

BRUNEL HAND 2.0

Assembly Guide



Toolbox - You will need

Torque Screwdriver



HCO P 0.05 (Hand Tight)



Long Nose Pliers



Scalpel



Soldering Iron



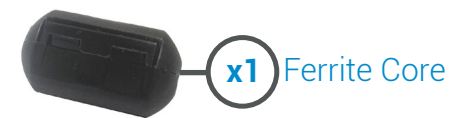
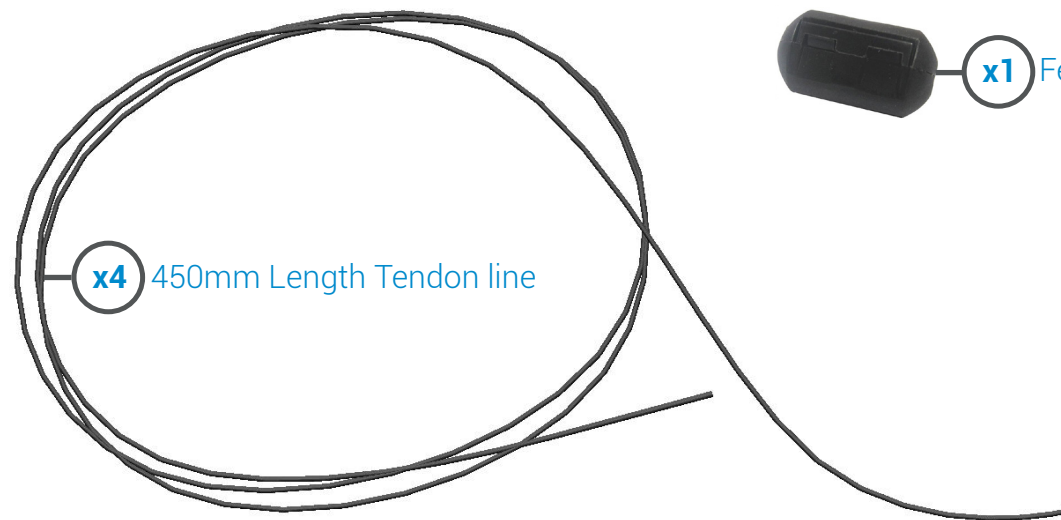
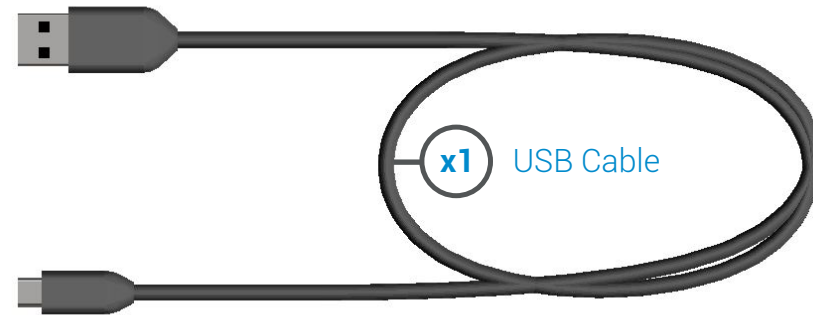
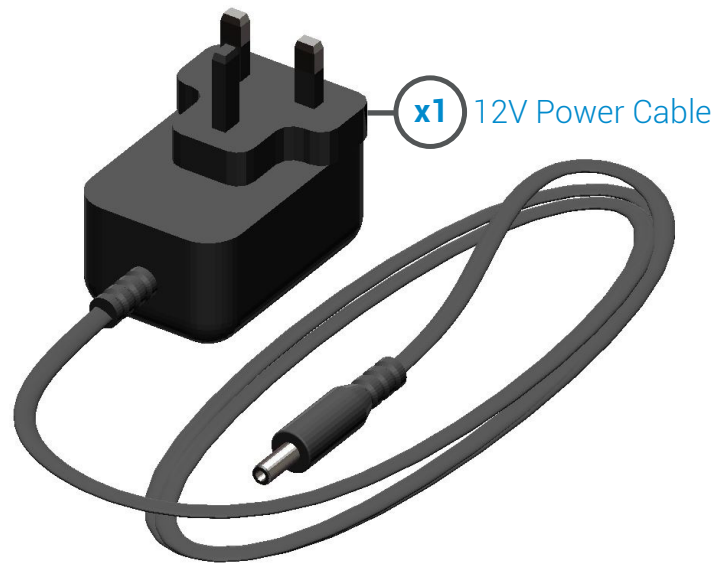
Flat Head 0.3Nm



Torx T6 0.2Nm



Brunel Kit List

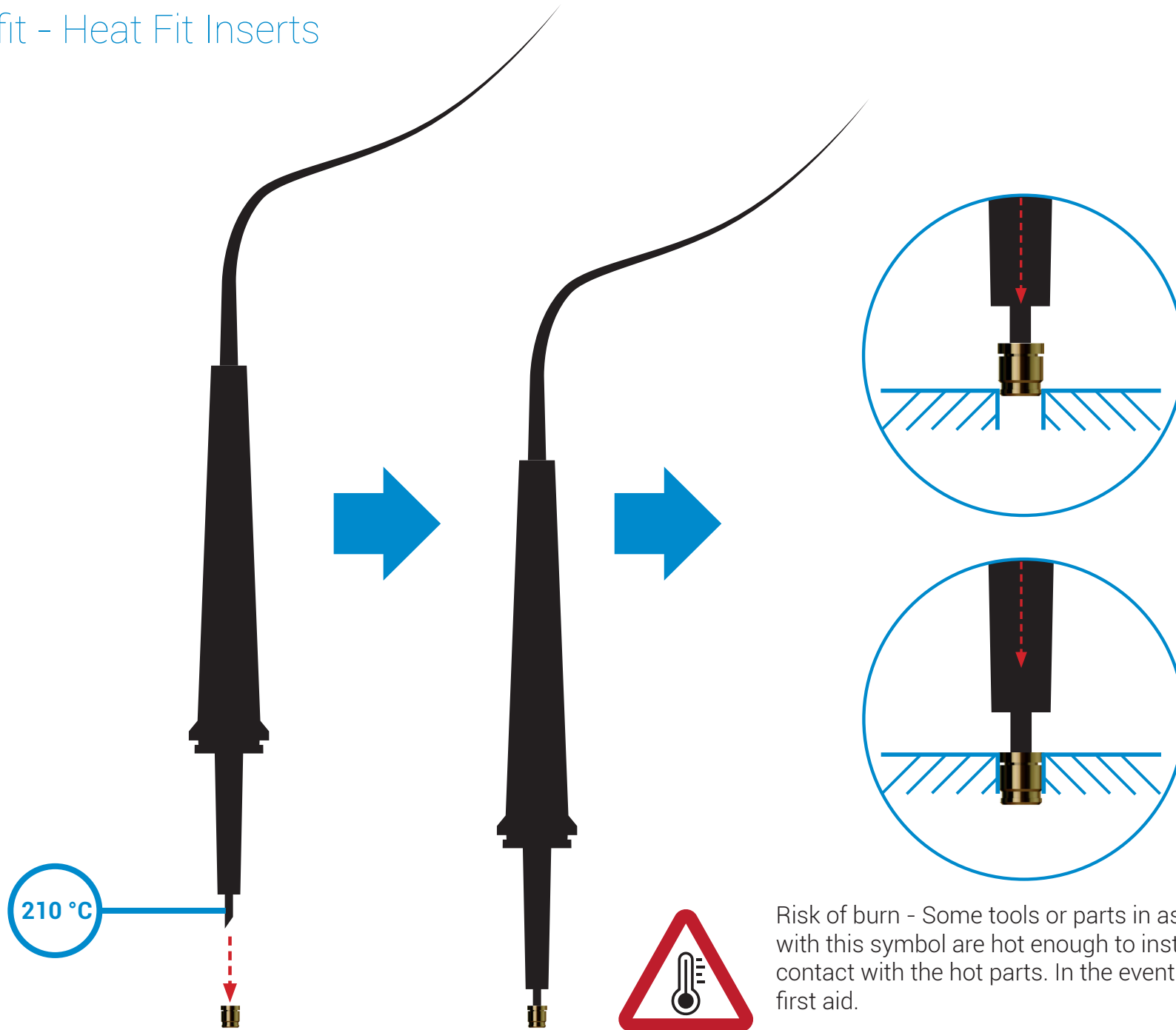


Parts List

Part Number	Part Name	Quantity
1	1st Finger Distal	1
2	1st Finger Proximal	1
3	1st Finger Distal Top Cover	1
4	1st Finger Proximal Top Cover	1
5	2nd Finger Distal	1
6	2nd Finger Proximal	1
7	2nd Finger Distal Top Cover	1
8	2nd Finger Proximal Top Cover	1
9	3rd Finger Distal	1
10	3rd Finger Proximal	1
11	3rd Finger Distal Top Cover	1
12	3rd Finger Proximal Top Cover	1
13	4th Finger Distal	1
14	4th Finger Proximal	1
15	4th Finger Distal Top Cover	1
16	4th Finger Proximal Top Cover	1
17	Finger Ligament	1
18	Finger Ligament Cover	1
19	Thumb	1
20	Thumb Top Cover	1
21	Thumb Ligament Clamp	1
22	Thumb Ligament	1
23	Thumb Ligament Cover	1
24	Palm	1
25	Motor Cover	1
26	Motor Caps	3

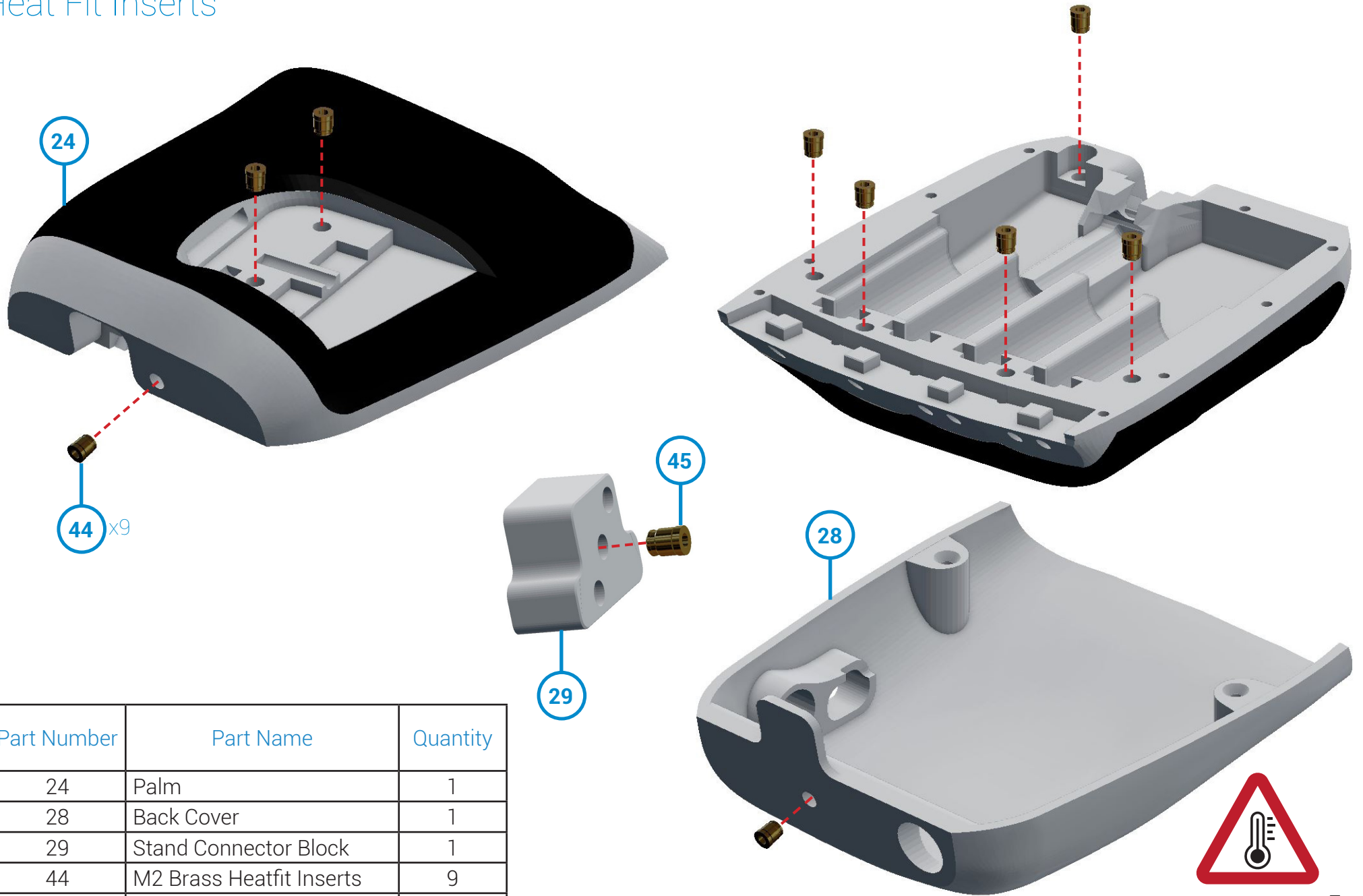
Part Number	Part Name	Quantity
27	Cable Tidy	1
28	Back Cover	1
29	Stand Connector Block	1
30	Stand	1
31	Stand Grip Band	1
32	PQ12 Motors	4
33	Conical Springs	3
34	AC2305 Extension Springs	9
35	Chestnut PCB	1
36	3x10mm Dowel Pins	11
37	M2x5mm Torx Countersunk Screws	2
38	M2x8mm Torx Countersunk Screws	2
39	M2x10mm Torx Countersunk Screws	15
40	M2x16mm Torx Countersunk Screws	6
41	M1.4x5mm Cap Head Screws	10
42	M2x5mm Slot Pan Machine Screw	5
43	M3x10mm Winged Screw	1
44	M2 Brass Heatfit Inserts	26
45	M3 Brass Heatfit Inserts	1
46	Black Velvet Tendon 450mm	4
47	12V Power Cable	1
48	Micro USB Cable	1
49	VitaFlex 30 Urethane	1
50	Ferrite Core	1

How to fit - Heat Fit Inserts



Risk of burn - Some tools or parts in assembly steps with this symbol are hot enough to instantly burn. Avoid contact with the hot parts. In the event of a burn, seek first aid.

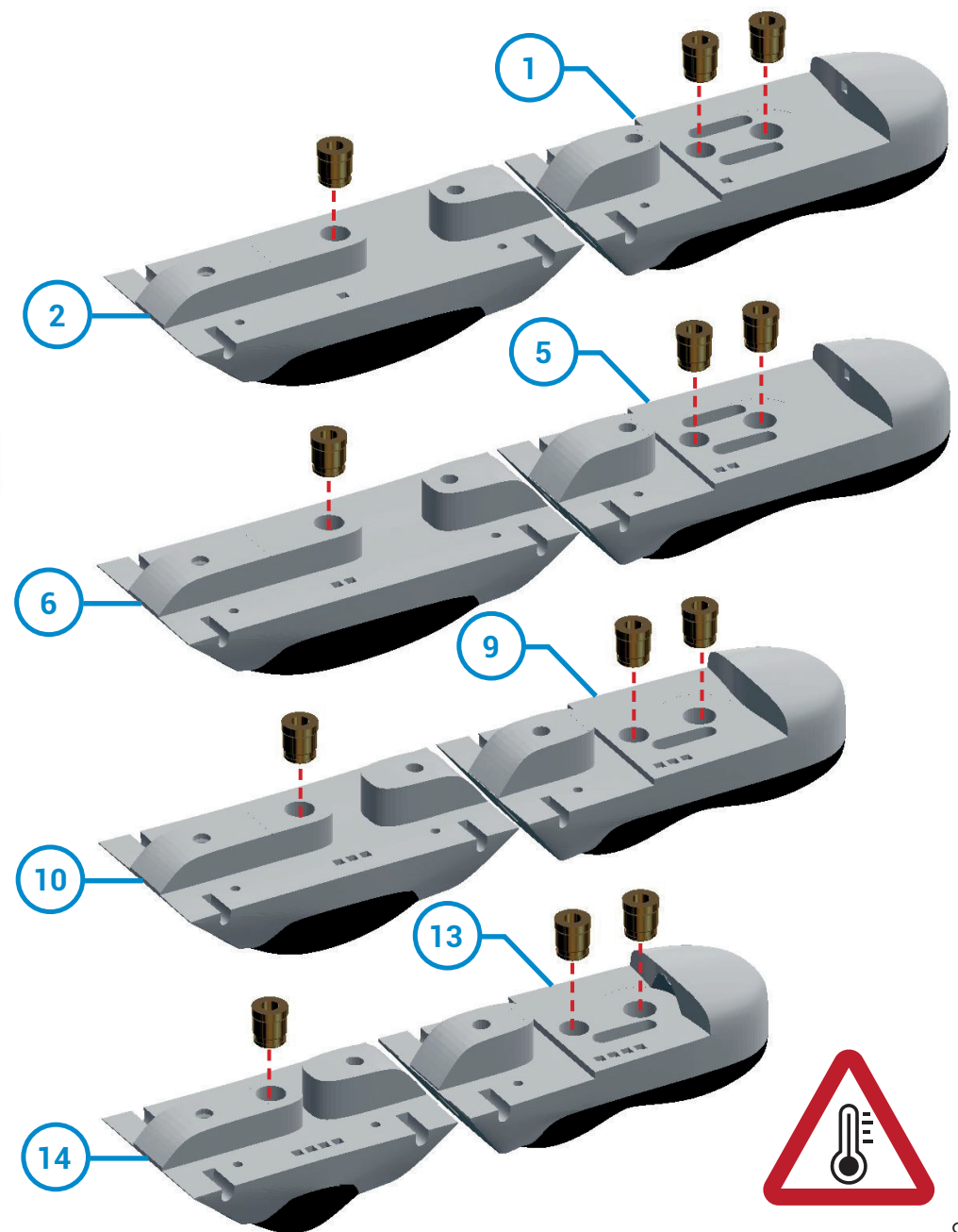
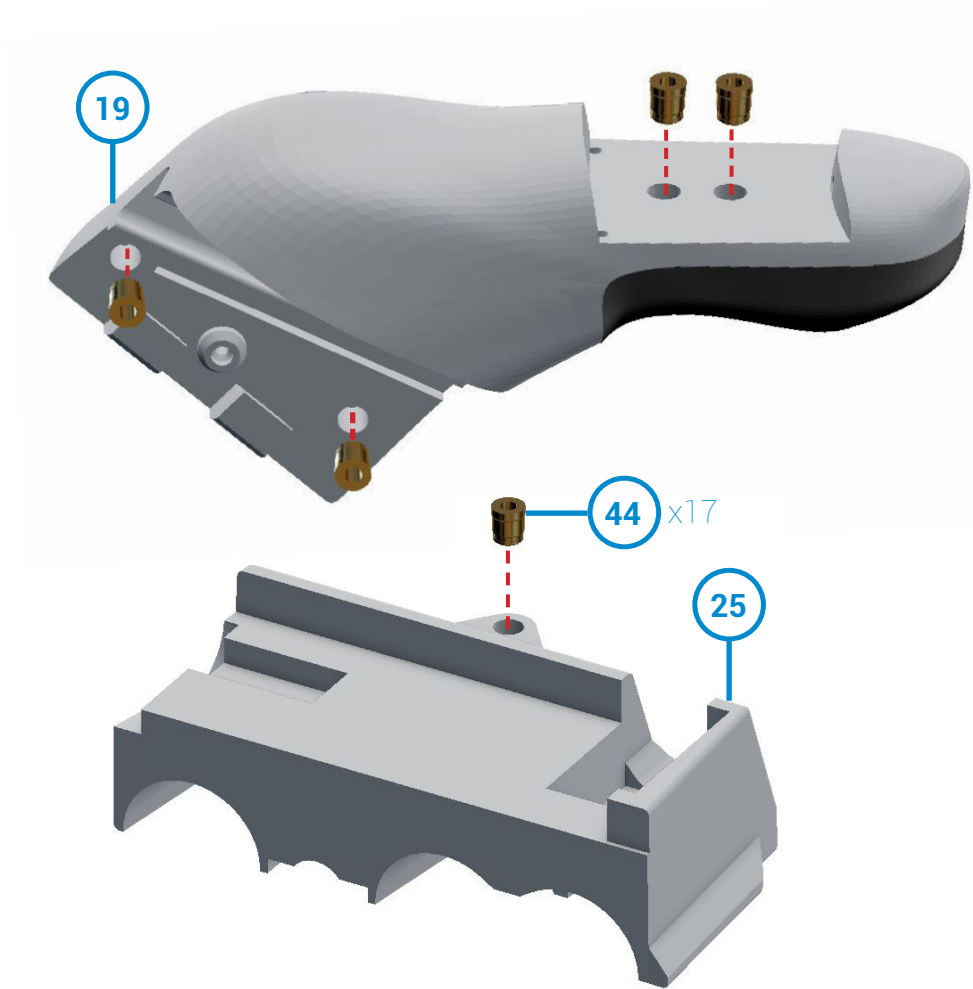
Heat Fit Inserts



