1 - Kit Assembly

Learn how to assemble the controller and servo module in the Robowars kit.


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INTRODUCTION

Learn how to assemble the controller and servo module in the Robowars kit.

Step 1

Controller

- Start by assembling the **controller** with the second micro:bit - if you bought a kit with the micro:bit included it will be inside the Robowars box, or you can use your own micro:bit instead.

- From the **Robowars box** you will also need:

  - Laser cut controller plate

  - micro:bit (if included)

  - 4x Sticky Pads

  - Battery Pack

  - 2x AAA Batteries

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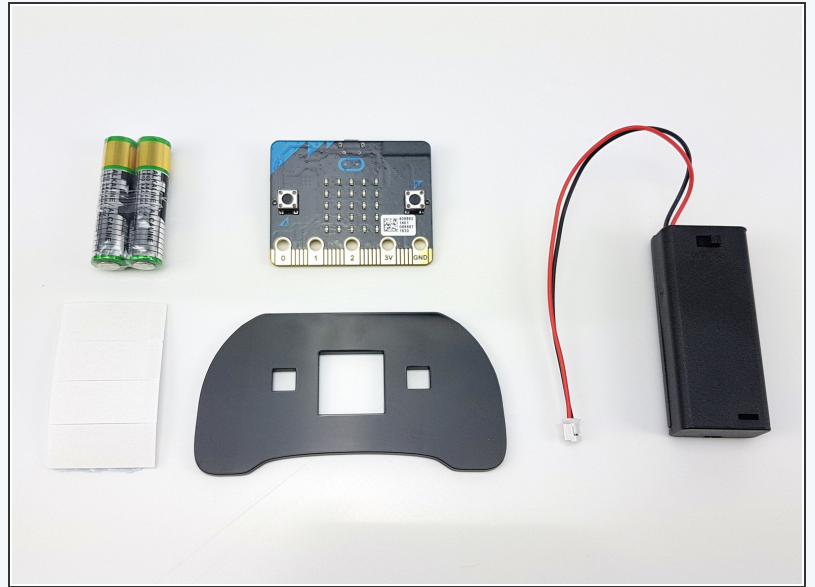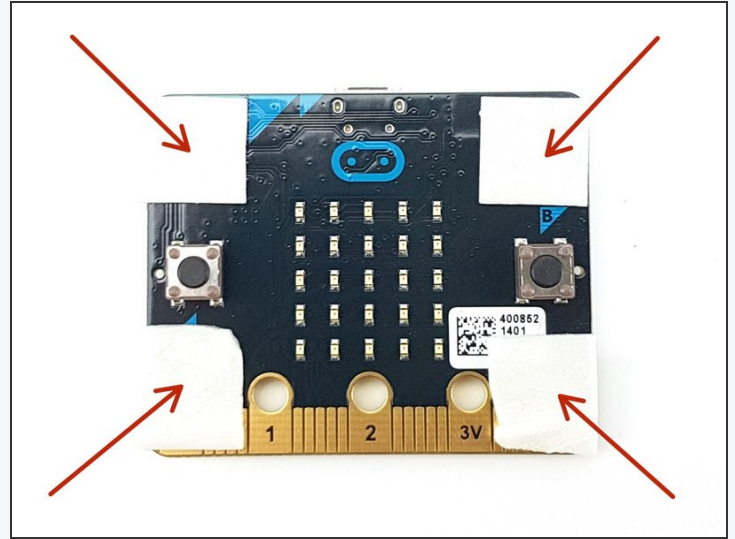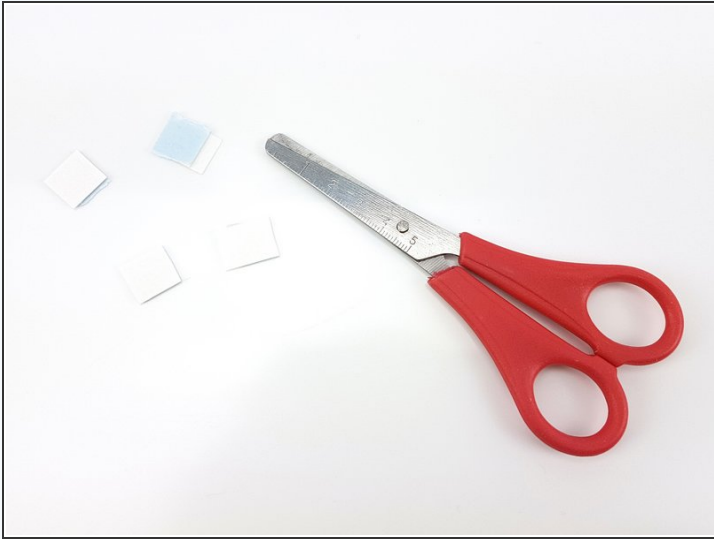
Sticky Pads

- Use a pair of scissors to **cut two of the sticky pads in half**, so you end up with 4 sticky squares.

