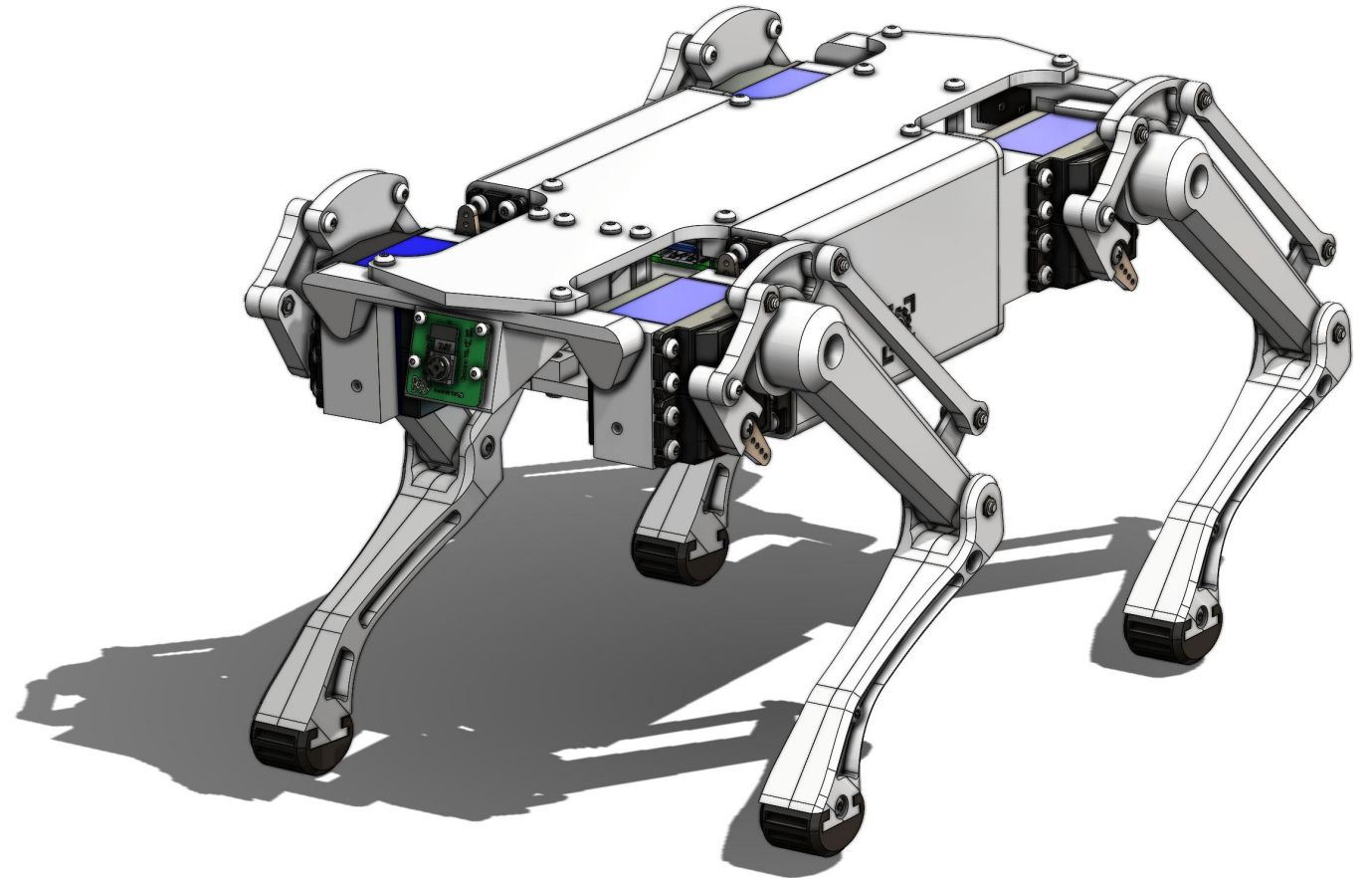


Assembly Guide

Quadruped v0.65



Print guidelines

Material

PC, ASA, ABS, PETG, PLA
PC-CF, PA-CF, ABS+, ABS-CF
TPU (For feet only)

*Carbon Fiber variants are expensive but provides a lot of rigidity.
PC and ASA are preferred but required a good printer with an enclosure to print reliably.
PETG and PCTG are good "budget" filaments.*

Infill

15-35%
Gyroid / Honeycomb / Triangle / Cubic

*Organic supports from Baseplate only if necessary.
Not needed for all parts.*

Perimeter

Layer Height - 0.2mm
Perimeter: 4
Wall: 4
Solid Top/Bottom: 5

Tools

Soldering Iron - TS101	AliExpress Link	Amazon Link	<i>(Recommended)</i>
Heat Insert Kit for TS101	AliExpress Link	Amazon Link	<i>(Recommended)</i>
Electric Precision Screwdriver	AliExpress Link	Amazon Link	<i>(Recommended)</i>
Torque Screwdriver	AliExpress Link	Amazon Link	
Wire Stripper	AliExpress Link	Amazon Link	
Allen Key Set	Aliexpress Link	Amazon Link	
Torx Key Set	Aliexpress Link	Amazon Link	
Heat Insert Press Tool	Aliexpress Link	Amazon Link	
Crimp Tool	Aliexpress Link	Amazon Link	
Soldering Iron - Generic (Alternative)	Aliexpress Link	Amazon Link	<i>Budget friendly alternative</i>
Heat insert tip - set (Alternative)	Aliexpress Link	Amazon Link	<i>Budget friendly alternative</i>
Precision Screwdriver Set	Aliexpress Link	Amazon Link	<i>Budget friendly alternative</i>

*These are the tools I consider must have for this project.
I have tools listed in the BOM with a larger variety of budgets*

Fasteners & Misc

Heat insert set	Aliexpress Link	Amazon Link
Wire - Power	Aliexpress Link	Amazon Link
Wire - Communication / Signal	Aliexpress Link	Amazon Link
M3 Button Cap Screw set	Aliexpress Link	Amazon Link
M3 Torx Screw Set	Aliexpress Link	Amazon Link
M3 Socket Head Cap screw set	Aliexpress Link	Amazon Link
Ferrules Set	Aliexpress Link	Amazon Link
Reusable Velcro Cable Ties	Aliexpress Link	Amazon Link

Filament

PC / ASA / ABS / PETG	Aliexpress Link	Amazon Link
Engineering Grade Filaments	Aliexpress Link	Amazon Link
PLA	Aliexpress Link	Amazon Link
TPU	Aliexpress Link	Amazon Link
PC / ASA / ABS / PETG	Aliexpress Link	Amazon Link
Engineering Grade Filaments	Aliexpress Link	Amazon Link

How-To

Tightening torque

When applying preload to a screw you are setting a torque on the screw itself. It determines how elongated the screw will become. It essentially works like a spring to make sure it won't come lose.

The nominal torque is a set of values calculated on the surface friction and thread size of the screw. I will only list the necessary torque if you want to invest in a torque screwdriver
It also depends on the screw itself.
Is it Stainless steel, or 8.8, 10.9 hardness.

The most common ones are stainless steel and Electro-zink plated 8.8.

- **Tightening Torque M2: 0.6Nm-0.9Nm**
 - **Tightening Torque M3: 1.5Nm-3.0Nm**
- 

Heat Inserts

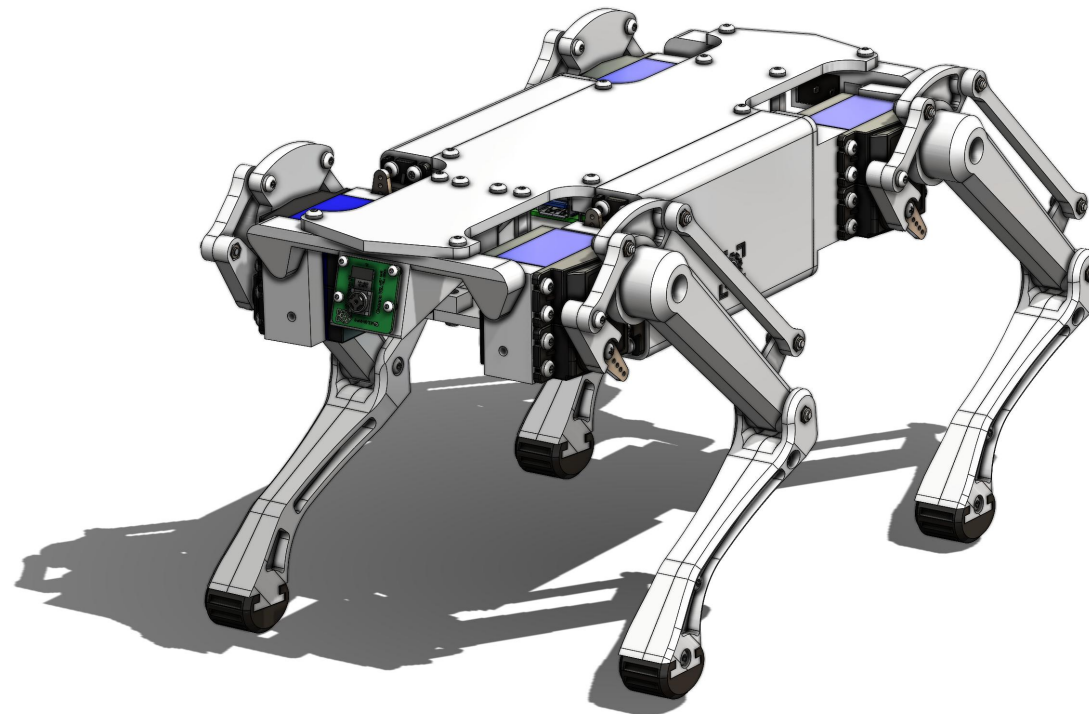
Here's a small guide for using heat inserts in 3D-printed parts.

