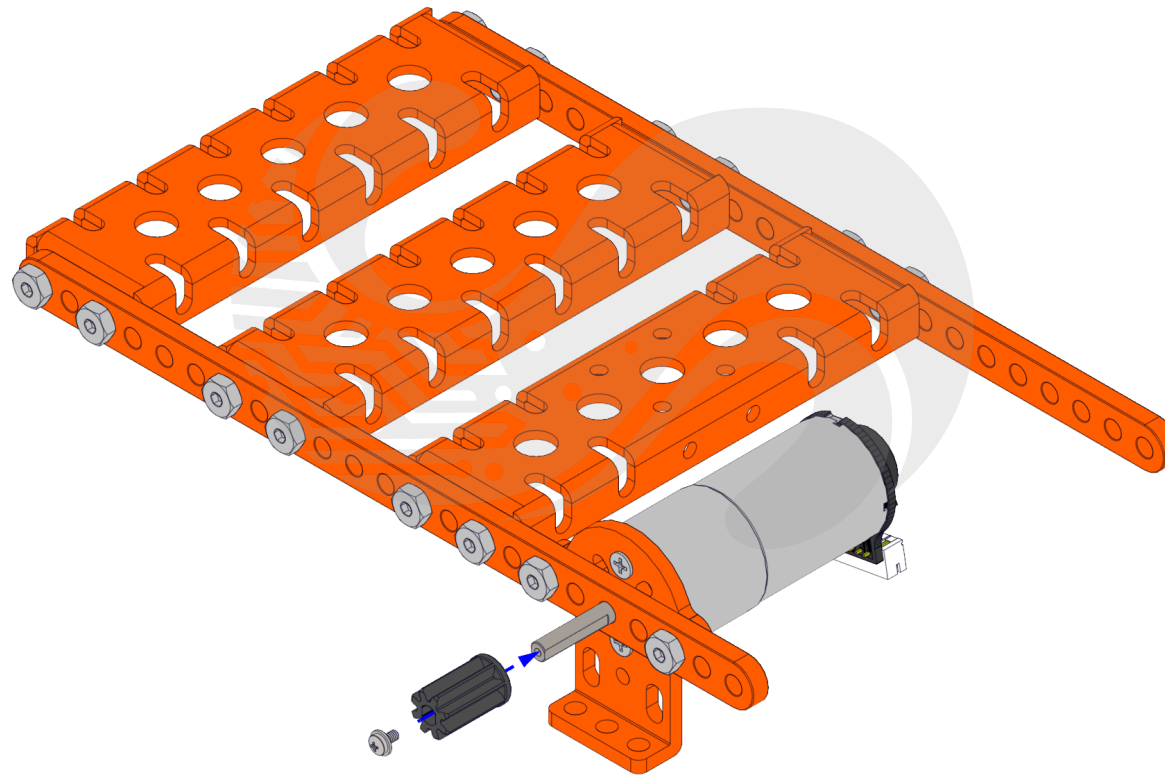
9. Assemble 8T Plastic Gear



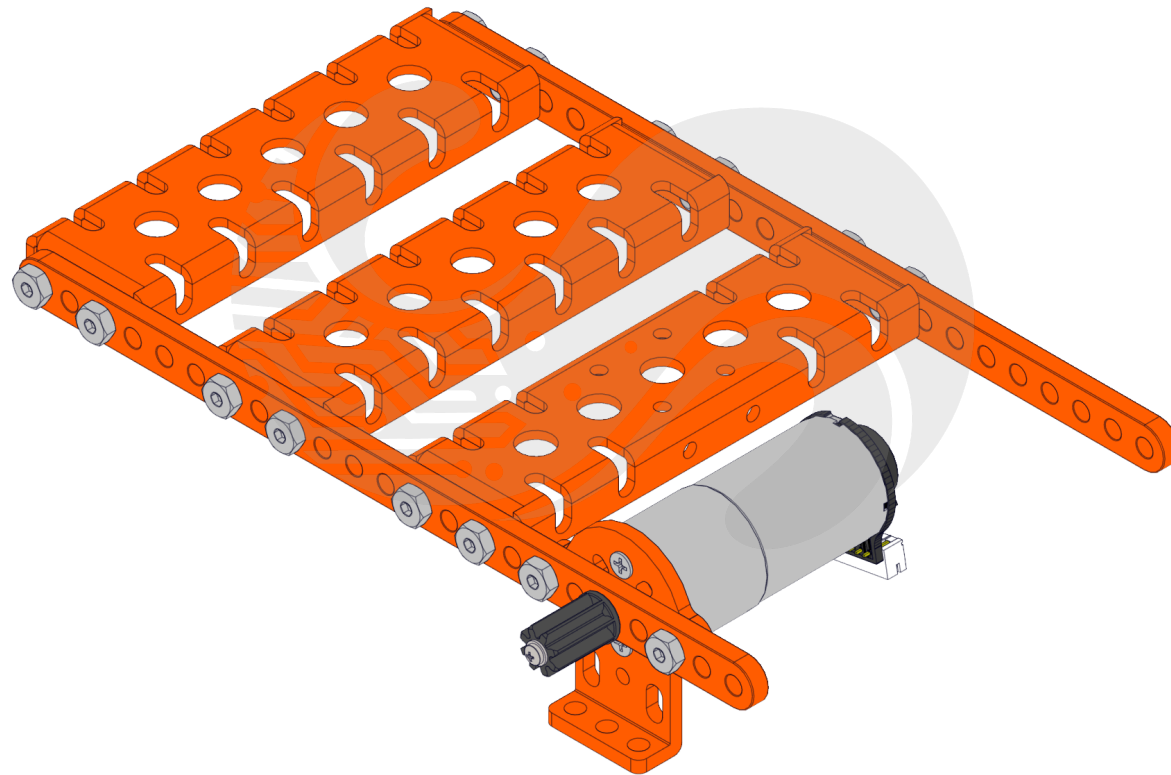
1xScrew M2*4



1x8T-Plastic Gear V1.0 (Flat Hole)

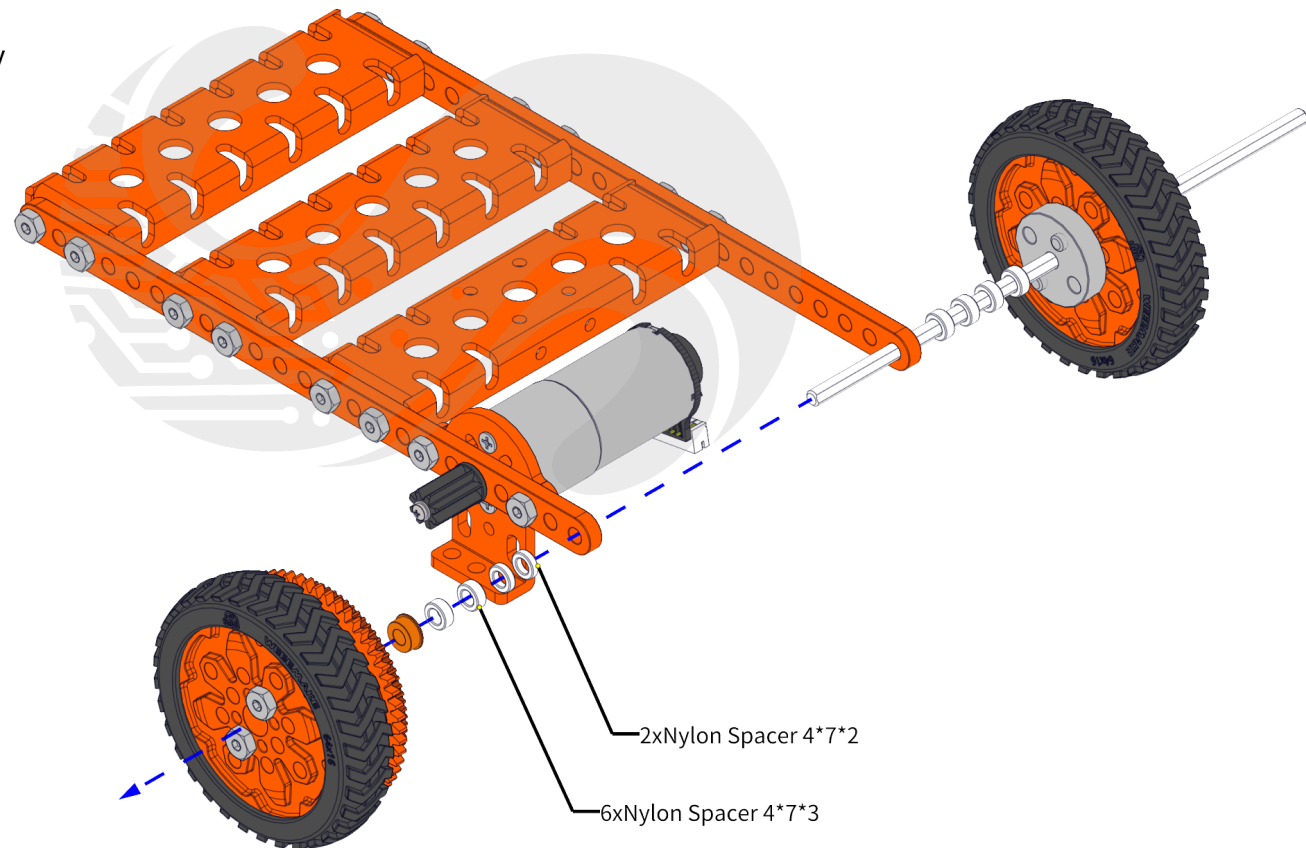


9.Assemble 8T Plastic Gear

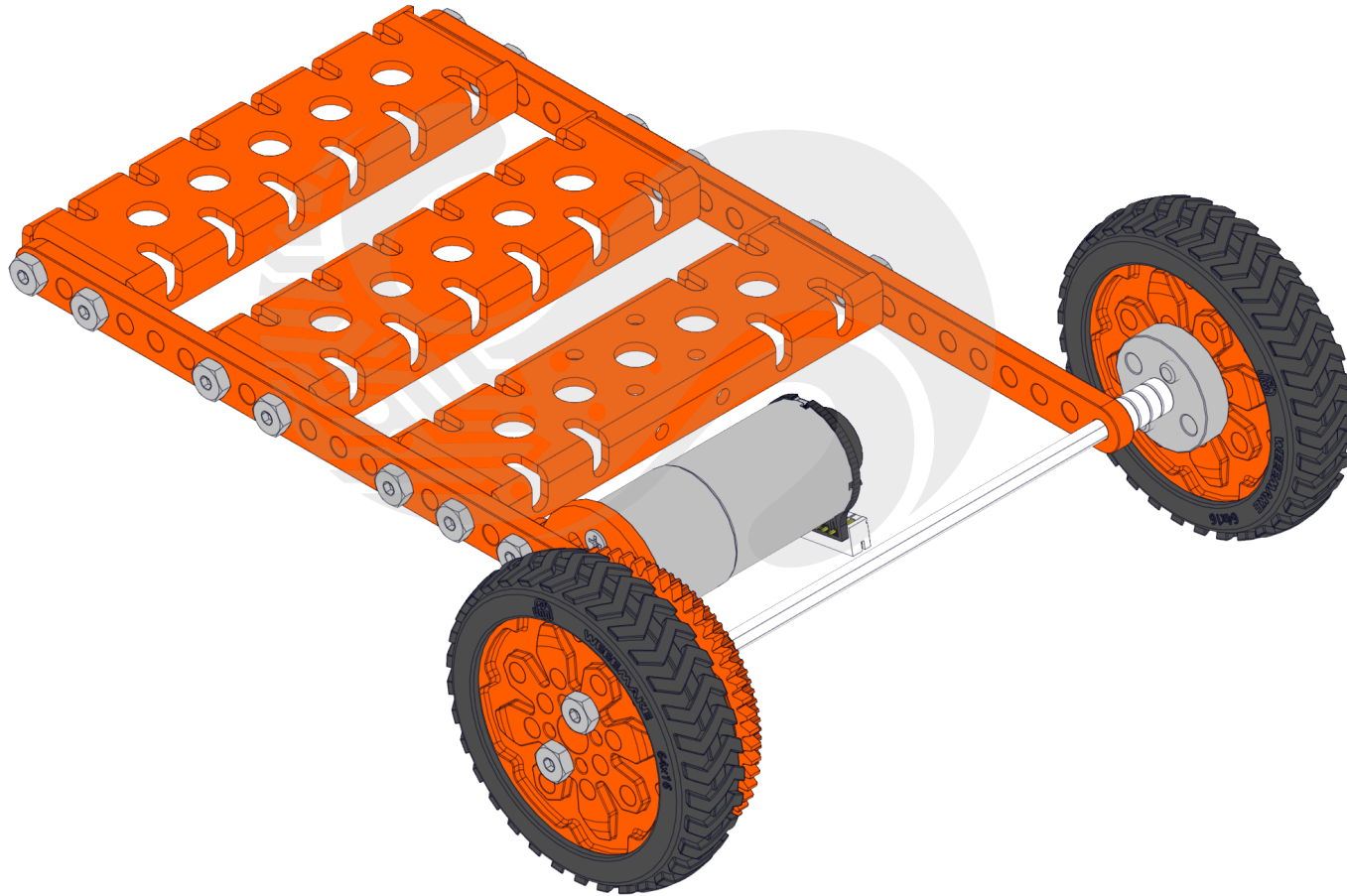


10. Assemble the Back Wheels

-  2xNylon Spacer 4*7*2
-  6xNylon Spacer 4*7*3
-  1xFlange Copper Bearing 4*8*3.5
-  1xFlat Shaft 4-160
-  1xDriven Wheel 64*16 Assembly
-  1xActive Wheel 64*16 Assembly

