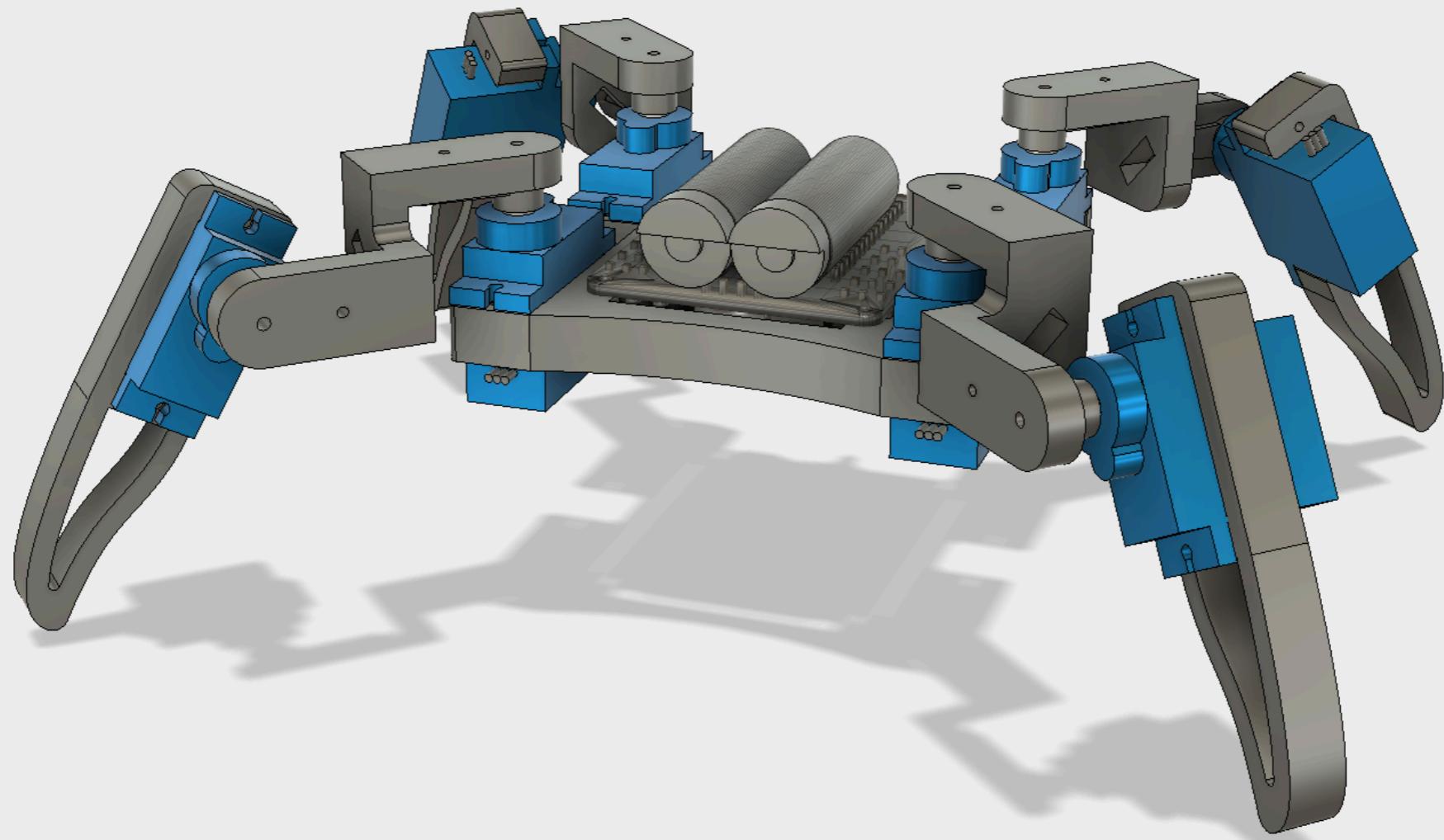


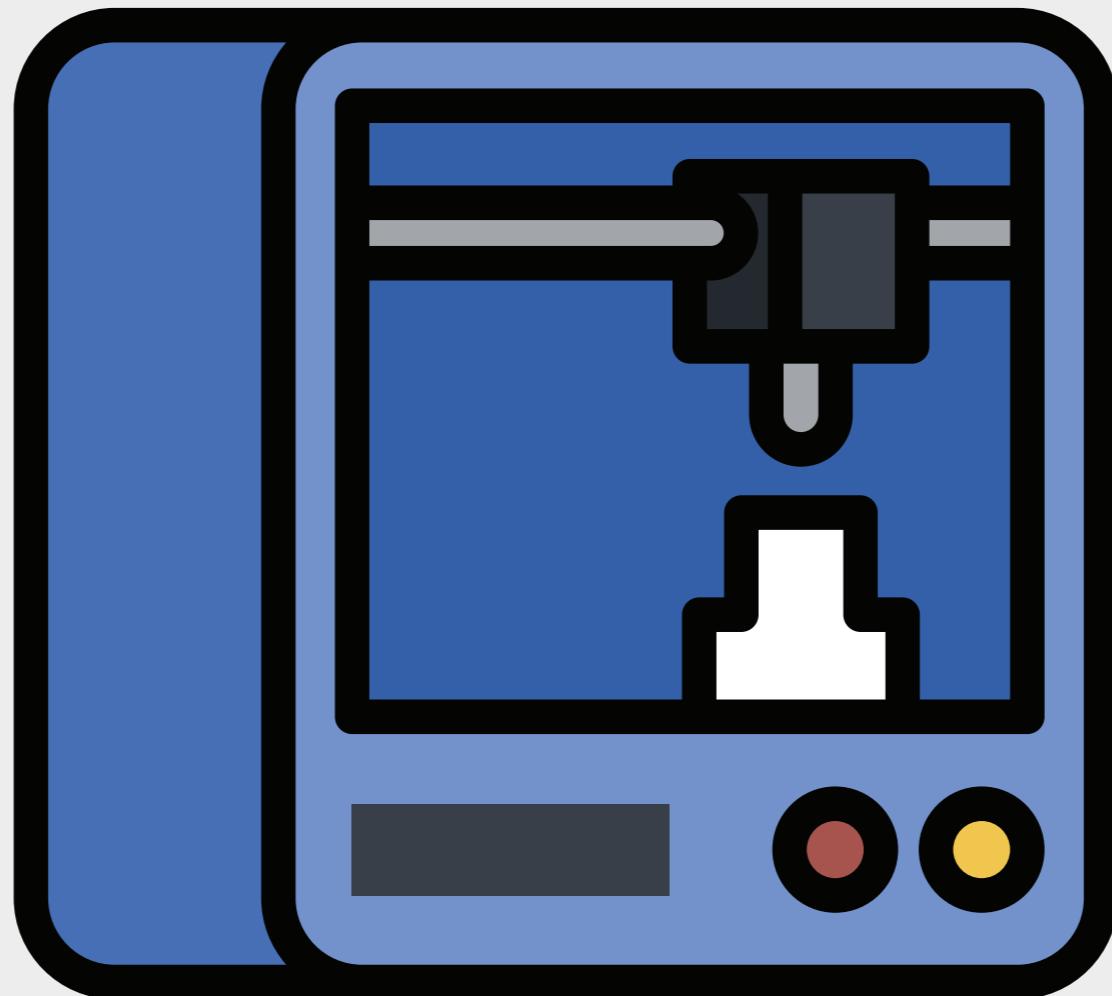
Q1 lite

3DP Version

An Open Source Quadruped Robot



Prepare Parts



Downloads & Store

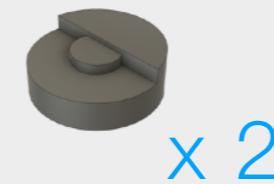
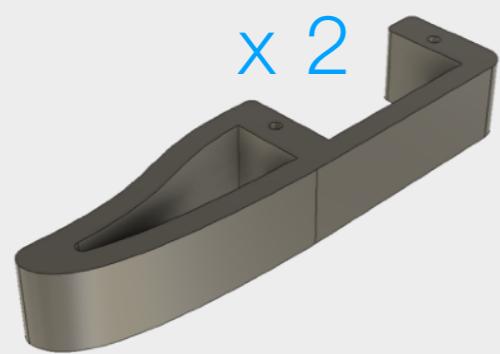
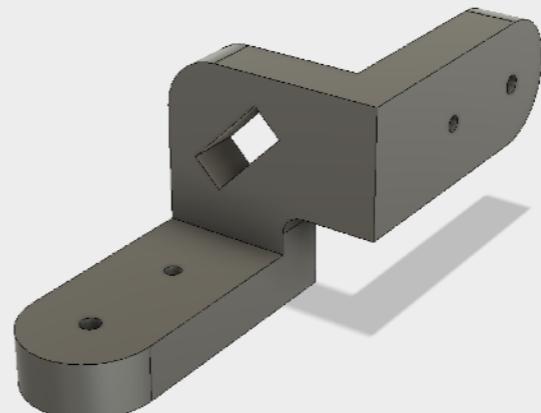
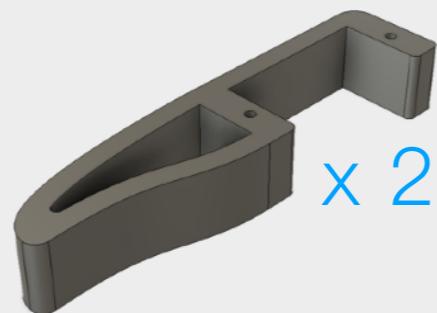
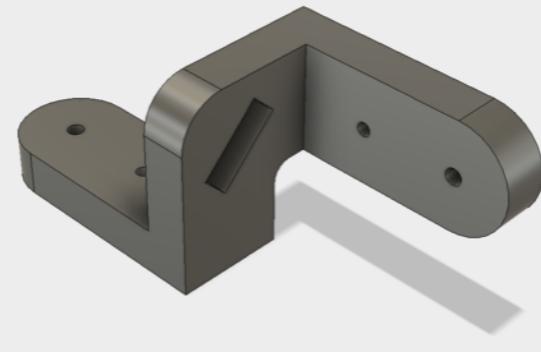
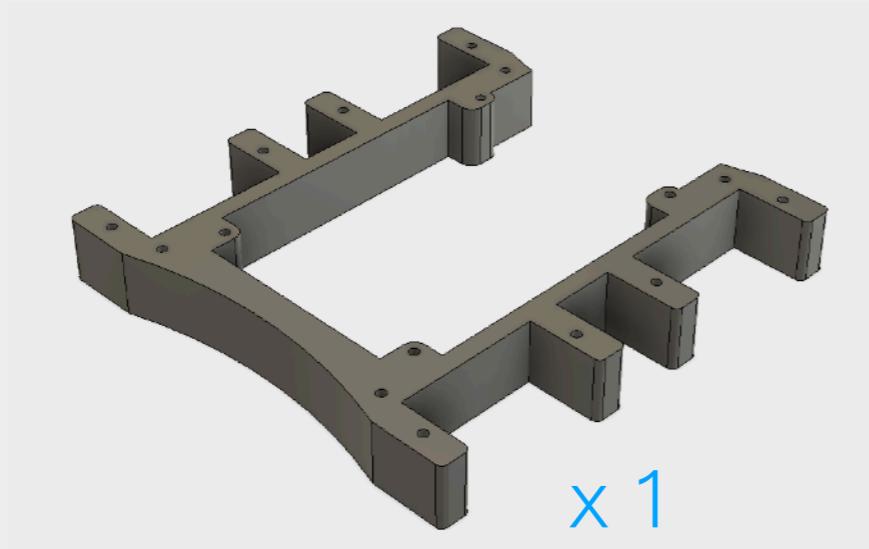


q1.jasonworkshop.com



store.jasonworkshop.com

3D Print Parts



Need support
x 2

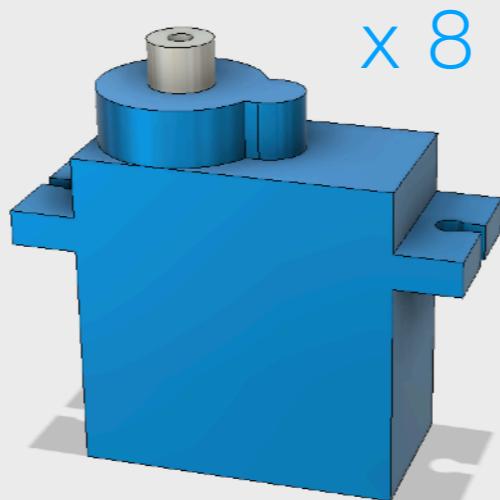
Need support
x 2

Other Parts

LinkIt 7697 + Robot Shield



x 1



x 8

Tower Pro SG90 Servo
(180 Degree)

