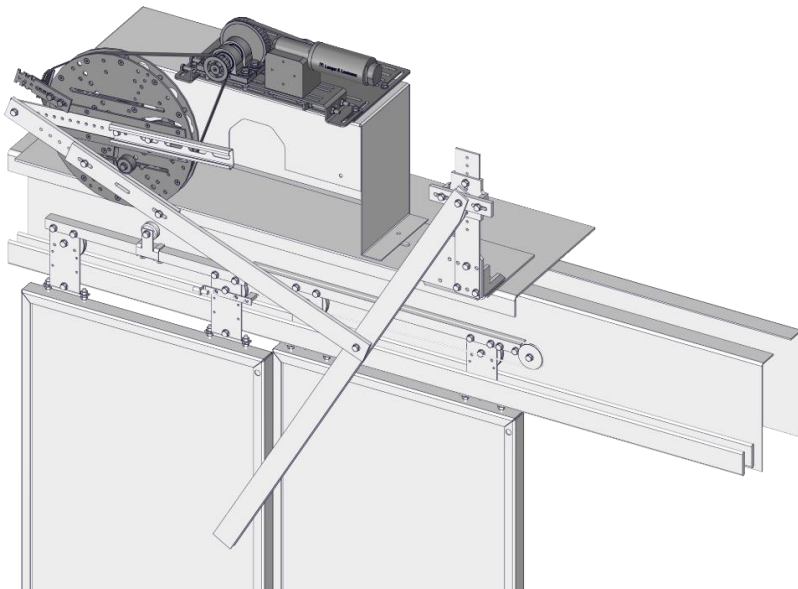


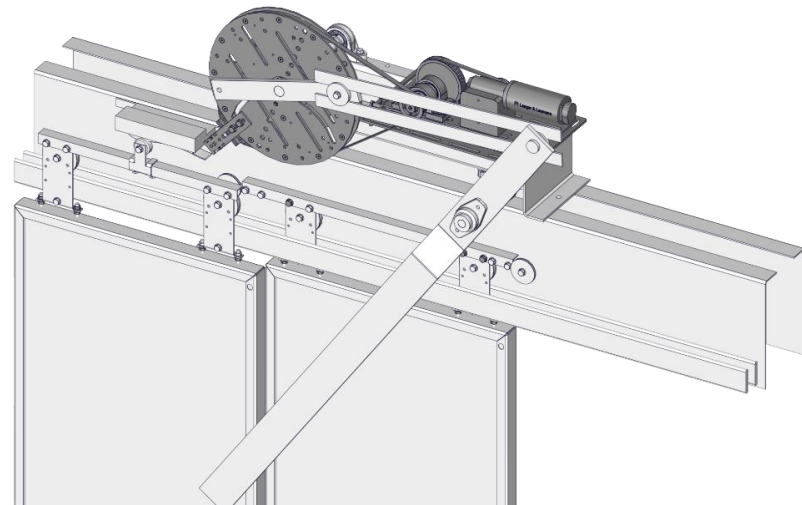
Manual

TSG - Door Operator for KONE MAC 1 & 2

Kone MAC 1 pages 9 through 37

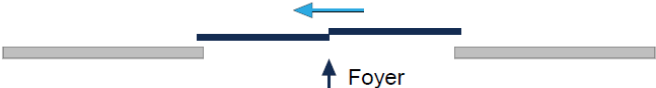
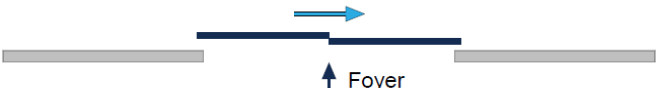
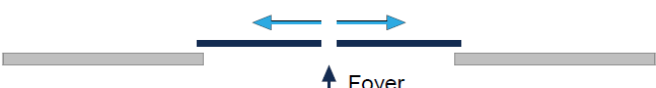


Kone MAC 2 pages 38 through 64



Door opening options

Possible door opening directions are shown below:

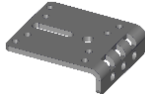
L: Left opening	
R: Right opening	
TL: Telescopic left opening	
TR: Telescopic right opening	
Z: Central opening	
ZT: Telescopic central opening	
FD: Folding door	