- On the side of the micro:bit with the **LED array**, stick one of the sticky squares in each corner.
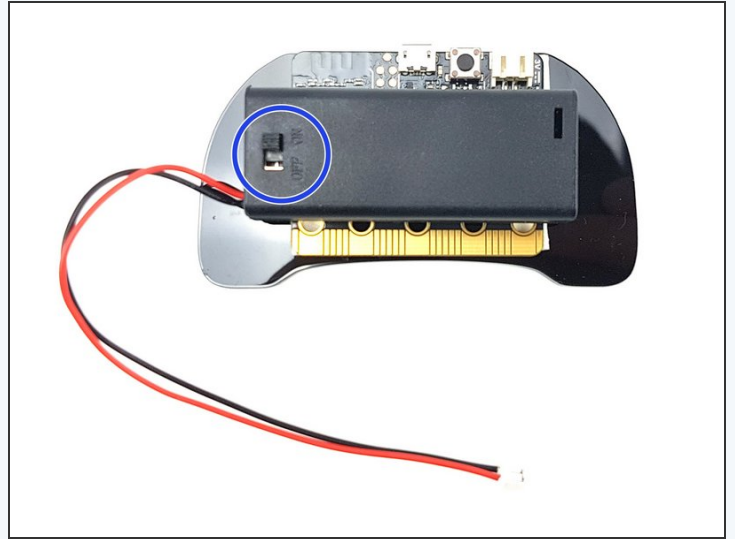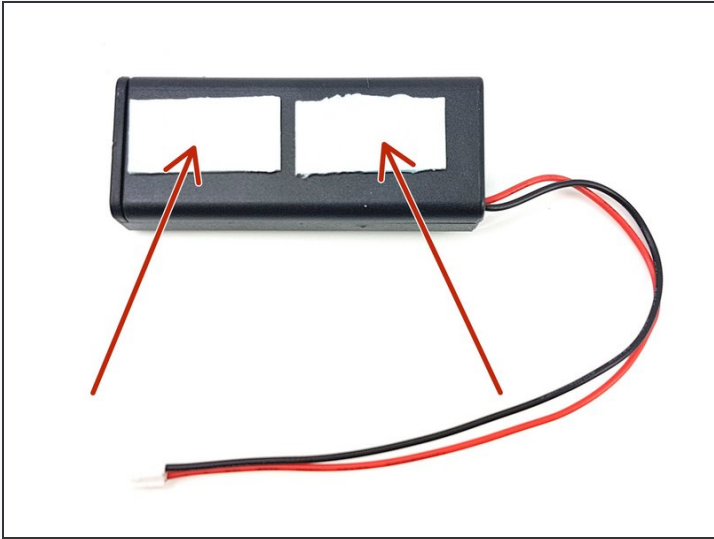
Attach the micro:bit

- Peel the packing off of the 4 sticky squares, and **stick the micro:bit onto the controller plate** as shown in the picture.

