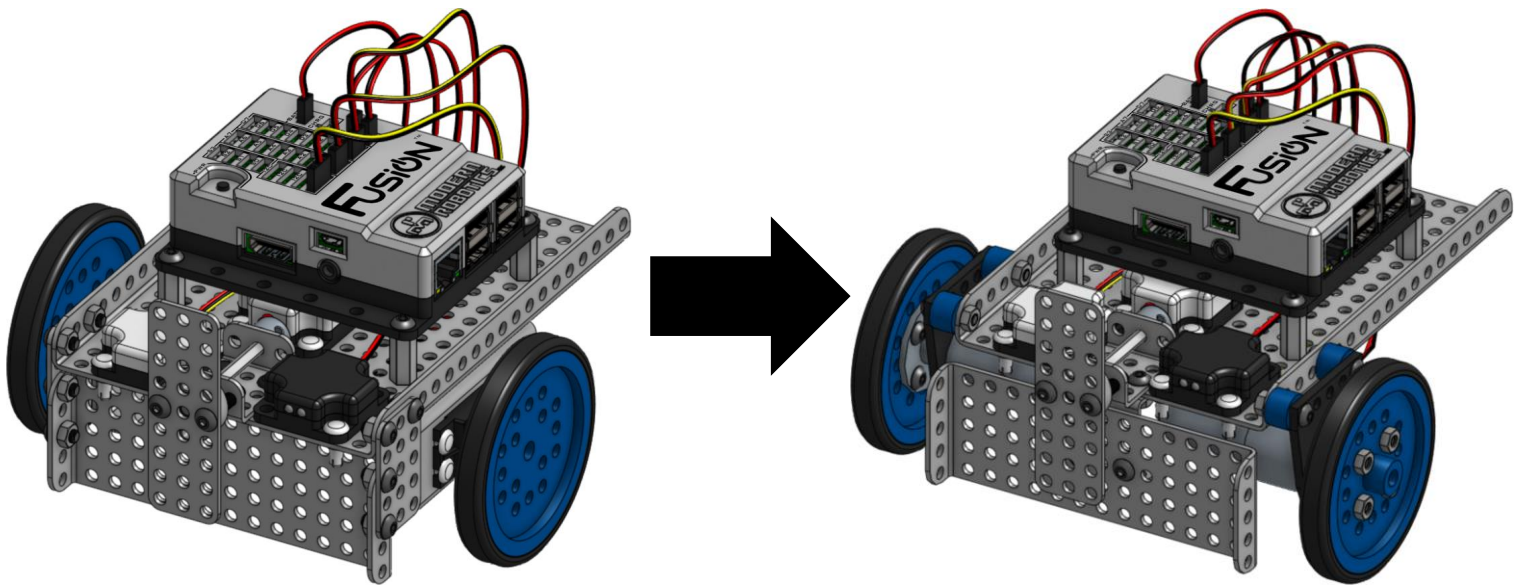# Base Bot
Modification Instructions

Version 1.0.0
Modern Robotics, Inc.

These instructions outline how to modify a Fusion Base Bot to use the higher torque DC motors.

Although the sensors used are different, this can be used to modify a Spartan Base Robot as well. You do not need to remove the Program Control Button (PCB) to make this modification.

The next page has a list of additional materials required for the modification. Take note that the Quick Connects are moved when the sensors are reattached to avoid hitting the motors underneath.
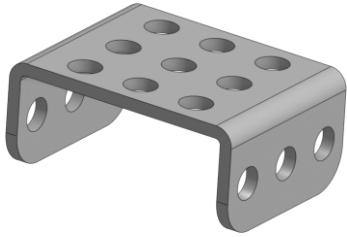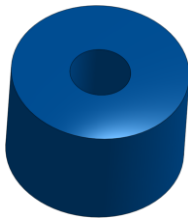
Original Build
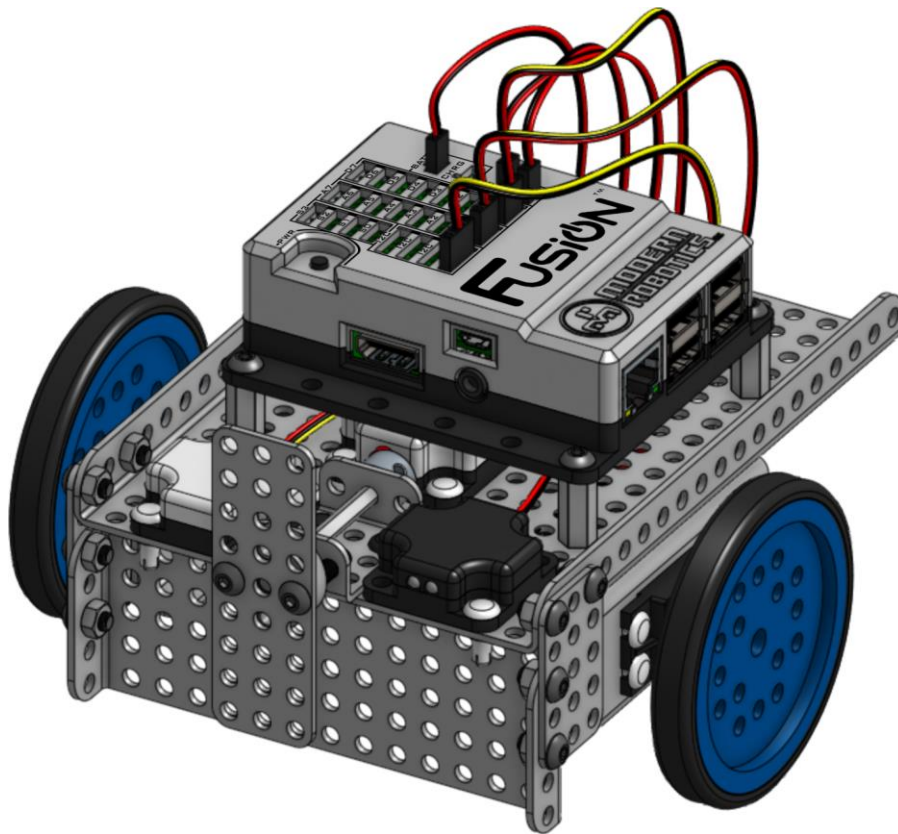
Parts Needed For Modification