Part Number	Part Name	Quantity
24	Palm	1
28	Back Cover	1
29	Stand Connector Block	1
44	M2 Brass Heatfit Inserts	9
45	M3 Brass Heatfit Inserts	1

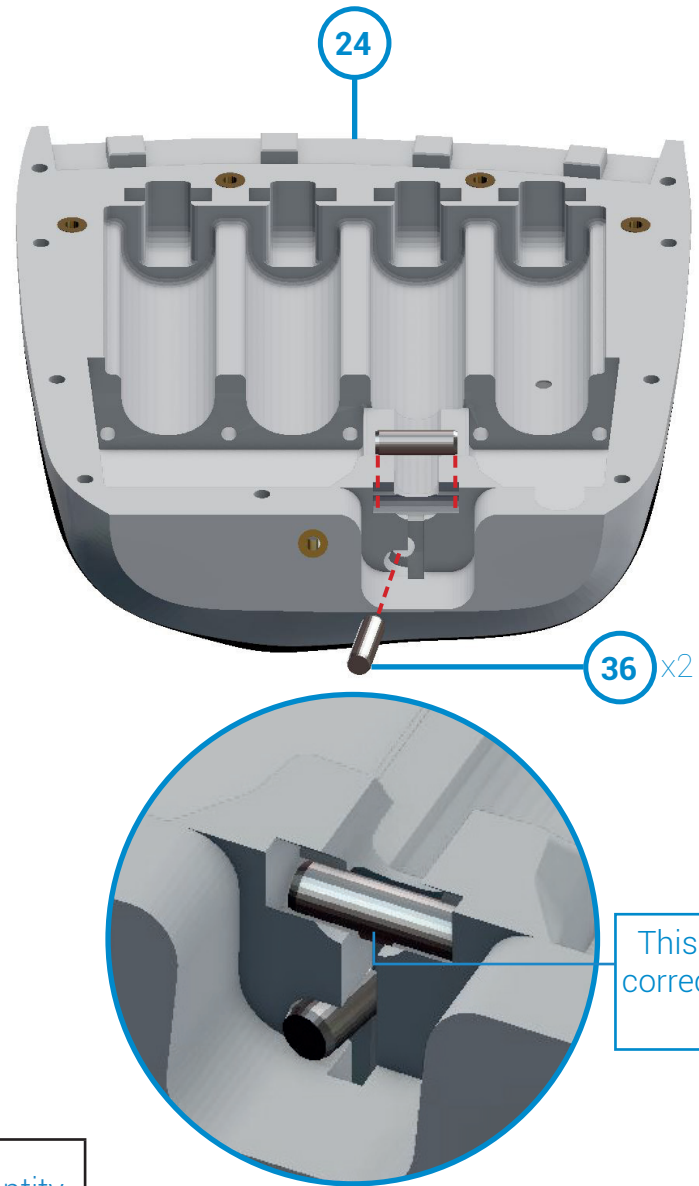


Heat Fit Inserts



Part Number	Part Name	Quantity
2, 6, 10, 14	Fingers (Proximals)	4
1, 5, 9, 13,	Fingers (Distals)	4
19	Thumb	1
25	Motor Cover	1
44	M2 Brass Heatfit Inserts	17

Dowel Inserts

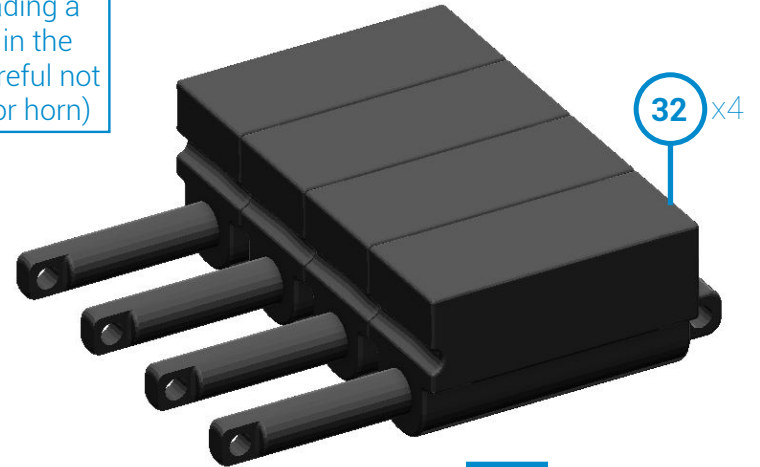
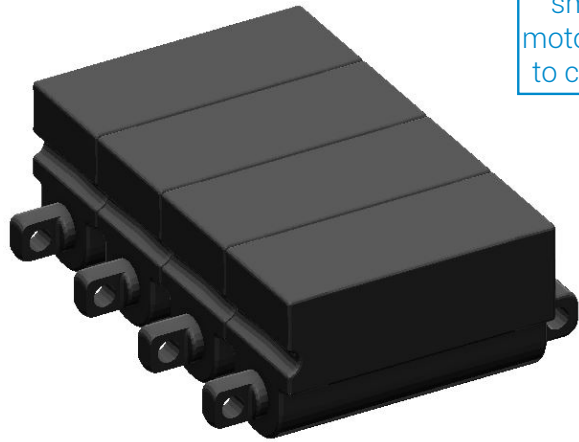


Part Number	Part Name	Quantity
24	Palm	1
36	3x10mm Dowel Pins	2



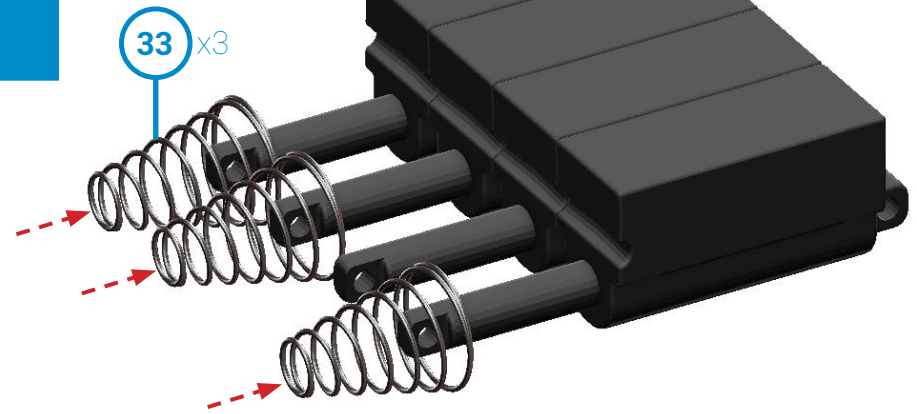
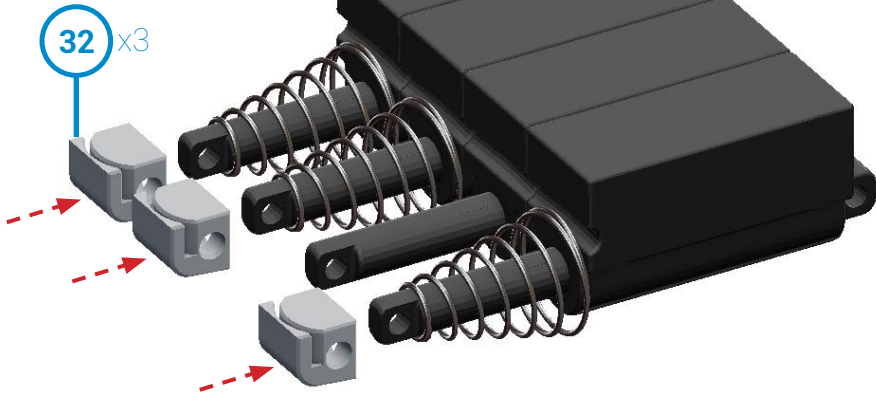
Motor Block Assembly

Extend PQ12 motor shafts by threading a small screwdriver through the hole in the motor horn and pulling gently (be careful not to crack the plastic around the motor horn)



Push conical springs on 3 of the 4 motors ensuring the springs sit below lip on the shaft

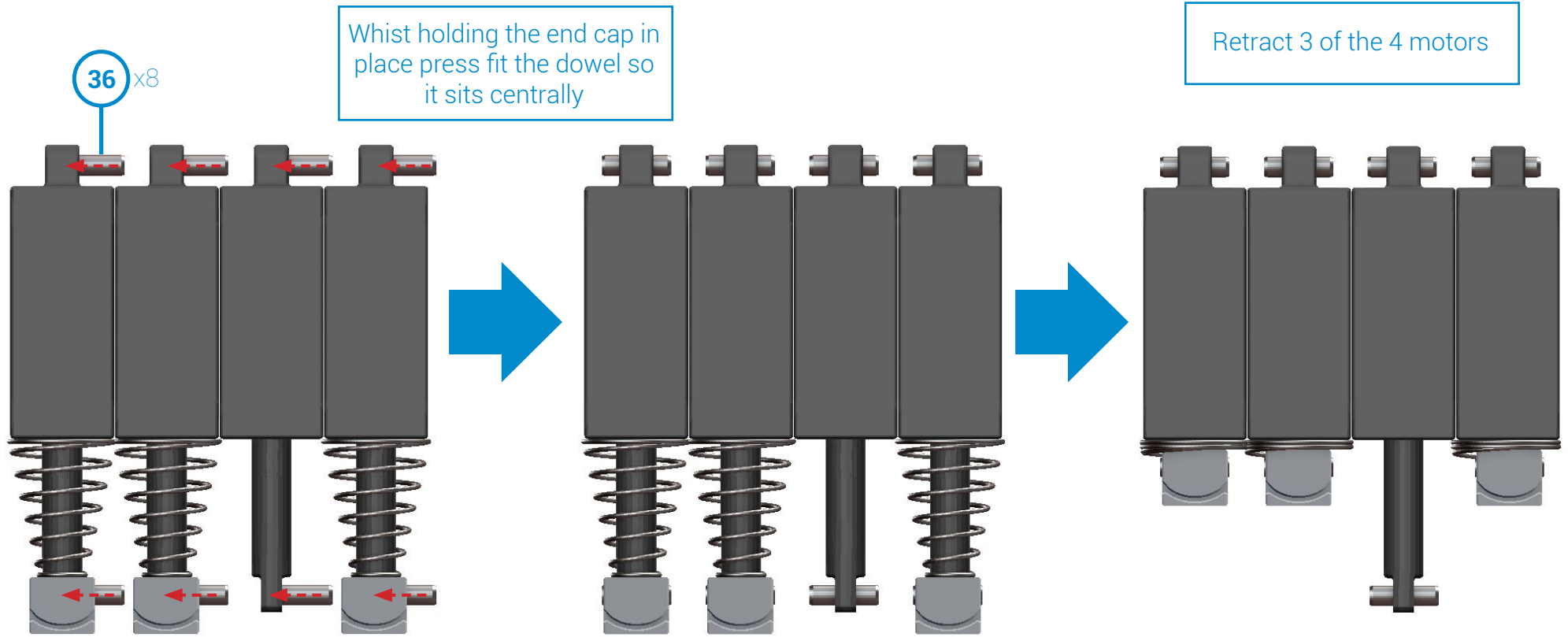
Push end caps on 3 of the 4 motors



Part Number	Part Name	Quantity
32	PQ12 Motors	4
33	Conical Springs	3
26	Motor Caps	3

