

SYNTHIAM

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The Robot Program Episode 008: Building Six

This lesson will demonstrate how to build the Revolution Six robot. Follow along with The Robot Program Episode 008: Building Six. At the end of this lesson, the reader will have learned how to download the EZ-Builder software, where to access the step-by-step building instructions, how to Clipâ€™™ Play the EZ-Bit robot components, and how to secure the connections to the EZ-B Robot Controller for fully building Six.

View the video episode here: <https://www.ez-robot.com/Tutorials/Lesson/62>

Last Updated: 5/29/2018

Professor E's Overview

This episode demonstrated how to build the **Revolution Six** robot.

The **EZ-Builder** software can be downloaded from www.ez-robot.com.

Always start with a fully charged robot. Remember to disconnect the wires carefully.

Within the software, follow along with the step-by-step building instructions.

The robot components are called **EZ-Bits**. Each **EZ-Bit** connects to the **EZ-B Robot Controller** using male-to-female connections at the back of the robot. The port layout can be viewed in the **Getting Started Guide**. Be sure to match the wire colors to the corresponding port colors.

Adjust the cables so that they are coming out of the back of each **EZ-Bit**, which will make the connections easier to organize. Use **Wire Wraps** to clean up the cables into bundled sections, allowing the robot to have full range of motion. Check that the cables are not pinched by the **Hexapod Dome** and that the robot is evenly balanced.



Step 1

Download **EZ-Builder** from www.ez-robot.com.

The screenshot shows a web browser window displaying the EZ-Builder for Windows download page. The browser's address bar shows the URL www.ez-robot.com/EZ-Builder/. The website has a blue header with the 'ezrobot' logo and navigation links: Explore, Products, Software (active), Learn, and Community. A secondary navigation bar lists categories: Windows, Plugins, Mobile, UniversalBot, Windows SDK, Mono SDK, and 3rd Party. The main content area has a light blue background with the title 'EZ-Builder For Windows'. On the left, there is a video player showing a robot with the text 'The EZ-Life... All The Robots!'. To the right of the video, there is a large green button labeled 'Download EZ-Builder Installer.msi', and below it, two smaller blue buttons labeled 'Manual' and 'Release notes'. Further down, the text 'EZ-Builder Version 2017.03.06.00' is displayed, followed by a paragraph: 'The software for robots! World's easiest and most powerful robot software designed for EZ-Robots and more. Scales between beginner and advanced users, this software introduces amazing features that will bring your robot to life by combining engineering and creativity.' At the bottom of the browser window, a download bar shows 'EZ-Builder Installer.msi' with a progress indicator. The Windows taskbar at the very bottom shows the time as 4:43 PM on 3/9/2017.

EZ-Builder For Windows

The EZ-Life... All The Robots!

Download EZ-Builder Installer.msi

Manual Release notes

EZ-Builder Version 2017.03.06.00

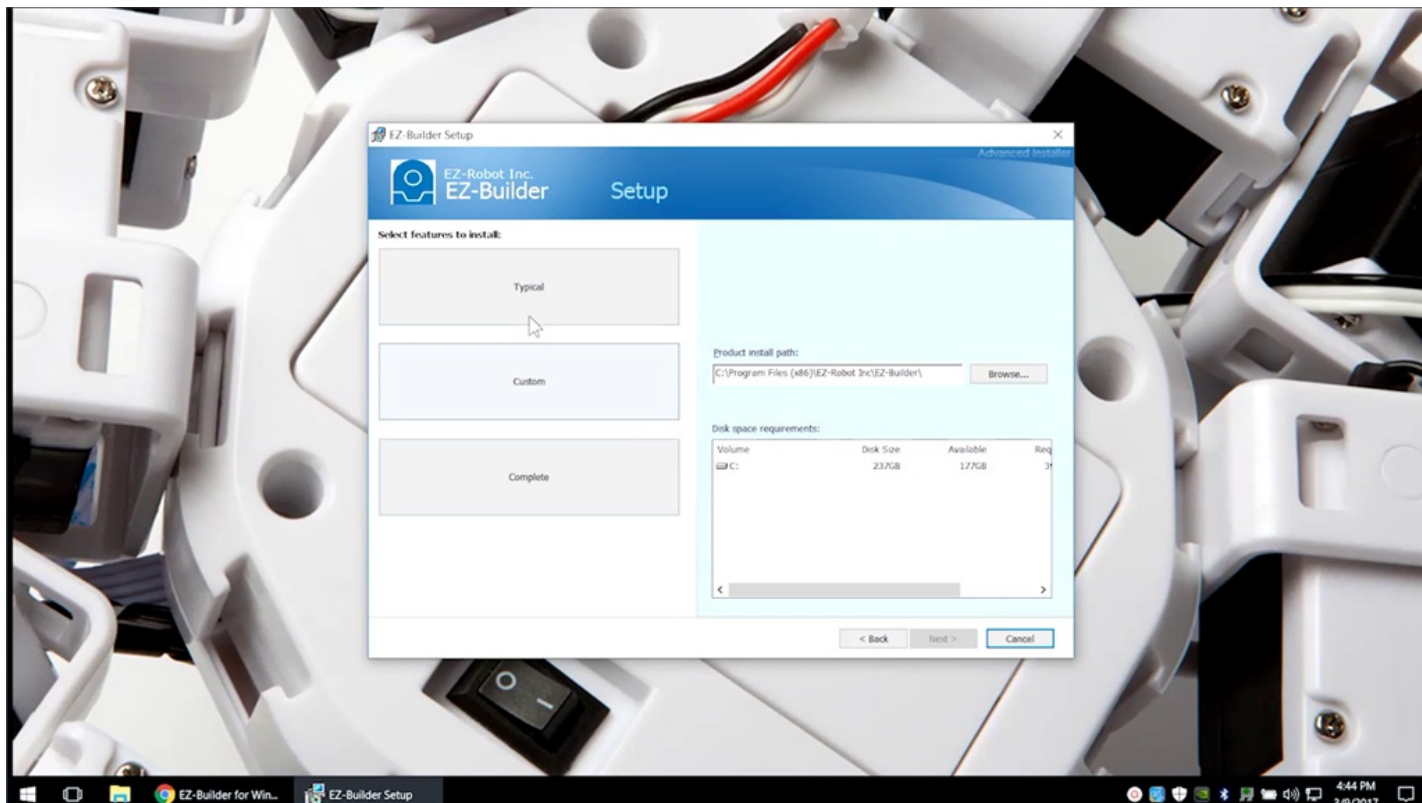
The software for robots! World's easiest and most powerful robot software designed for EZ-Robots and more. Scales between beginner and advanced users, this software introduces amazing features that will bring your robot to life by combining engineering and creativity.

EZ-Builder Installer.msi
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3/9/2017

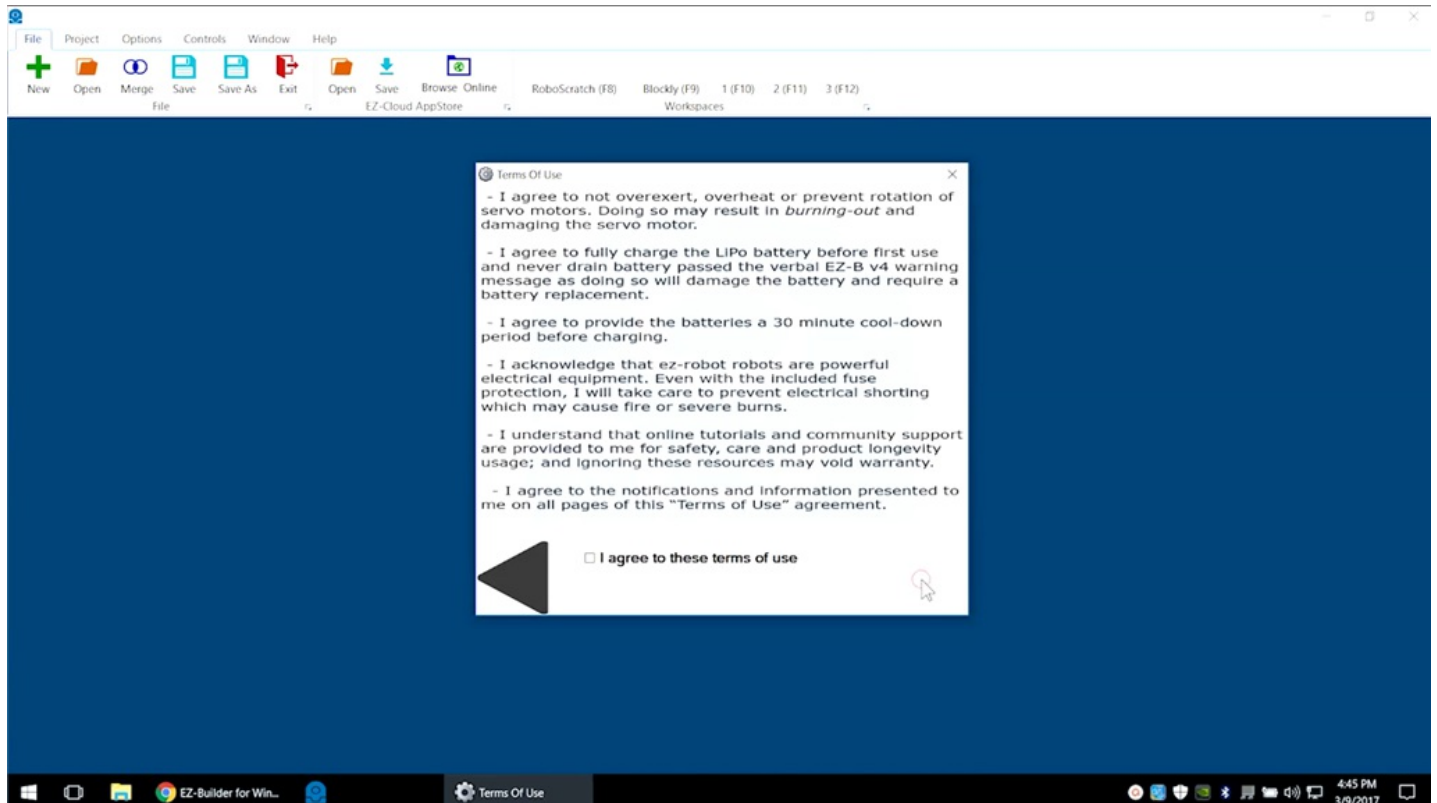
Step 2

Double-click to begin installation. Choose **Typical** as the install type.



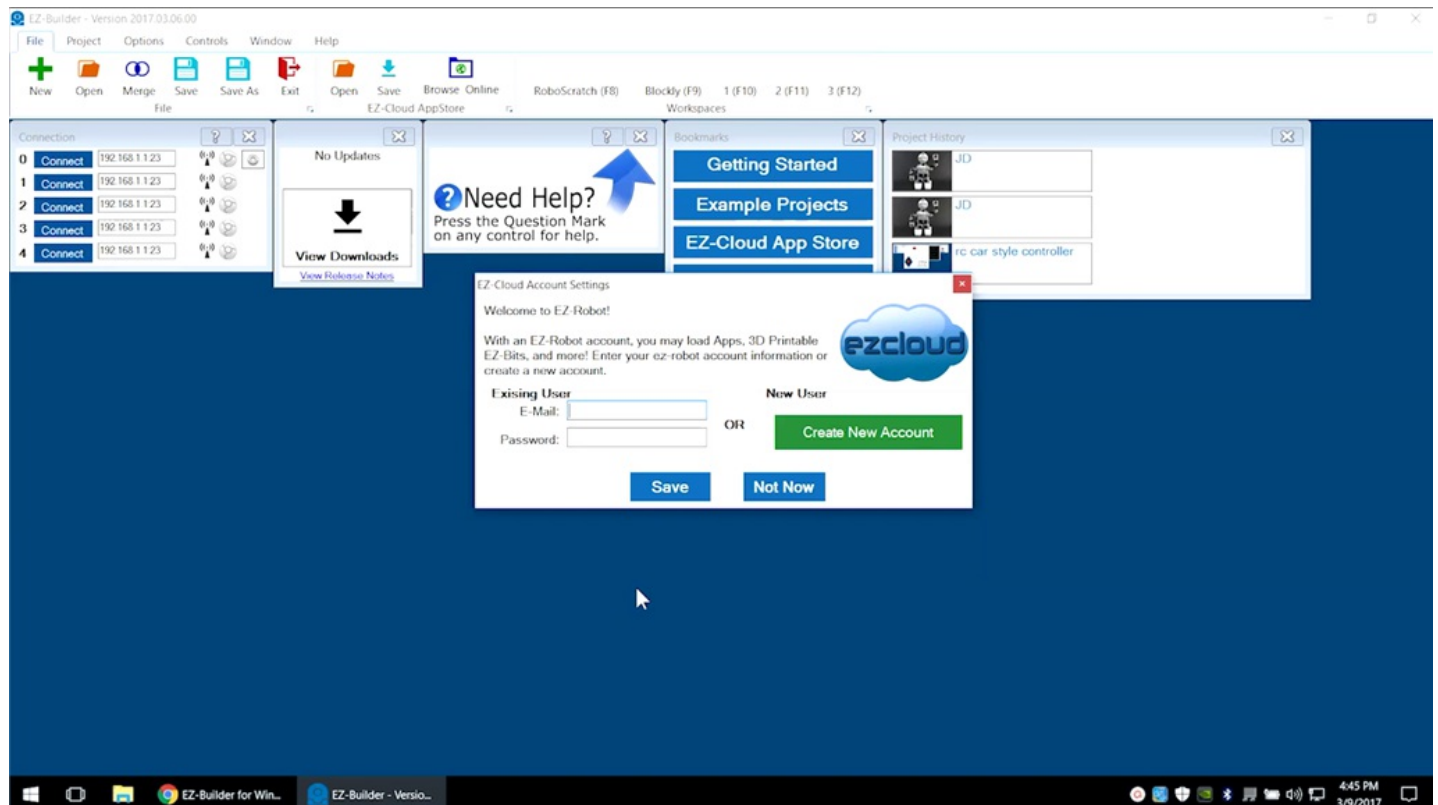
Step 3

Read and agree to the **Terms of Use**.



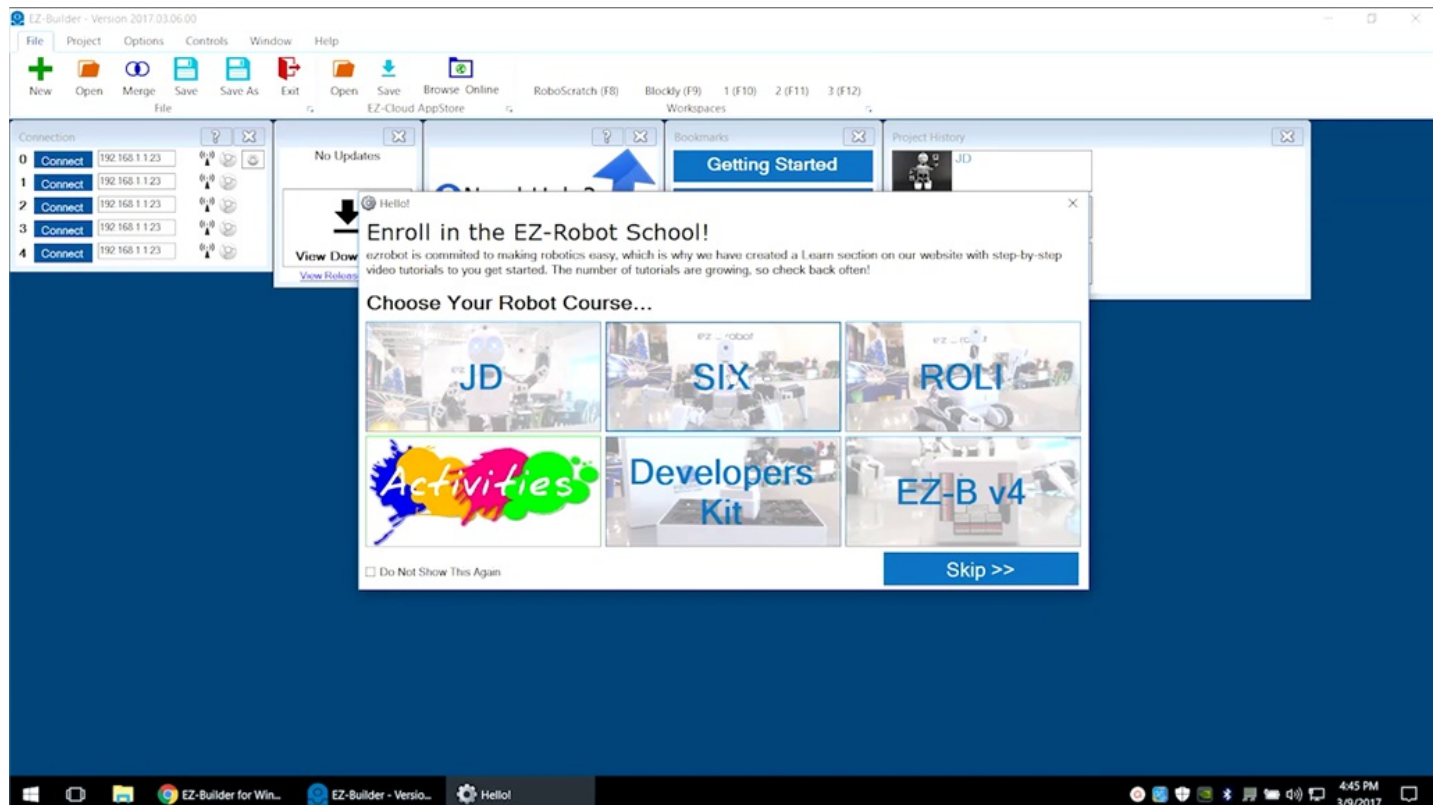
Step 4

Login or create an **EZ-Cloud** account.