x1
05-0303
3x3 Flanged Plate

x2
45-1065
Accessory Mount

x4
13-0004
8mm Spacer

x4
11-3100
M3 Motor Screw
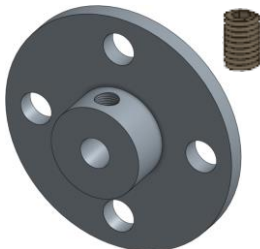
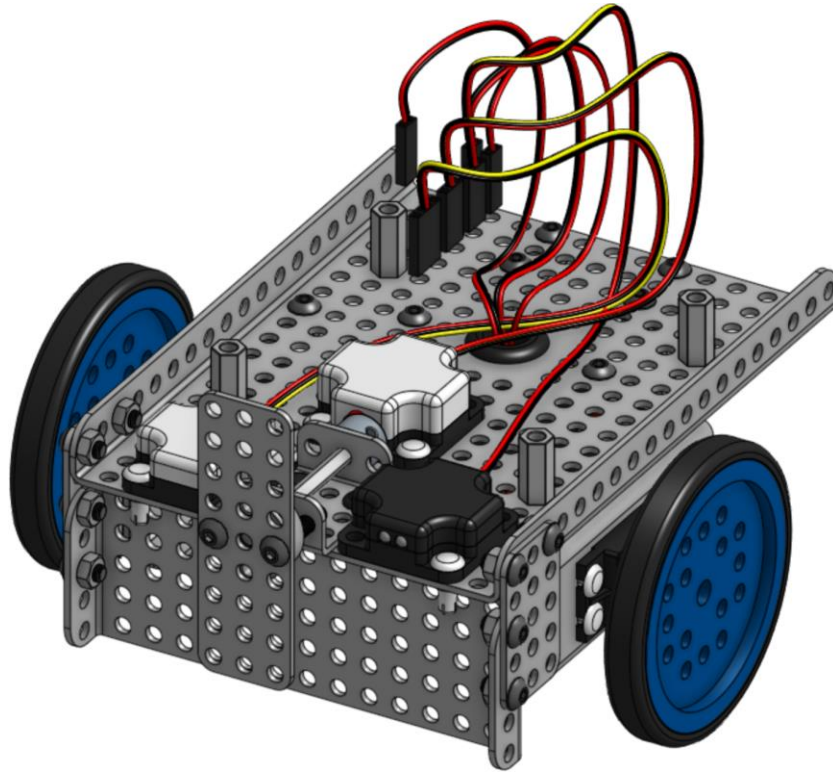x2
60-0026
4-Hole Wheel Hub
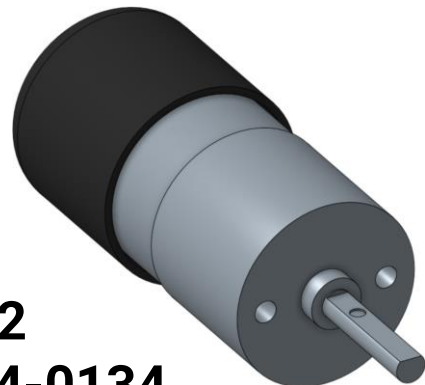
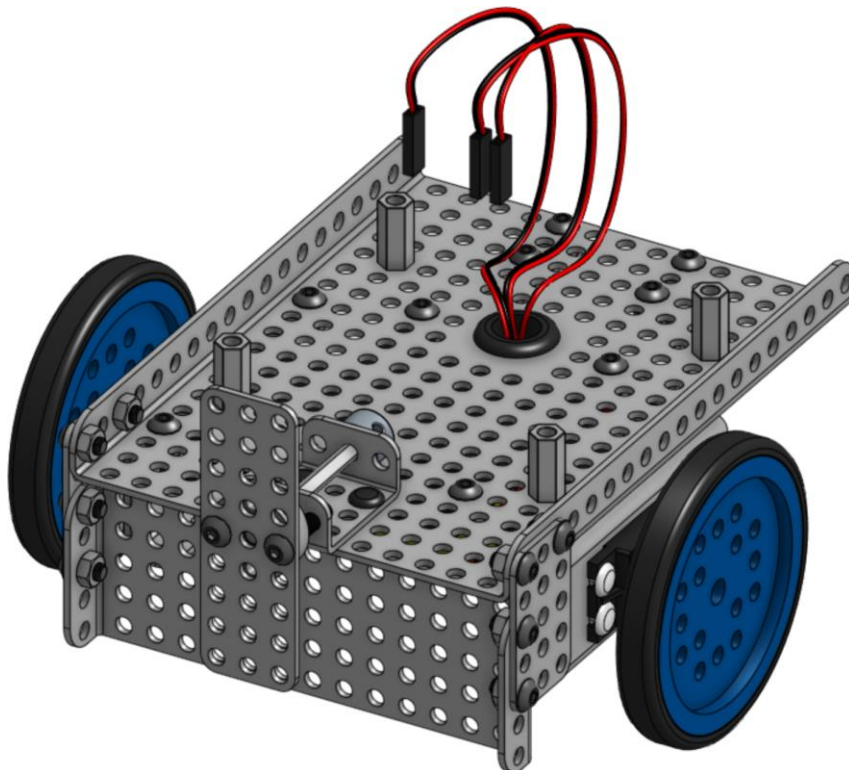X2
14-0134
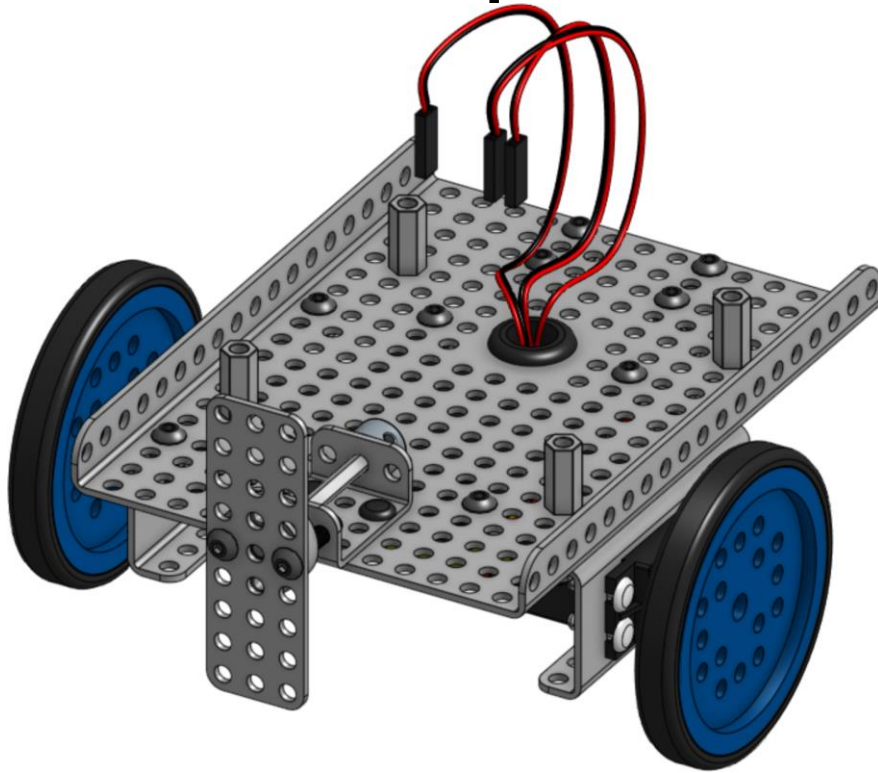6V DC Motor

