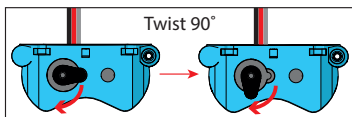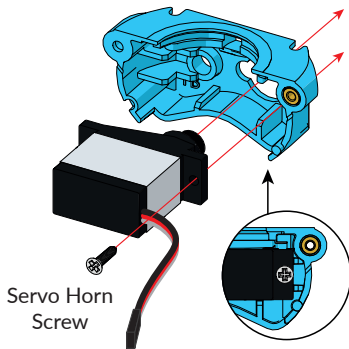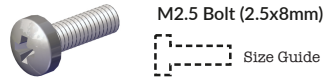# MARTY THE ROBOT

Build Guide

MARTY BUILD GUIDE

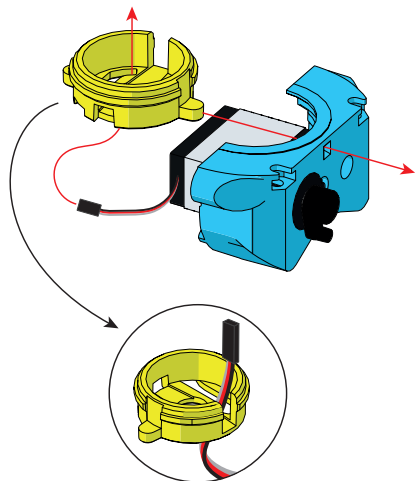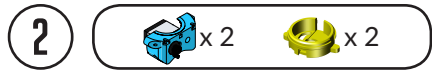Thank you for adopting a Marty! This guide will help you put your Marty together.

Make sure to:

- Do the steps in order.
- Pay attention to the part orientation.
- Be gentle with the motors.
- Not over-twist the servo horns.
- Not trap or squish the cables.
- Get help from an adult if your under 14.
- Have fun!

Top Tip: Go to *robotical.io/getstarted* for detailed written instructions.

M2.5 Bolt (2.5x8mm)
Size Guide

M2 Bolt (2x10mm)

Servo Horn Screw

M2.5 Nut (2.5mm)

M2 Nut (2mm)

---

① x 4   x 4   x 4

Servo Horn Screw

Twist 90°

Build 2 assemblies — x 2

---

② x 2   x 2

x 2
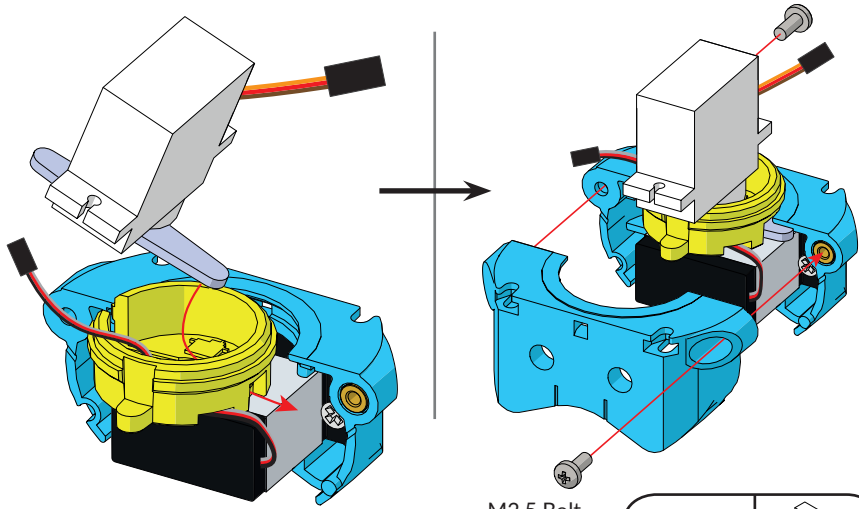
3 x 2 x 2 x 2 x 4

M2.5 Bolt

x 2

4 x 2 x 4 x 4

⚠ Be careful not to trap cables

x 2

5 x 2 x 2 x 4

x 2
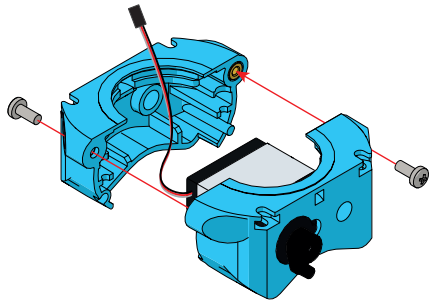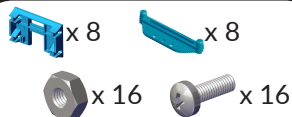
6

x 8   x 8

x 16   x 16

M2.5 Nut

M2.5 Bolt

x 8

7

x 2   x 2   x 2

x 2   x 4   x 4

x 2

8

x 2   x 2

x 2   x 4   x 4

x 2

9

x 2   x 2

x 2
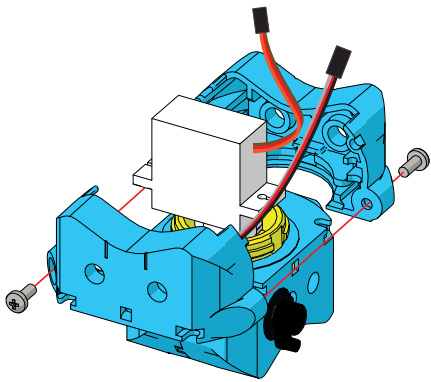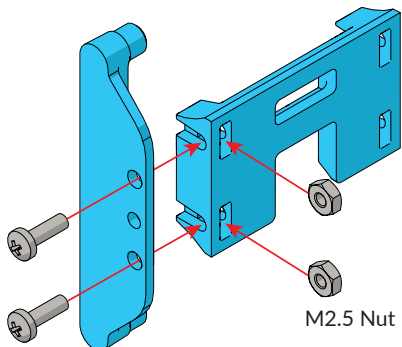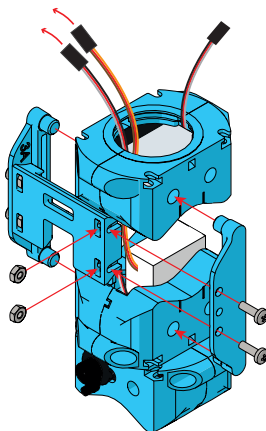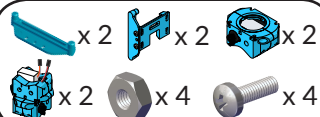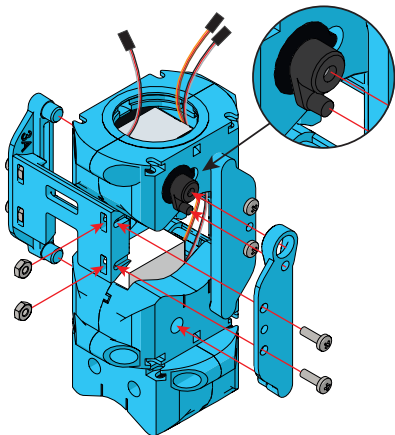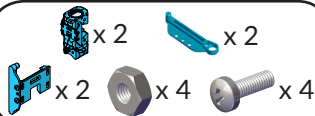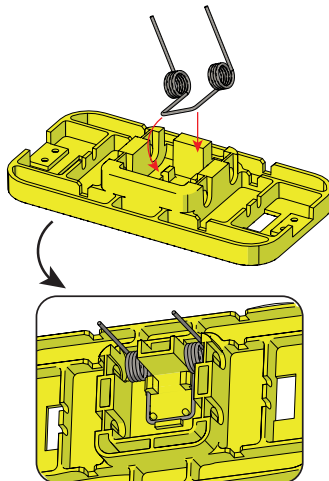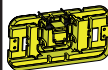
Step 10