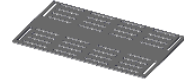
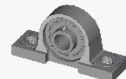
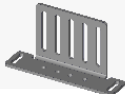
Door Operator for Kone MAC 1 & 2

Complete Bill of Materials (pages 3-8)



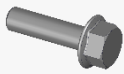
Position	Image	Part Number	Description	Quantity
P001		8.20.xxxxx.04	Door operator controller	1
P002		8.20.400xx.xx	Gearmotor	1
P003		8.20.60002.xx	Synchronous belt (8M)	1
P004		1.20.61090	Endless synchronous belt (8M)	1
P005		1.20.23200	Hat shaped bracket	1
P006		1.20.23220	L-shaped bracket	1
P007		1.20.23230	Drive shaft	1
P008		1.20.60007	Synchronous belt lock	1

Position	Image	Part Number	Description	Quantity
P009		1.20.60160	Timing pulley (56mm)	1
P010		1.20.60532	L-shaped bracket	1
P011		1.20.60870	Flange hub	1
P012a		1.20.60871	Taper bush 1201 (1/2")	1
P012b		1.20.60872	Taper bush 1201 (3/4")	1
P012c		1.20.60873	Taper bush 1201 (1")	1
P013		1.20.60900	Round plate	1
P014		1.20.60901	Round plate	1
P015		1.20.60905	Rectangular plate	1

Position	Image	Part Number	Description	Quantity
P016		1.20.60910	Rectangular plate	2
P017		1.20.60915	Rectangular plate	1
P018		1.20.60920	L-shaped bracket	1
P019		1.20.60921	L-shaped bracket	1
P020		1.20.85150	Pillow block bearing (20mm)	2
P021		1.20.91120	Buffer (30mm)	2
P022		1.20.92090	L-shaped bracket	1
P023		1.20.96053	Shaft key (5x5x14mm)	1
P024		1.20.96055	Shaft key (6x6x10mm)	1

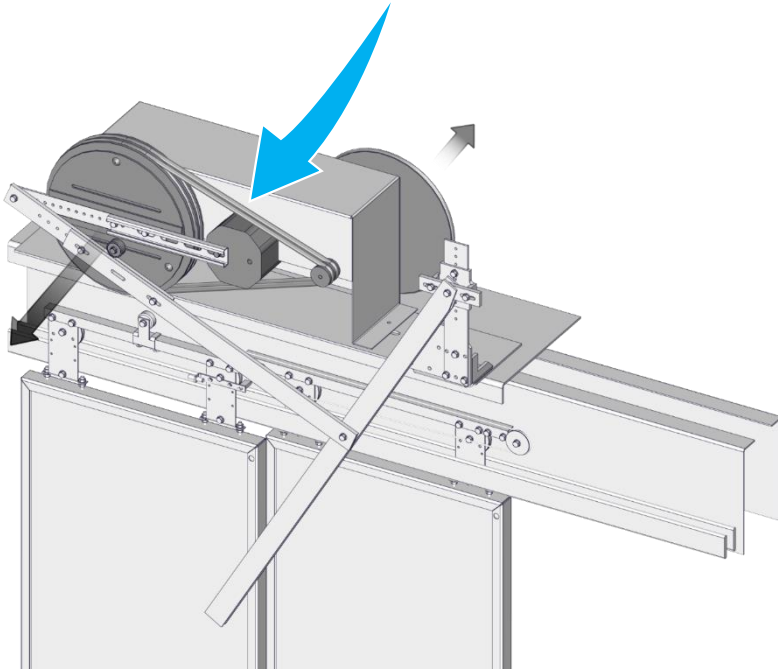
Position	Image	Part Number	Description	Quantity
P025		1.20.96110	Timing pulley 8M (112mm)	1
P026		1.36.00003	Phillips Panhead Bolt, M4x10	1
P027		1.36.00138	Serrated Hexhead Flange Bolt M6x16	4
P028		1.36.00140	Serrated Hexhead Flange Bolt M8x12	4
P029		1.36.00171	Spring washer for M6	6
P030		1.36.00200	Nut M6	6
P031		1.36.00332	Countersunk Socket Bolt M4x10	1
P032		1.36.00353	Countersunk Socket Bolt M5x12	8
P033		1.36.00362	Countersunk Socket Bolt M6x30	16