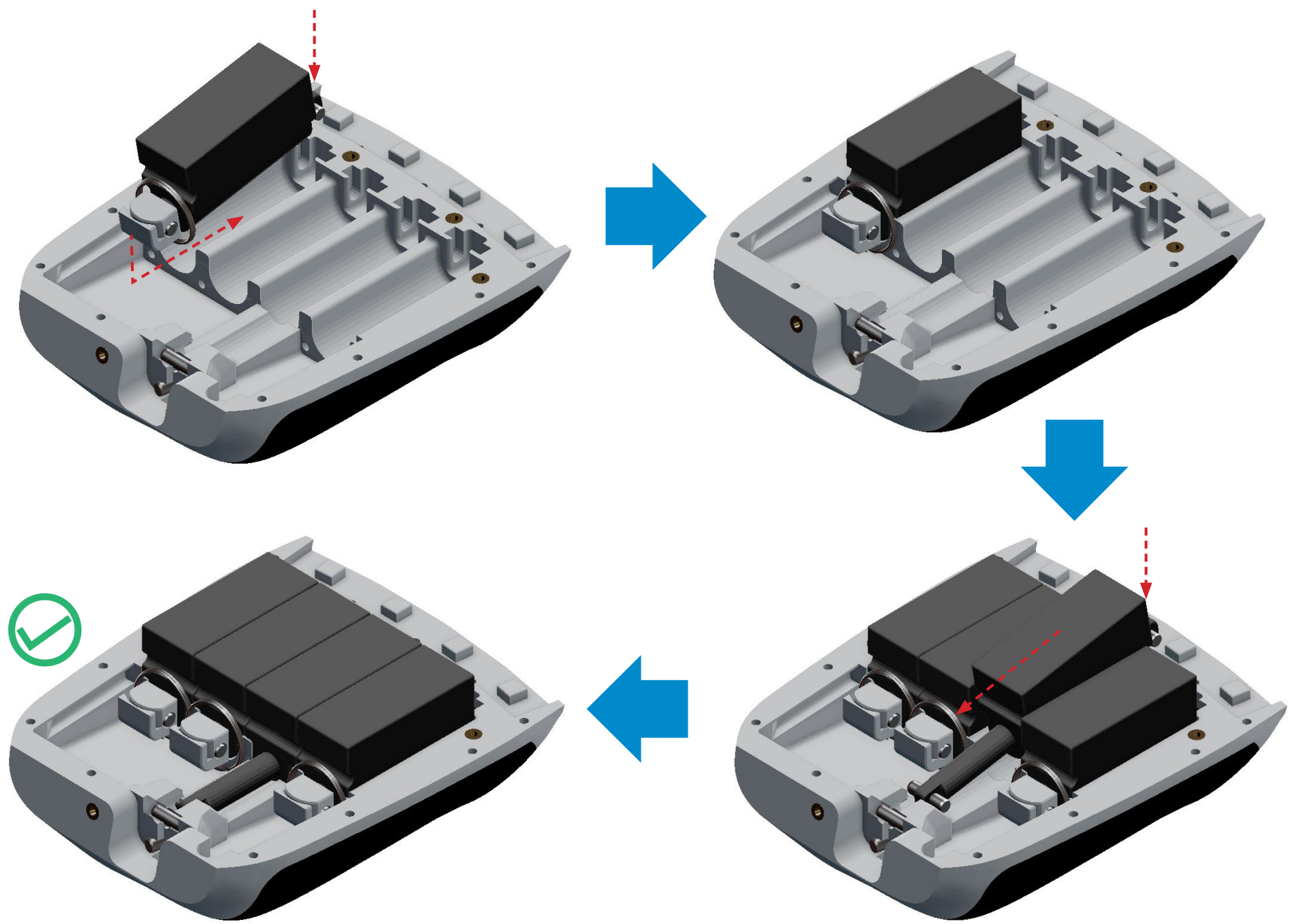
Motor cables hidden for clarity

Motor Block - Assembly



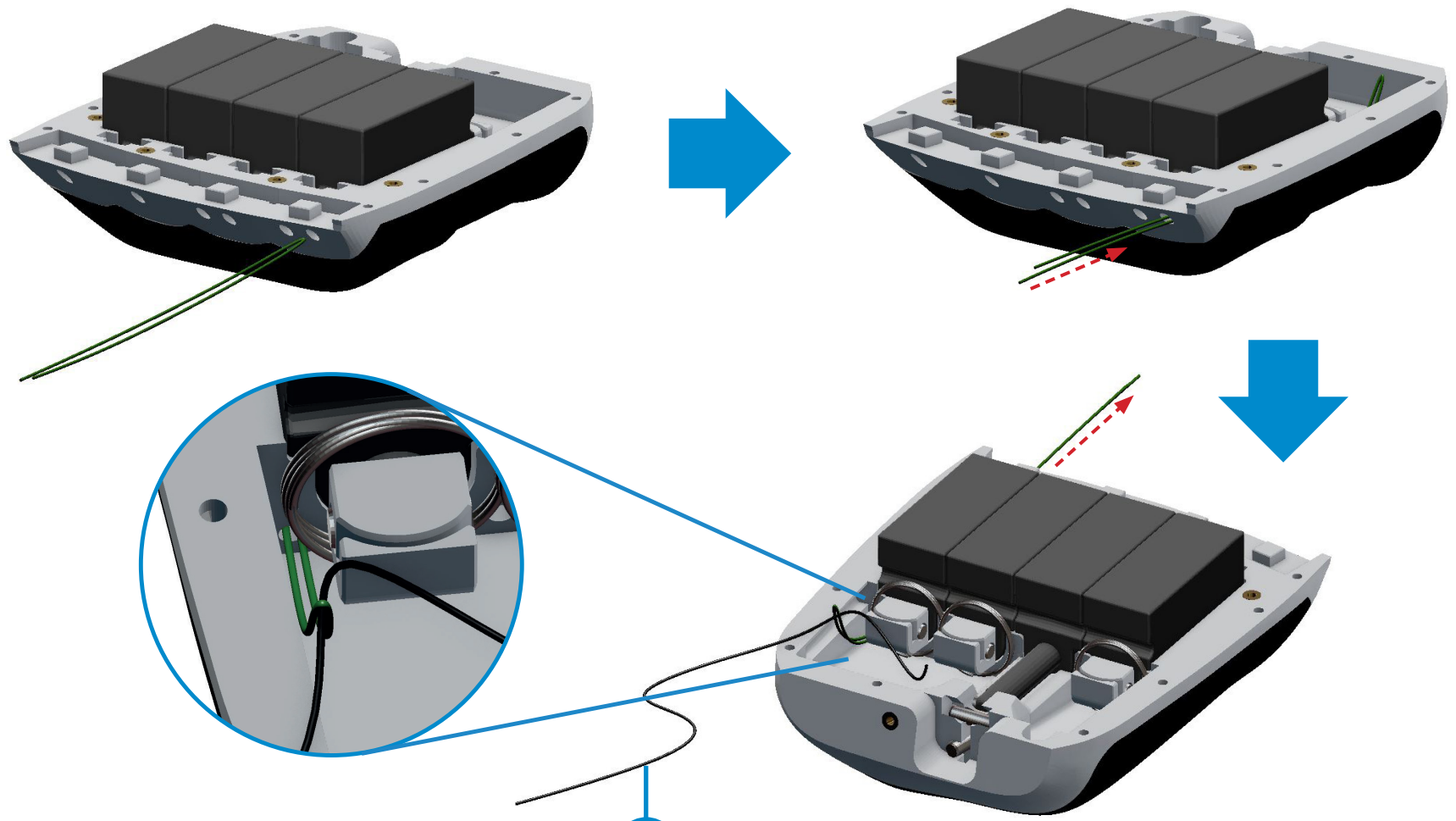
Part Number	Part Name	Quantity
36	3x10mm Dowel Pins	8

Motor Block - Palm Insertion



Tendon Line Threading - Palm

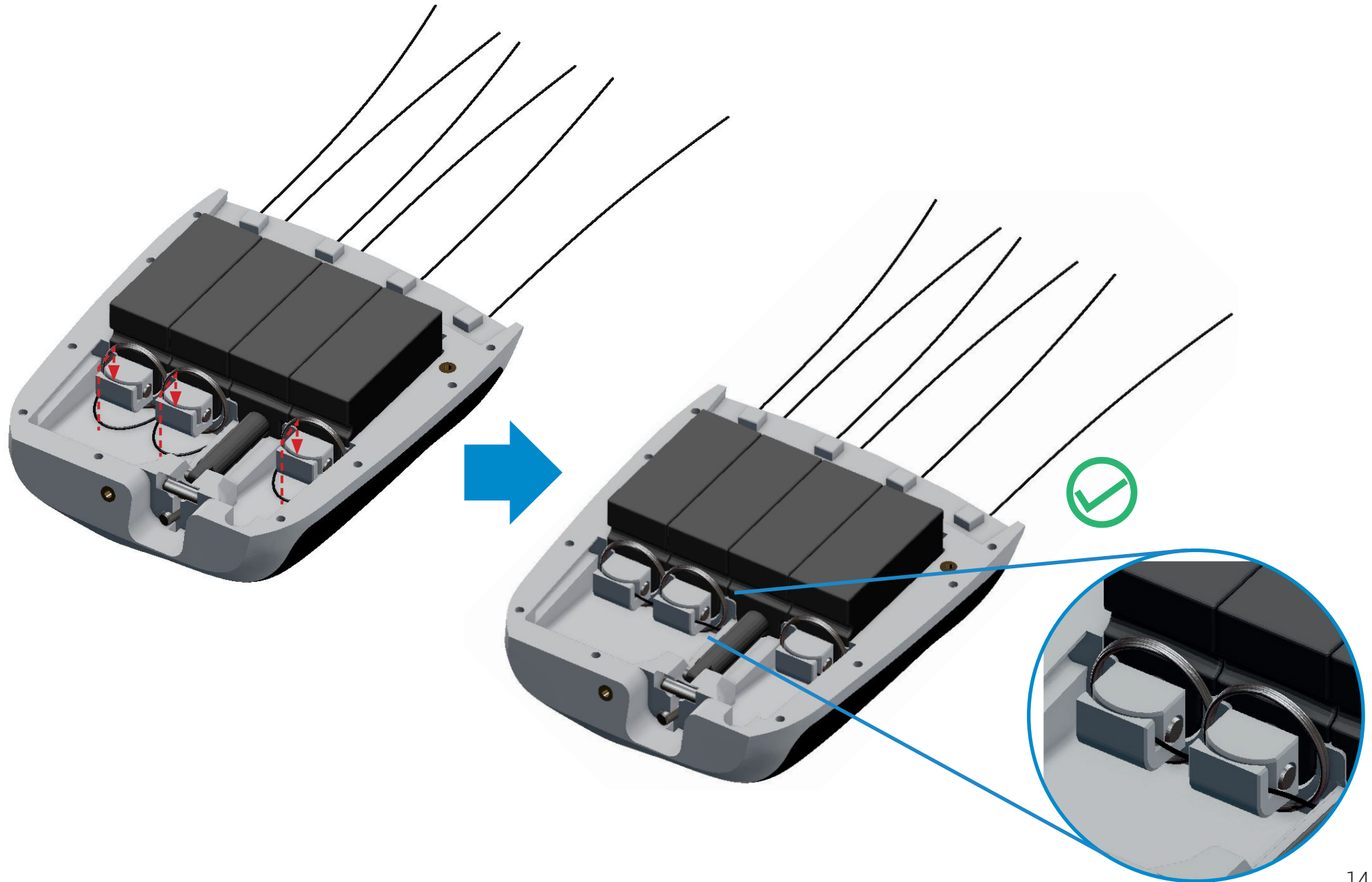
Cut x4 450mm lengths of Black Velvet Tendon line. Thread the tendon lines using approximately a 200mm length of 0.5mm wire



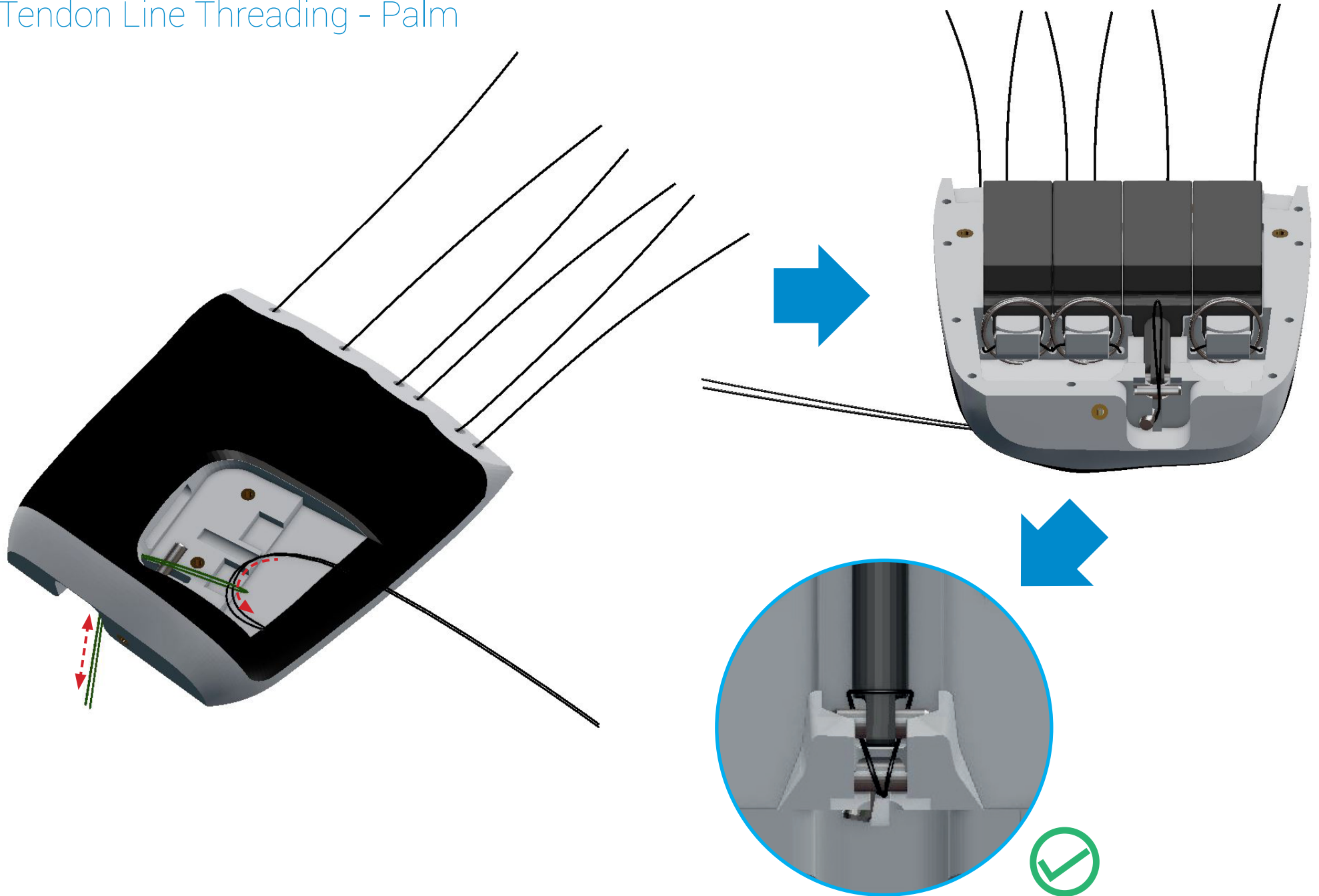
45 x4

Part Number	Part Name	Quantity
45	Black Velvet Tendon 450mm	4

Tendon Line Threading - Palm

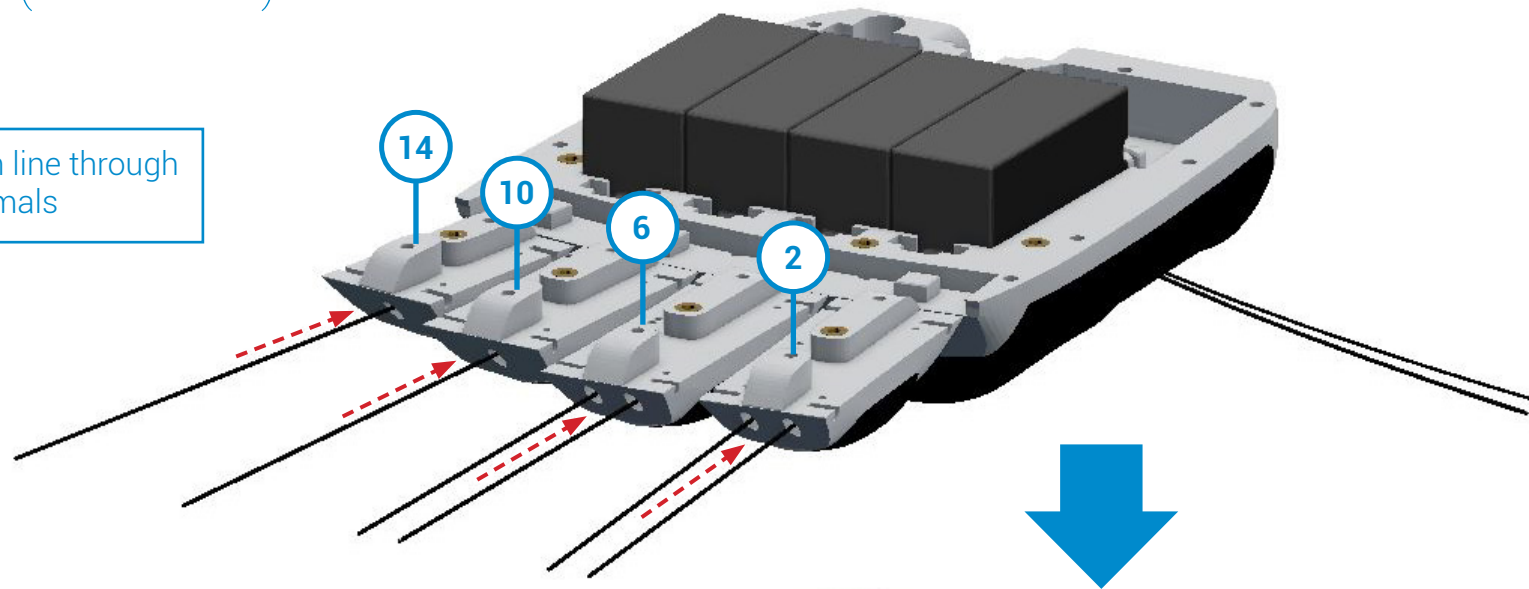


Tendon Line Threading - Palm

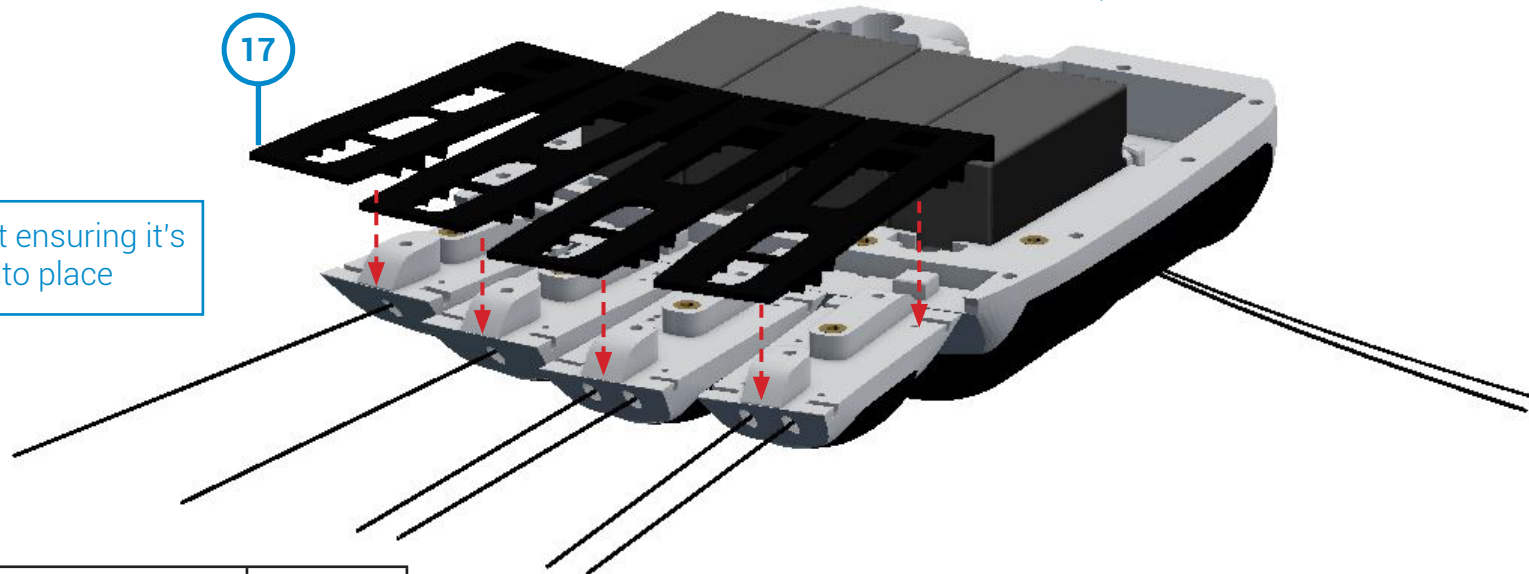


Attaching Fingers (Proximals)