x 2 x 2 x 2 x 2 x 4 x 4
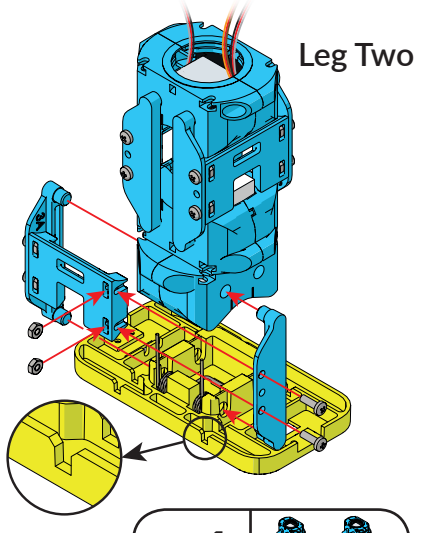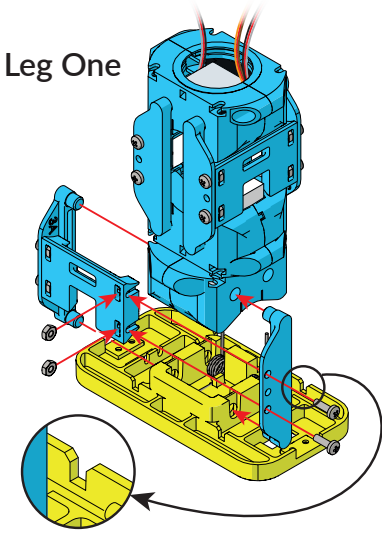
Leg One

Leg Two

⚠ Rotate foot 180° from Leg One to Leg Two

x 1

Step 11

x 1 x 1 x 2 x 2 x 4 x 4

Leg Two
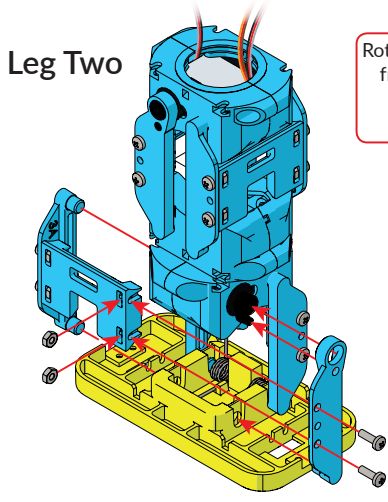
Rotate view 180° from Step 10

Leg One

x 1

12

x 2   x 2
x 4   x 4

M2 Nut

M2 Bolt

x 2

13

x 2   x 2
x 2   x 2

Servo Horn
Screw

x 2

14

x 2   x 2   x 2
x 2   x 2   x 4

⚠️
**Position Arm
straight down**

M2.5 Nut

M2.5 Bolt

x 2

15

x 1   x 1

x 1

(16) x 1
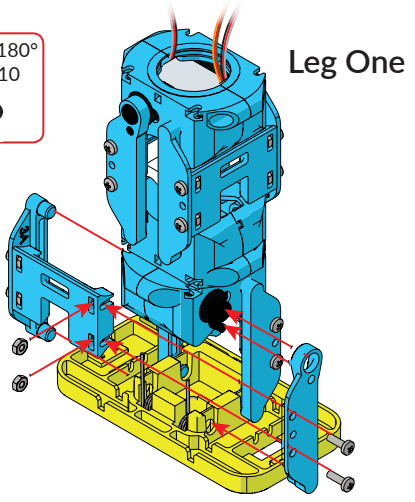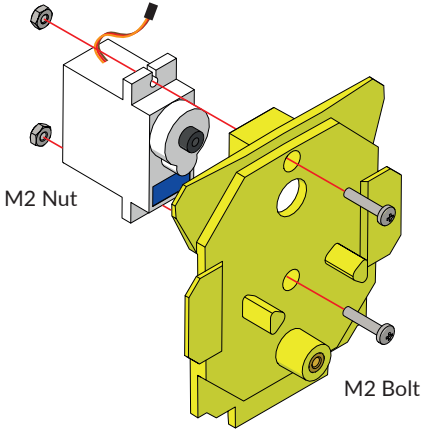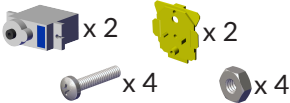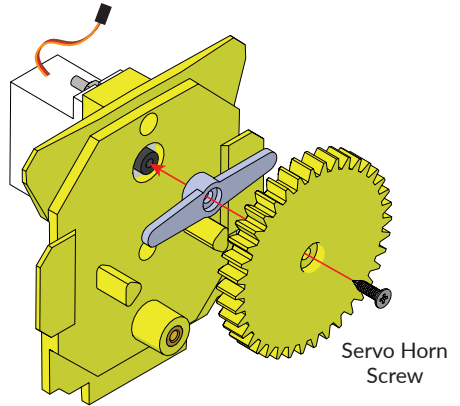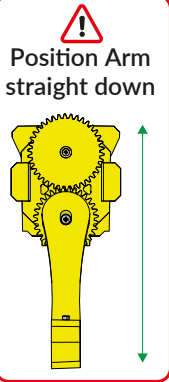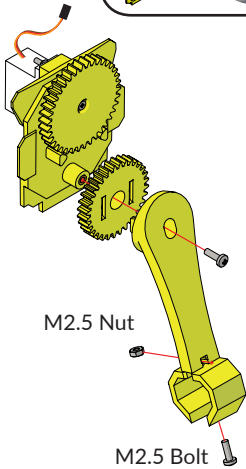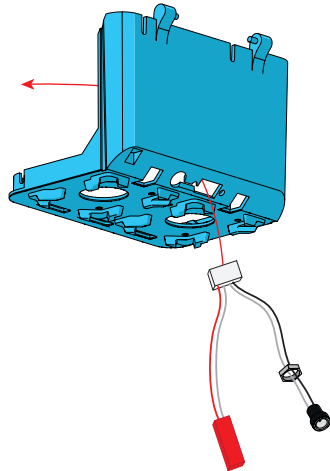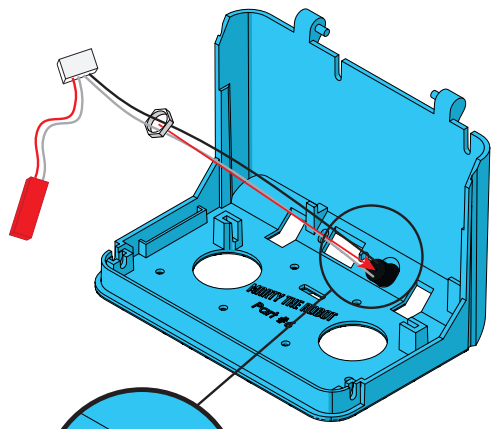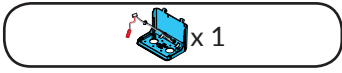
Push onto thread
and finger tighten