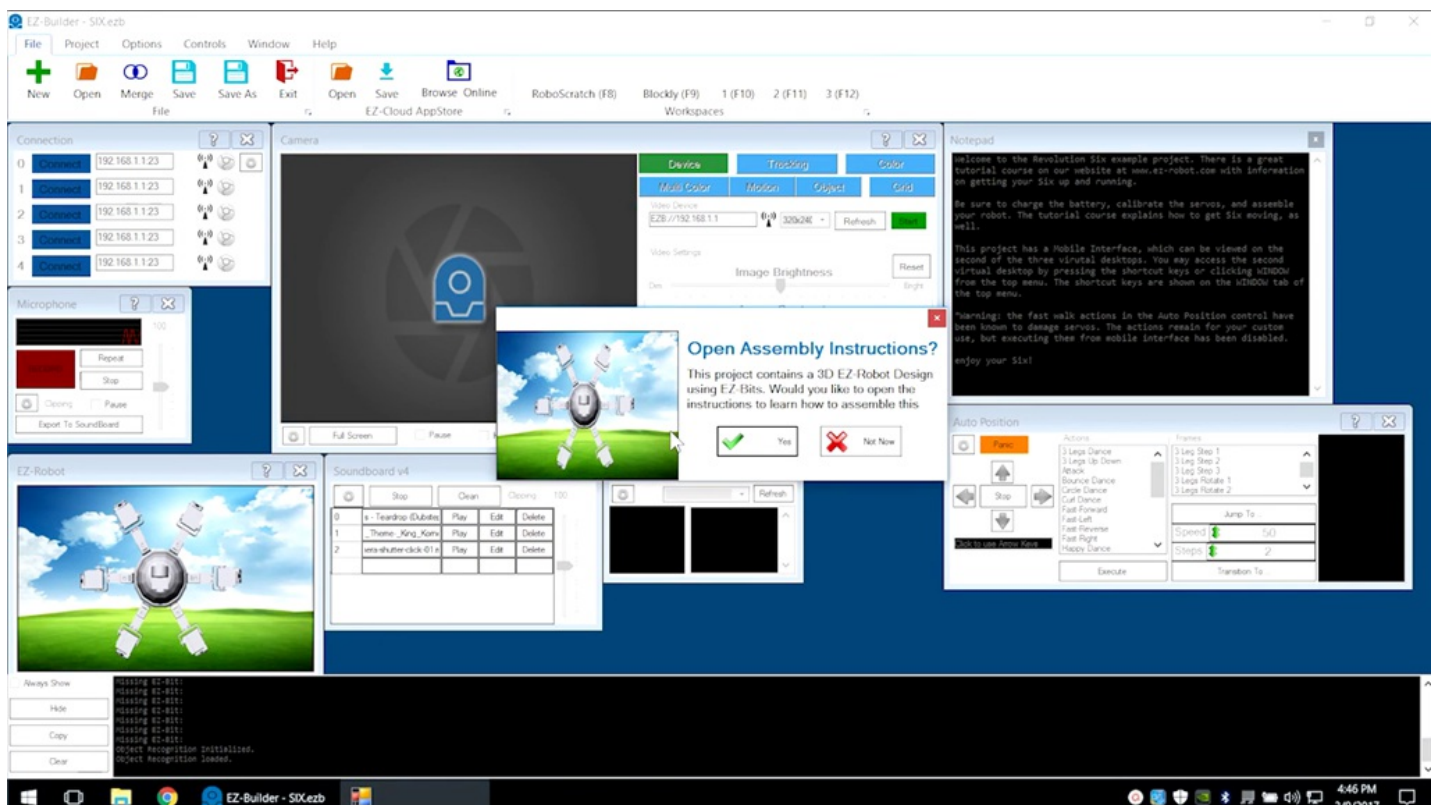
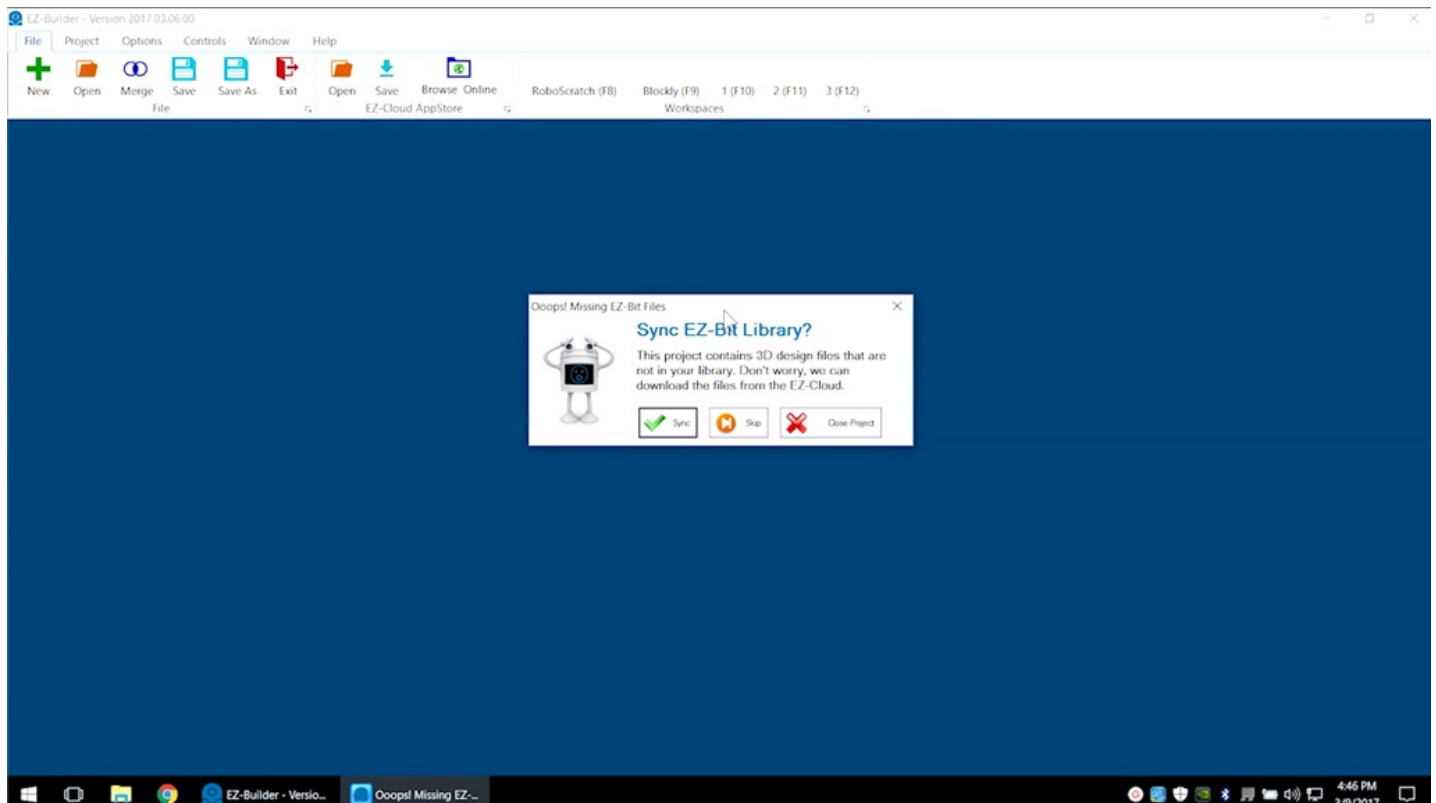
Step 5

Find tutorials about **Revolution Six** at the **EZ-Robot School**.



Step 6

EZ-Bits are robot parts. Sync to update the library, and select **Yes** to view build instructions.



Always charge the battery before using **Six**.

Build My EZ-Robot

Introduction

Assembly

Recorder

Ready To Assemble Your EZ-Robot?

EZ-Bits

EZ-Robot Revolution are built Clip'n/Play parts called **EZ-Bits**. There are EZ-Bits for Joints, Bodies, Feet, Heads and more. Press the **Next** button on the bottom right of the screen to advance through the assembly process. We will show you...

- where each EZ-Bit will attach to the body
- the orientation of each EZ-Bit
- the EZ-B Port to connect the EZ-Bit (if applicable)

With EZ-Bits, you can build a wide assortment of robots. The only limit to EZ-Robotics is your imagination!

3D Printing

Optionally, you can 3D Print EZ-Bits. A list of EZ-Bits is displayed along the right side of the screen as your robot is being assembled. Each EZ-Bit has an **Information** button. When the information button is pressed, a dialog will display the 3D printer source files. From this menu, you can 3D print or save the STL source files for the EZ-Bits to be printed later. To configure your 3D printer software, visit the **Preferences** menu located under Options in the EZ-Builder main menu.


Purchase EZ-Bits

If this robot includes EZ-Bits that you do not own, press the **shopping cart** button to purchase them directly from our store.

Community Printing


One of the key aspects of EZ-Robot is our friendly community. The Community Print option allow you to have parts 3D Printed by community members. Community members with 3D printers have joined our program to help print EZ-Bits for those who do not have 3D printers. *Note: A member of our 3D printing community may charge fees for printing time and material.

☒ Show this introduction on startup



EZ-Builder - SDX.ezb

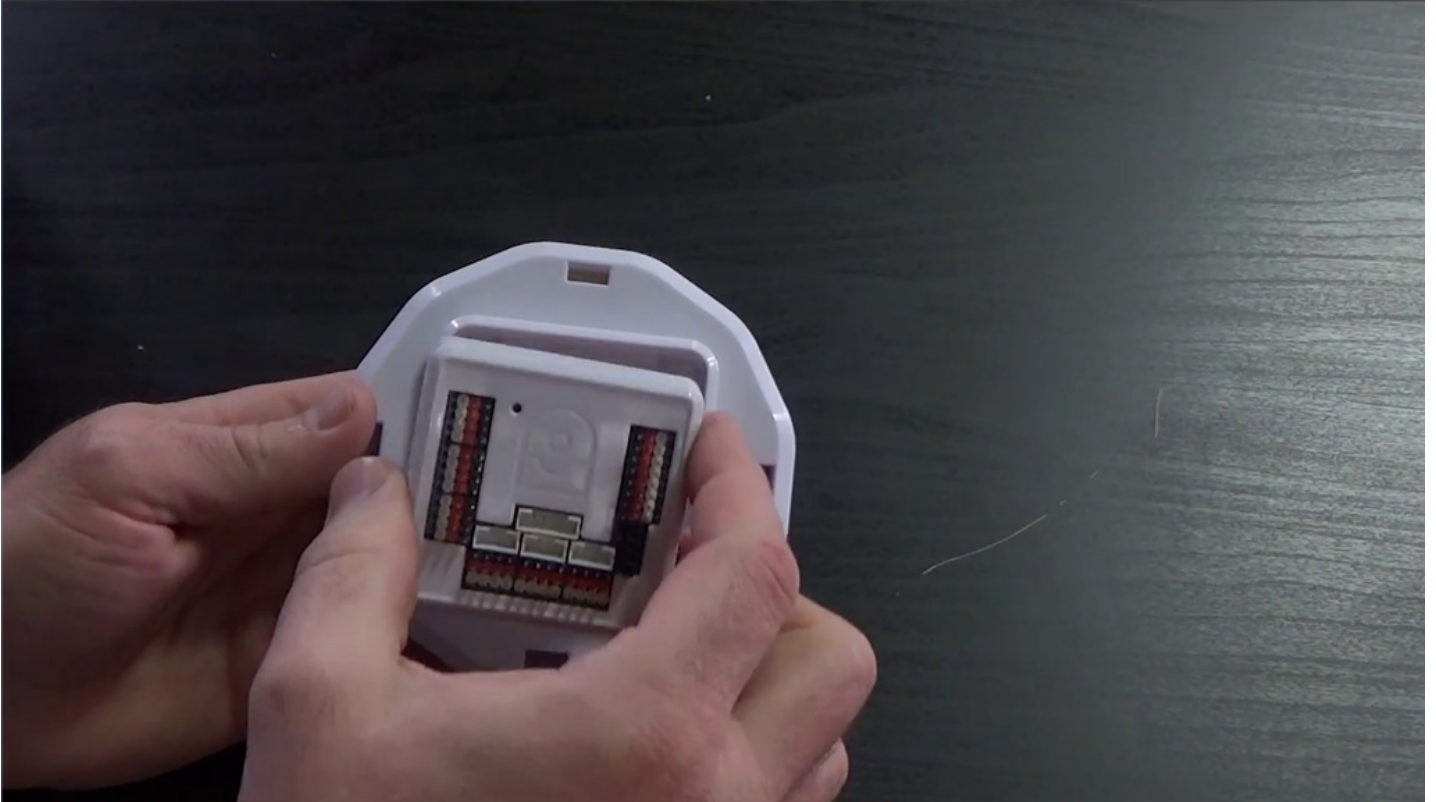
Build My EZ-Robot



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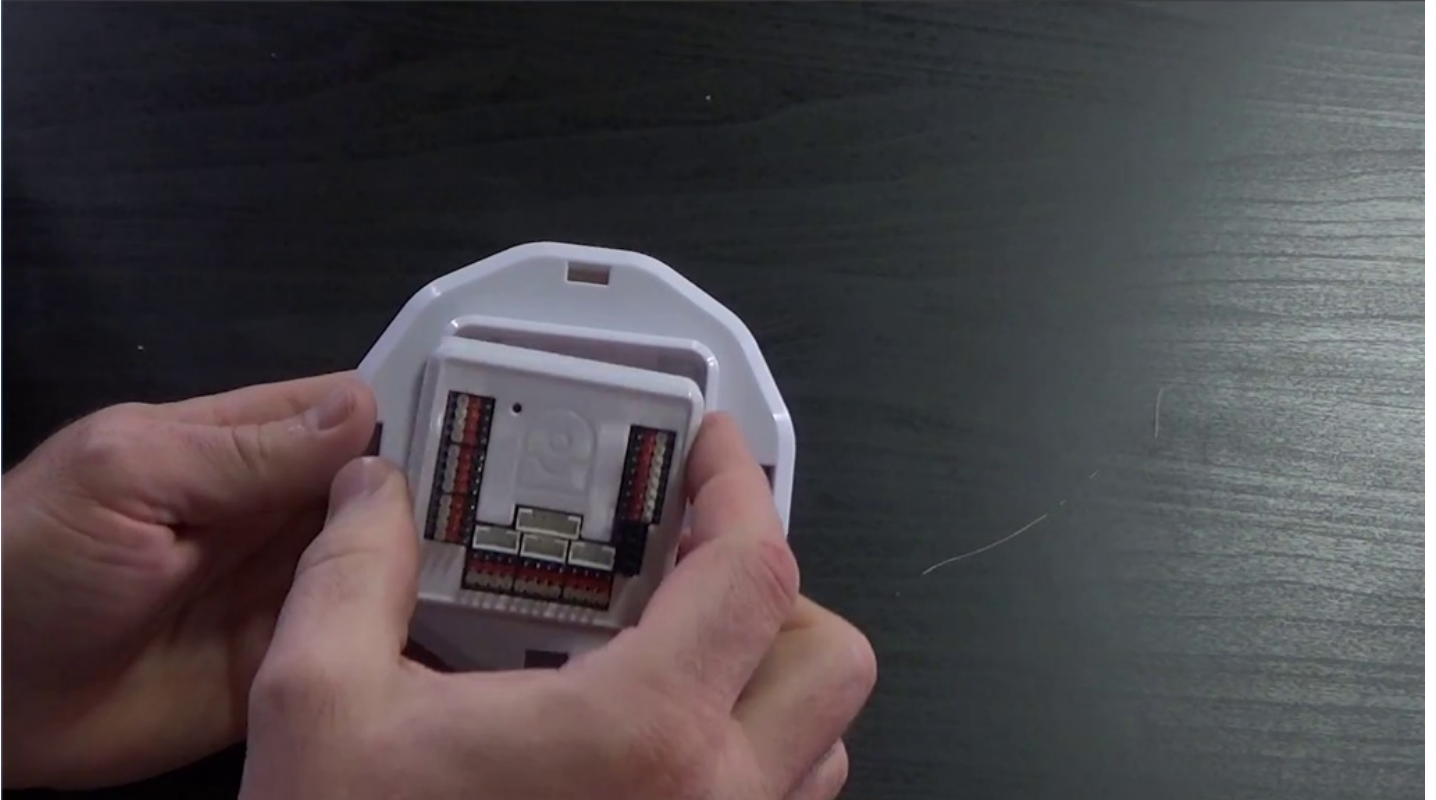
Step 8

Insert **EZ-B** into the **Dodecagon Body**.