Thread tendon line through proximals

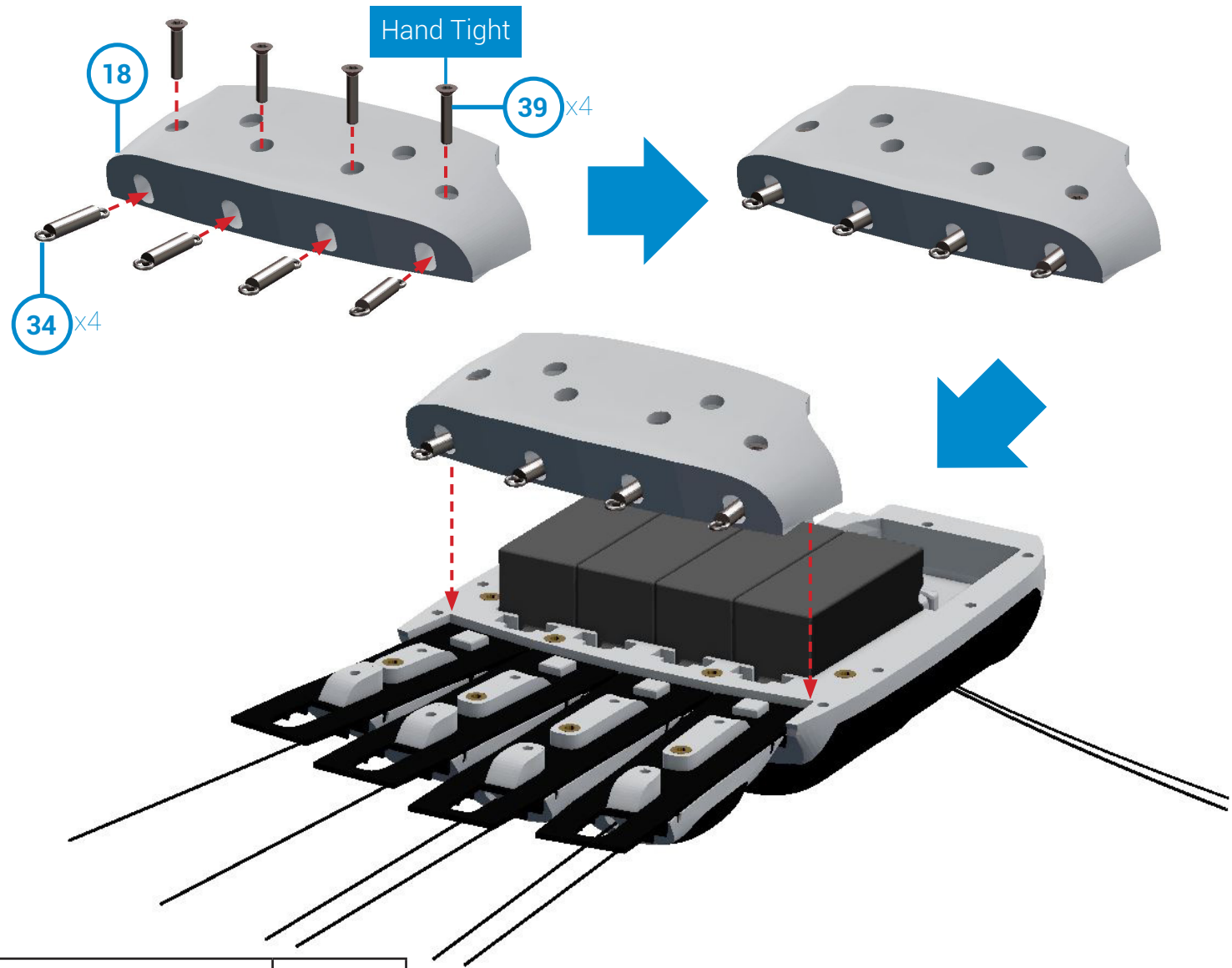


Attach finger ligament ensuring it's pressed firmly into place



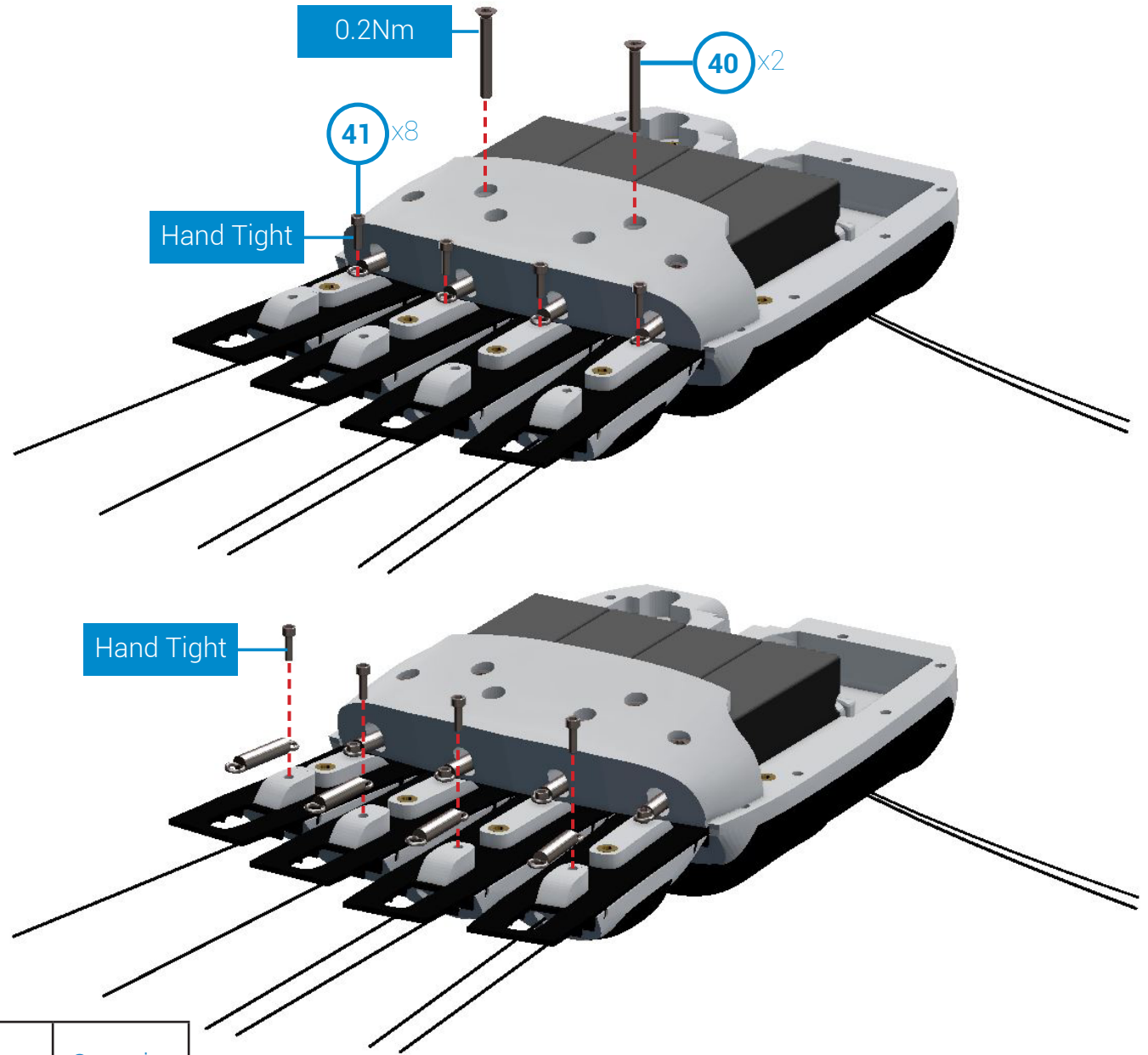
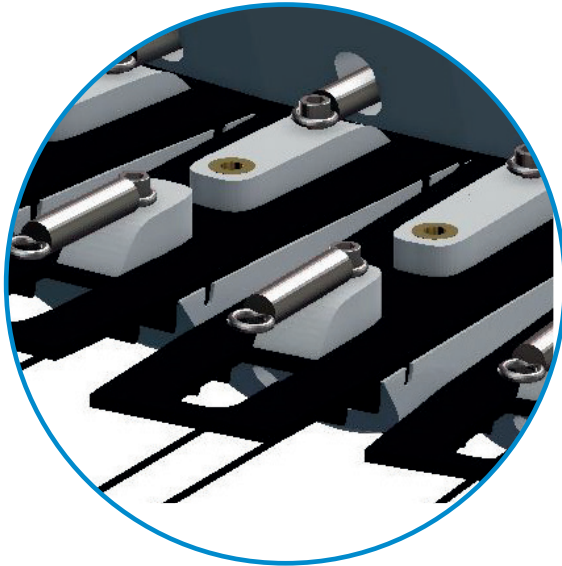
Part Number	Part Name	Quantity
17	Finger Ligament	1
2, 6, 10, 14	Finger (Proximals)	4

Attaching Springs



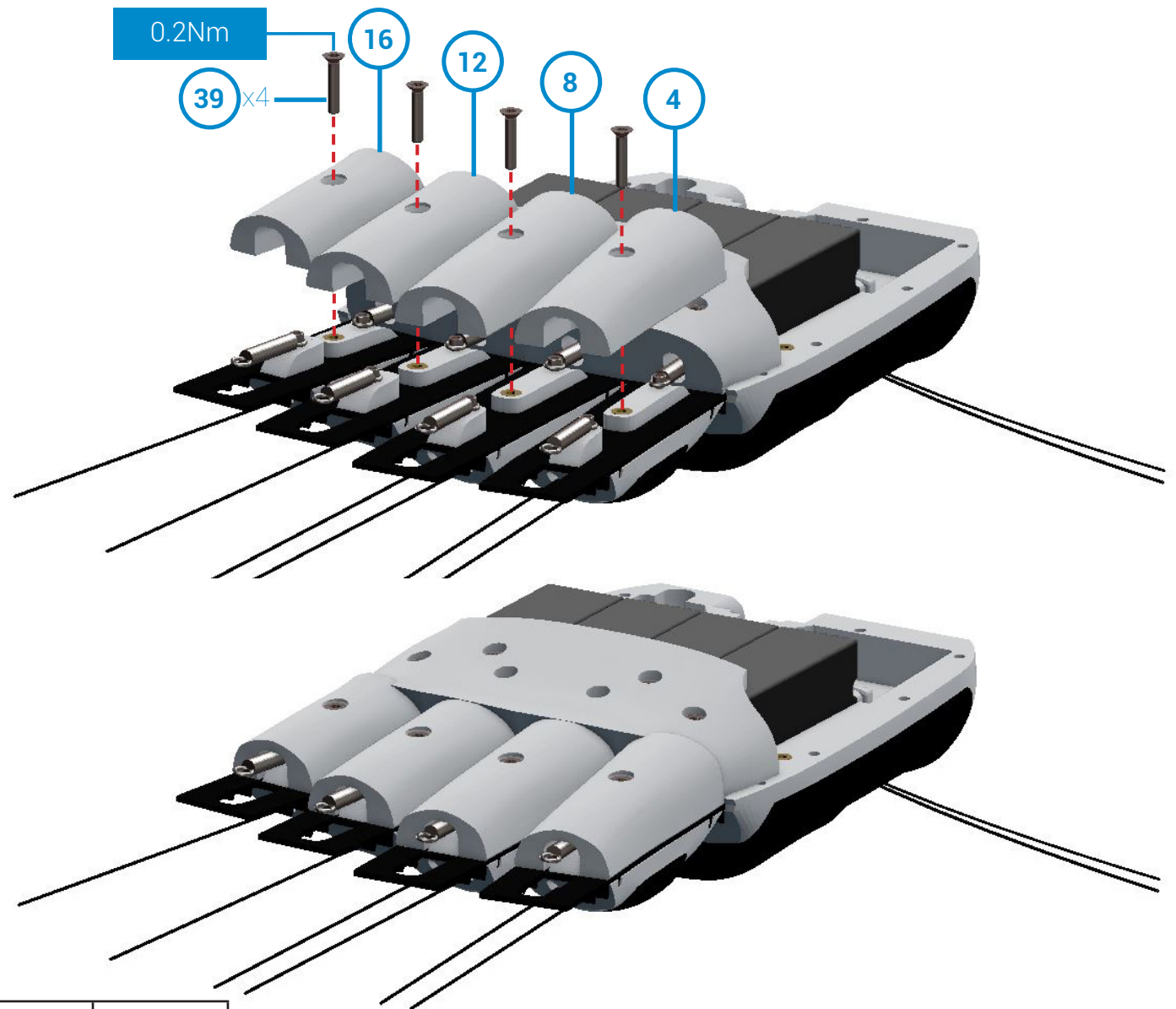
Part Number	Part Name	Quantity
18	Finger Ligament Cover	1
39	M2x10mm Torx Countersunk Screws	4
34	AC2305 Extension Springs	4

Attaching Springs



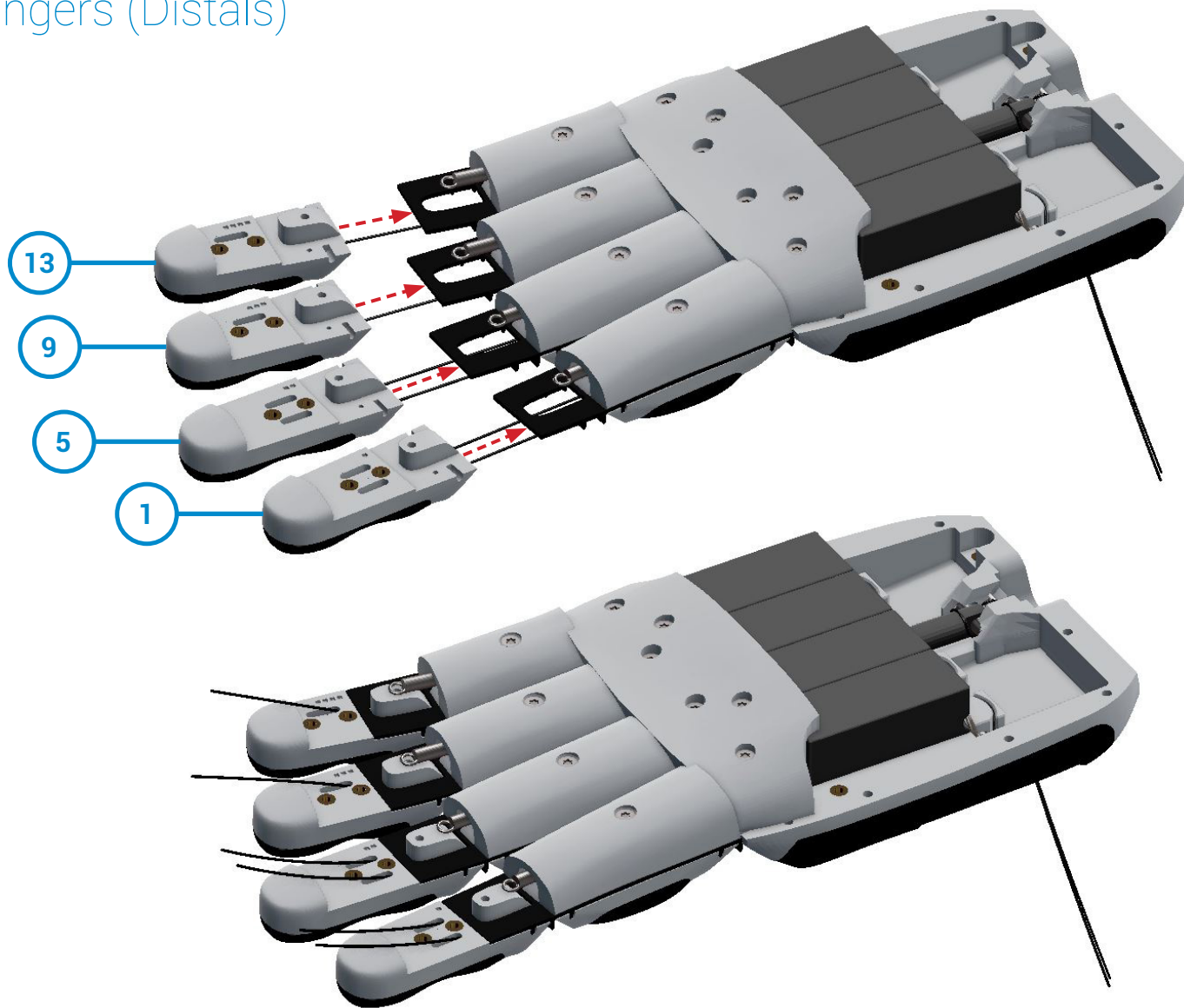
Part Number	Part Name	Quantity
40	M2x16mm Torx Countersunk Screws	2
41	M1.4x5mm Cap Head Screws	8

Secure Proximal Top Covers



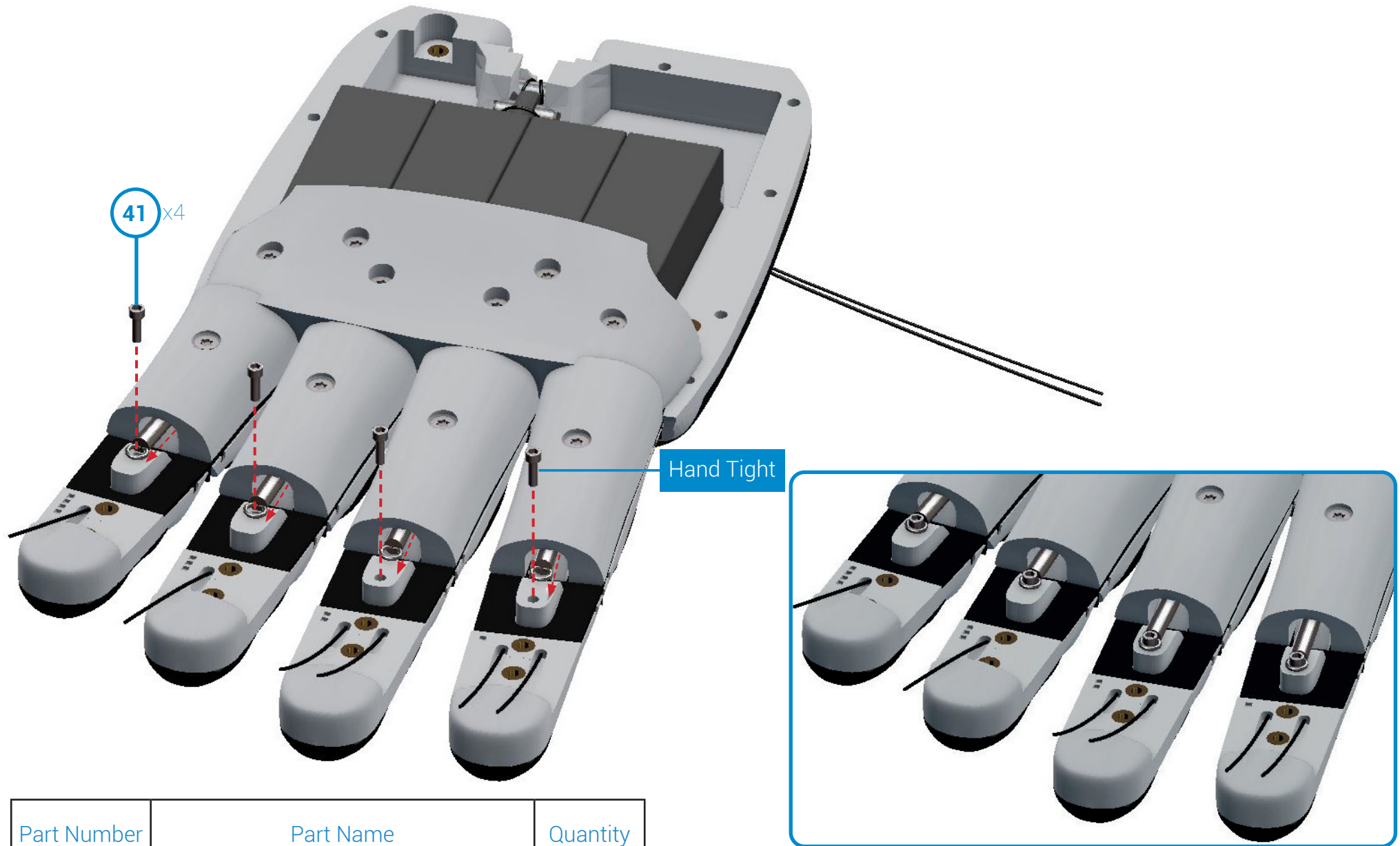
Part Number	Part Name	Quantity
4, 8, 12, 16	Top Covers (Finger Proximals)	4
39	M2x10mm Torx Countersunk Screws	4

