

MARTY THE ROBOT

— Build Guide —

MARTY THE ROBOT - BUILD GUIDE

This guide will help you put your Marty the Robot together.

Top Tips

- Get help from an adult if you're under 14.
- Check you have all the parts.
- Do the steps in order.
- Pay attention to the part orientation.
- Be gentle with the motors.
- Don't trap or squish the cables.
- Have fun!



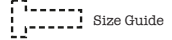
Watch video clips for extra help

Top Tip: Go to robotical.io/getstarted for extra help including videos & support.

A



M2.5 Bolt (2.5x8mm)



B



M2 Bolt (2x10mm)



C



Servo Horn Screw



D



M2.5 Nut (2.5mm)



E



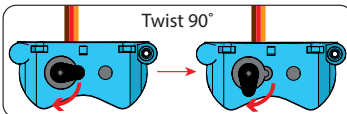
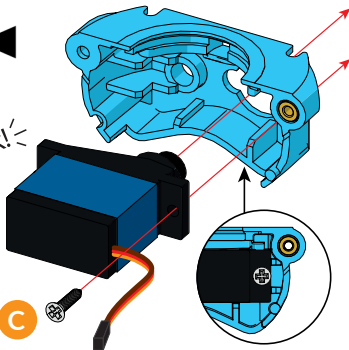
M2 Nut (2mm)



1



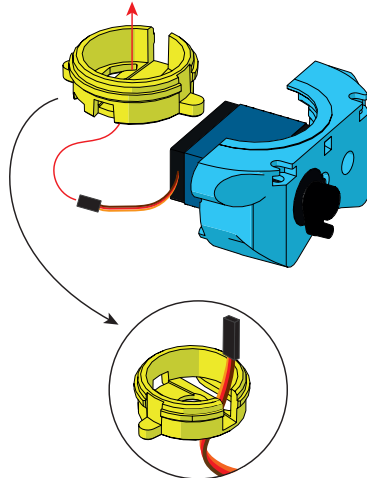
Click!



Build X 4



2

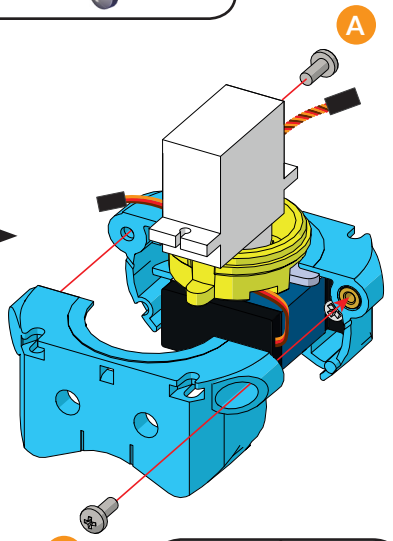
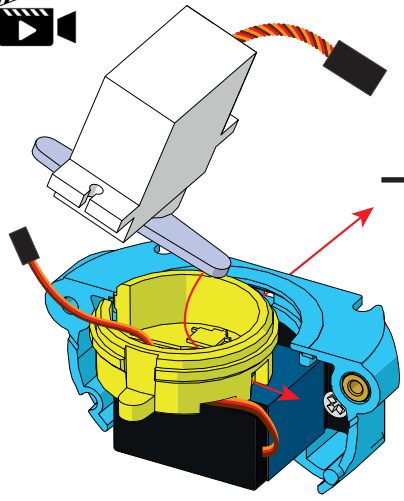


x 2




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

-  x 2
-  x 2
-  x 2
-  x 4




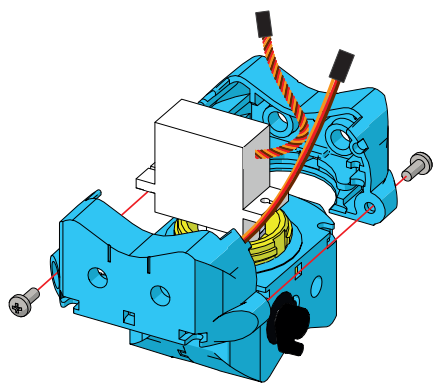
A

- x 2
- 

4




-  x 2
-  x 4
-  x 4

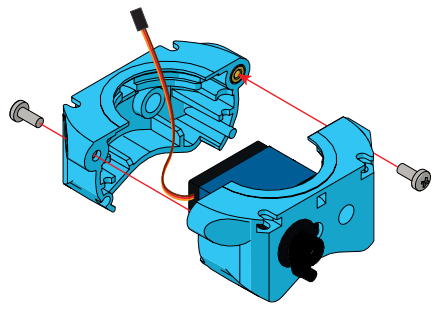
 Do not trap cables



- x 2
- 

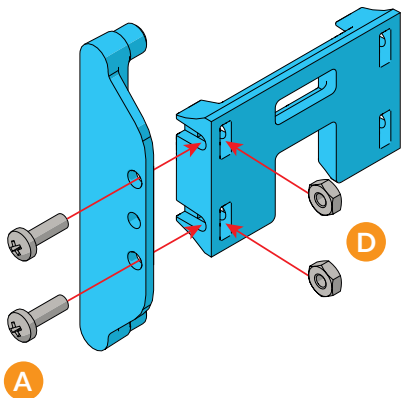
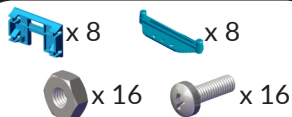
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-  x 2
-  x 2
-  x 4