Position	Image	Part Number	Description	Quantity
P034		1.36.00366	Countersunk Socket Bolt M6x25	6
P035		1.36.00430	Nut M8	2
P036		1.36.00440	Washer 8.4	4
P037		1.36.00451	Washer 4.3	1
P038		1.36.00470	Washer 10.5	4
P039		1.36.00476	Hexhead Bolt M8x35	2
P040		1.36.00501	Serrated Nut M8	22
P041		1.36.00503	Serrated Nut M10	4
P042		1.36.00720	Serrated Hexhead Flange Bolt M8x20	7

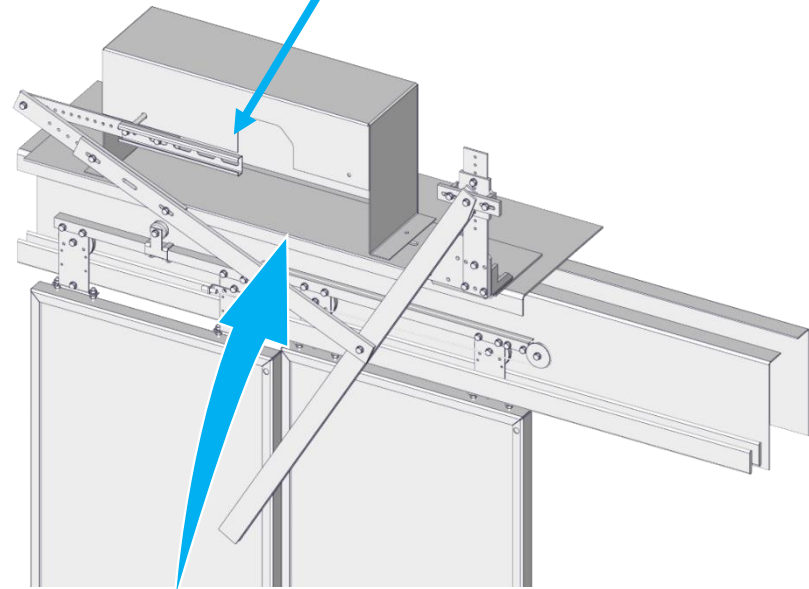
Position	Image	Part Number	Description	Quantity
P043		1.36.00730	Serrated Hexhead Flange Bolt M8x30	2
P044		1.36.00785	Serrated Hexhead Flange Bolt M8x35	1
P045		1.36.00870	Sleeve (15mm)	2
P046		1.36.00881	Sleeve (12mm)	16
P047		1.36.02112	Hexhead Bolt M10x45	4
P048		1.36.02125	Hexhead Bolt M8x80	4
P049		1.36.05611	Washer 6.4	6

Kone MAC 1

Step 1 - Remove current components



NOTE: Lever arm will remain in place for now!

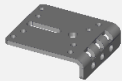


NOTE: Original Components Removed

Kone MAC 1

Gearmotor drive - Bill of Materials (pages 10–12)



Position	Image	Part Number	Description	Quantity
P002		8.20.400xx.xx	Gearmotor	1
P004		1.20.61090	Endless synchronus belt (8M)	1
P005		1.20.23200	Hat shaped bracket	1
P006		1.20.23220	L-shaped bracket	1
P007		1.20.23230	Drive shaft	1
P009		1.20.60160	Timing pulley (56mm)	1
P010		1.20.60532	L-shaped bracket	1
P020		1.20.85150	Pillow block bearing (20mm)	2

Kone MAC 1

Gearmotor drive - Bill of Materials (pages 10–12)



Position	Image	Part Number	Description	Quantity
P023		1.20.96053	Shaft key (5x5x14mm)	1
P024		1.20.96055	Shaft key (6x6x10mm)	1
P025		1.20.96110	Timing pulley 8M (112mm)	1
P026		1.36.00003	Phillips Panhead Bolt, M4x10	1
P027		1.36.00138	Serrated Hexhead Flange Bolt M6x16	4
P031		1.36.00332	Countersunk Socket Bolt M4x10	1
P037		1.36.00451	Washer 4.3	1
P038		1.36.00470	Washer 10.5	4