Attaching Fingers (Distals)



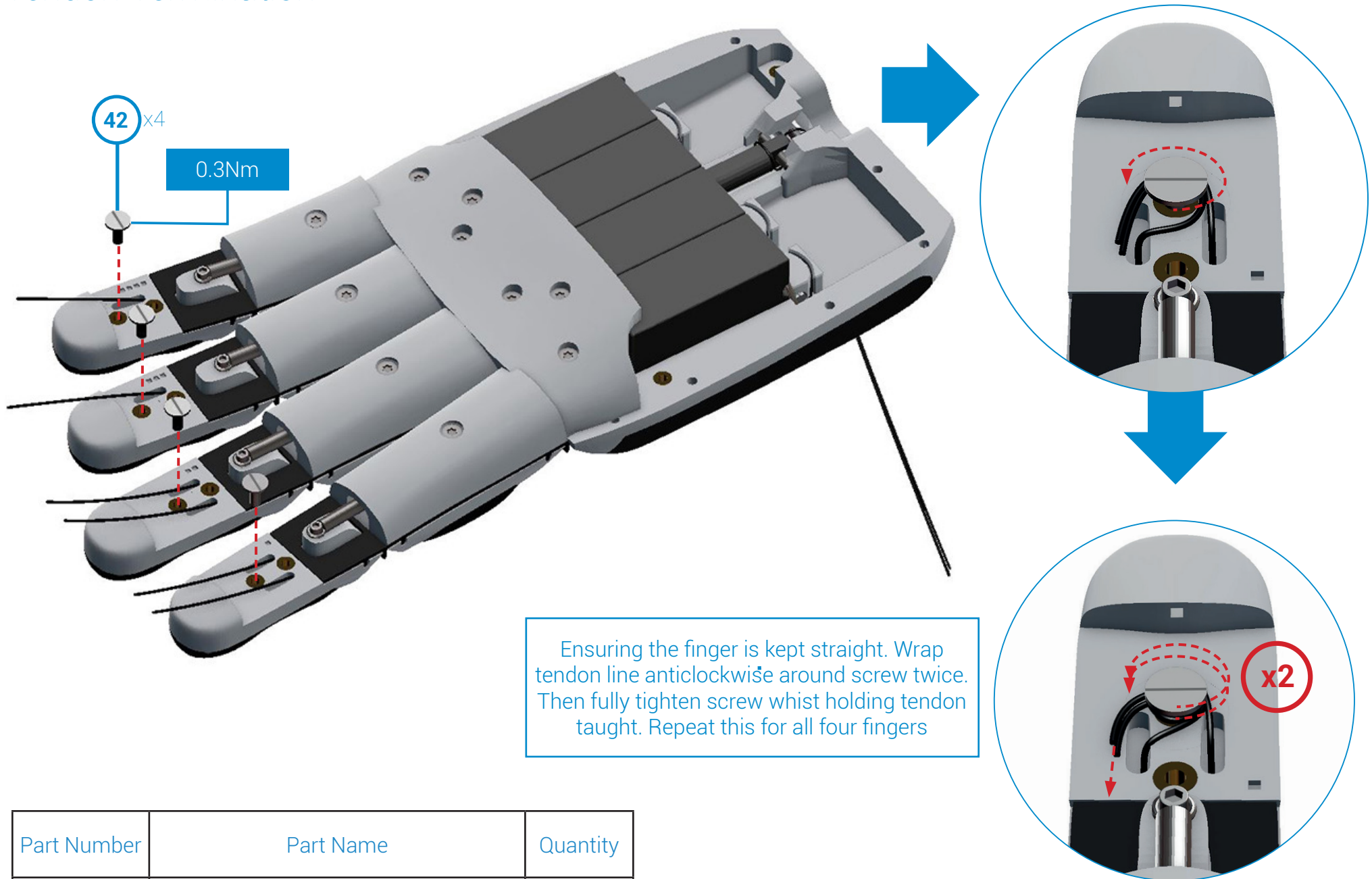
Part Number	Part Name	Quantity
1, 5, 9, 13	Fingers (Distal)	4

Extension Spring Termination



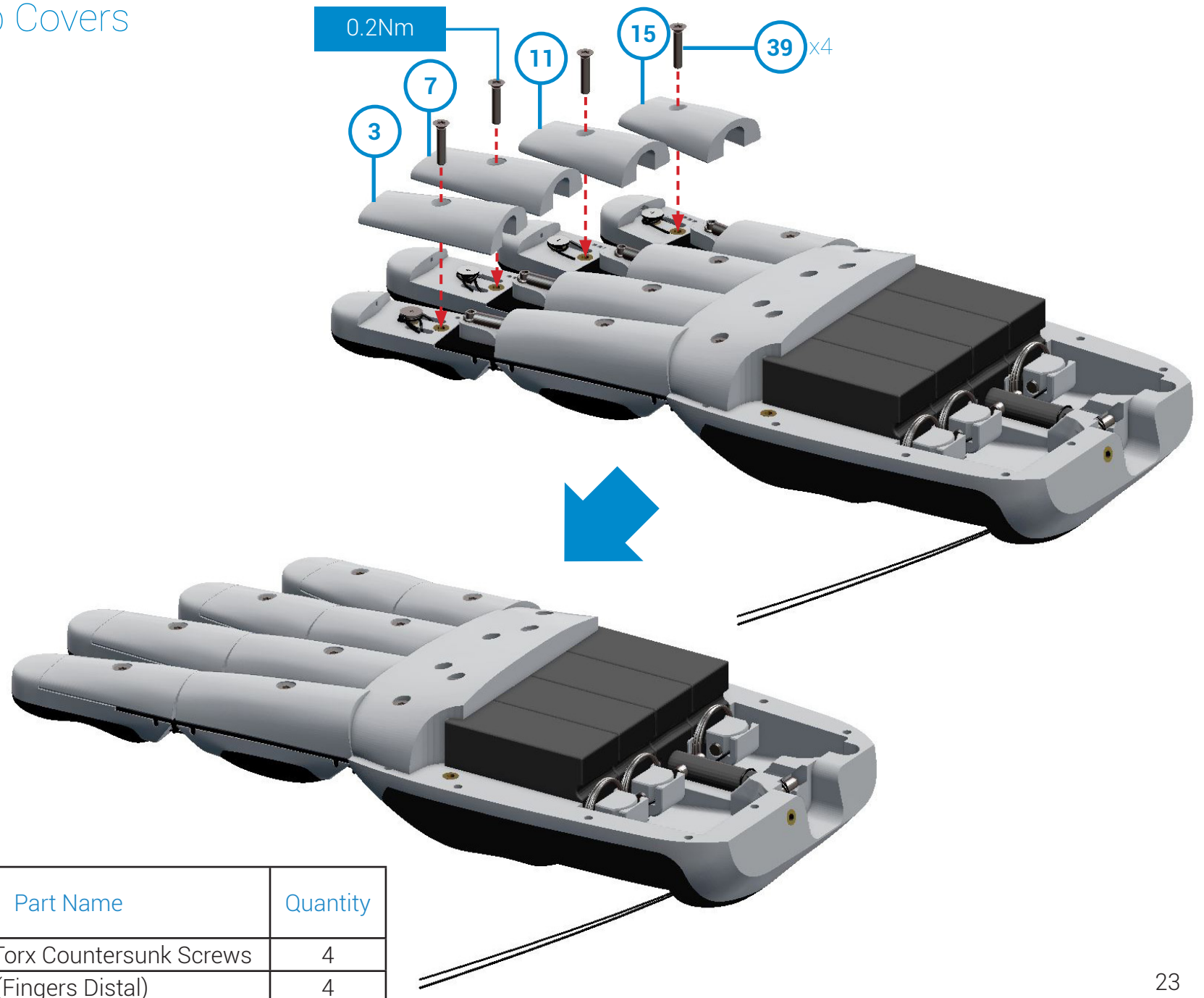
Part Number	Part Name	Quantity
41	M1.4x5mm Cap Head Screws	4

Tendon Termination

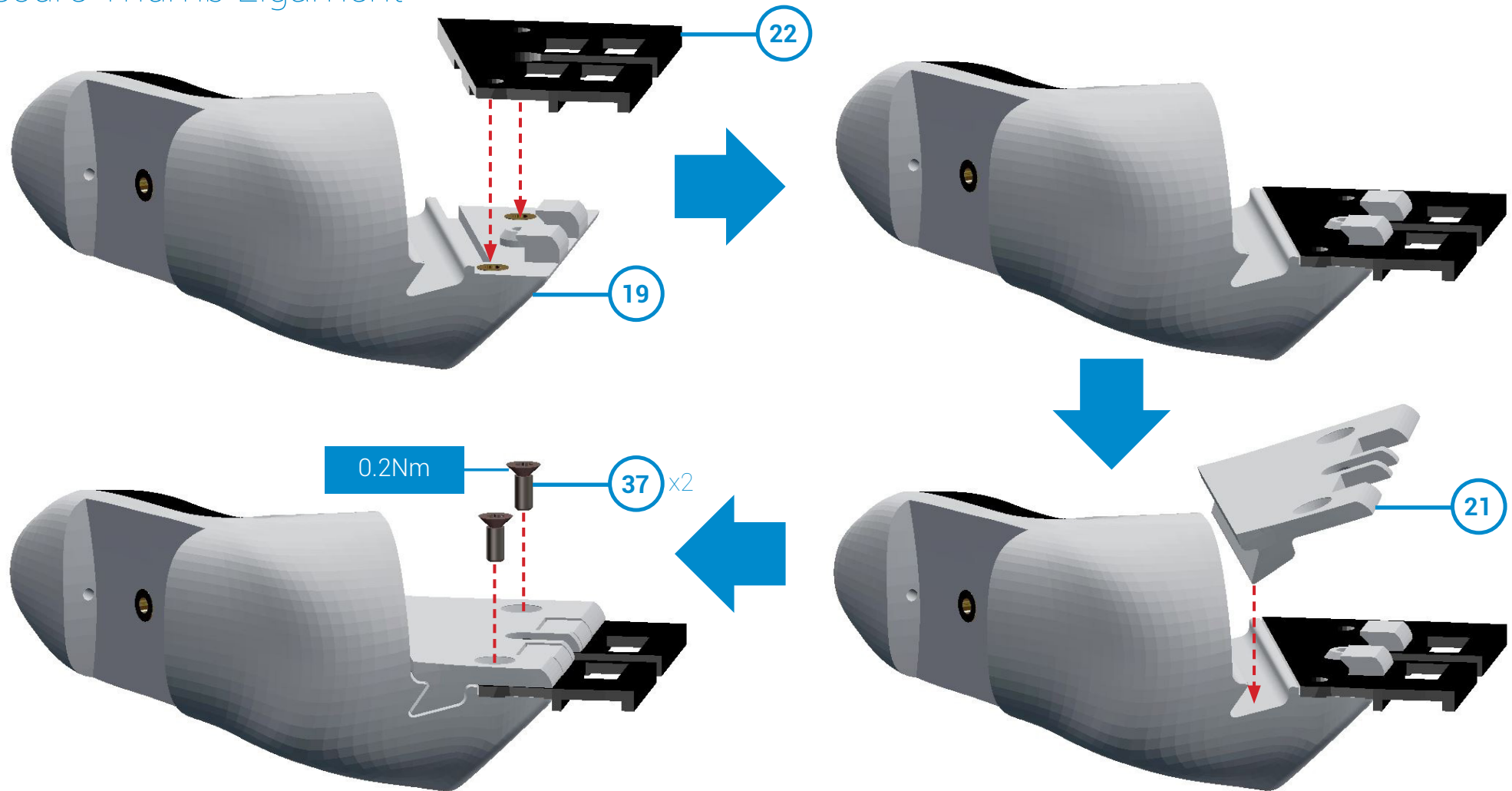


Part Number	Part Name	Quantity
42	M2x5mm Slot Pan Machine Screw	4

Secure Distal Top Covers

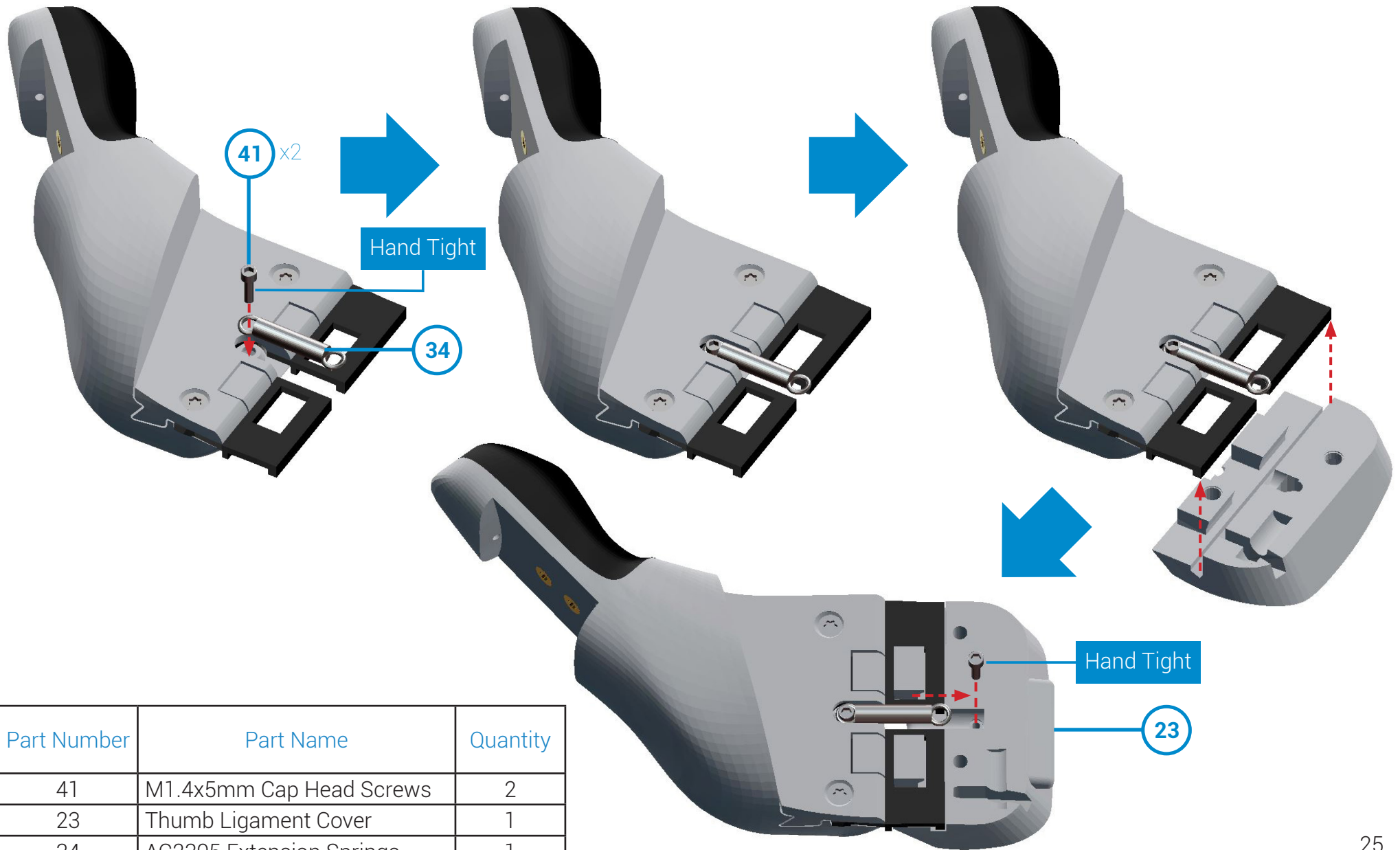


Secure Thumb Ligament



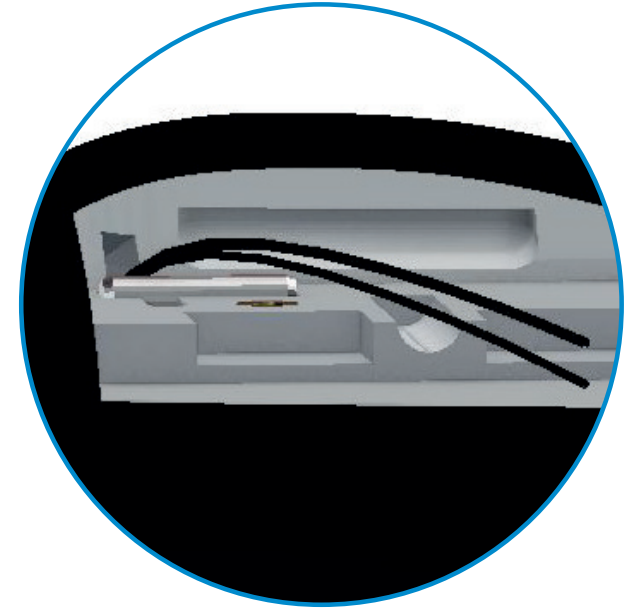
Part Number	Part Name	Quantity
19	Thumb	1
22	Thumb Ligament	1
21	Thumb Ligament Clamp	1
37	M2x5mm Torx Countersunk Screws	2