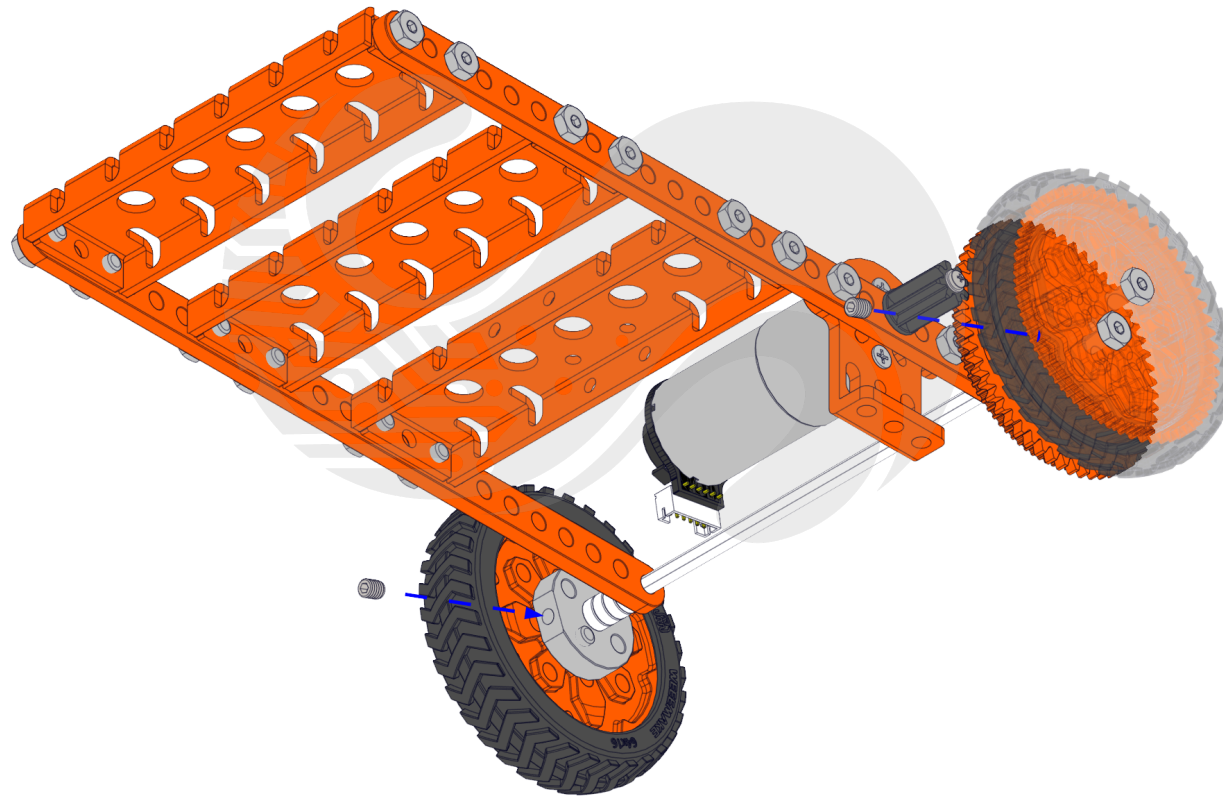


10. Assemble the Back Wheels

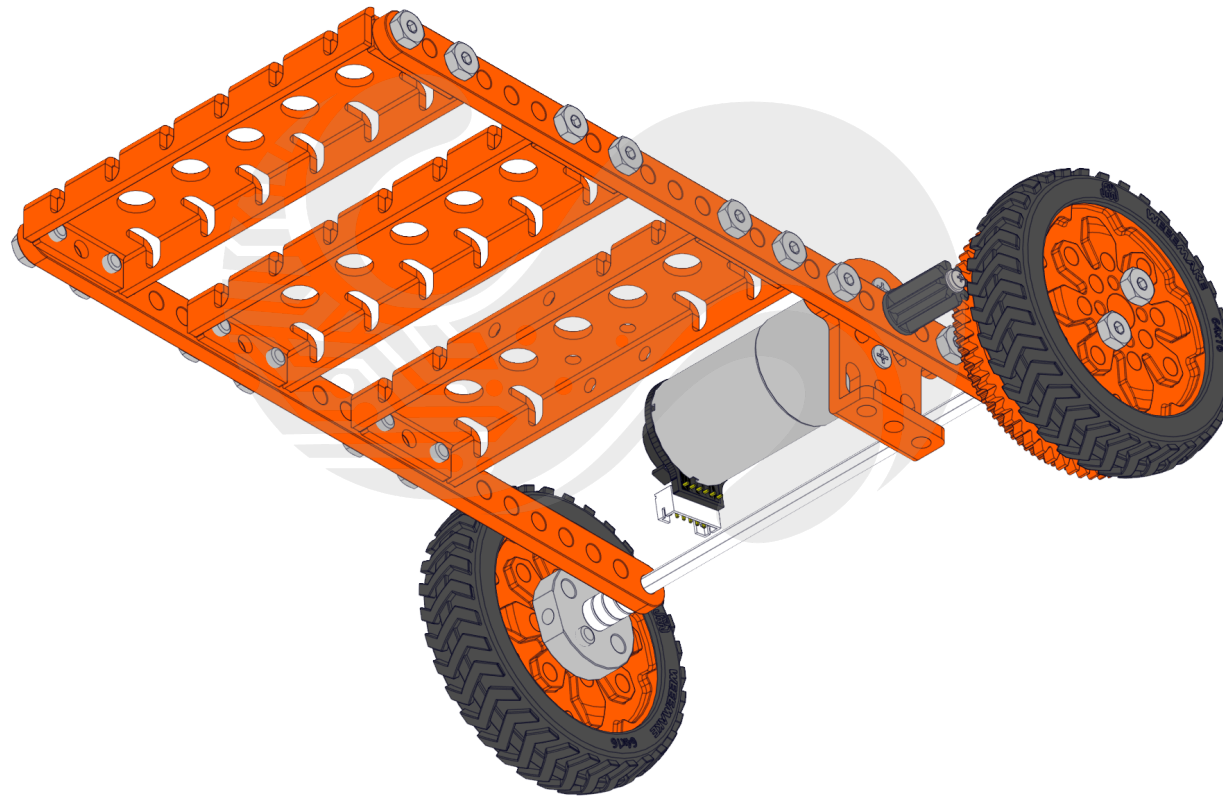


10. Assemble the Back Wheels

 2xHeadless Screw M4*5



10. Assemble the Back Wheels



11. Assemble the Front Wheels

 2xNylon Spacer 4*7*3

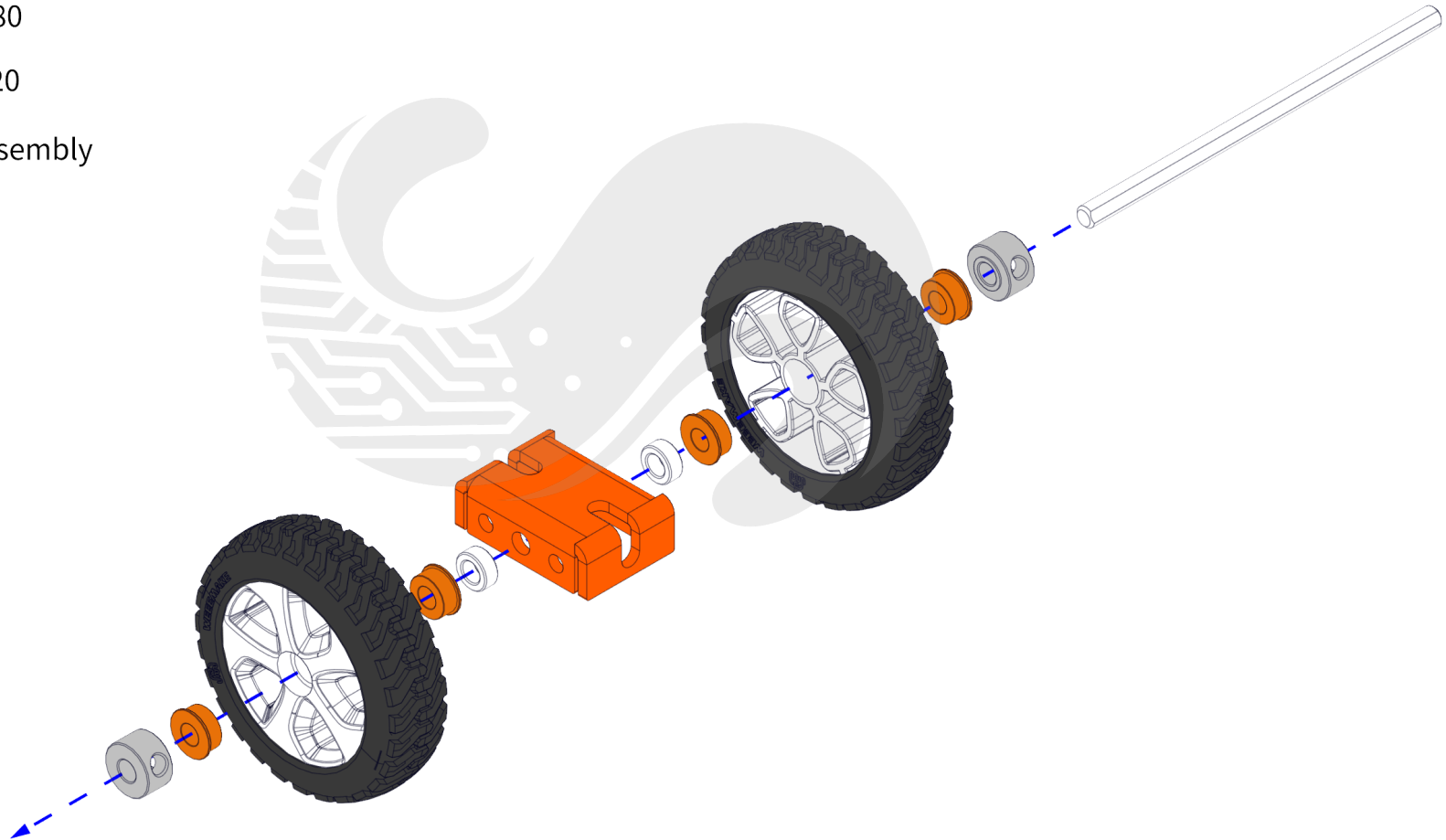
 4xFlange Copper Bearing 4*8*3.5

 2xShaft Collar - 4mm

 1xFlat Shaft 4-80

 1xBeam 1030-20

 2xmini Tyre Assembly

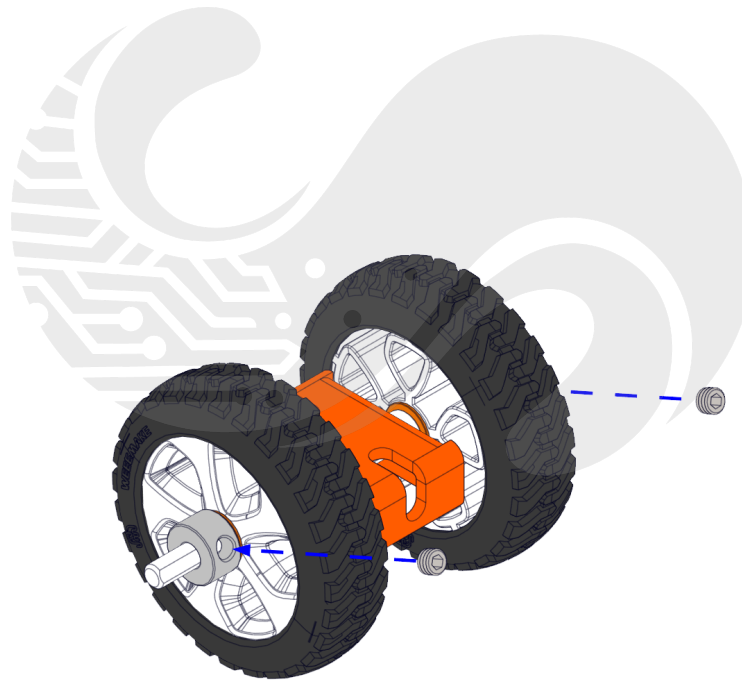


11. Assemble the Front Wheels



11. Assemble the Front Wheels

 2xHeadless Screw M4*3



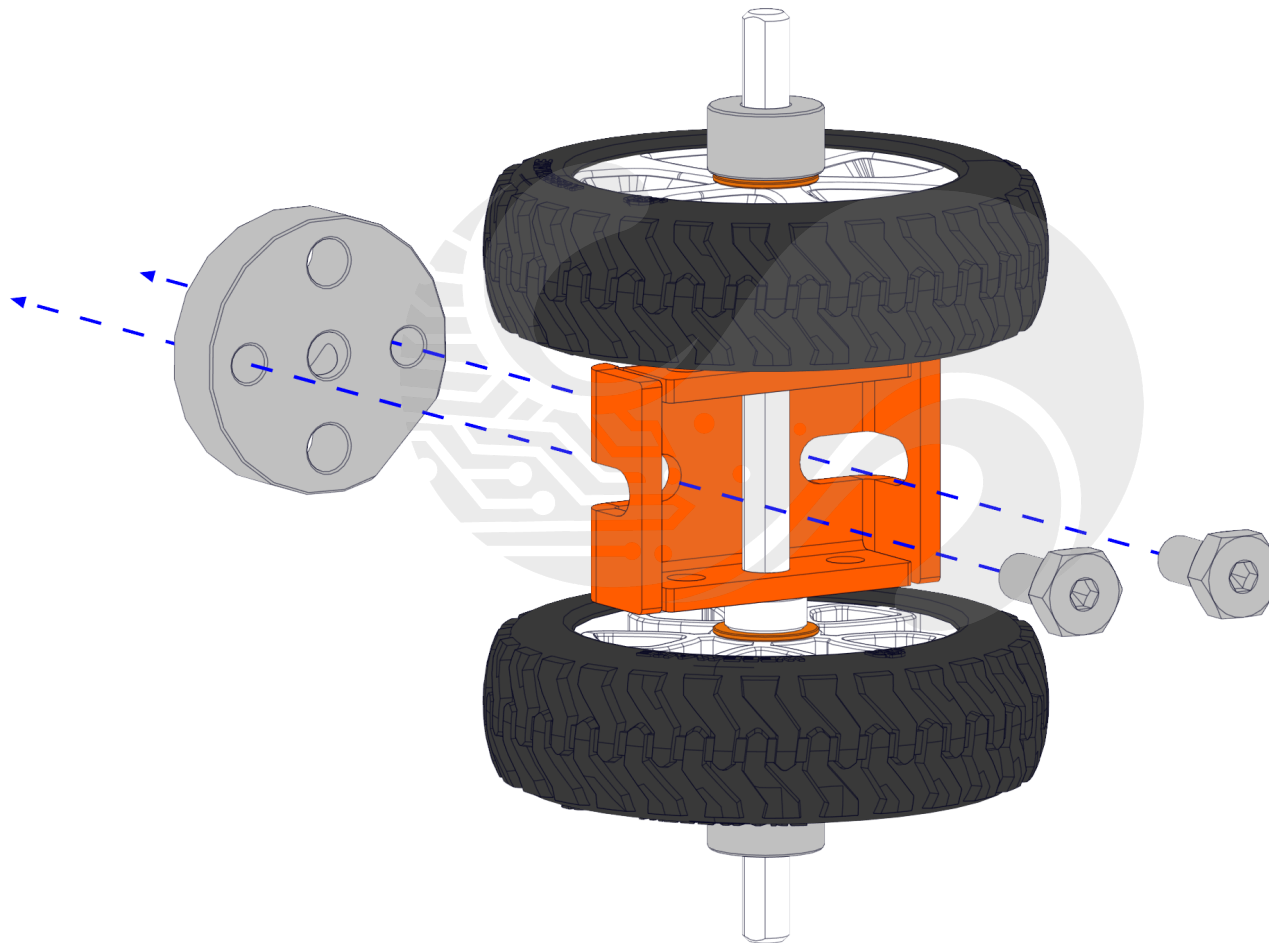
11. Assemble the Front Wheels



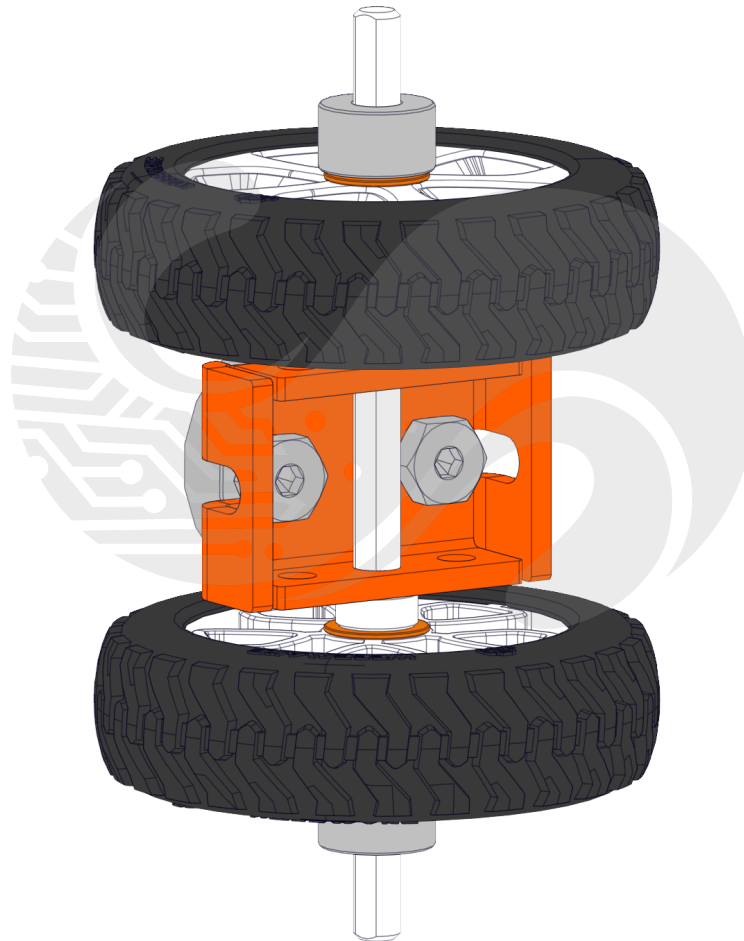
11. Assemble the Front Wheels

 1xDriving Flange Hub 4mm

 2xScrew M4*8

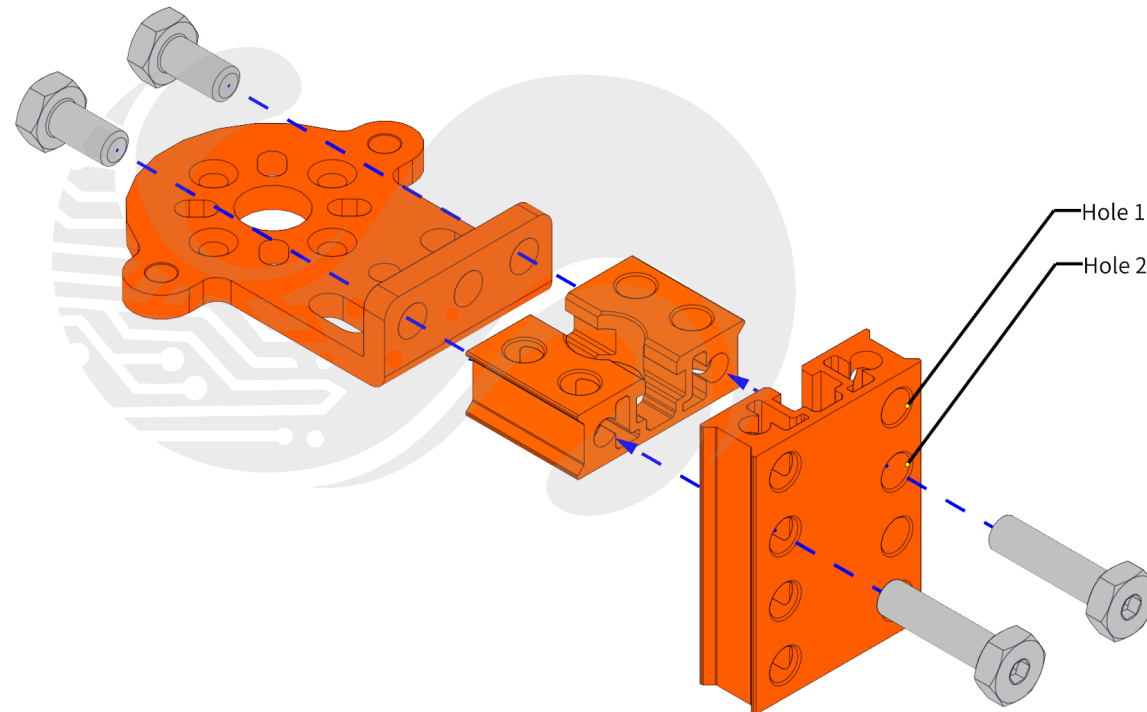


11. Assemble the Front Wheels

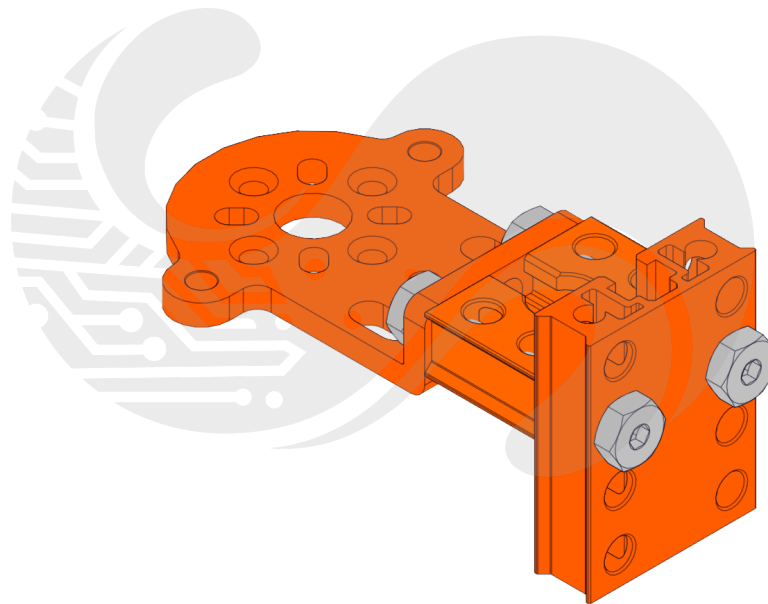


12. Assemble the Front Wheel Parts

-  2xScrew M4*8
-  2xScrew M4*20
-  1xSlide Beam 0824-32
-  1xSlide Beam 0824-16-A
-  1x25 Motor Bracket