x 1

(17) x 1   x 1   x 2   x 2

M2.5 Nut

M2.5 Bolt

x 1

18

x 1 x 1 x 1
x 1 x 1

M2.5 Nut

M2.5 Bolt

x 1

19

x 1 x 1 x 1 x 1
x 2 x 2 x 1

M2 Nut

⚠️

Eyebrows and servo horn should be parallel to the top of the head

Servo Horn Screw

M2 Bolt

x 1
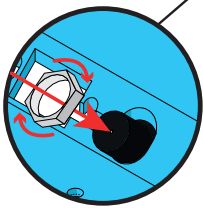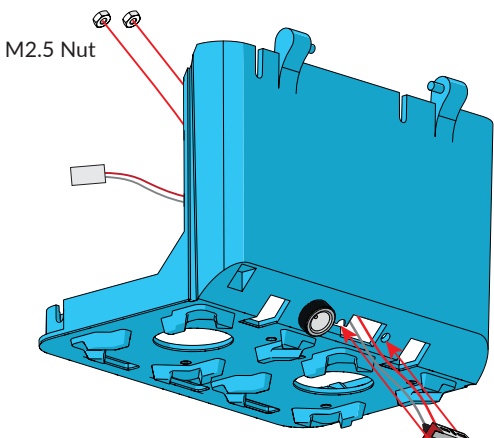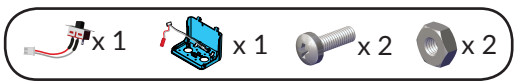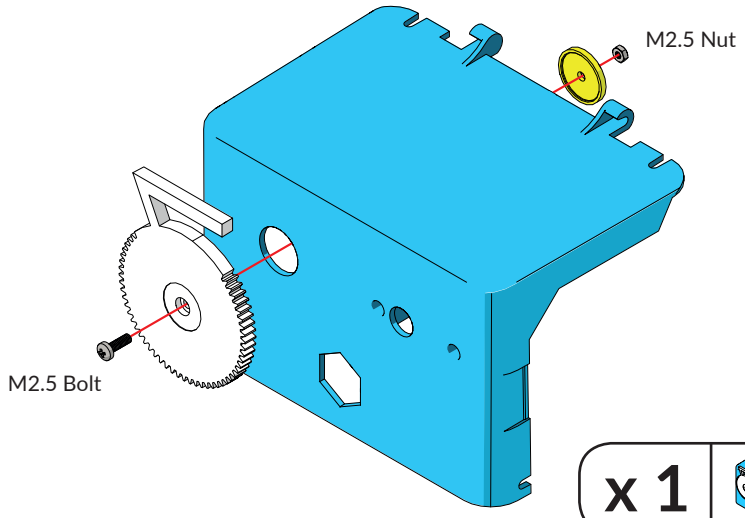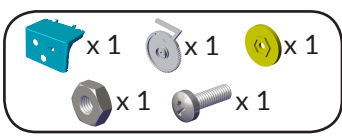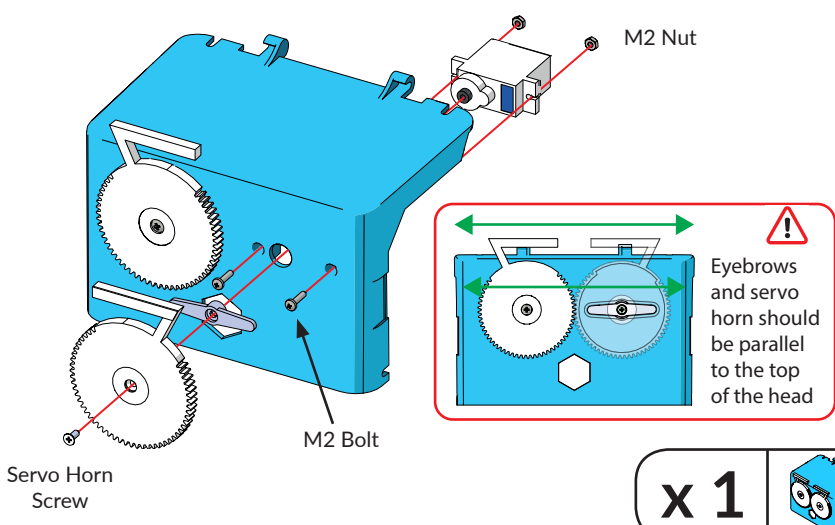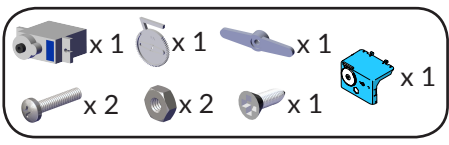
HAVE YOU GOT ALL YOUR ASSEMBLIES?