SG90

180°



M2 x 12mm Screw
x 8



M1.7 x 6mm Screw
x 28

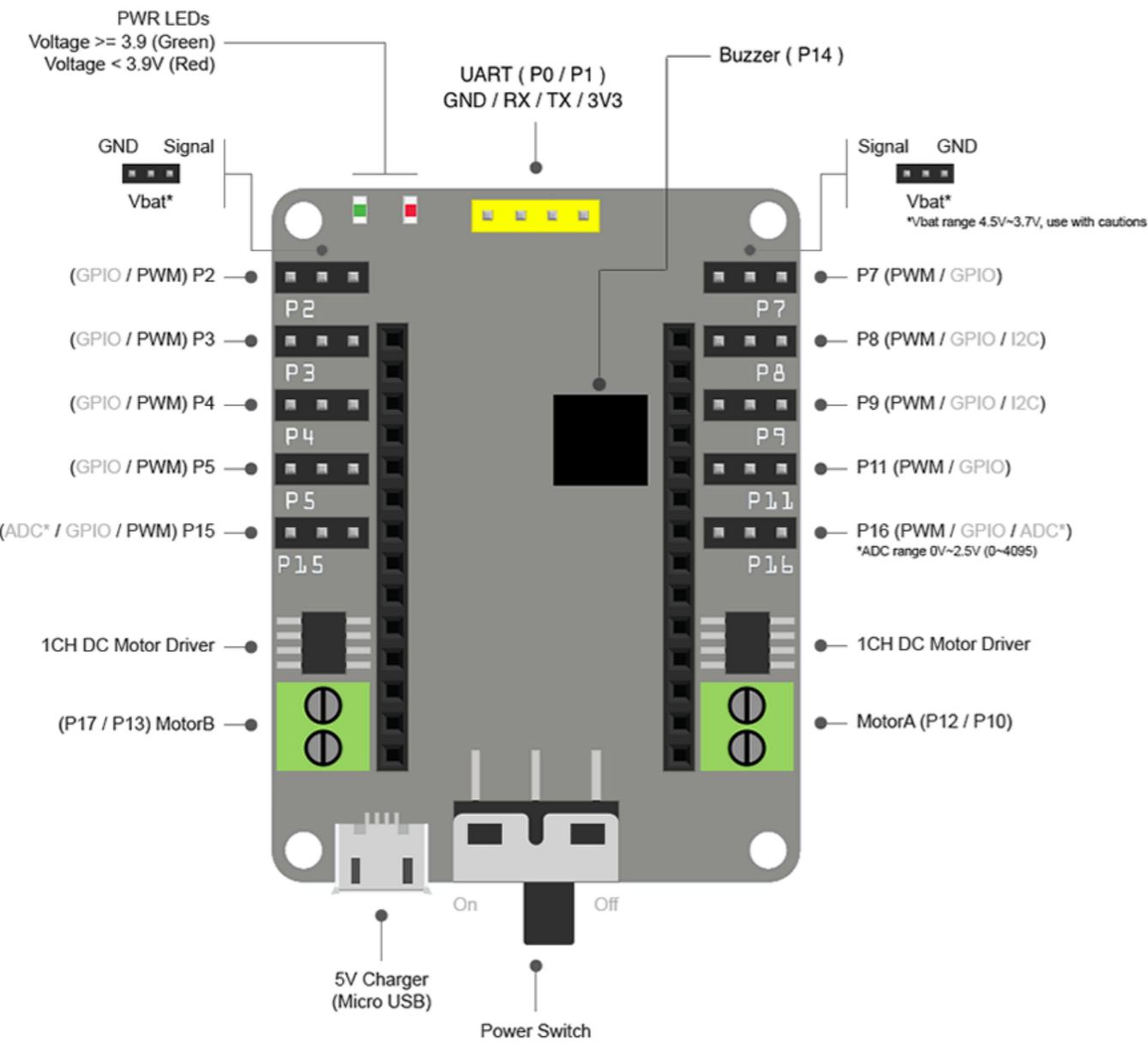


store.jasonworkshop.com

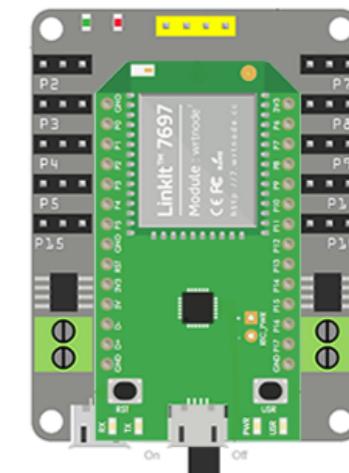
Robot Shield for LinkIt™ 7697



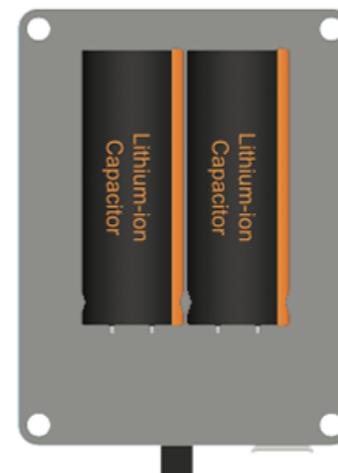
MEDIATEK
labs



store.jasonworkshop.com



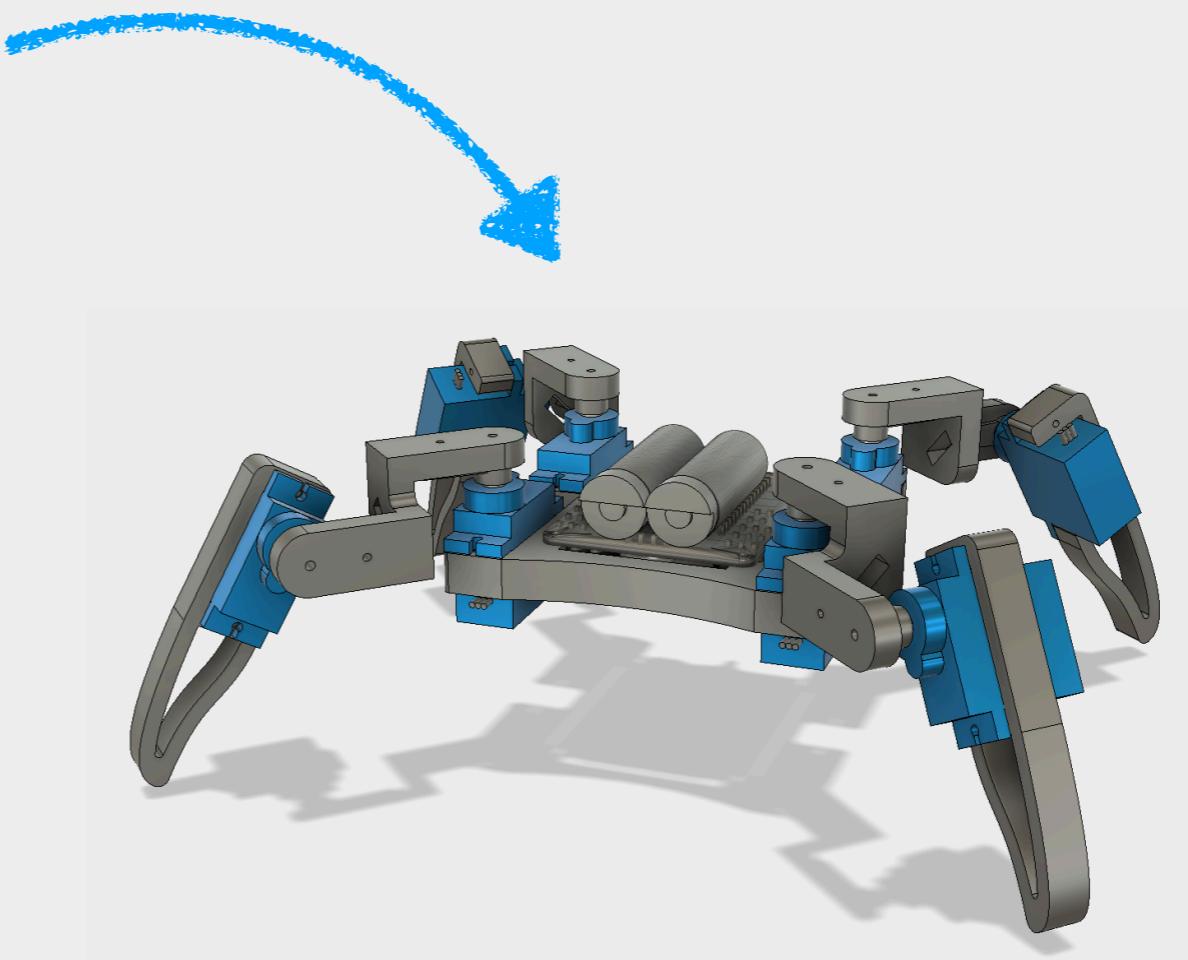
Backside



with LinkIt 7697

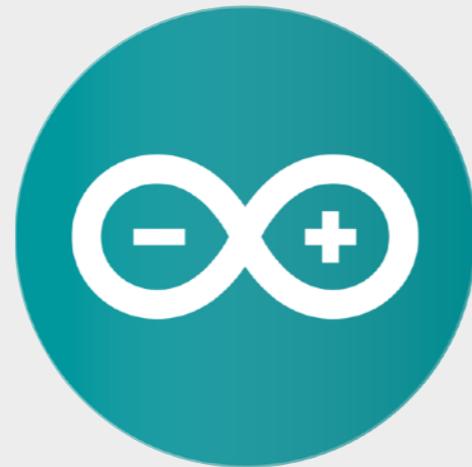
Install Firmware

01100
10110
11110



A01

Install Arduino IDE

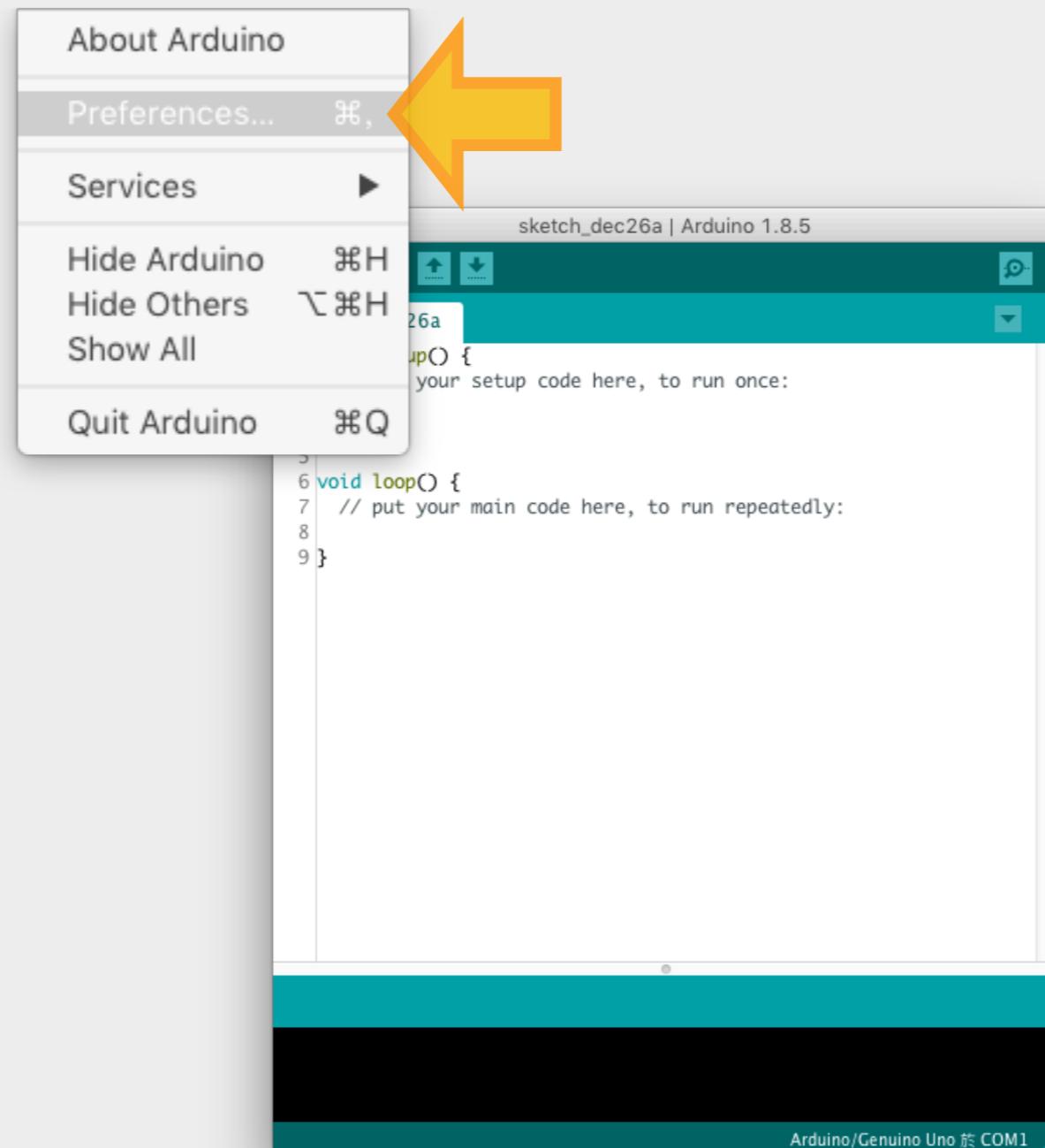


www.arduino.cc



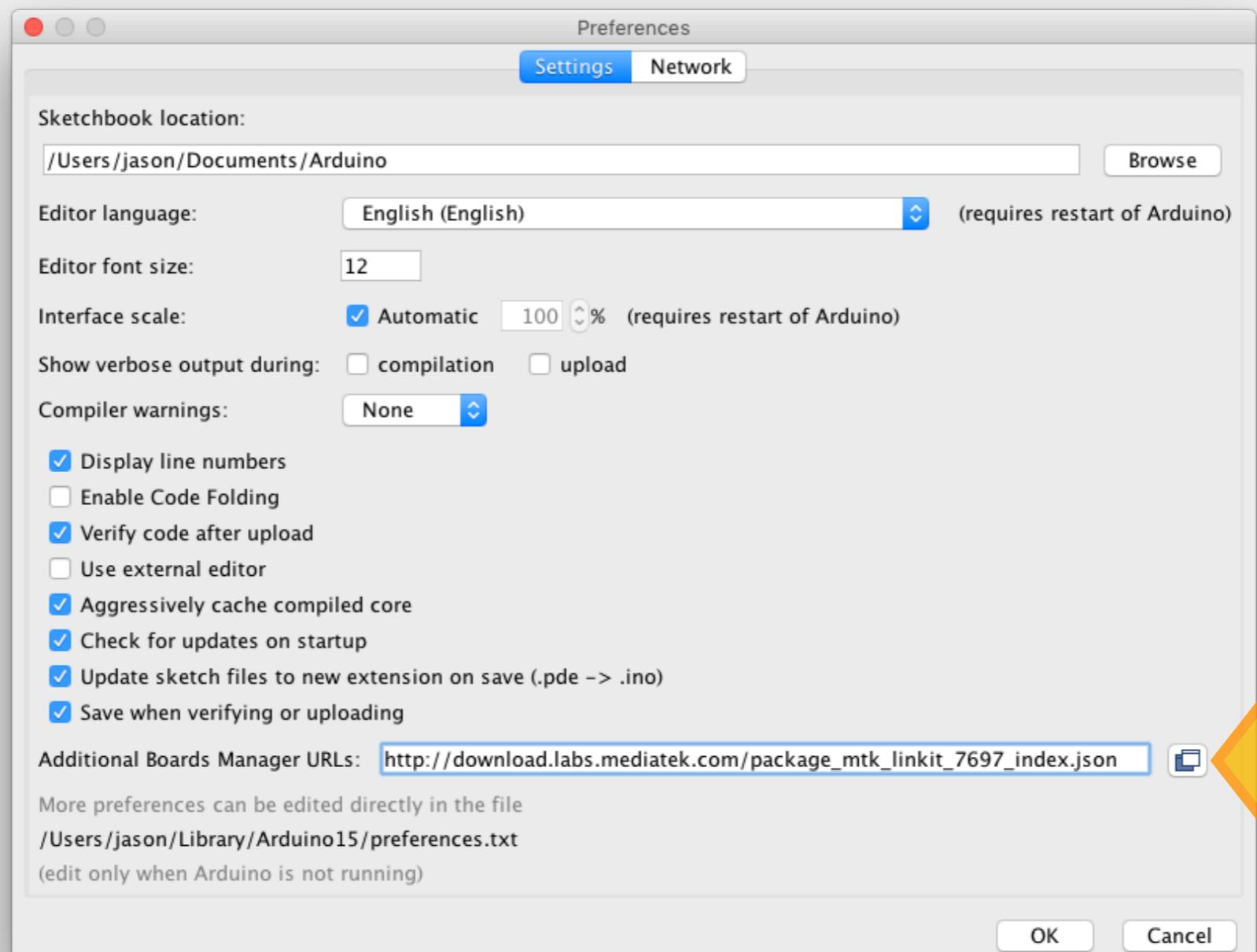
B01

Add LinkIt 7697 Broad to Arduino





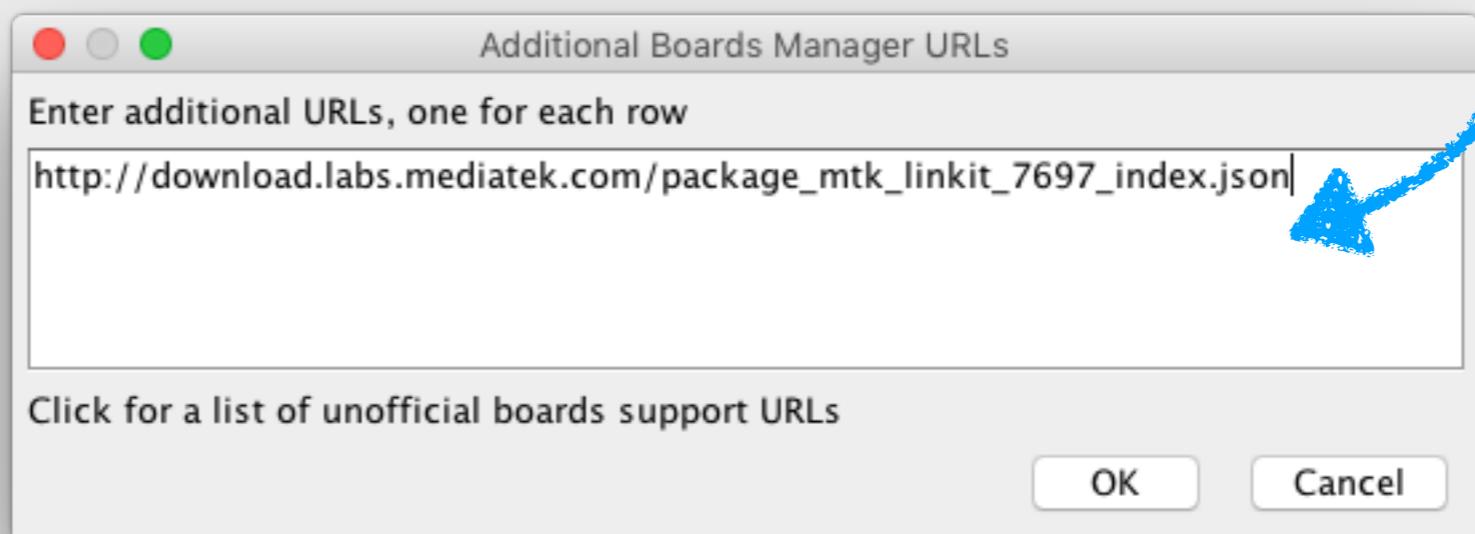
Add LinkIt 7697 Broad to Arduino



B03

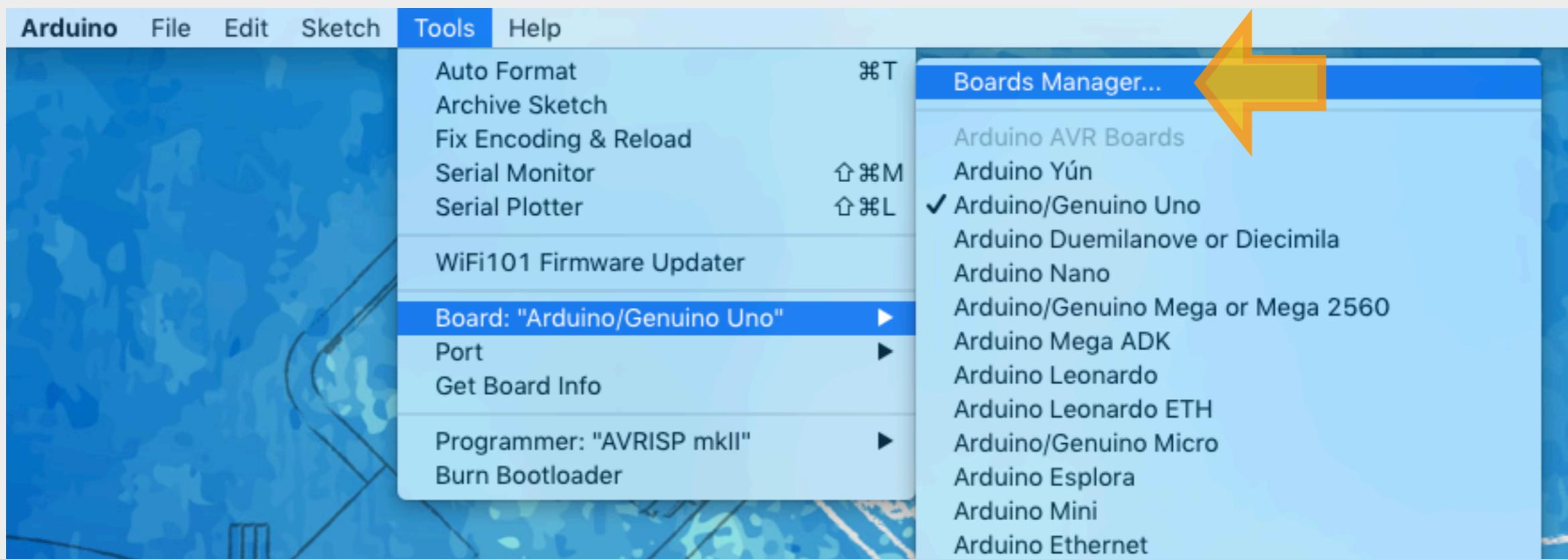
Add LinkIt 7697 Broad to Arduino

http://download.labs.mediatek.com/package_mtk_linkit_7697_index.json



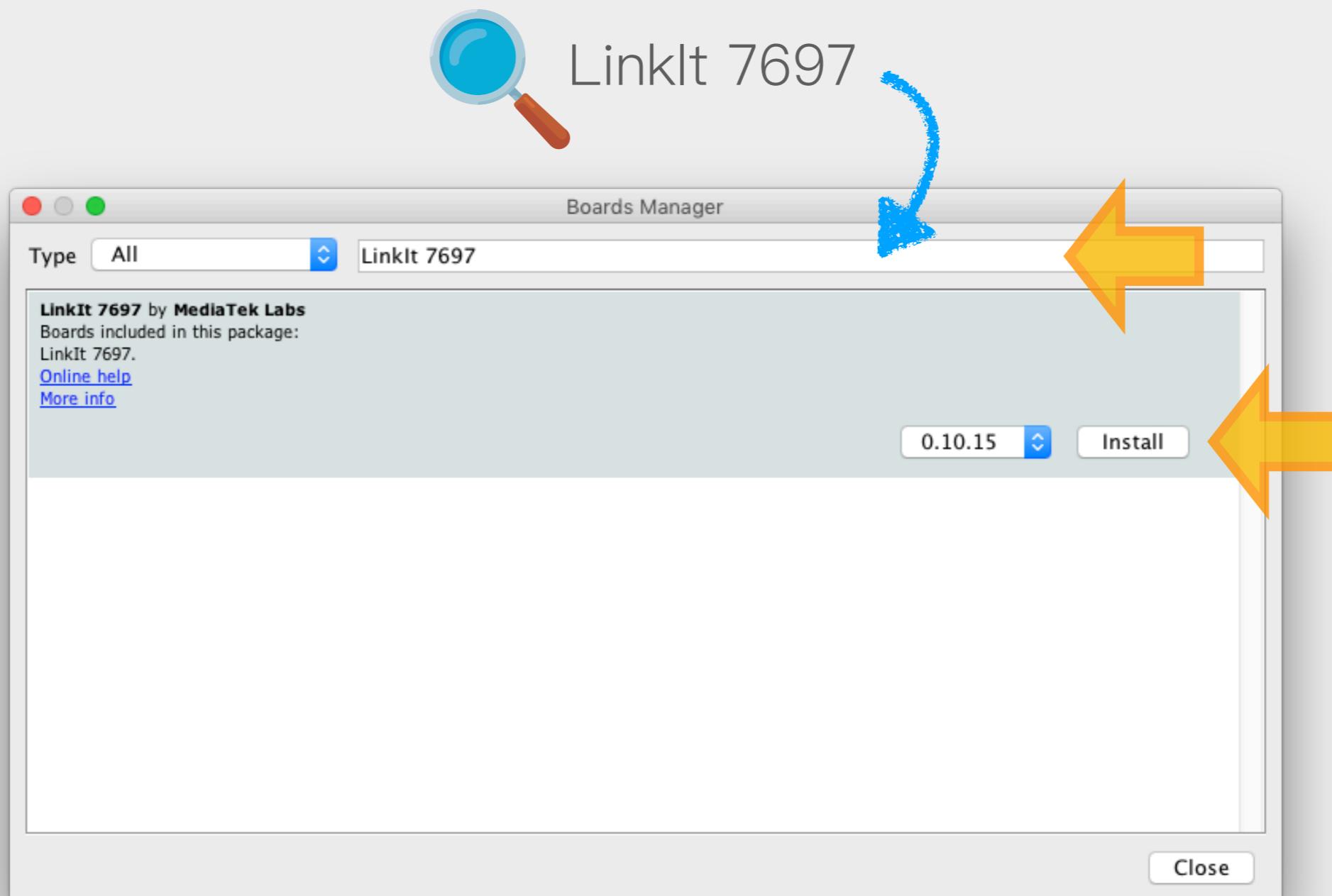
Add LinkIt 7697 Broad to Arduino

B04



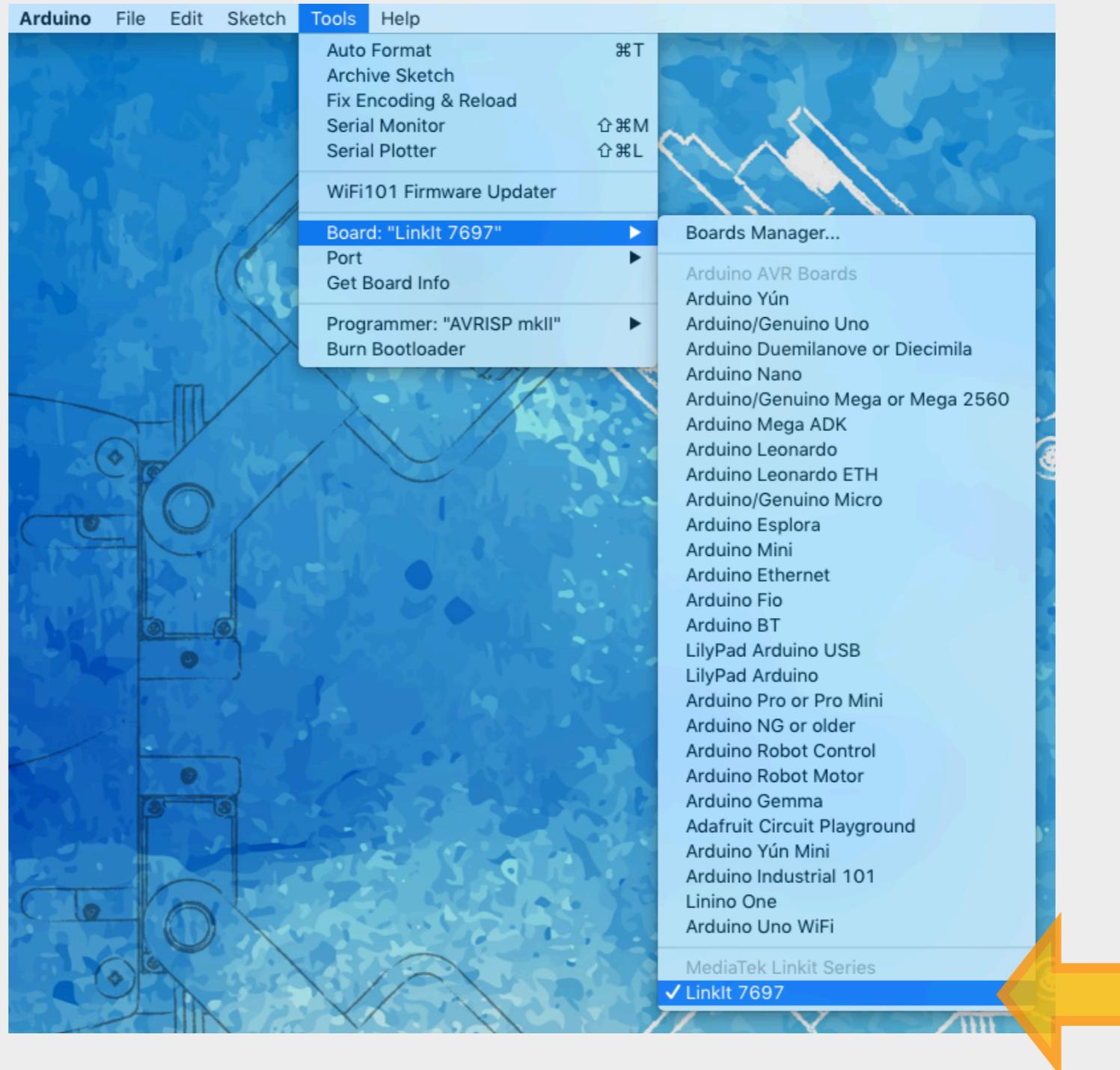
Add LinkIt 7697 Broad to Arduino

B05



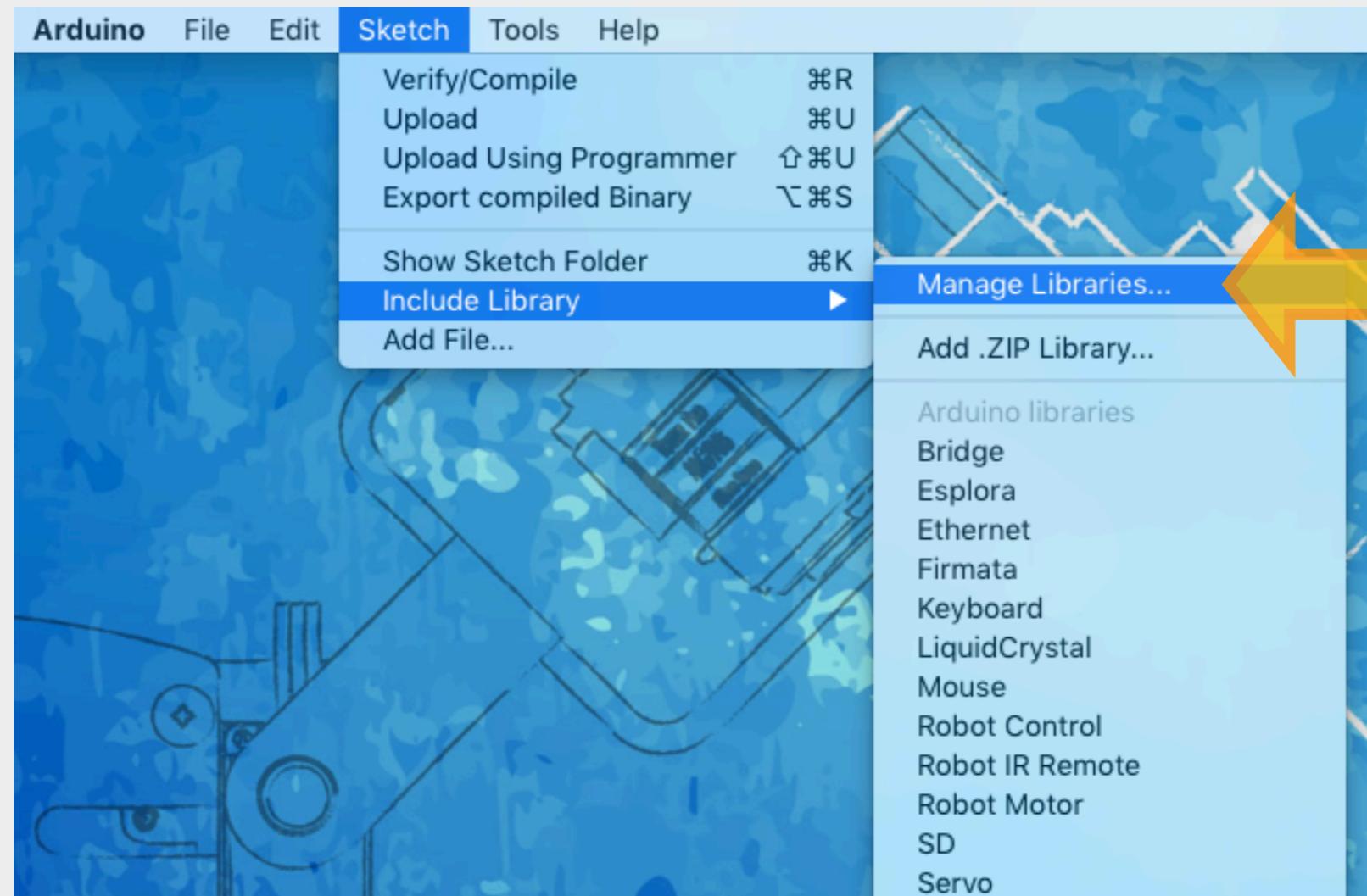
B06

Add LinkIt 7697 Broad to Arduino



C01

Include PWM Servo Driver Library



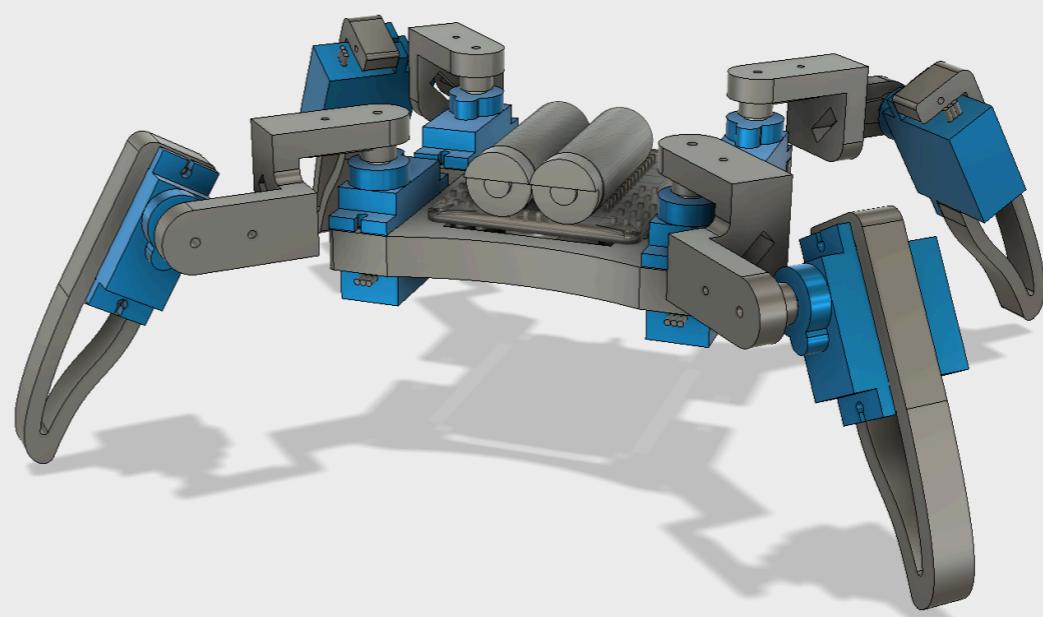
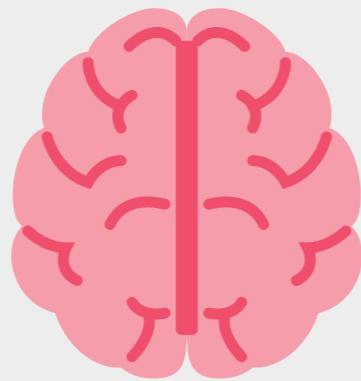


Include PWM Servo Driver Library





[q1.jasonworkshop.c](http://q1.jasonworkshop.com)



D01

Upload firmware



firmware.ino

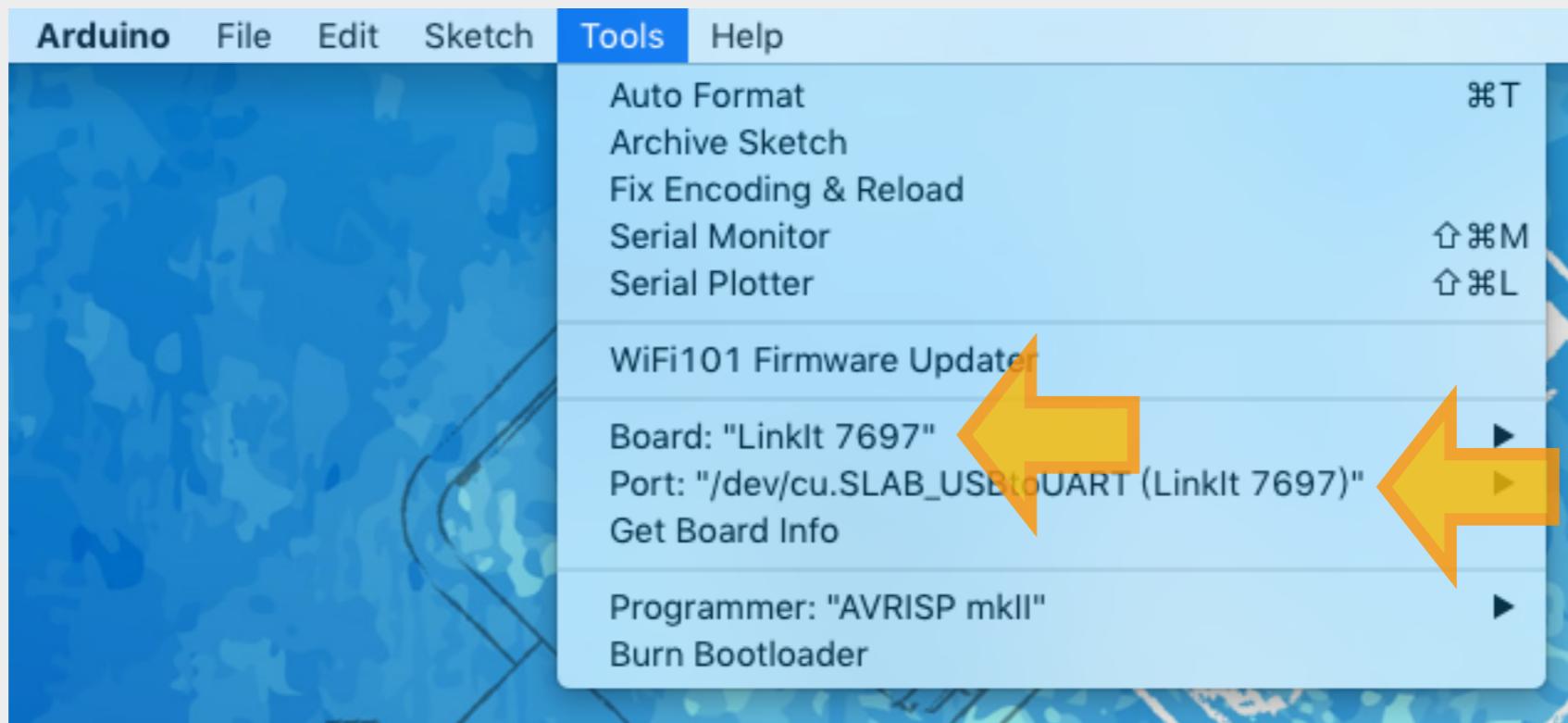
The screenshot shows the Arduino IDE interface with the title bar "firmware | Arduino 1.8.5". The main window displays the "firmware" sketch. The code is a C++ program for a quadruped robot. It includes comments for version information, website links, and