CLIGO
## Assembly Guide

**Do not attempt to remove chassis parts by squeezing them with pliers.
You will break the small nubs.**
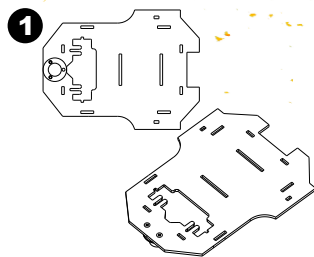
1 Starting with the base plate, the small castor wheel was already mounted on the bottom of the base plate with bolts & nuts.
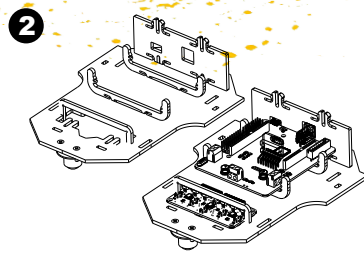
2 Now Snap the PCB holders and back plate in the base plate & mount the SmartElex L298N Motor Driver with Onboard Arduino Uno and also the SmartElex RLS-06 Analog/Digital Line Sensor as shown in the images.
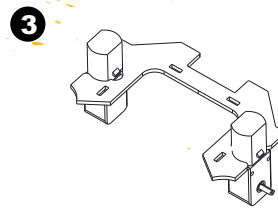
3 Holding the motor wires, gently twist the Motor counter clockwise so that it snaps in place on the motor and the wires are centered in the gap of the motor mount. Repeat the process for the second motor.
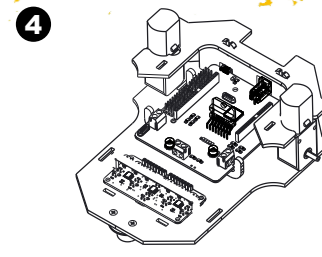
4 Snap the motor plate on to the previous assembly such that motor rest on the base plate. Make motor & SmartElex RLS-06 Analog/Digital Line Sensor connections to the SmartElex L298N Motor Driver with Onboard Arduino Uno.
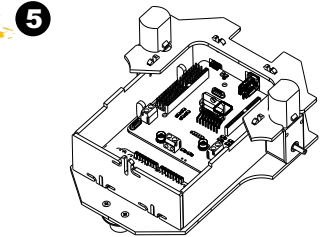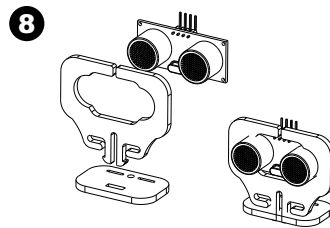
**5** Now snap the side plates such that It get fix between the bottom plate & Motor mount plate.
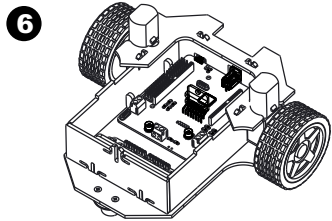
6 Attach the yellow wheels to the motor. Make sure to line up the flat edges of the motor shaft with the flat edges of the wheel.
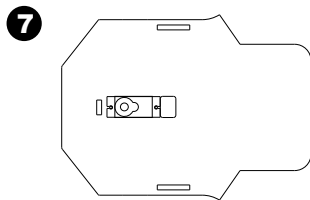
7 Mount the servo motor in the slot on the top plates with the help of screws and screw driver.

8 Make assembly of specifically designed EasyMech Snap-fit ABS Bracket for the HC-SR04 Ultrasonic Sensor Module. Snap the ultrasonic sensor in to the bracket as shown in the image.
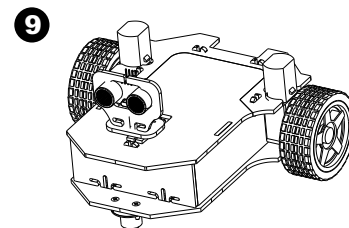
9 Mount the ultrasonic sensor assembly on the servo motor shaft. Servo horn is already attached to the base plate of the bracket.
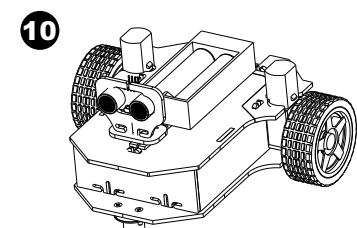
10 Finally mount the Li-ion cell holder on the top plate with help of 3M DST pad and insert the Orange 18650 Li-ion cells into the holder. Makes sure the batteries are facing the correct direction, as per the markings inside of the Battery Holder.

Make the all the connection with the help of the connection diagrams. Depending upon type of the robot, upload the program to the board.
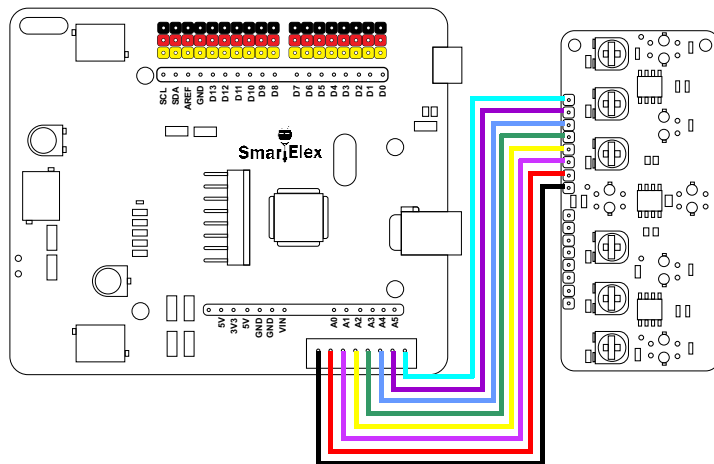E.g. for line follower robot you need upload the line follower program.