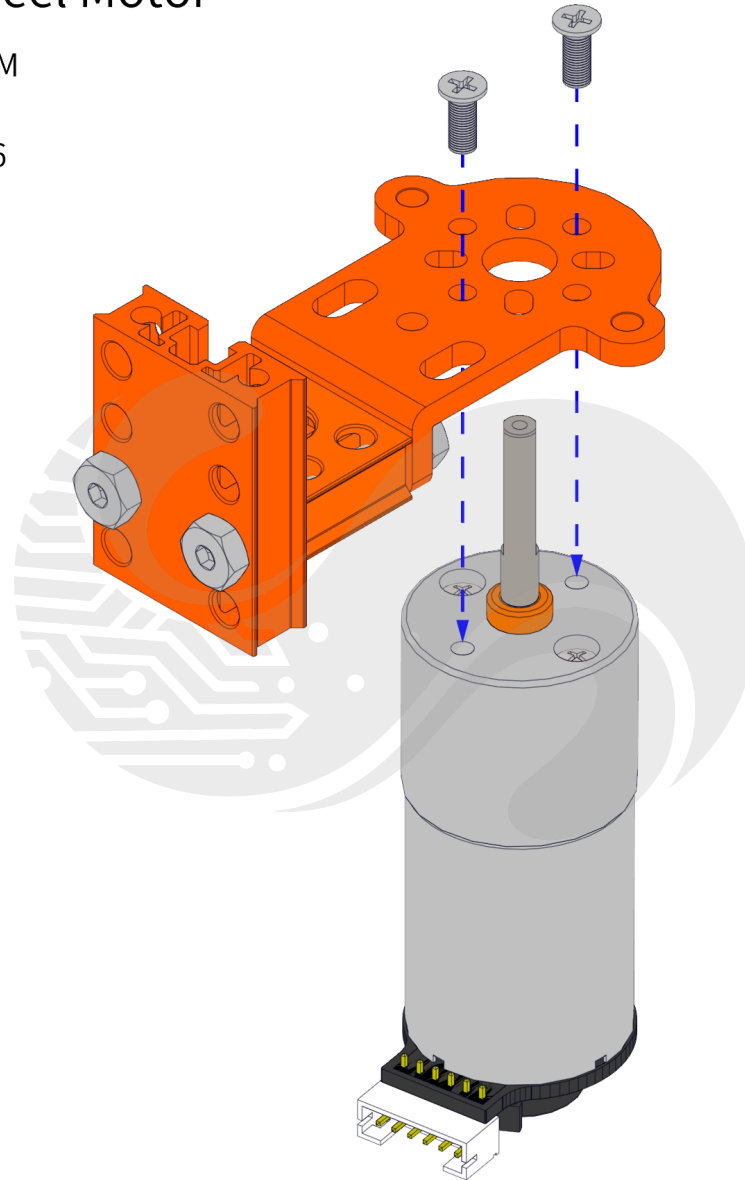


12.Assemble the Front Wheel Parts



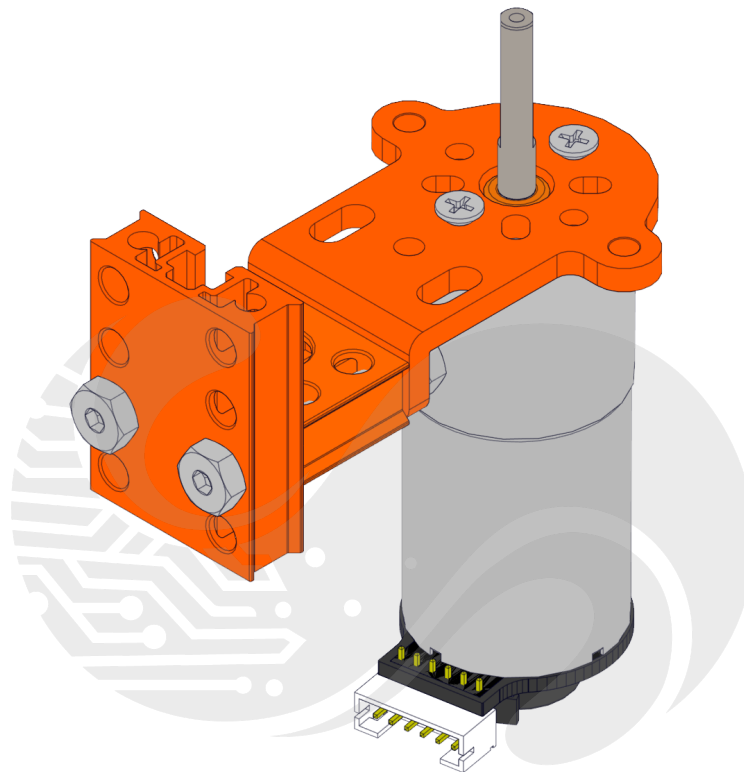
13. Assemble the Front Wheel Motor

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



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

13. Assemble the Front Wheel Motor



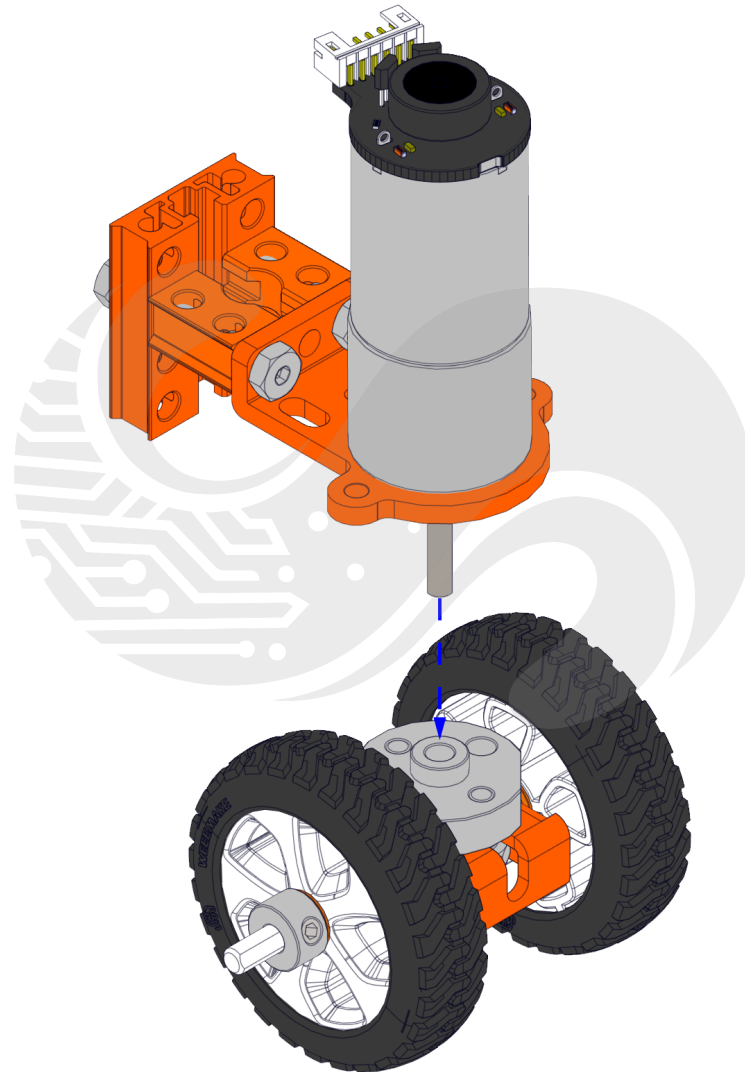
14. Assemble the Front Wheel



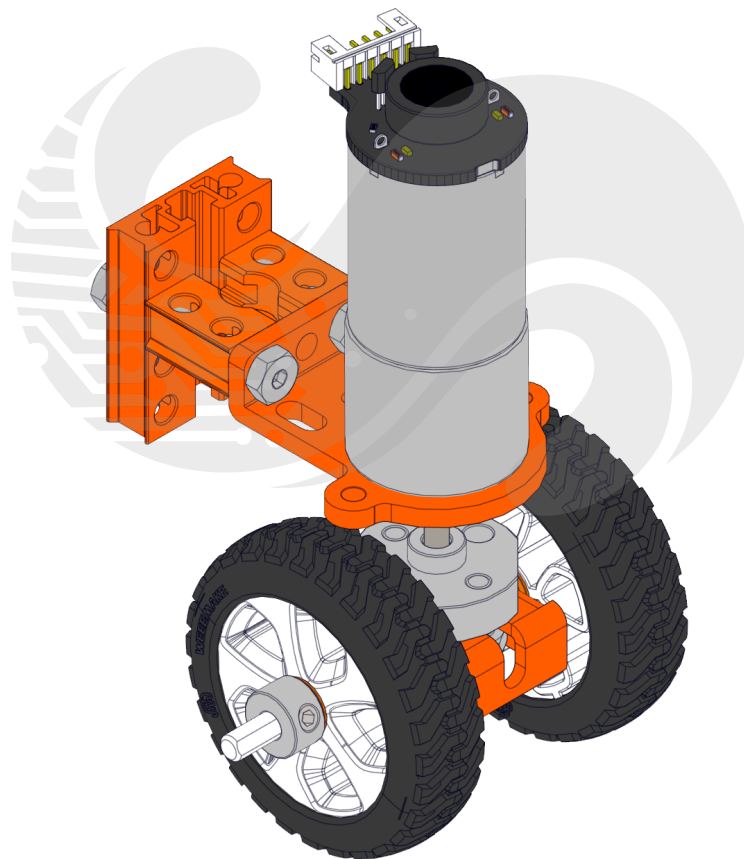
1xFront Motor Assembly



1xFront Wheels Assembly

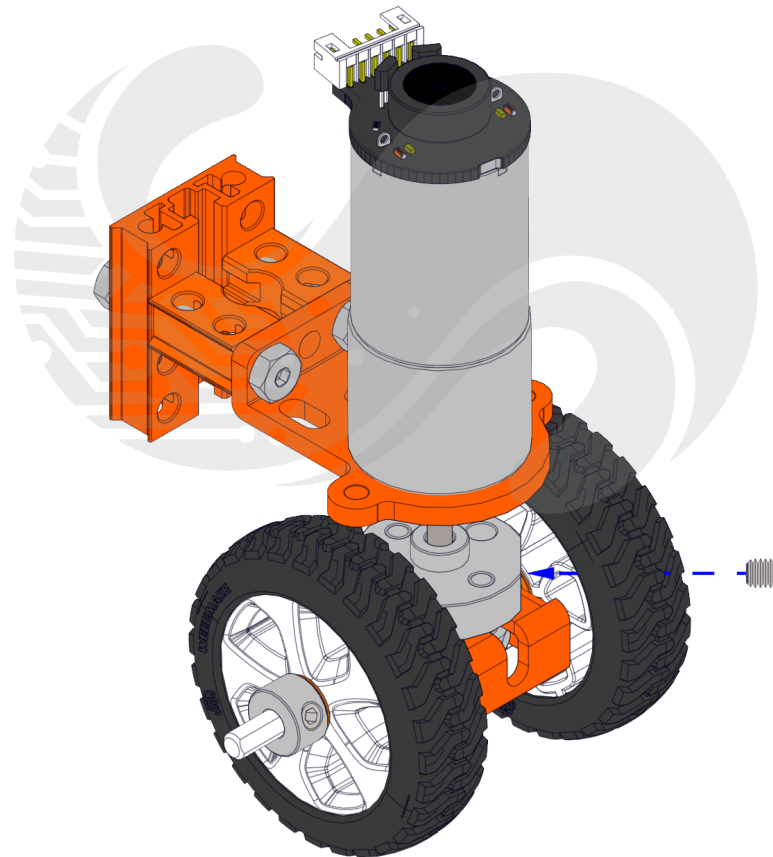


14. Assemble the Front Wheel

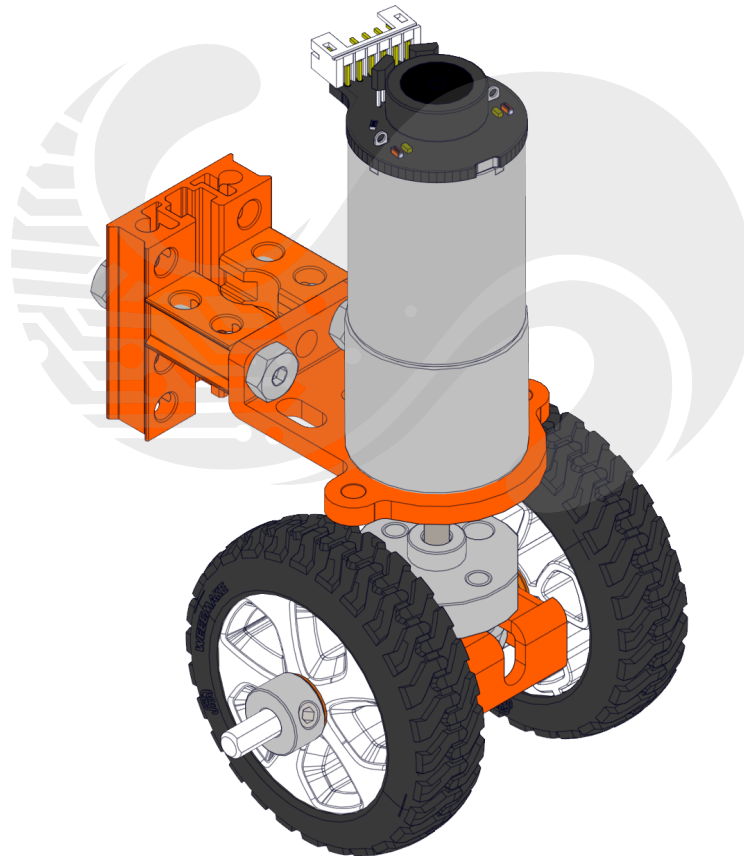


14. Assemble the Front Wheel

 1xHeadless Screw M4*5



14. Assemble the Front Wheel



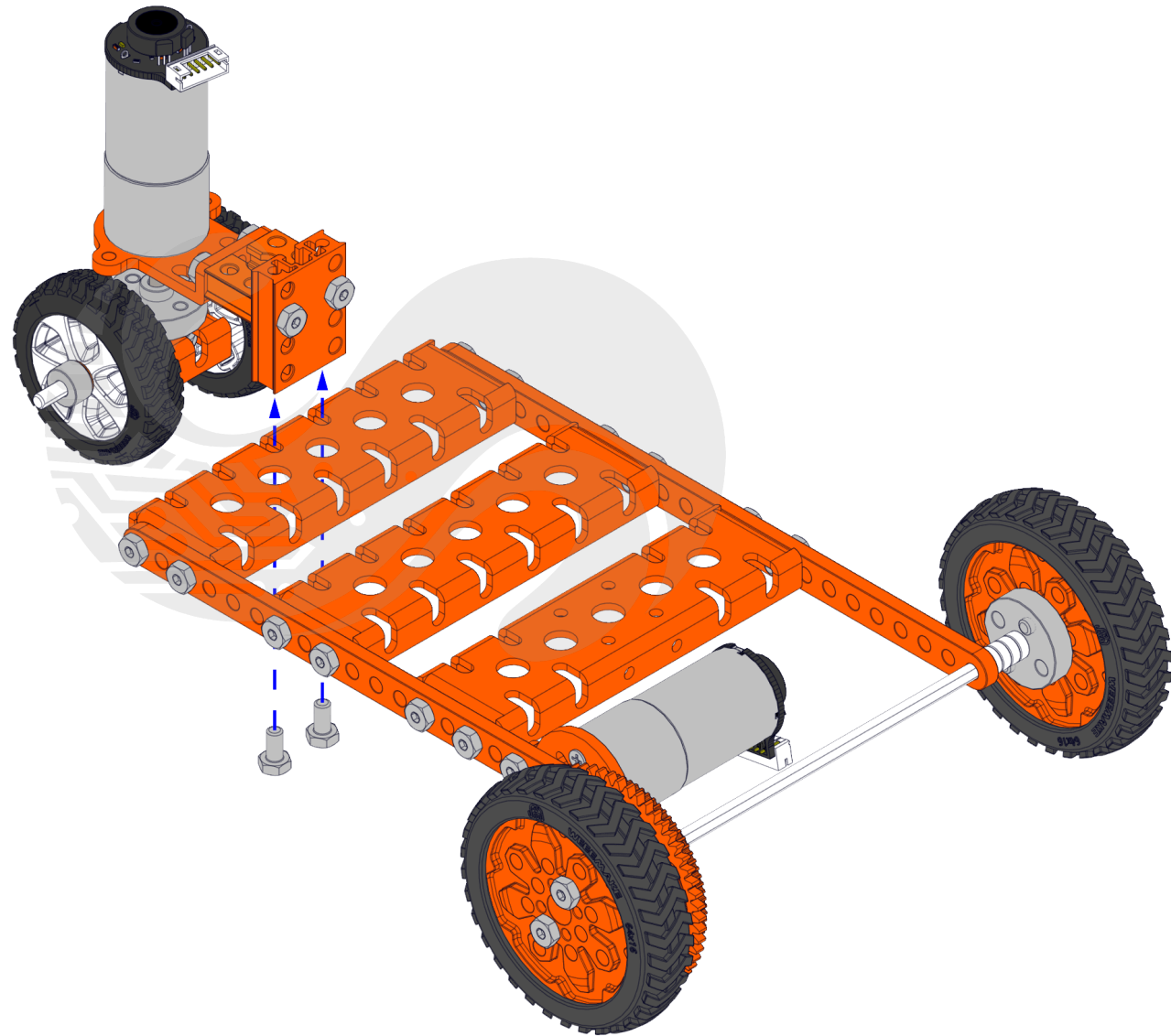
15. Assemble the Front Wheel onto Base



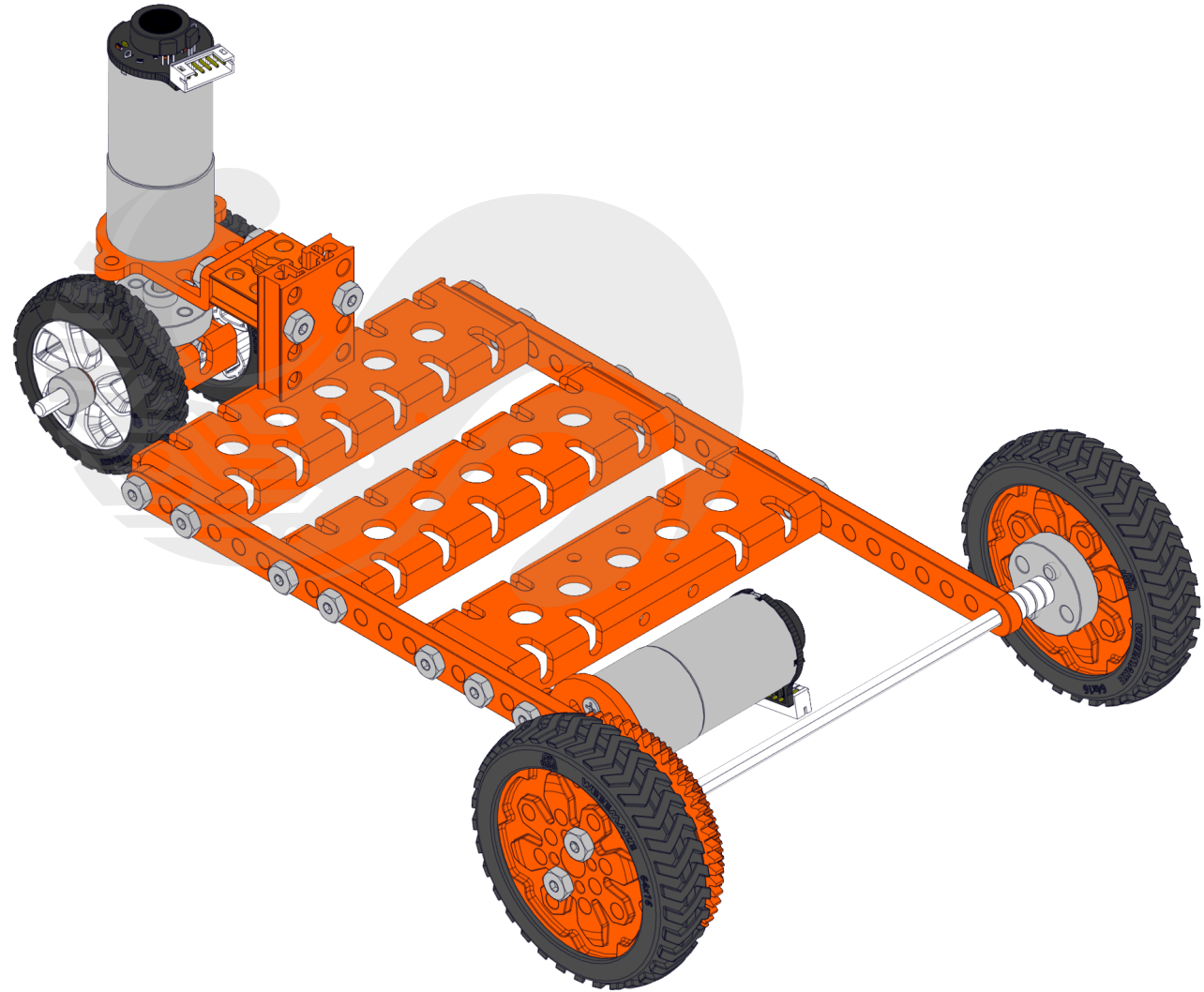
2xSrew M4*8



1xFront Wheel Assembly



15. Assemble the Front Wheel onto Base



16. Assemble Beam 0410-106 onto Beam 1030-68



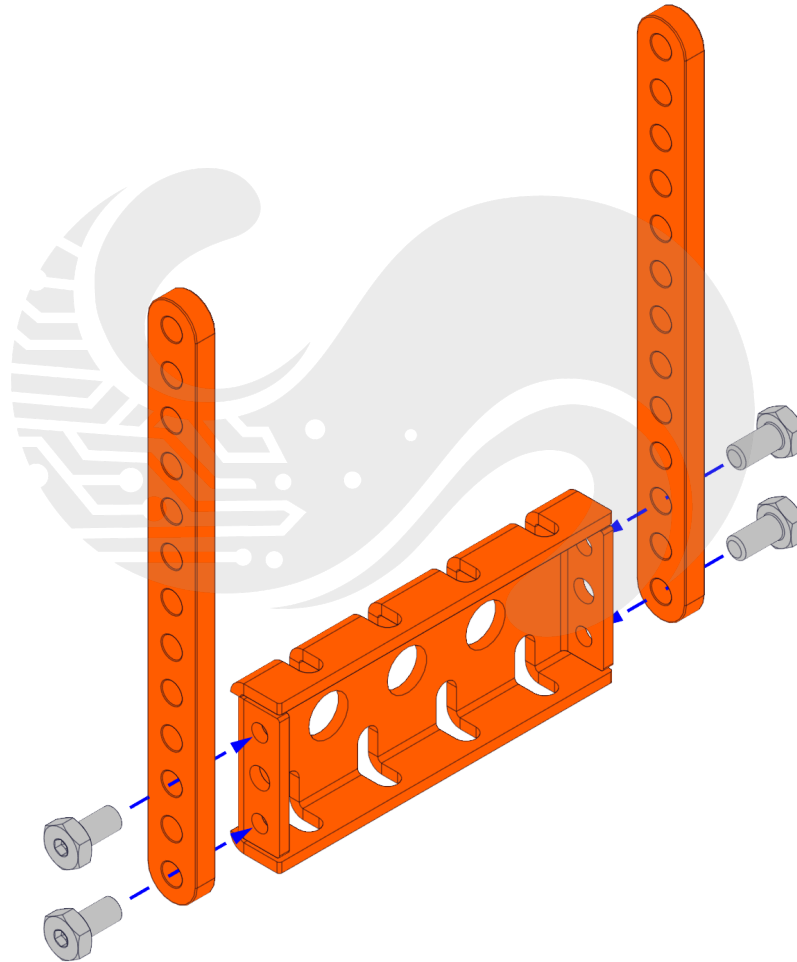
4xScrew M4*8



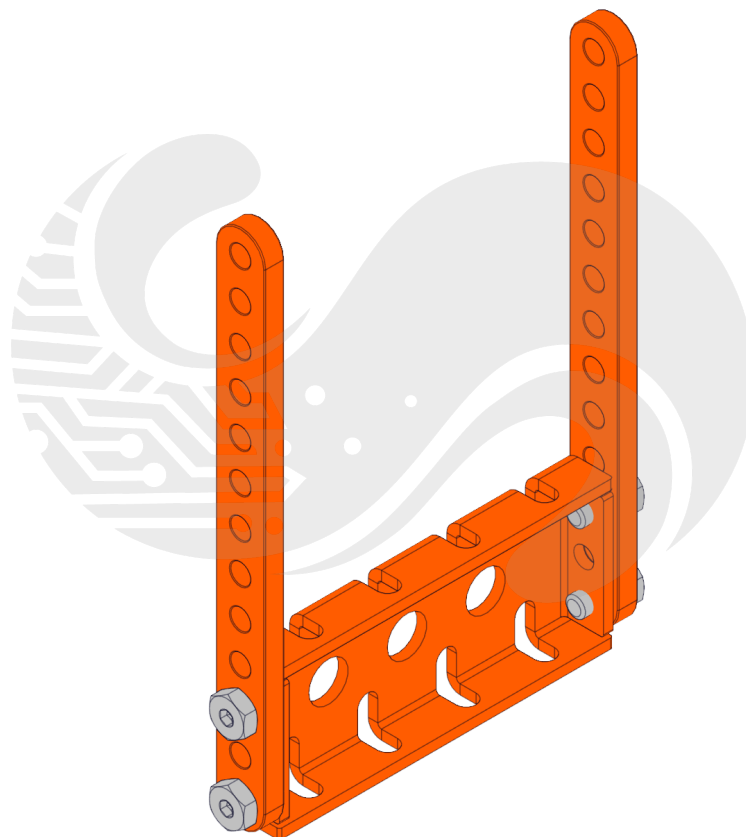
1xBeam 1030-68



2xBeam 0410-106



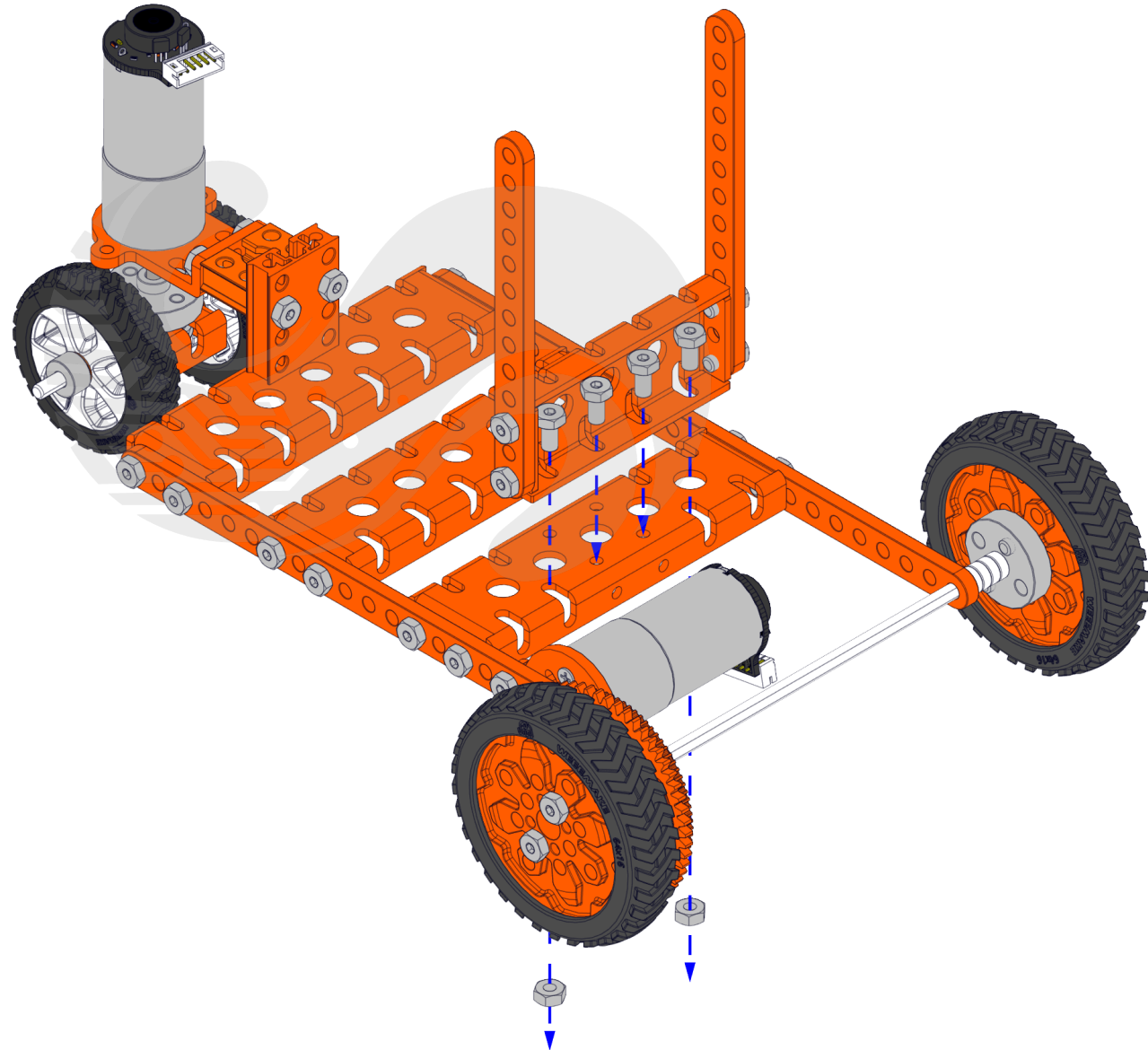
16.Assemble Beam 0410-106 onto Beam 1030-68