Secure Thumb Ligament



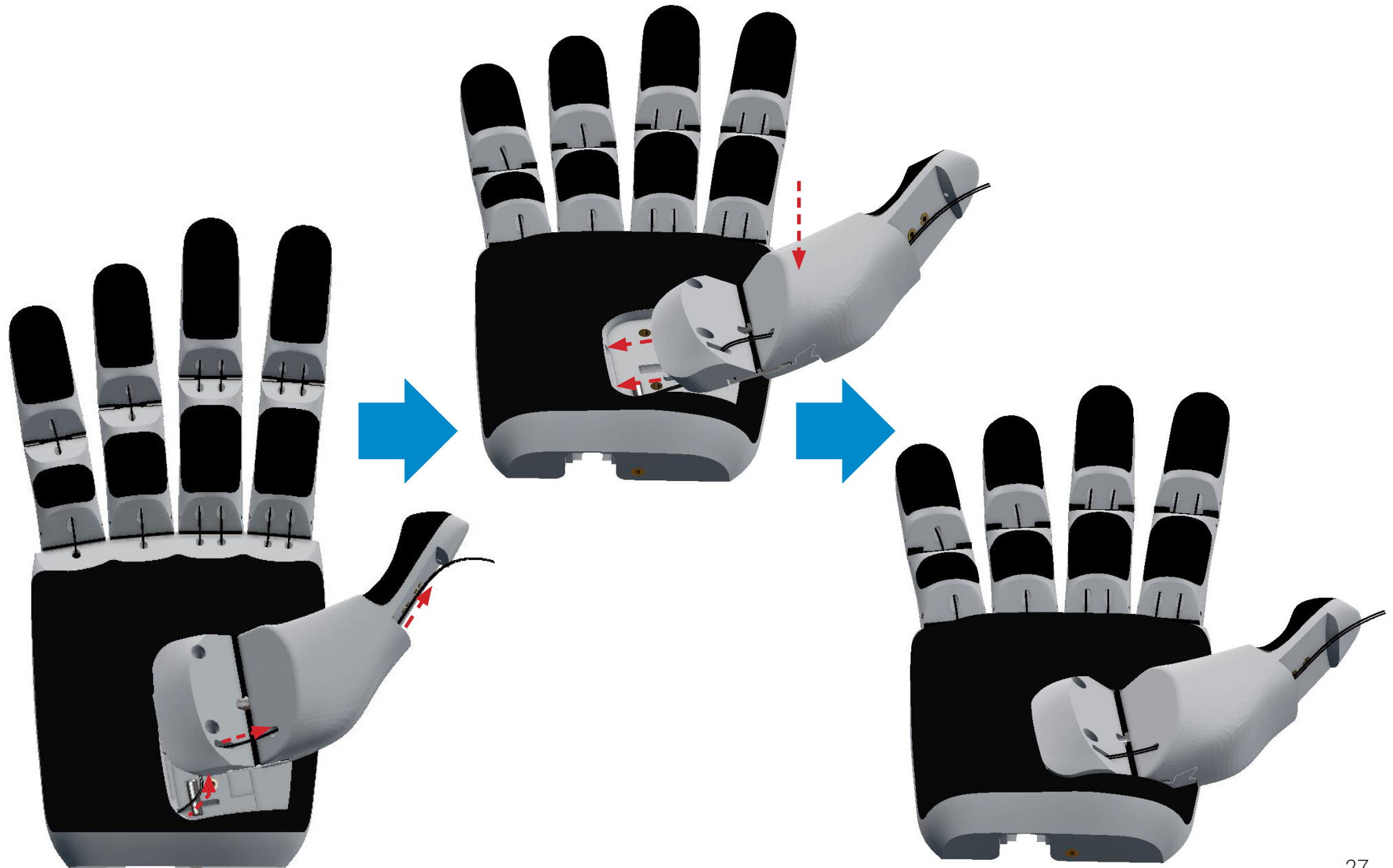
Part Number	Part Name	Quantity
41	M1.4x5mm Cap Head Screws	2
23	Thumb Ligament Cover	1
34	AC2305 Extension Springs	1

Dowel Insertion Thumb

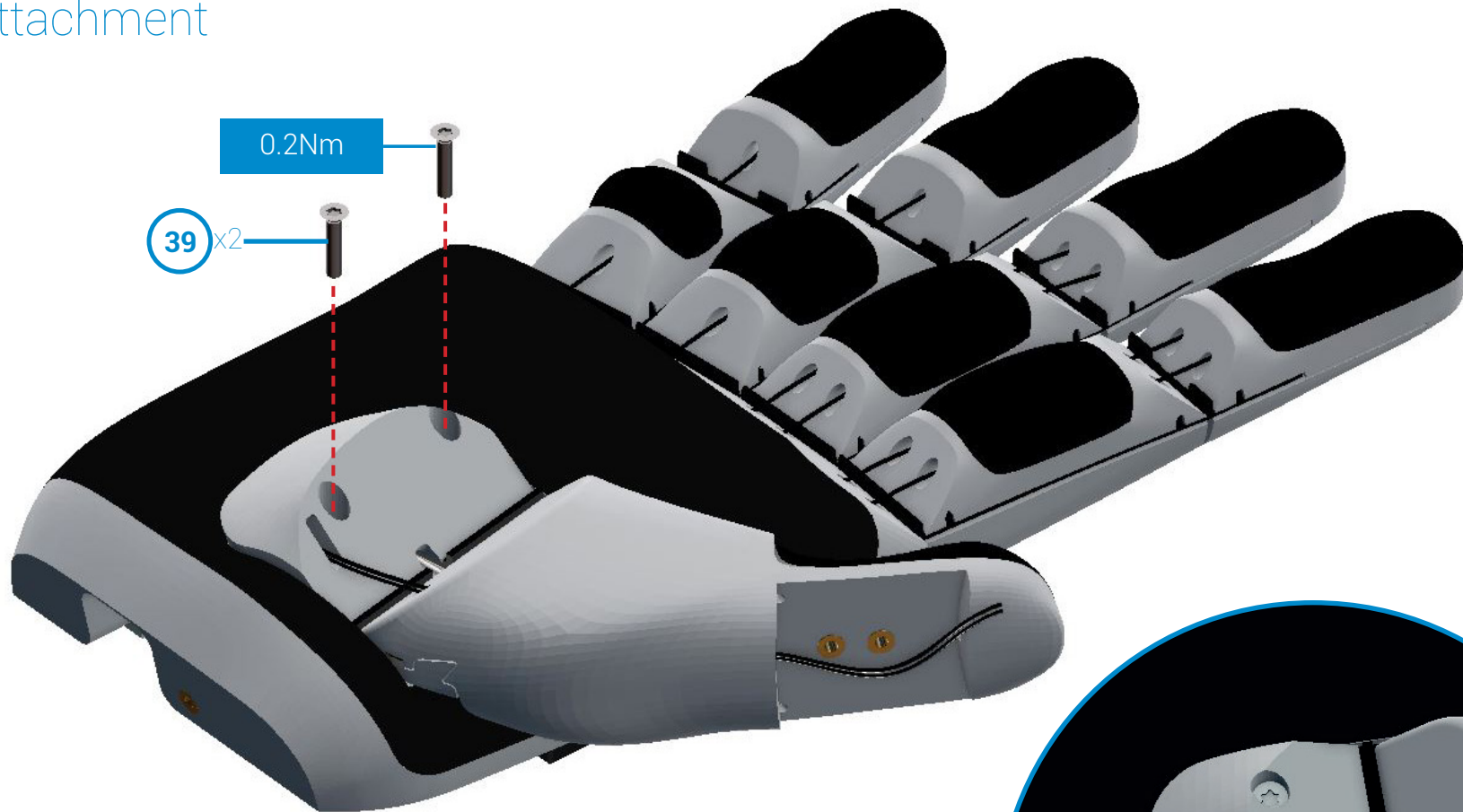


Part Number	Part Name	Quantity
36	3x10mm Dowel Pins	1

Thumb Attachment

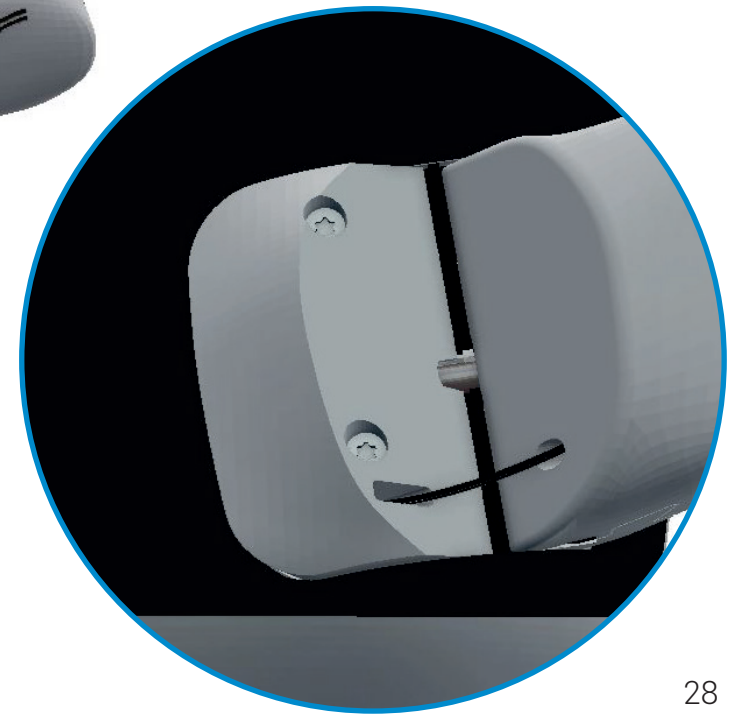


Thumb Attachment



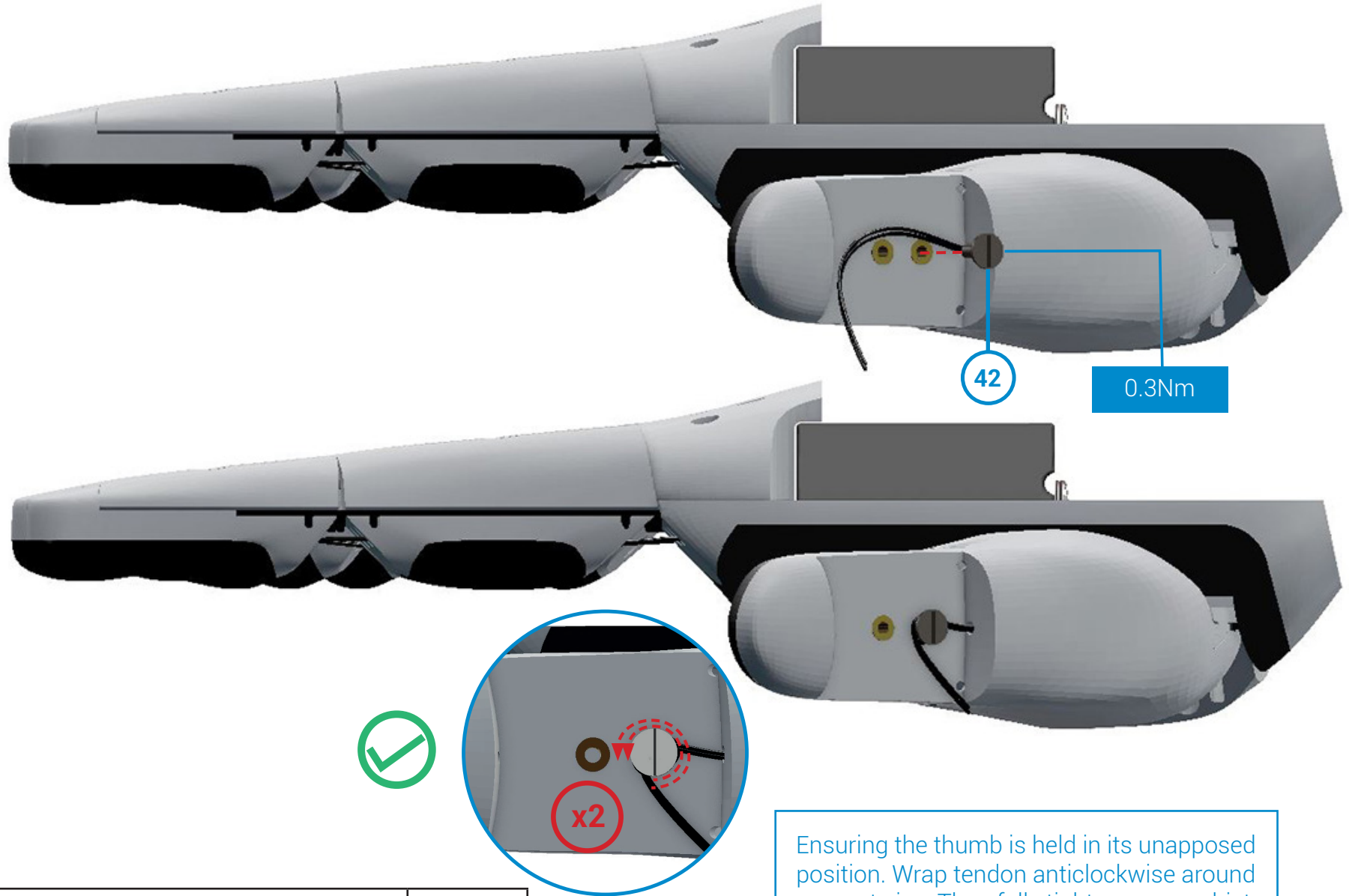
39 x2

0.2Nm



Part Number	Part Name	Quantity
39	M2x10mm Torx Countersunk Screws	2

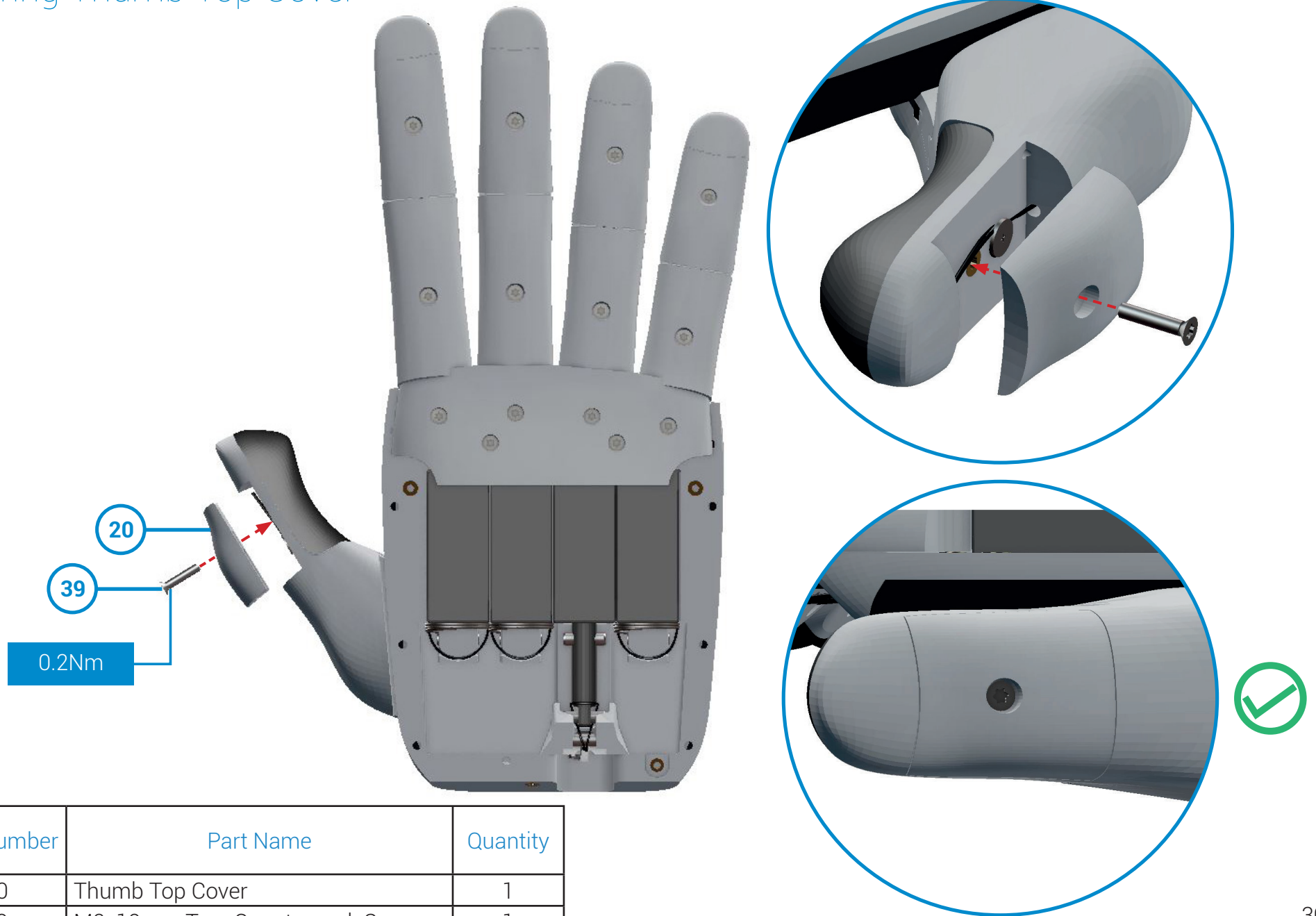
Tendon Termination - Thumb



Ensuring the thumb is held in its unapposed position. Wrap tendon anticlockwise around screw twice. Then fully tighten screw whilst holding tendon taught.