1   Remove the controller from the robot.

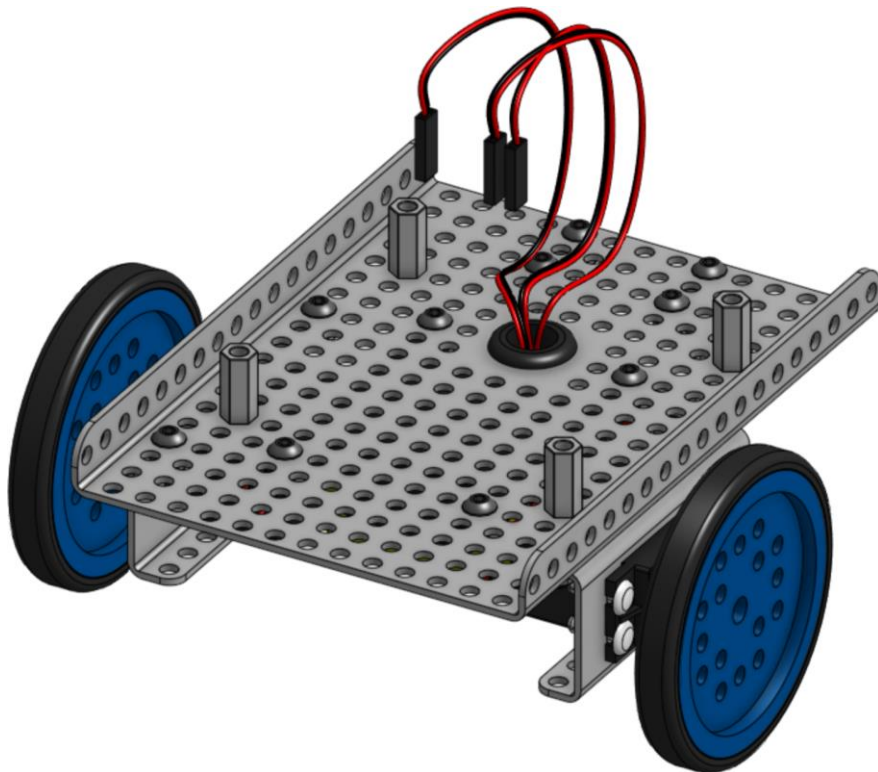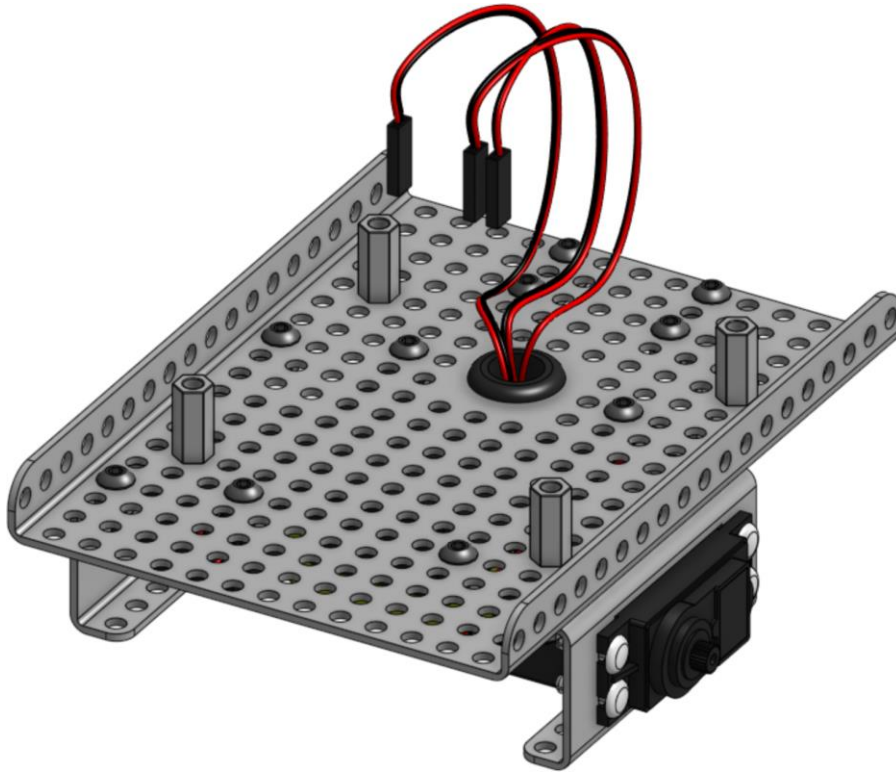# 2   Remove the sensors from the robot.