a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 license notice. The code defines pin assignments for various pins (P07, P02, P08, P03, P11, P05, P16, P15) and includes headers for EEPROM, Servo, and LRemote libraries. A note at the bottom indicates the board is connected via USB to UART.

```
1 // Q1 lite 2.0 - Simple Quadruped Robot (Designed by Jason Workshop)
2 //
3 // Firmware version 2.0.0
4 // Last Update: 28 Mar 2018
5 //
6 // Jason Workshop
7 // Website: http://jasonworkshop.com
8 // FB page: http://fb.com/jasonworkshop
9 //
10 // Related documents and software
11 // Website: http://q1.jasonworkshop.com
12 // FB page: http://fb.com/Q1.JasonWorkshop
13 //
14 // 3D parts
15 // Website: http://thingiverse.com/thing:2732957
16 //
17 //
18 //
19 // This Firmware licensed under the Attribution-NonCommercial-ShareAlike 4.0 (CC-BY-NC-SA 4.0)
20 //
21 // Attribution: You must give appropriate credit, provide a link to the license, and indicate if changes were made.
22 // You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.
23 //
24 // ShareAlike: If you remix, transform, or build upon the material,
25 // you must distribute your contributions under the same license as the original.
26 //
27 // License Deed
28 // http://creativecommons.org/licenses/by-sa/4.0/
29 //
30 //
31 //
32 // -----
33 // | 5 | | 1 |
34 // | P07 | | P02 |
35 // -----
36 // | 6 | | 2 |
37 // | P08 | | P03 |
38 // -----
39 // | 7 | | 3 |
40 // | P11 | | P05 |
41 // -----
42 // | 8 | | 4 |
43 // | P16 | | P15 |
44 // ----- (Top View)
45 //
46
47 #include <EEPROM.h>
48 #include <Servo.h>
49 #include <LRemote.h>
50
51 //
52
```

