**Remote Vehicle Assembly Instructions.**

The remote-controlled vehicle requires assembling the hardware and installing the software.

**Software**: See the code to install on each *micro:bit*

Program Microbit V1 with car\_send\_motor.py

Program Microbit V2 with car\_rec\_motor.py (\*See notes)

**Hardware**: Below are step by step instructions for putting the vehicle together.

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| **Step** | **Description** | Image |
| 1 | Parts  Microbit V1 with Powerbit  Micribit V2  2 DC motors and two wheels  Roller ball  Aluminum Chassis  Robotbit expansion board  Robotbit mount  2x 5mm screw  4x 30 mm bolts  4x 3 mm nuts |  |
| 2 | Note the protrusion near the shaft. It is only on one side of the motor mount. |  |
| 3 | Put the motor inside the aluminum chassis with the axil going through the large hole and the small protrusion going through the hole next to it. Insert the two long screws (30mm) through the chassis and into the holes in the motor housing. Hold bolts in place and turn the chassis over. |  |

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| 4 | Screw on the nuts to the two bolts. Then use a Philips screwdriver to screw in the bolts while holding the nuts in place until the motor is in tight.              Repeat the process for the other motor. |  |
| 5 | Turn the unit over.  Place the Robotbit Expansion board mount on the top of the chassis as show in the picture. Screw in the two 5 mm screws into place and tighten with the screw driver. |  |
| 6 | Turn the unit over.  Mount the roller ball in place with the two 10 mm screws. Screw the bolts in with the Philips screwdriver. |  |
| 7 | Note the shape of the motor axil and the wheel hub are round with flat slides. Align the flat sides and gently push the wheel into place onto the shaft. |  |
| 8 | Place the Robotbit expansion board into its plastic mount.    Thread the motor leads around the back of the rear plate of the chassis. Connect the motor on the right side to M1A and the left side motor to M2B. | **M**  **1**  **A**    **M**  **2**  **B** |
| 9 | Install the appropriate software onto each microbit. Put Microbit V2 into the Robotbit expansion board. Make sure the LED screen faces away from the battery. |  |

Step 10. Power up the Robot:bit\* and Power:bit. Experiment with the interface that controls the car.

**\*Note:** When the micro:bit V2 is not connected to the robotbit, the robot\_library.py module will through an error on line 52.