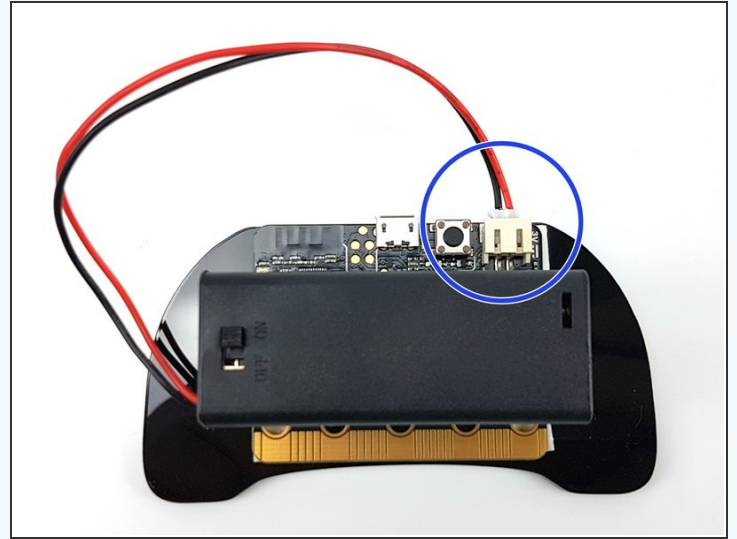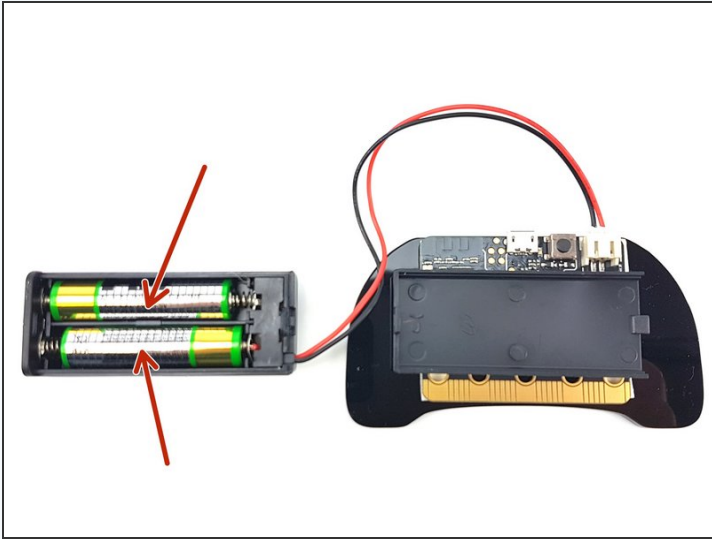This document was generated on 2021-12-30 11:38:50 PM (MST).

Battery Pack

- Take the other two sticky pads, and stick them onto the **back** of the battery pack **(the side without a switch)** as shown in the picture.

- Peel of the other side of the pads and stick the battery pack onto the back of the controller like the picture - **you should be able to see the switch.**
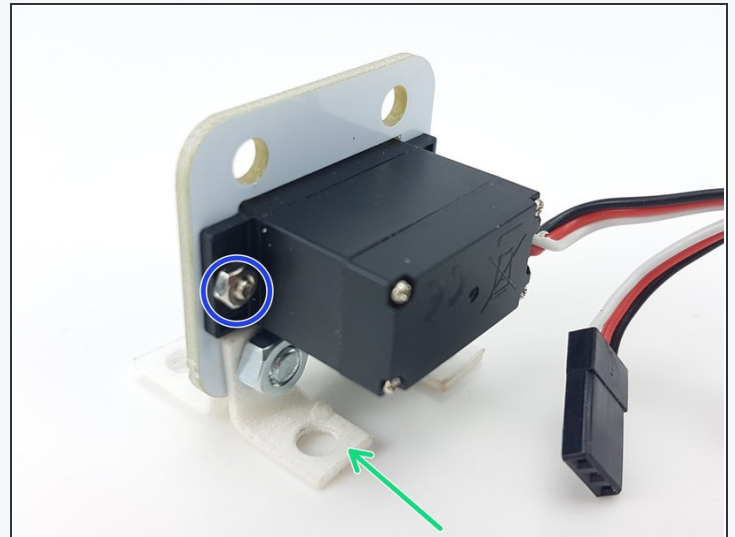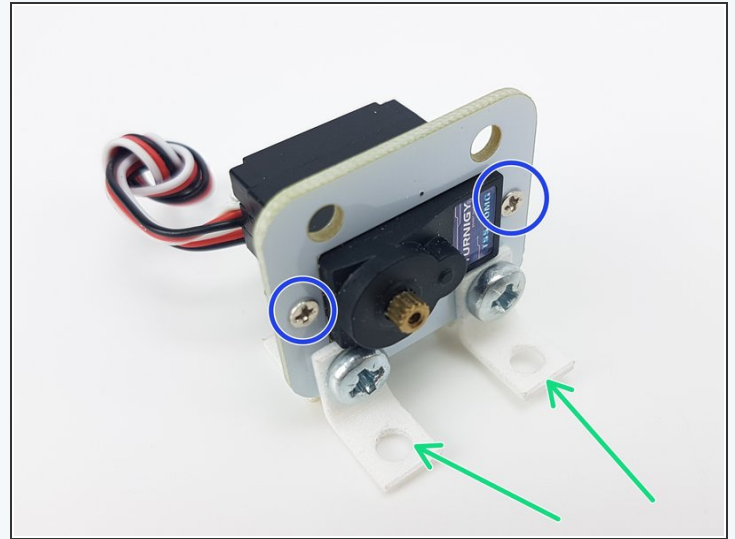
Batteries

- Slide the cover off of the battery pack and **insert the two batteries**.