LinkIt 7697 通过 /dev/cu.SLAB_USBtoUART

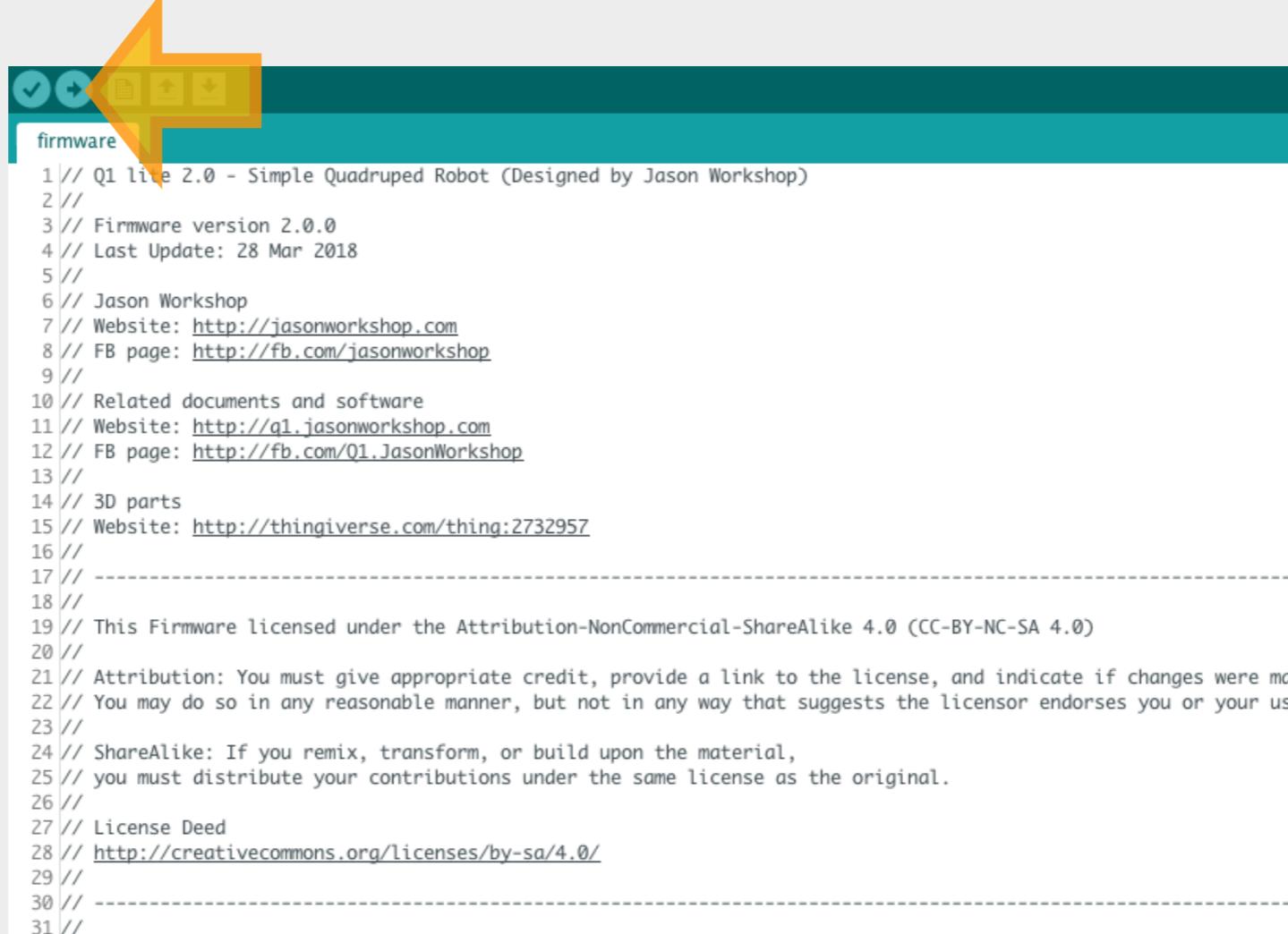
D02

Upload firmware



D03

Upload firmware



```
firmware
1// Q1 lite 2.0 - Simple Quadruped Robot (Designed by Jason Workshop)
2//
3// Firmware version 2.0.0
4// Last Update: 28 Mar 2018
5//
6// Jason Workshop
7// Website: http://jasonworkshop.com
8// FB page: http://fb.com/jasonworkshop
9//
10// Related documents and software
11// Website: http://q1.jasonworkshop.com
12// FB page: http://fb.com/Q1.JasonWorkshop
13//
14// 3D parts
15// Website: http://thingiverse.com/thing:2732957
16//
17// -----
18//
19// This Firmware licensed under the Attribution-NonCommercial-ShareAlike 4.0 (CC-BY-NC-SA 4.0)
20//
21// Attribution: You must give appropriate credit, provide a link to the license, and indicate if changes were made.
22// You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your work.
23//
24// ShareAlike: If you remix, transform, or build upon the material,
25// you must distribute your contributions under the same license as the original.
26//
27// License Deed
28// http://creativecommons.org/licenses/by-sa/4.0/
29//
30// -----
31//
```

D04

Upload firmware



Done uploading.

```
Sketch uses 576952 bytes (28%) of program storage space. Maximum is 2019328 bytes.  
Global variables use 174452 bytes (48%) of dynamic memory, leaving 185996 bytes for local variables.  
Start uploading the download agent
```

Waiting for DA output...

DA uploaded, start uploading user binary...

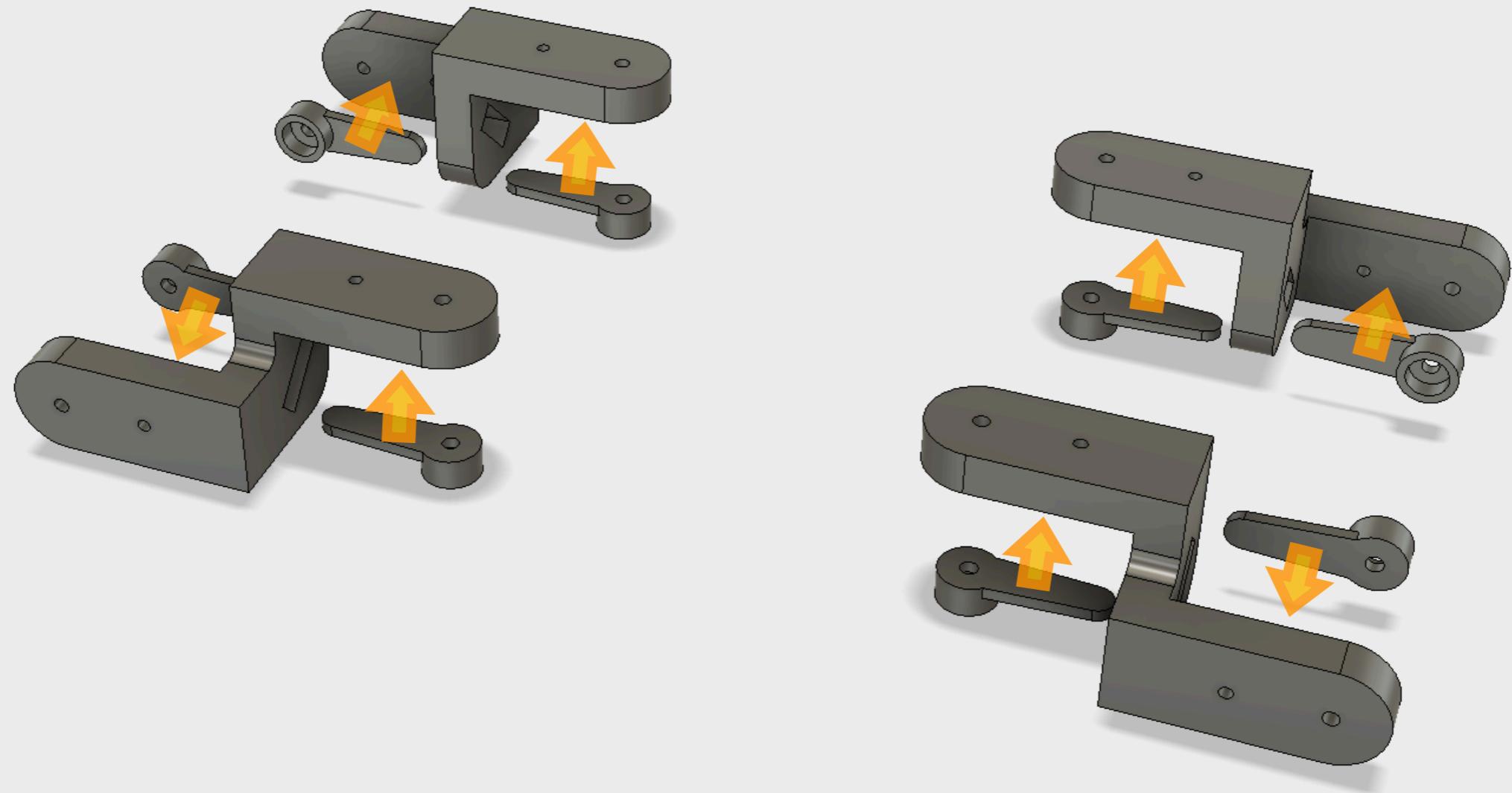
Wi-Fi Firmware version check ok.

The board reboots now.