3 **Remove the front plate from the robot. Disassemble the front plate after removing.**
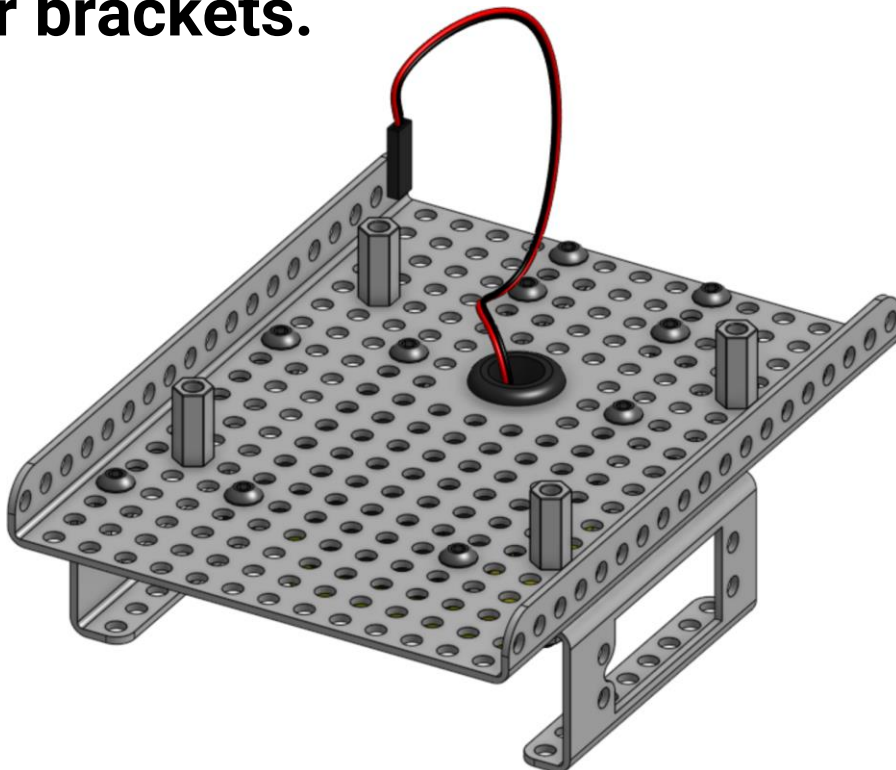
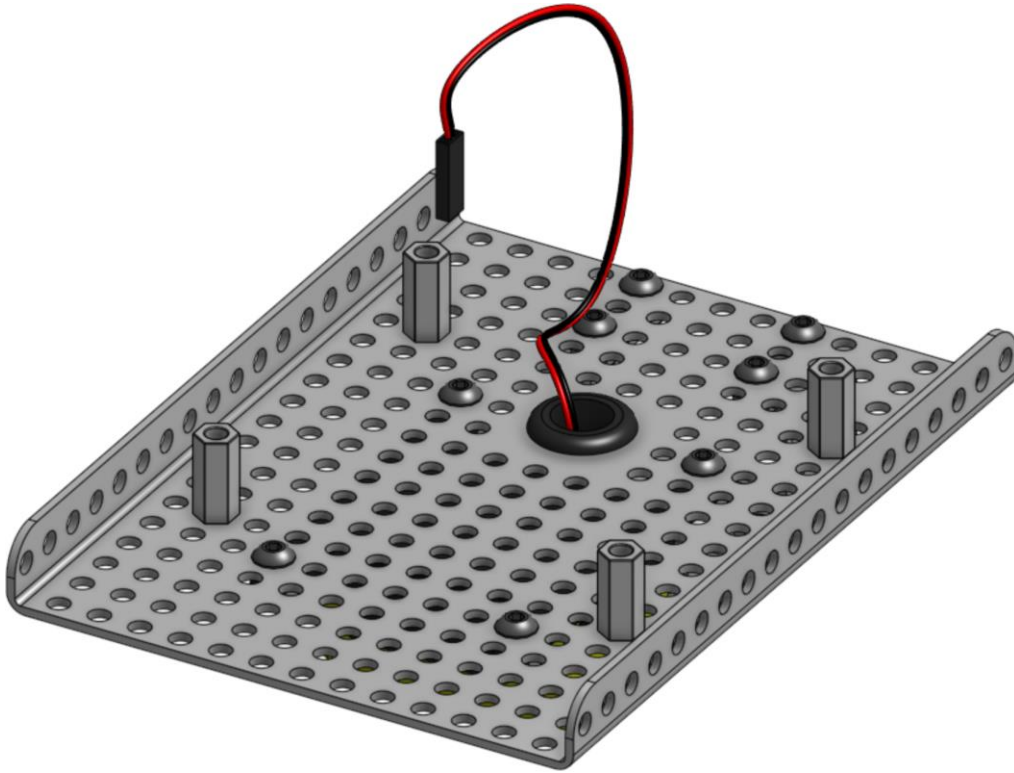**4** **Remove the Touch Sensor Plate Assembly from the robot.**