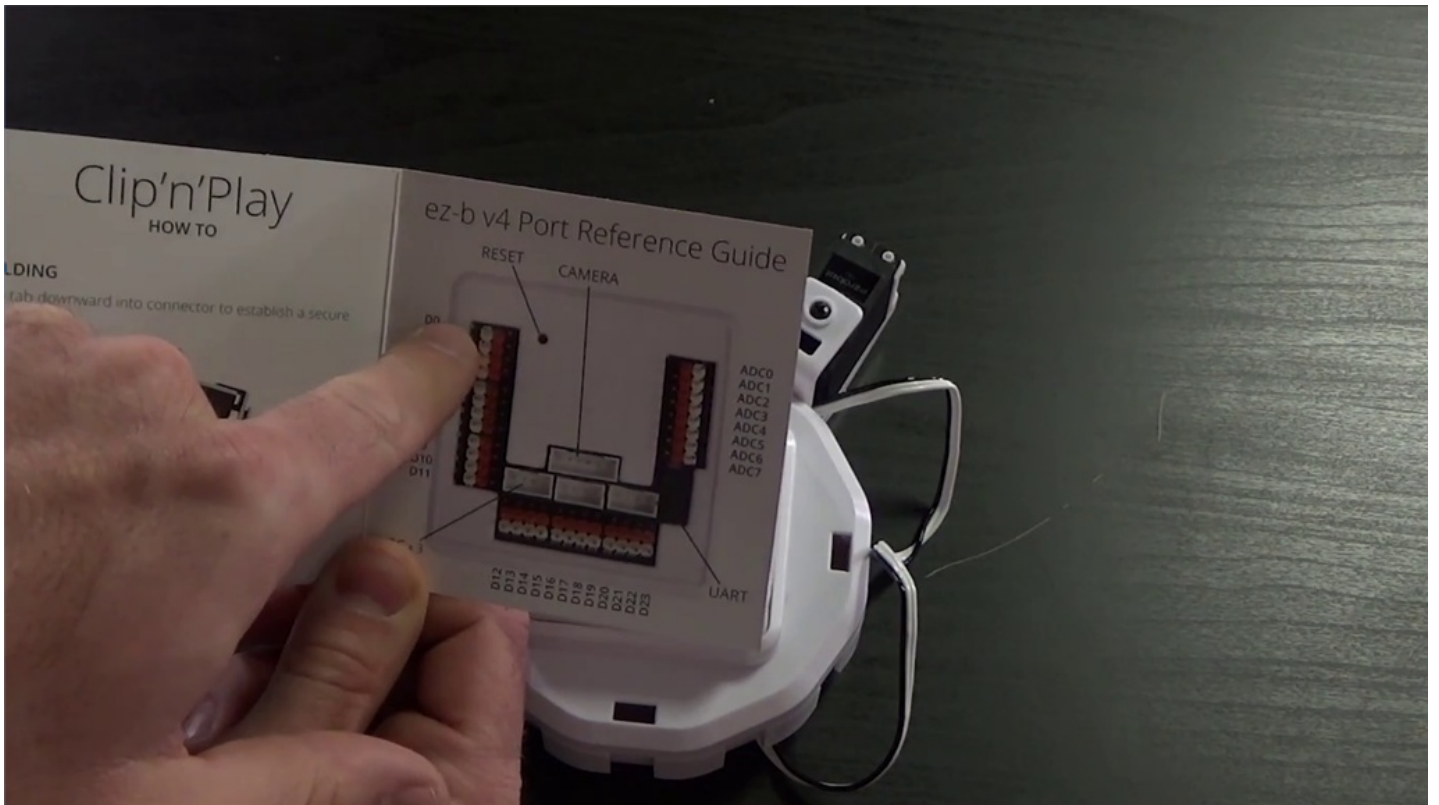
Step 9

Clip™ a **Lever Servo** into the 1 o'clock position.



Step 10

Connect the servo to **D0**.



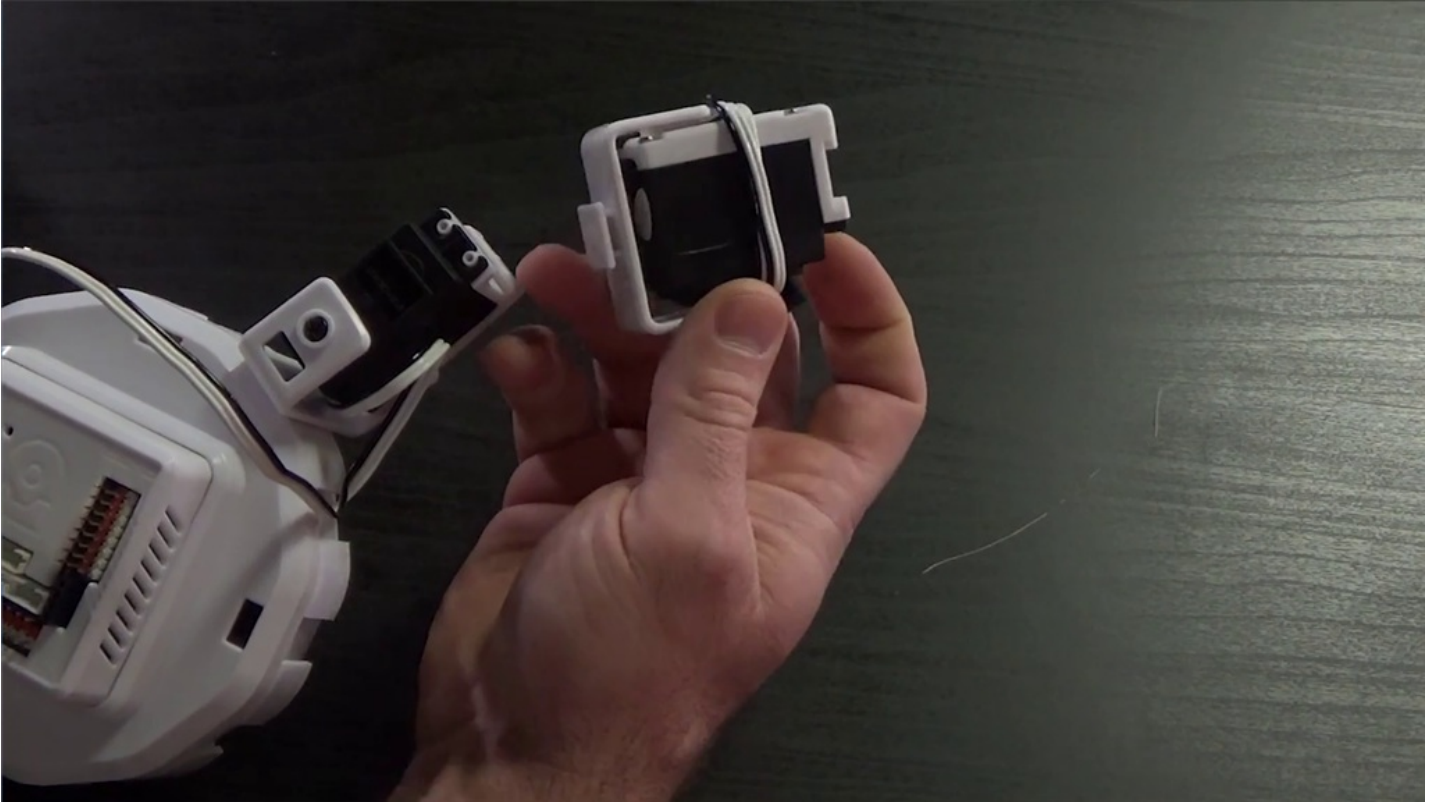
Step 11

Match the black wire on the cable to the black side of the **EZ-B** port. The cables use a male-to-female connection.



Step 12

Clip the outside **Lever Servo** with the white bracket on the left-hand side.



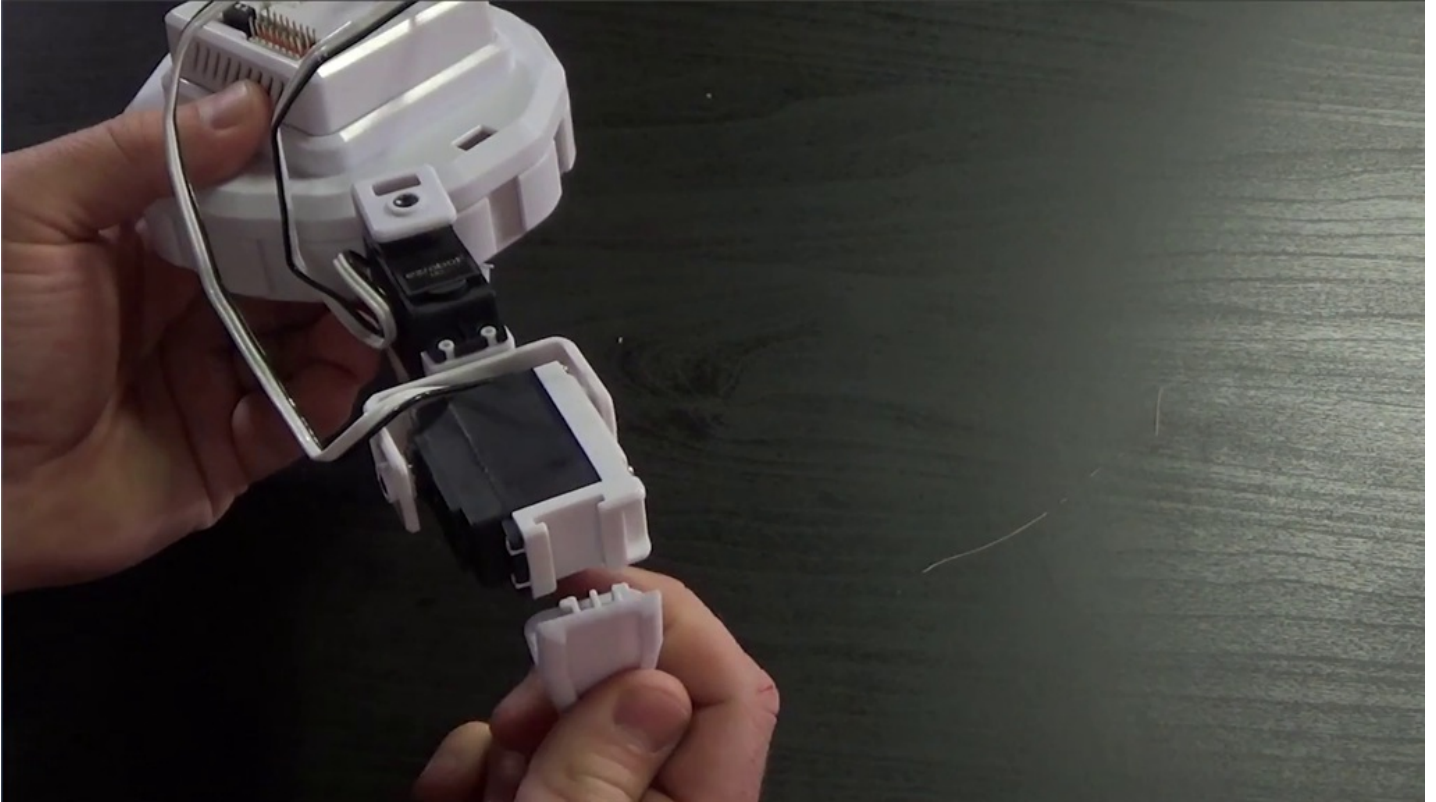
Step 13

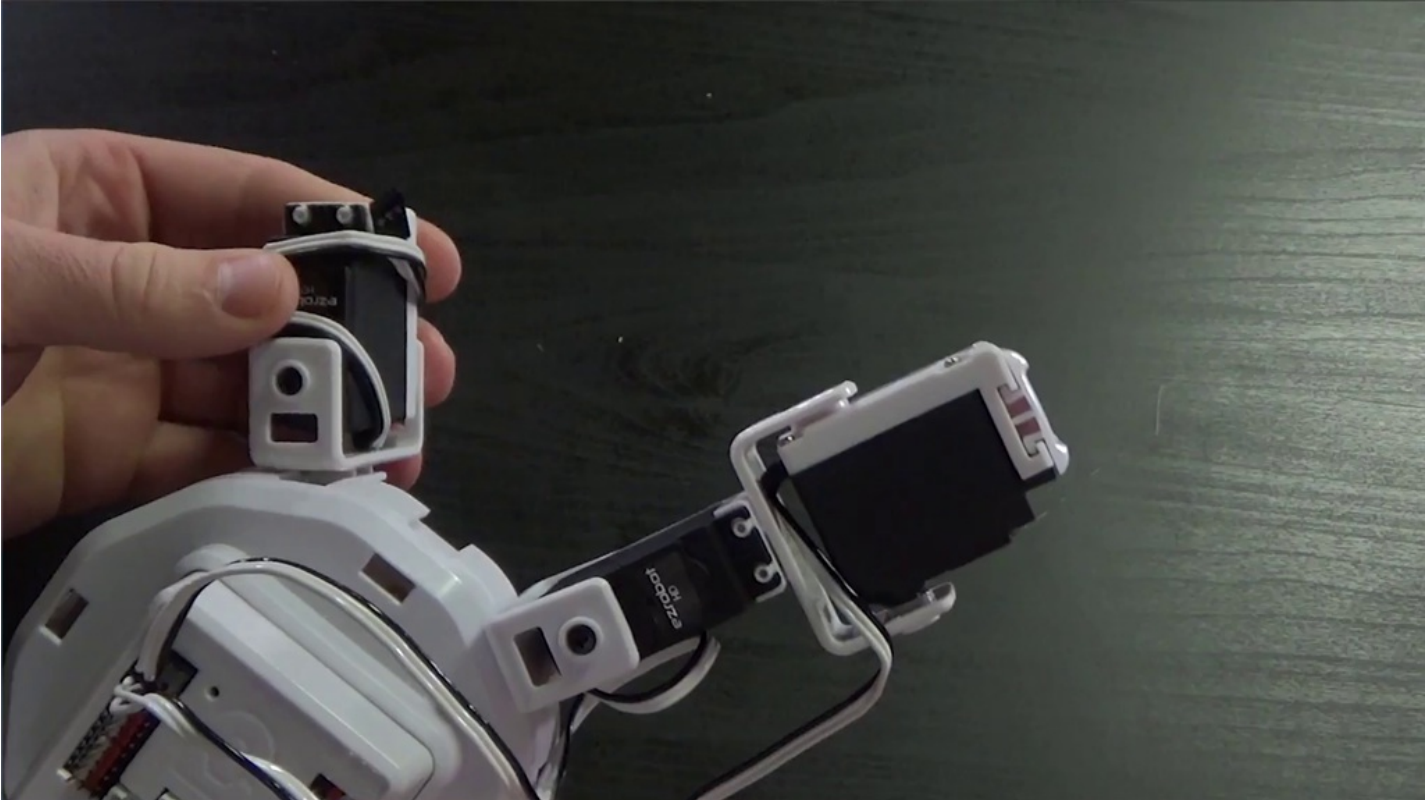
Connect the servo to **D1**.



Step 14

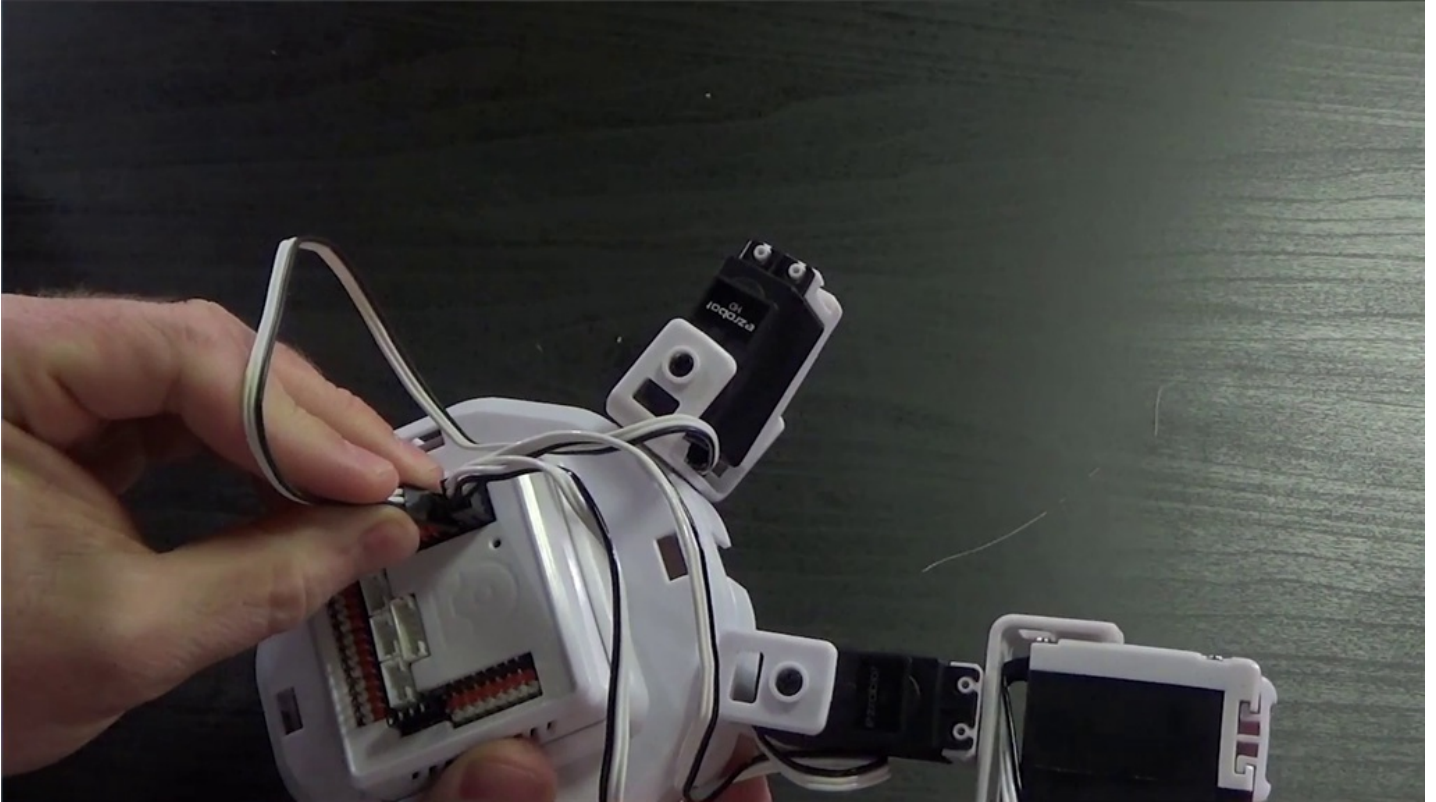
Complete this leg with a **Hexapod Foot**.