Assemble



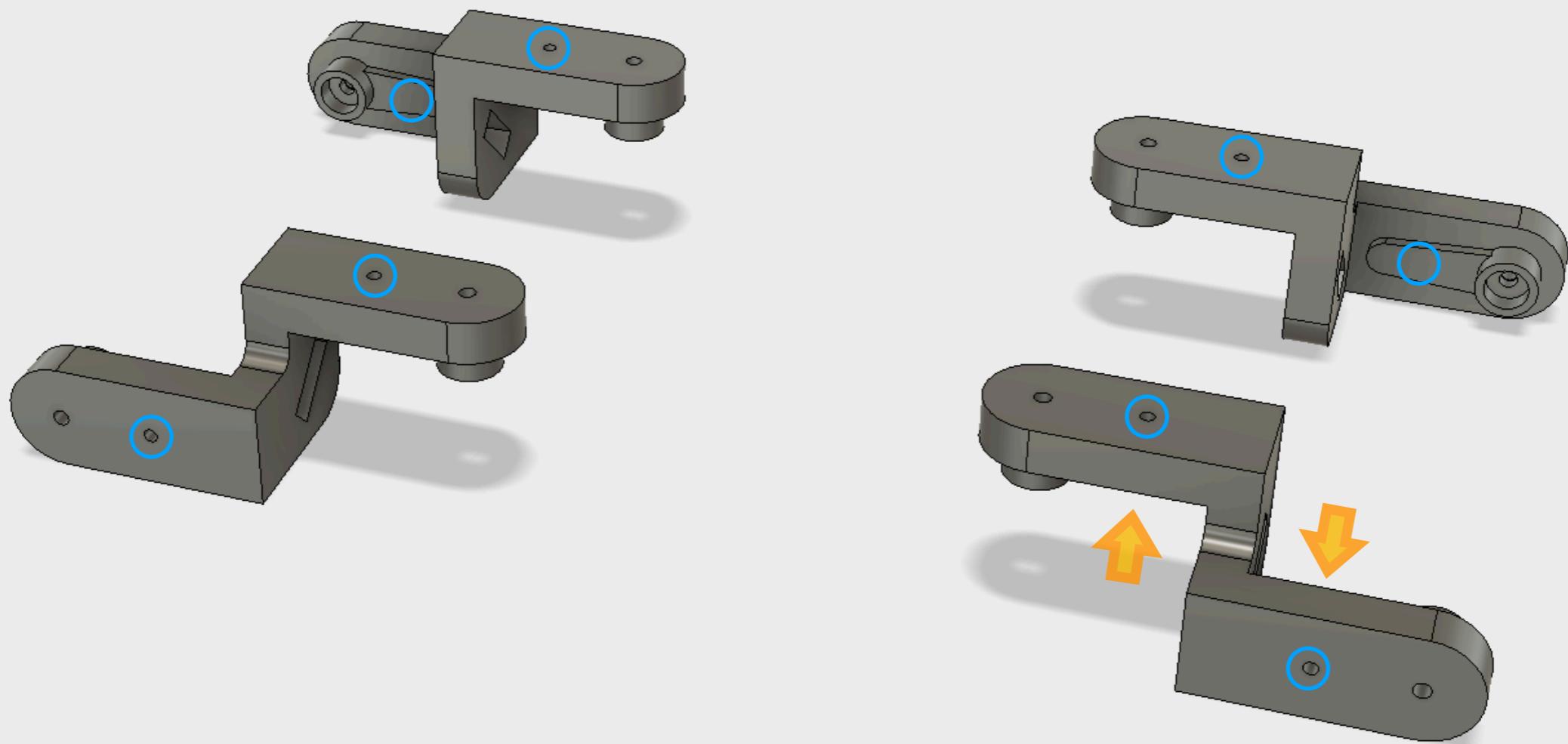
E01



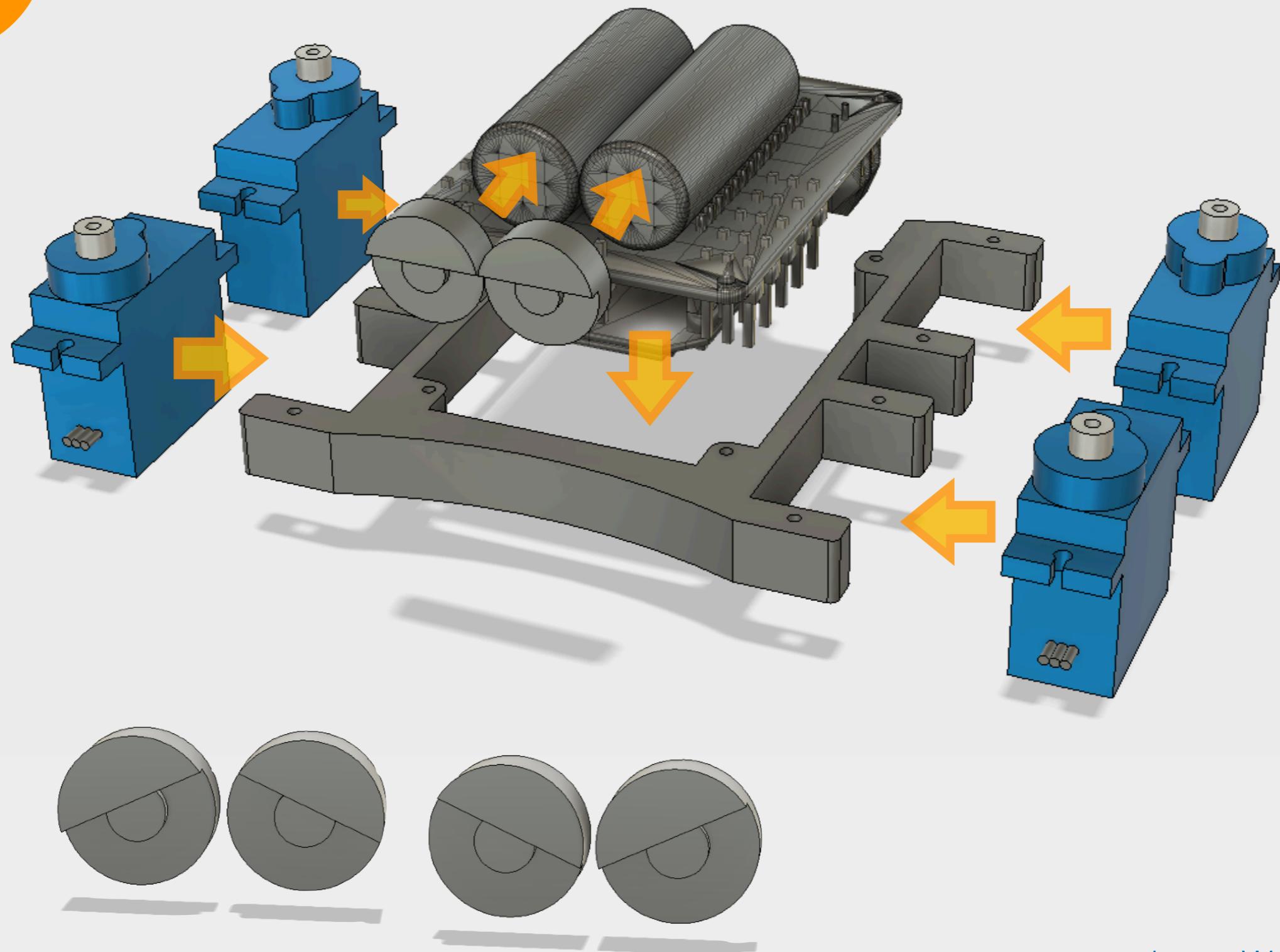
E02



M1.7 x 6mm Screw
x 8



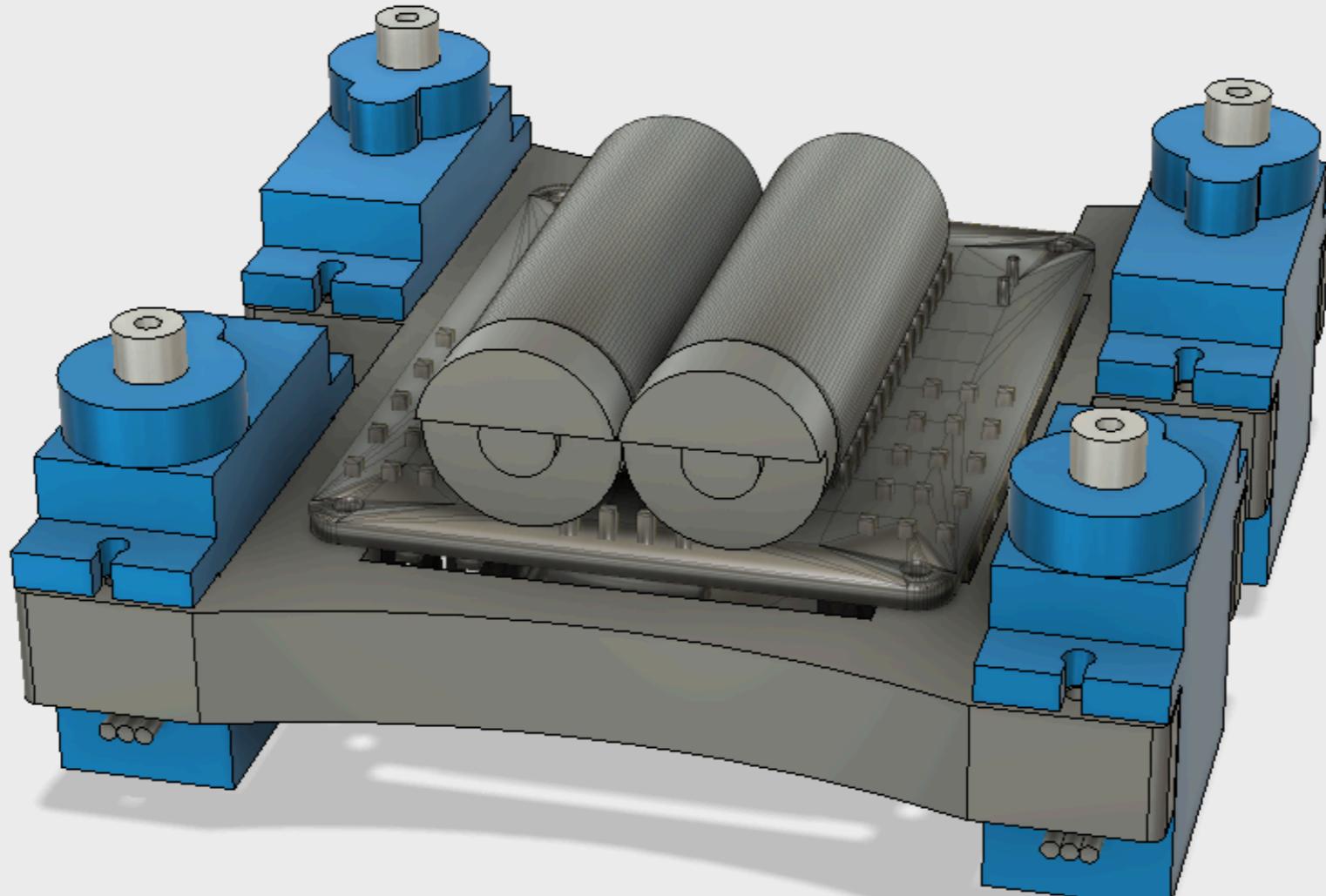
E03



E04

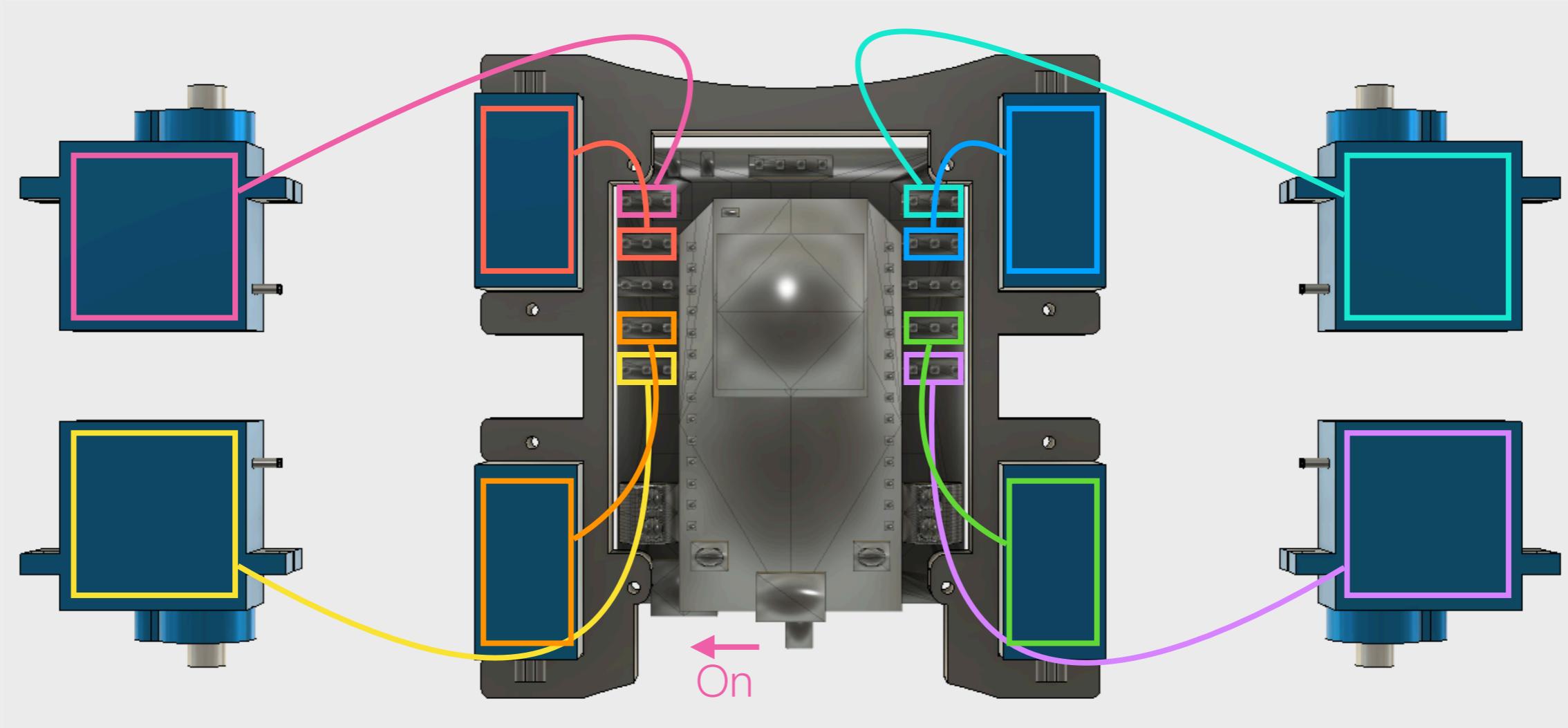


M1.7 x 6mm Screw
x 12



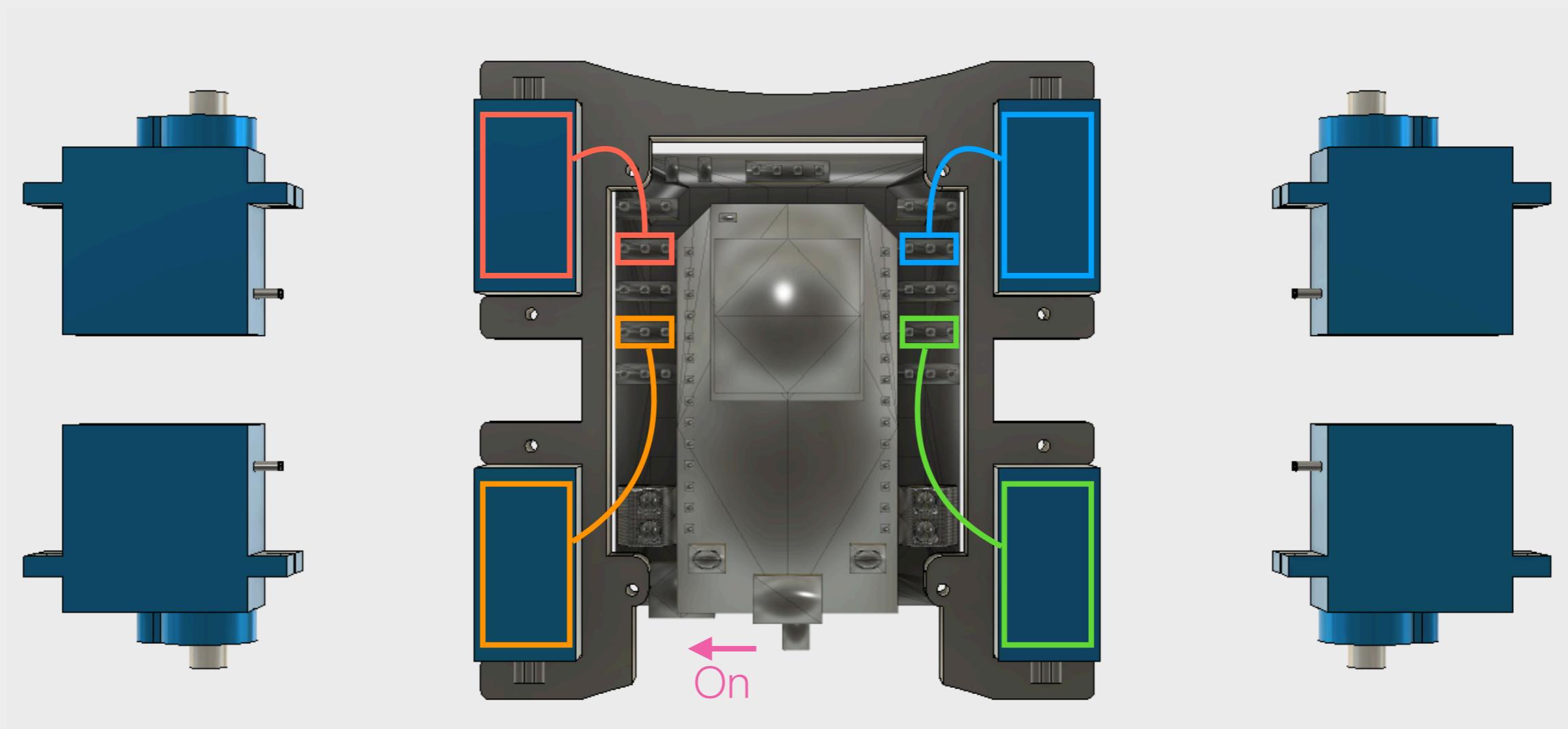
E05

Connect and turn on

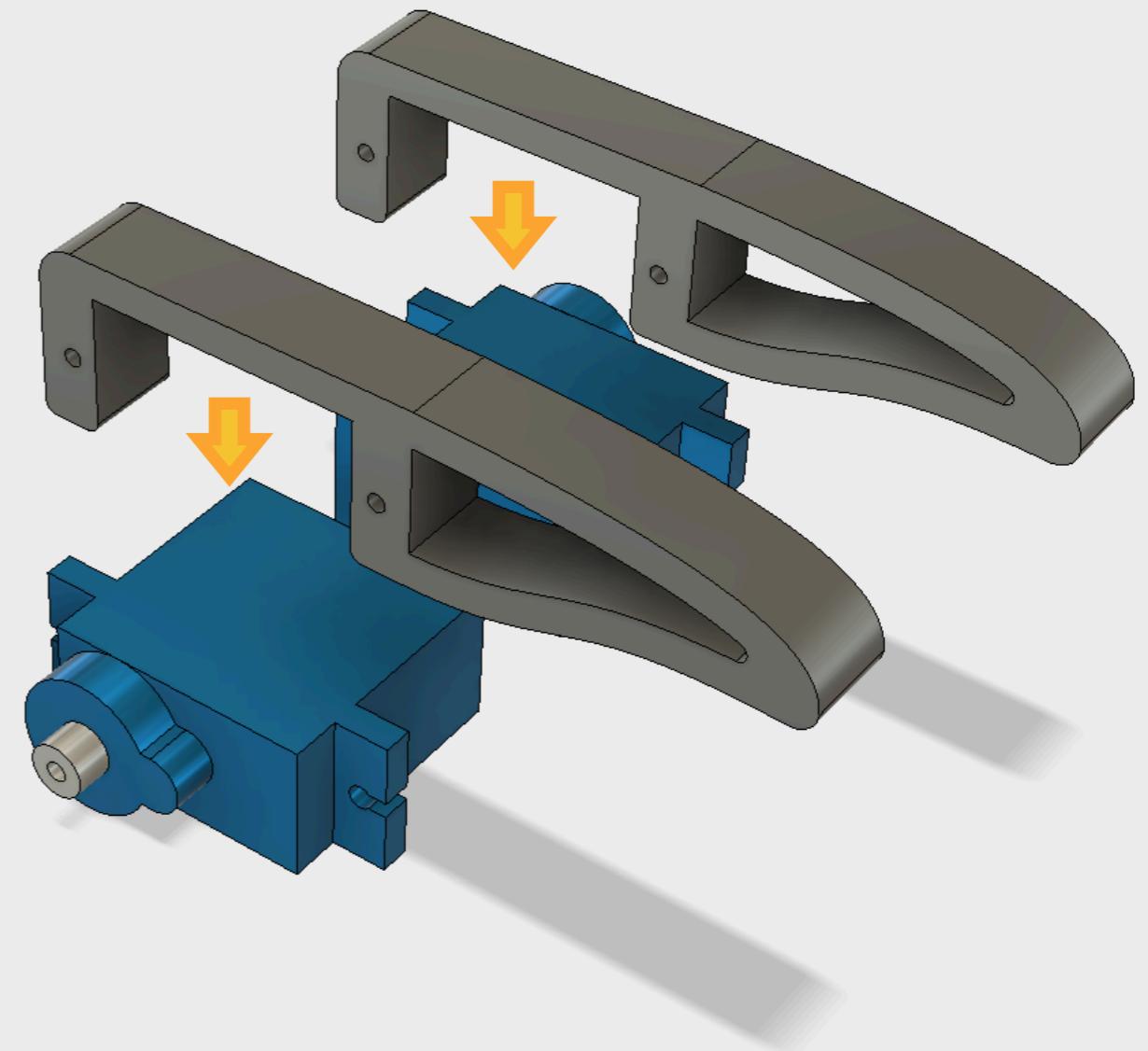
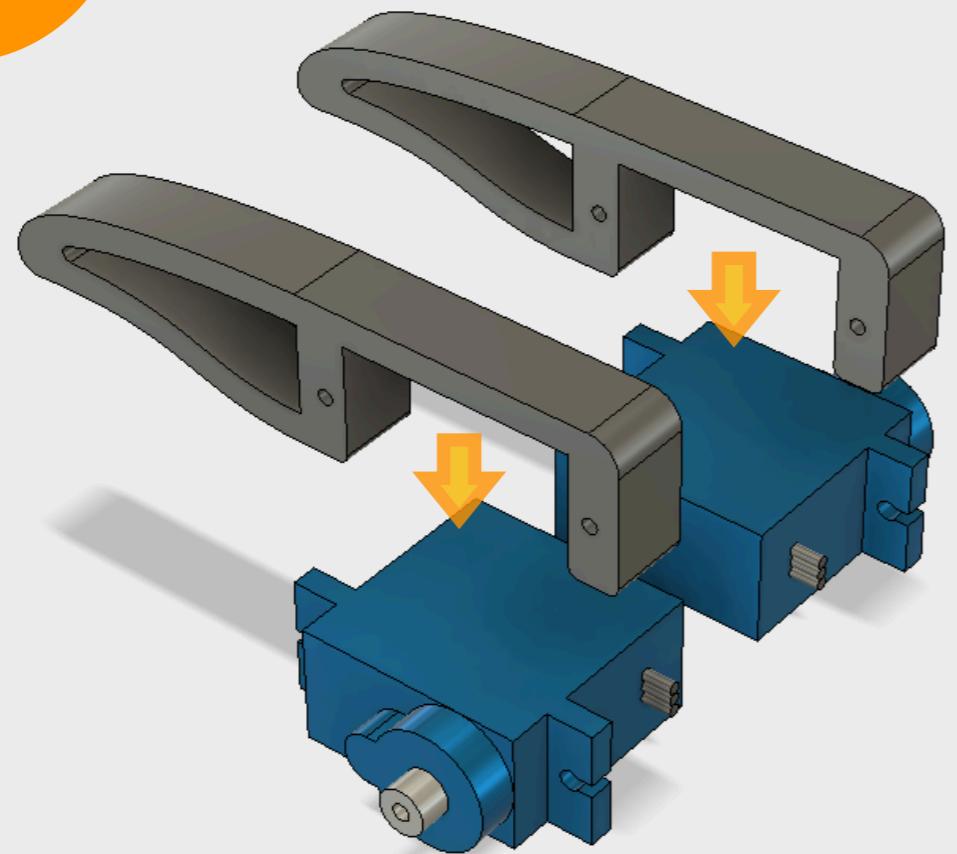