Kone MAC 1

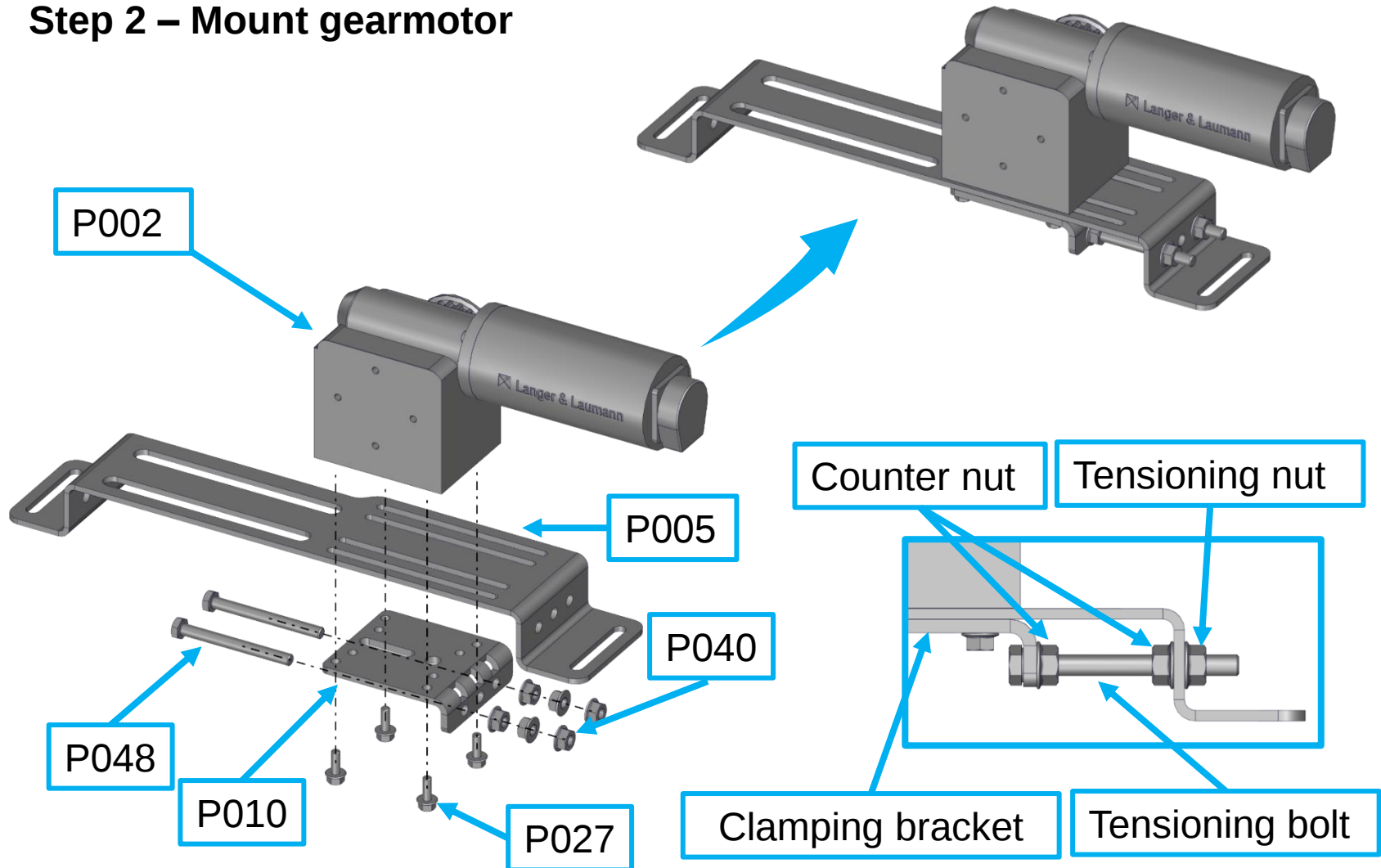
Gearmotor drive - Bill of Materials (pages 10–12)