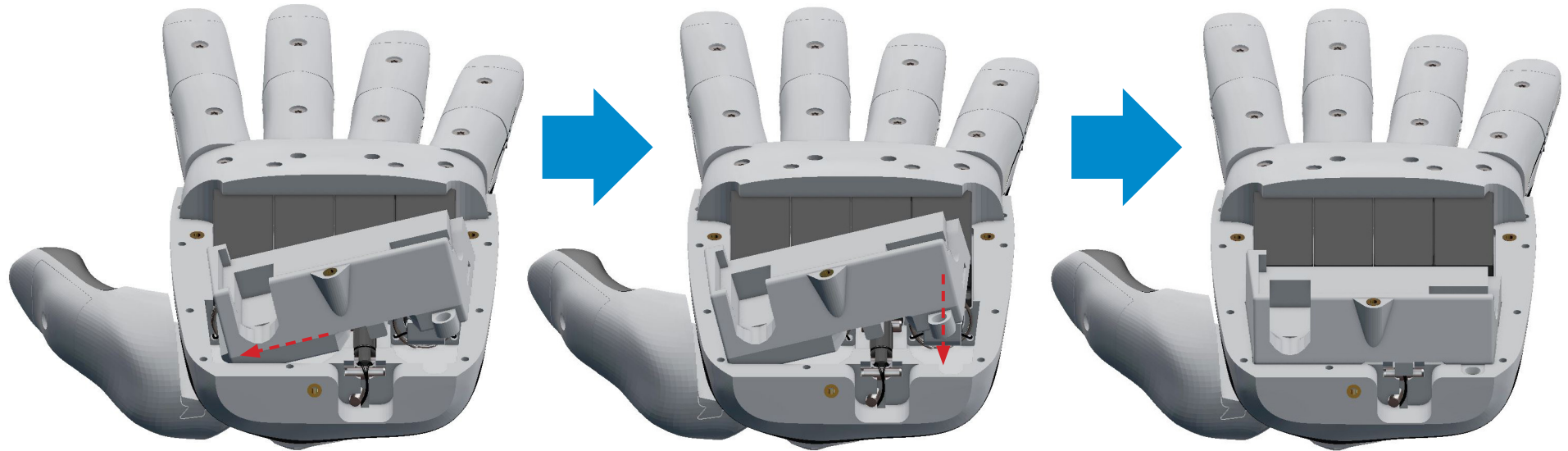
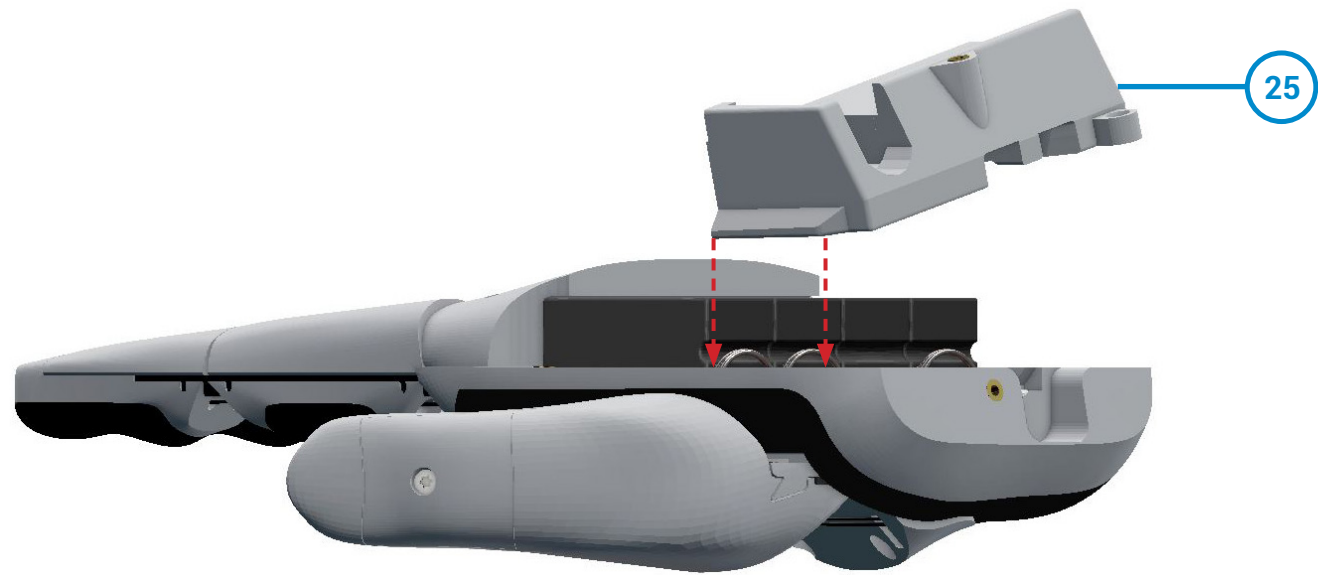
Part Number	Part Name	Quantity
42	M2x5mm Slot Pan Machine Screw	1

Securing Thumb Top Cover



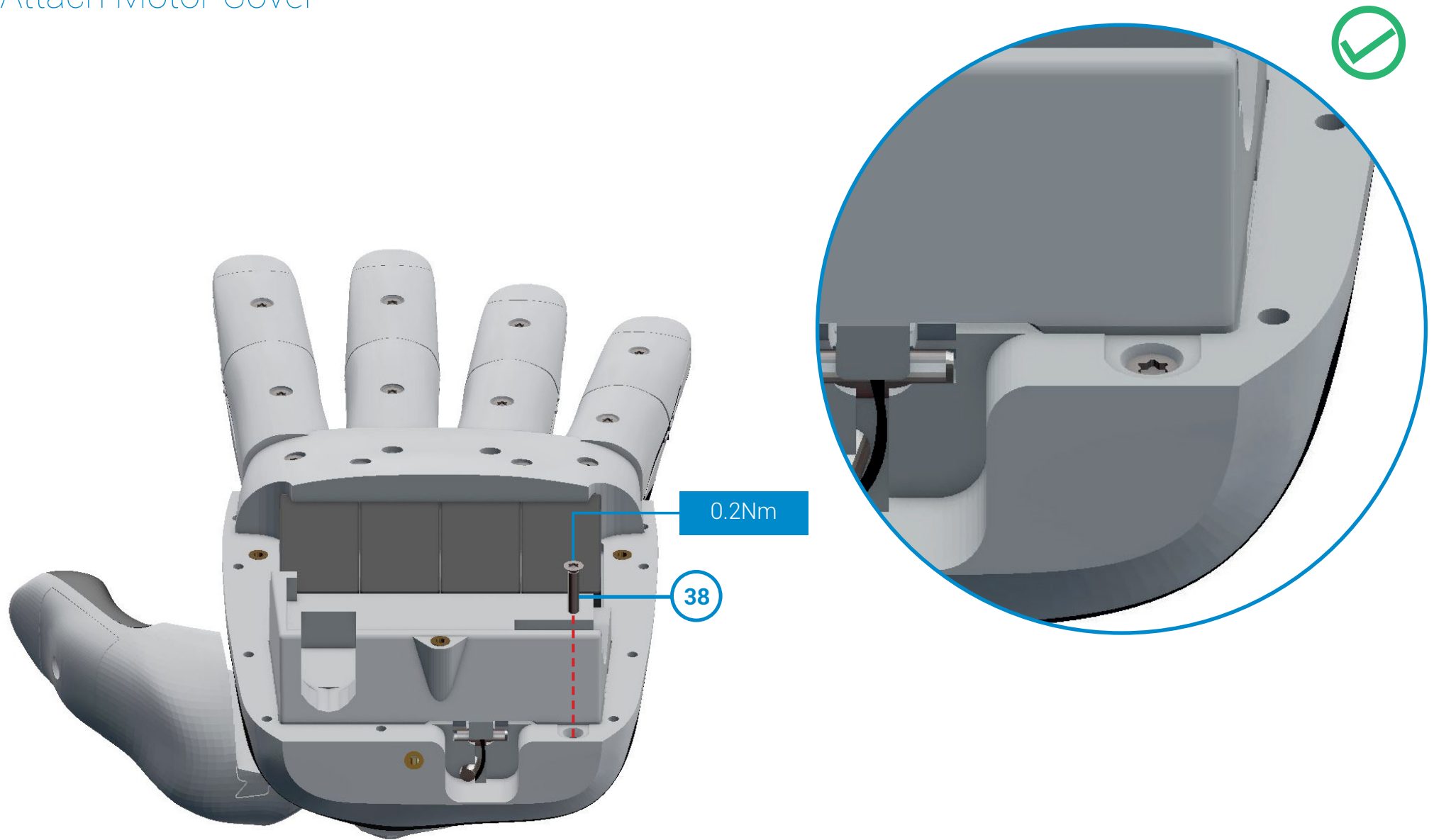
Part Number	Part Name	Quantity
20	Thumb Top Cover	1
39	M2x10mm Torx Countersunk Screws	1

Attach Motor Cover



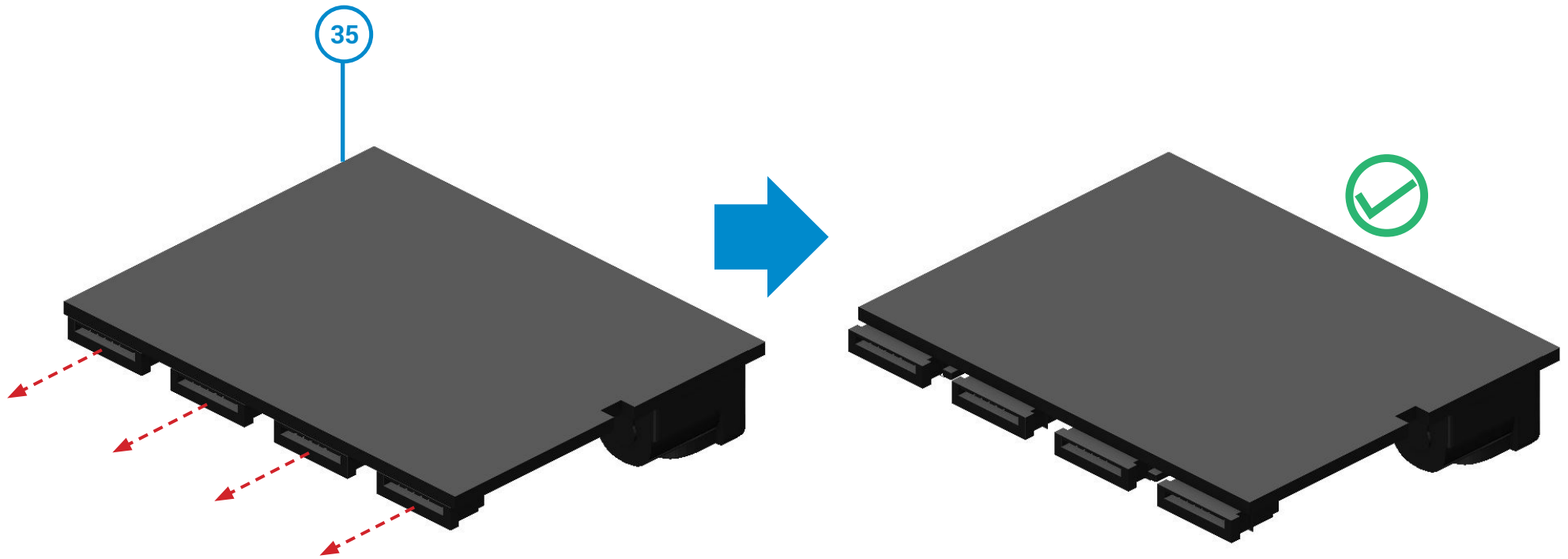
Part Number	Part Name	Quantity
25	Motor Cover	1

Attach Motor Cover



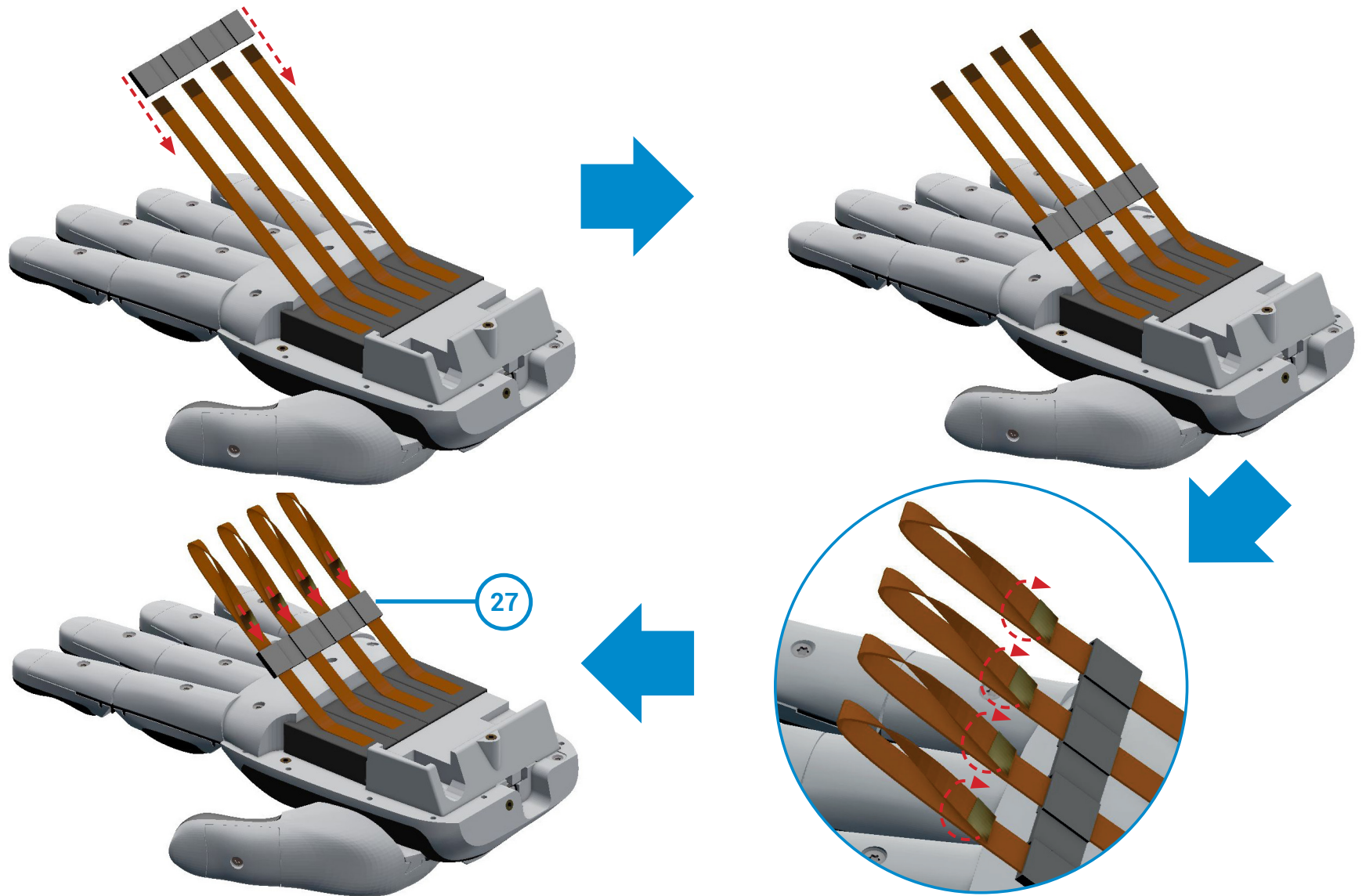
Part Number	Part Name	Quantity
38	M2x8mm Torx Countersunk Screws	1

Release Chestnut PCB Clasps



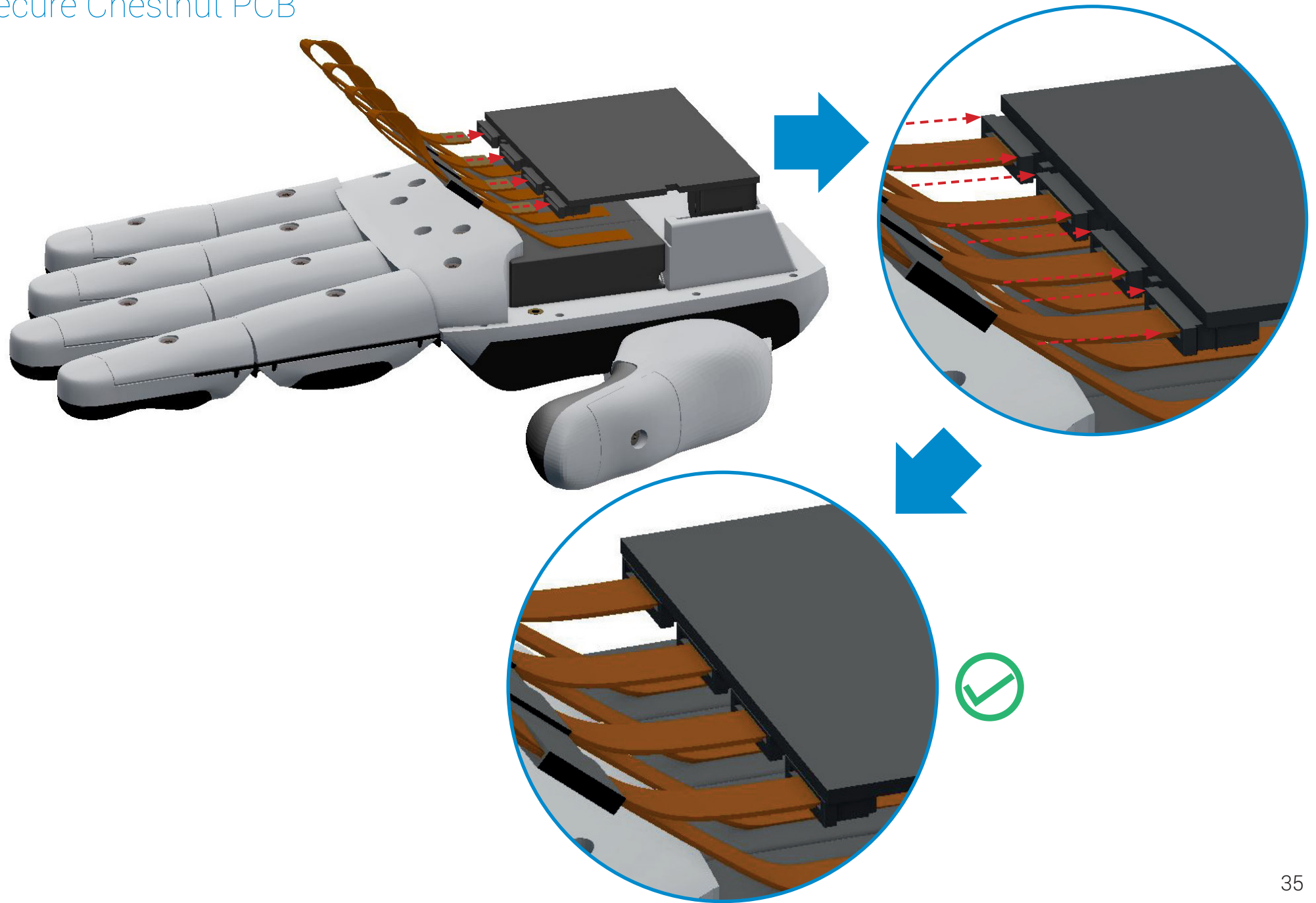
Part Number	Part Name	Quantity
35	Chestnut PCB	1