Wait 10 second, then turn off and disconnect

E06



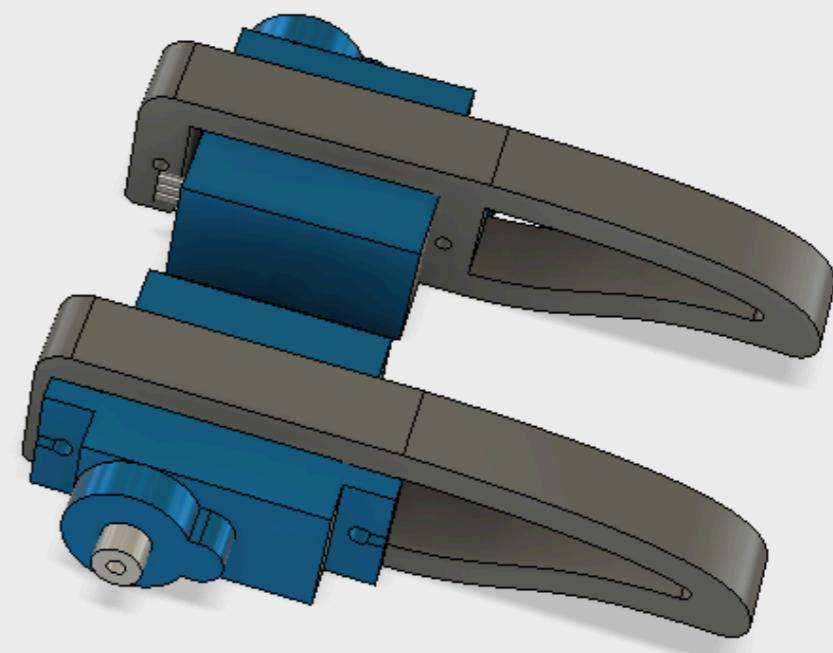
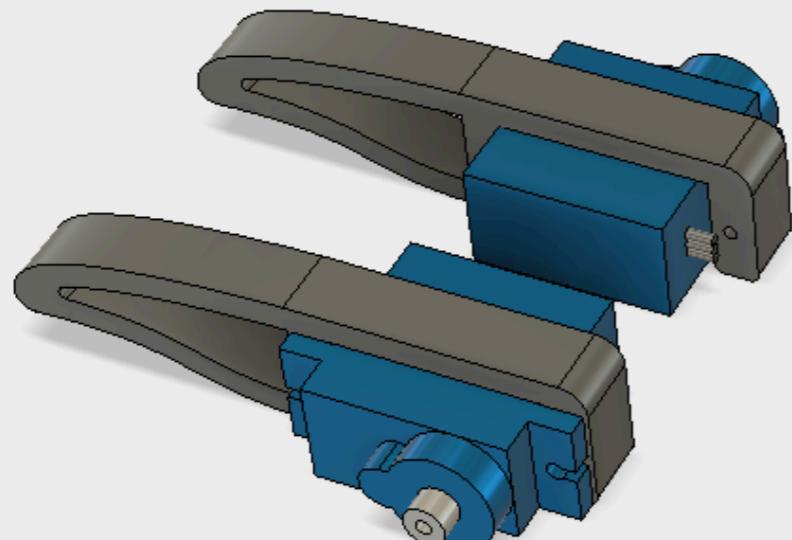
E07



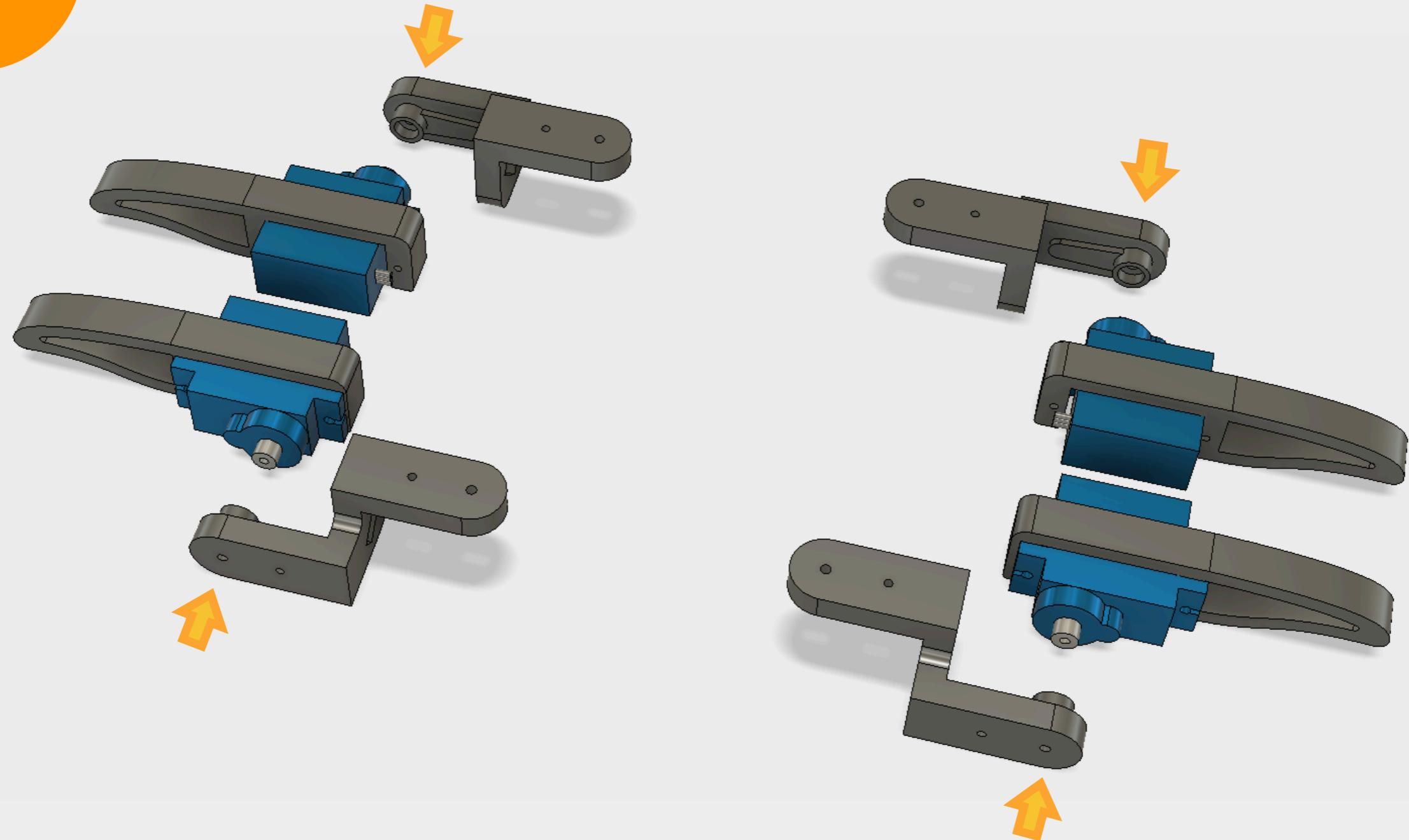
E08



M1.7 x 6mm Screw
x 8



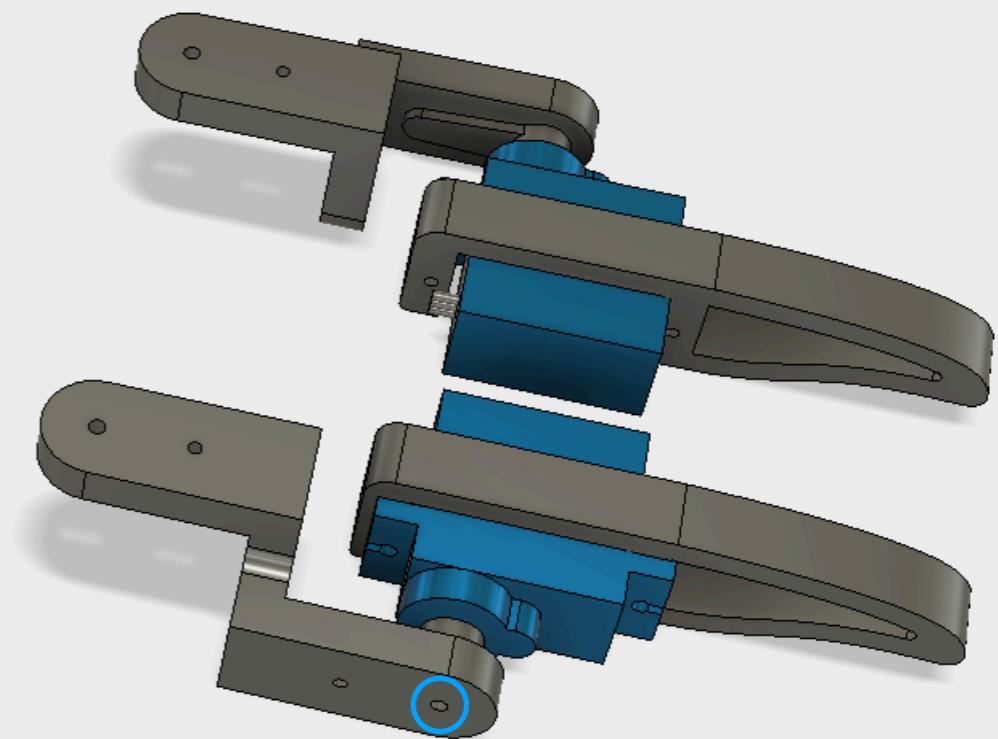
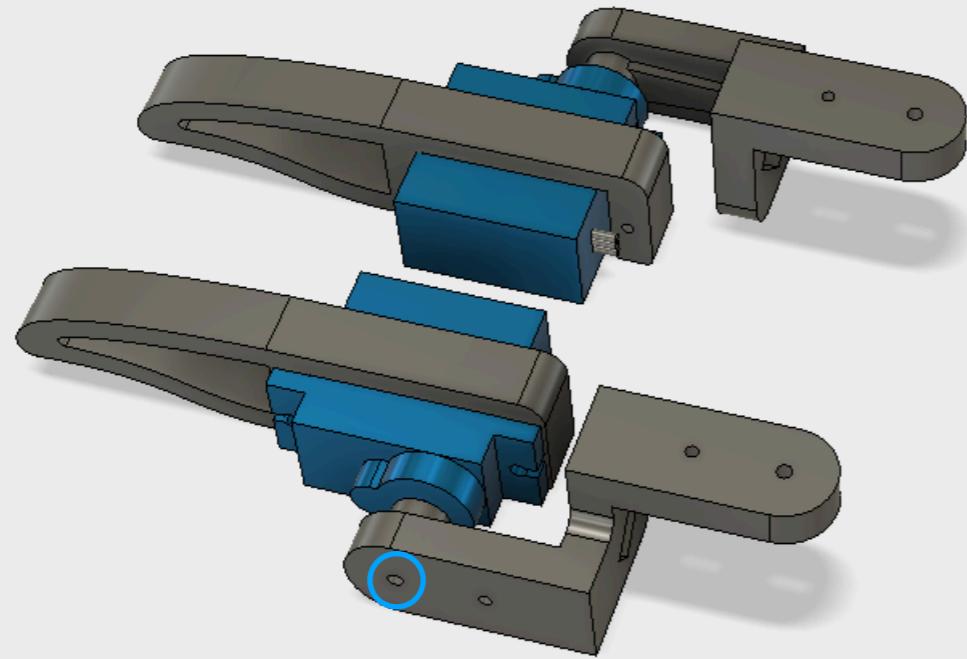
E09