5   Remove the wheels from the servo style DC motors.

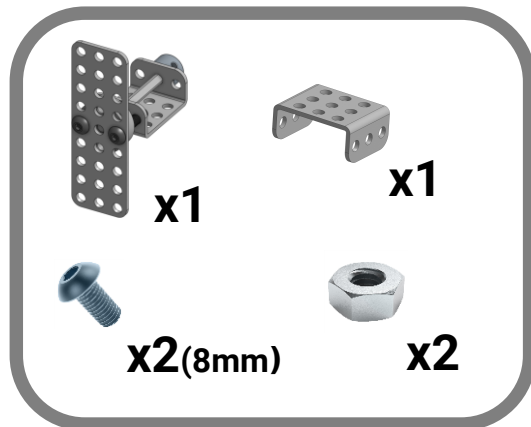**6**   Remove the servo style DC motors from the motor brackets.
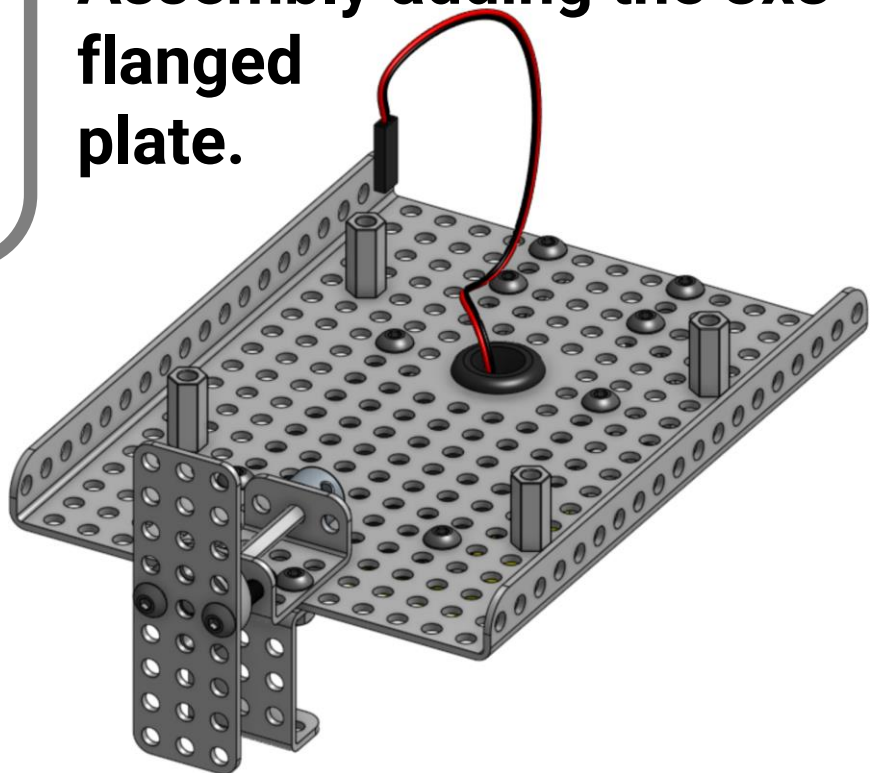
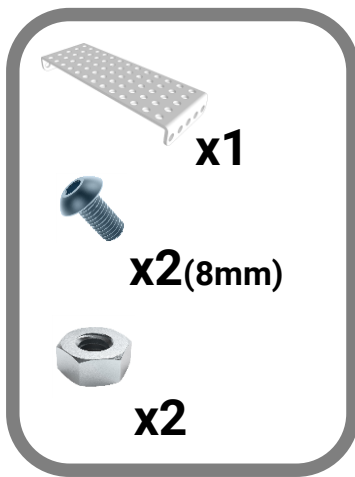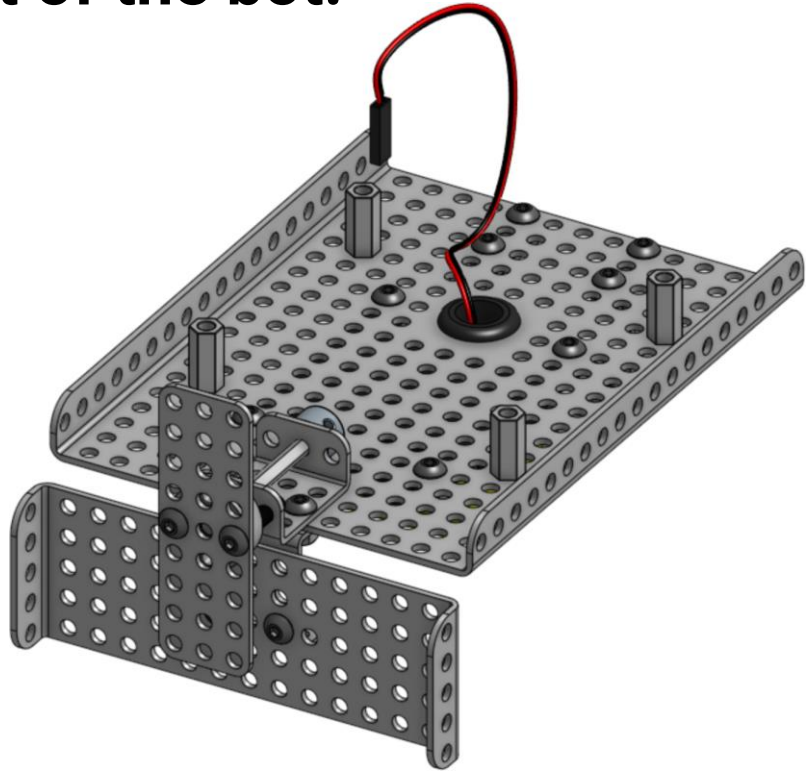# 7 Remove the motor brackets from the base.