Position	Image	Part Number	Description	Quantity
P040		1.36.00501	Serrated Nut M8	14
P041		1.36.00503	Serrated Nut M10	4
P042		1.36.00720	Serrated Hexhead Flange Bolt M8x20	4
P047		1.36.02112	Hexhead Bolt M10x45	4
P048		1.36.02125	Hexhead Bolt M8x80	4

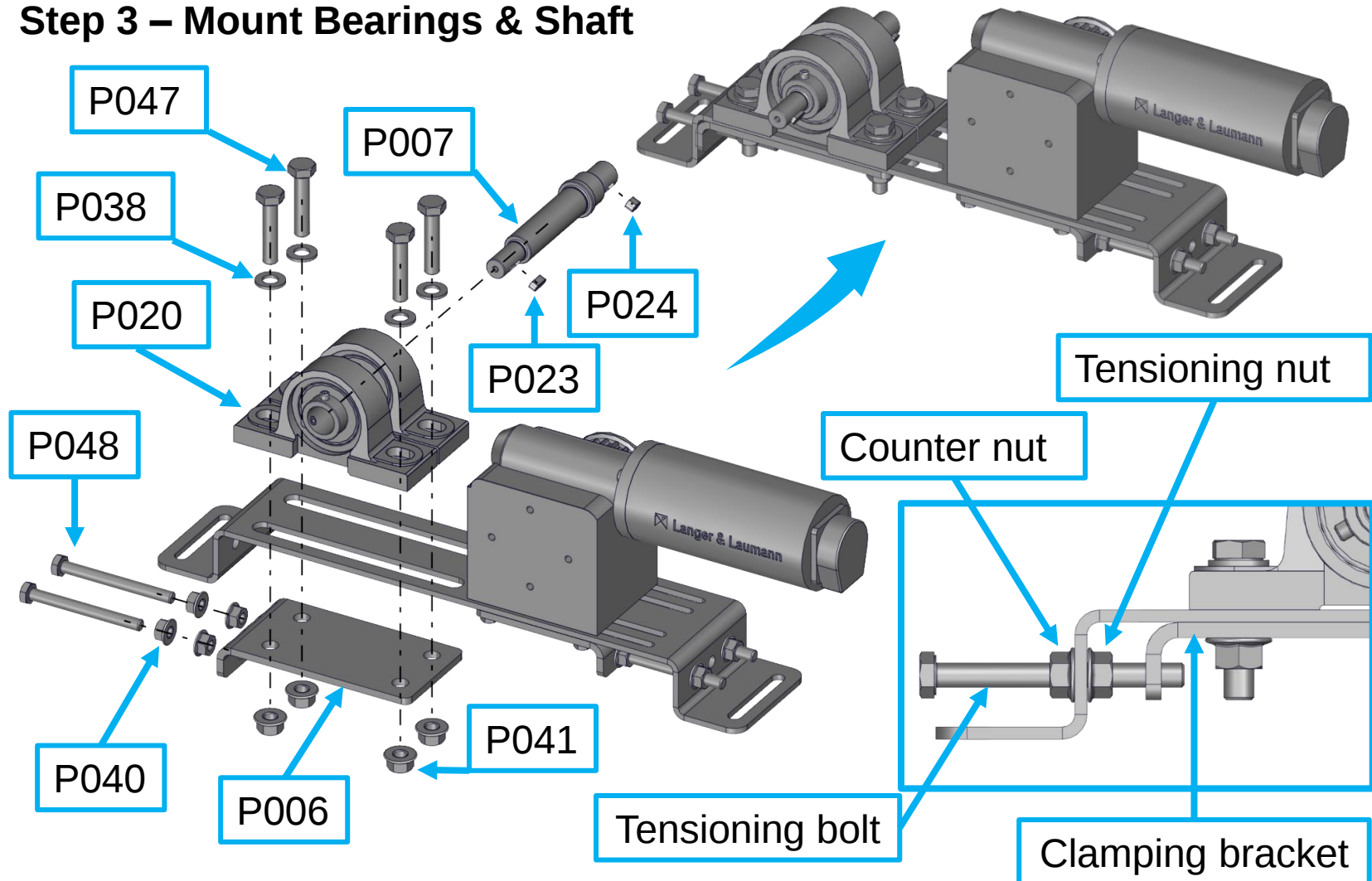
Kone MAC 1

Step 2 – Mount gearmotor



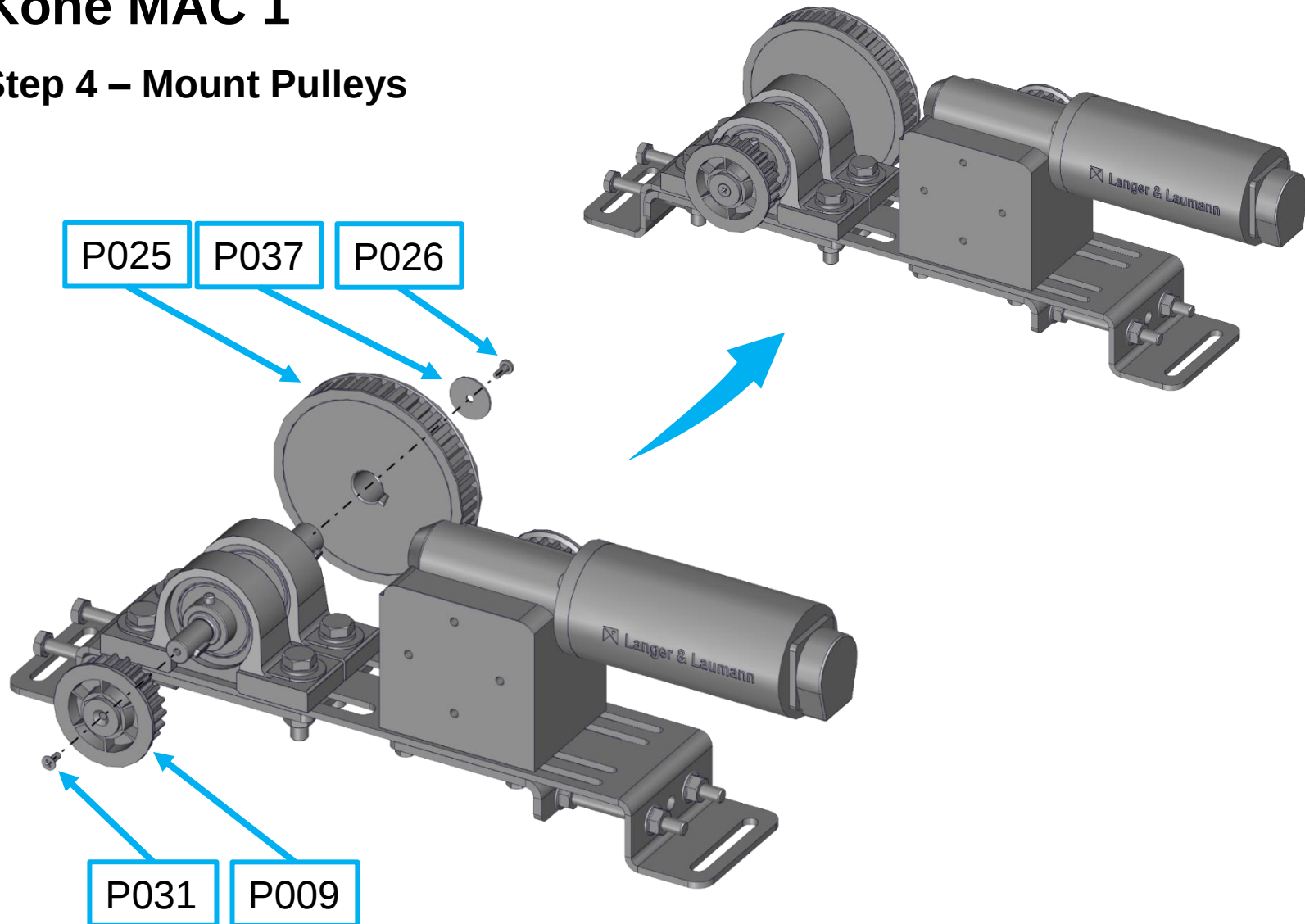