<https://www.printables.com/article/heat-inserts-and-3d-printing-a-guide-W5ob2VN>

Don't worry though, it's not difficult!



Lets Start!



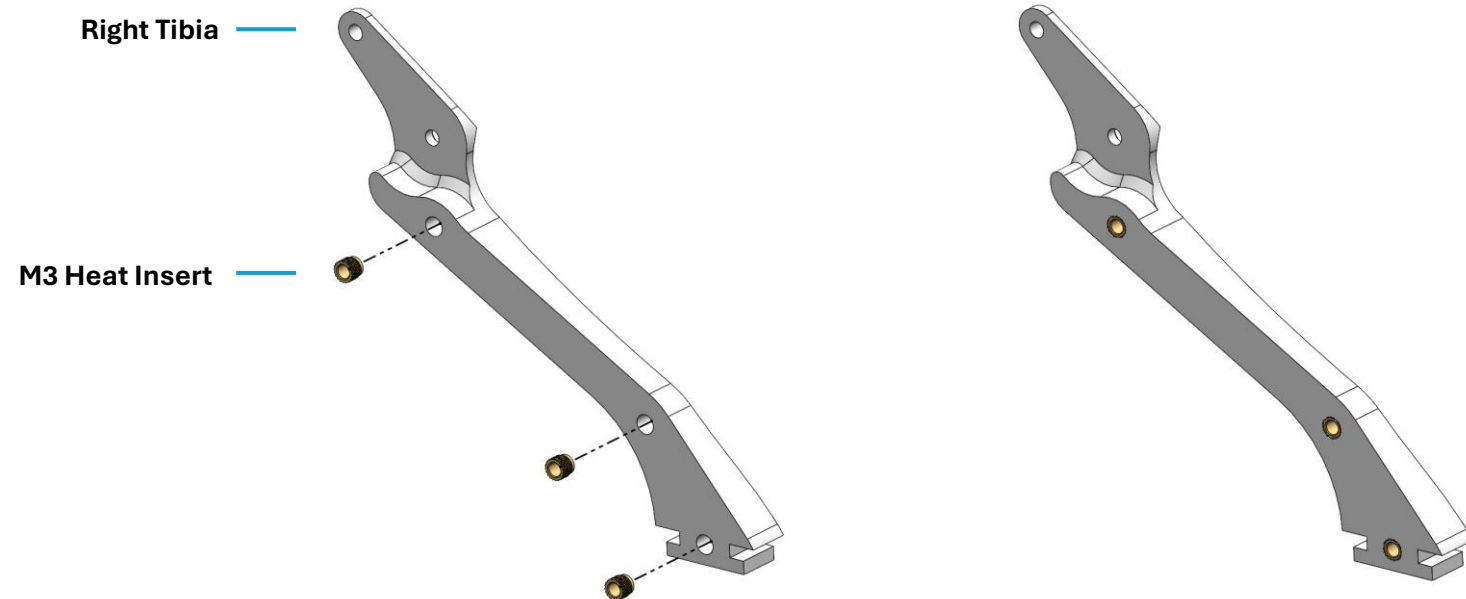
Heat inserts

Leg Assembly – Inner Tibia

Part	QTY
0002-0301 InnerLeft_Tibia	1
0002-0207 OuterRight_Tibia	1
M3x5x4 Heat Insert	6



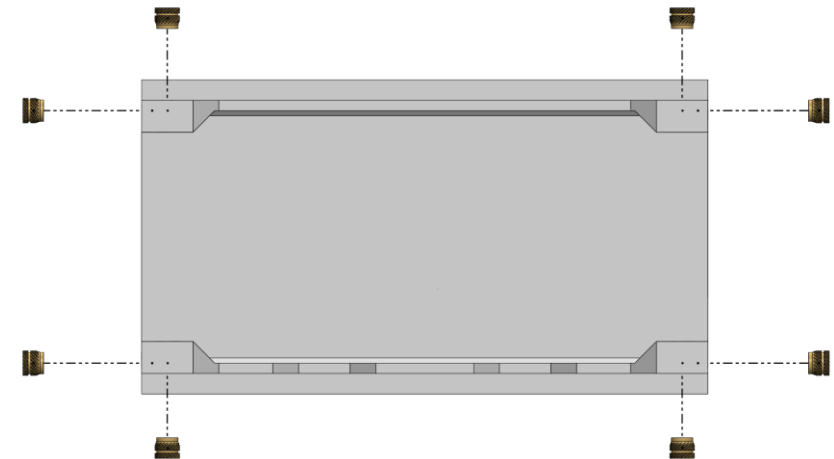
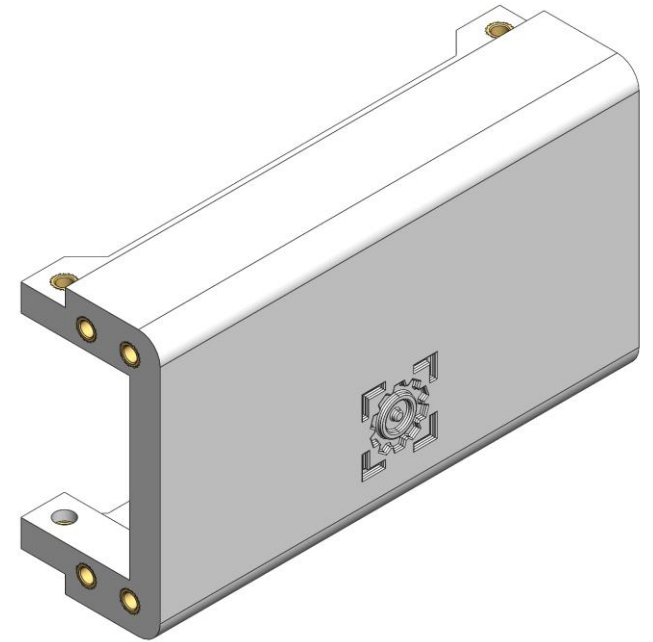
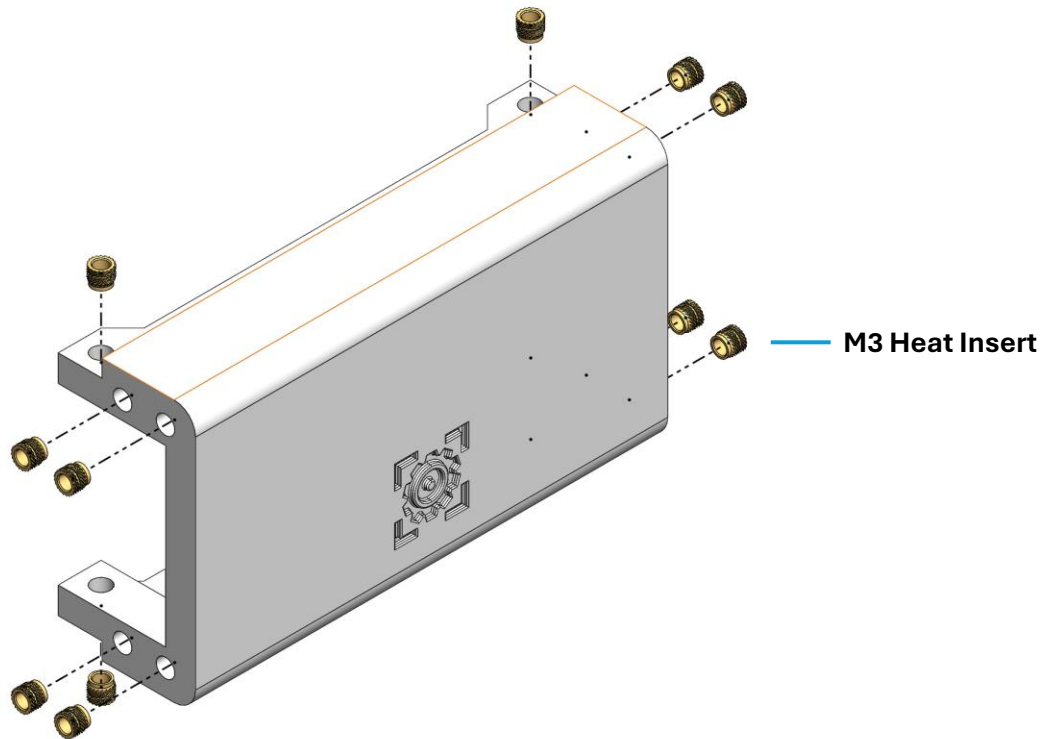
Left and Right leg assembly is identical