Assembly

8

x1

x1

x2(8mm)

x2

Reattach the TS Plate Assembly adding the 3x3 flanged plate.

9

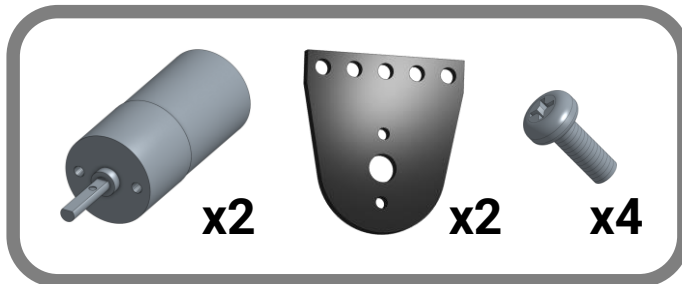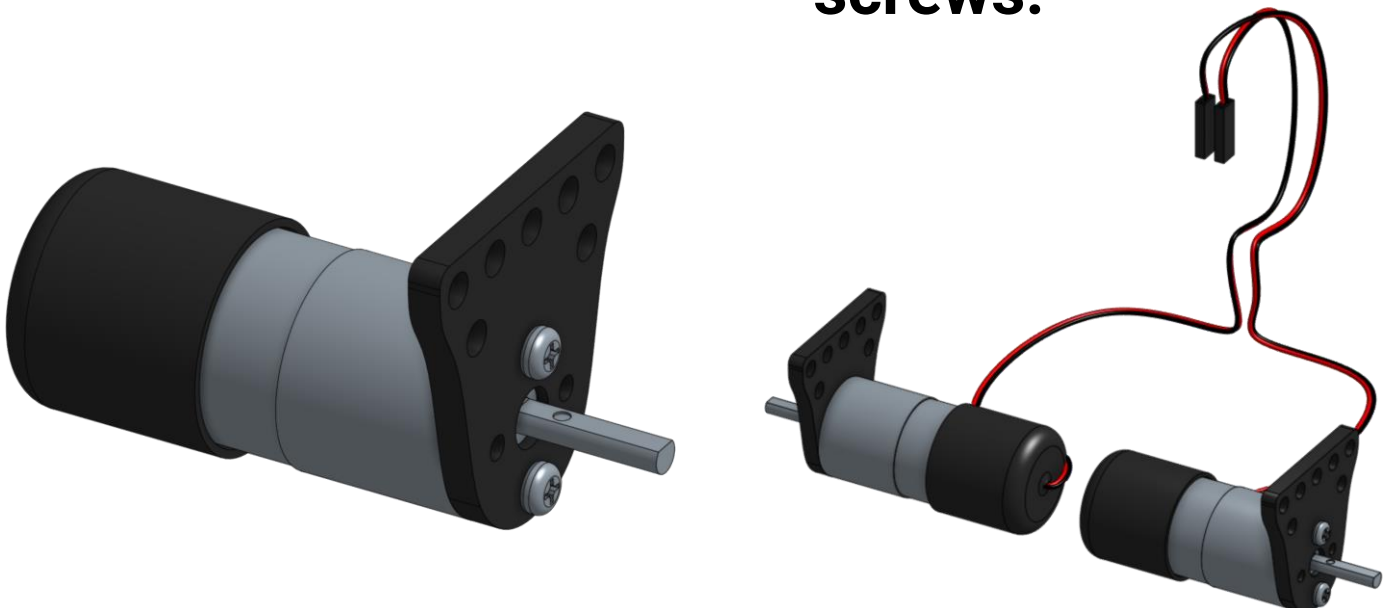x1

x2(8mm)

x2

Attach the 5x13 plate to the front of the bot.

10

x2   x2   x4

Attach the motors to the motor brackets using the supplied screws.

11

x2

x4 (16mm or 20mm)

x4   x4

Attach the motor brackets to the base plate.