1. Each movement of the vehicle is controlled by the program so it is necessary to get the program installed and set up correctly. We will use the Arduino Software IDE (Integrated Development Environment) as a programming tool. Go to https://www.arduino.cc/en/Main/Software and download and install Arduino IDE software.

2. Download and install USB driver from https://sparks.gogo.co.nz/ch340.html In the Arduino IDE when the CH340 is connected you will see a COM Port in the Tools > Serial Port menu, the COM number for your device may vary depending on your system.

3. Download attachment "Codes & Arduino Libraries". You will get all the codes and libraries required for the robot. Install the libraries and upload the suitable program.
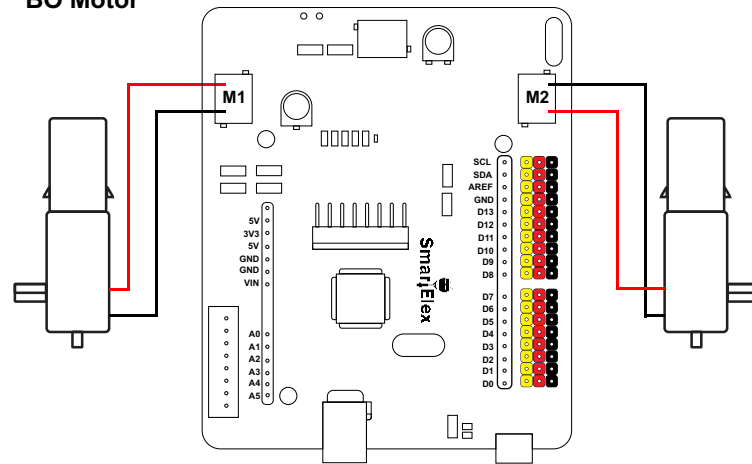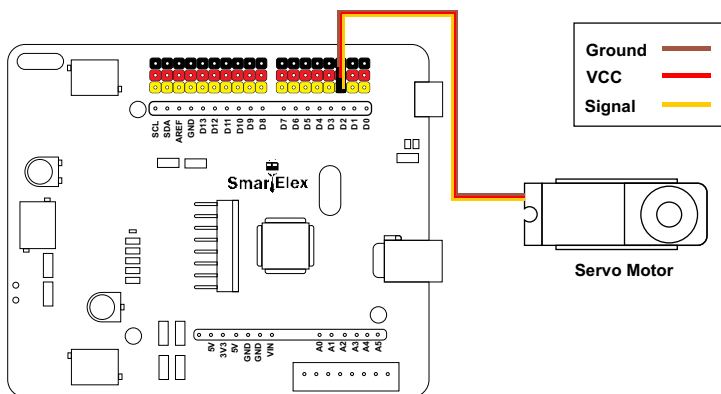
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connections Diagram
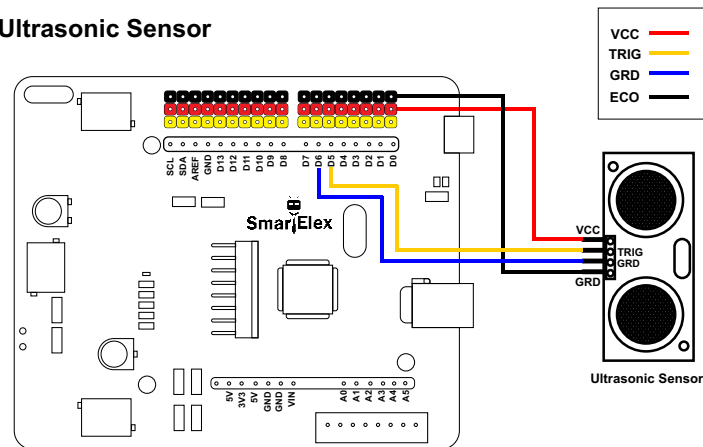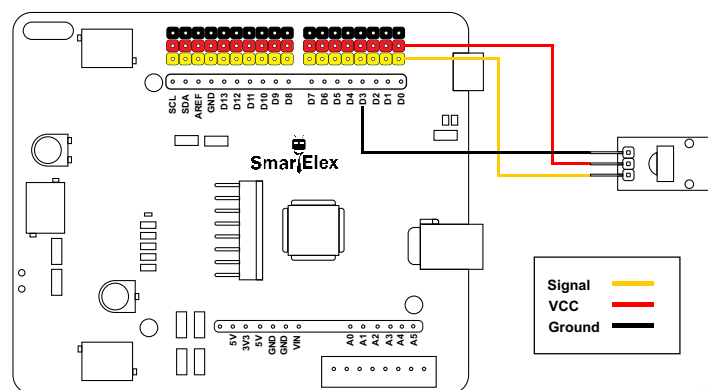
SmartElex RLS-06 Line Follower

BO Motor

Servo Motor

Ground	
VCC	
Signal	

Servo Motor

Ultrasonic Sensor

VCC	
TRIG	
GRD	
ECO	

Ultrasonic Sensor

IR SENSOR

Signal	
VCC	
Ground	

Power Supply

Micro USB

Orange 18650 Li-Ion Battery

Orange 18650 Li-Ion Battery