Check that you have assembled all 6 parts of Marty. You should have:
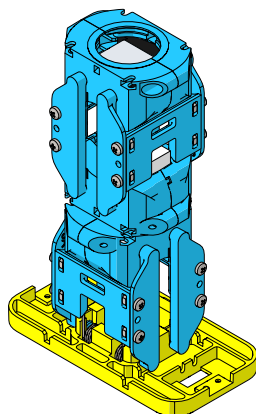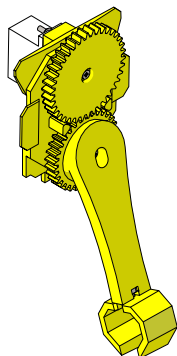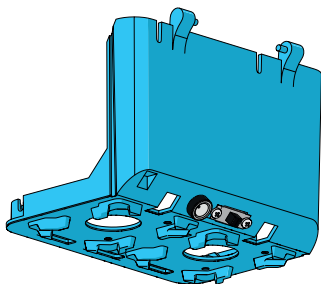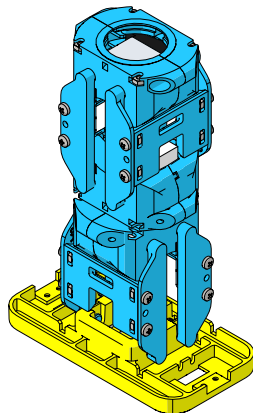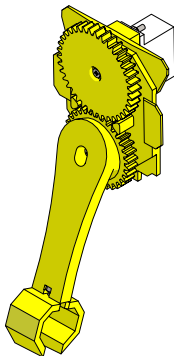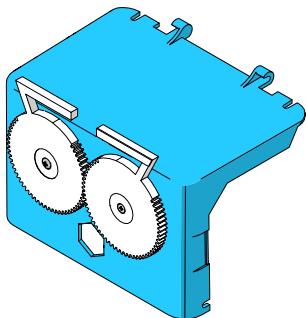
If in doubt, go to *robotical.io/getstarted* for detailed written instructions and support.

CHECK YOUR LEG ASSEMBLY

Check that you have assembled both of Marty's legs correctly and they resemble the image below.

Servo cables coming out the top

Hip Servos facing same direction

No servo cables visible

No servo horn visible

Foot notches and springs in the middle
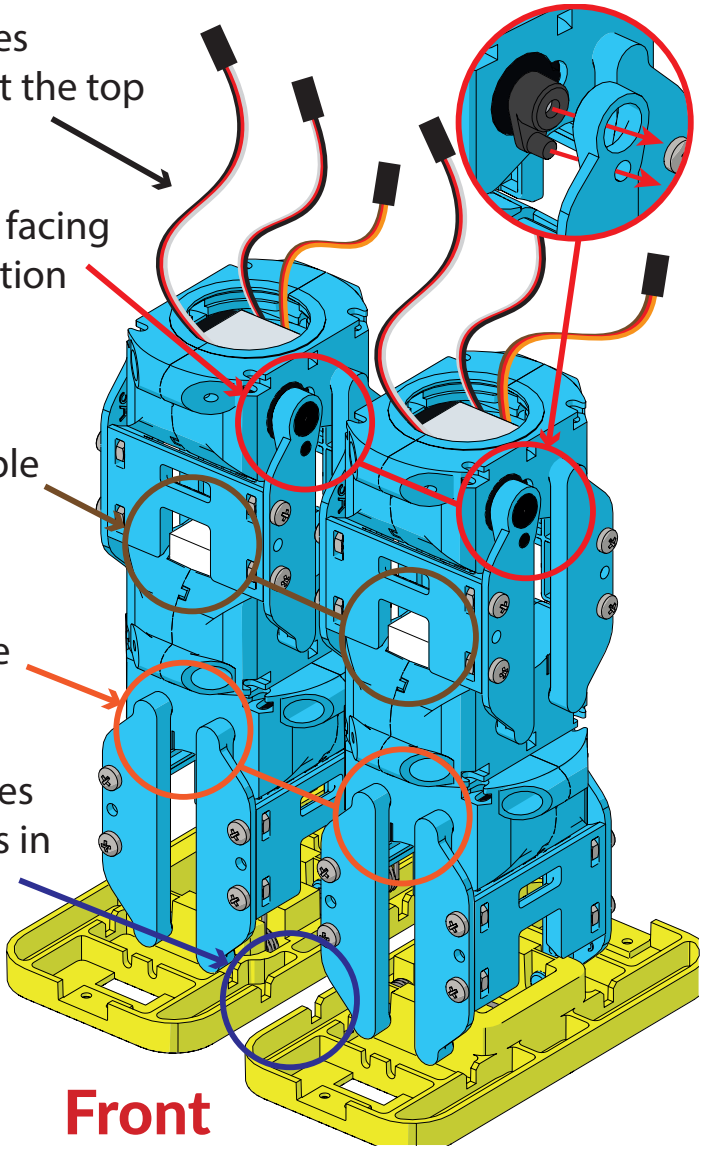
Front

x 1   x 1   x 2   x 8   x 8

Back

Front

M2.5 Nut

M2.5 Bolt
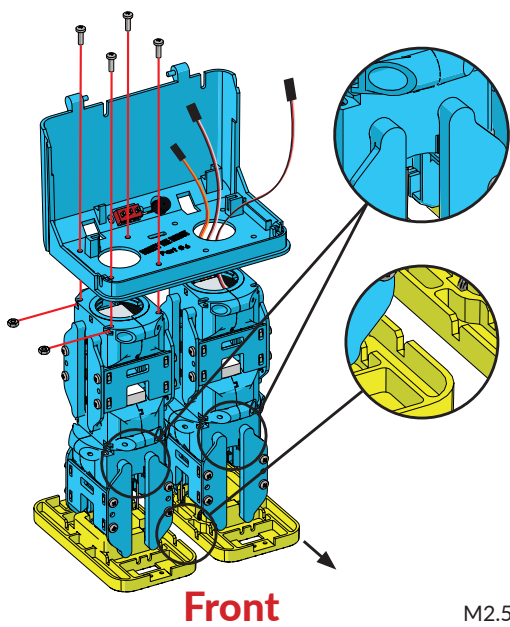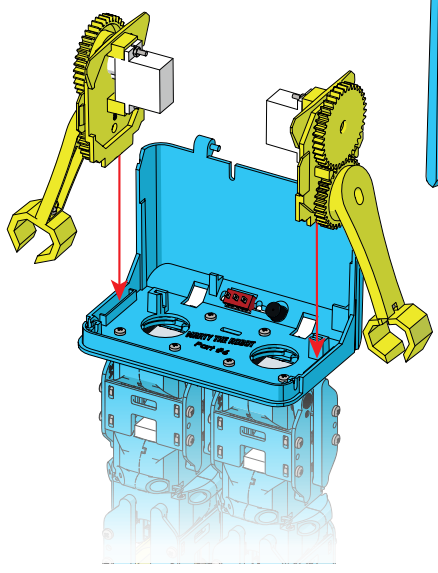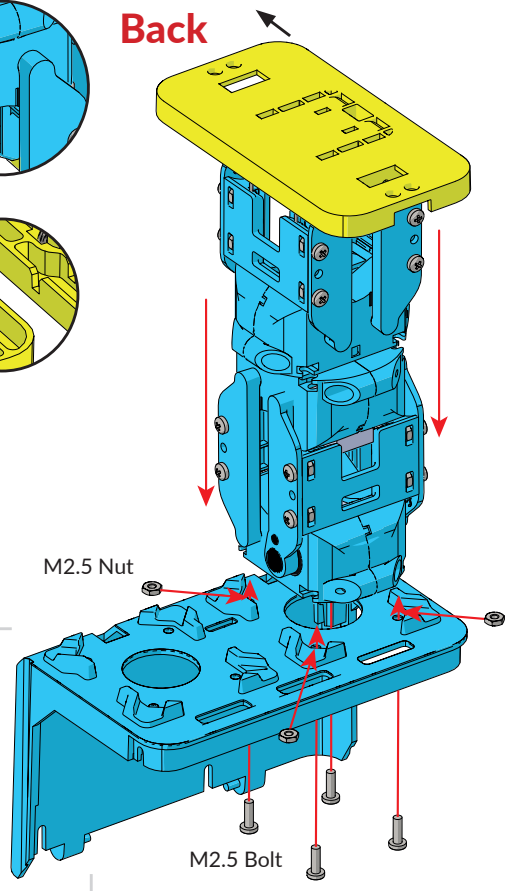
⚠️
Legs must be the
correct way round.
Double check this
using the page
to the left and
graphics above.