- Finally, **plug the battery pack cable into the micro:bit** - the controller is now complete!

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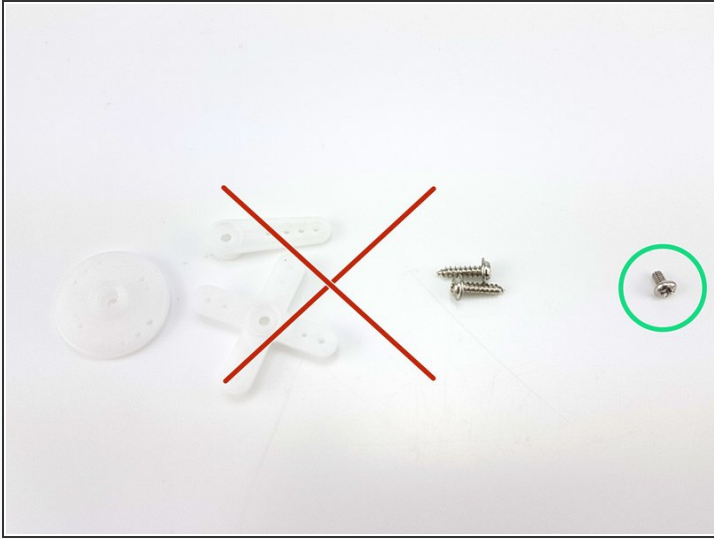
Build the Servo Module

- Now you need to **build the servo module** so we can use it with the construction kit.

- Take the pieces out of the **servo module kit bag** in your Robowars box - you should have all of the pieces in the picture.

- Using the two small nuts and bolts, carefully attach the servo to the PCB like in the pictures.

- Using **2 right angle brackets** from the construction kit, attach them to the bottom of the servo module like in the pictures. Then you can easily bolt it onto the baseboard.

- You can also use the 4, longer **spacers** to attach the servo module to your baseboard in different ways.
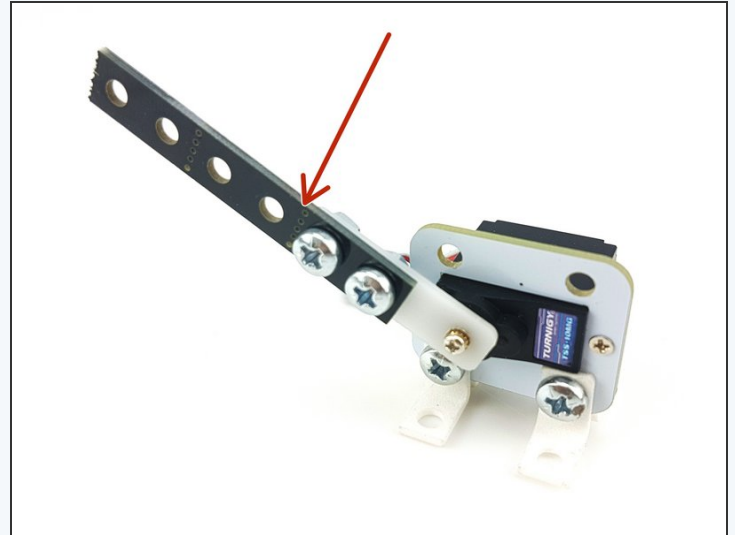
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Build the Servo Module

- Unpack the really small bag with white plastic and screws in, and find the **smallest screw** - we don't need the other parts.

- Push the **large, flat piece of white plastic** with 3 holes onto the servo, and use the tiny screw to hold it in place.

- All done! Now you can use the bolts and construction kit parts to attach anything you like to the servo, such as a piece of construction kit beam.

- (i) If you need to re-position the angle of the arm at any time, you can always remove the screw and put the white plastic piece on in a **different position.** Be careful not to lose the screw!

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Step 8

Plug it In

- You can use the servo on P0, P1, P2 or P8, using the black connector on the board.

⚠ You will need to remove the plastic **pin protector** before you can plug anything into the servo pins.

- There are 12 pins, and each servo wire uses 3 - so we can connect up to **4 servos!** Connect yours to **P0** like the picture - the black wire should line up with **GND** on the circuit board.

⚠ However you use the servo, make sure it hasn't got **lots of force pushing on it** in the up or down position. You will probably hear the servo **buzzing** all the time if this is the case - if you leave it like this for too long, it might **burn out** - it will also drain your battery!

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