M0

M1

12

x2

x2

x8 (8mm)

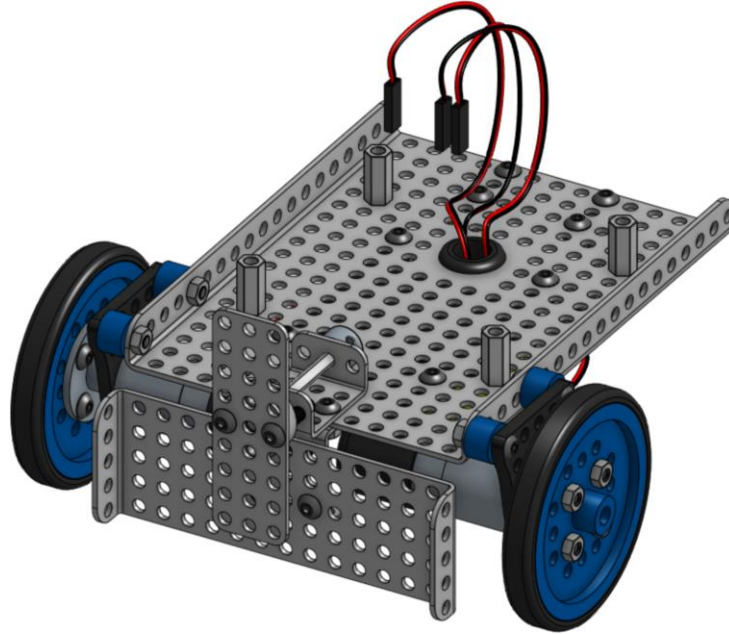x8

Attach the wheels to the hubs.
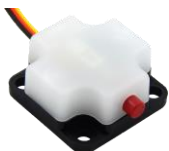
13
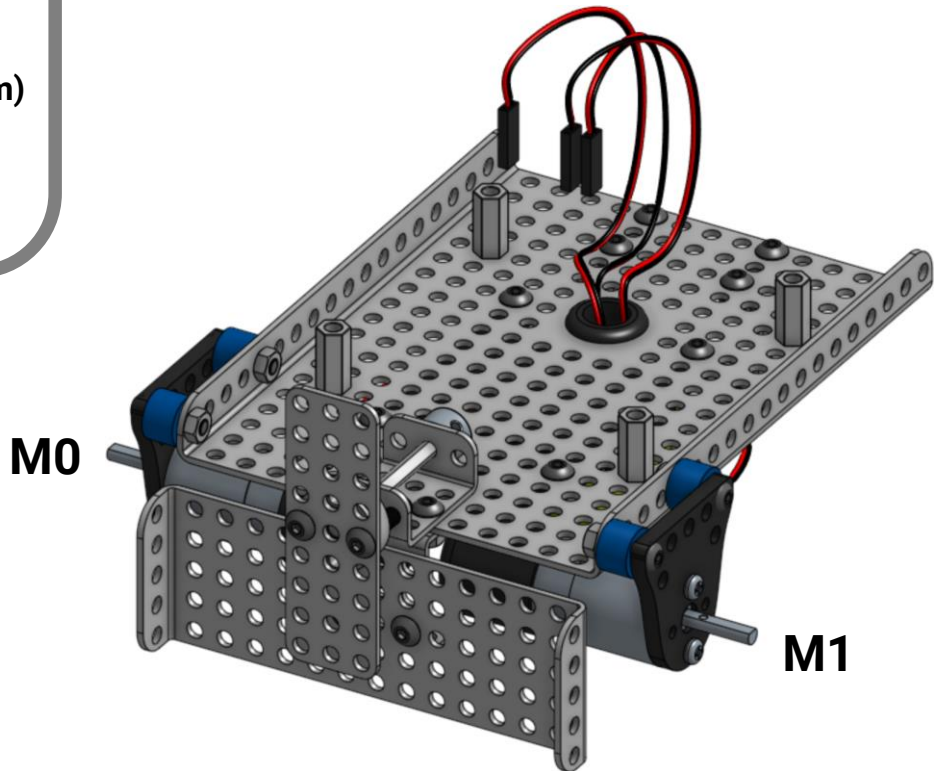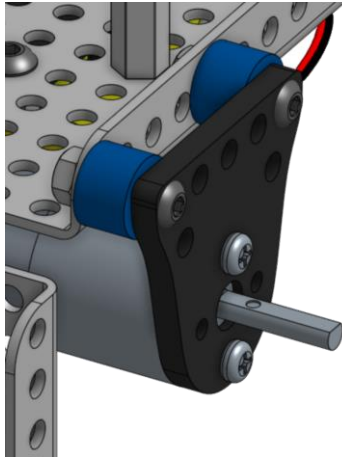
x2

Attach the wheels to the motors using the set screw in the hubs. Tighten the set screw to the flat part of the motor shaft.
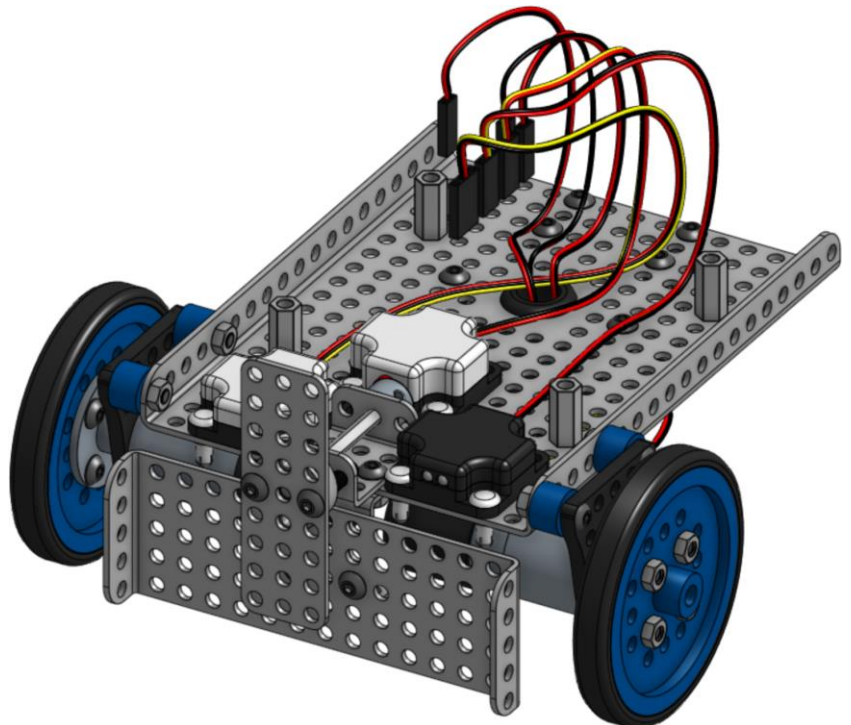