21 x 1 Sticker Sheet x 1

Attach the head and servo stickers: attach the numbered stickers to the black servo connectors and clip the two head parts together.

Eye **(8)**

Right Arm **(7)**

Right Knee **(5)**

Left Arm **(6)**

Left Knee **(2)**

Right Leg Twist **(4)**

Left Leg Twist **(1)**

Right Hip **(3)**
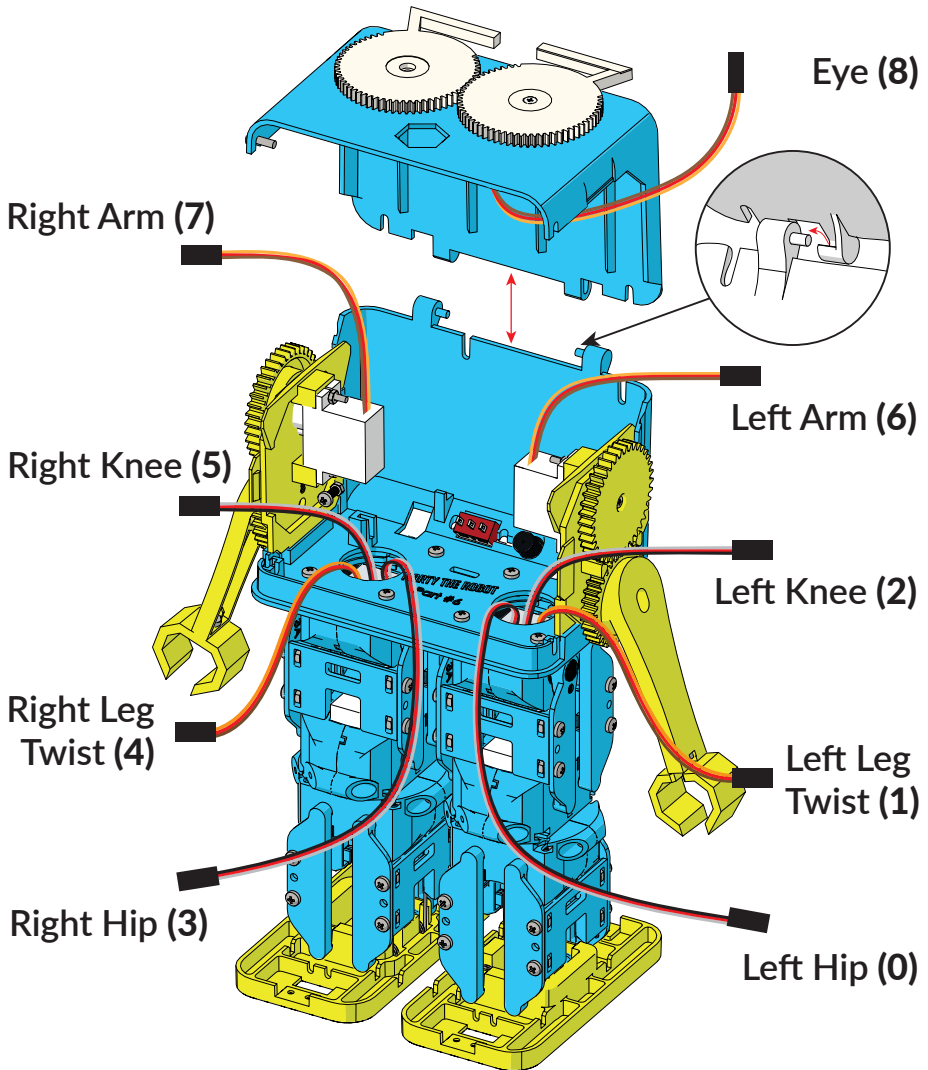
Left Hip **(0)**

Top Tip: the knee/hip servo cables (white & black) will be different lengths if gently pulled straight, the shorter cable is the Knee cable.

22 x 1

Plug in the Servos: pay attention to the orientation and colour of the cables.

White = Top
Red = Middle
Black = Bottom

or

Orange = Top
Red = Middle
Brown = Bottom
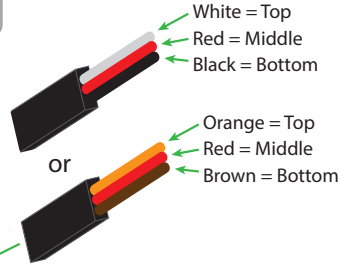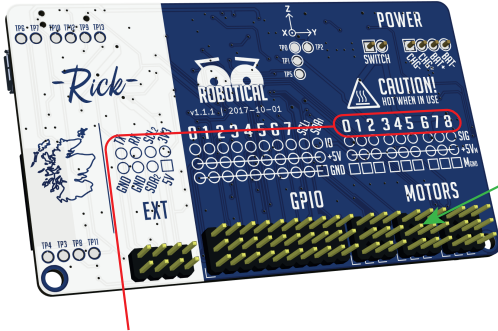
0 = LEFT HIP