Heat inserts

Side Cover

Part	QTY
0002-0101 Side_Cover	2
M3x5x4 Heat Insert	24



Heat inserts

Camera Bracket

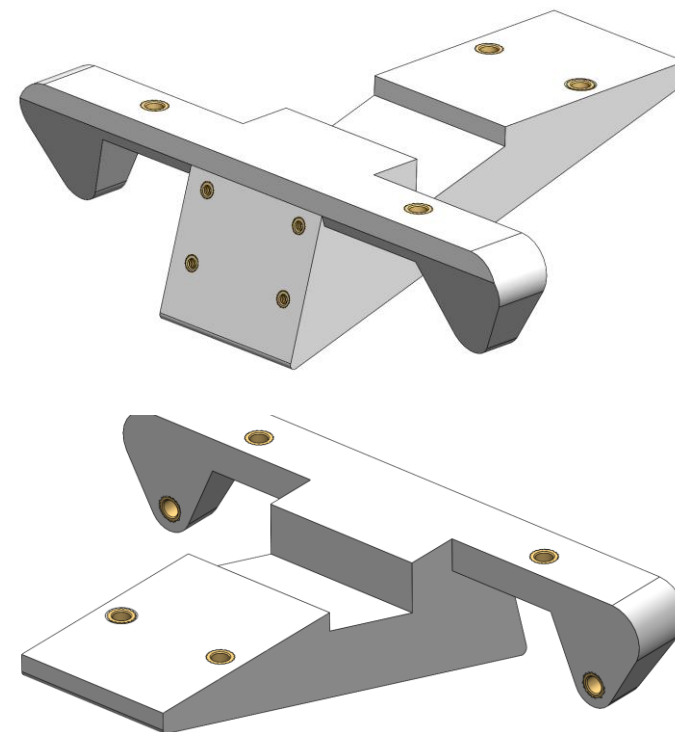
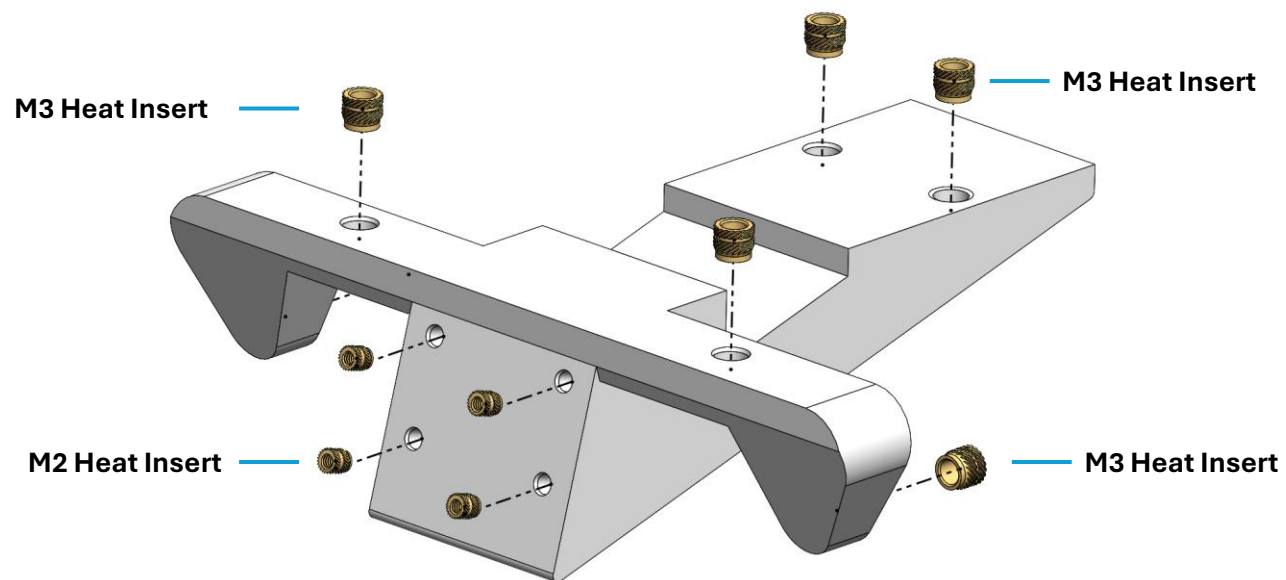
Part	QTY
0002-0107 Camera_Bracket	1
M3x5x4 Heat Insert	6
M2x3x4 Heat Insert	4



M3x5x4



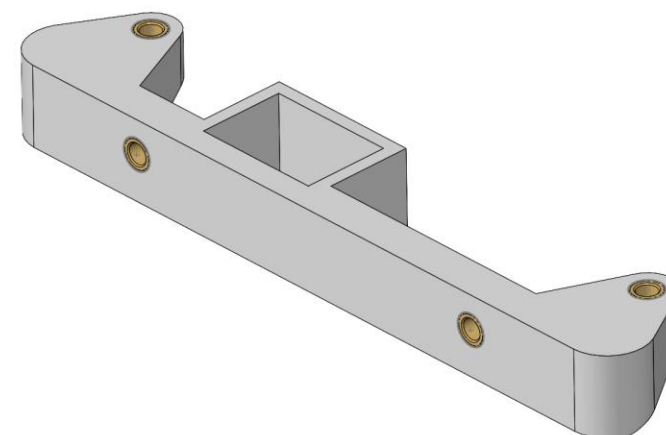
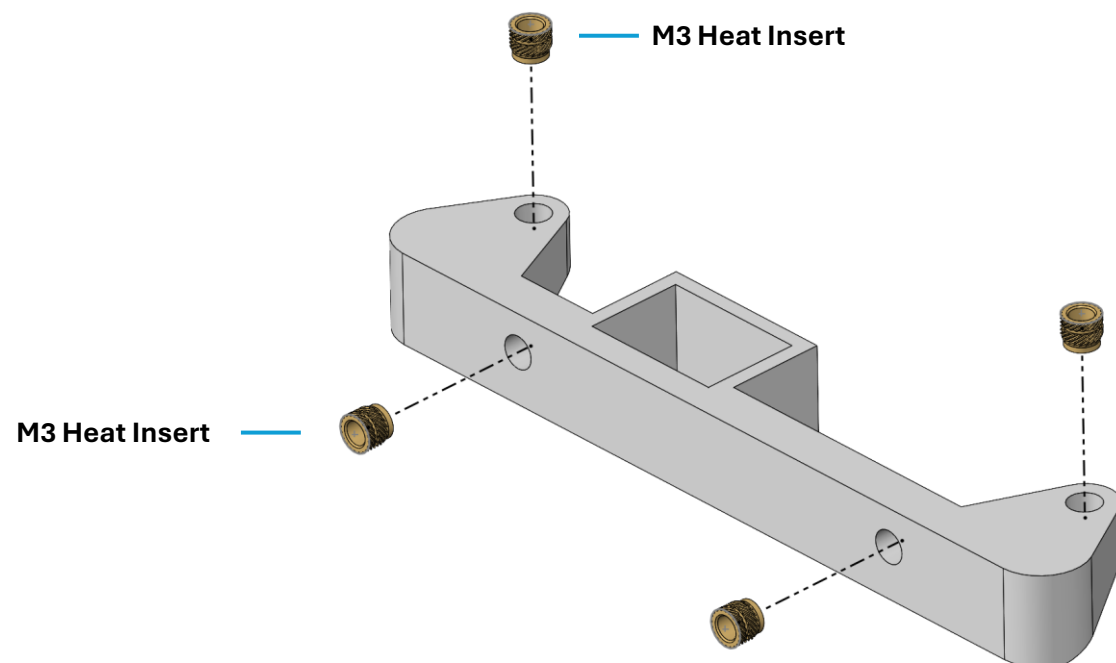
M2x3x4



Heat inserts

Tail

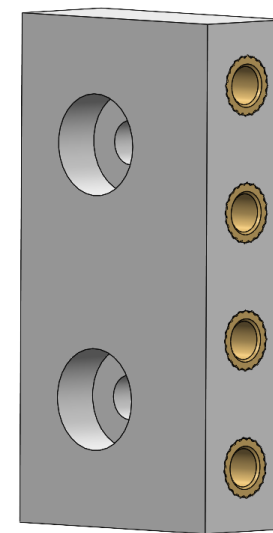
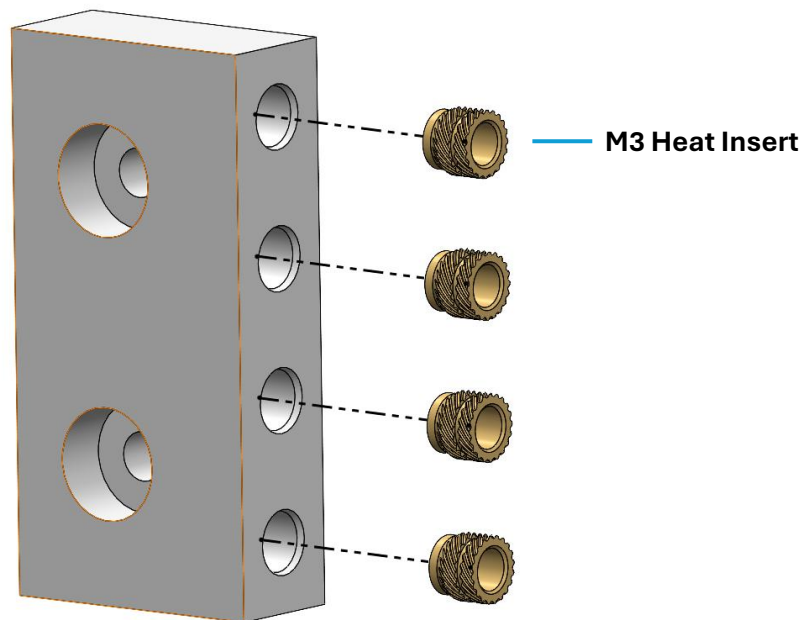
Part	QTY
0002-0109 Tail	1
M3x5x4 Heat Insert	4