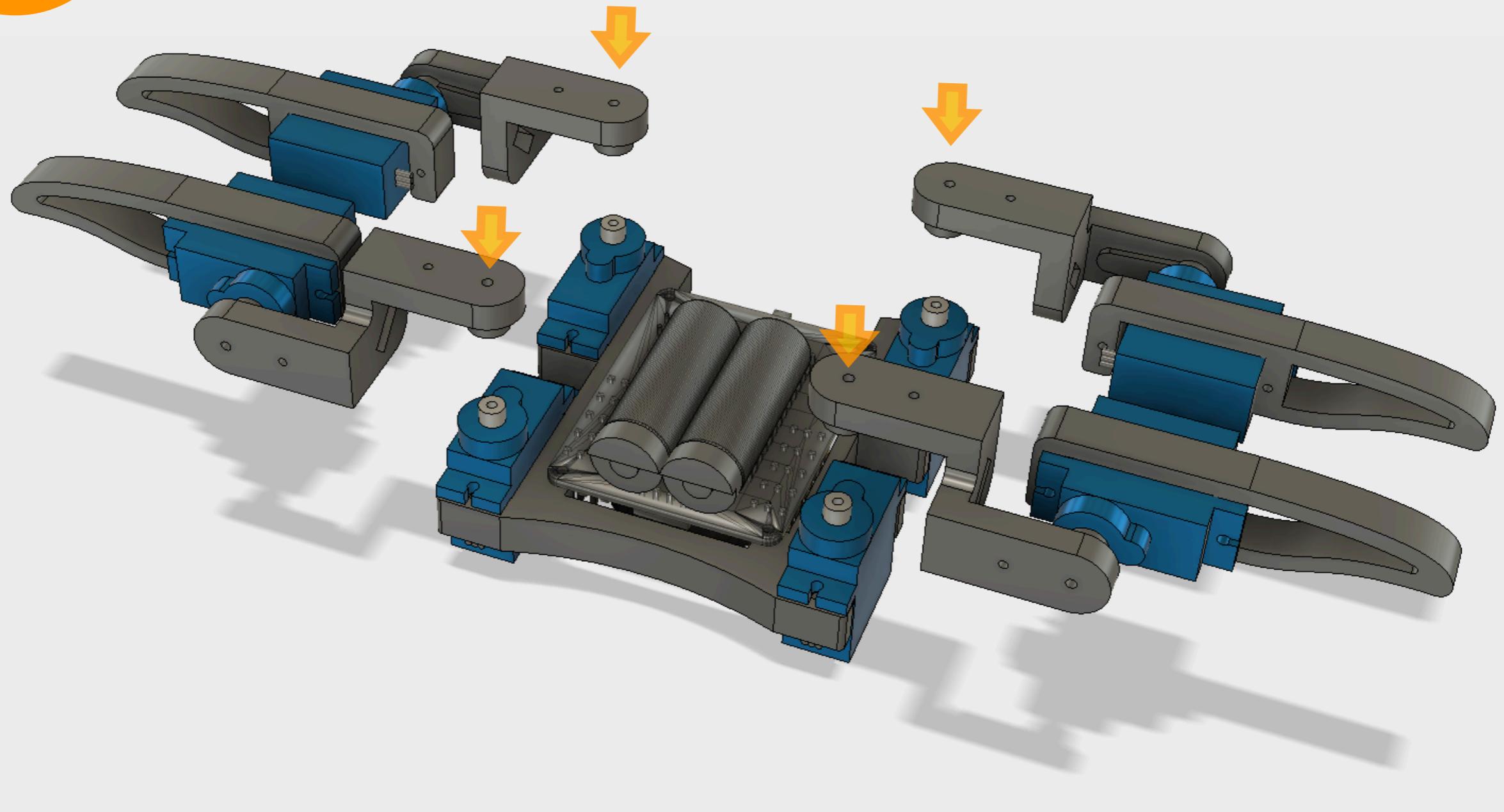
E10



M2 x 12mm Screw
x 4



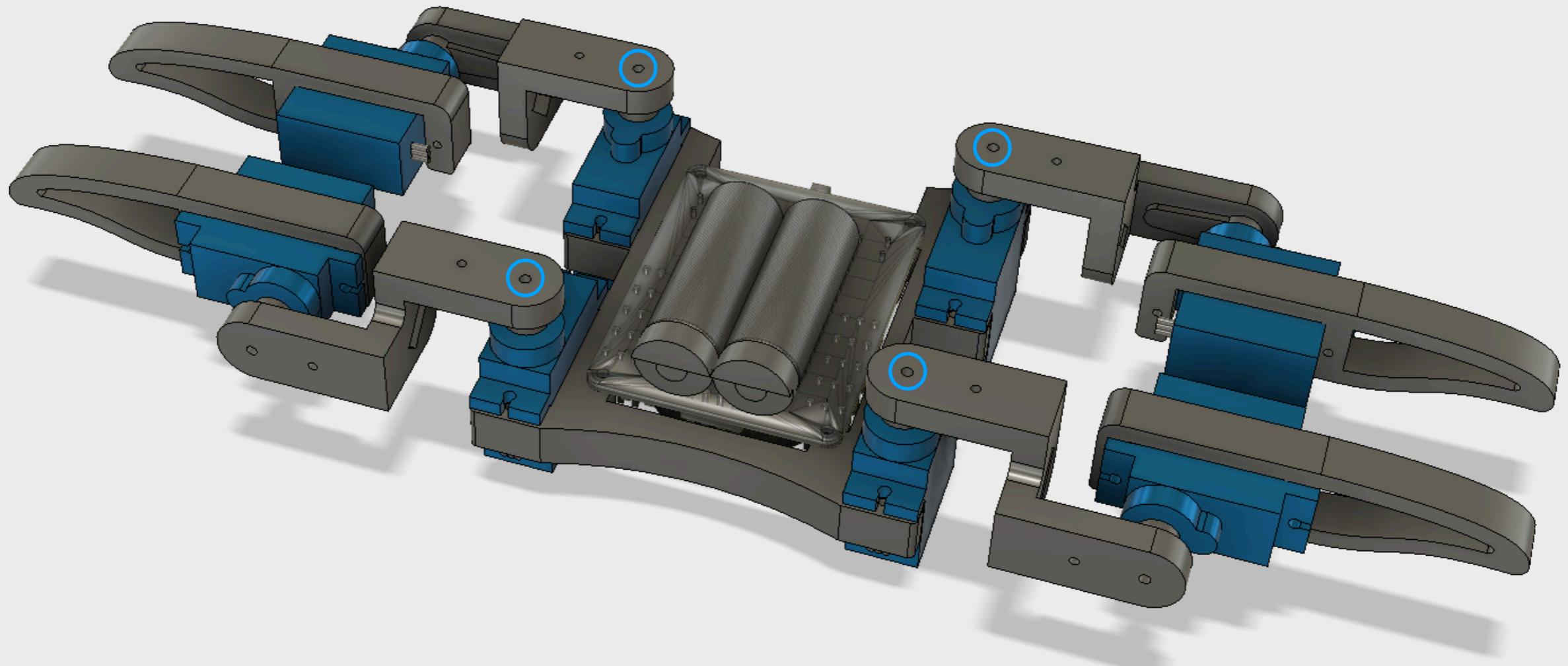
E11



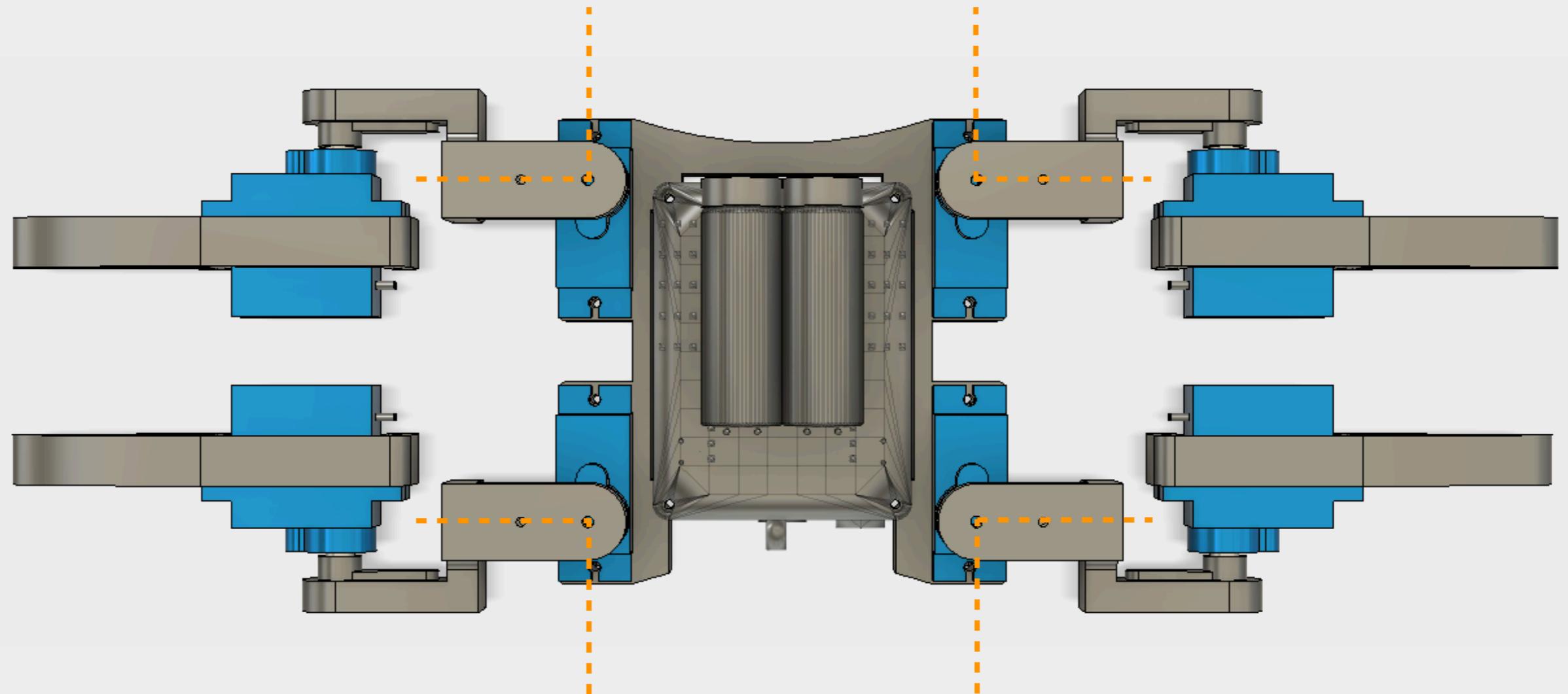
E12



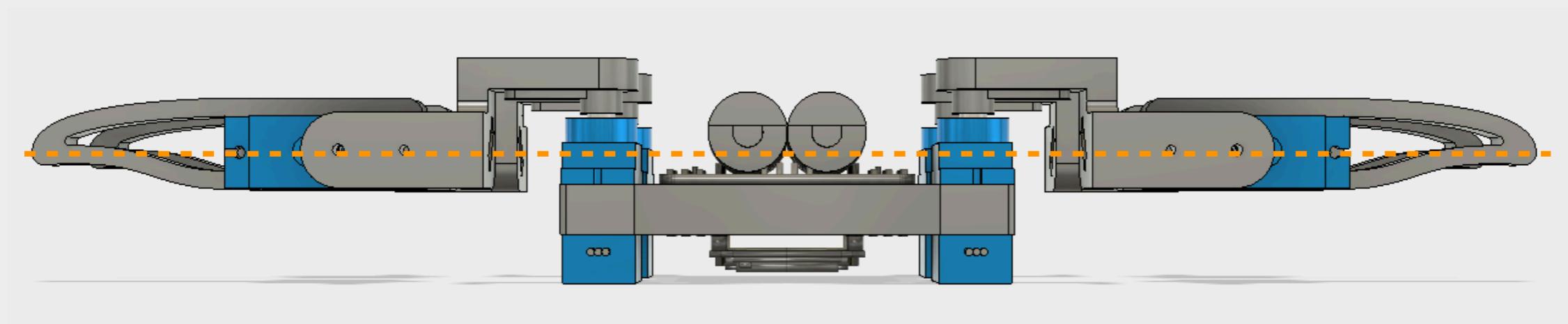
M2 x 12mm Screw
x 4



E13

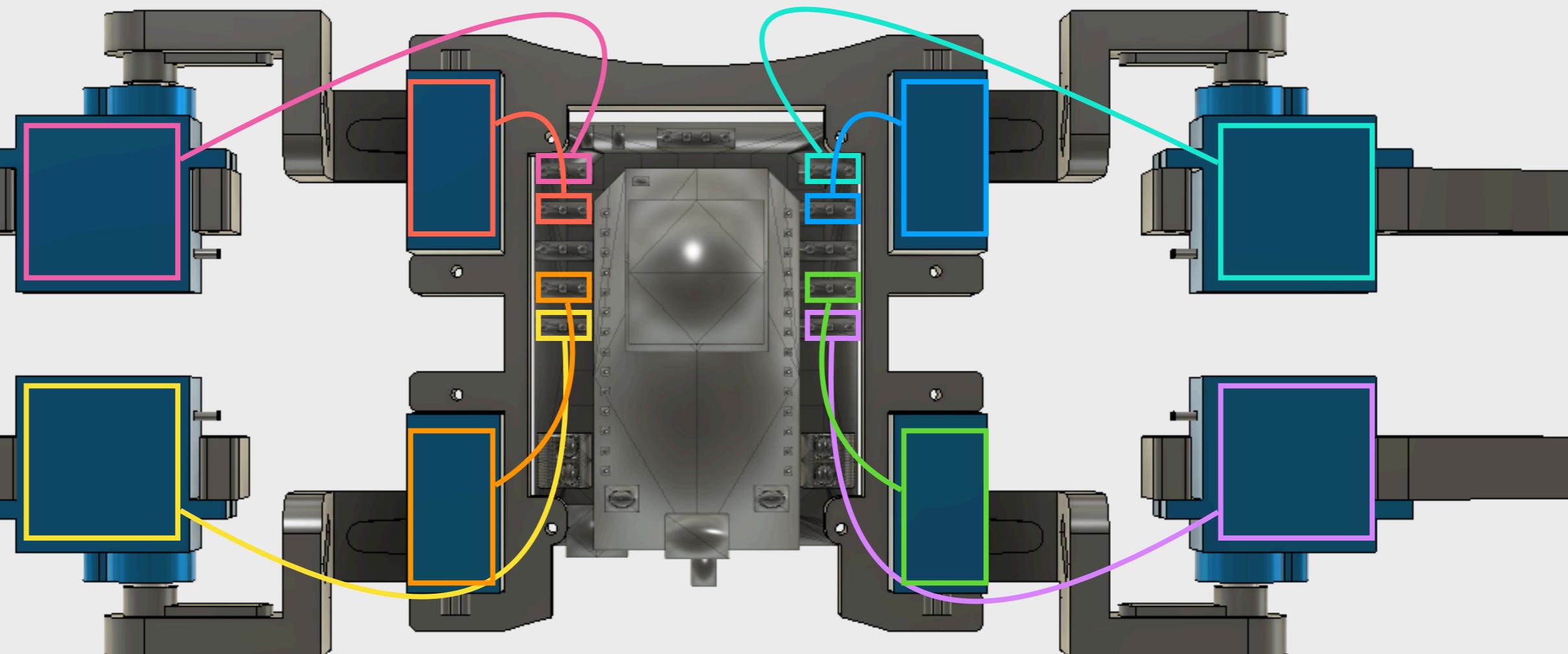


E14

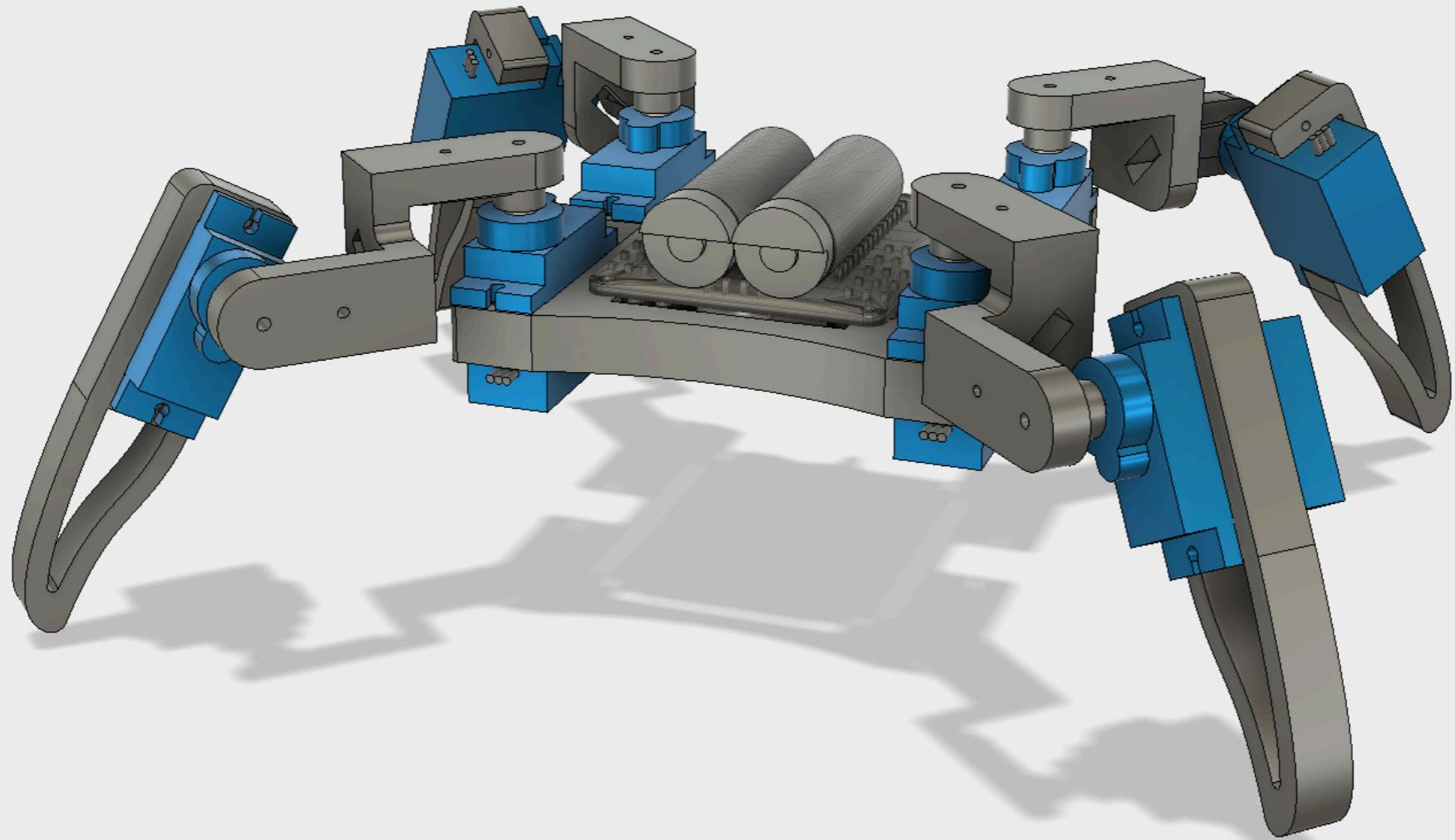


E15

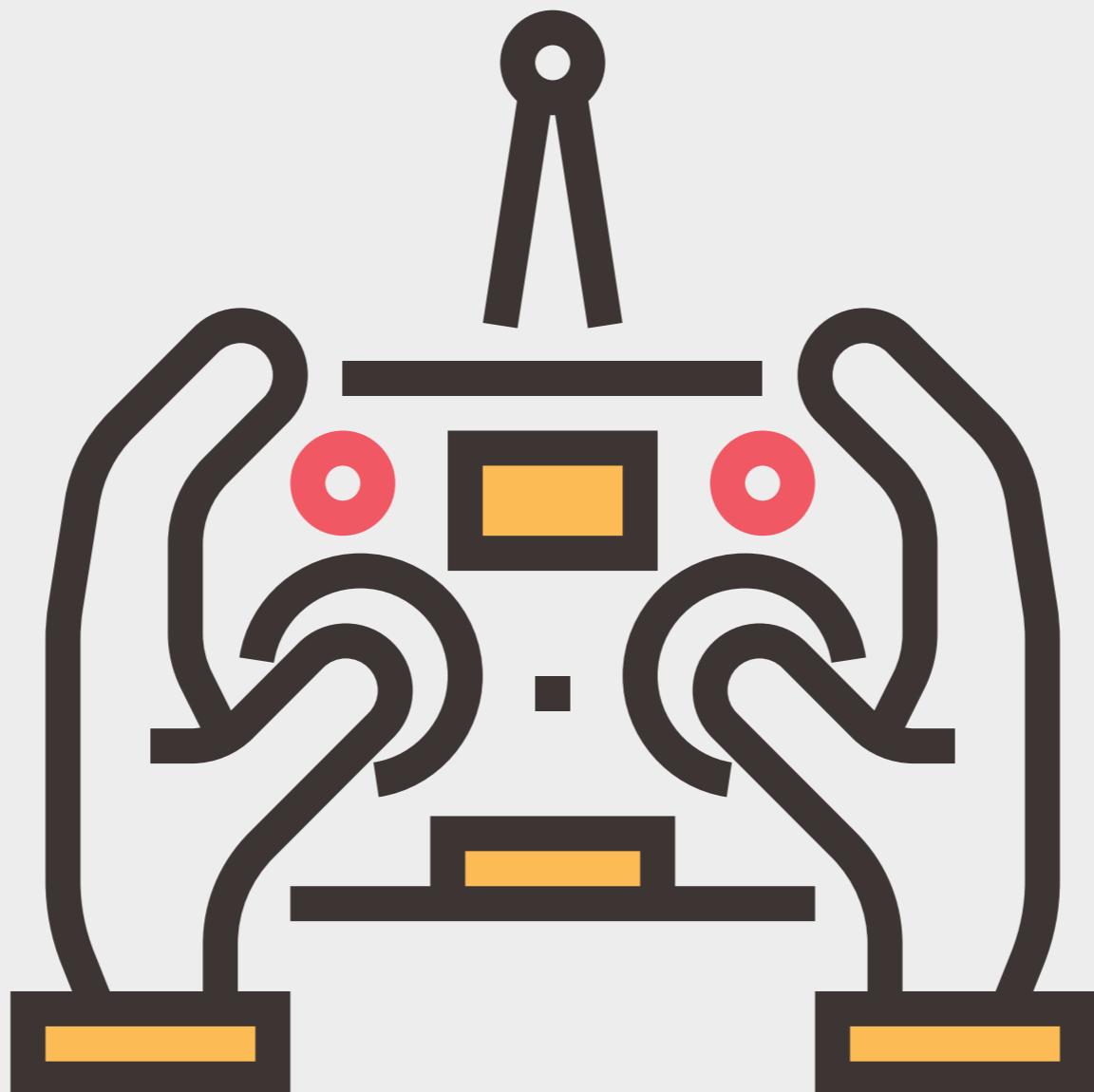
Connect



E16

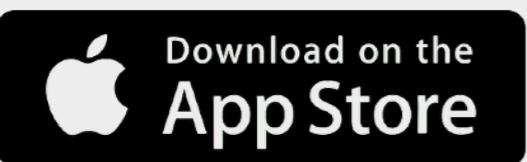


Control



Install LinkIt Remote Apps

F01

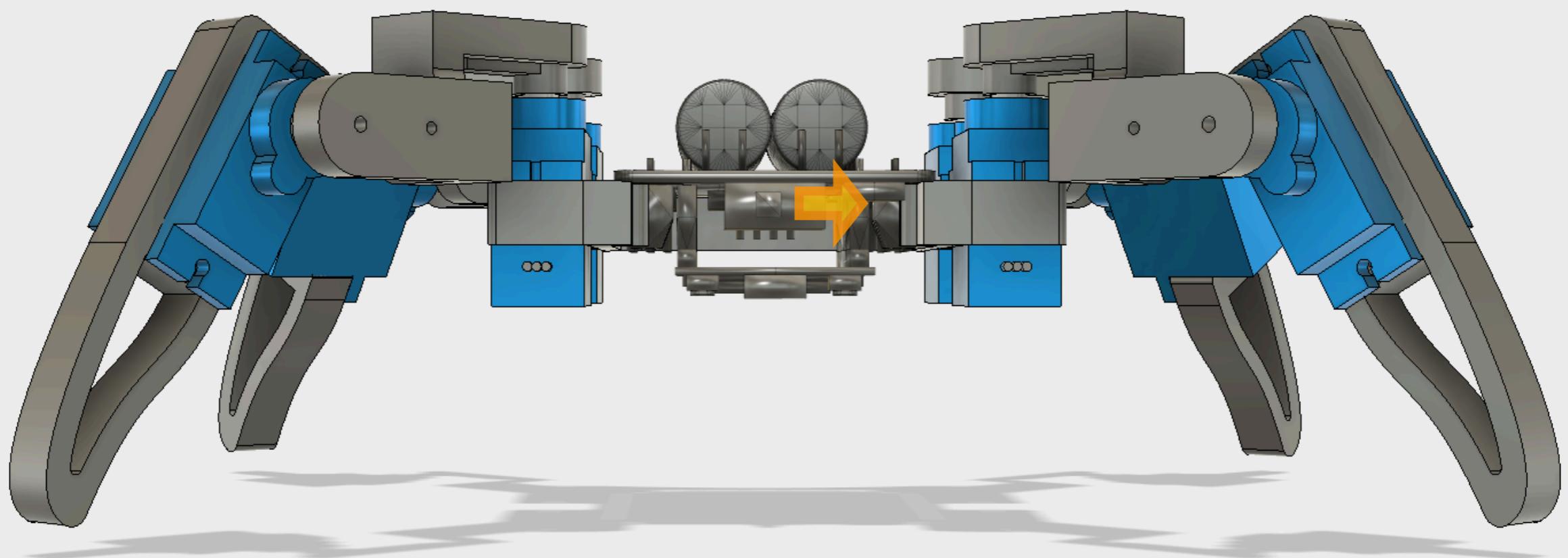


<https://itunes.apple.com/us/app/linkit-remote/id1276900625>

<https://play.google.com/store/apps/details?id=com.mediatek.labs.linkitremote>

Turn on Q1 lite

F02



Run LinkIt Remote Apps

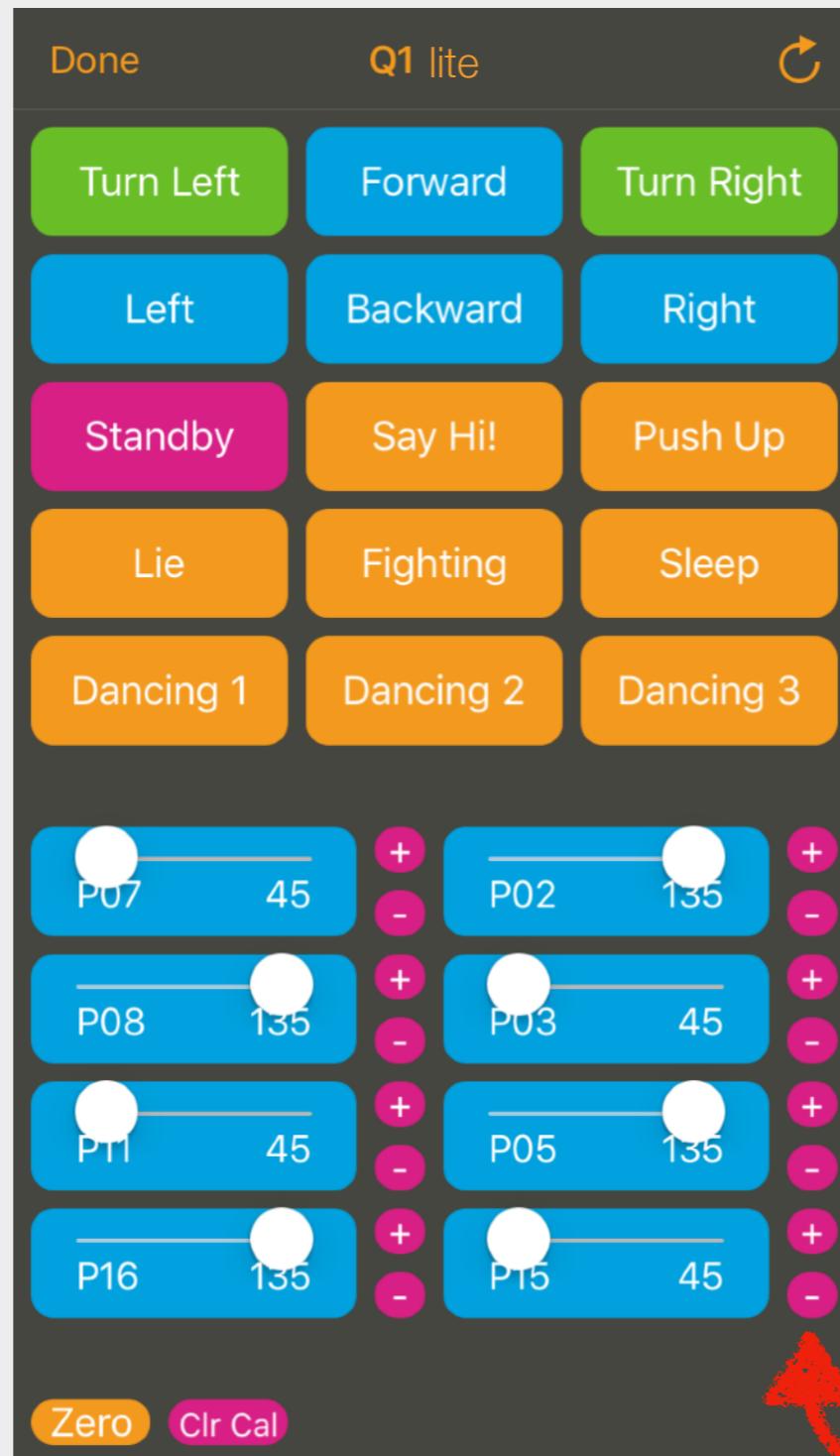
F03



The image shows two screenshots of the LinkIt Remote app. The left screenshot displays a 'Devices' screen with a single device named 'Q1 lite' selected. A large orange arrow points from this screen to the right screenshot. The right screenshot shows a detailed control panel for the 'Q1 lite' device. At the top, there are three rows of buttons: 'Turn Left', 'Forward', 'Turn Right'; 'Left', 'Backward', 'Right'; and 'Standby', 'Say Hi!', 'Push Up'. Below these are three rows of movement buttons: 'Lie', 'Fighting', 'Sleep'; 'Dancing 1', 'Dancing 2', 'Dancing 3'. At the bottom, there are four sets of calibration sliders