1 = LEFT LEG TWIST

2 = LEFT KNEE

3 = RIGHT HIP

4 = RIGHT LEG TWIST

5 = RIGHT KNEE

6 = LEFT ARM

7 = RIGHT ARM

8 = EYE
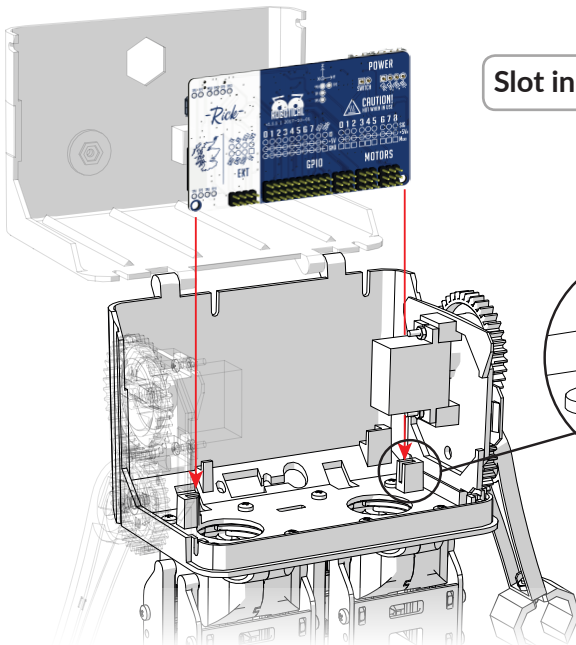
Slot in the control board

23 🔋 x 1
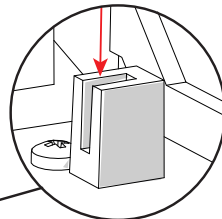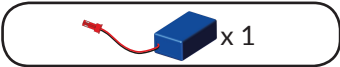
Attach the Battery, ON/OFF Cable and Power Cable:
read the Saftey Warnings on the back of your Parts Guide.

WIFI Activity - Blue
Status - Orange
Power (ON) - White
Charging - Blue

ROBOTICAL
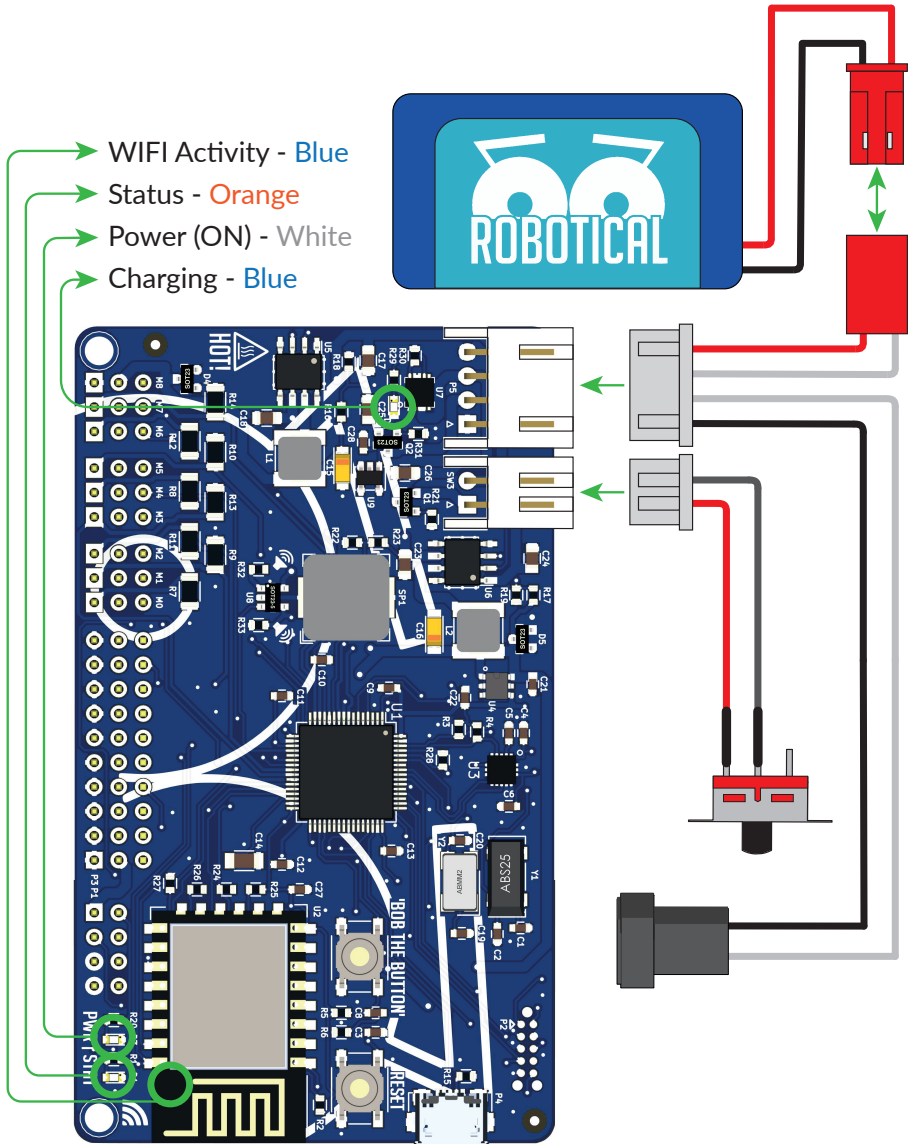
Check the image below - make sure you have all the cables connected and in the correct place.

Place battery securely behind the control board
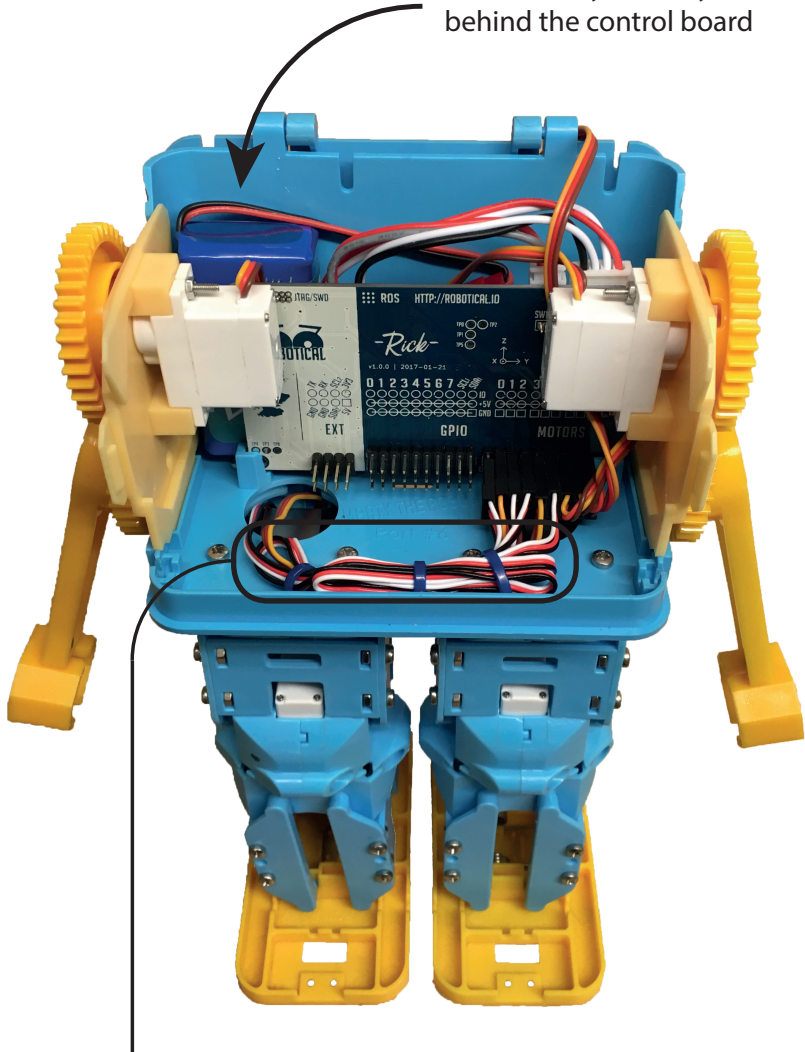
Optional - Tidy Marty's cables: using the cable ties provided in your Marty kit, strap the cables down to the base of Marty's head.