Heat inserts

Front Servo Bracket

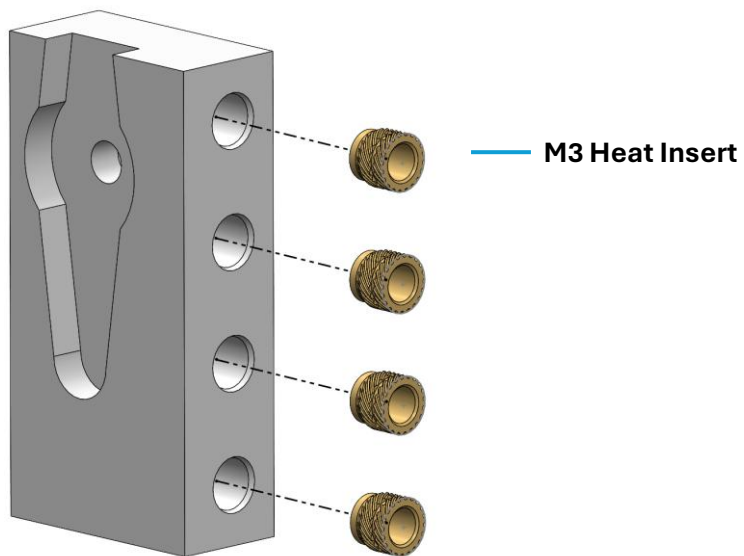
Part	QTY
0002-0104 FrontServo_Bracket	4
M3x5x4 Heat Insert	16



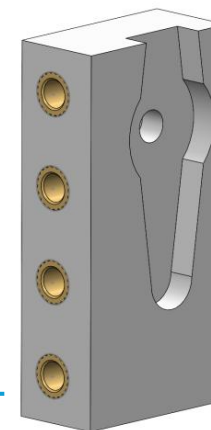
Heat inserts

Hip Servo Bracket

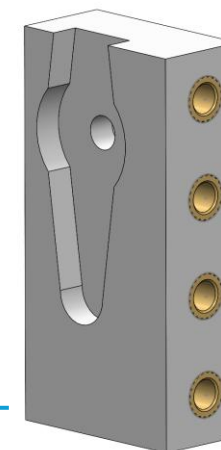
Part	QTY
0002-0105 LeftHipServo_Bracket	1
0002-0106 RightHipServo_Bracket	1
M3x5x4 Heat Insert	8



0002-0106 RightHipServo_Bracket



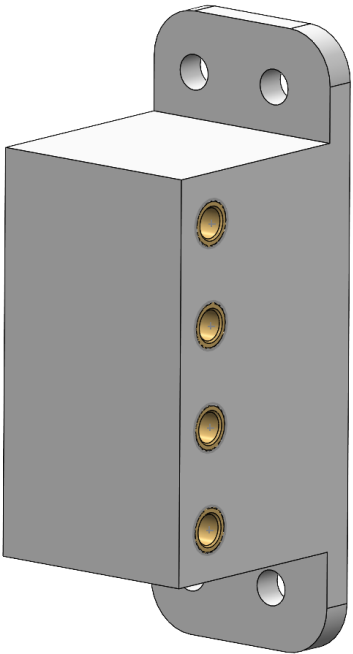
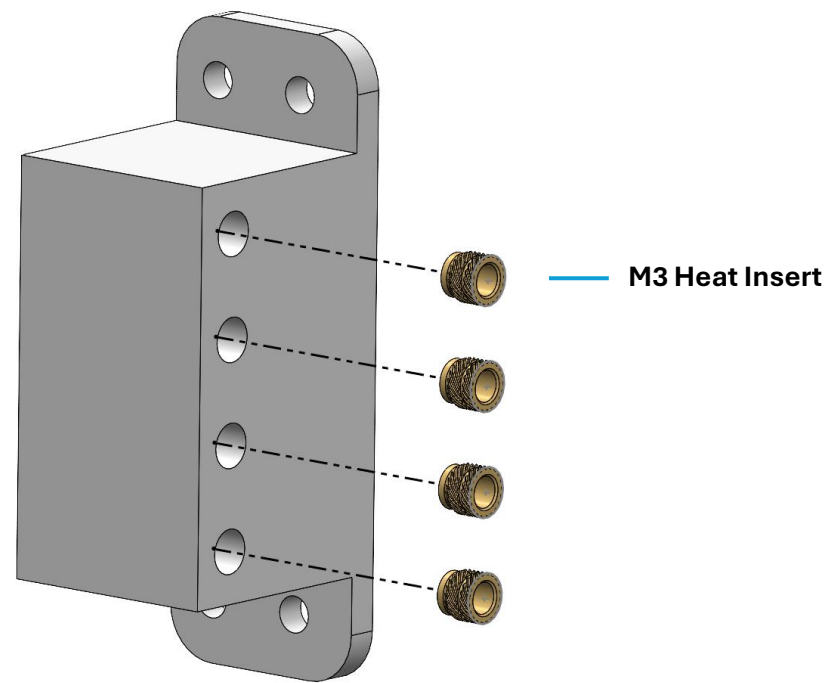
0002-0106 RightHipServo_Bracket



Heat inserts

Rear Servo Bracket

Part	QTY
0002-0103 RearServo_Bracket	2
M3x5x4 Heat Insert	8



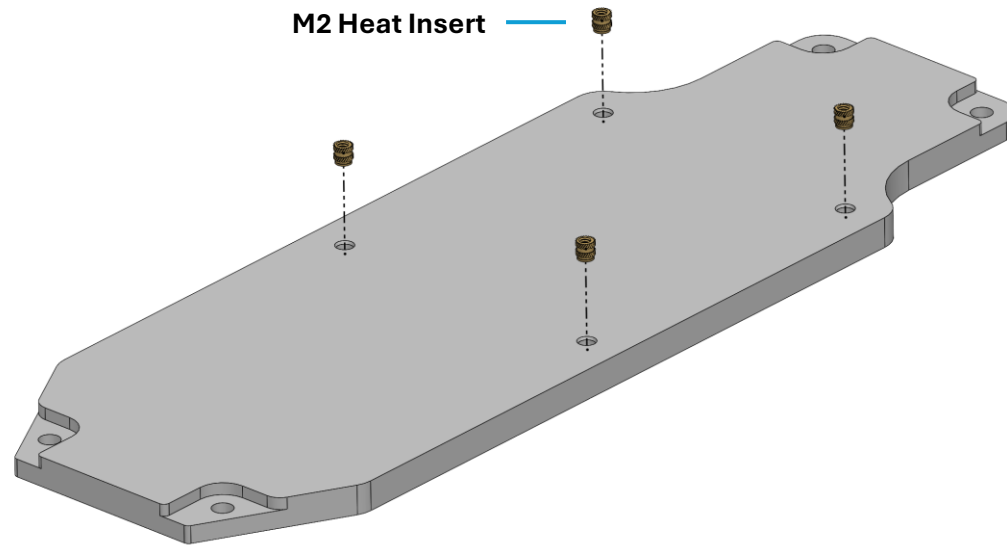
Heat inserts

Quadruped Belly

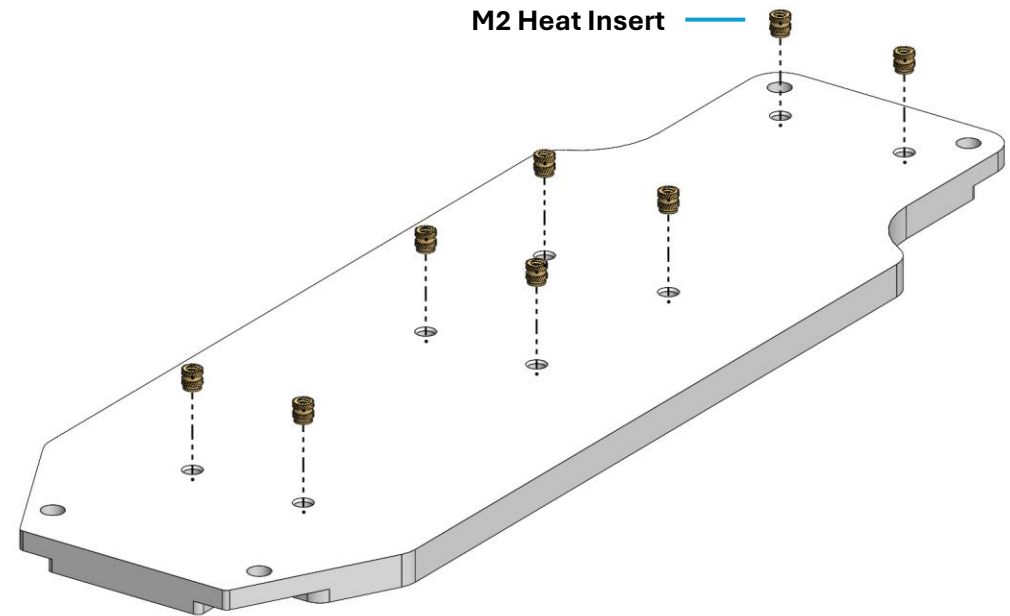
Part	QTY
0002-0401 BellyBracket	1
M2x3x4 Heat Insert	12