labeled P07 (45), P02 (135), P08 (135), P03 (45); P11 (45), P05 (135); and P16 (135), P15 (45). Each slider has a central dial and '+' and '-' buttons on either side. At the very bottom are two buttons: 'Zero' and 'Clr Cal'.

F04

Let Play!



Action

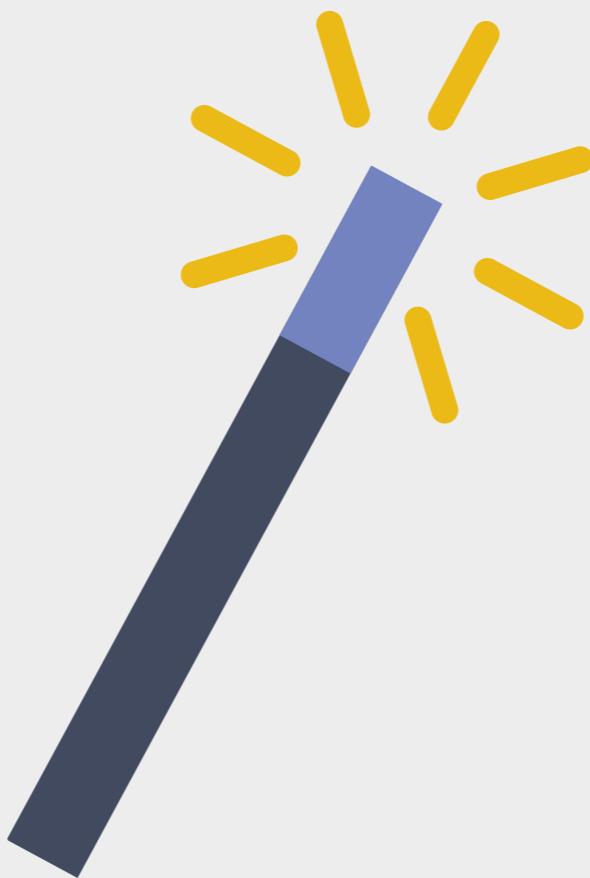
Motion Editor

Servo Calibration

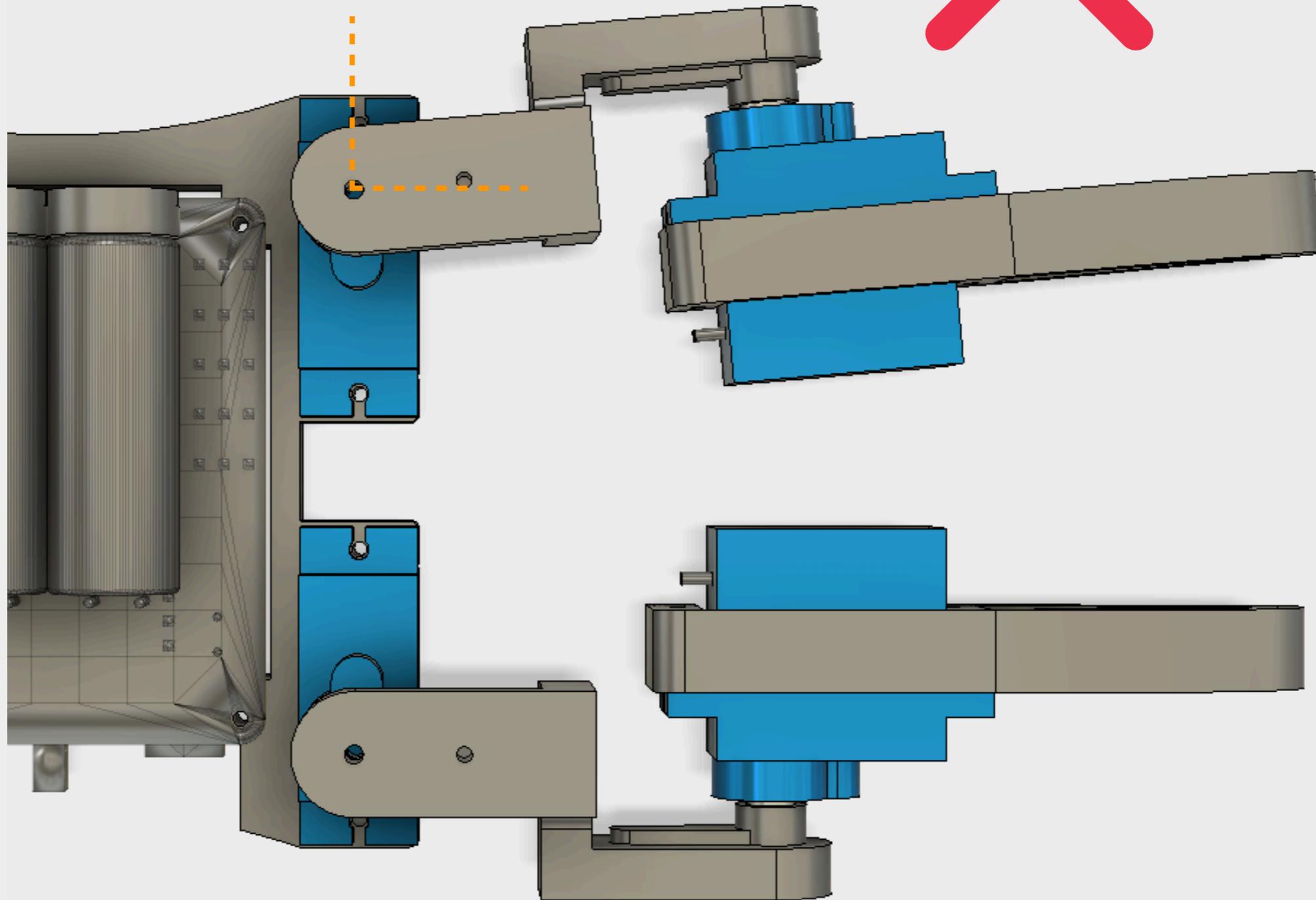
Zero Position
(For Assembly)

Clear Calibration
(Use with caution)

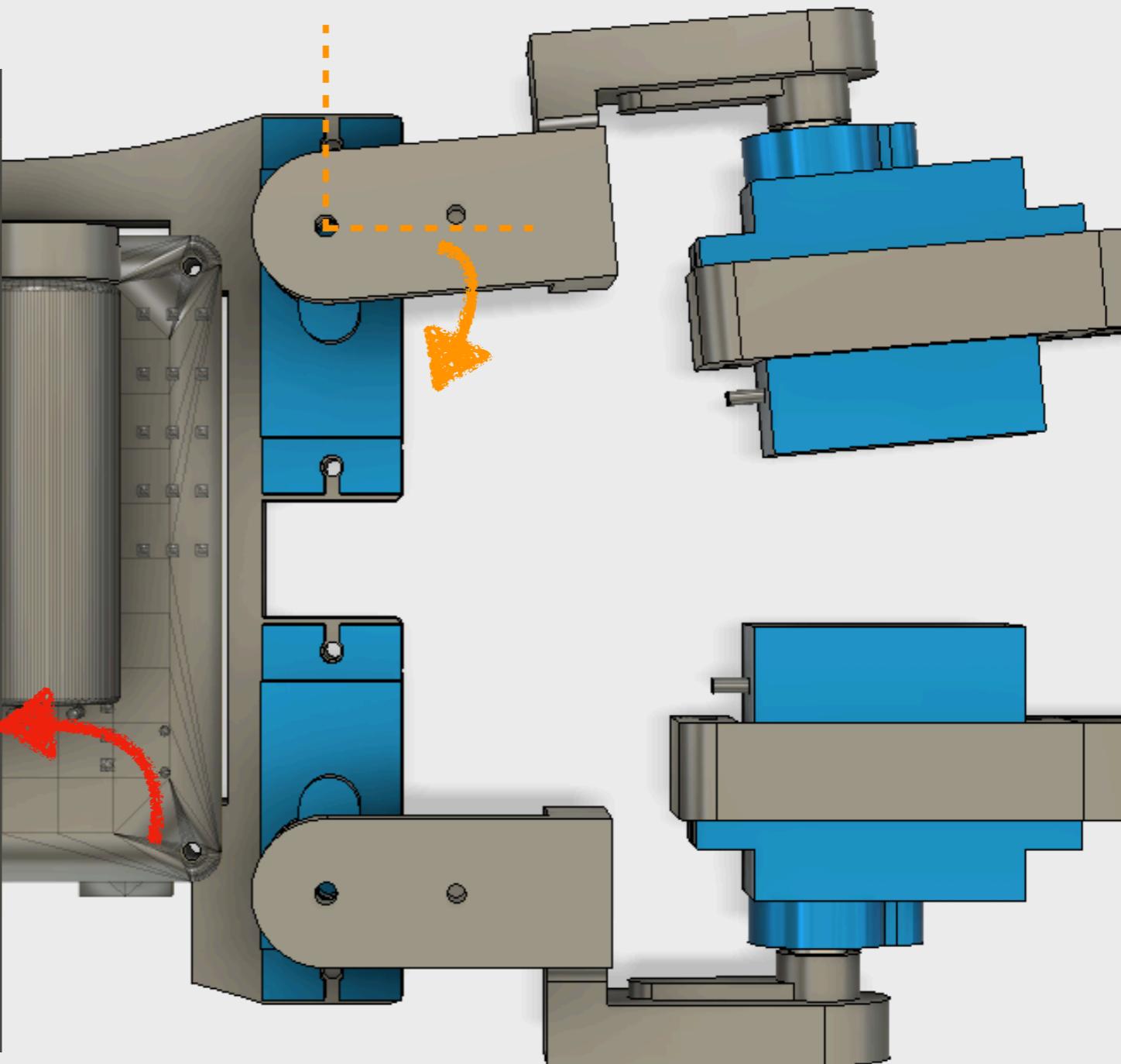
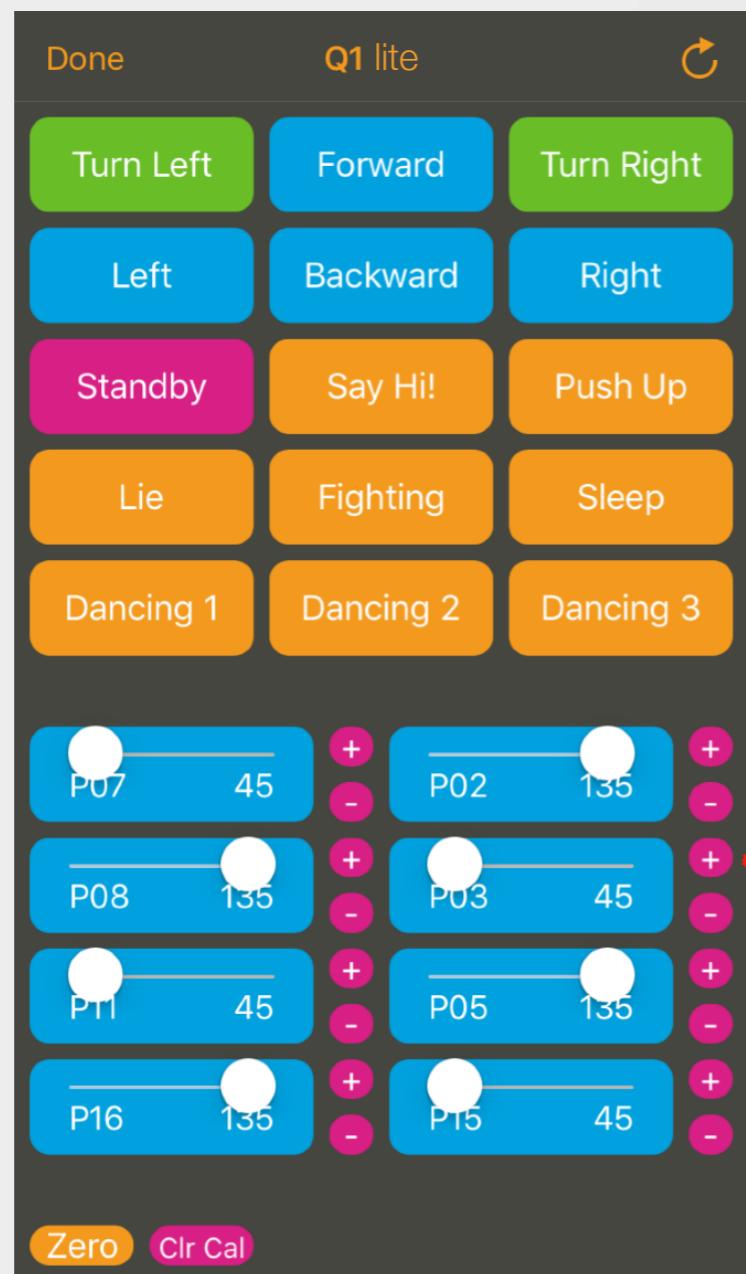
Calibration



G01



G02



G03



firmware.ino

Enable or disable Calibration Button

```
30 // -----
31 //
32 // -----
33 // | 5 |           | 1 |
34 // | P07 |           | P02 |
35 // -----
36 // | 6 | | 2 |
37 // | P08 | | P03 |
38 // -----
39 // | 7 | | 3 |
40 // | P11 | | P05 |
41 // -----
42 // | 8 |           | 4 |
43 // | P16 |           | P15 |
44 // ----- (Top View)
45 //
46
47 #include <EEPROM.h>
48 #include <Servo.h>
49 #include <LRemote.h>
50
51 // -----
52
53 String robotName = "Q1 lite - 3DP"; // Robot name
54
55 const int enableCalibration = true; // Enable calibration button
56
57 // -----
58
```

Change to true or false



<http://q1.jasonworkshop.com>



<http://www.jasonworkshop.com>



<http://www.facebook.com/jasonworkshop>

<http://www.facebook.com/Q1.JasonWorkshop>



<http://www.facebook.com/messages/t/jasonworkshop>