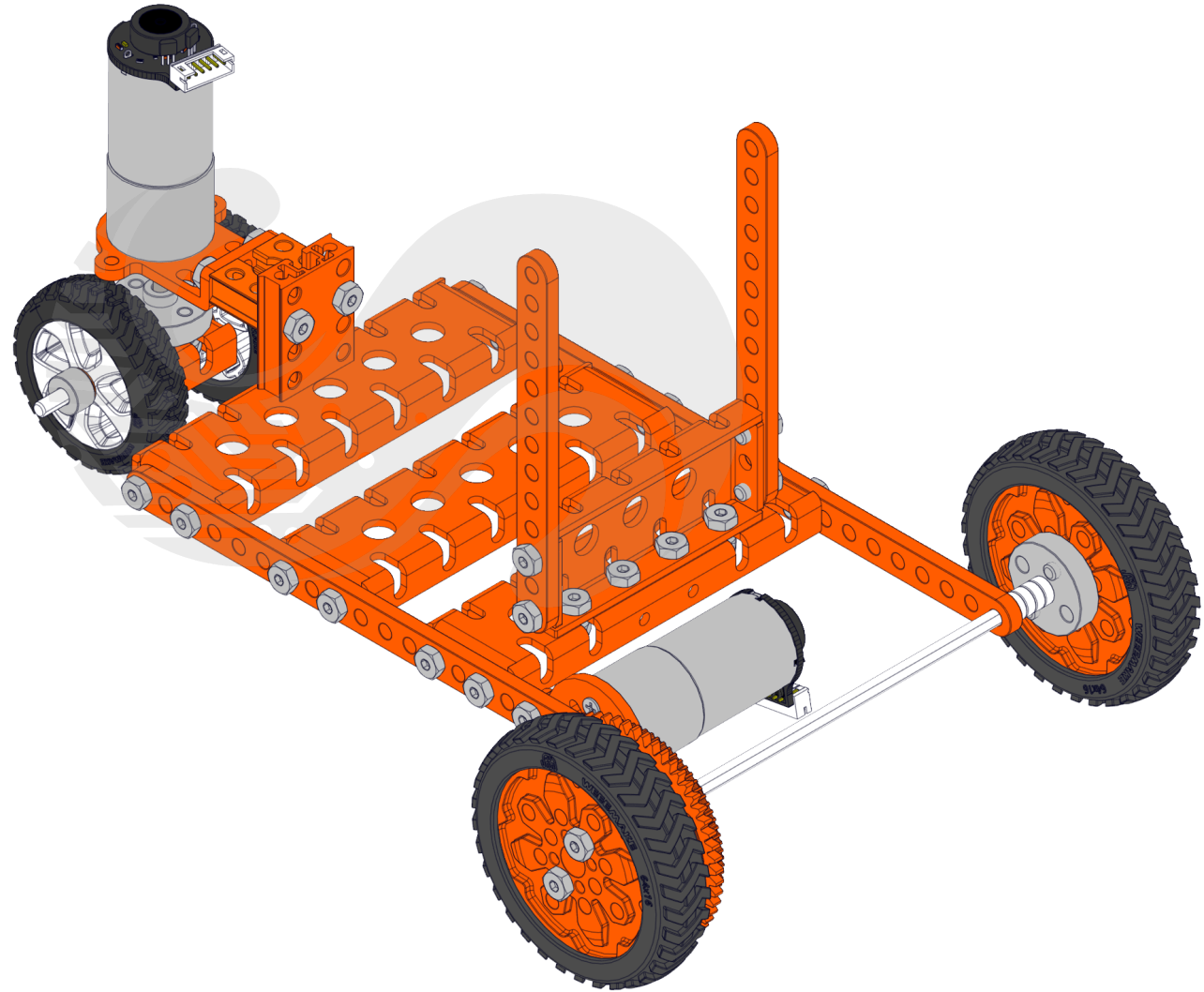
17. Assemble Beam 1030-68 onto Base

 4xScrew M4*8

 2xNut M4

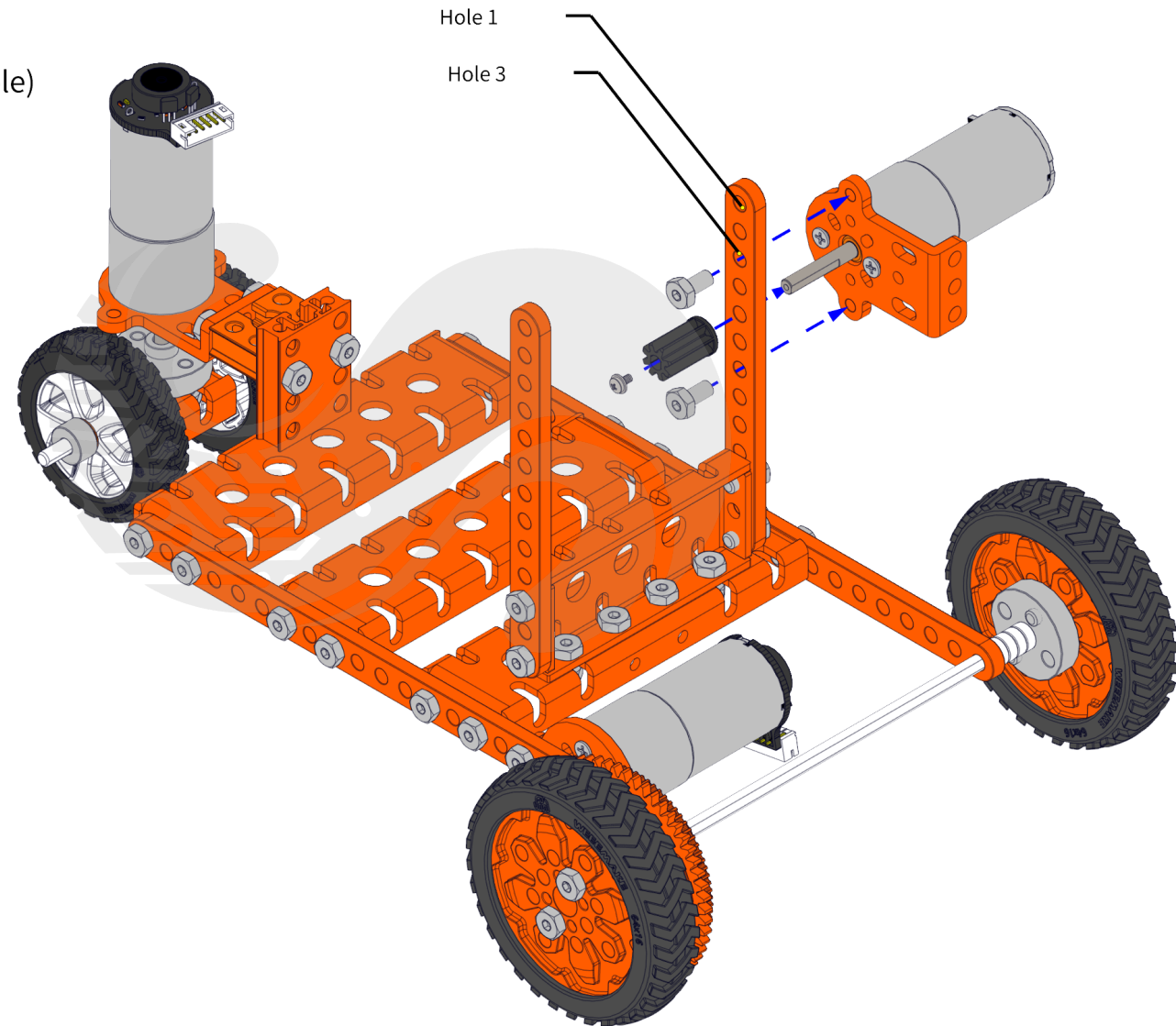


17. Assemble Beam 1030-68 onto Base

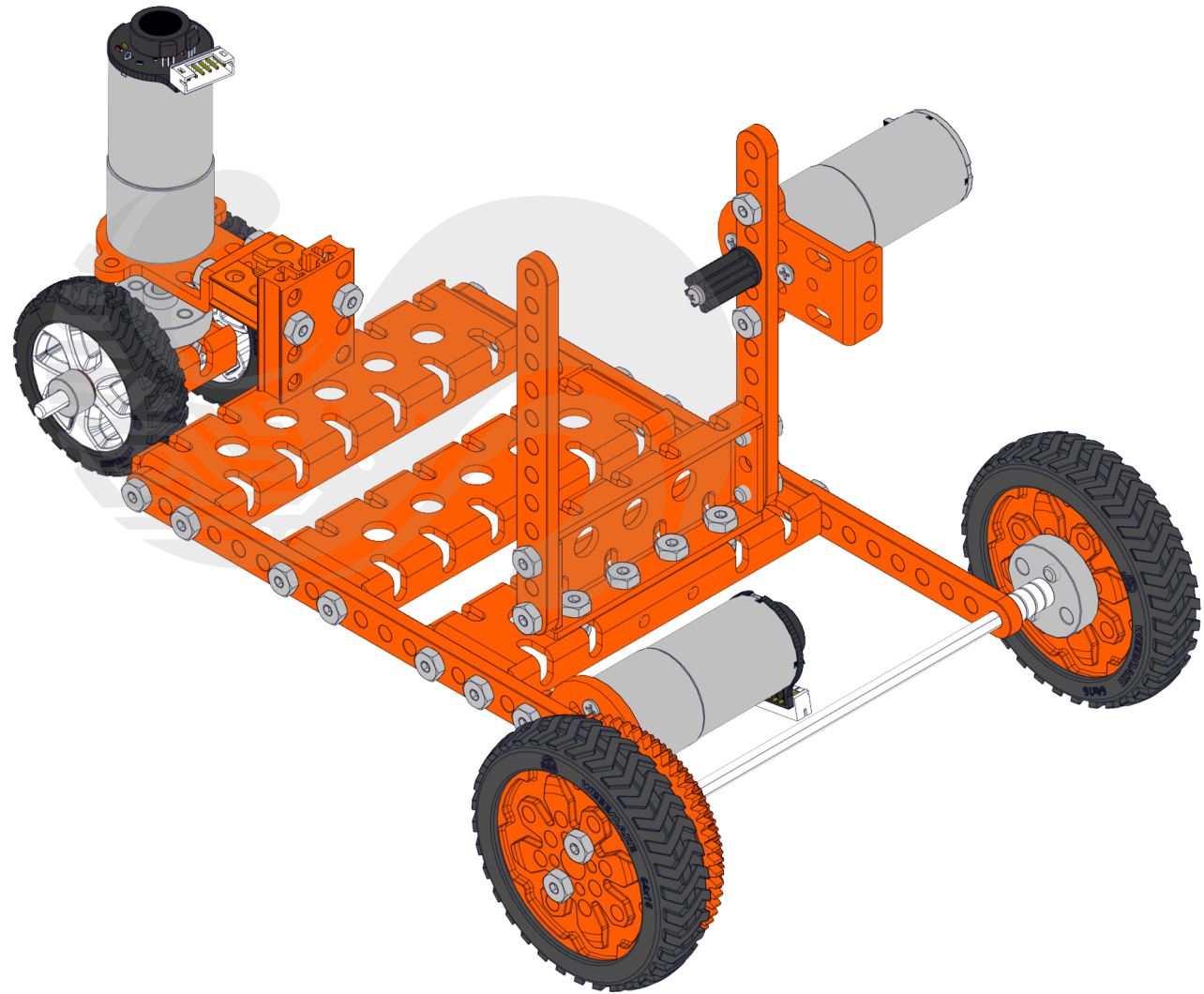


18. Assemble the 25 DC Motor

-  1xScrew M2*4
-  2xNut M4*8
-  1x8T-Plastic Gear V1.0 (Flat Hole)
-  1x25 DC Motor Assembly