- x 2
- 

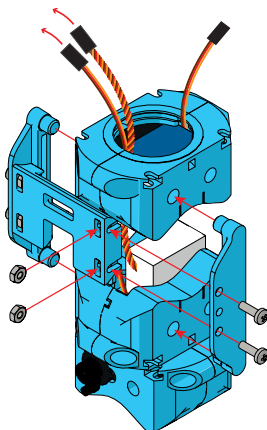
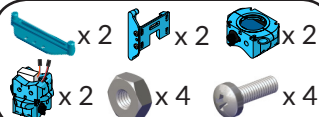
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x 8



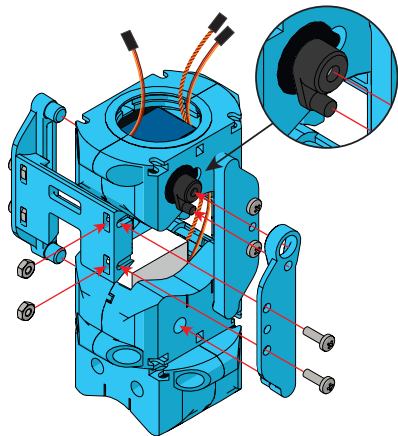
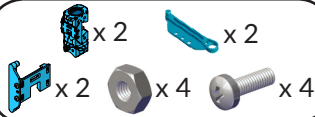
7



x 2



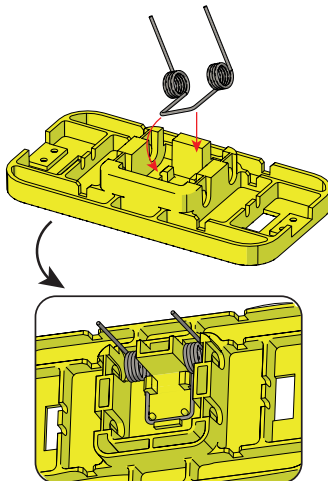
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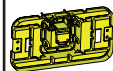
x 2









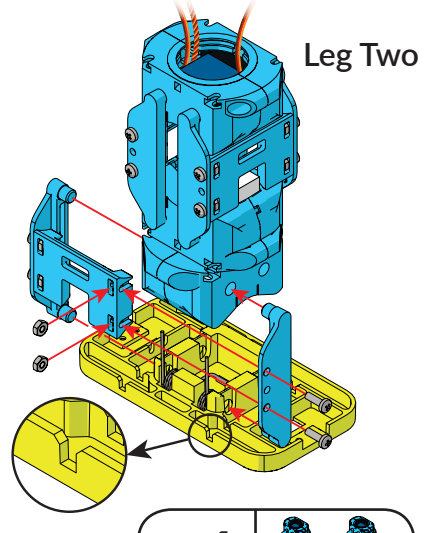
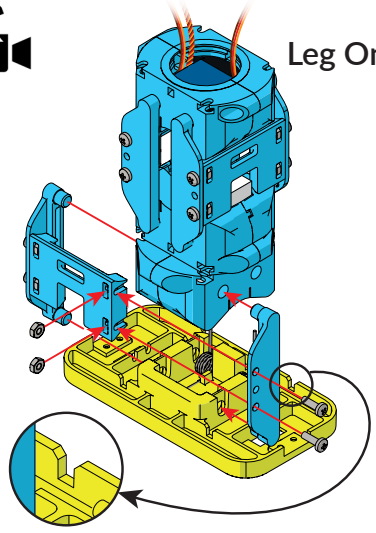
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

x 2









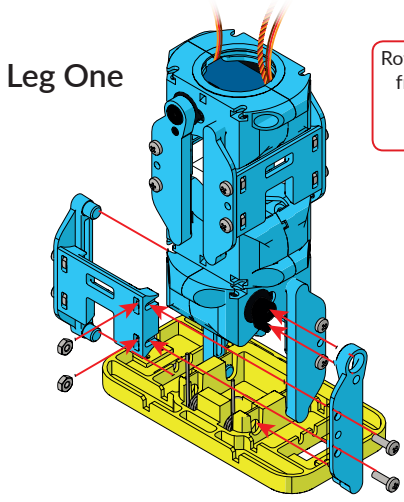
- 10  x 2  x 2  x 2  x 2  x 4  x 4



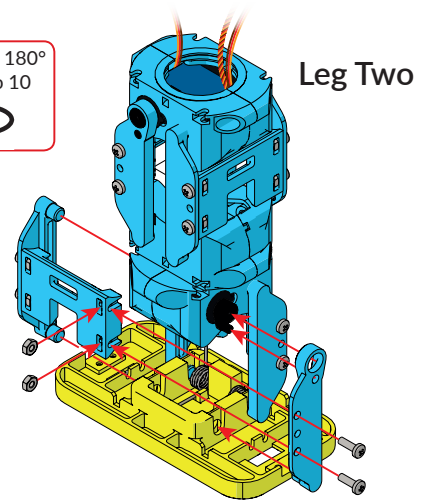
 Rotate foot 180° from Leg One to Leg Two