Attach Cable Tidy

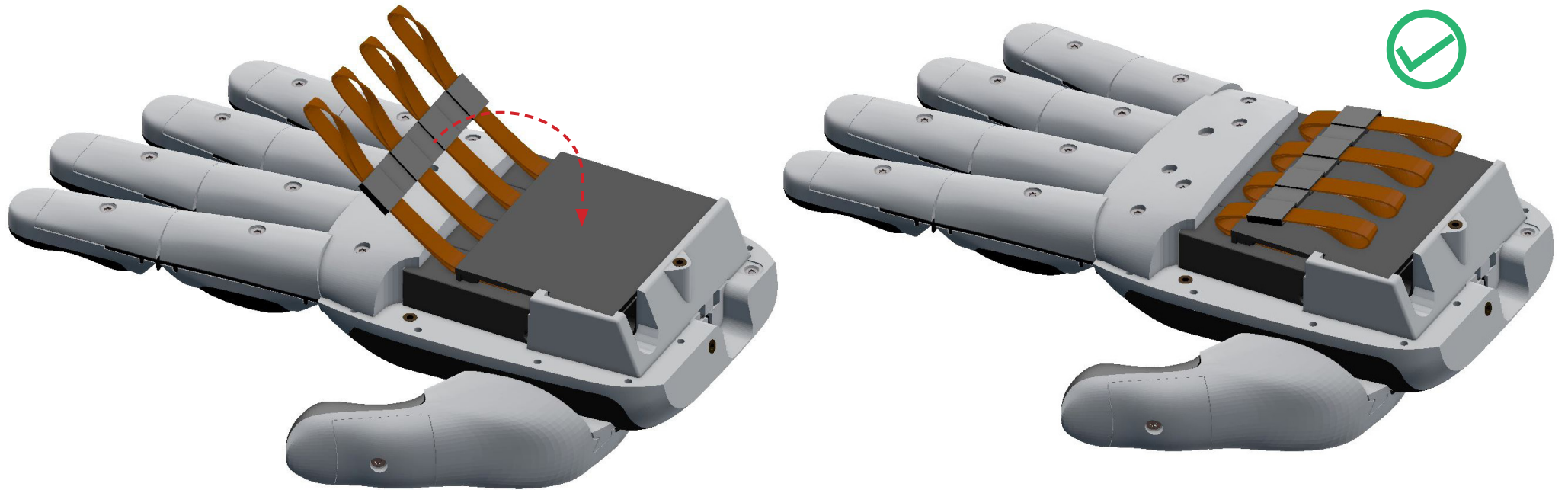


Part Number	Part Name	Quantity
27	Cable Tidy	1

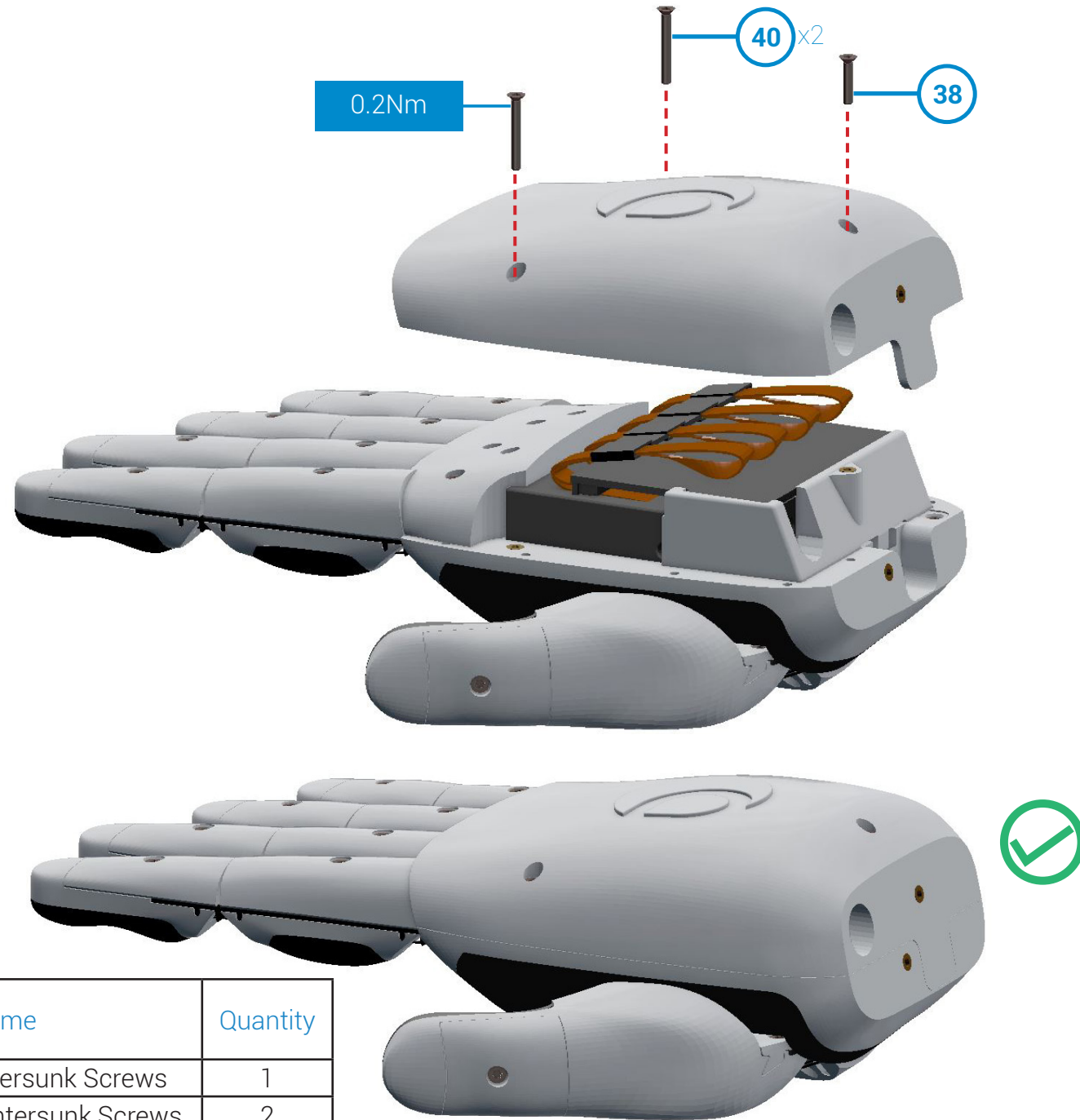
Secure Chestnut PCB



Fold Cables

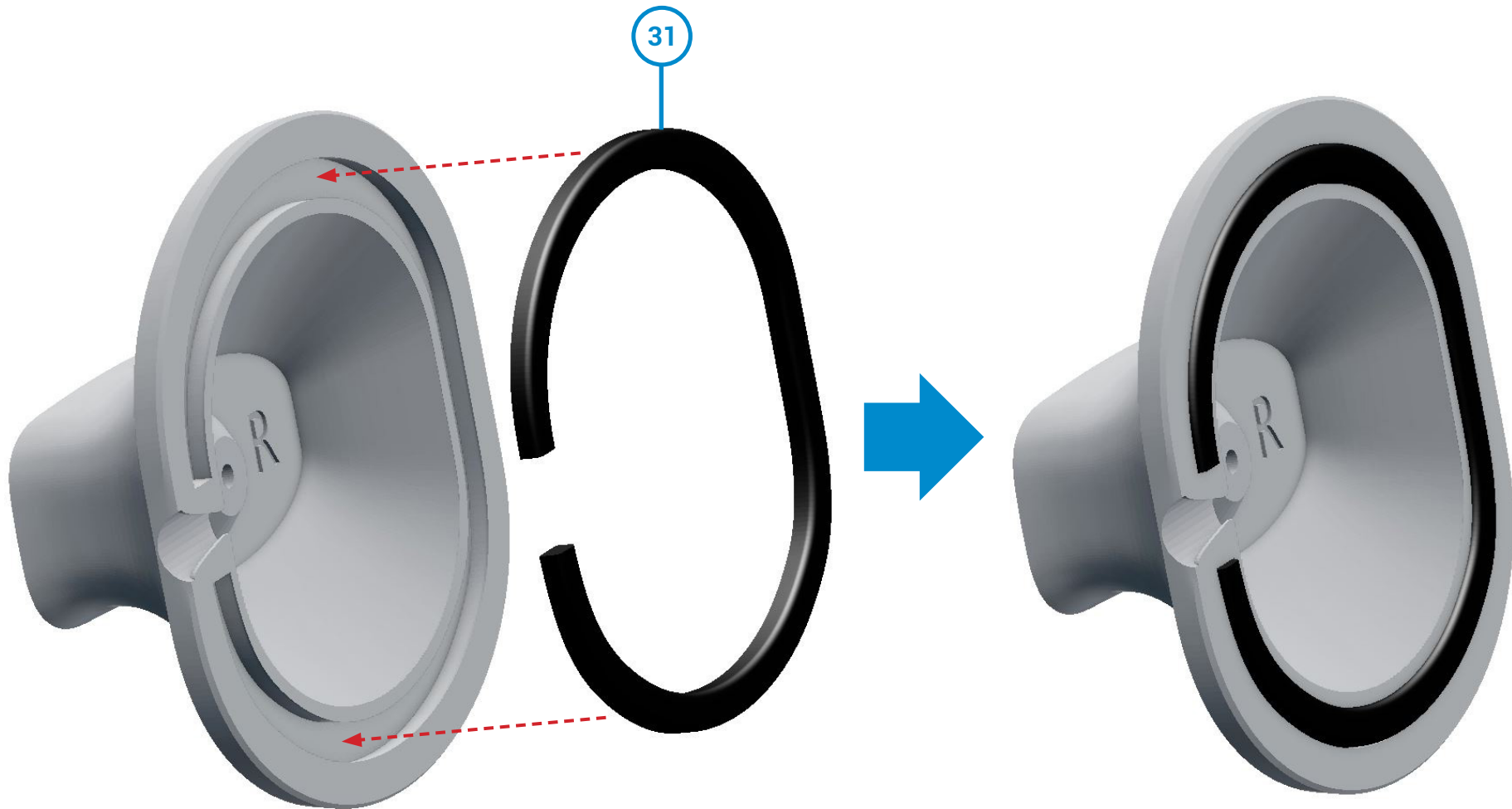


Attach Back Cover



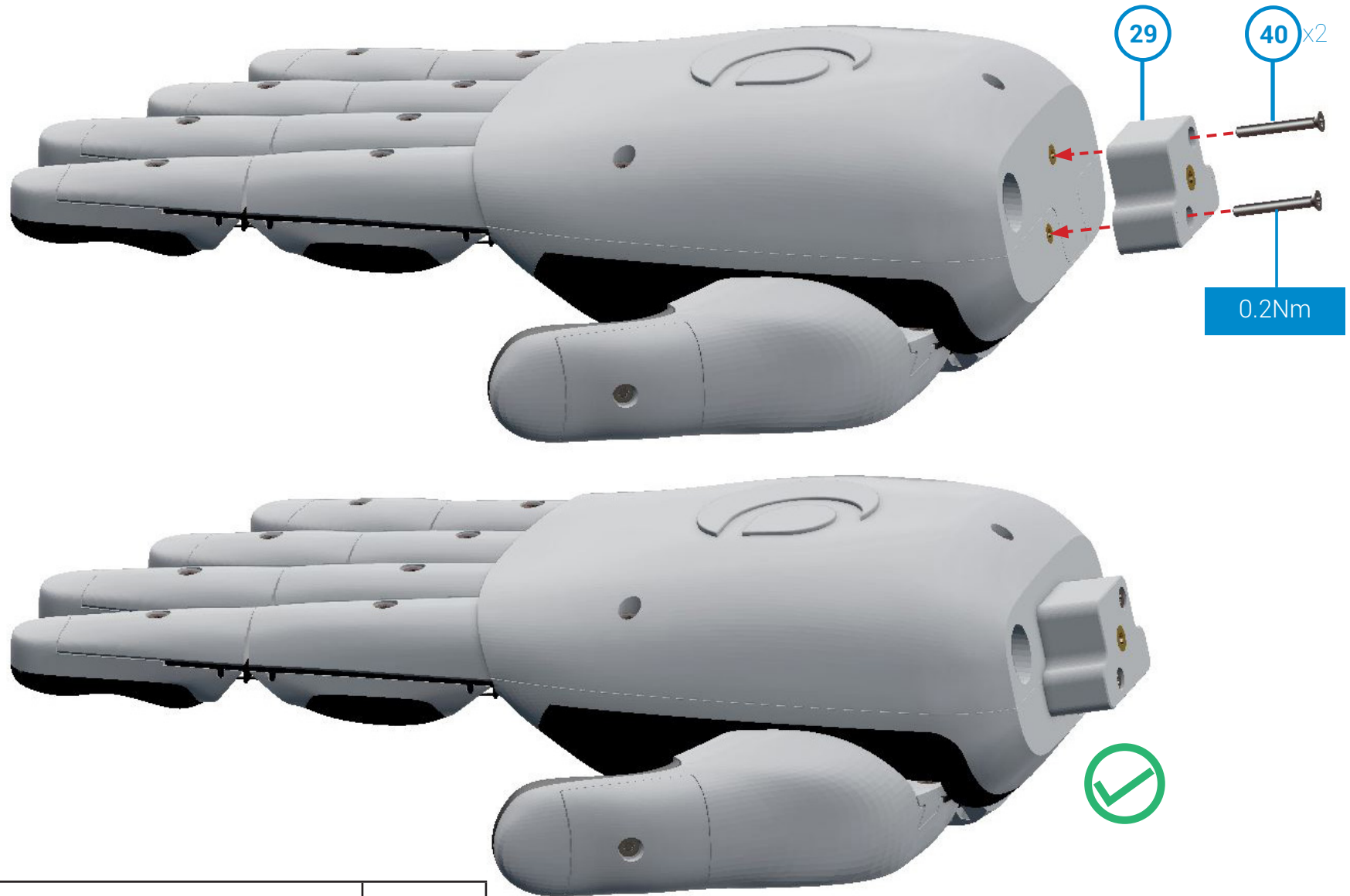
Part Number	Part Name	Quantity
38	M2x8mm Torx Countersunk Screws	1
40	M2x16mm Torx Countersunk Screws	2

Insert Stand Grip



Part Number	Part Name	Quantity
31	Stand Grip Band	1

Attach Stand Connector Block



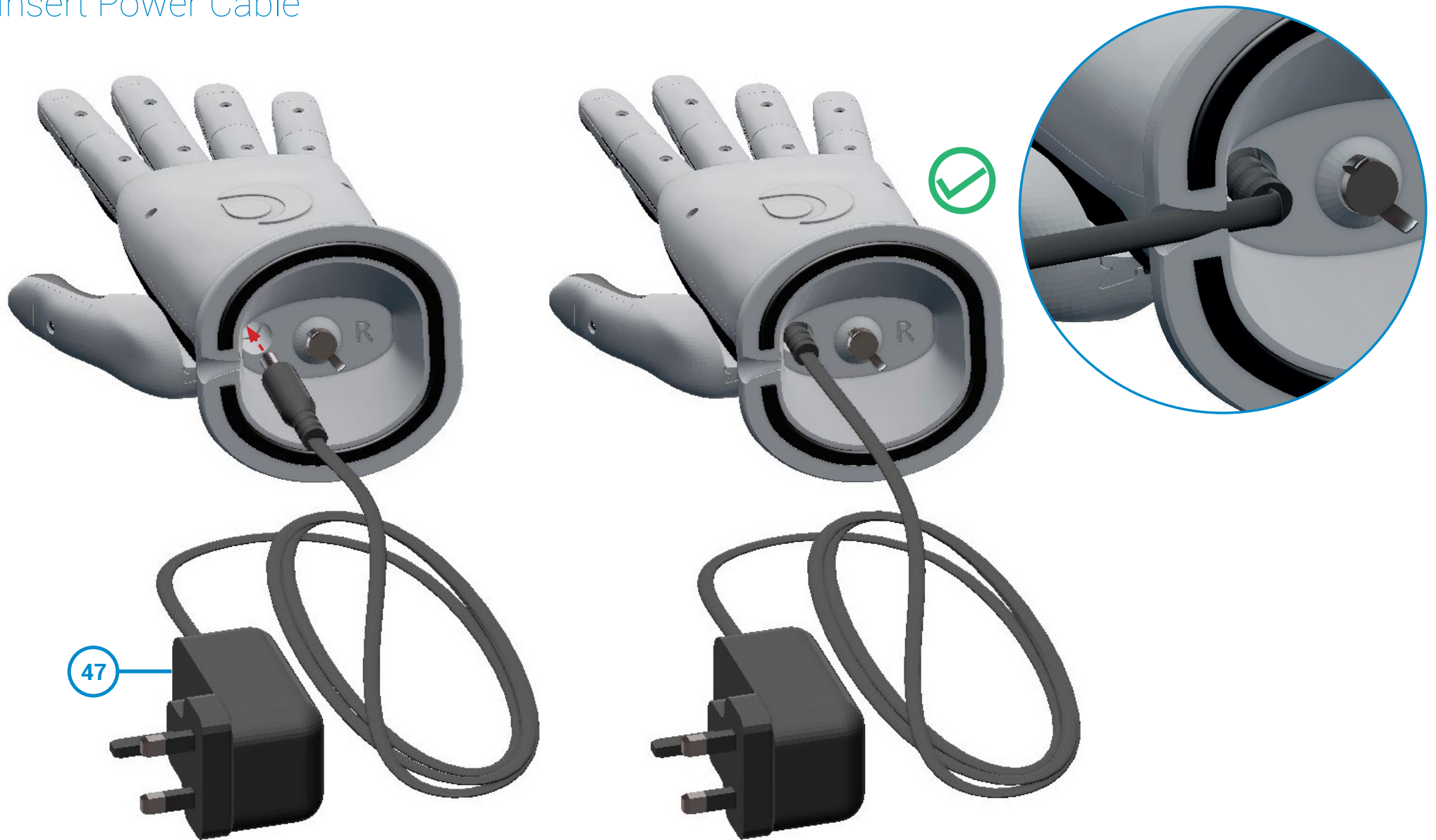
Part Number	Part Name	Quantity
29	Stand Connector Block	1
40	M2x16mm Torx Countersunk Screws	2

Attach Stand



Part Number	Part Name	Quantity
43	M3x10mm Winged Screw	1

Insert Power Cable



47

Part Number	Part Name	Quantity
47	12V Power Cable	1