18. Assemble the 25 DC Motor



19. Fix the 56T Plastic Gear



2xScrew M4*4



2xScrew M4*20



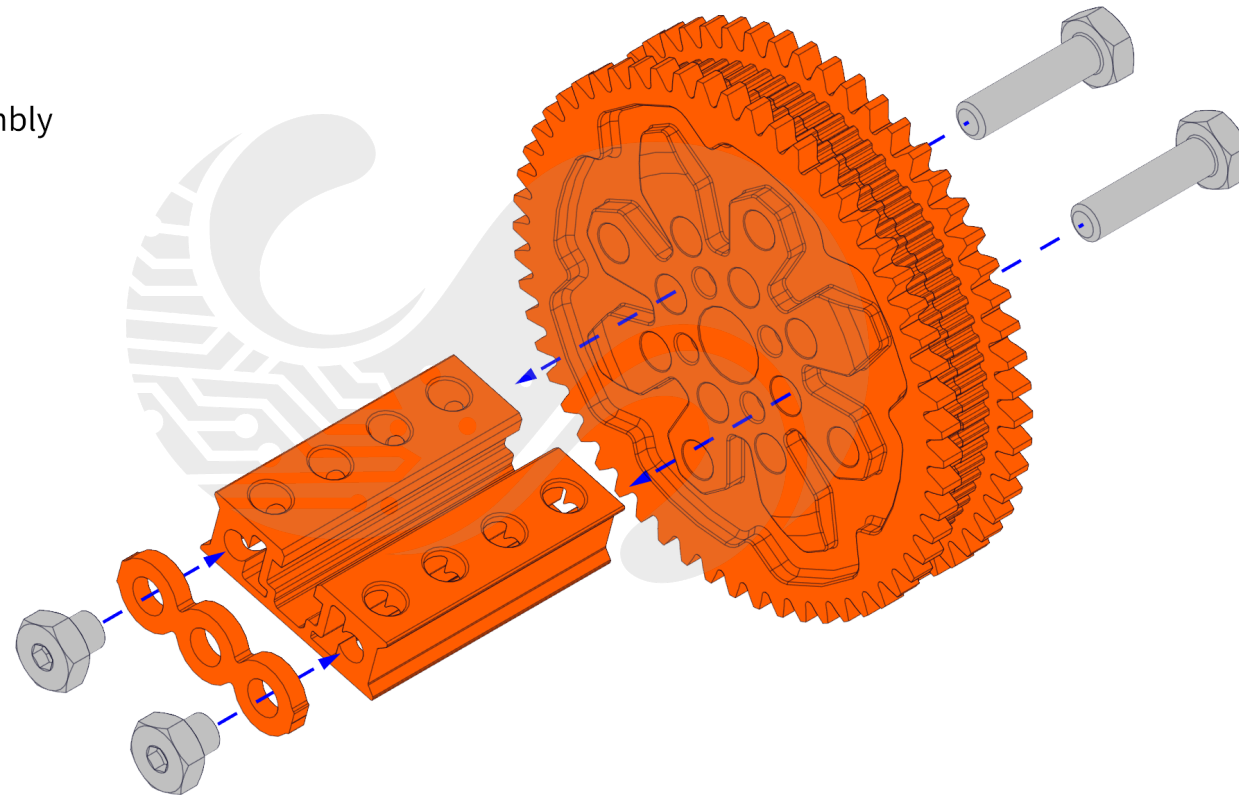
1xBeam 0824-32



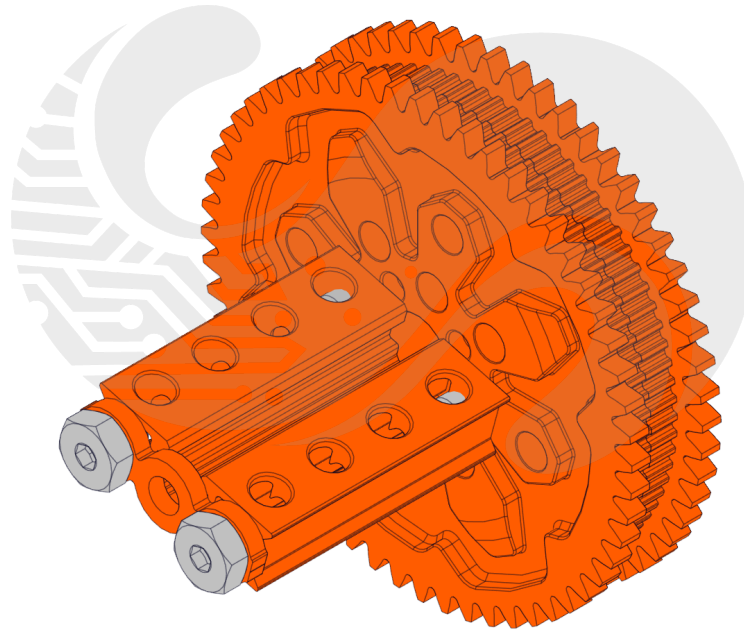
1xBeam 0208-24



1x56T Plastic Gear Assembly



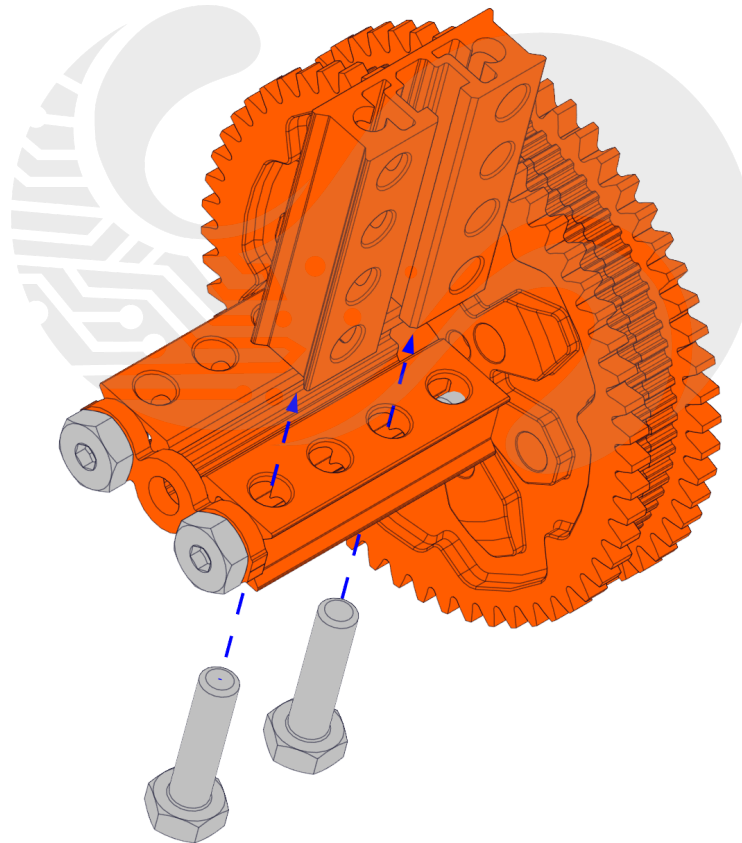
19. Fix the 56T Plastic Gear



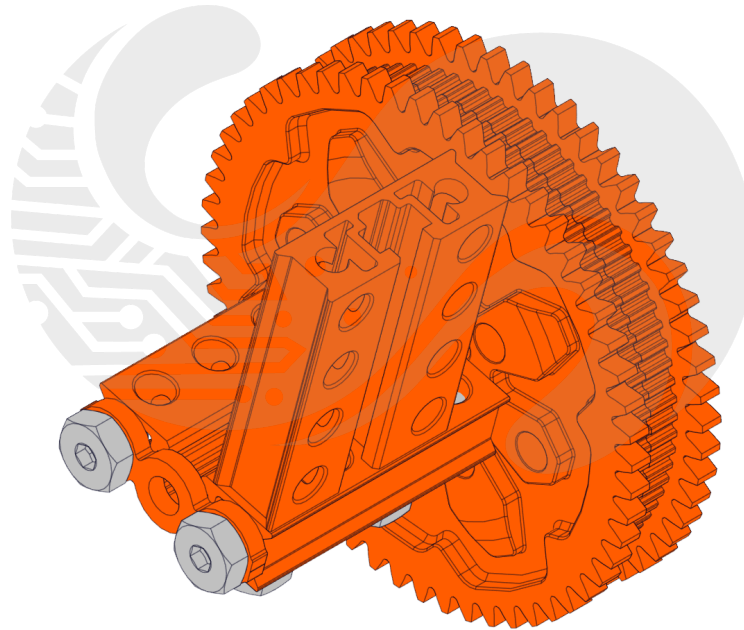
20. Assemble the Beam 0824-32

 2xScrew M4*20

 1xBeam 0824-32



20.Assemble the Beam 0824-32



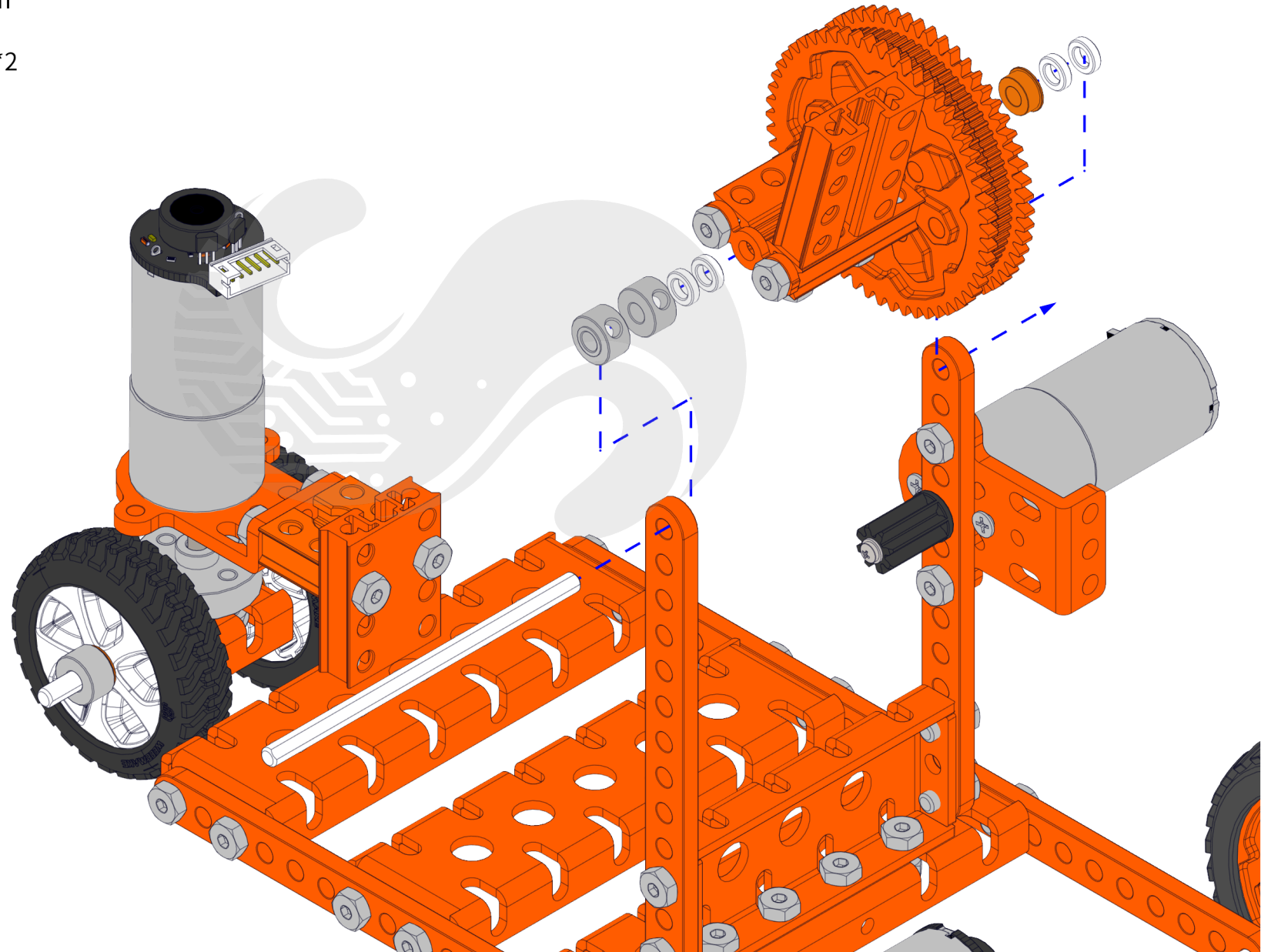
21. Assemble the Plastic Gear onto Base

 1xFlange Copper Bearing 4*8*3.5

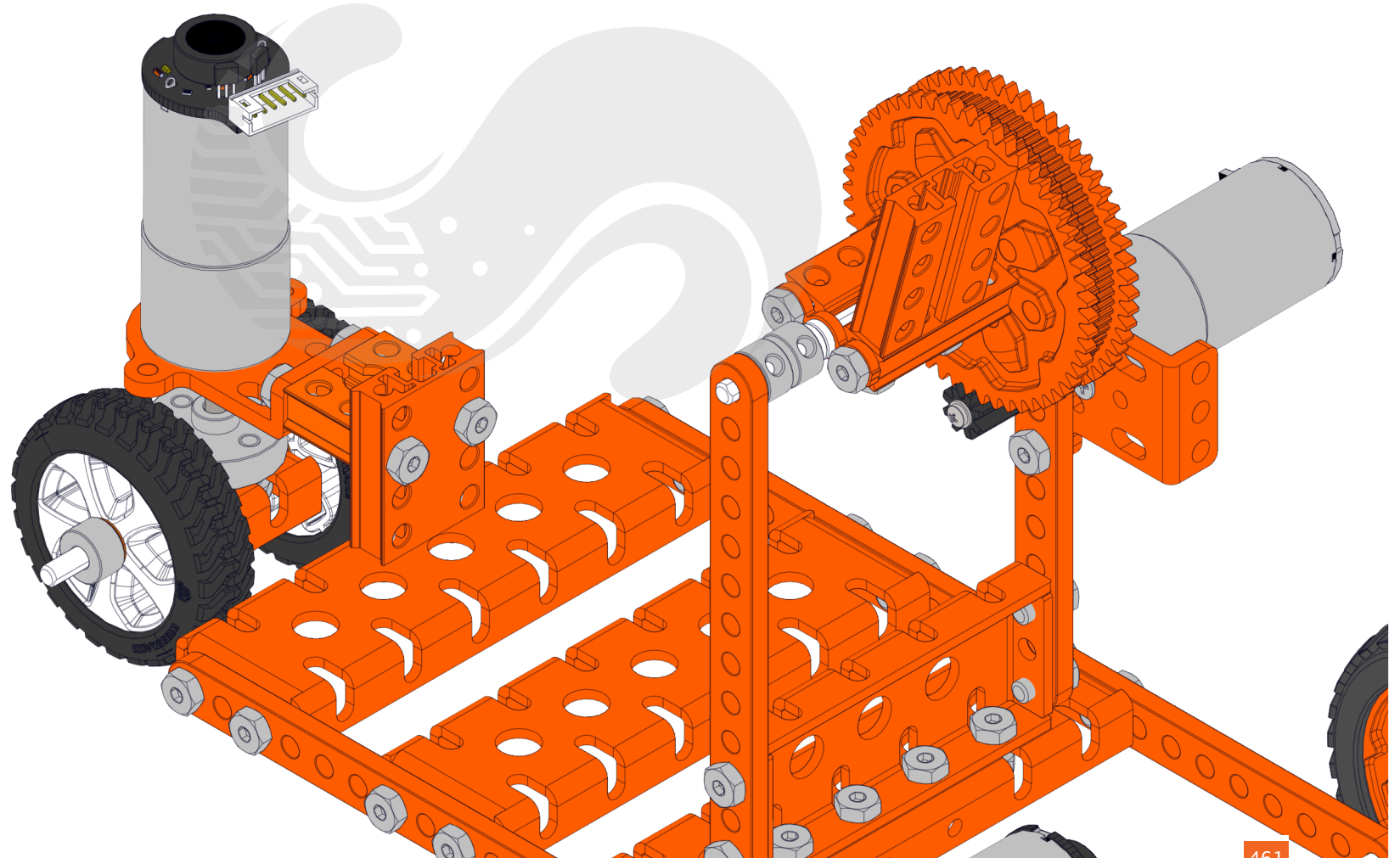
 2xShaft Collar - 4mm

 4xNylon Spacer 4*7*2

 1xFlat Shaft 4-80

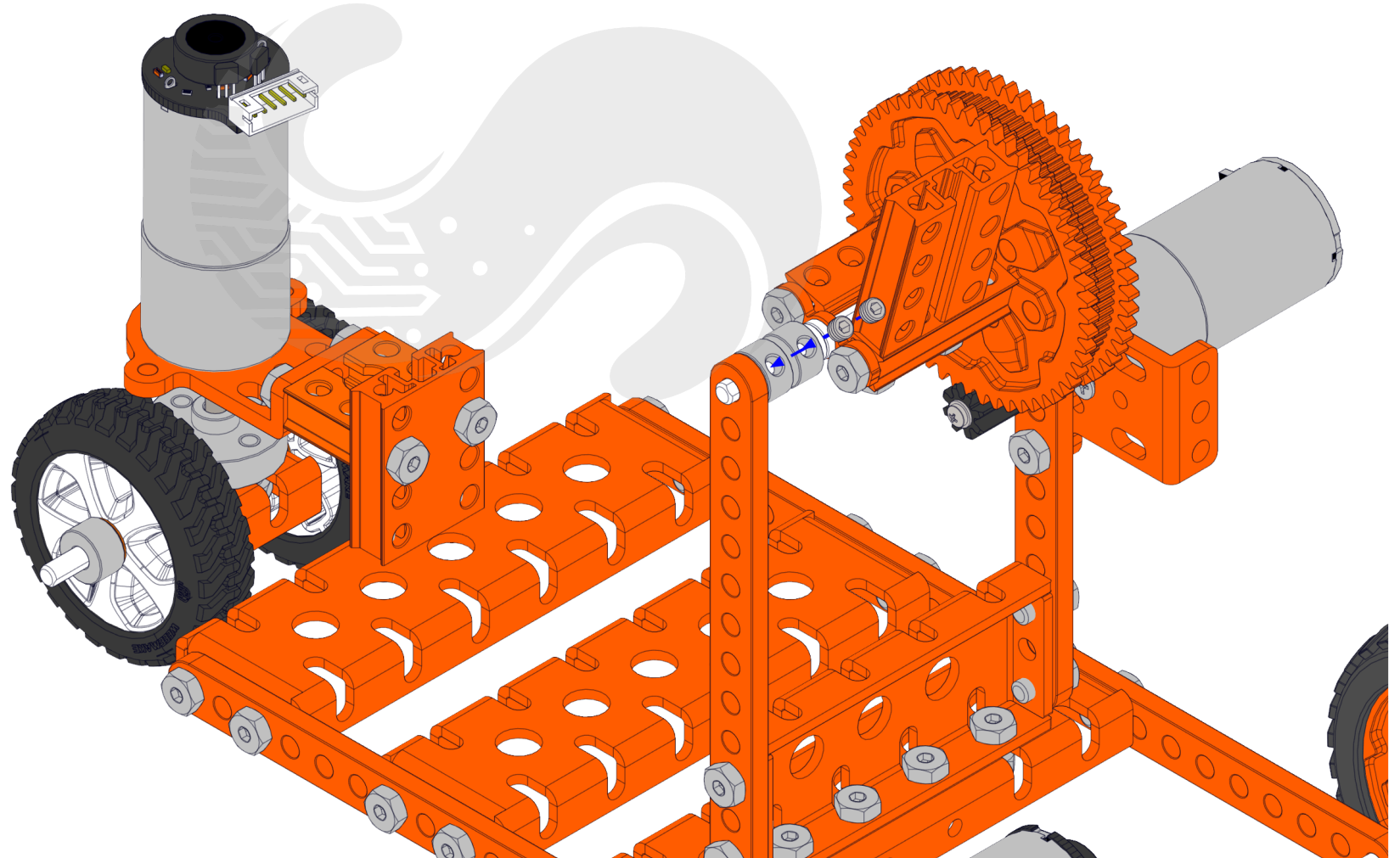


21. Assemble the Plastic Gear onto Base

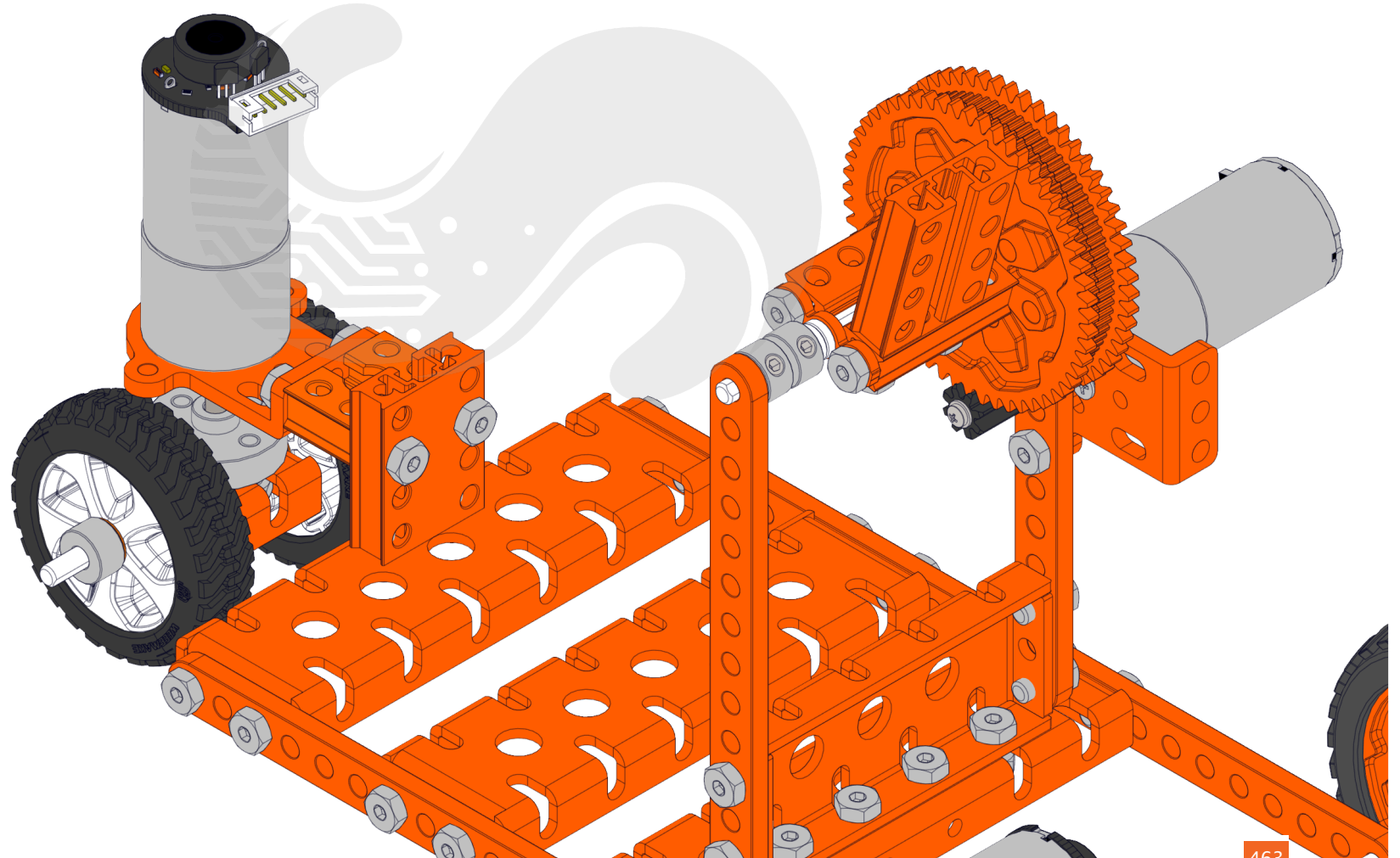


21. Assemble the Plastic Gear onto Base

 2xHeadless Screw M4*3



21. Assemble the Plastic Gear onto Base



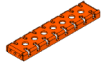
22. Assemble the Beam 1030-132 onto Beam 0824-80