- x 1  

- 11  x 1  x 1  x 2  x 2  x 4  x 4



Rotate legs 180°
from Step 10

- x 1  

CHECK YOUR LEG ASSEMBLY



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

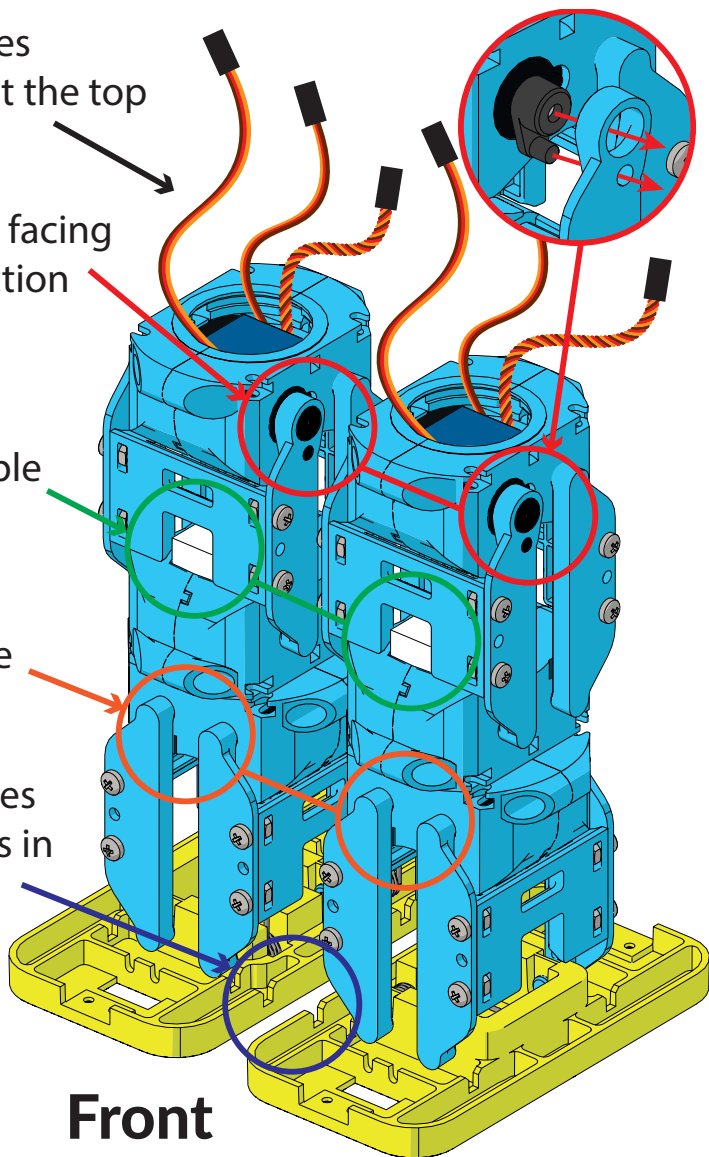
Servo cables coming out the top

Hip Servos facing same direction

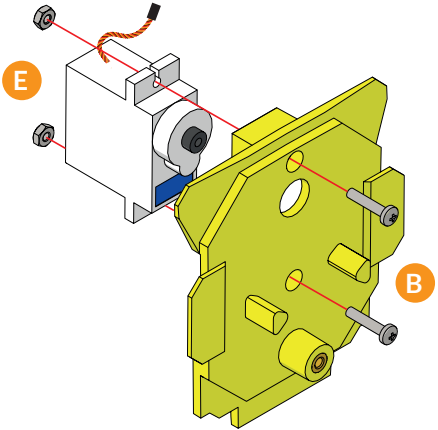
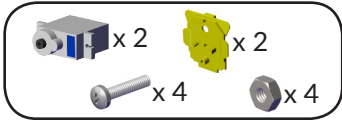
No servo cables visible

No servo horn visible

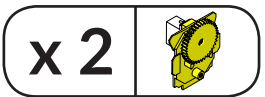
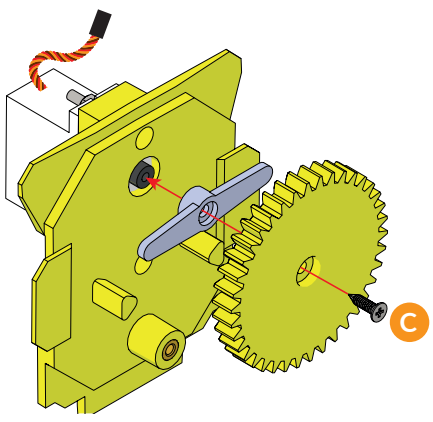
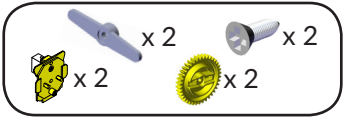
Foot notches and springs in the middle