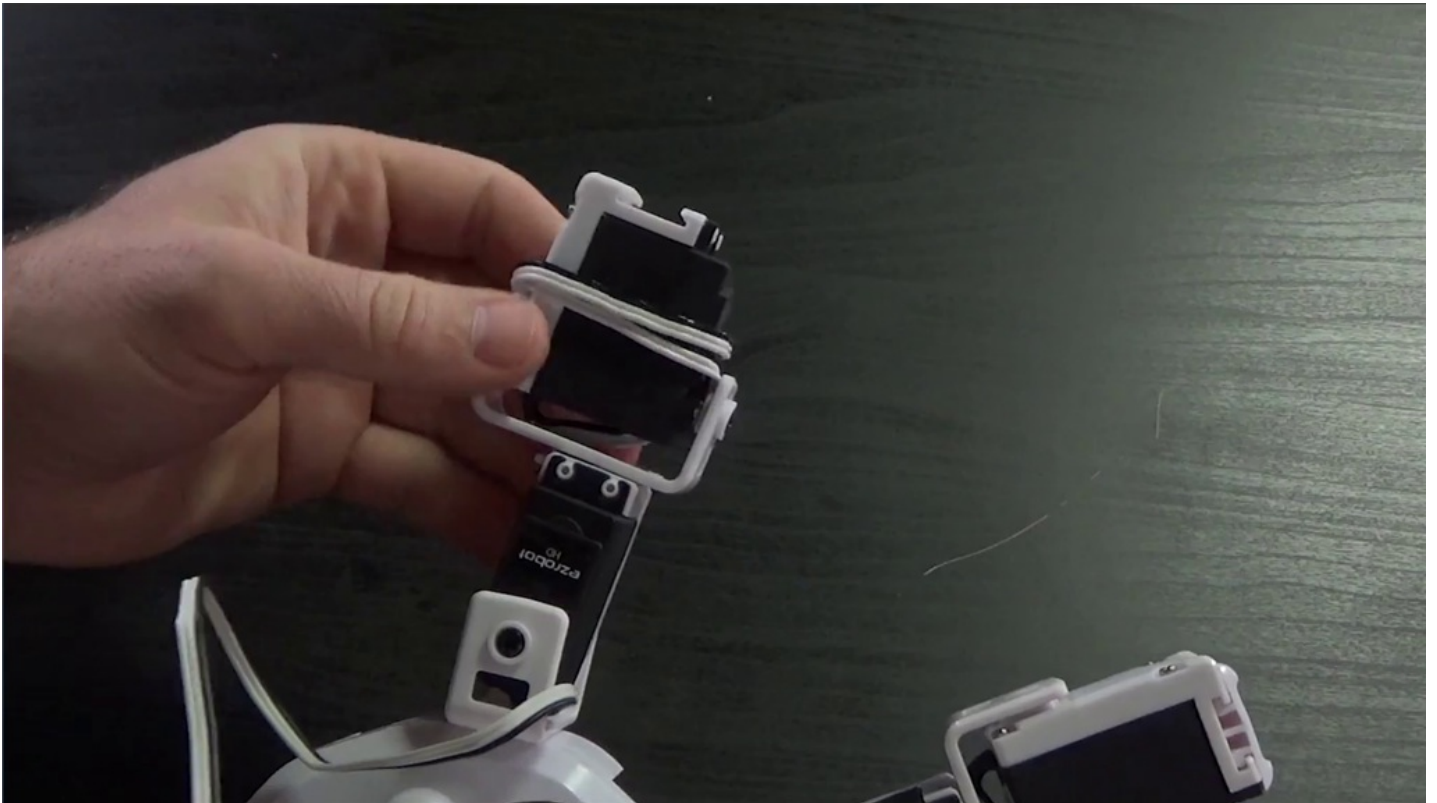
Step 16

Connect the servo to **D3**.



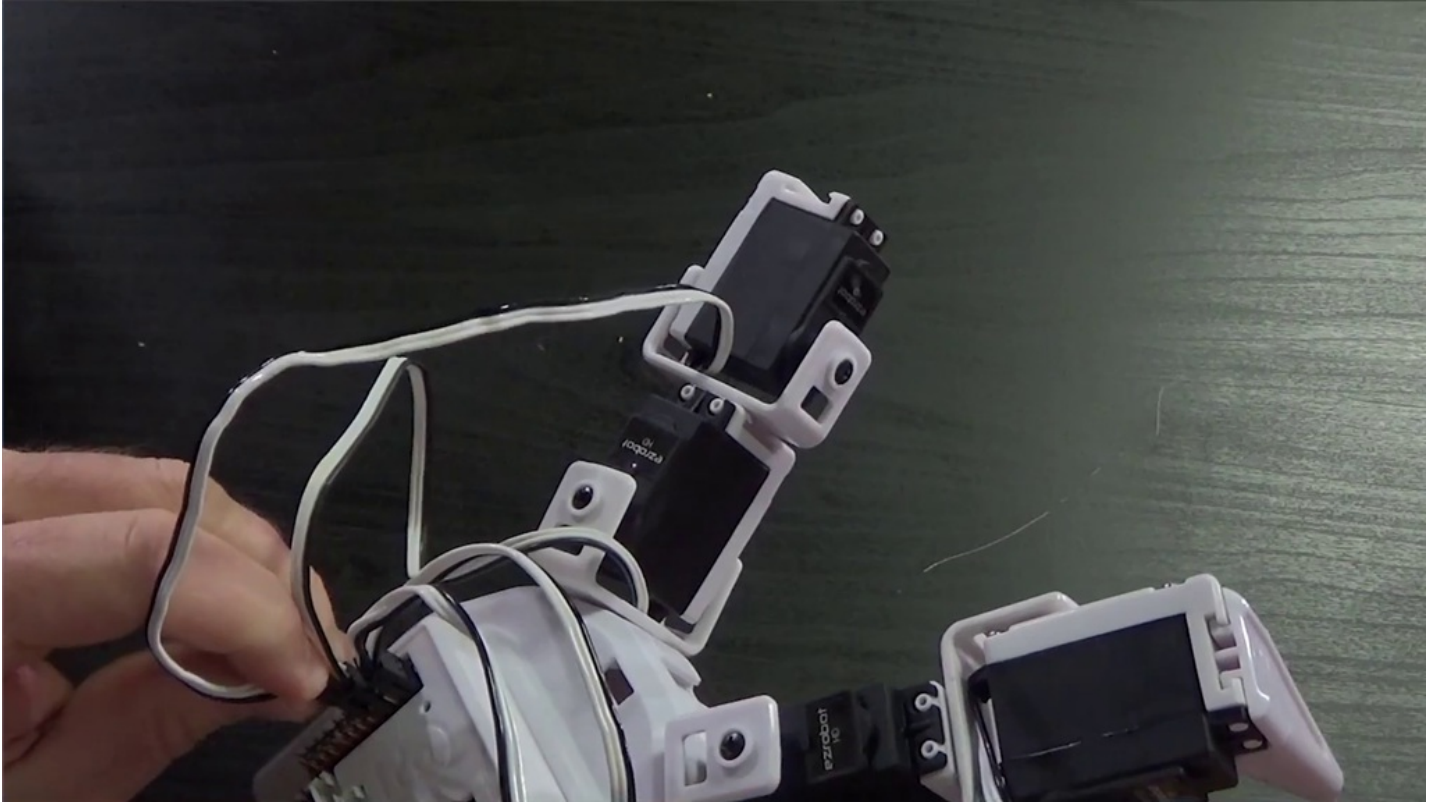
Step 17

Clipac™ **nâc™** **Play** the outside **Lever Servo** with the white bracket on the left-hand side.



Step 18

Connect the servo to **D4**.



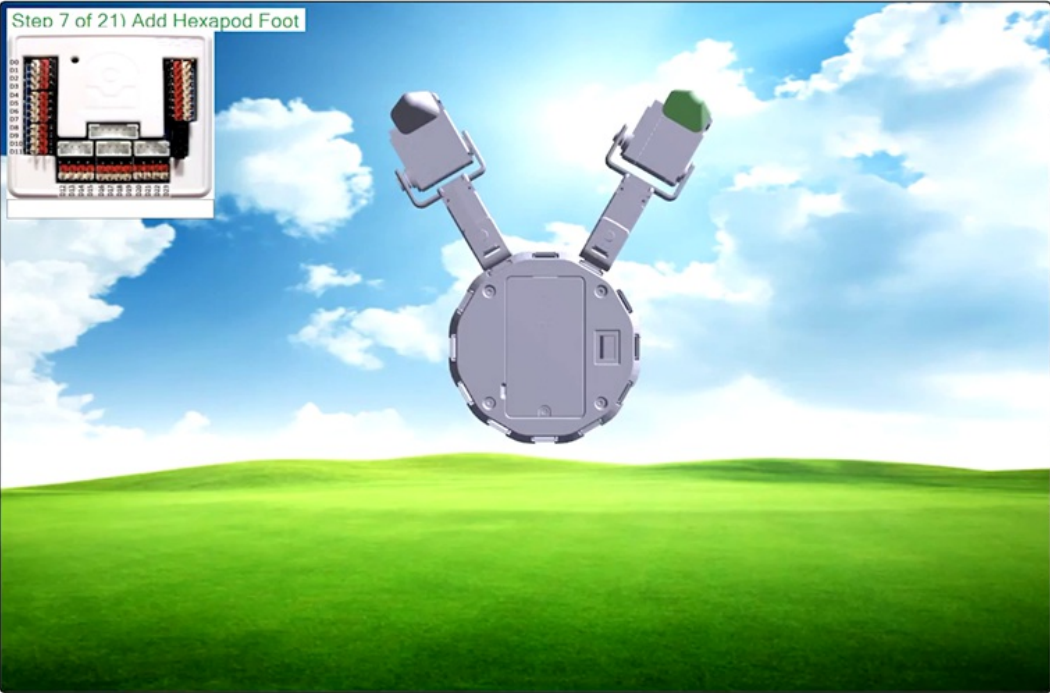
Step 19

Complete this leg with a **Hexapod Foot**.

Build My EZ-Robot

Introduction Assembly **Reorder**

Step 7 of 21) Add Hexapod Foot



Dodecaagon Body
Begin your robot build with this versatile dodecaagon dome shell as the main body. 13

Lever Servo - 90 Degrees
This is a digital heavy duty 15 kg/cm servo with a Clip'n'Play lever that rotates 180 degrees.

Lever Servo - 90 Degrees
This is a digital heavy duty 15 kg/cm servo with a Clip'n'Play lever that rotates 180 degrees.

Hexapod Foot
The Hexapod Foot attaches to a female Clip'n'Play connector of a servo. Use this foot on

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Hexapod Foot
The Hexapod Foot attaches to a female Clip'n'Play connector of a servo. Use this foot on

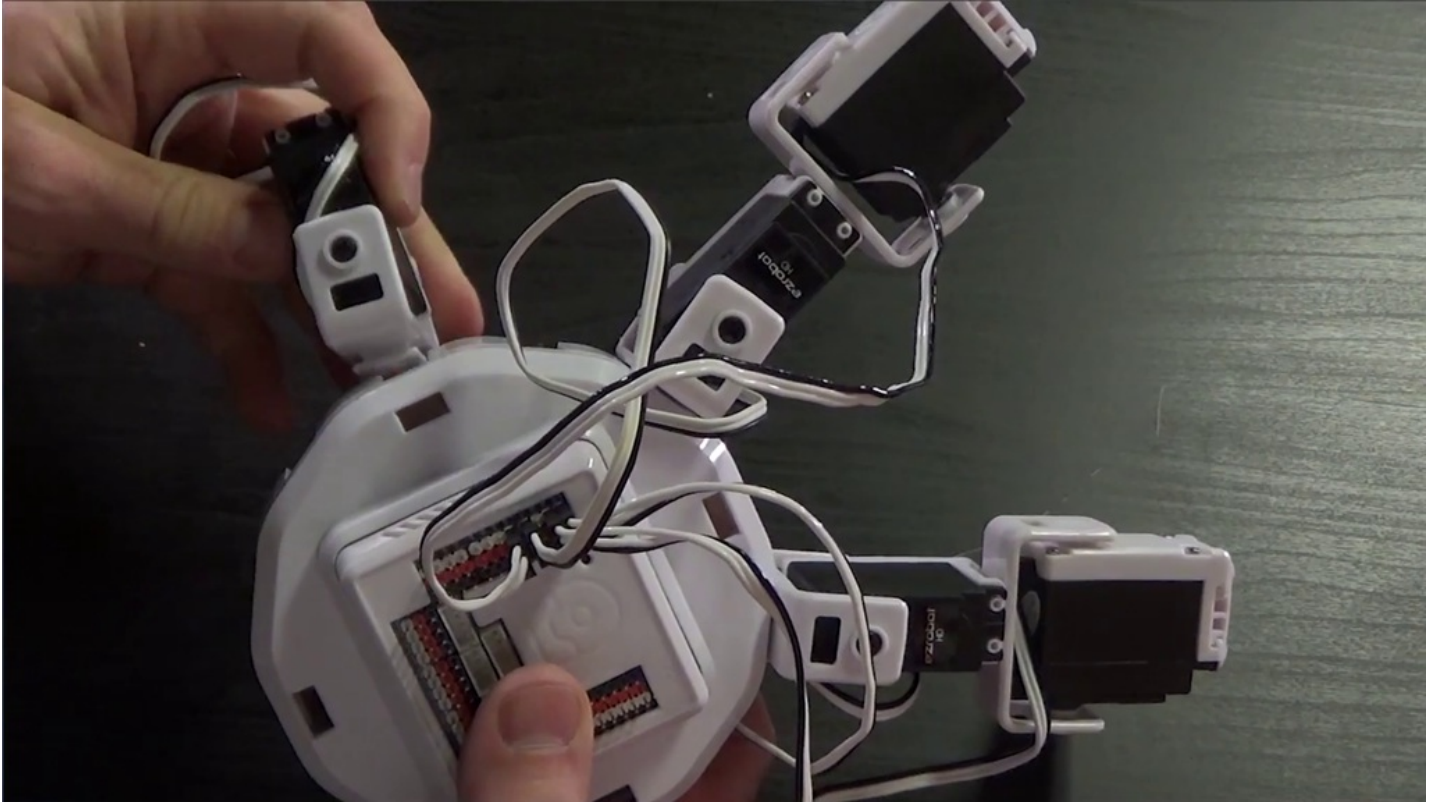
Views: Front, Top, Left, Right, **Peer**, Bottom, Zoom Out, Zoom In

Purchase all 21 Community Print these

EZ-Builder - SDX.ezb Build My EZ-Robot 4:51 PM 3/9/2017

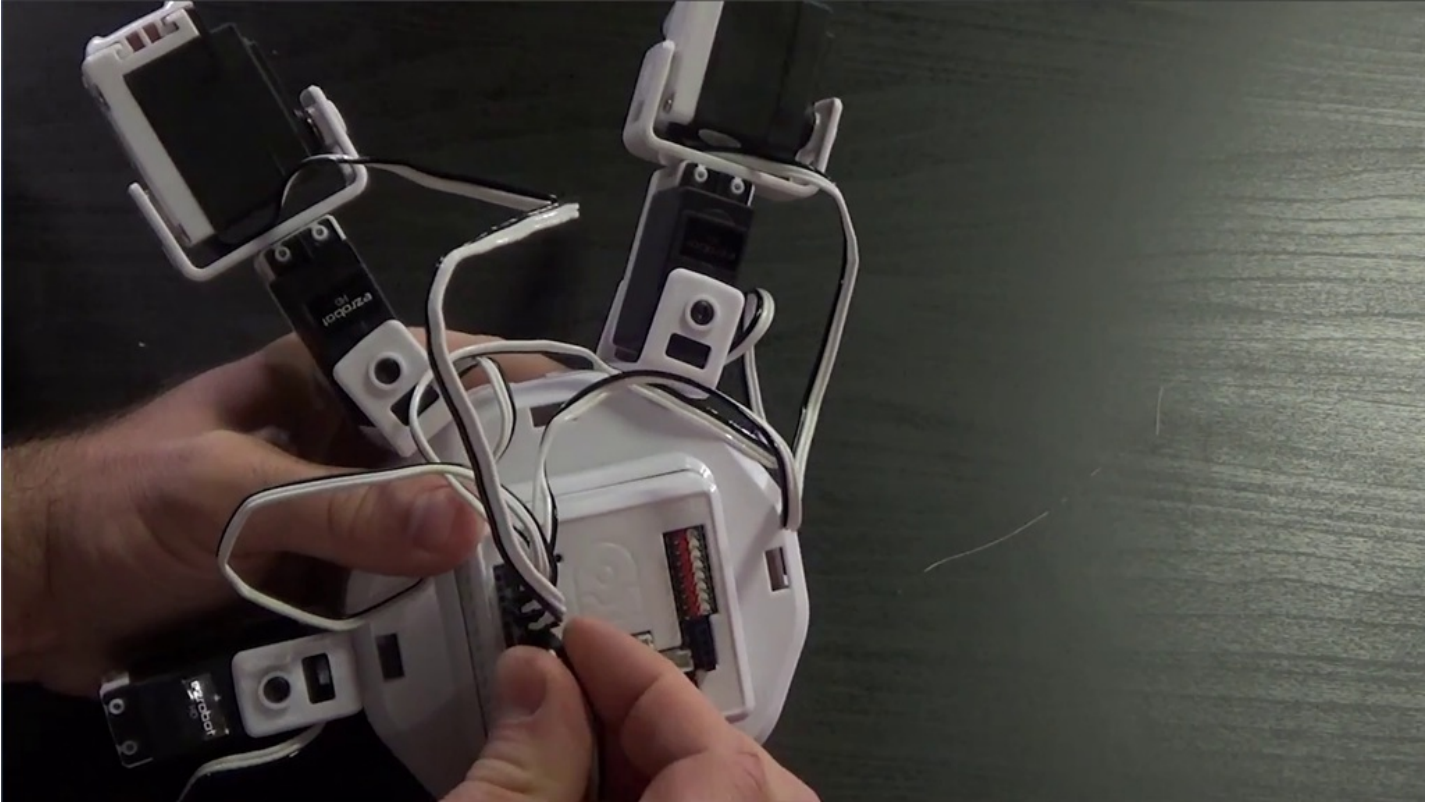
Step 20

Clip a **Lever Servo** into the 9 o'clock position.