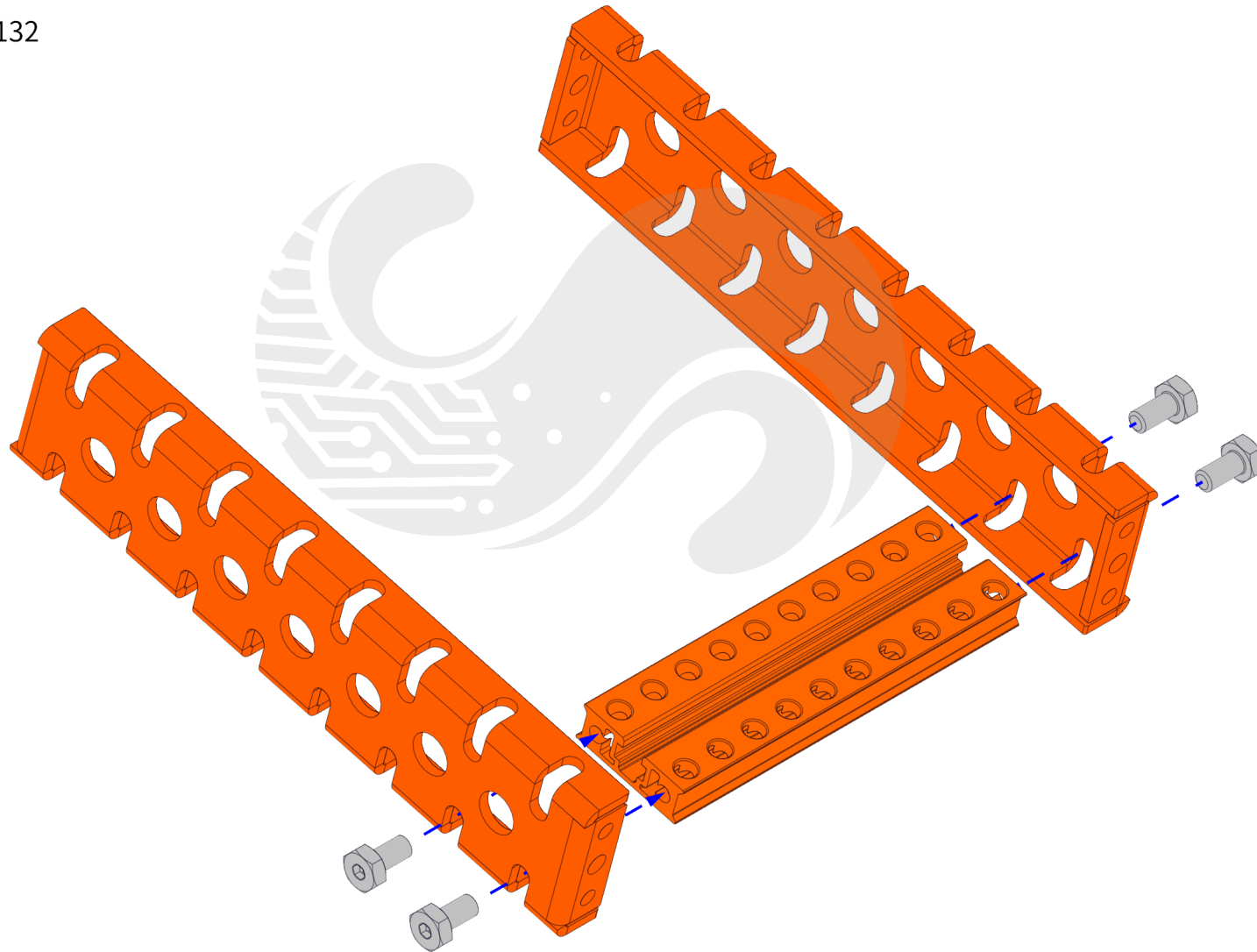
4xScrew M4*8



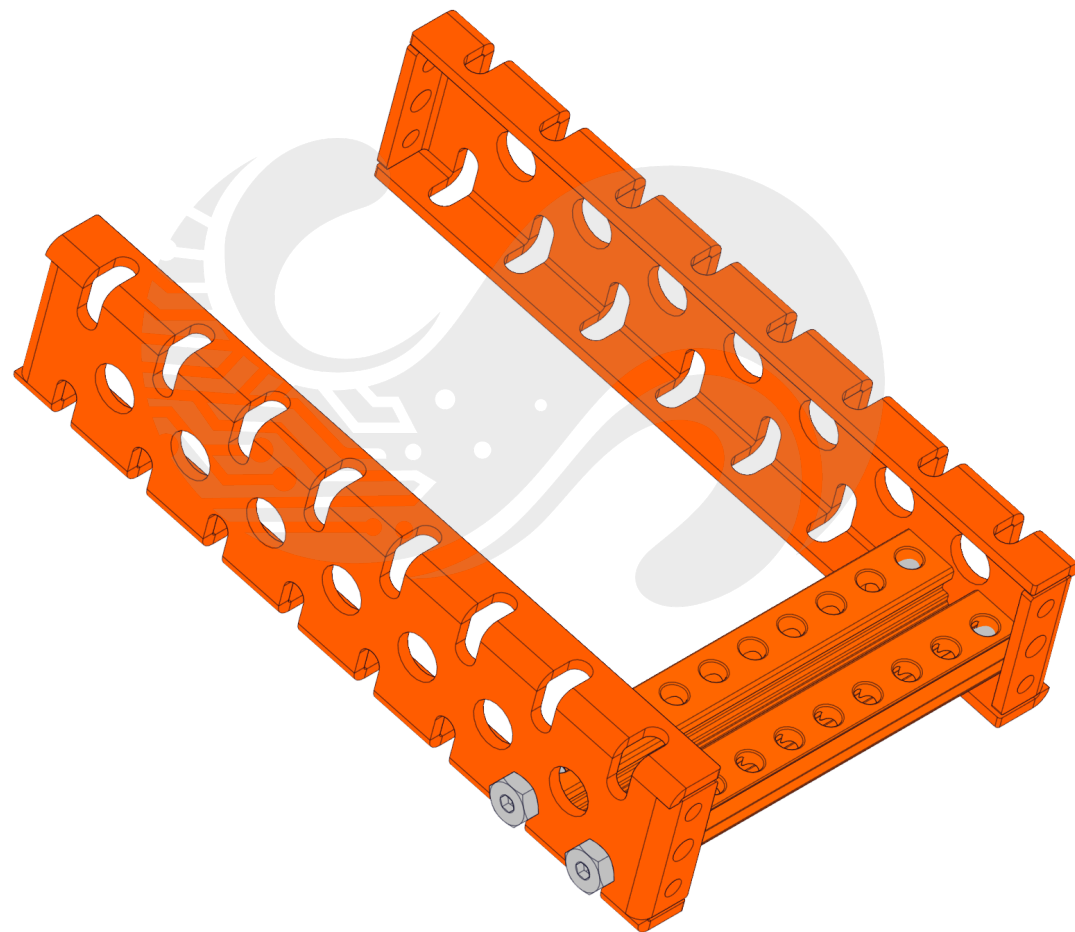
1xBeam 0824-80



2xBeam 1030-132



22.Assemble the Beam 1030-132 onto Beam 0824-80

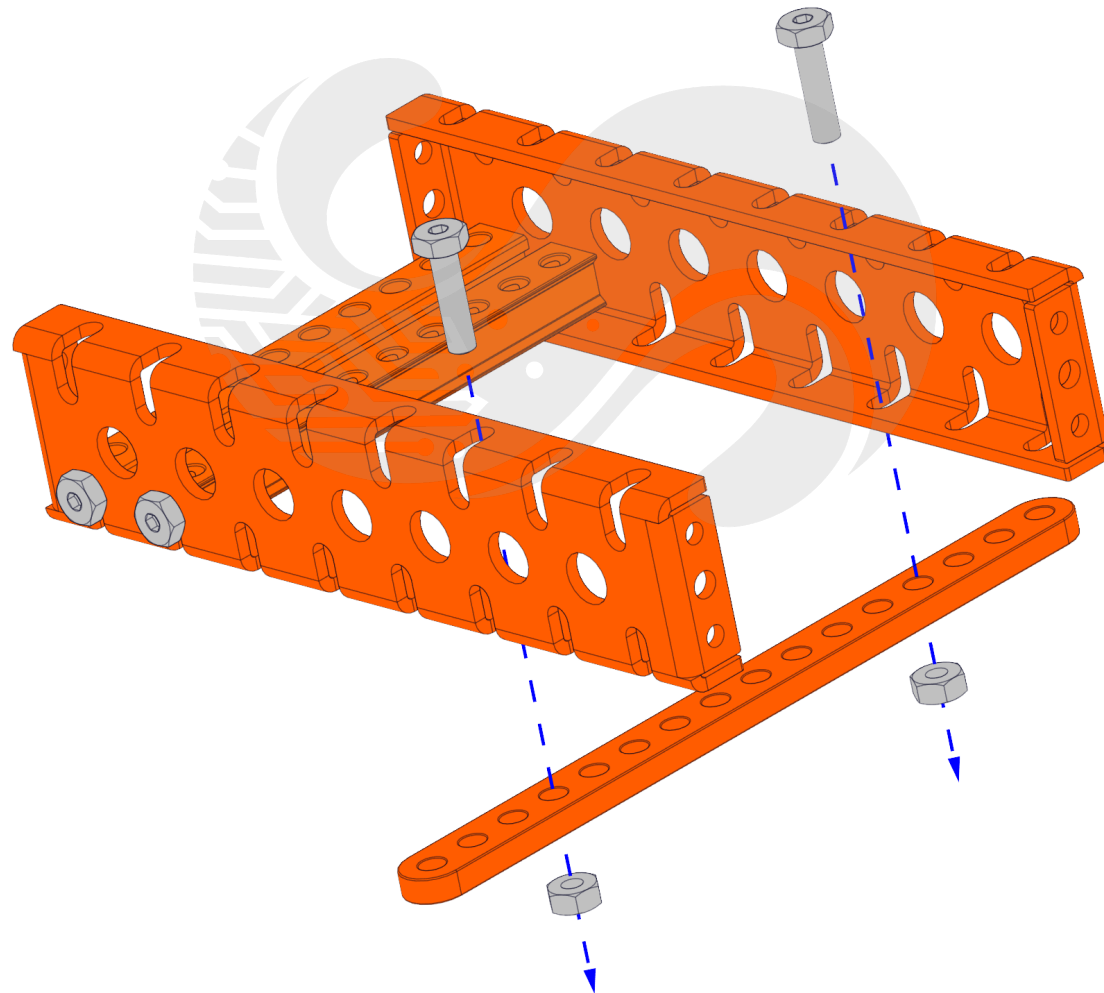


22. Assemble the Beam 0410-130

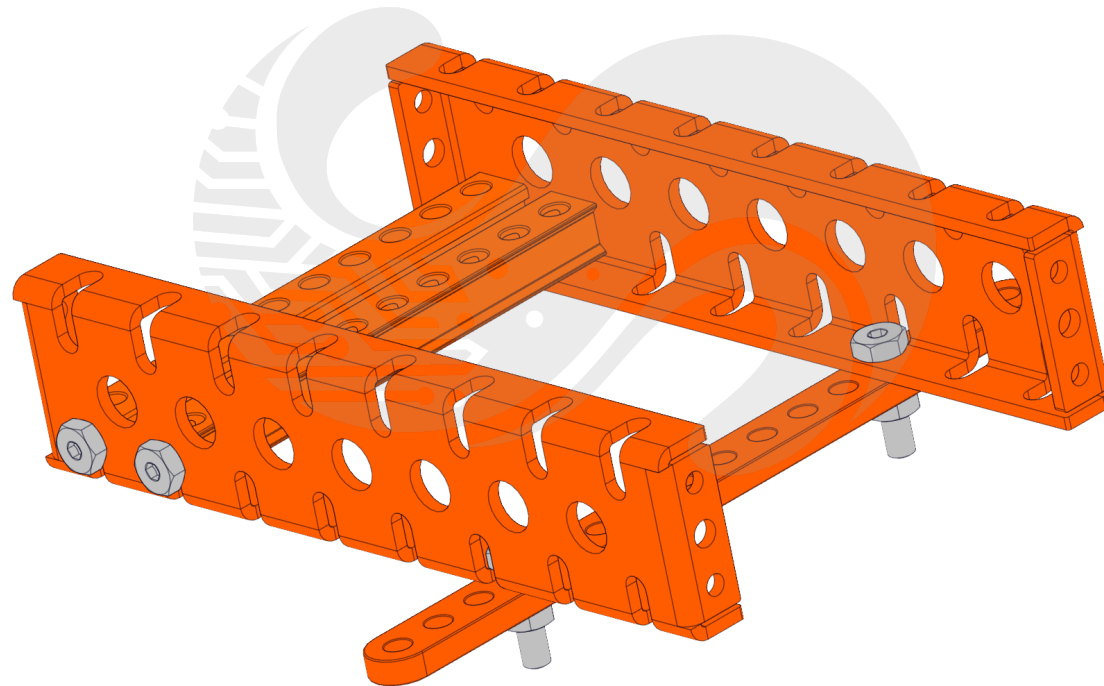
 2xScrew M4*20

 2xNut M4

 1xBeam 0410-130

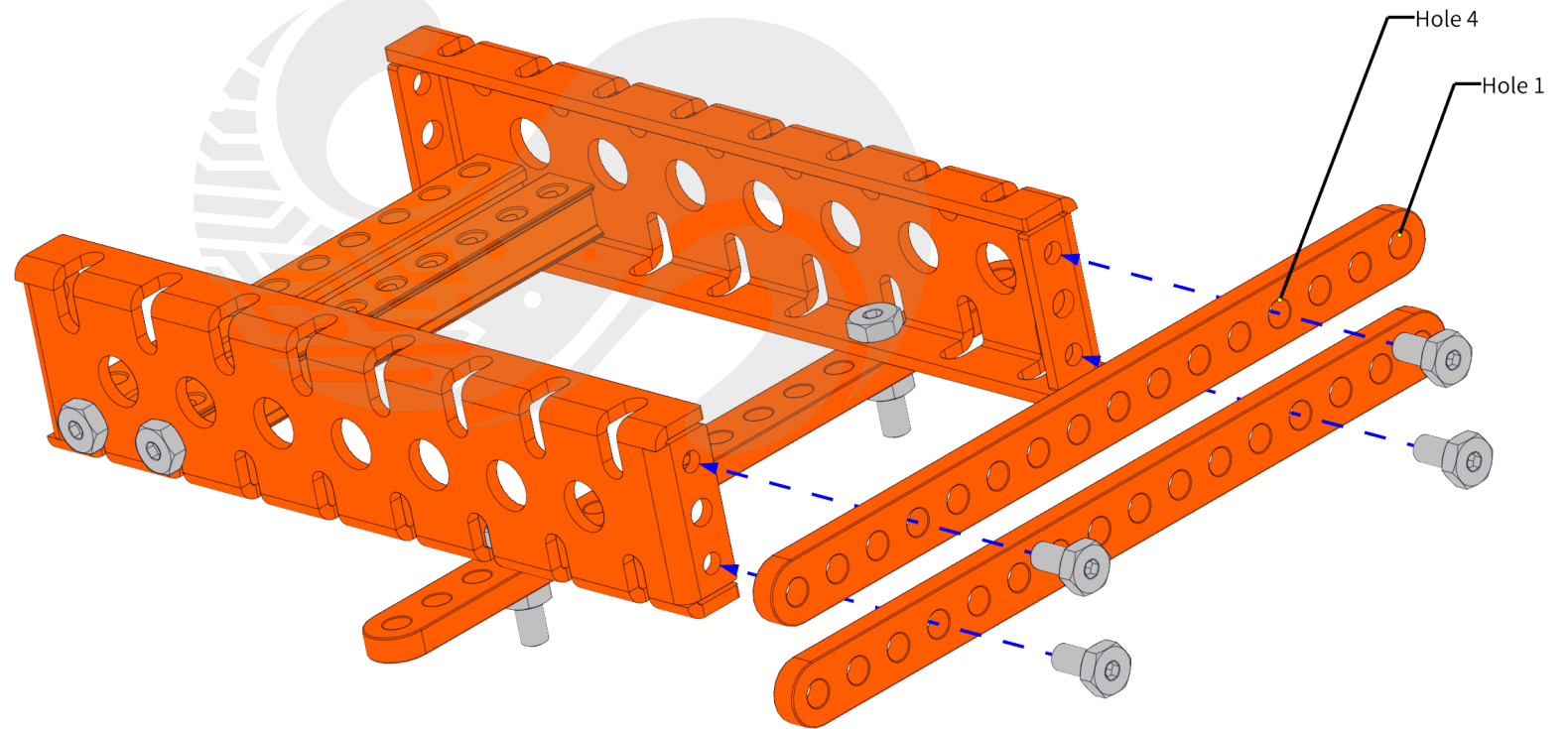


22. Assemble the Beam 0410-130

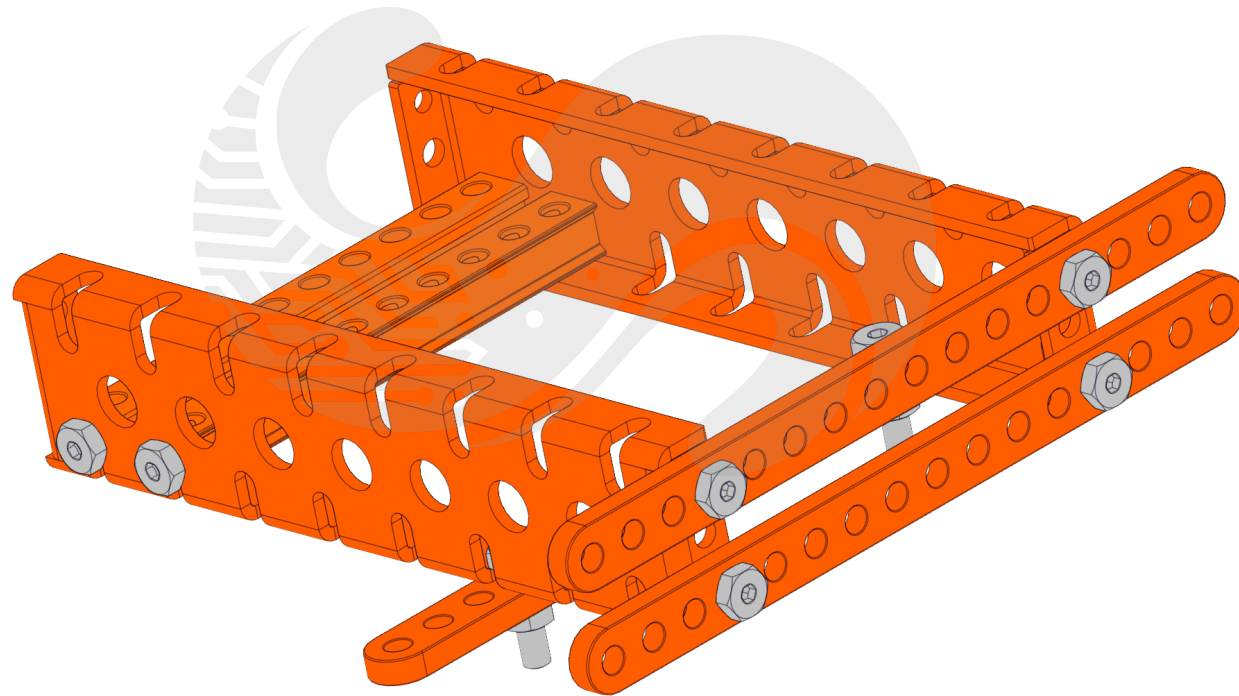


22. Assemble the Beam 0410-130

-  4xScrew M4*8
-  2xBeam 0410-130

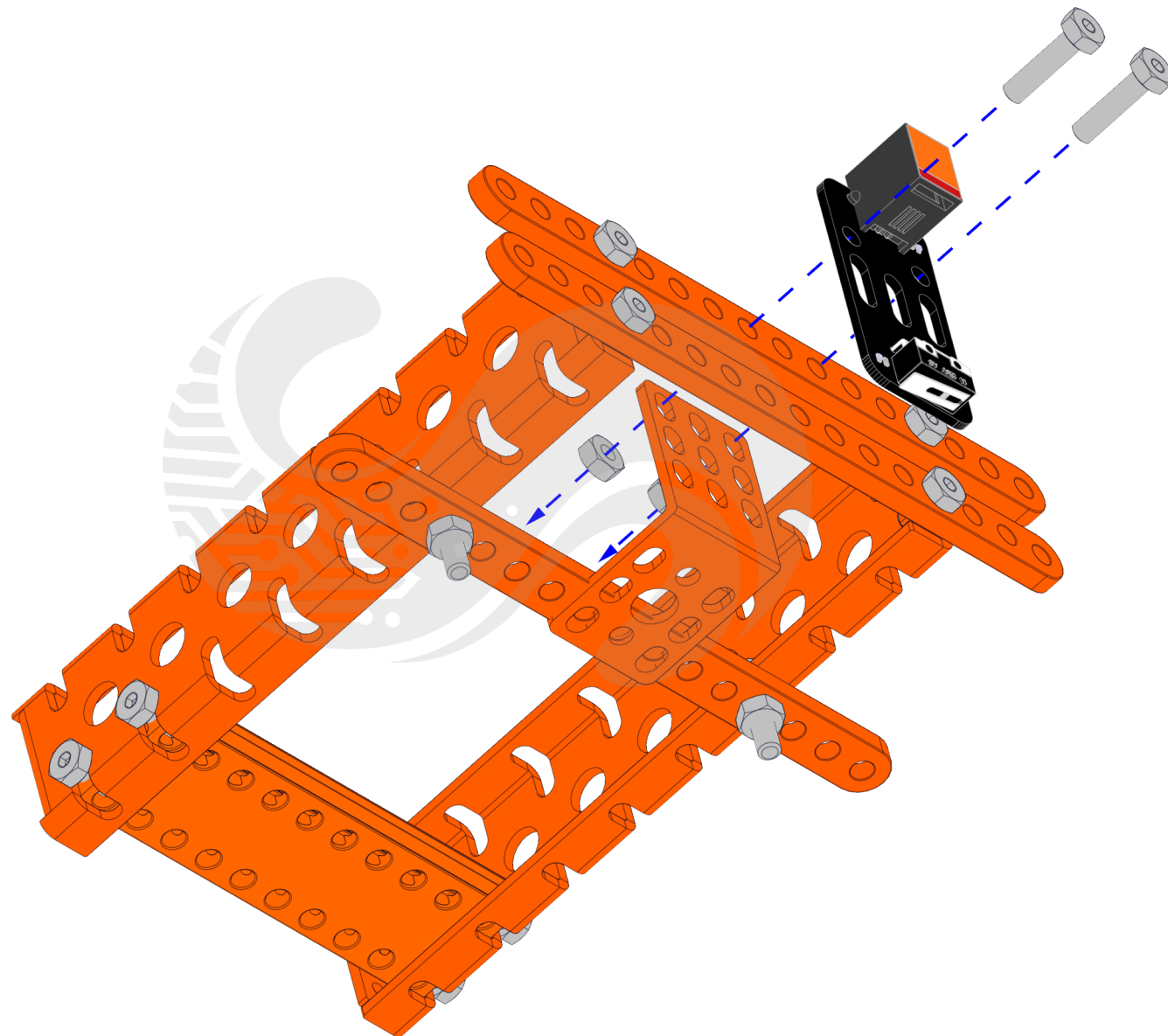


22. Assemble the Beam 0410-130

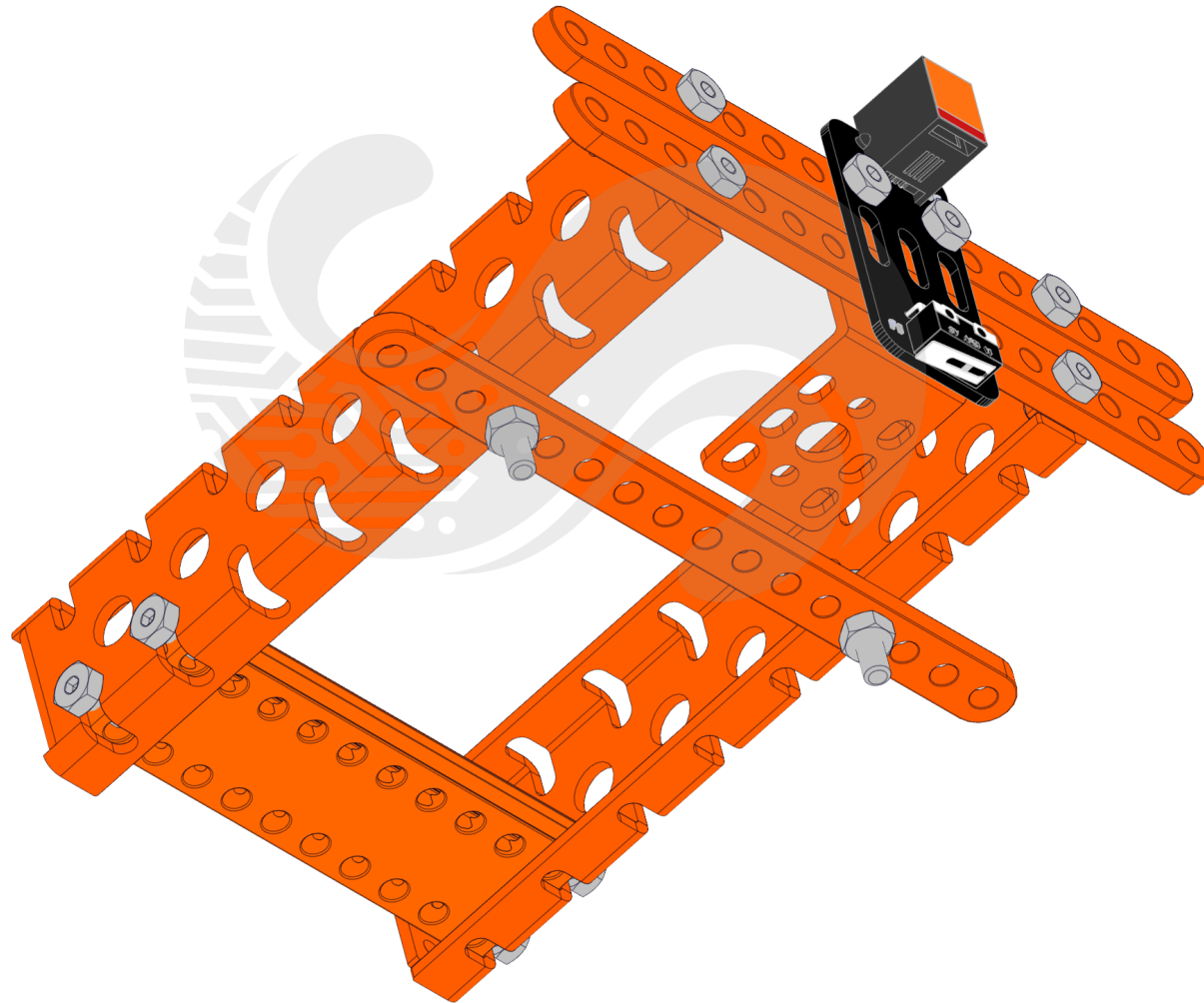


23. Assemble the Limit Switch

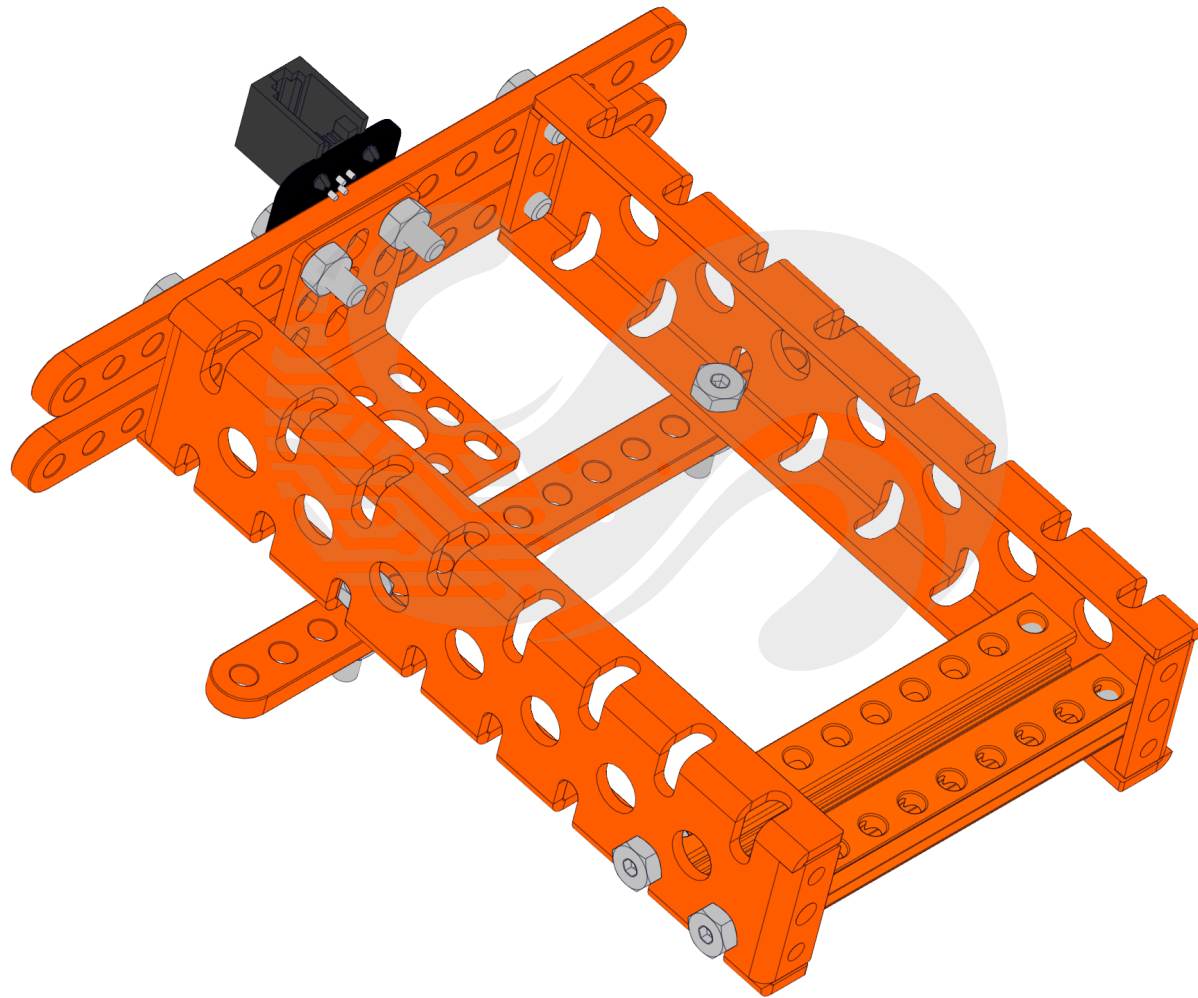
-  2xScrew M4*20
-  2xNut M4
-  1xBracket 3x3
-  1xLimit Switch