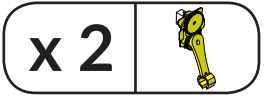
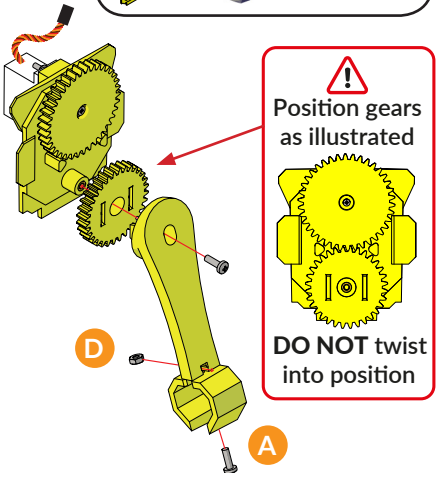
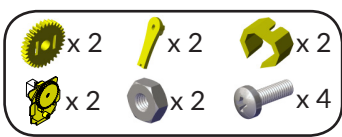
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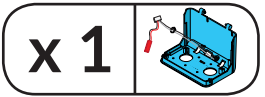
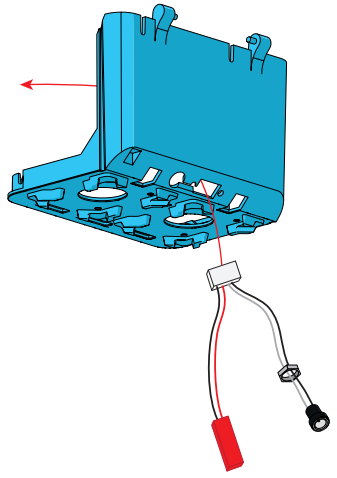
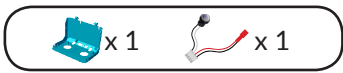
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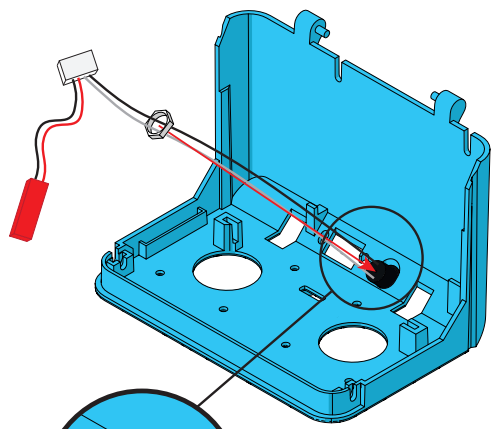
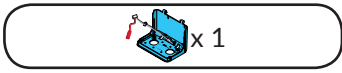
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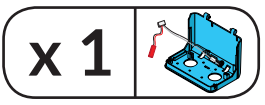
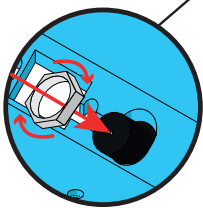
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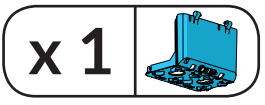
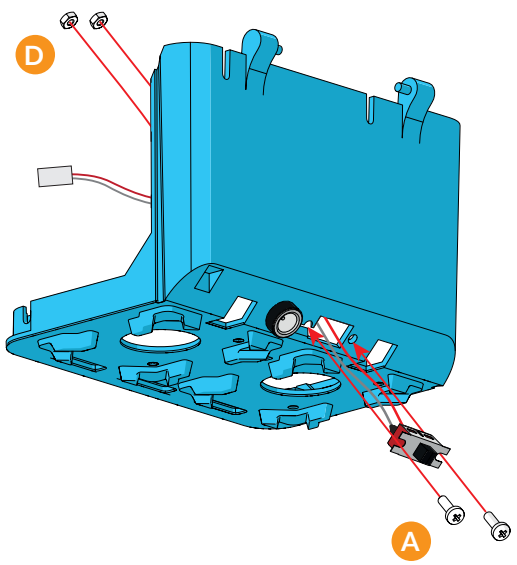
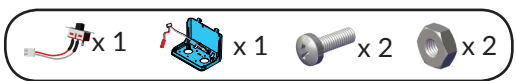
16








Push onto thread and finger tighten

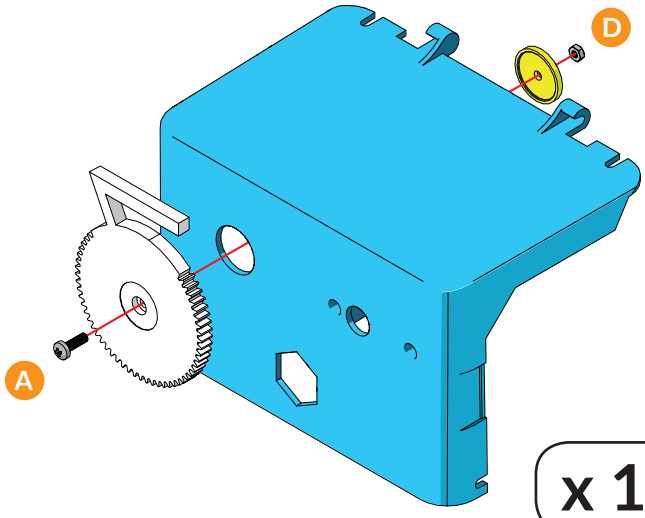



17










18

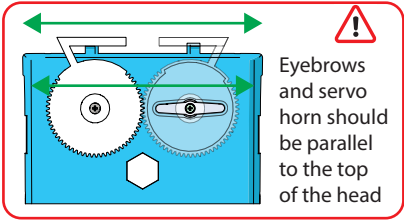
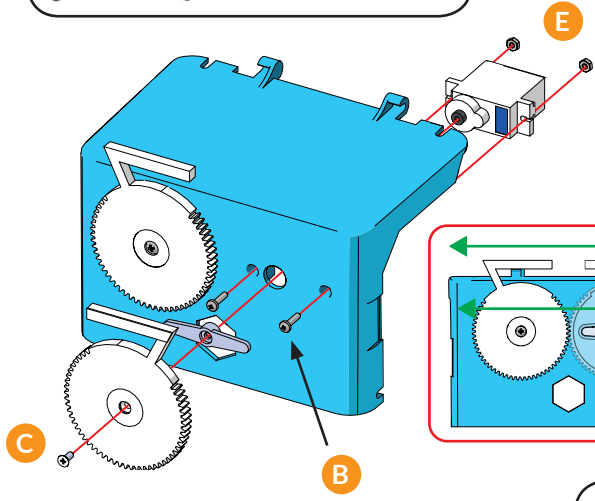
-  x 1
-  x 1
-  x 1
-  x 1
-  x 1