14

x1

x1

x1

x6

Reattach the sensors into the position they were in before. Note the quick connect location.
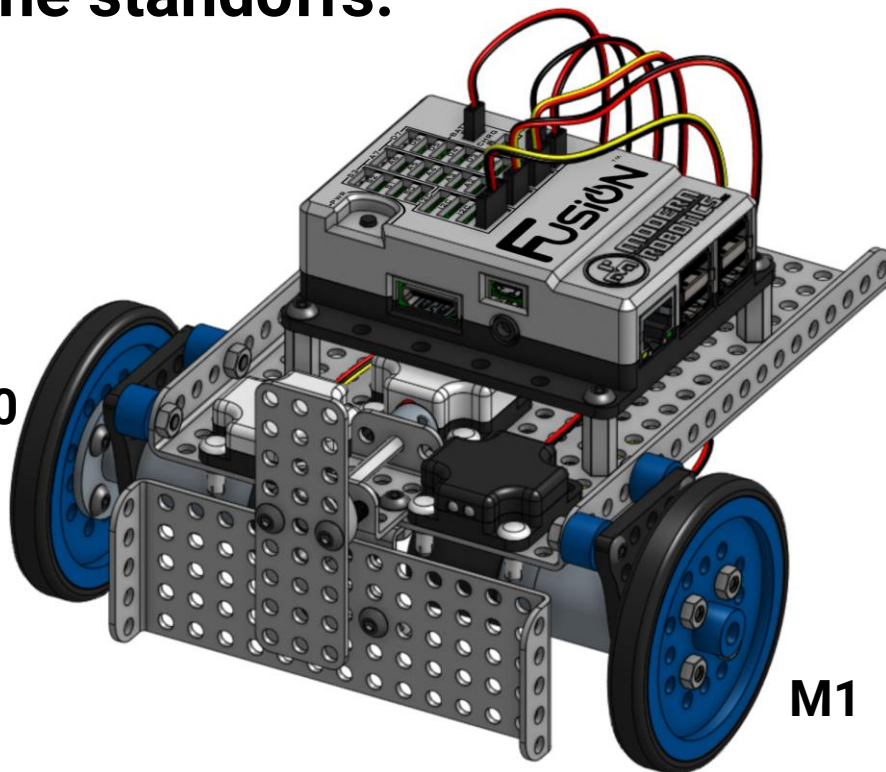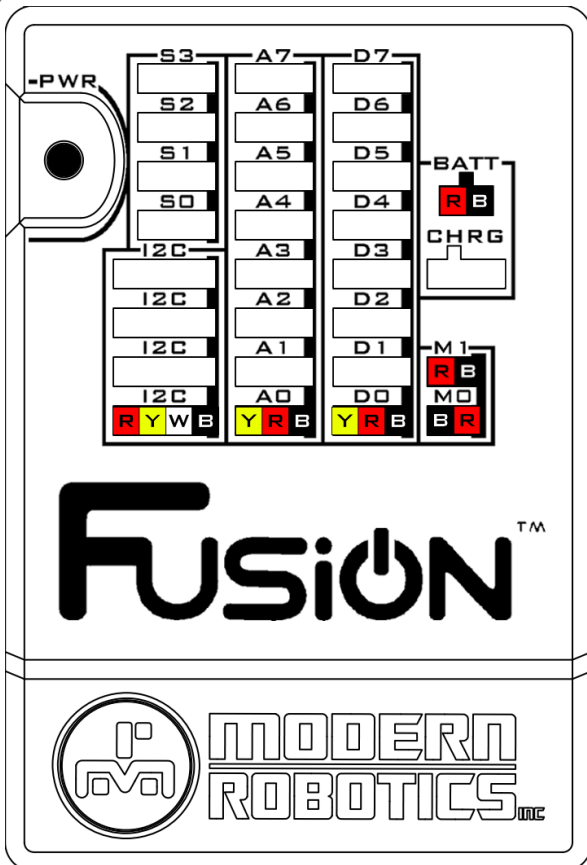
15

x1

x4 (8mm)

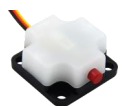## Reattach the Fusion Controller to the standoffs.

M0

M1

Sensor		Port
Optical Distance Sensor	→	A0
Touch Sensor	→	D0
Integrating Gyro	→	I2C
Right Motor	→	M0
Left Motor	→	M1
Battery	→	BATT
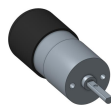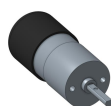
-PWR

S3 A7 D7
S2 A6 D6
S1 A5 D5
S0 A4 D4   BATT   R B
I2C A3 D3   CHRG
I2C A2 D2
I2C A1 D1   M1   R B / M0
I2C A0 D0   R B

R Y W B   Y R B   Y R B

FUSiON™

MODERN ROBOTICS inc