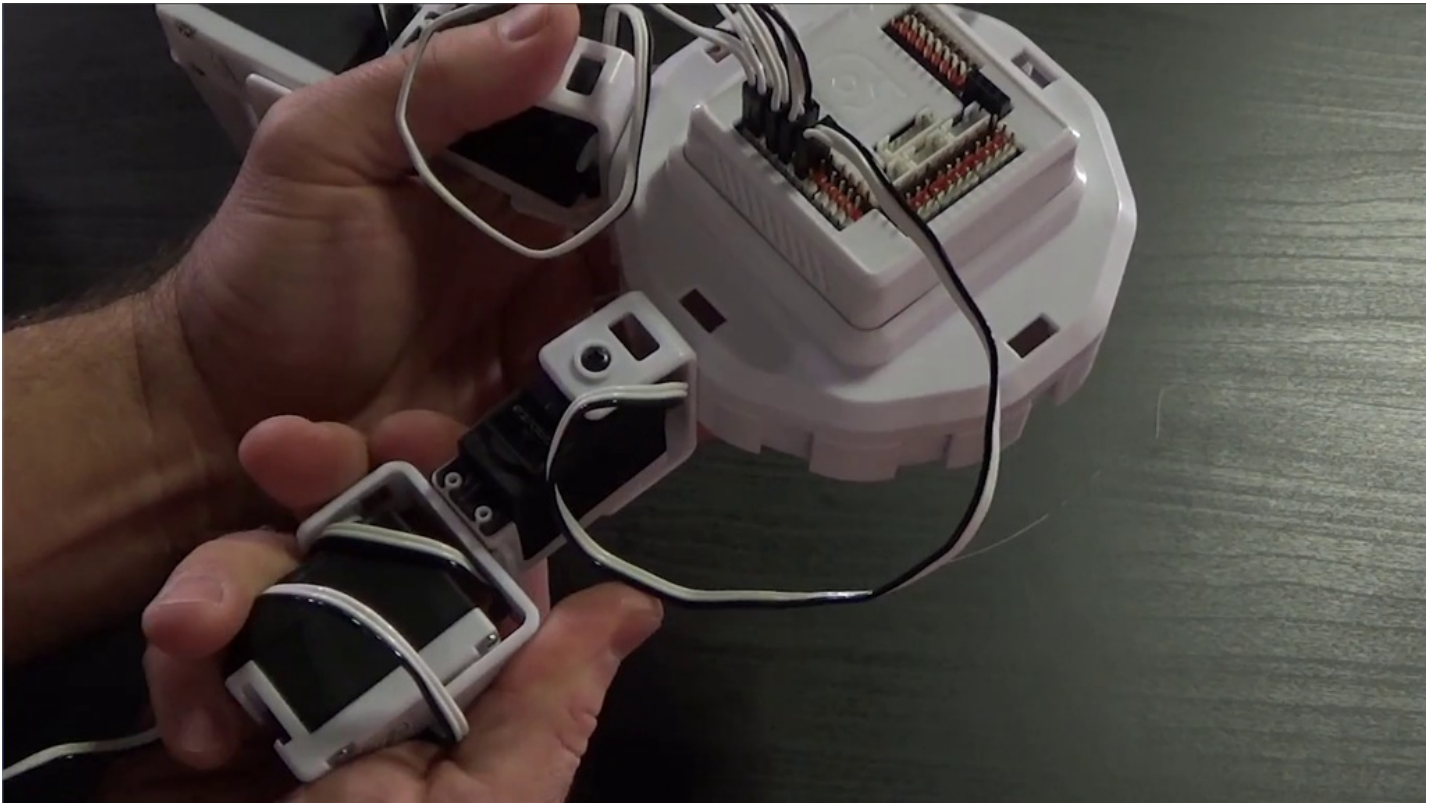
Step 21

Connect the servo to **D6**.



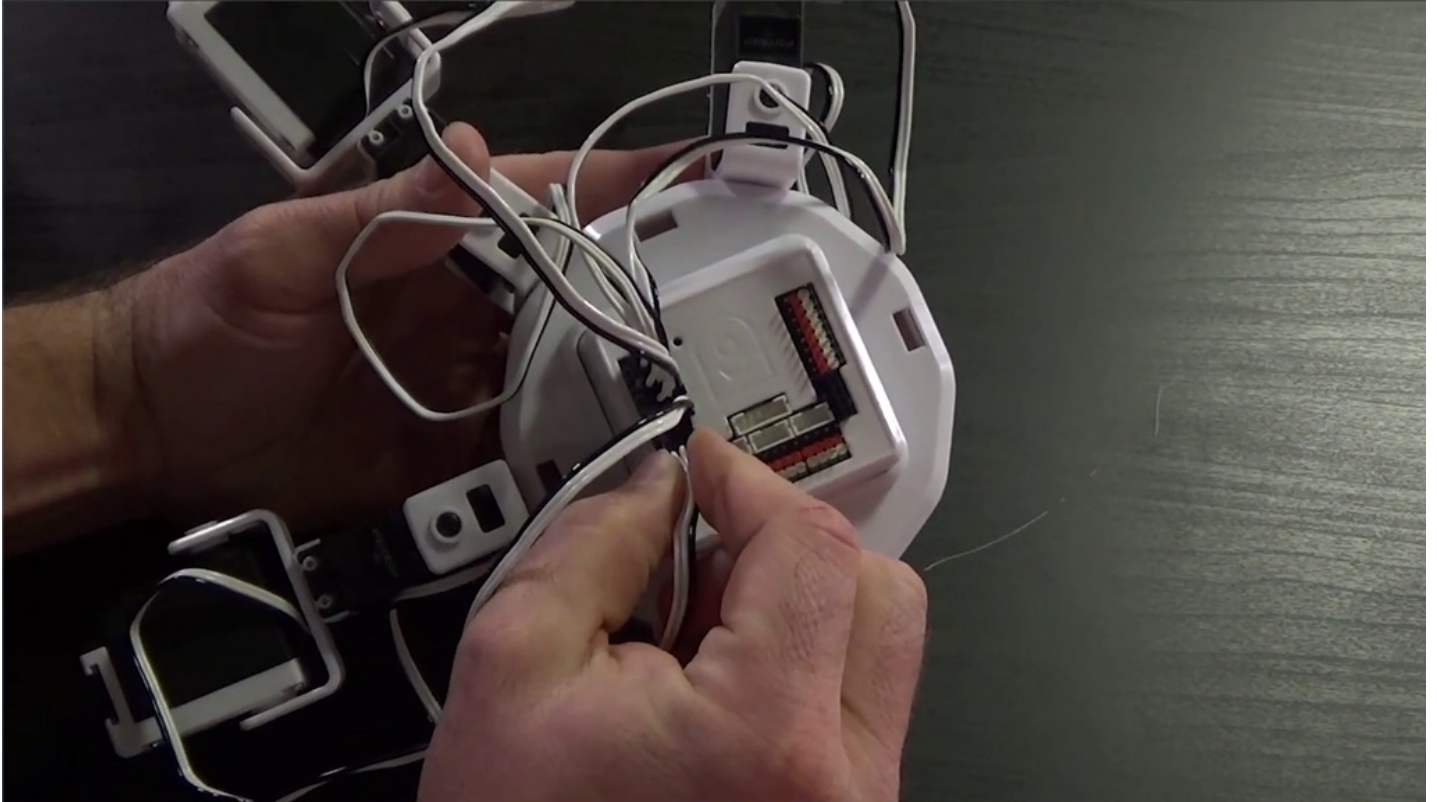
Step 22

Clipâ€™nâ€™Play the outside **Lever Servo** with the white bracket on the left-hand side.



Step 23

Connect the servo to **D7**.



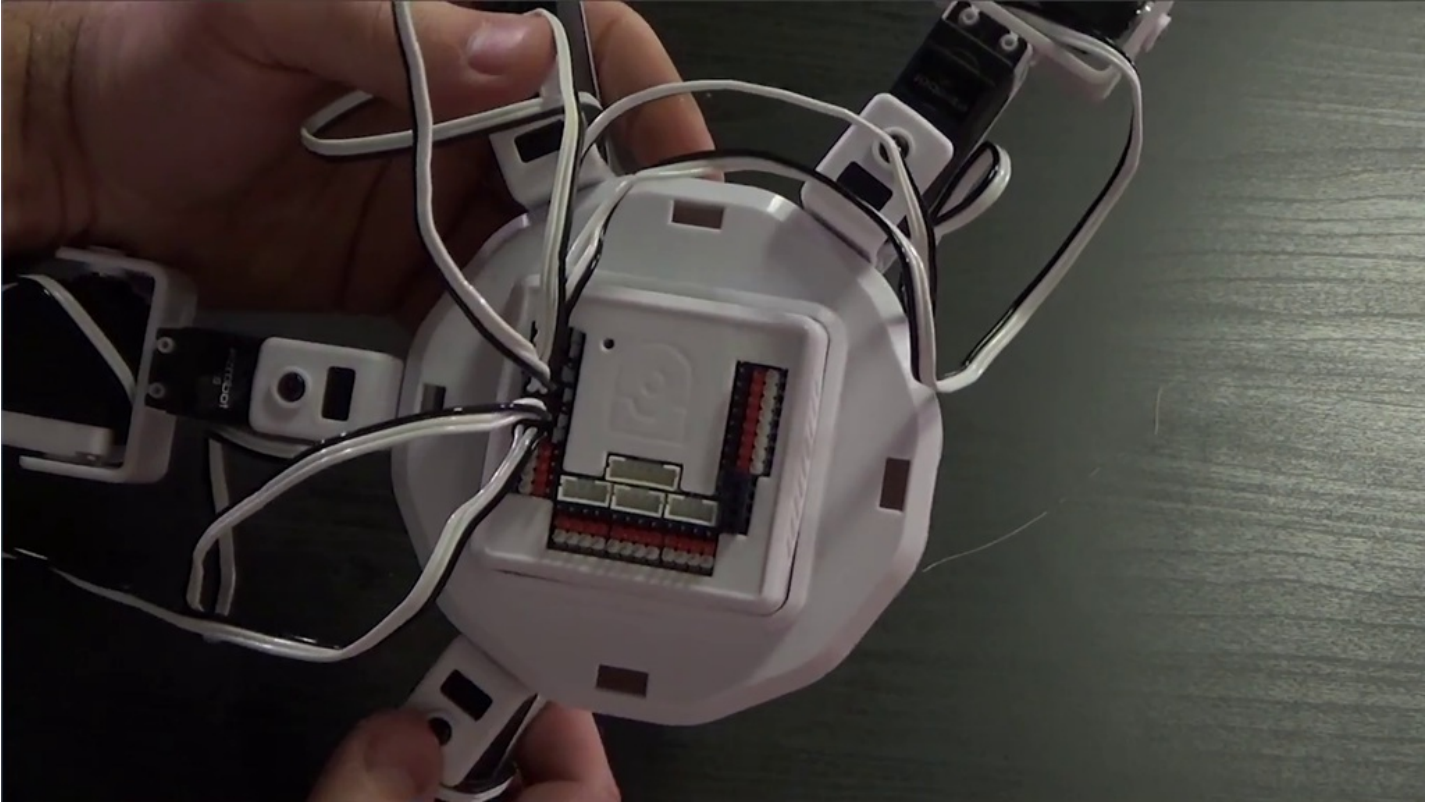
Step 24

Complete this leg with a **Hexapod Foot**.



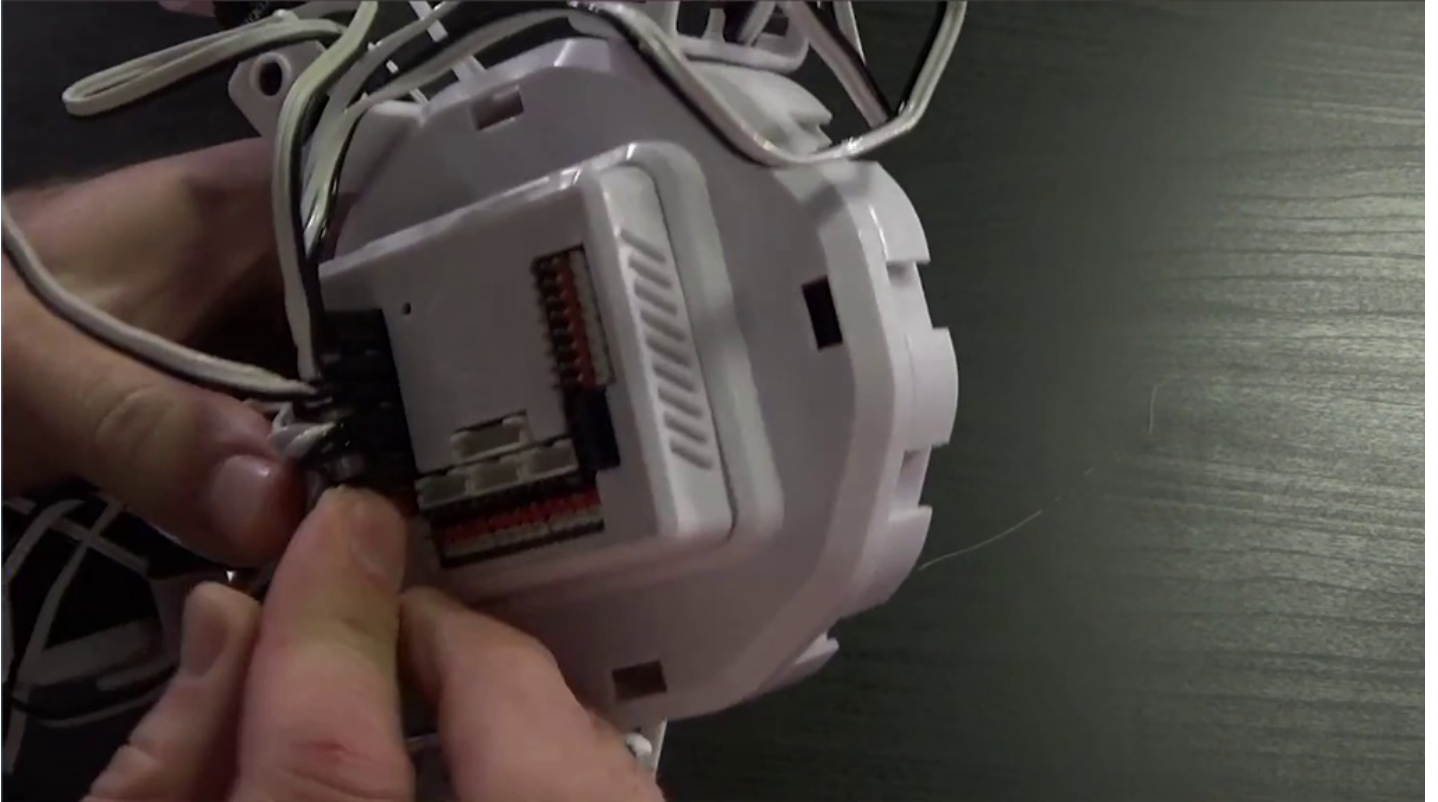
Step 25

Clip the Play a Lever Servo into the 7 o'clock position.



Step 26

Connect the servo to **D9**.



Step 27

Clipâ€™nâ€™Play the outside **Lever Servo** with the white bracket on the left-hand side.



Step 28

Connect the servo to **D10**.