x 1 

19

-  x 1
-  x 1
-  x 1
-  x 1
-  x 2
-  x 2
-  x 1

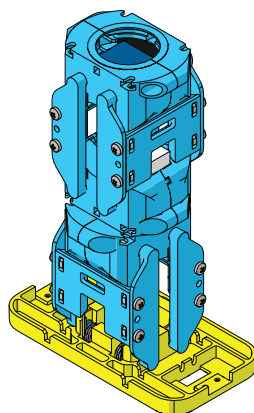
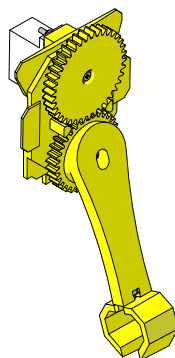
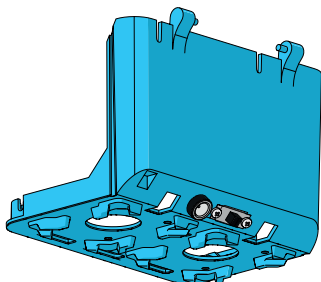
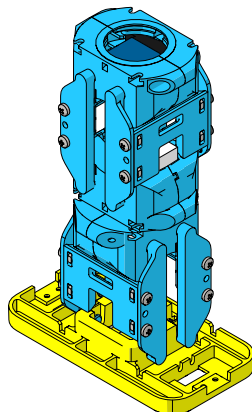
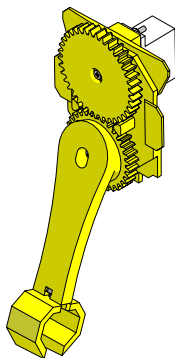
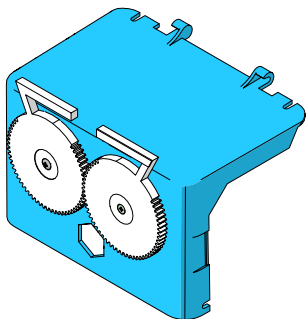


x 1 









HAVE YOU GOT ALL YOUR ASSEMBLIES?

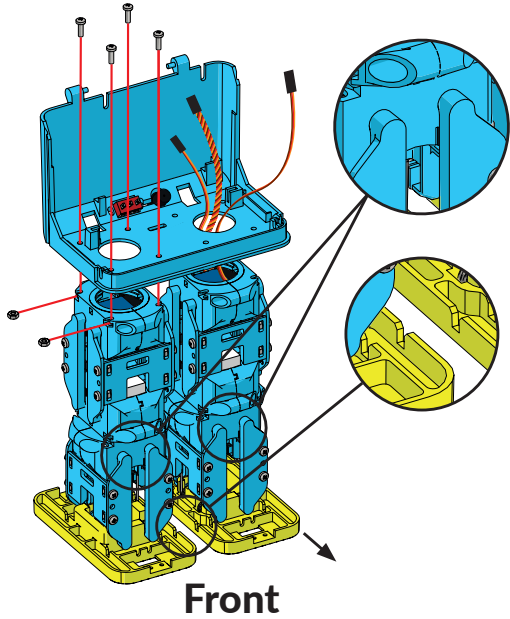
Check that you have assembled all 6 parts of Marty.
You should have:



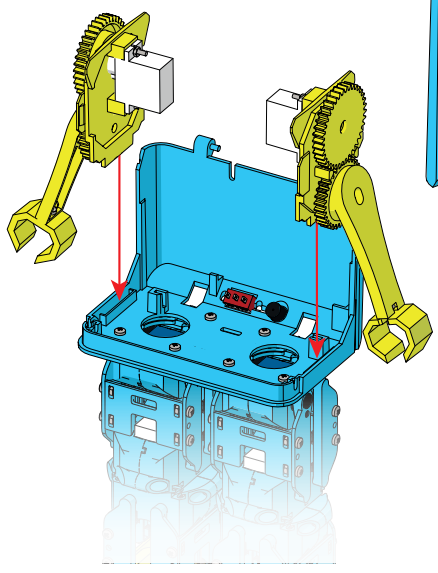
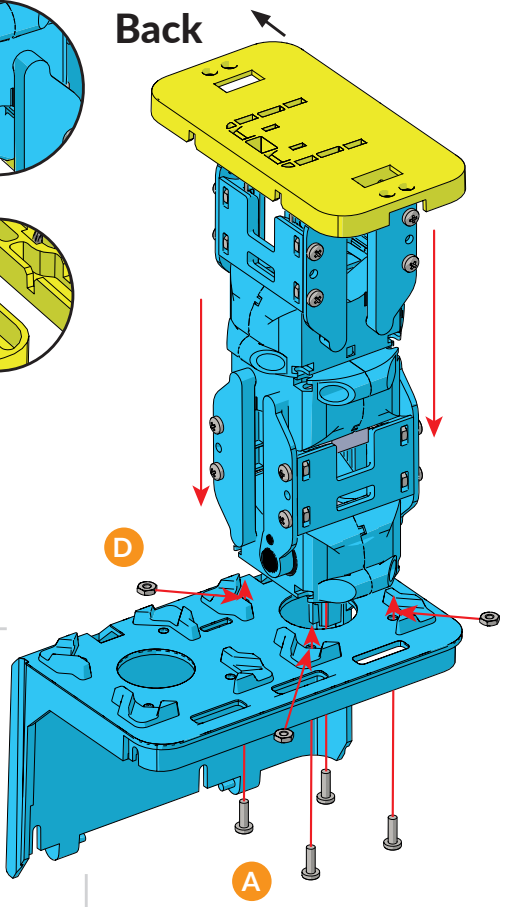
If in doubt, go to robotical.io/getstarted for extra help including videos & support.


20

-  x 1
-  x 1
-  x 1
-  x 2
-  x 8
-  x 8



Back



 Legs must be the correct way round. Double check this using the graphics above.