M2x3x4



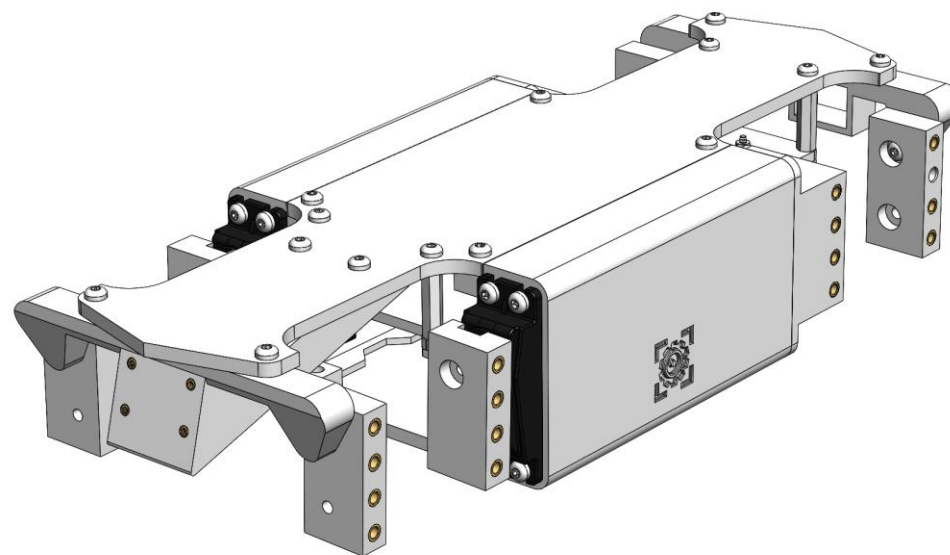
Top side



Bottom side



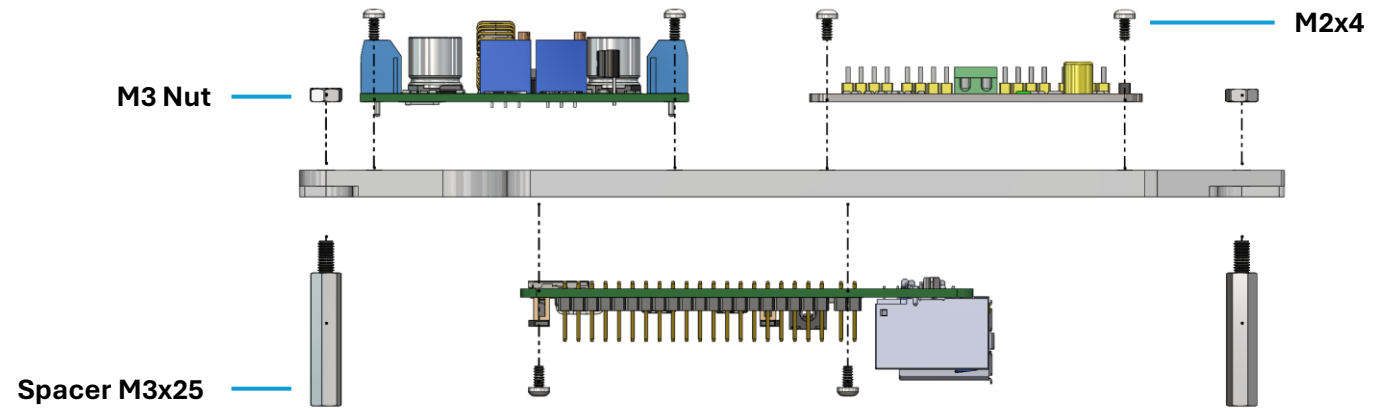
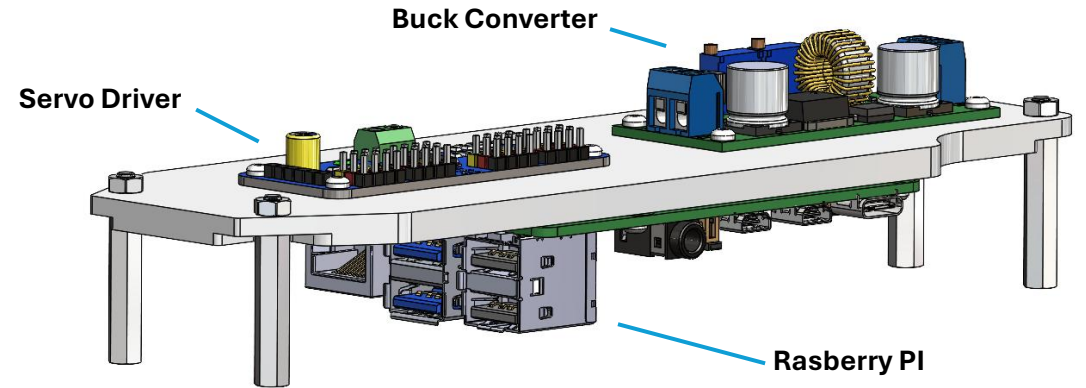
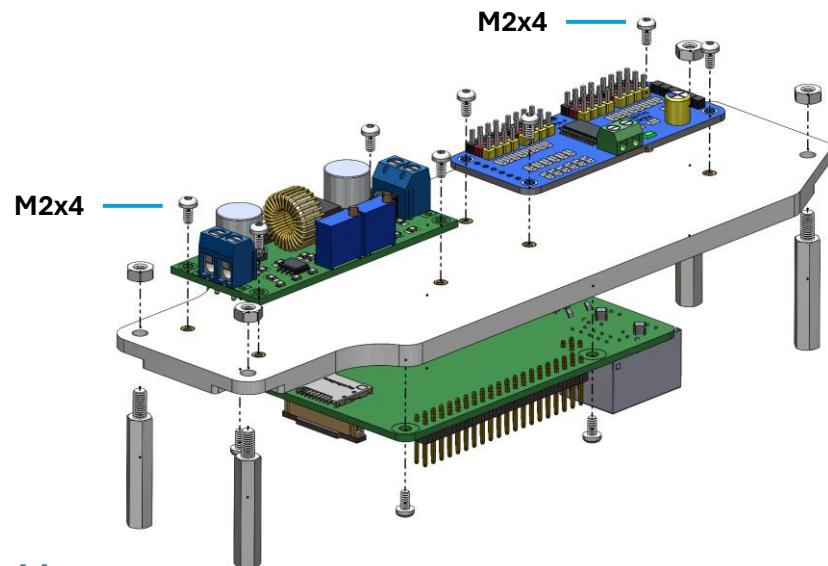
Main Body