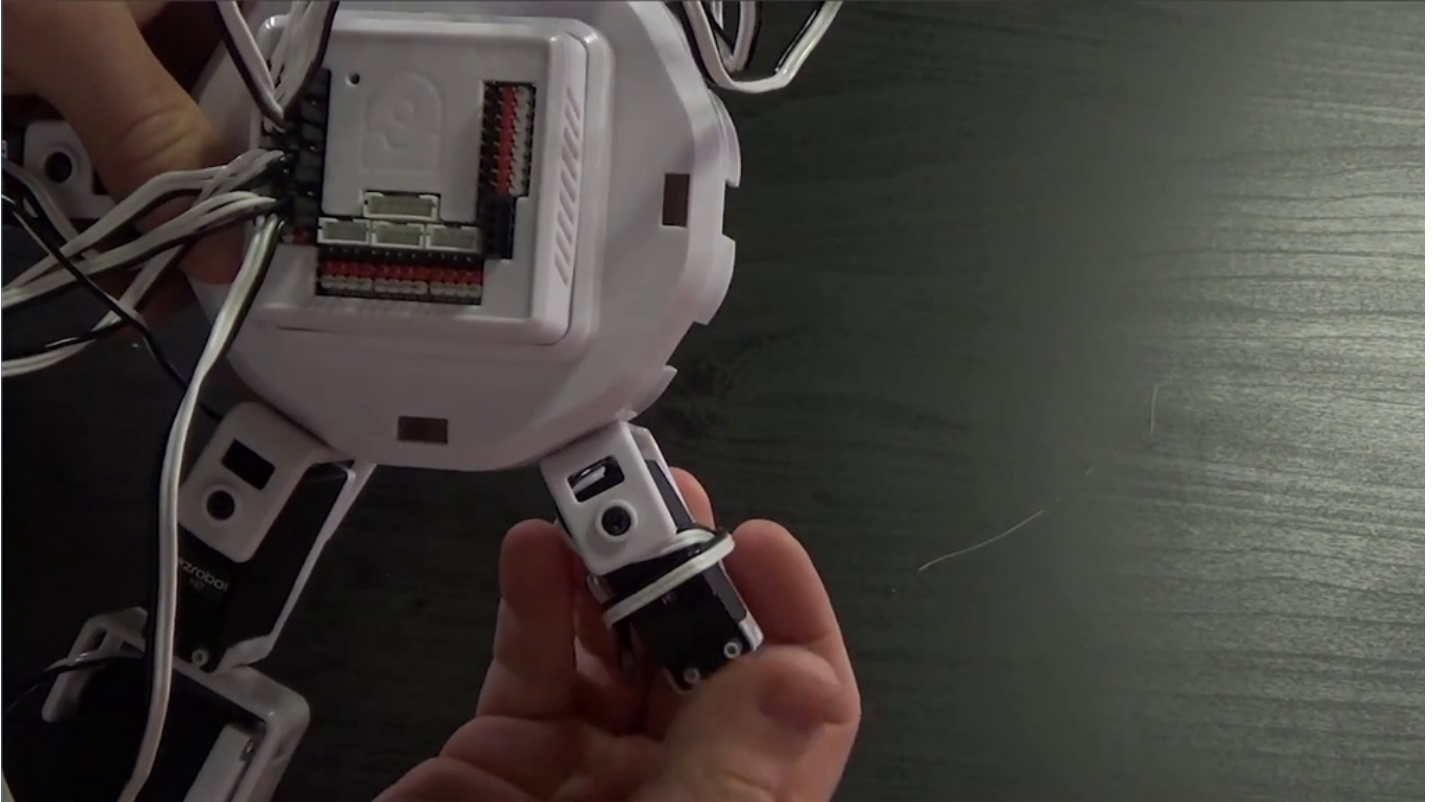
Step 29

Complete this leg with a **Hexapod Foot**.



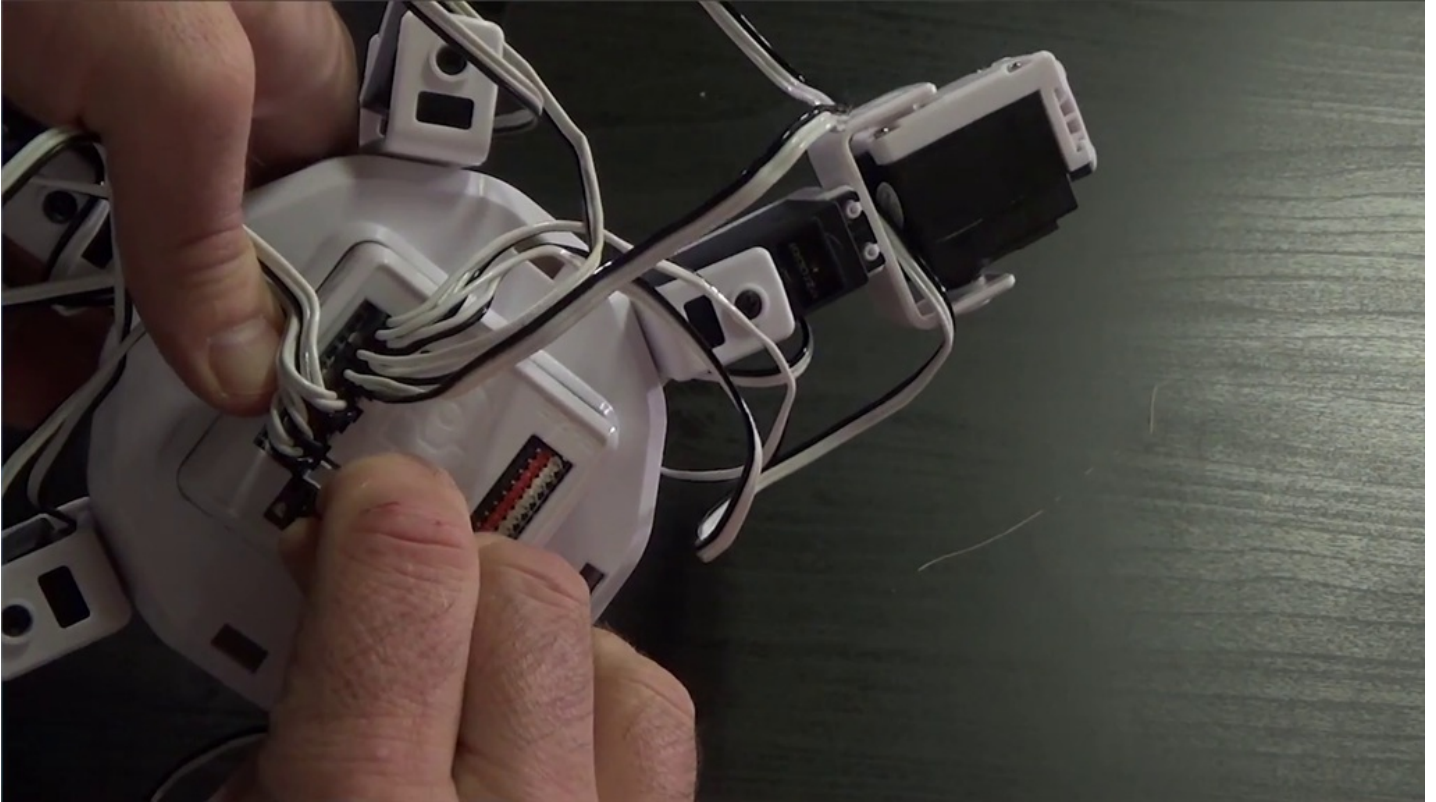
Step 30

Clip the Play a Lever Servo into the 5 o'clock position.



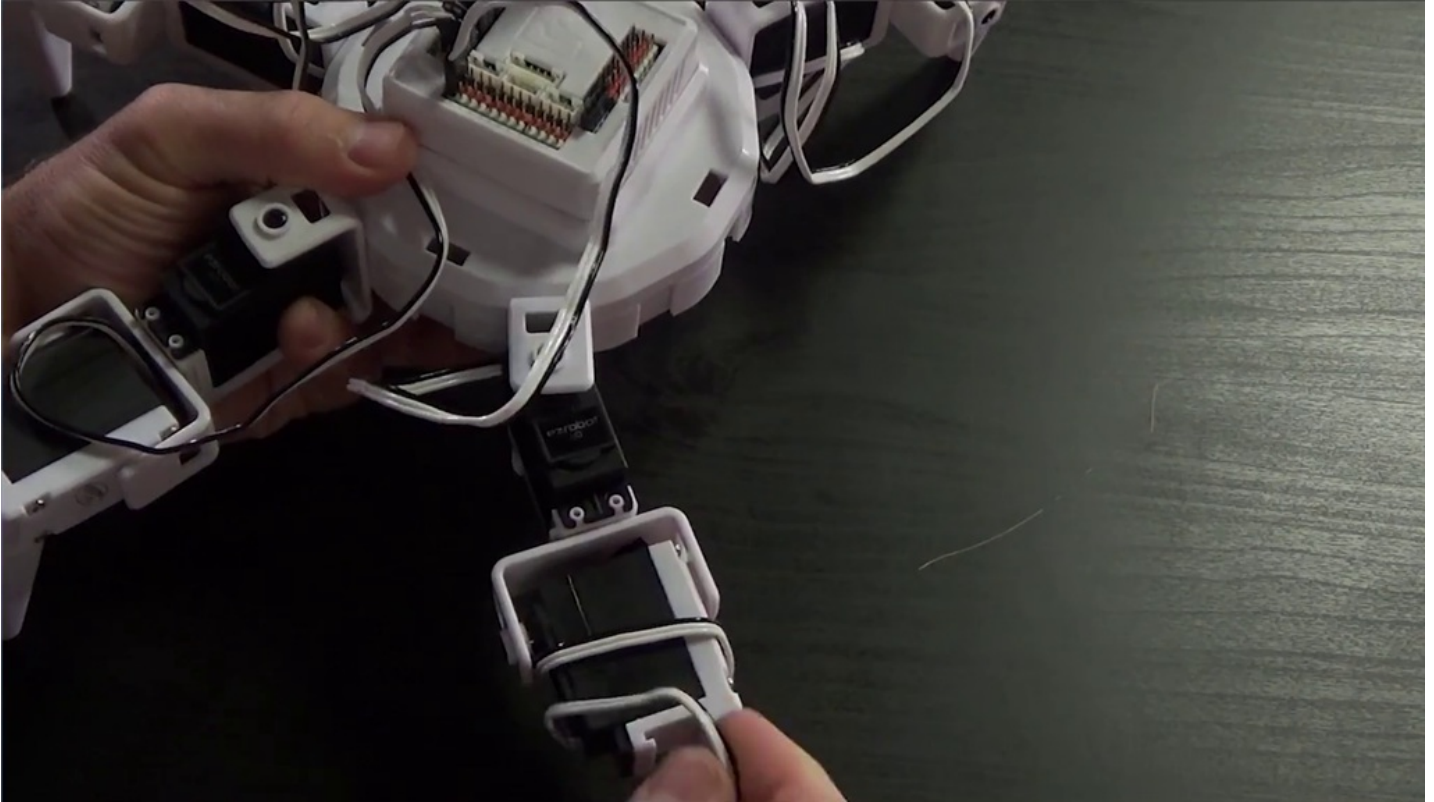
Step 31

Connect the servo to **D12**.



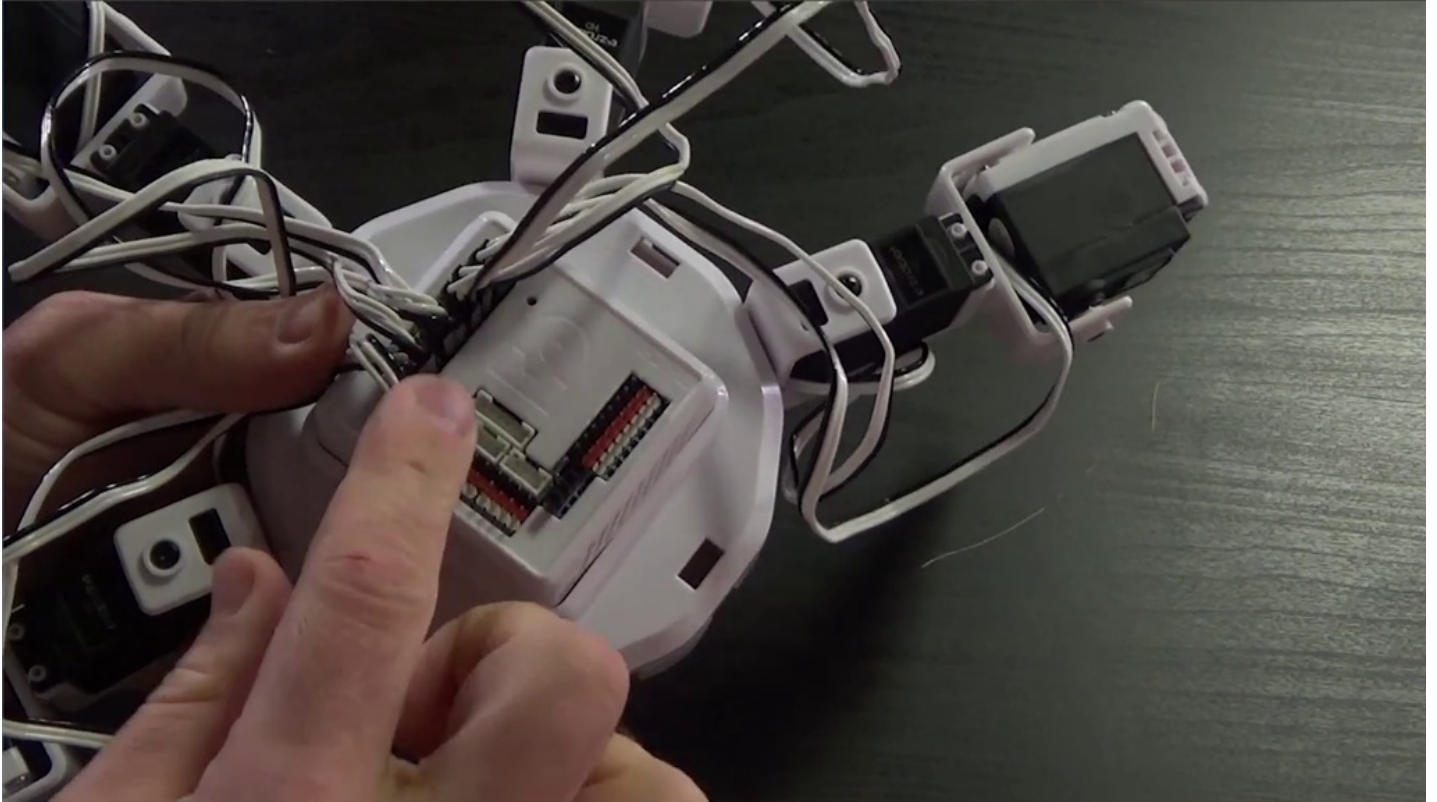
Step 32

Clipac™ **nâc™** **Play** the outside **Lever Servo** with the white bracket on the left-hand side.



Step 33

Connect the servo to **D13**.



Step 34

Complete this leg with a **Hexapod Foot**.



Step 35

Clip a **Lever Servo** into the 3 o'clock position.



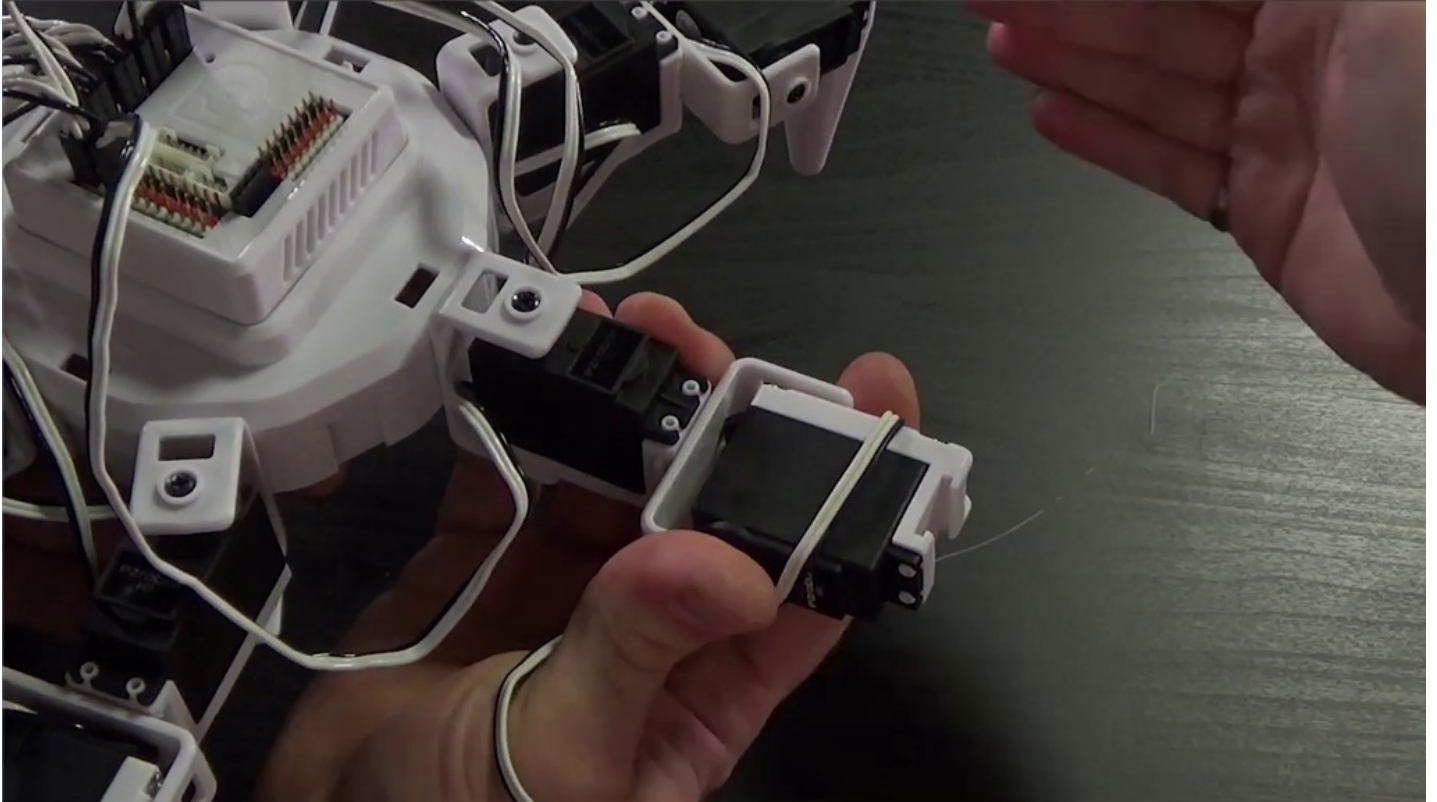
Step 36

Connect the servo to **D15**.