23. Assemble the Limit Switch

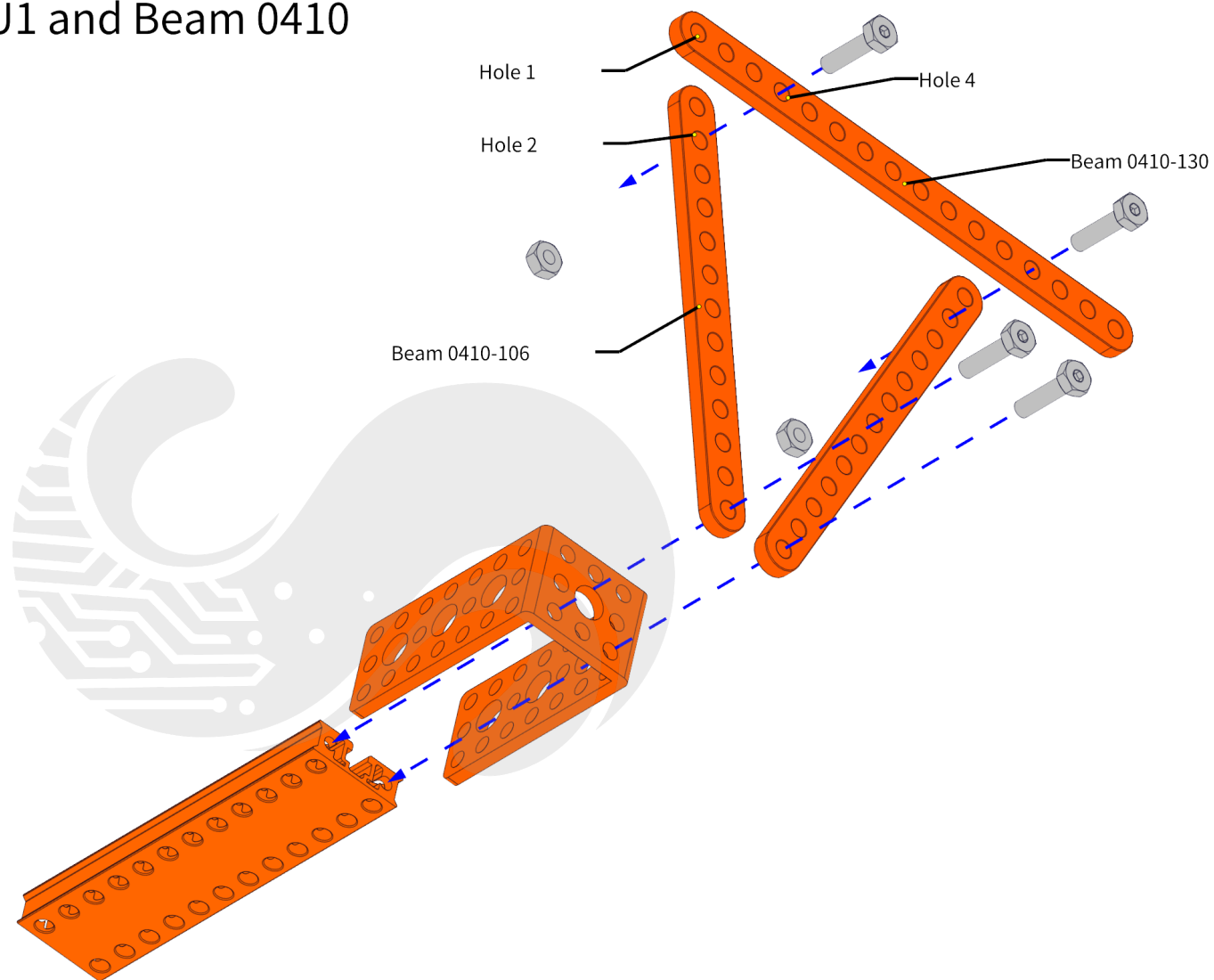


23. Assemble the Limit Switch

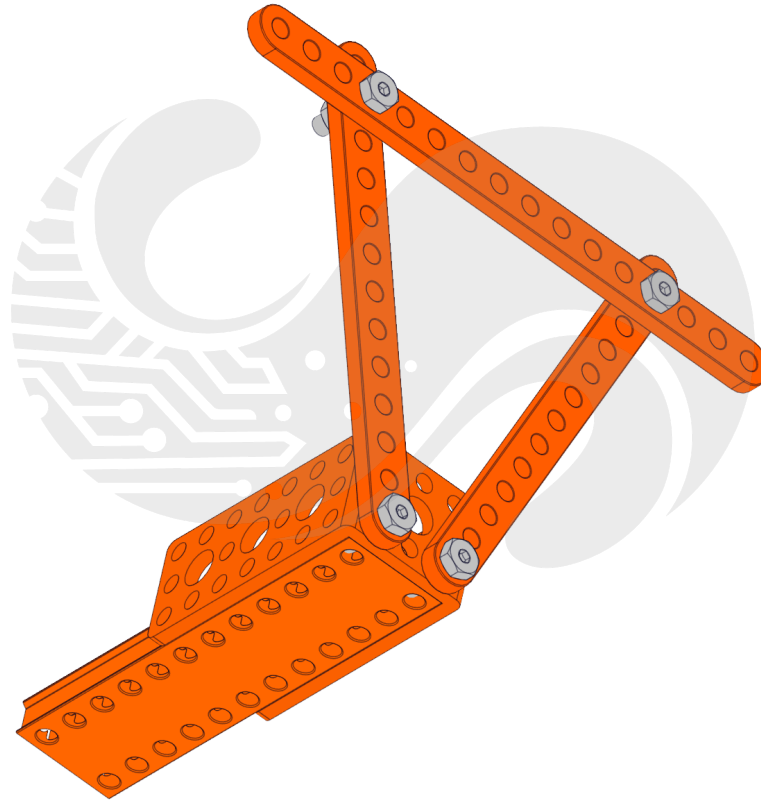


24. Assemble the Bracket U1 and Beam 0410

-  4xScrew M4*20
-  2xNut M4
-  1xBeam 0824-96
-  1xBracket U1
-  2xBeam 0410-106
-  1xBeam 0410-130



24. Assemble the Bracket U1 and Beam 0410

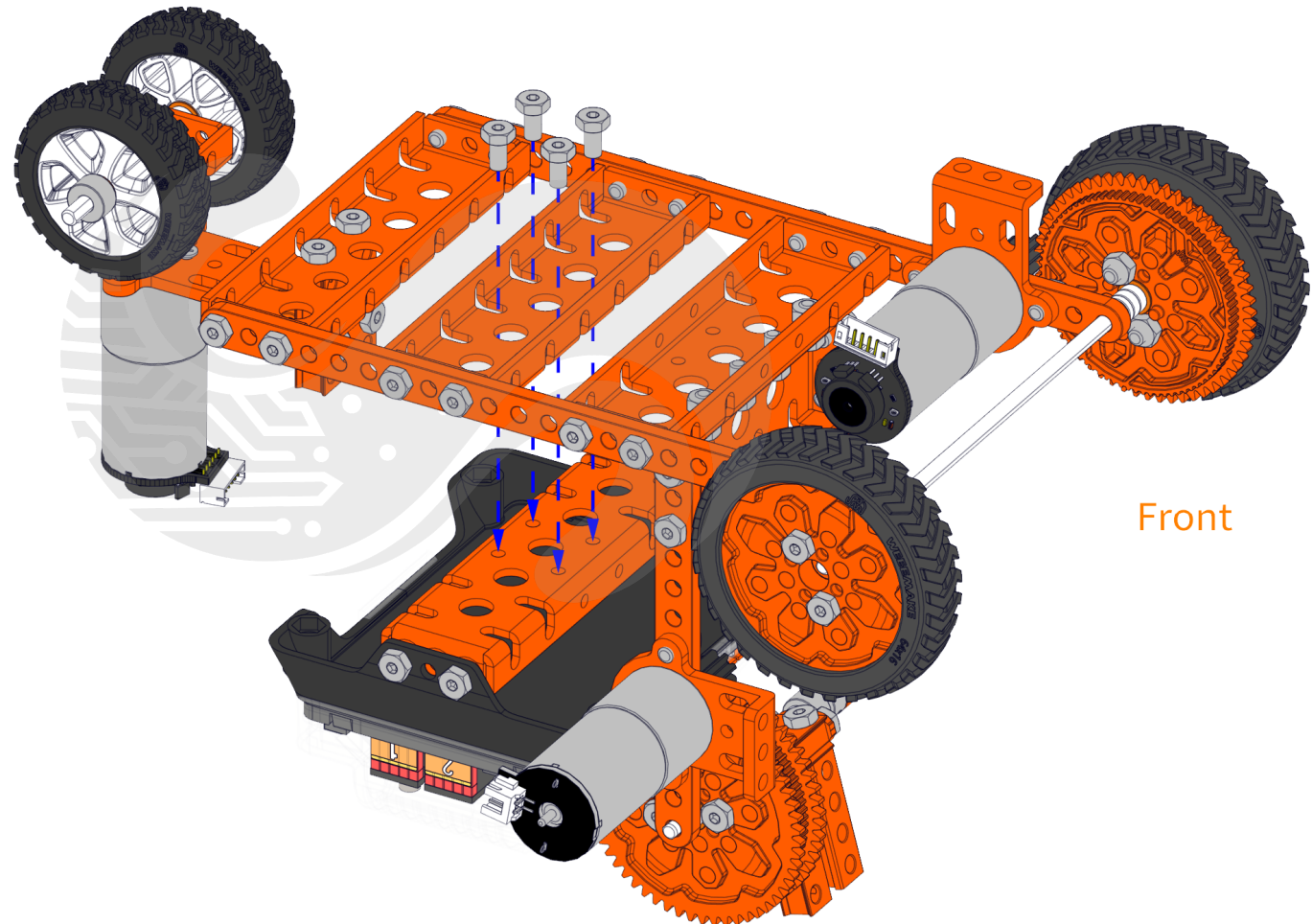


25. Assemble the Mainboard ELF

 4xScrew M4*8

 1xELF Mainboard Assembly

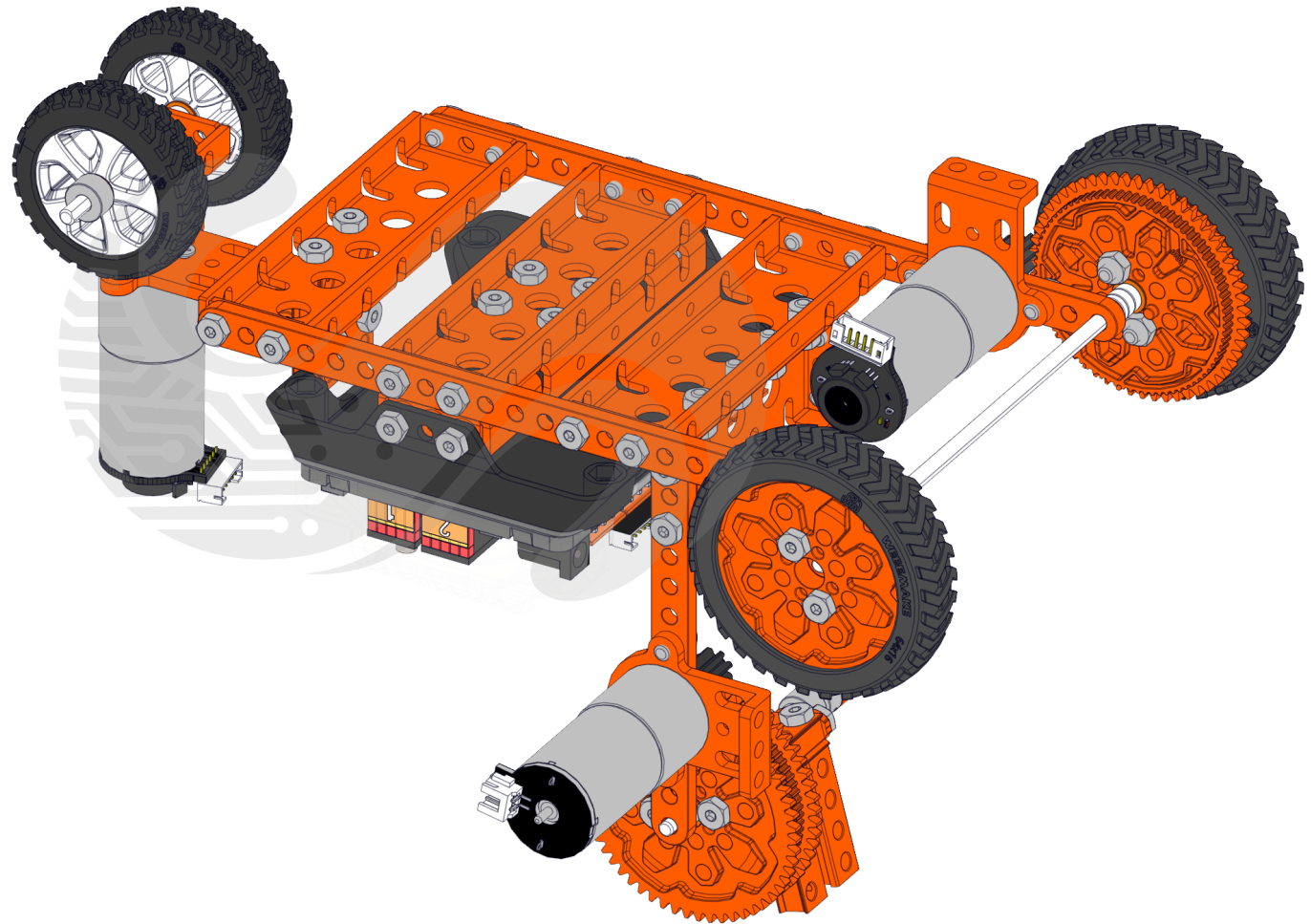
Back



Front

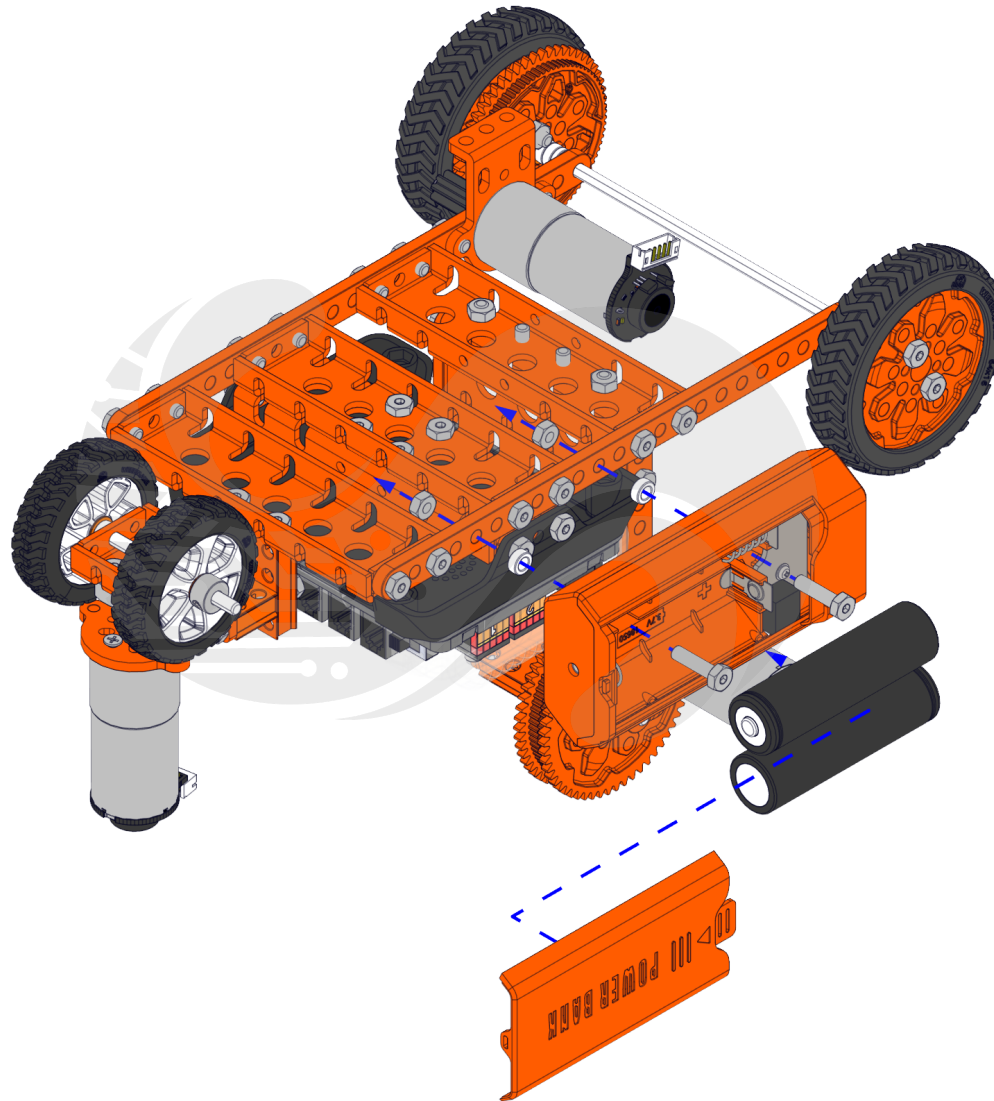
Tips: Please pay attention to the hole position and direction.

25. Assemble the Mainboard ELF

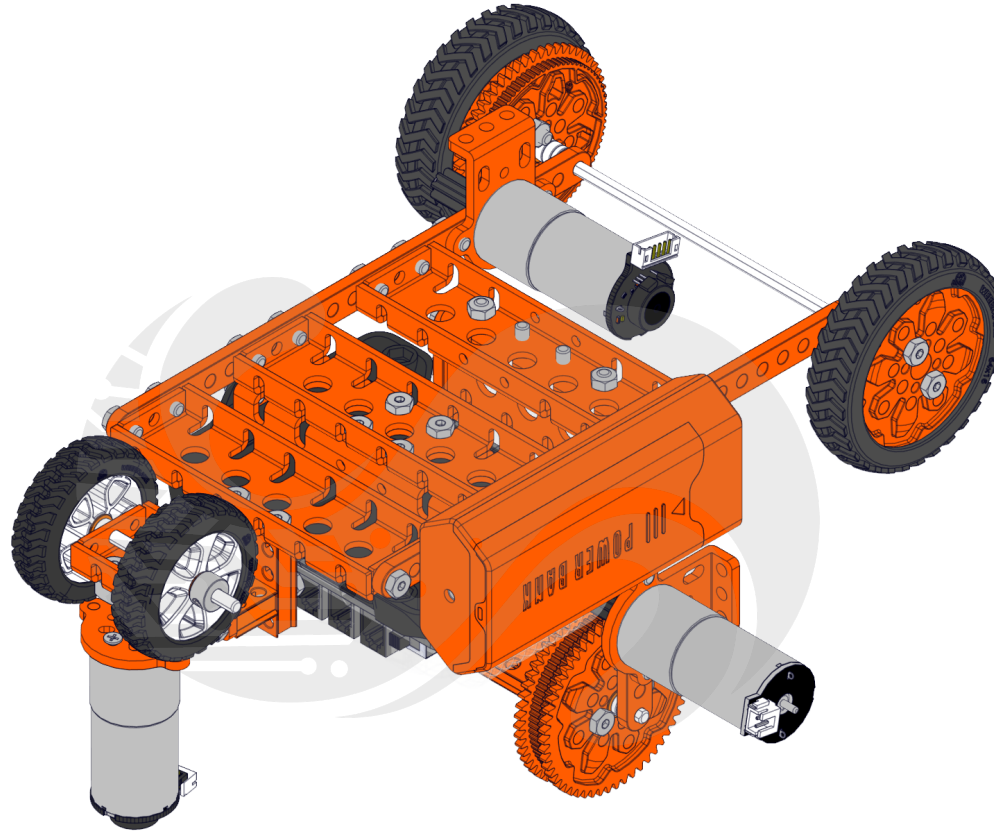


26. Assemble the 18650 Lithium Battery Holder

-  2xScrew M4*20
-  2xNut M4
-  2xNylon Spacer 4*7*3
-  2x18650 Lithium Battery
-  1xLithium Battery Holder Lid
-  1x18650 Battery Holder