(24) 🔩 x 2   🔩 x 2

Lock Marty's head: using two nuts and bolts, lock Marty's head to keep all the electronics secure.

M2.5 Bolt

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(25) 🖼️ x 1 Sticker Sheet
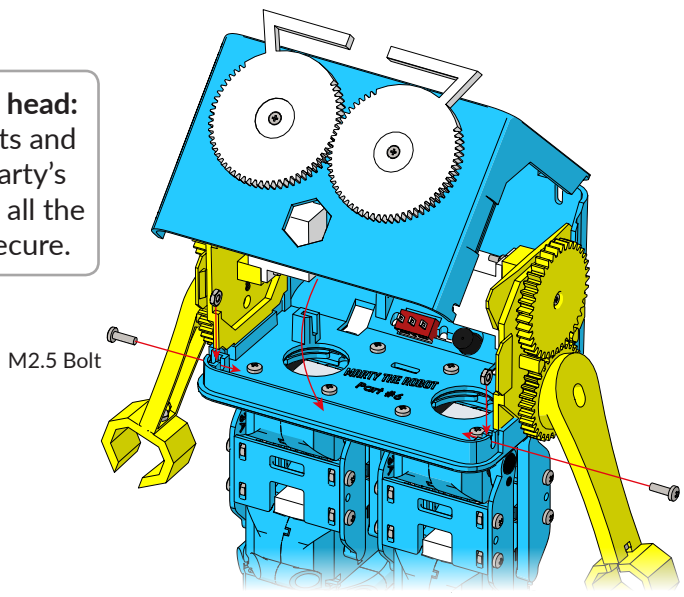
Personalise your Marty!
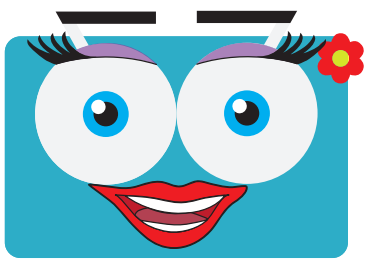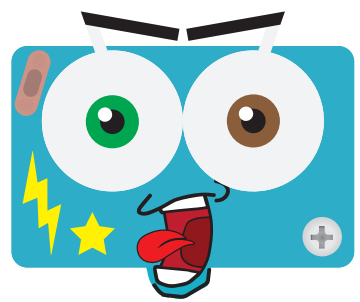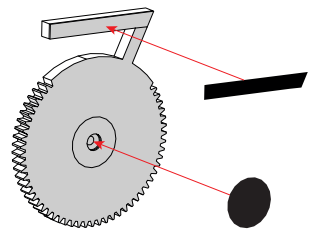
NEXT STEPS!

You have now finished building your Marty!
To get your Marty up and running go to:

robotical.io/setupmarty
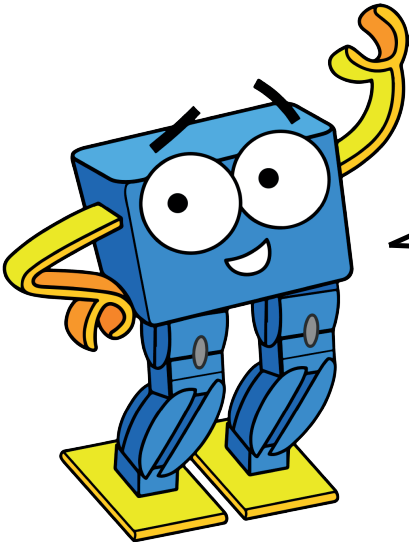
Great job!

PLAY MARTY FOOTBALL

Remove the lid insert from your Marty packaging and try to score a goal. You can even introduce a second Marty and play against each other!
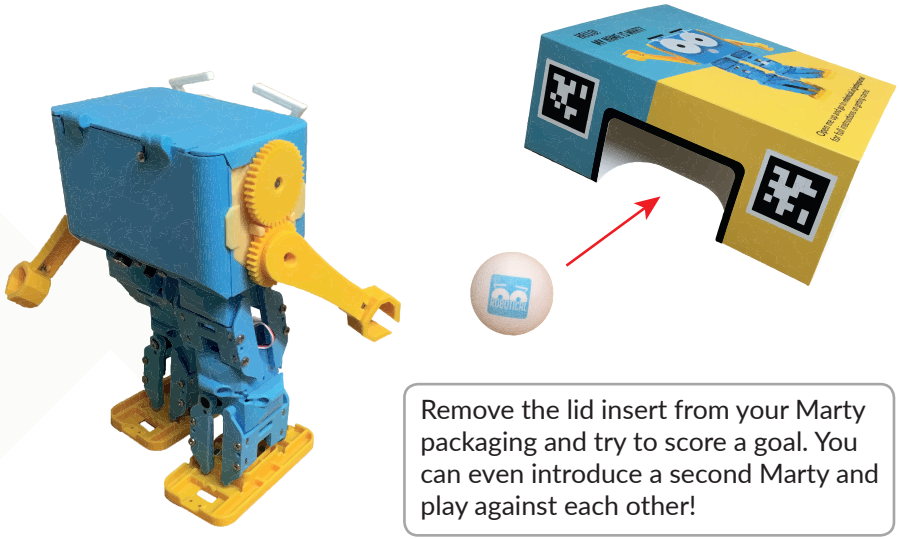
CONNECT A RASPBERRY PI – OPTIONAL