Assembly

Electronics Bracket

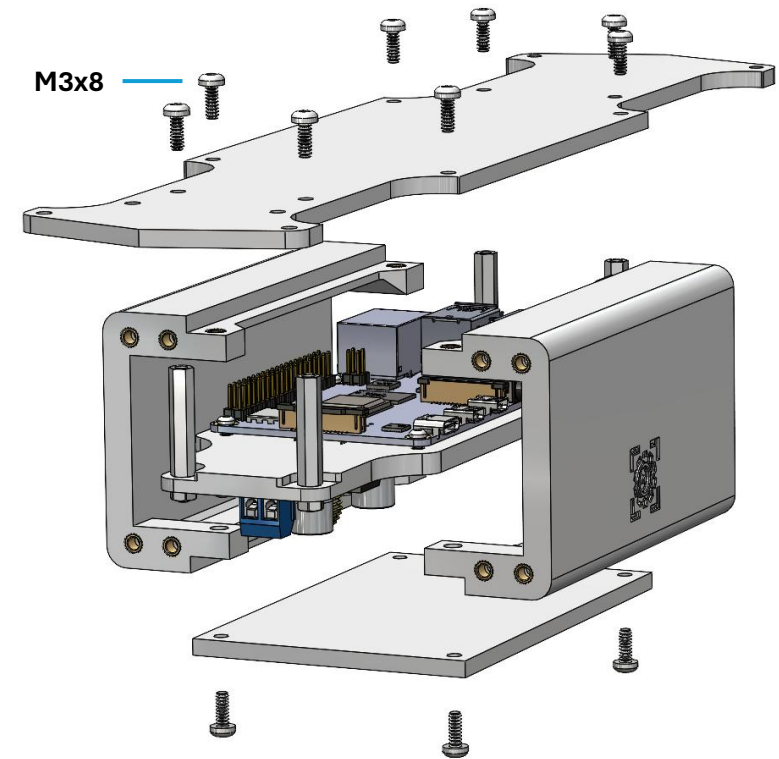
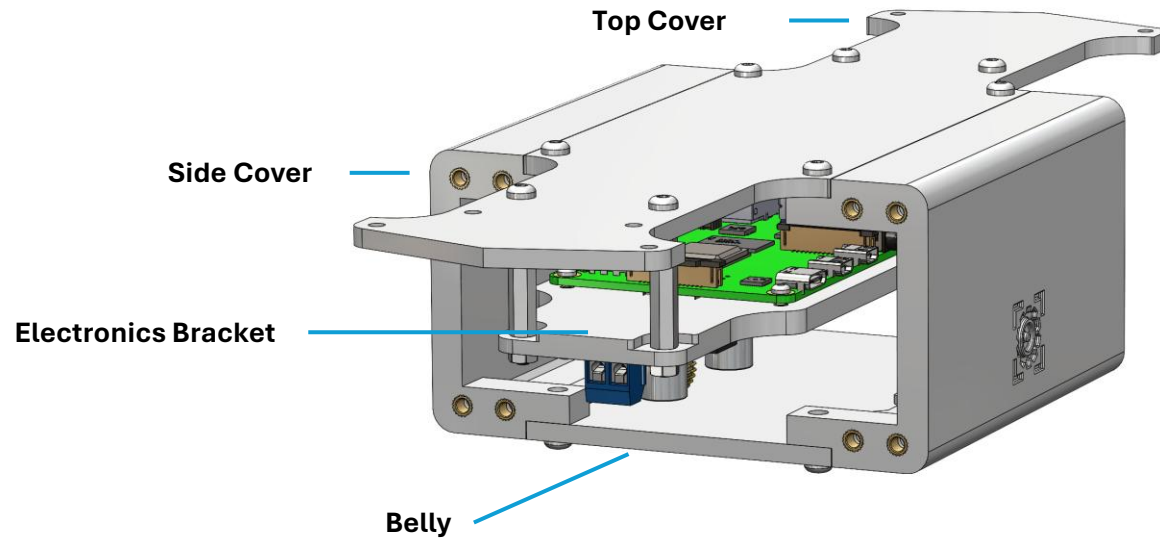
Part	QTY
0002-0401 BellyBracket	1
16channel Servo Driver	1
Raspberry PI	1
Buck Converter	1
M3 nut	4
DSR Distance/Spacer M3x25	4
MRT Torx/Socket Screw M2x4	12



Assembly

Main Body

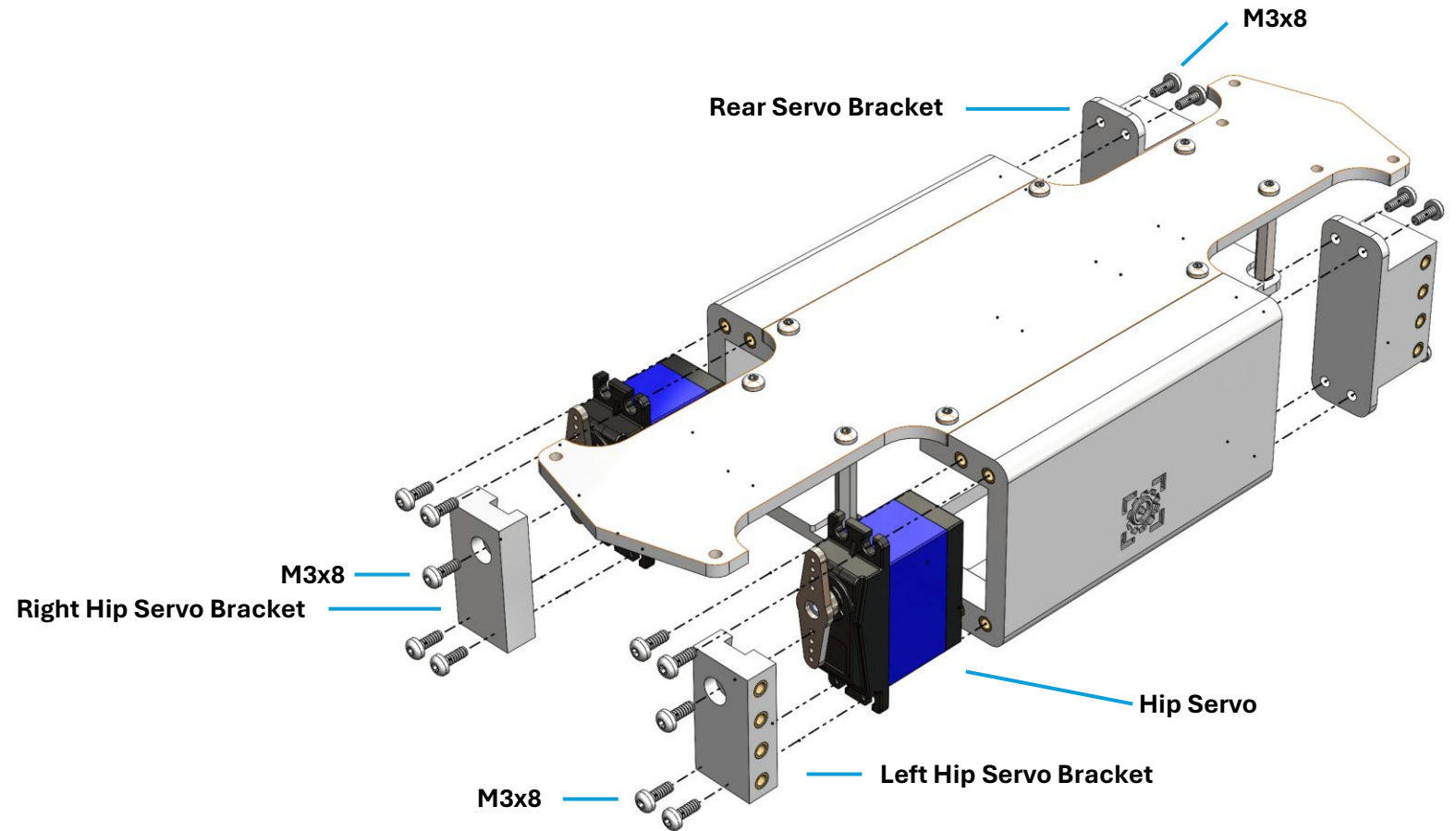
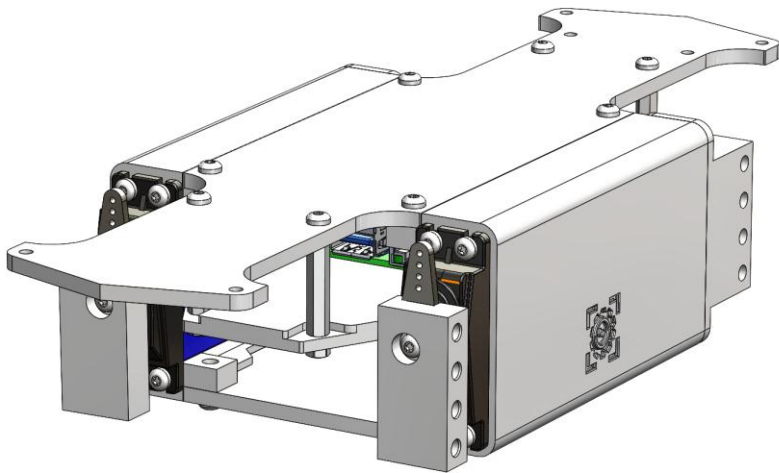
Part	QTY
0002-0102 Top_Cover	1
0002-0101 Side_Cover	2
0002-0108 Belly	1
0002-0400 Electronic_Assembly	1
MRT Torx/Button Cap Screw M3x6	12