21



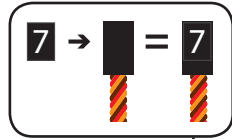
x 1 Sticker Sheet



x 1



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



Right Arm (7)

Eye (8)

Right Knee (5)

Left Arm (6)

Left Knee (2)

Right Leg
Twist (4)Left Leg
Twist (1)

Right Hip (3)

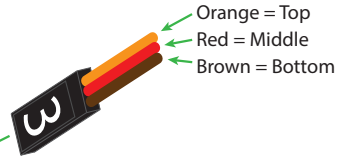
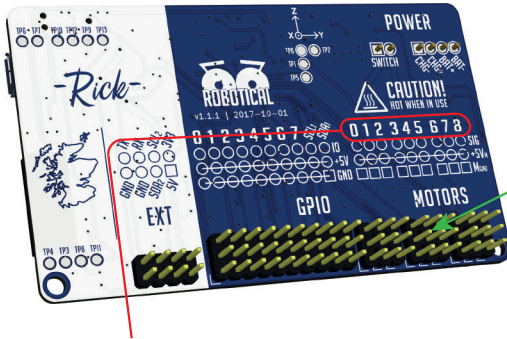
Left Hip (0)

Top Tip: the Knee & Hip Servo cables (not twisted) will be different lengths if gently pulled straight, the shorter cable is the knee cable.

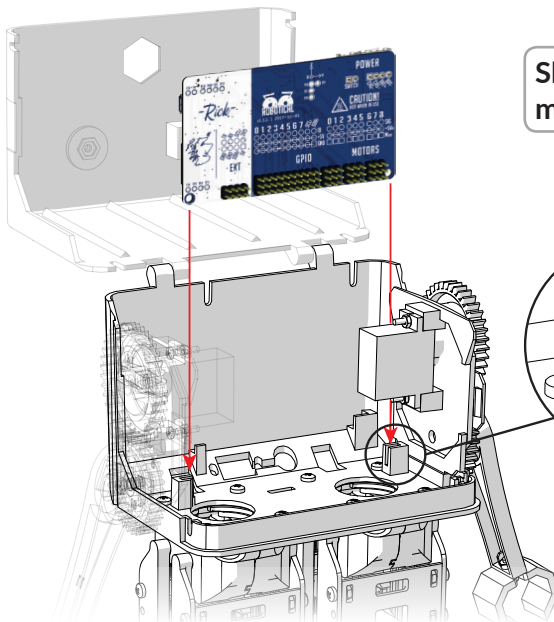
22



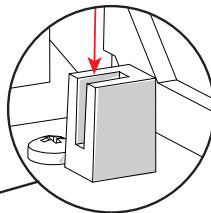
Plug in the servo motors: pay attention to the orientation of the cables.

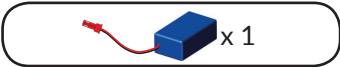


- 0 = LEFT HIP
- 3 = RIGHT HIP
- 6 = LEFT ARM
- 1 = LEFT LEG TWIST
- 4 = RIGHT LEG TWIST
- 7 = RIGHT ARM
- 2 = LEFT KNEE
- 5 = RIGHT KNEE
- 8 = EYE