Raspberry Pi is not included in a standard Marty Kit

Rick
(Marty's Brain)
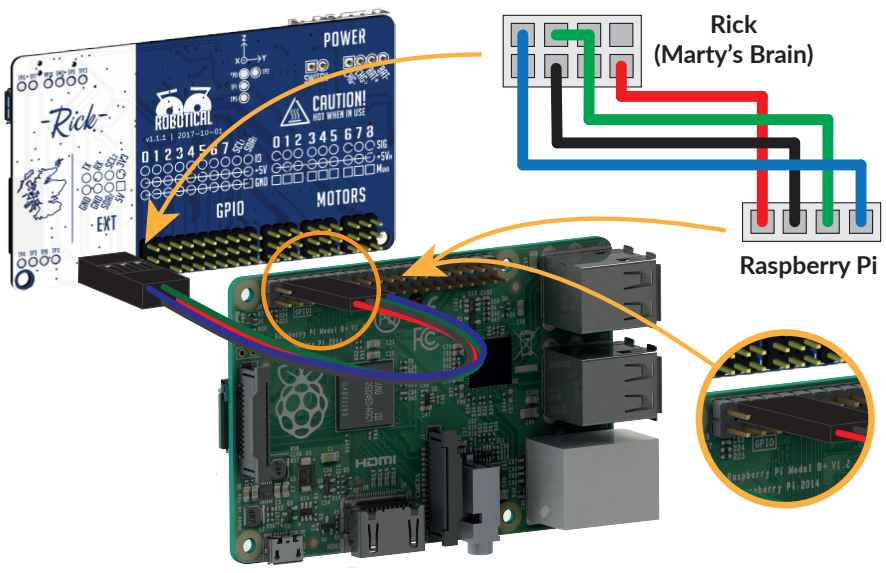
Raspberry Pi

Connect a Raspberry Pi with the cable provided in your Marty pack.

PROGRAMMING MARTY

Use and interact with Marty on multiple platforms, with several different programming languages. Go to *robotical.io/getstarted* for support on the following:

|	
Scratch	The simplest way to begin programming your Marty. Combine blocks to build a program to get your Marty up and about.
python™	Python is a more advanced programming language you can use to control Marty and develop more complex programs.
JS JavaScript	You can use Javascript on a webpage to communicate with Marty over a websocket using the JavaScript API.
RaspberryPi	With a Raspberry Pi you can expand your Marty's functionality through the addition of advanced sensors and tools.
ROS	ROS, the Robot Operating System is an amazing set of advanced robotics tools used by industry and academia.
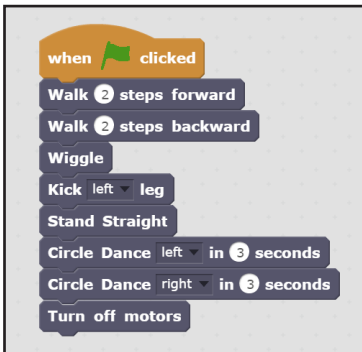
Scratch
(Beginner)
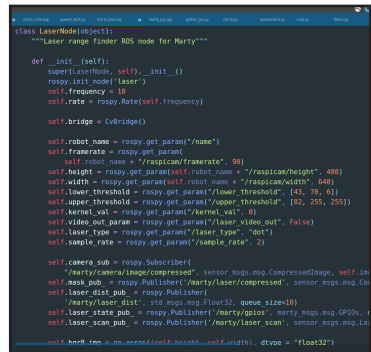
python™
(Intermediate)
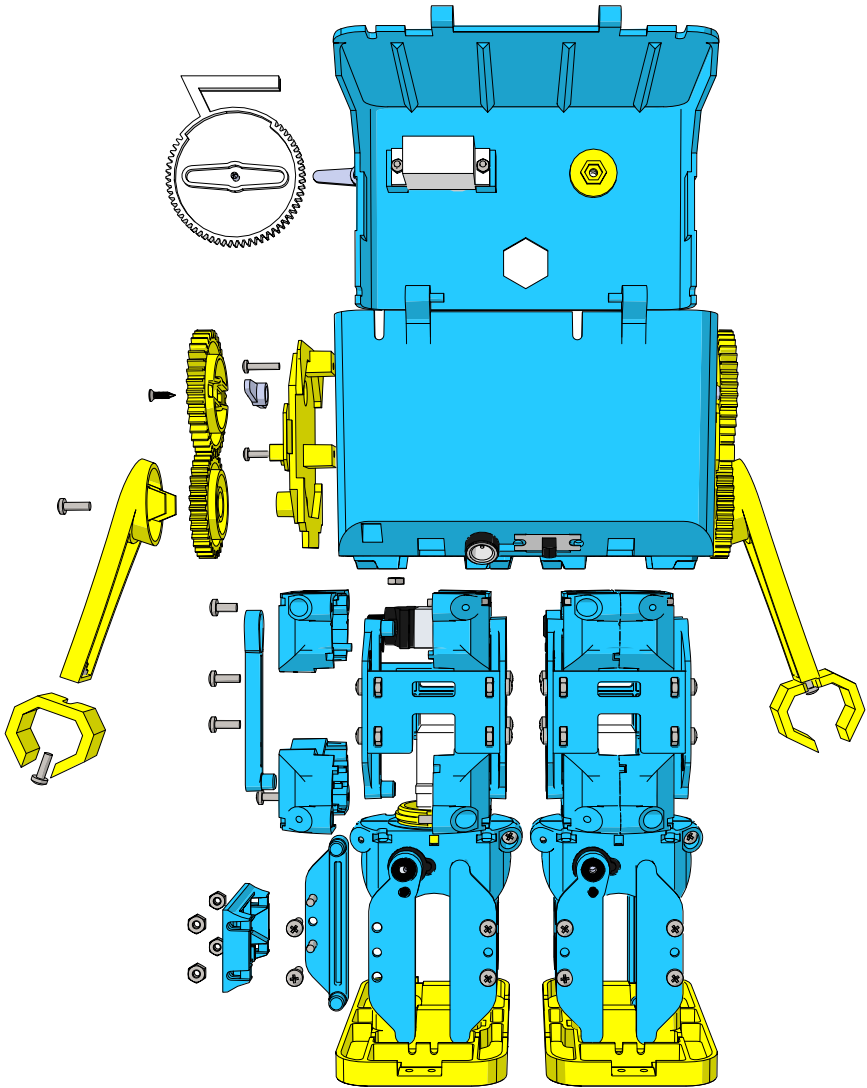
For further help see:

robotical.io/gettingstarted

robotical.io/support