26. Assemble the 18650 Lithium Battery Holder

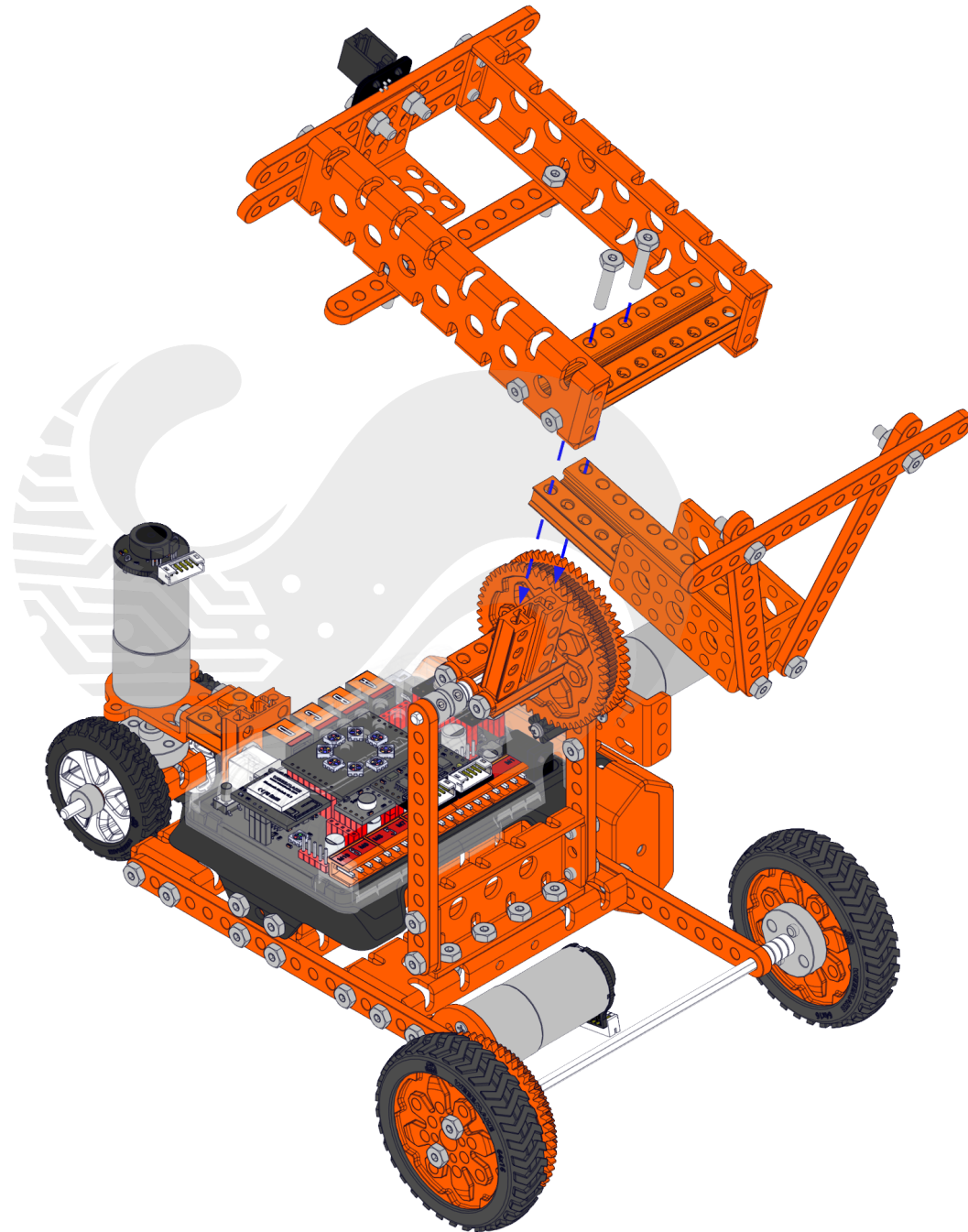


27. Assemble the Robot

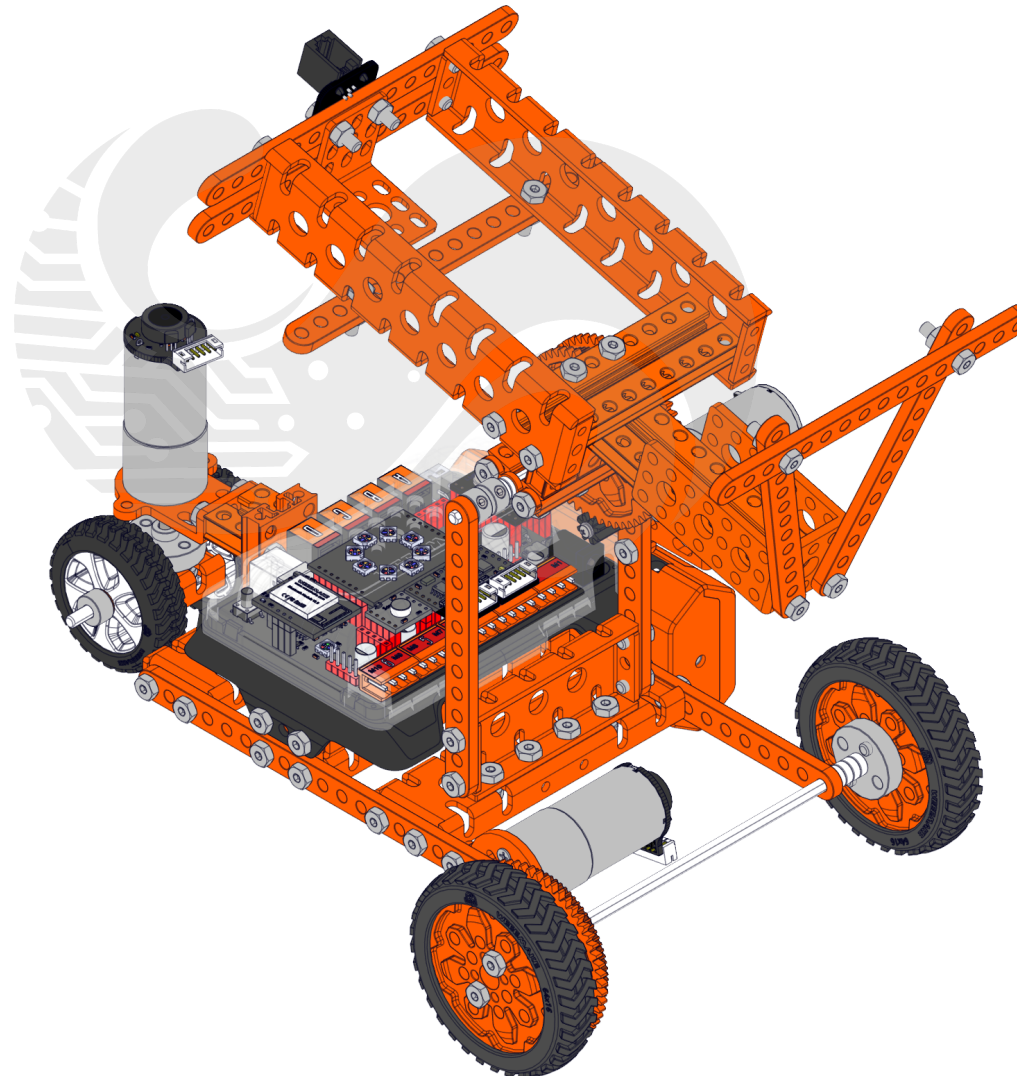
 2xScrew M4*25

 1xBottle Rack Assembly 1

 1xBottle Rack Assembly 2



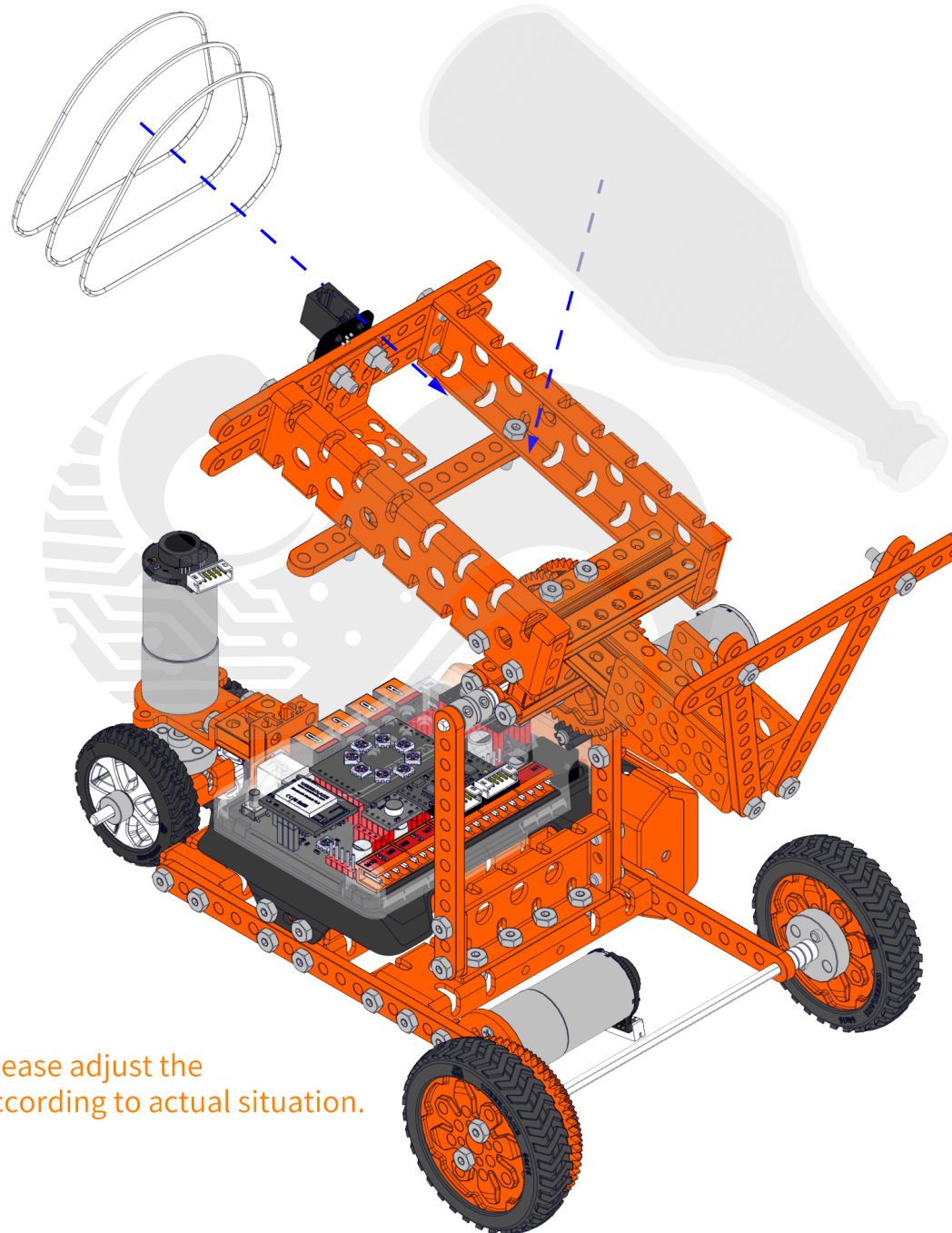
27. Assemble the Robot



28. Fix the Bottle

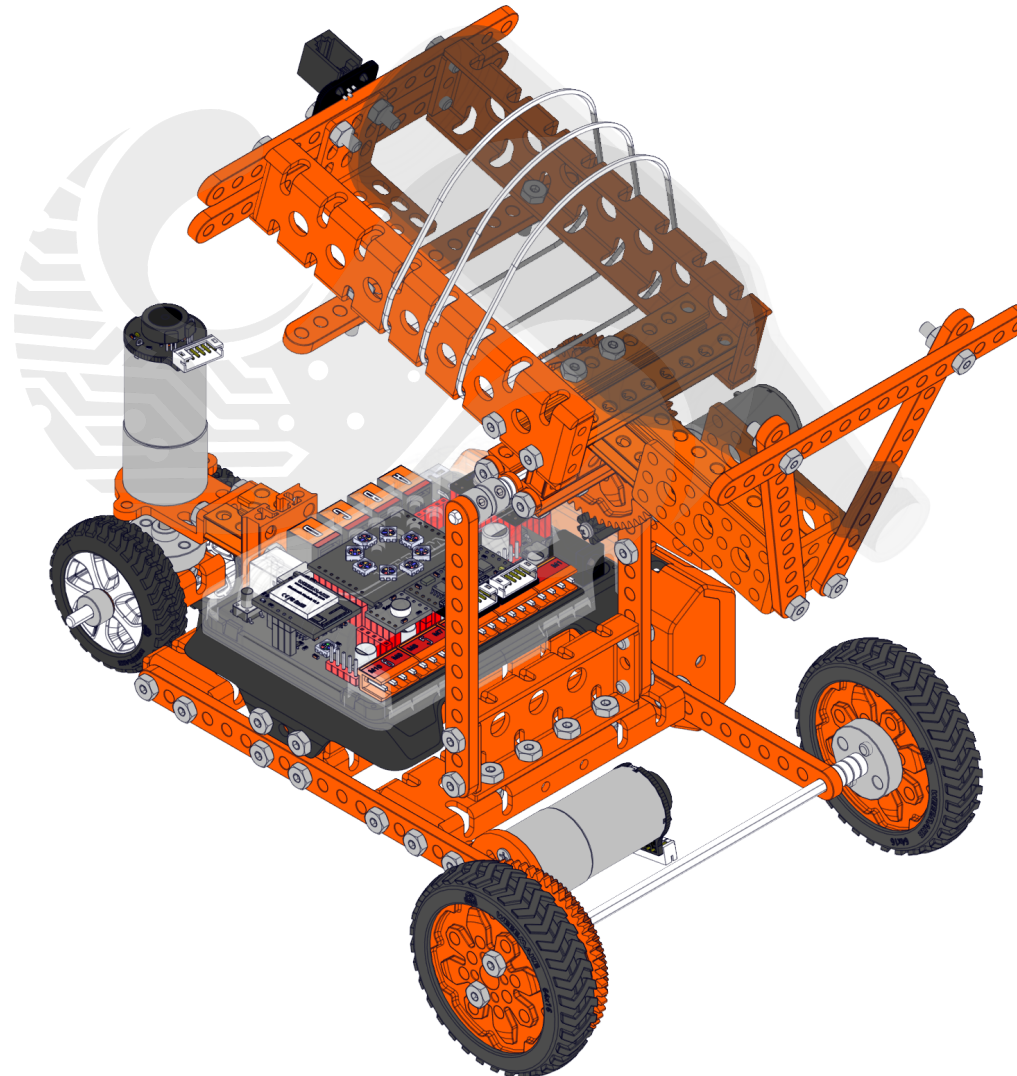
 3xRubber Band 2*60

 1xBottle

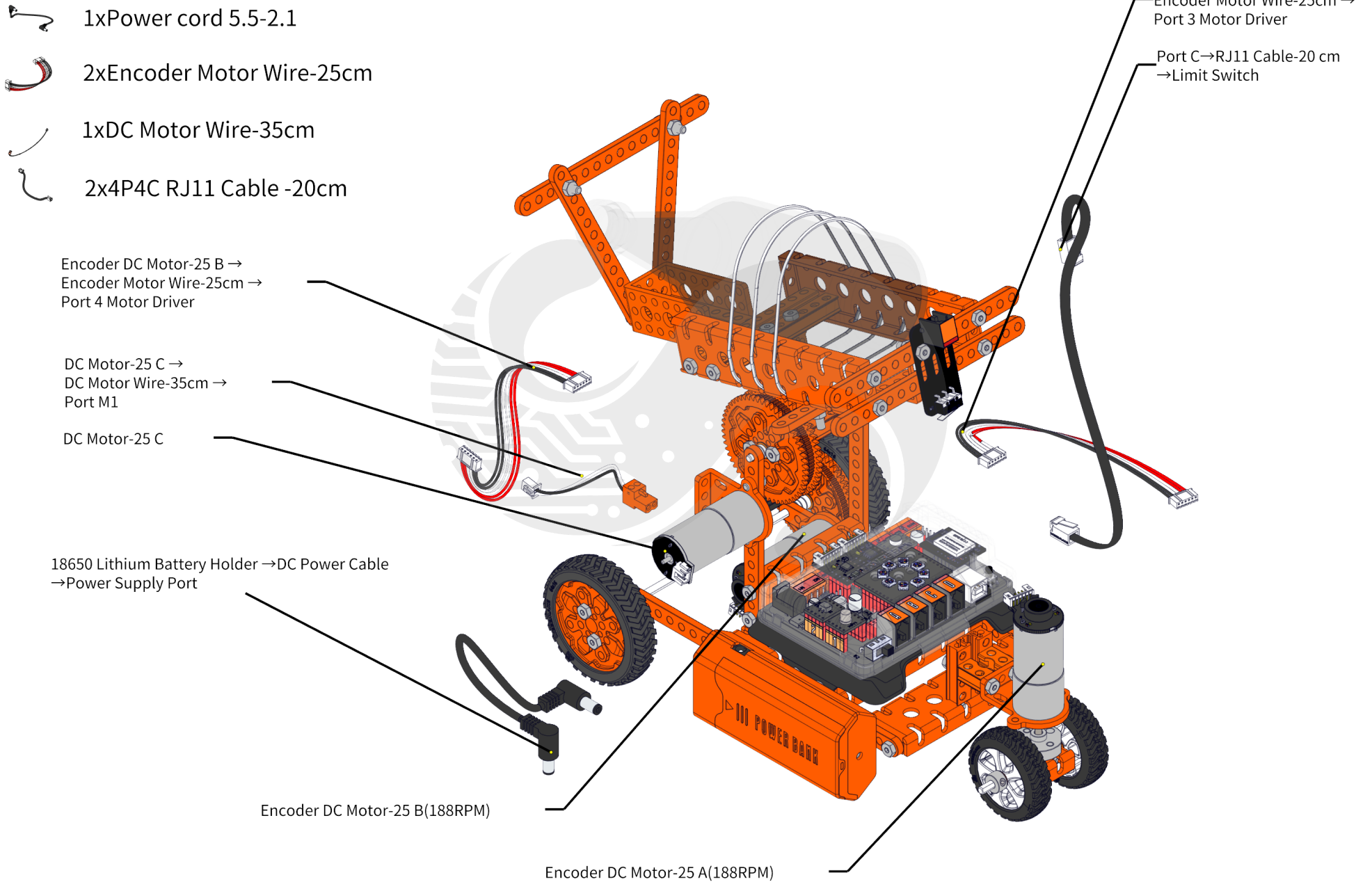


Note: Bottle is not included in the kit. Please adjust the position and quantity of rubber band according to actual situation.

28. Fix the Bottle



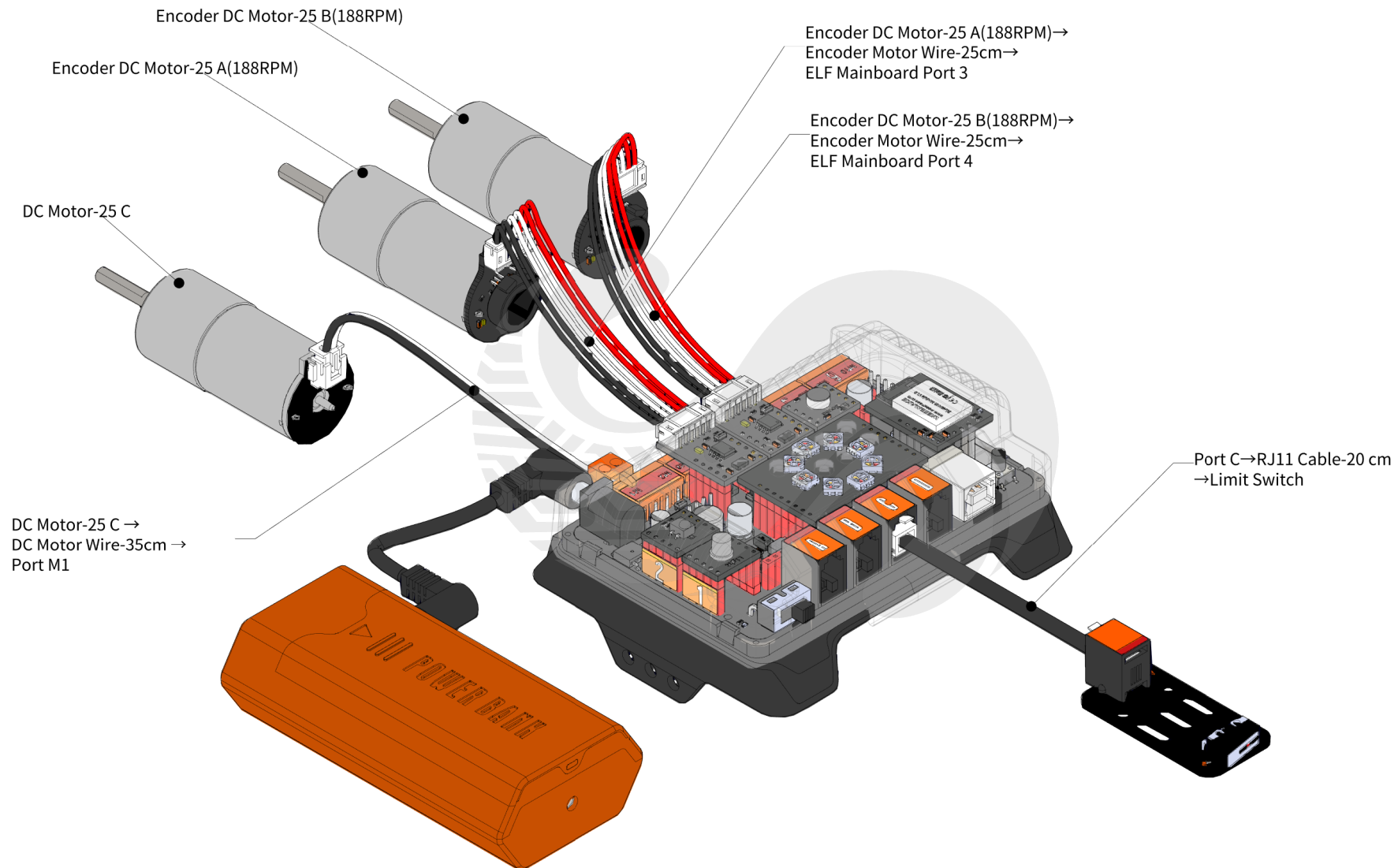
29.Wiring



29.Wiring



30.Wiring



31.Completion Diagram