Assembly

Hip Servo Brackets

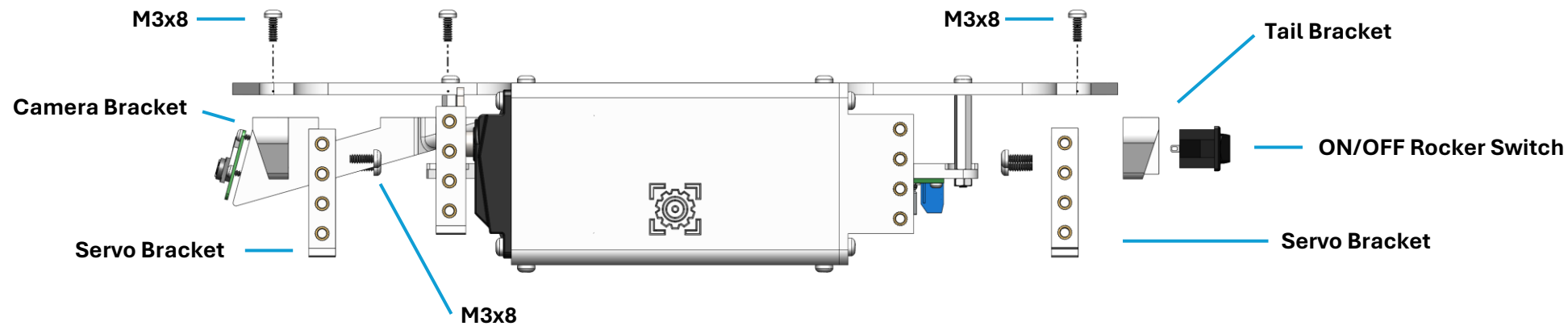
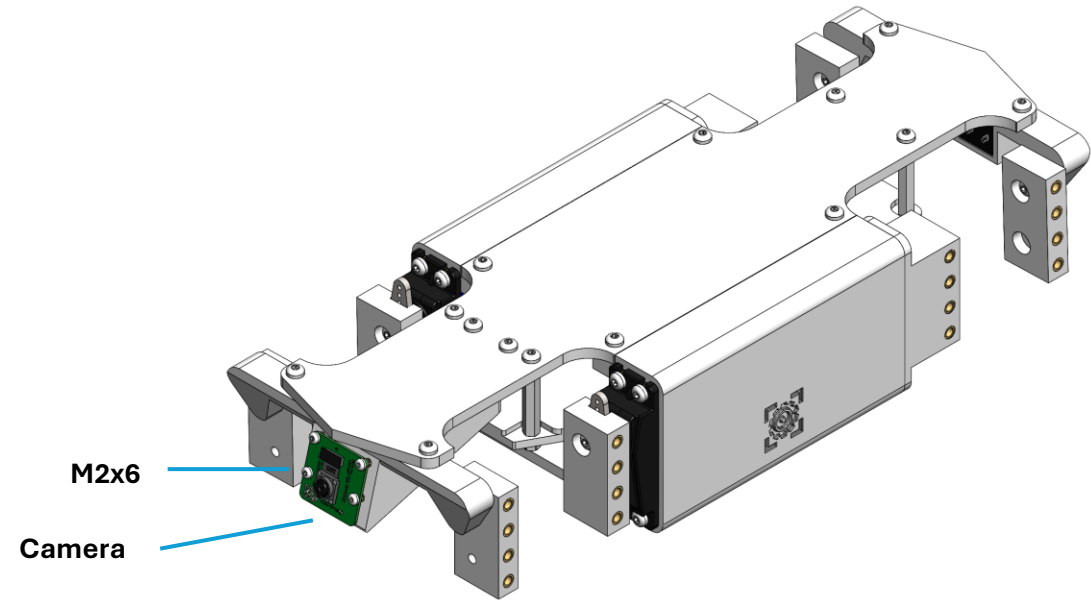
Part	QTY
0002-0103 RearServo_Bracket	2
0002-0105 LeftHipServo_Bracket	1
0002-0106 RightHipServo_Bracket	1
Servo	2
MRT Torx/Button Cap Screw M3x8	18



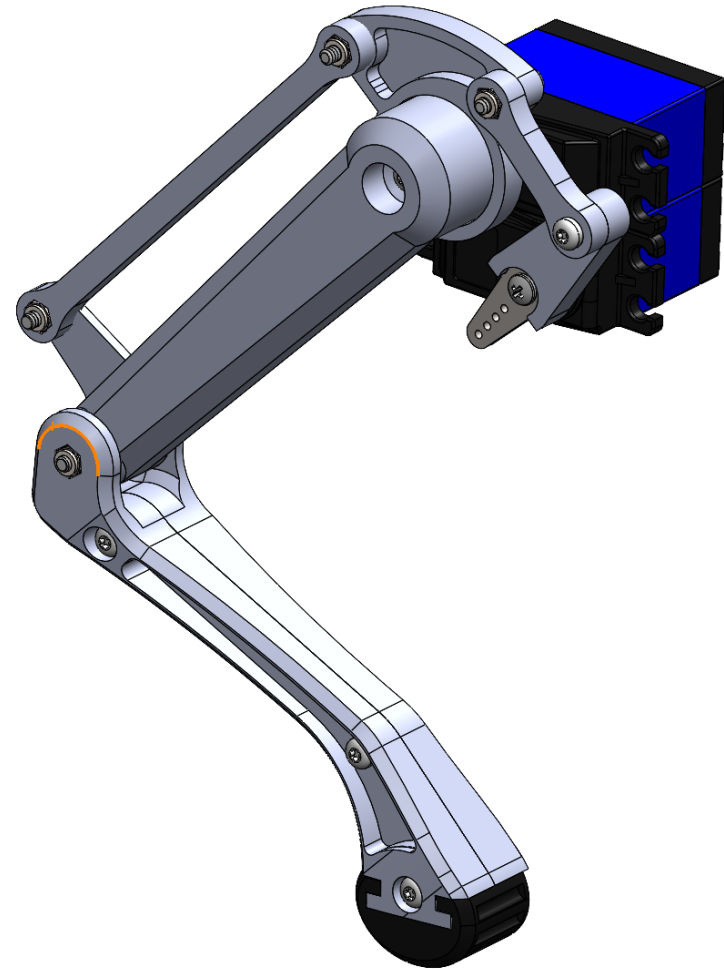
Assembly

Camera&Tail Bracket

Part	QTY
0002-0104 FrontServo_Bracket	4
0002-0107 Camera_Bracket	1
0002-0109 Tail	1
On/Off Rocker Switch	1
Camera Module	1
MRT Torx/Button Cap Screw M3x8	10
MRT Torx/Button Cap Screw M2x6	4



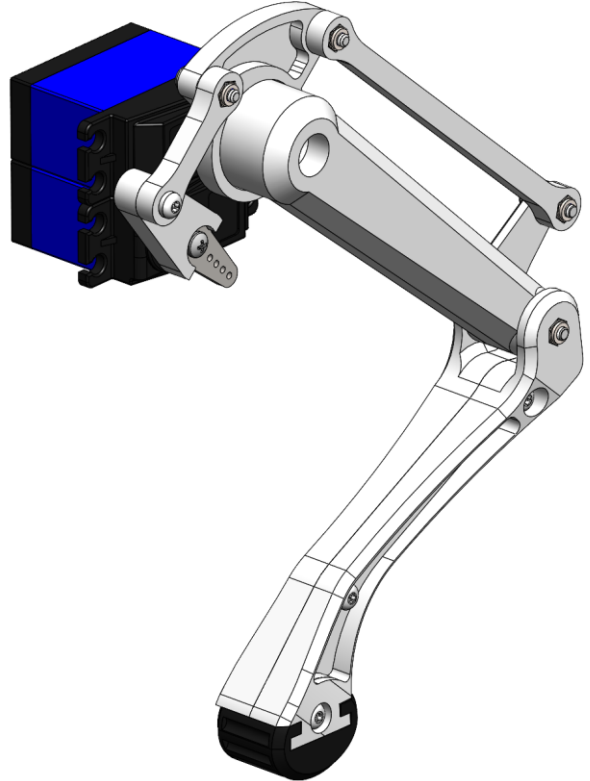
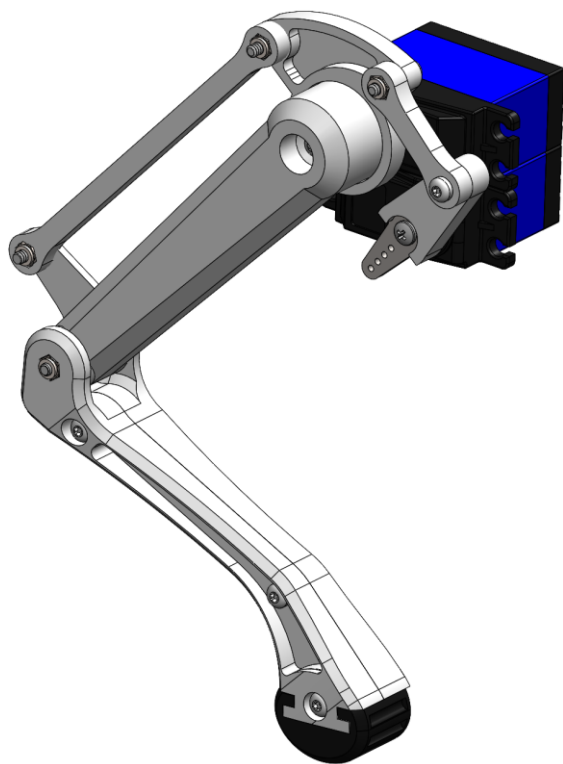
Leg assembly