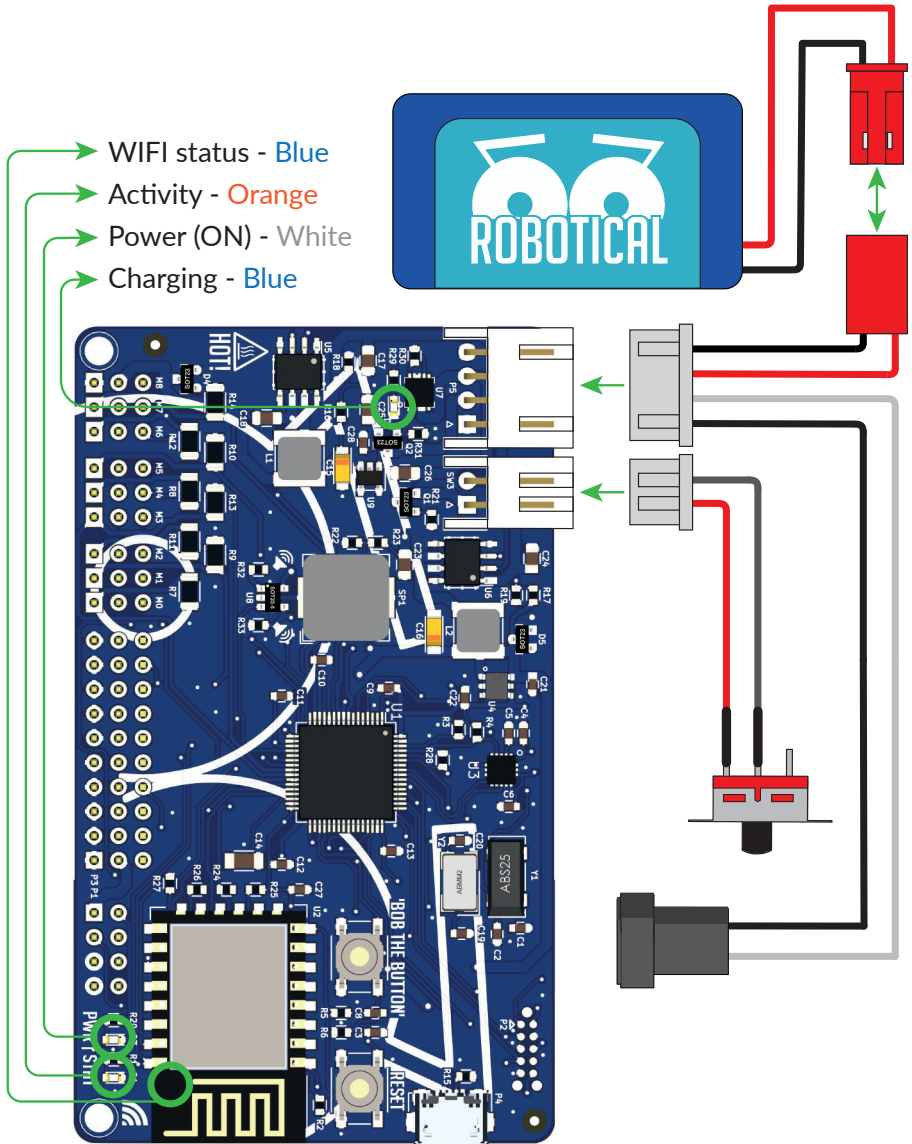


Slot Rick into the mounting points



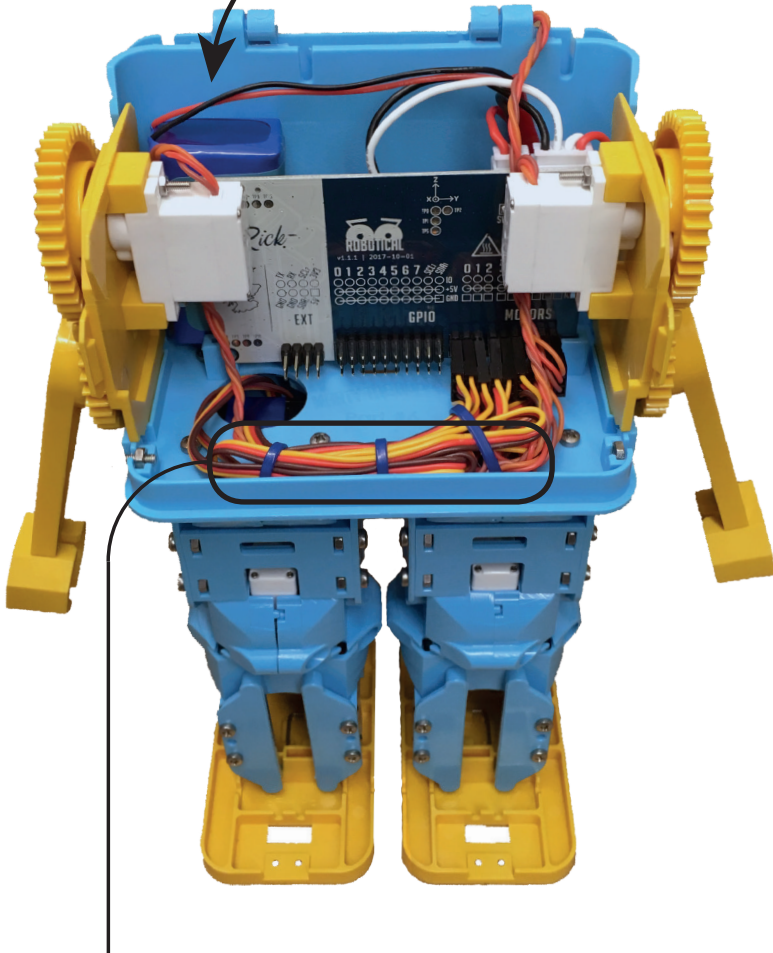


Connect the Battery, ON/OFF Cable and Power Cable:
read the Safety Warnings on the back of your Parts Guide.



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

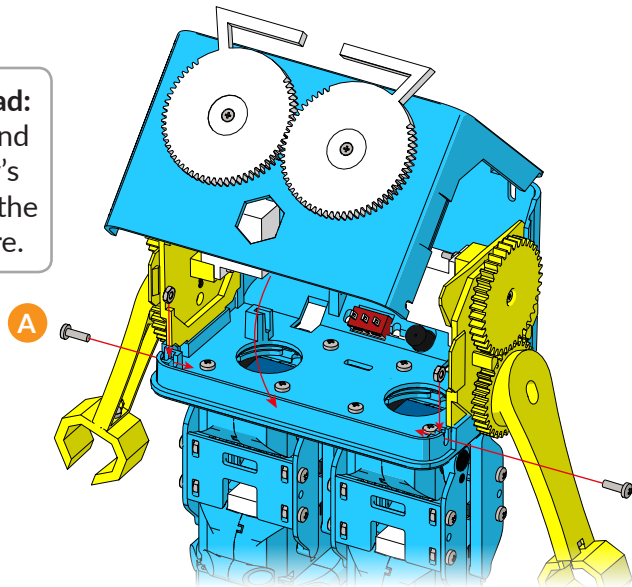


x 2



x 2

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

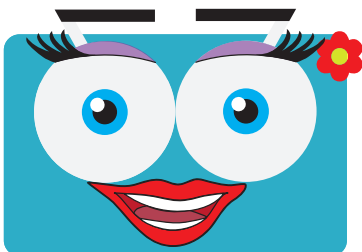
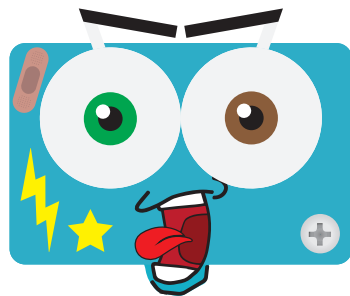
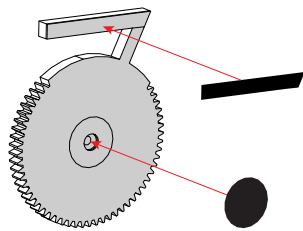


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x 1 Sticker Sheet

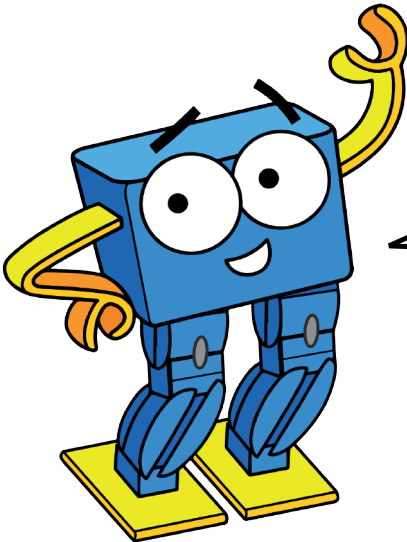
Personalise your Marty!