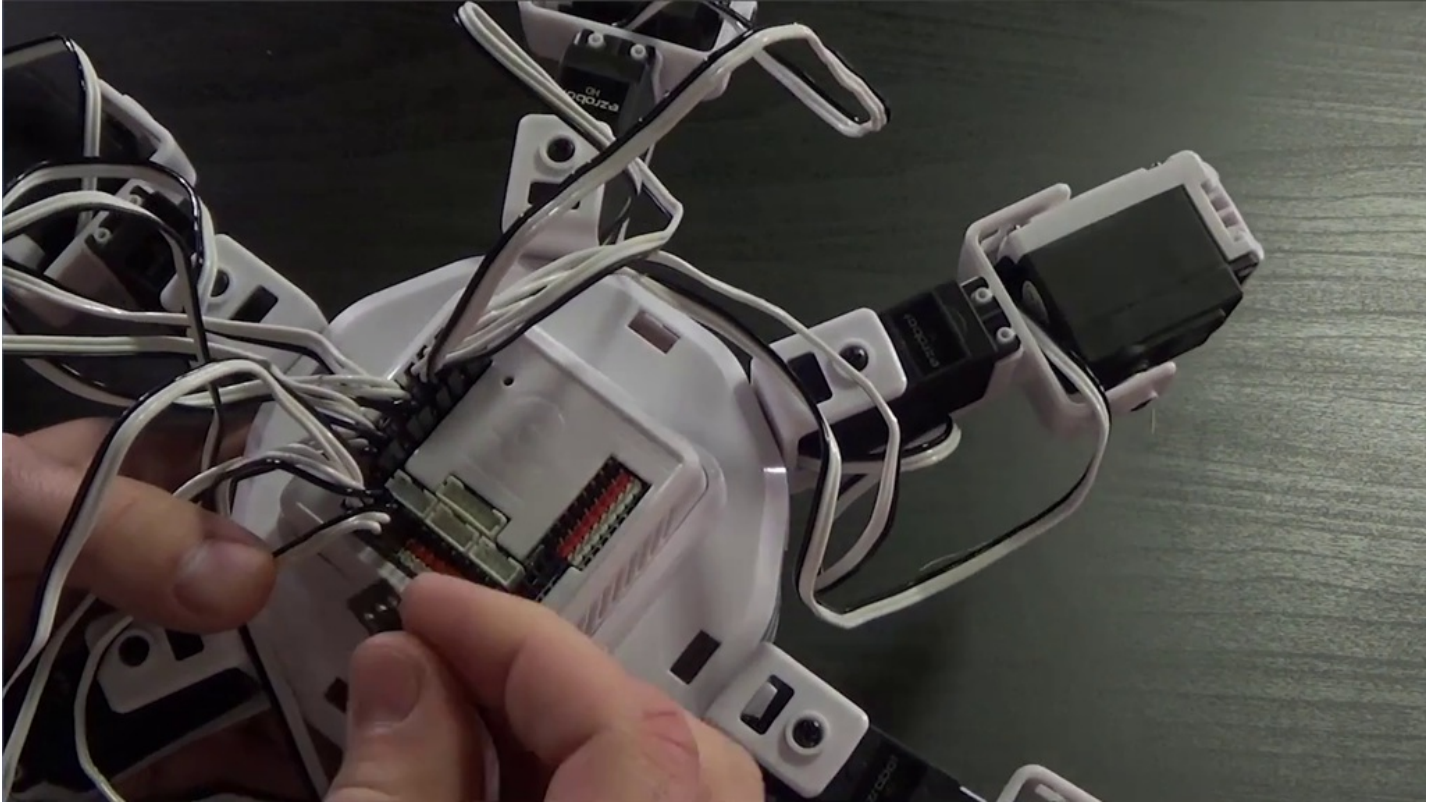
Step 37

Clip the outside **Lever Servo** with the white bracket on the left-hand side.



Step 38

Connect the servo to **D16**.



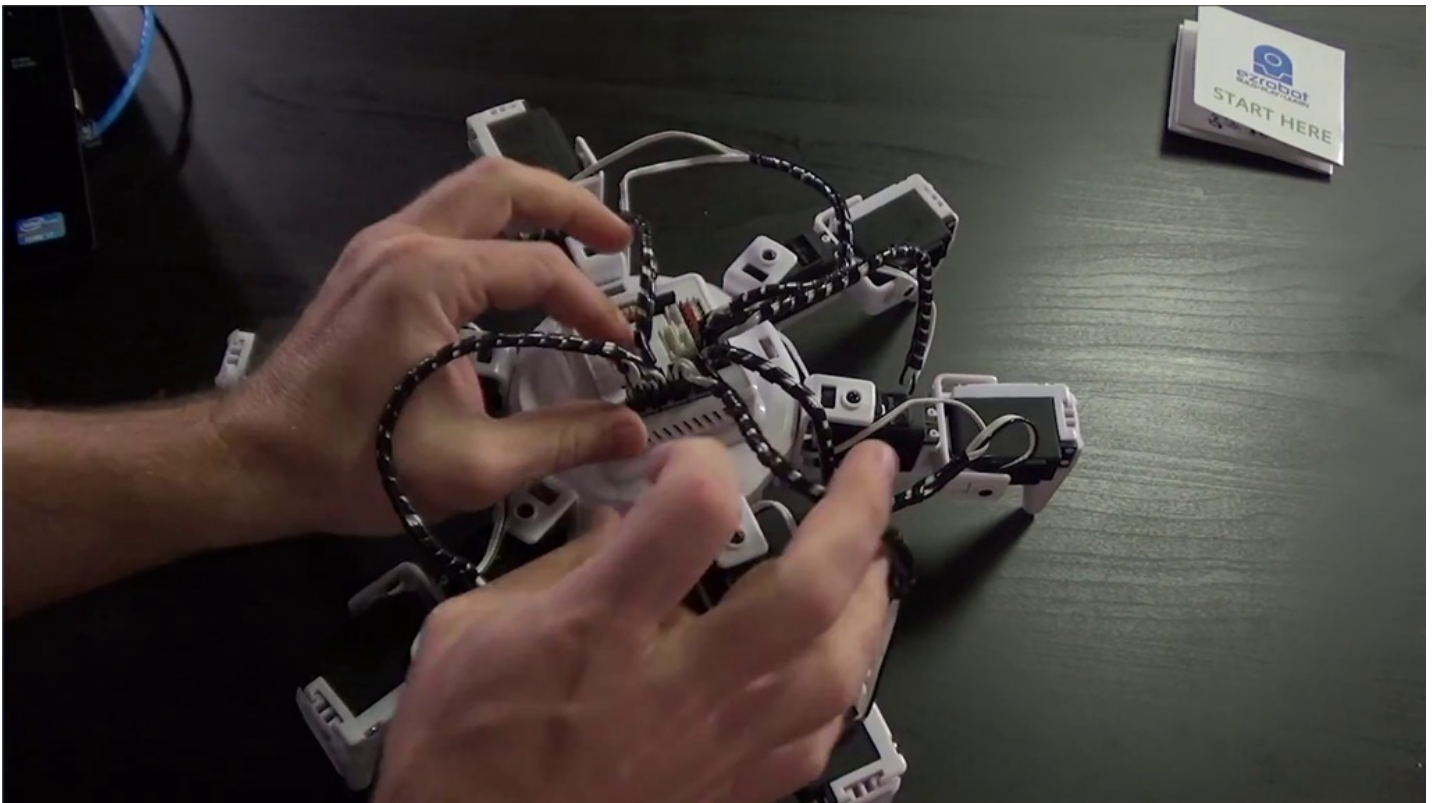
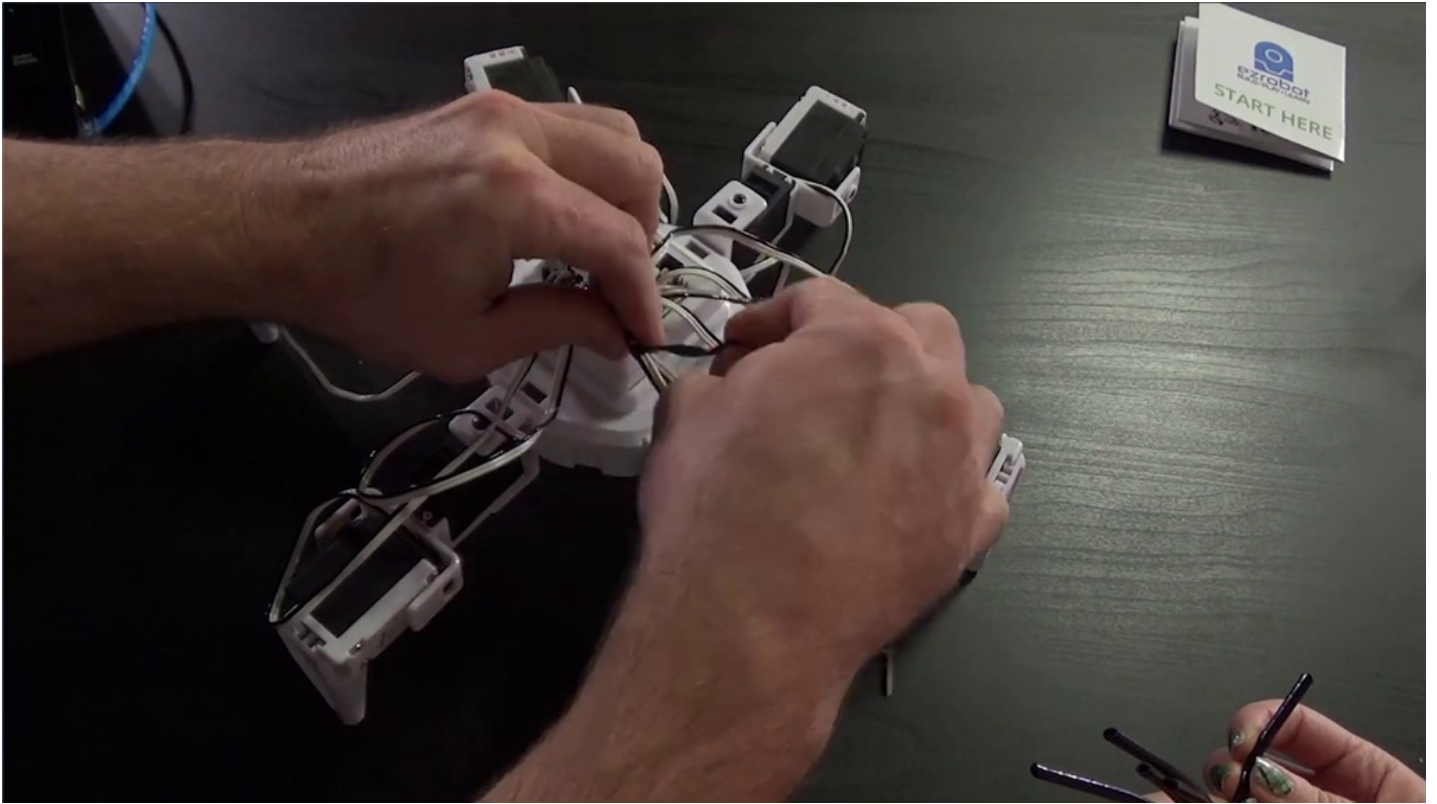
Step 39

Complete this leg with a **Hexapod Foot**.



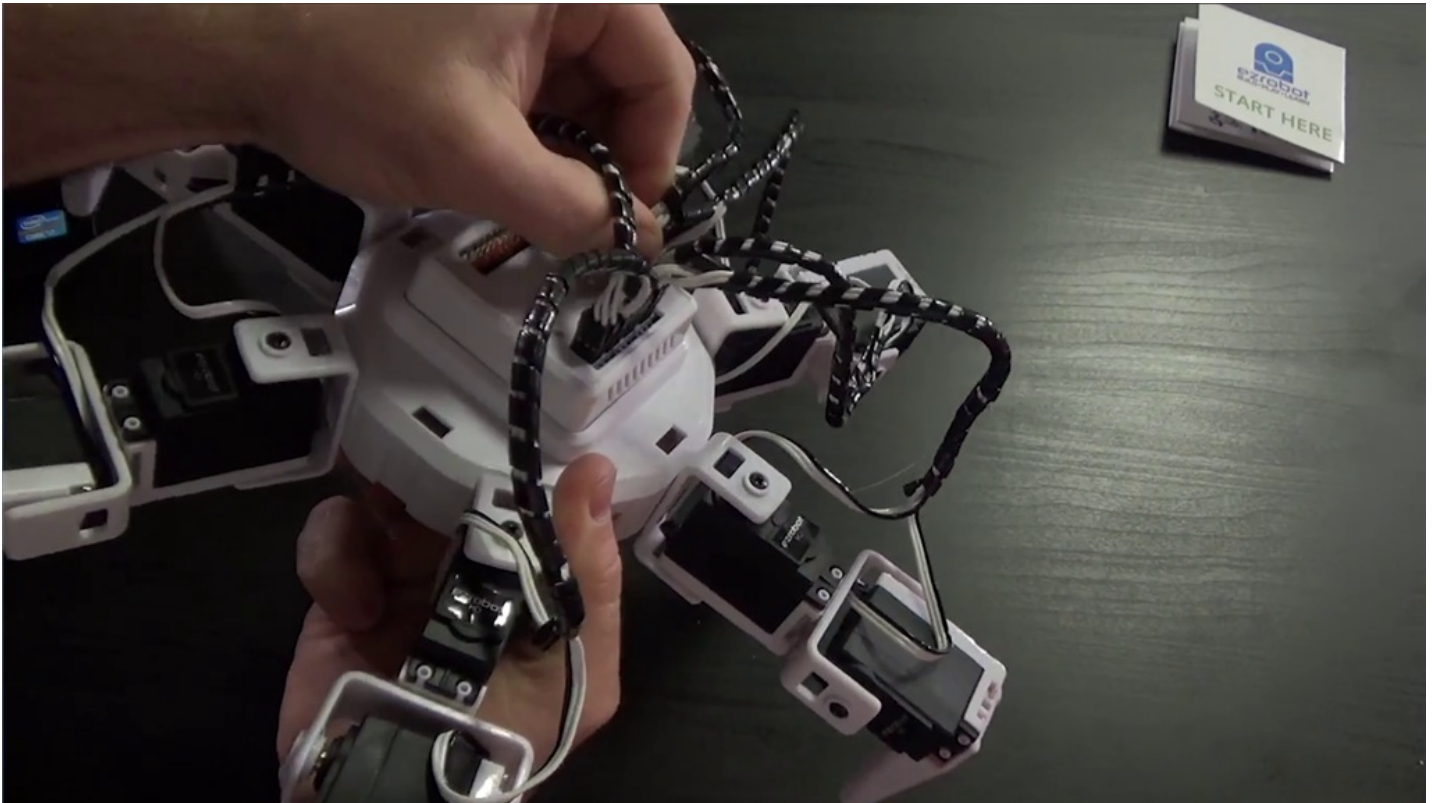
Step 40

Use **Wire Wraps** to organize cables. Begin wrapping near the **EZ-B** and wrap downwards toward leg servos. Leave cable slack near servos for full range of motion.