Assembly

Left & Right Leg Assembly

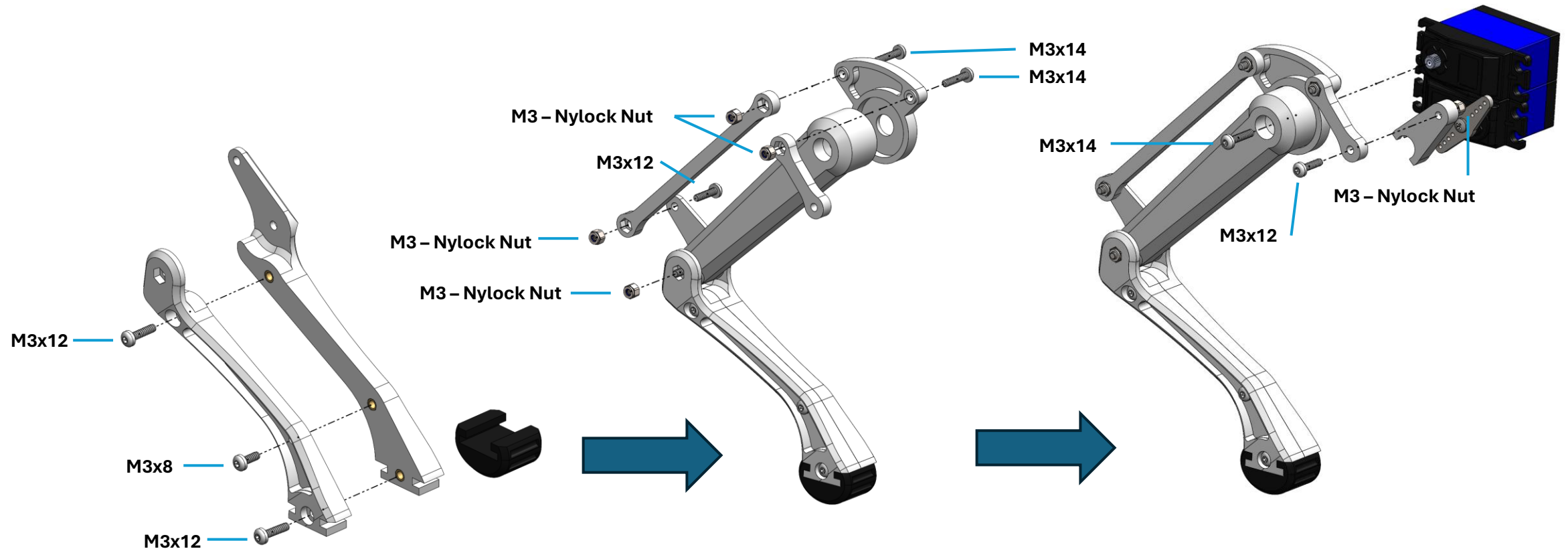
Parts (For 4 Legs)	QTY
0002-0201 Femur	4
0002-0202 Foot	4
0002-0203 Link 100mm	4
0002-0204 Link 28mm	4
0002-0205 MotorExtension	4
0002-0206 InnerRight_Tibia	2
0002-0207 InnerLeft_Tibia	2
0002-0208 Right_Shoulder	2
0002-0301 InnerLeft_Tibia	2
0002-0302 OuterLeft_Tibia	2
0002-0303 Left_Shoulder	2
MRT Torx/Button Cap Screw M3x25	4
MRT Torx/Button Cap Screw M3x14	12
MRT Torx/Button Cap Screw M3x12	16
MRT Torx/Button Cap Screw M3x8	4
M3 Nylock Nut	20
Servo	8



Assembly

Left & Right Leg Assembly

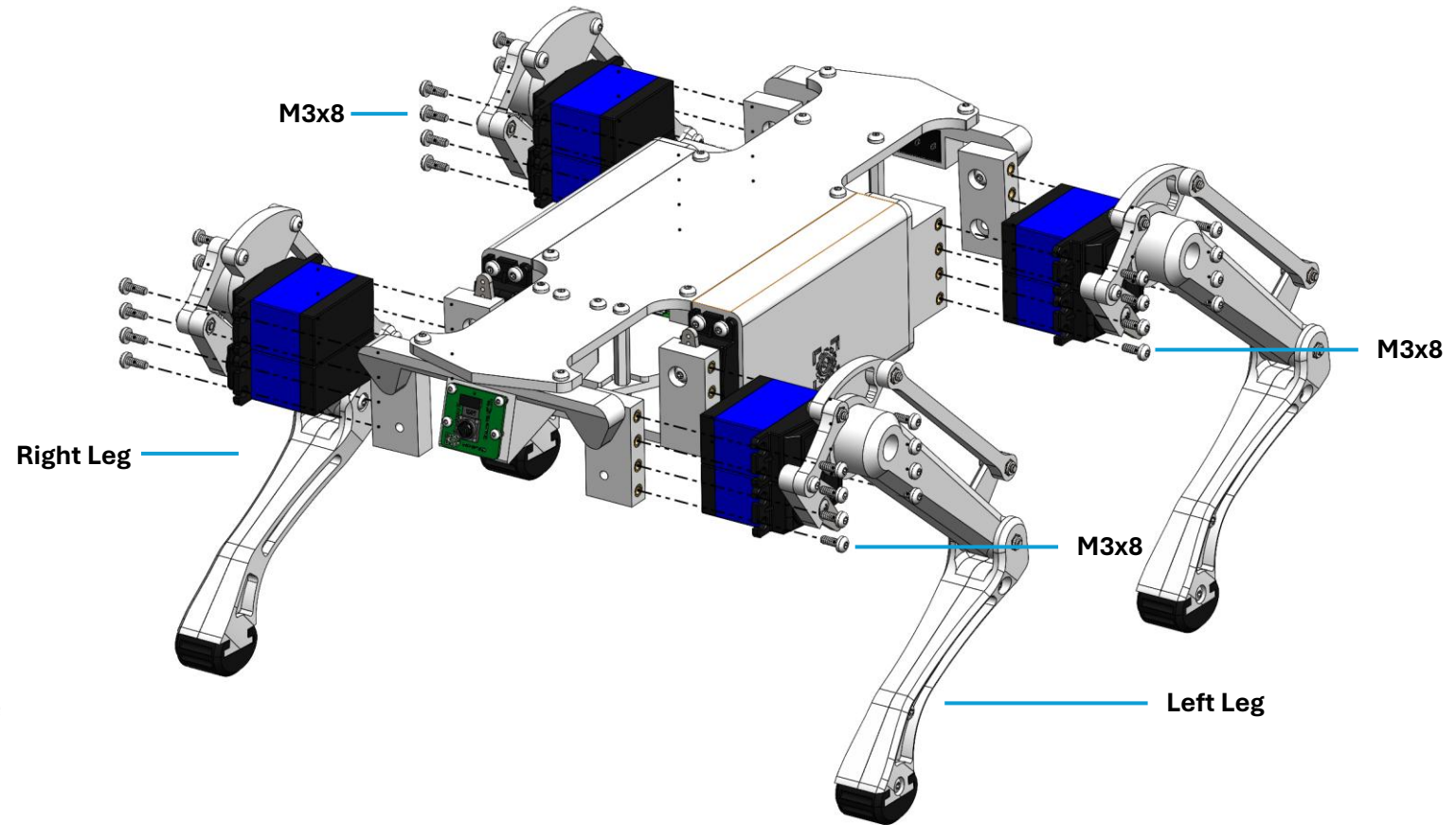
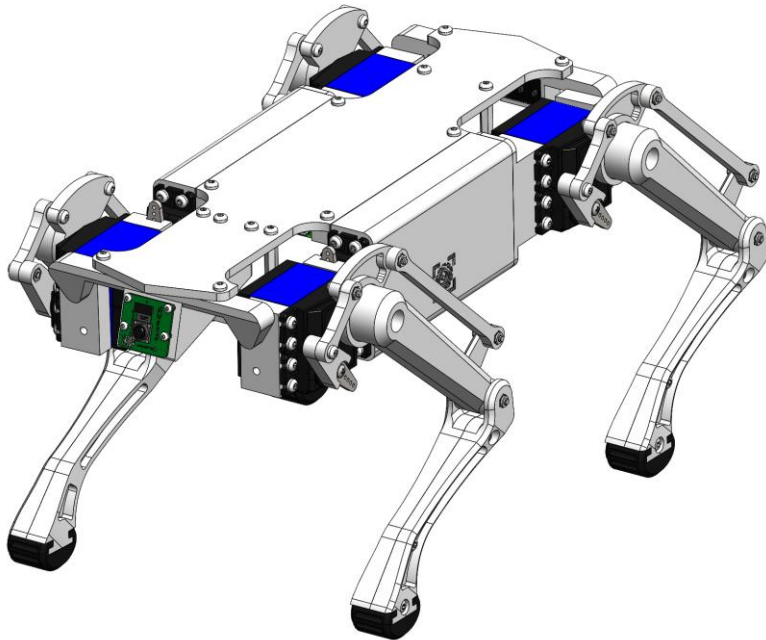
The assembly is identical for both the left and right leg.



Assembly

Camera&Tail Bracket

Part	QTY
0002-0200 Right_Leg_Assembly	2
0002-0300 Left_Leg_Assembly	2
MRT Torx/Button Cap Screw M3x8	24



Congratulations

Assembly Complete!