NEXT STEPS!

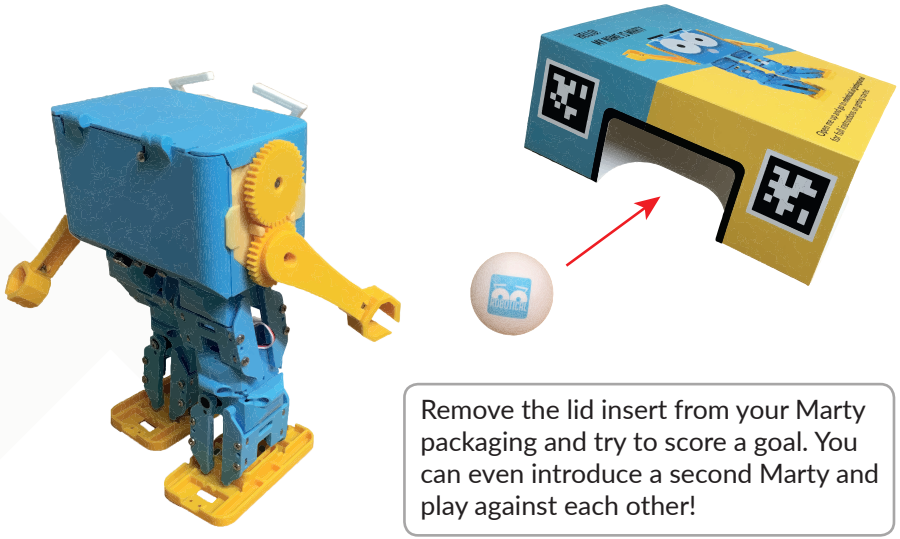
You have now finished building your Marty!
To get your Marty up and running go to:

robotical.io/setupmarty



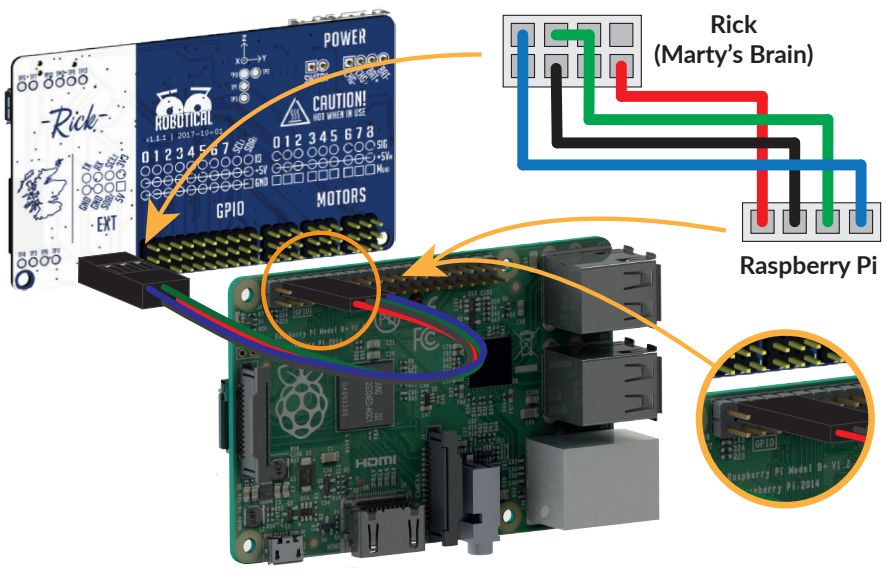
**Great
job!**

PLAY MARTY FOOTBALL



CONNECT A RASPBERRY PI - OPTIONAL

Raspberry Pi is not included in a standard Marty Kit



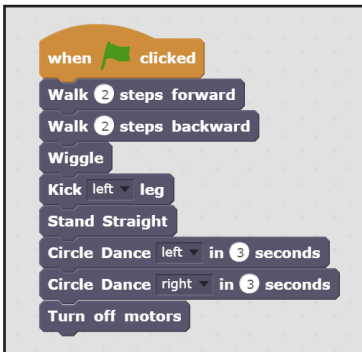
Connect a Raspberry Pi with the cable provided in your Marty Kit.

Raspberry Pi is a trademark of the Raspberry Pi Foundation

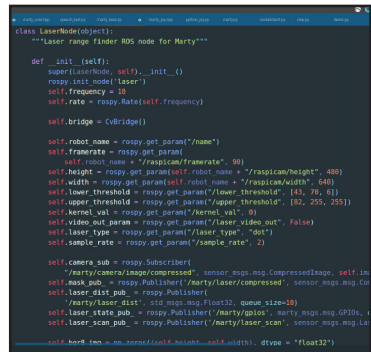
PROGRAMMING MARTY

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

<h2>Scratch</h2>	The simplest way to begin programming your Marty. Combine blocks to build a program to get your Marty up and about.
	Python is a more advanced programming language you can use to control Marty and develop more complex programs.
	You can use Javascript on a webpage to communicate with Marty over a websocket using the JavaScript API.
<h2>Raspberry Pi</h2>	With a Raspberry Pi you can expand your Marty's functionality through the addition of advanced sensors and tools.
	ROS, the Robot Operating System is an amazing set of advanced robotics tools used by industry and academia.



Scratch
(Beginner)



python™
(Intermediate)