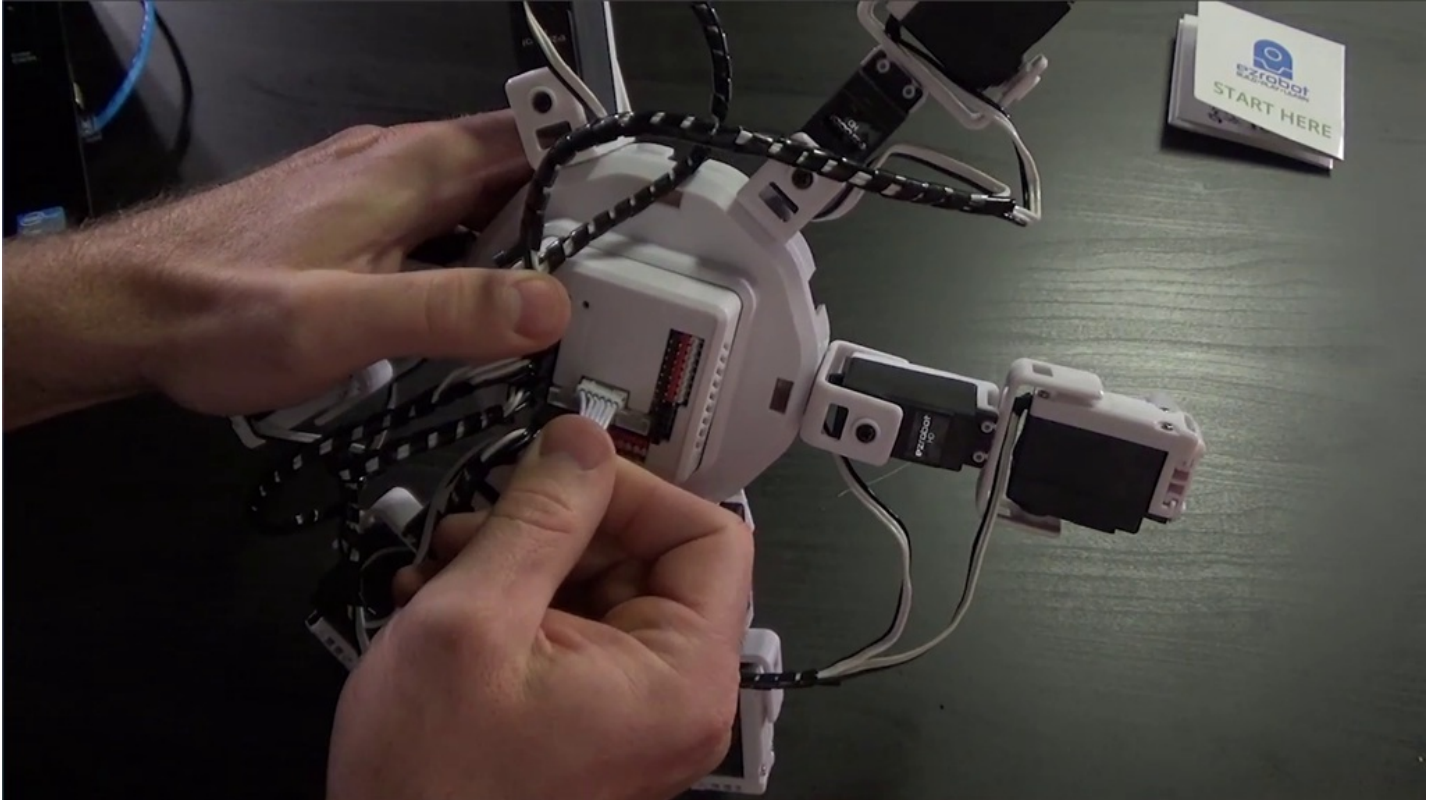
Step 41

Check that connections are still secure and test for full motion.



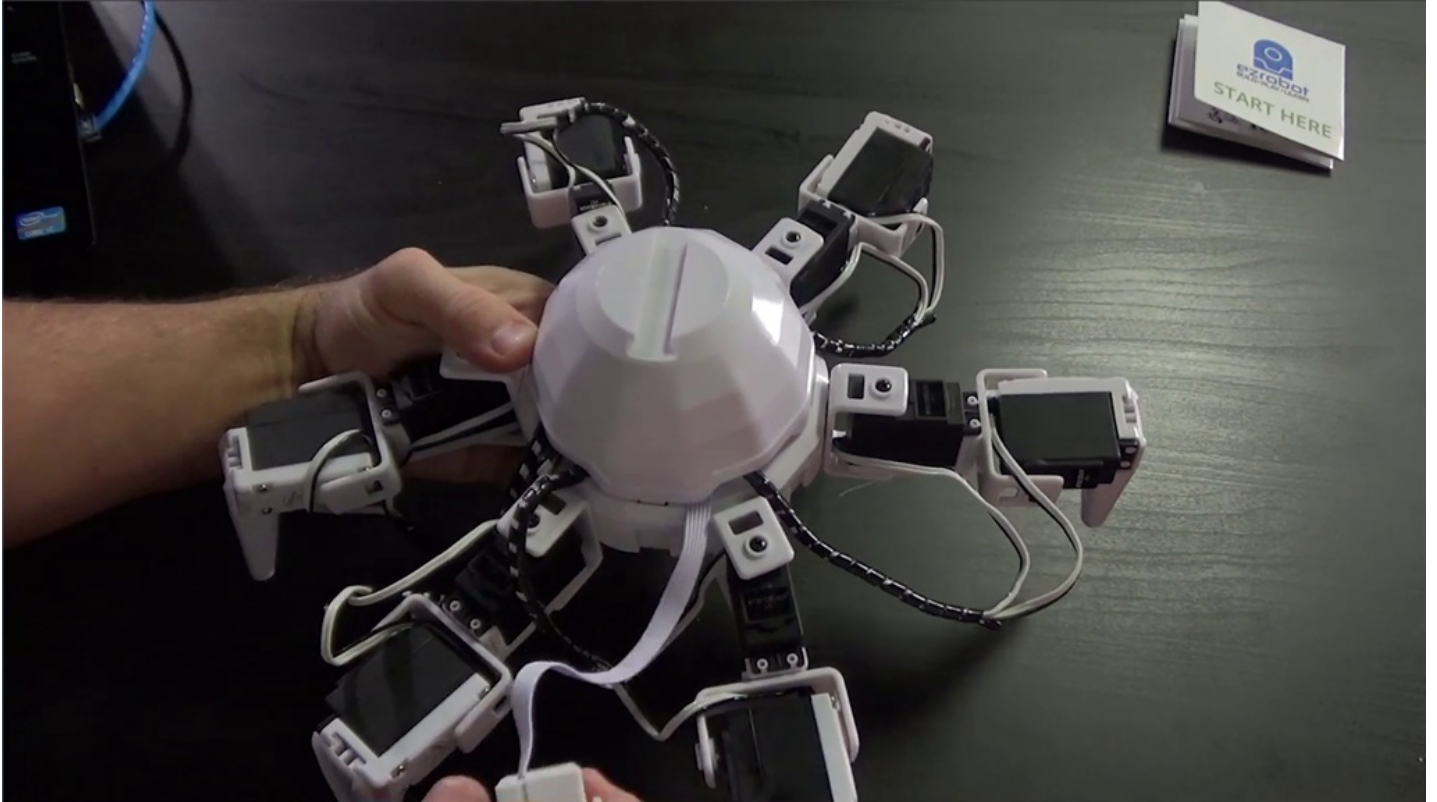
Step 42

Connect the **Camera** cable to the camera port.



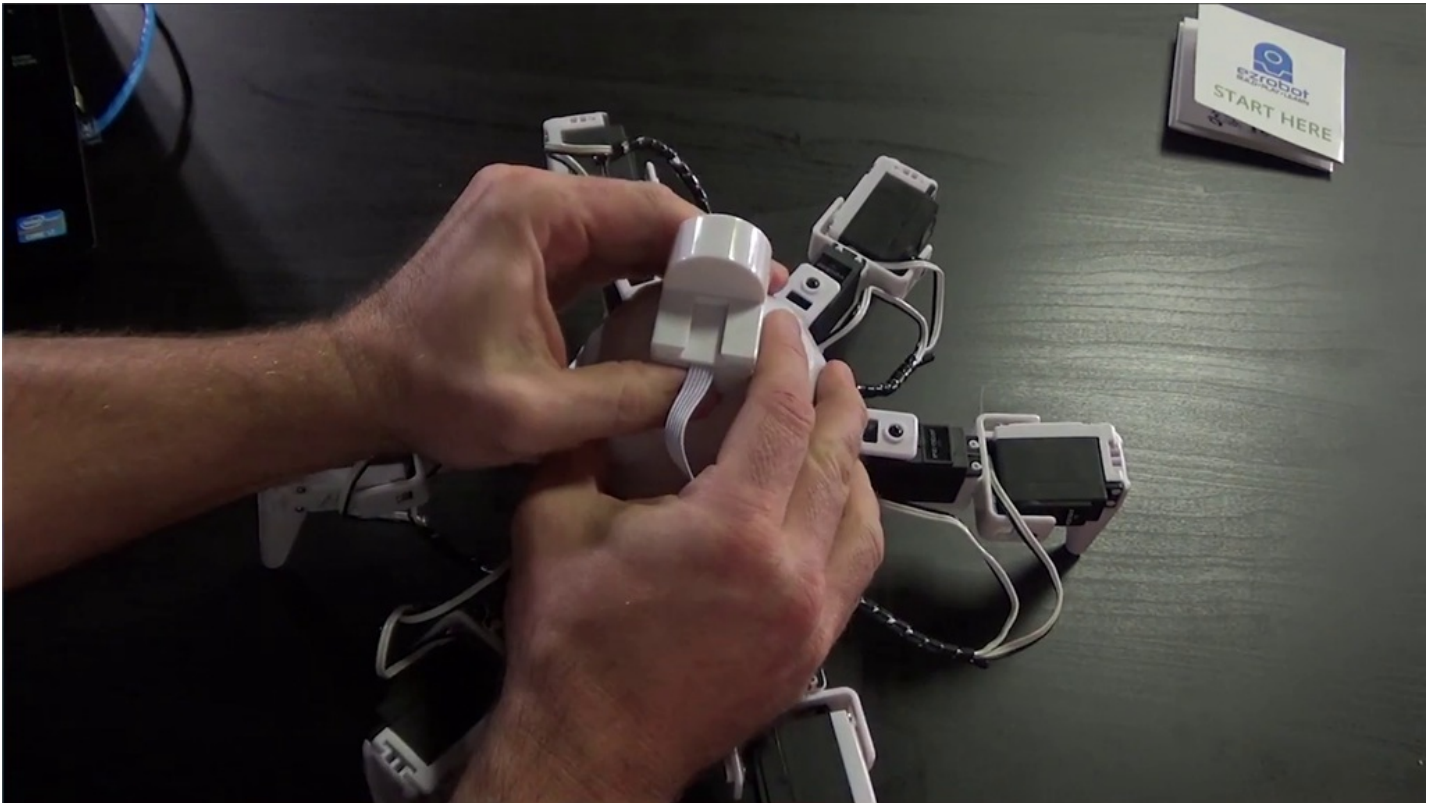
Step 43

Align the **Hexapod Dome** with the front of the robot.



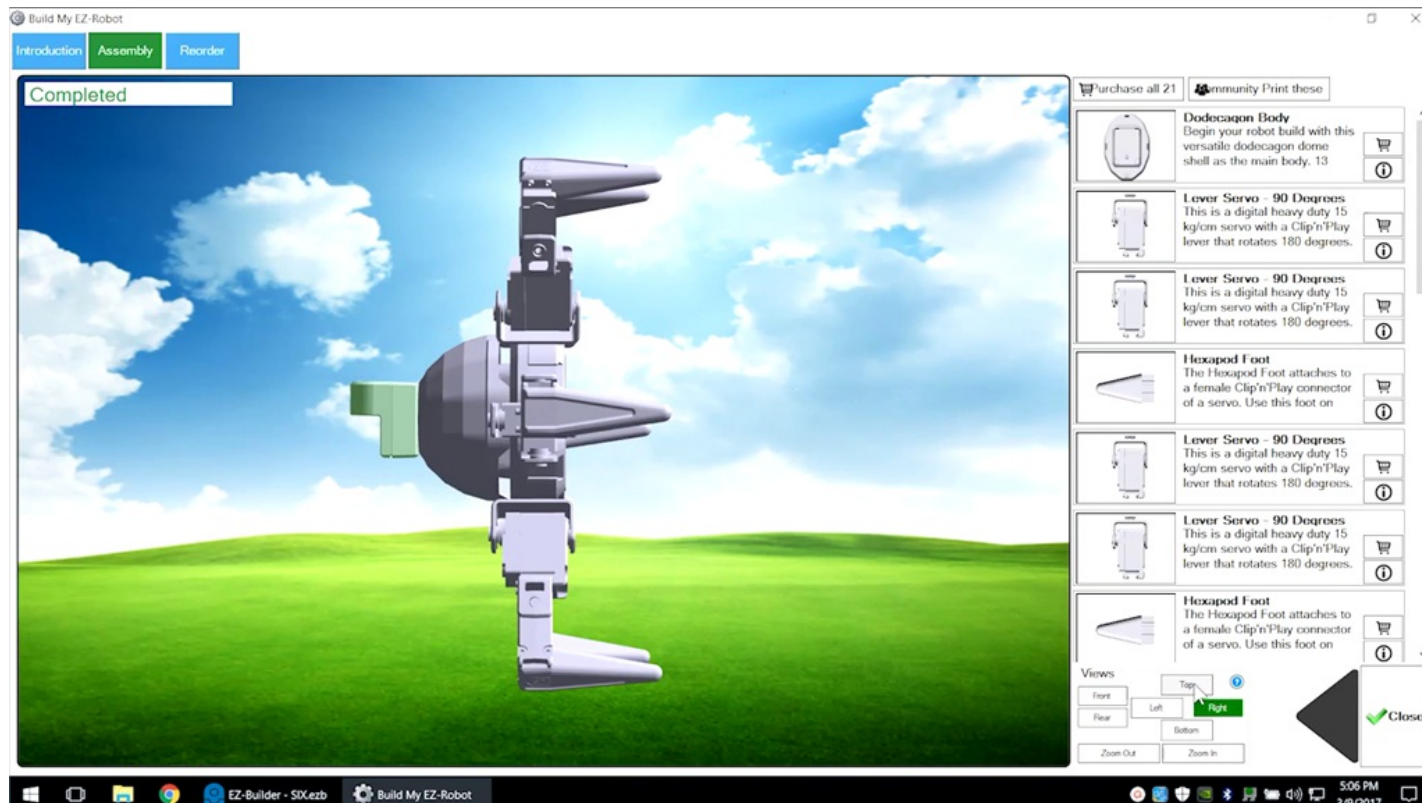
Step 44

Slide the **Camera** into the top of the **Hexapod Dome**.



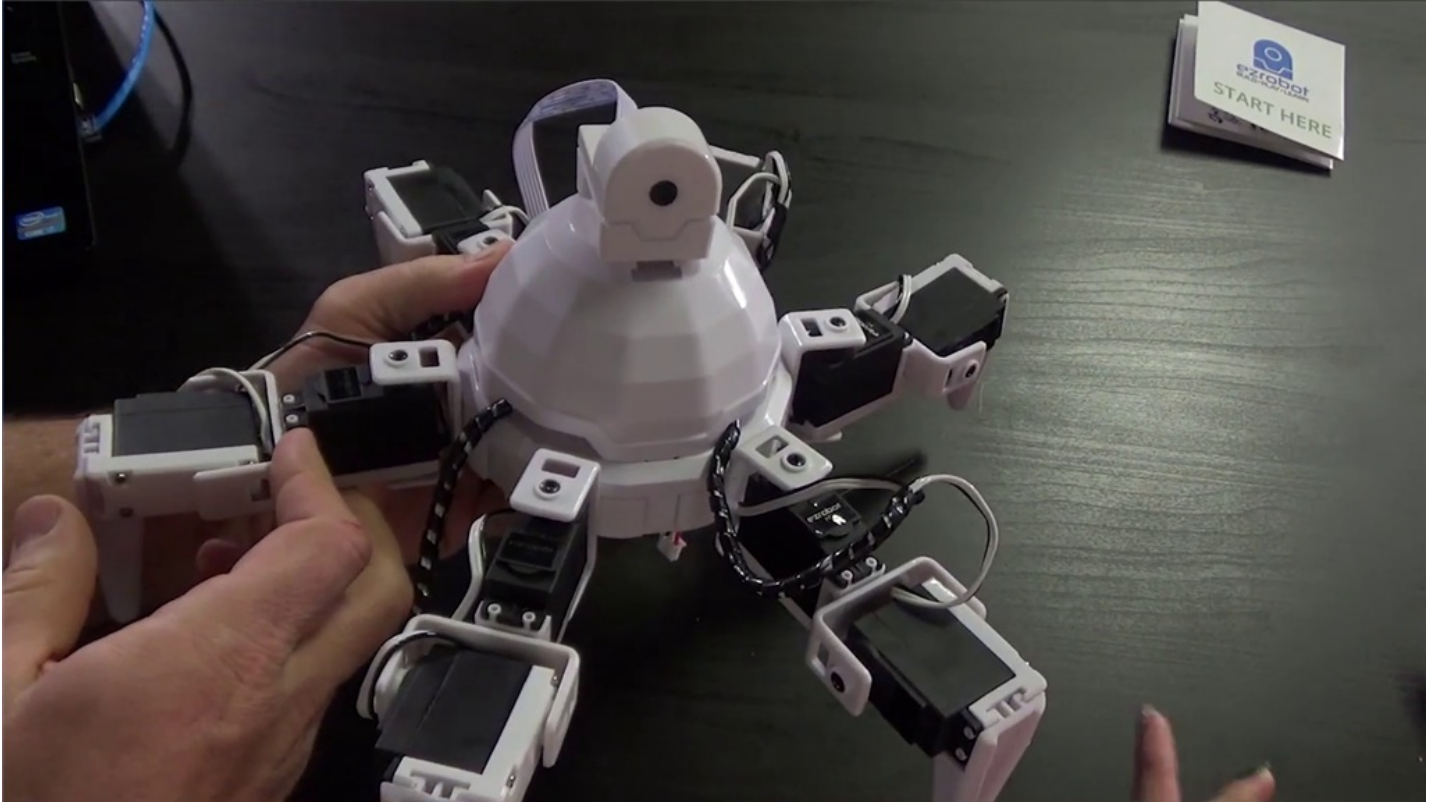
Step 45

Use the 3D view buttons to check all angles.



Step 46

Your **Revolution Six** is now complete!



Question #1 Sixâ€™s cables are what type of connection?

Question #2 What is the label of the first digital port?

Question #3 Why is wire wrapping a good idea?

View the answers to this quiz at www.ez-robot.com/Tutorials/Lesson/62.

Visit www.TheRobotProgram.com for more episodes.