Kone MAC 1

Step 3 – Mount Bearings & Shaft



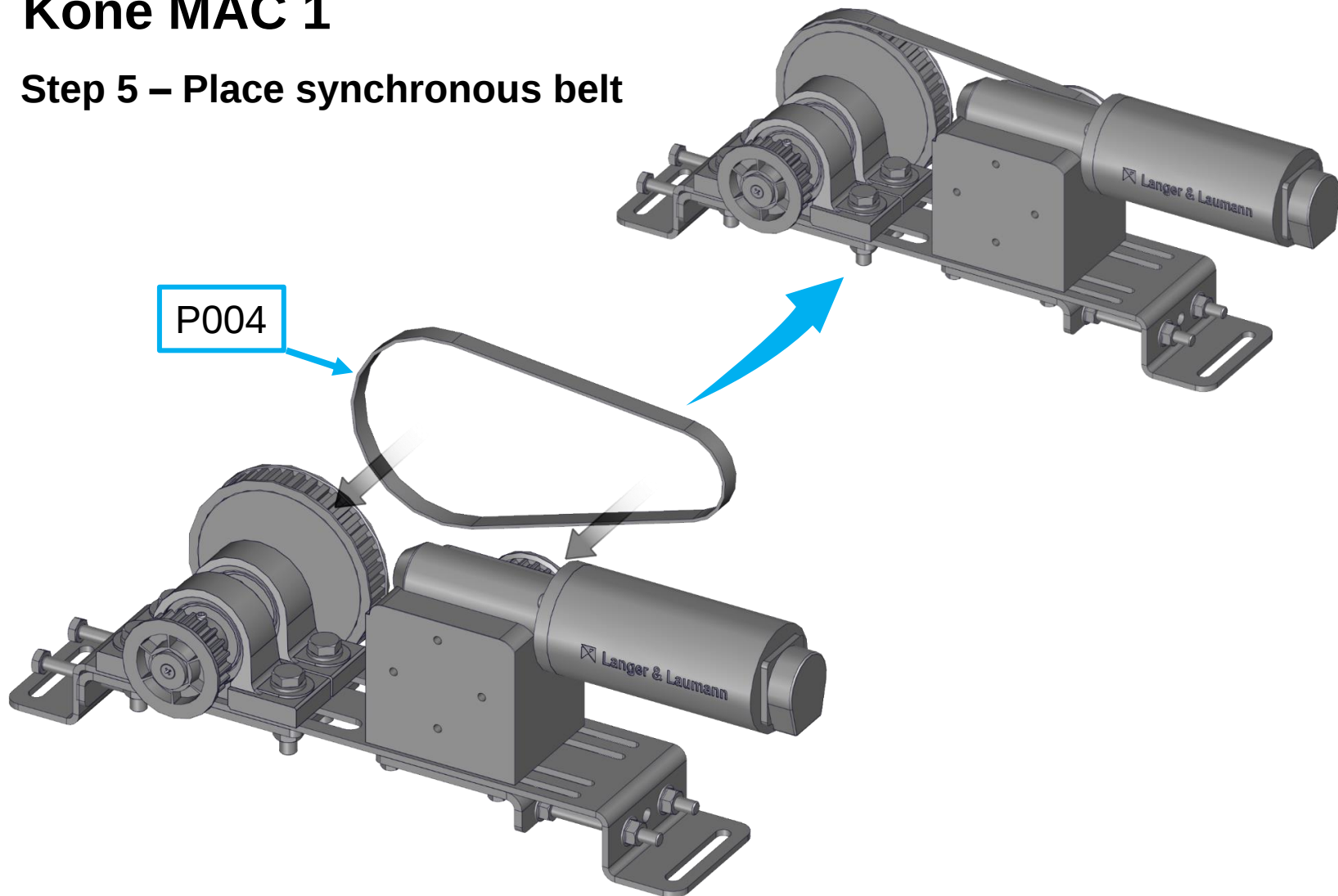
Kone MAC 1

Step 4 – Mount Pulleys



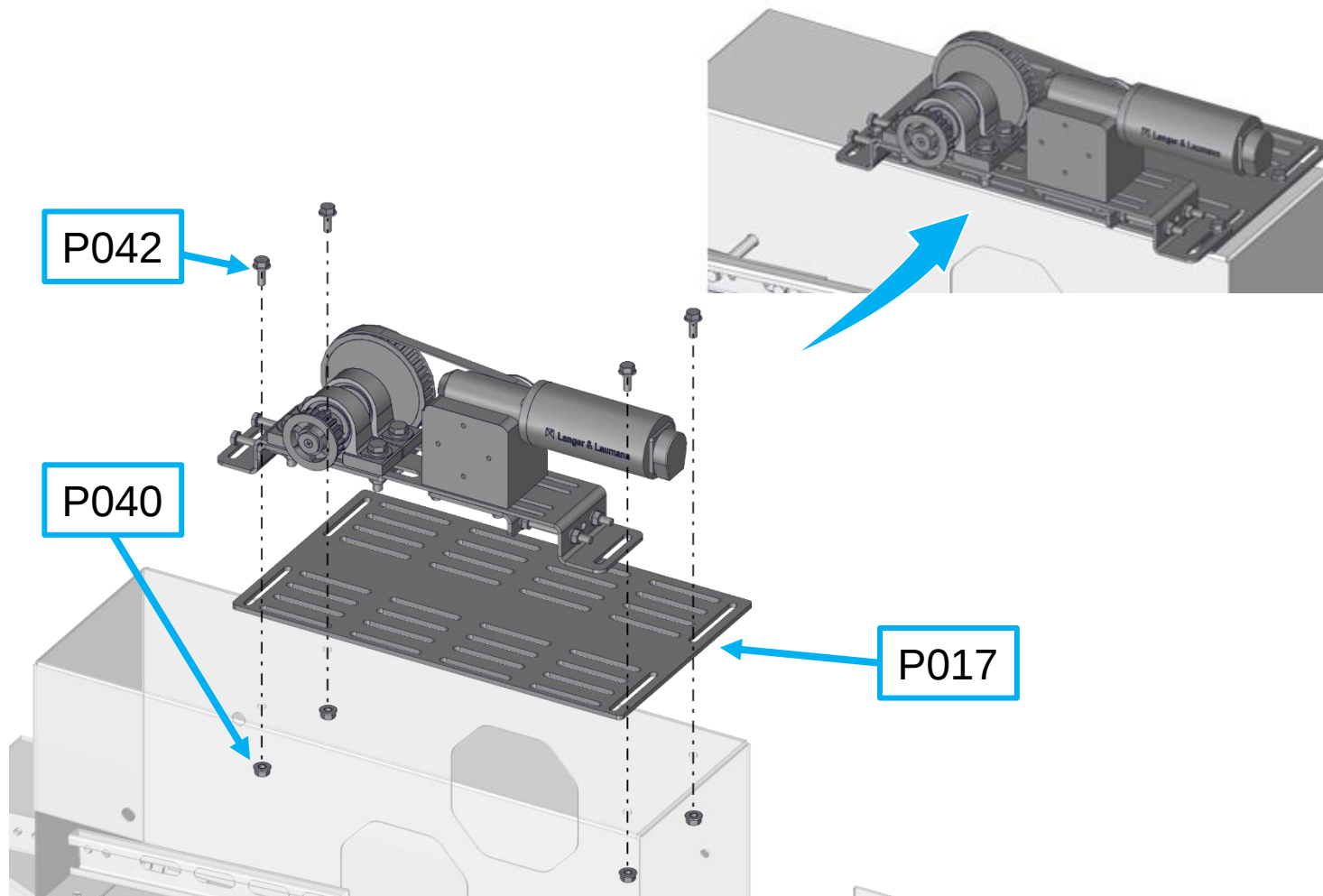
Kone MAC 1

Step 5 – Place synchronous belt



Kone MAC 1

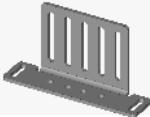
Step 6 – Mount main bracket



Kone MAC 1

Stroke limit bracket - Bill of Materials



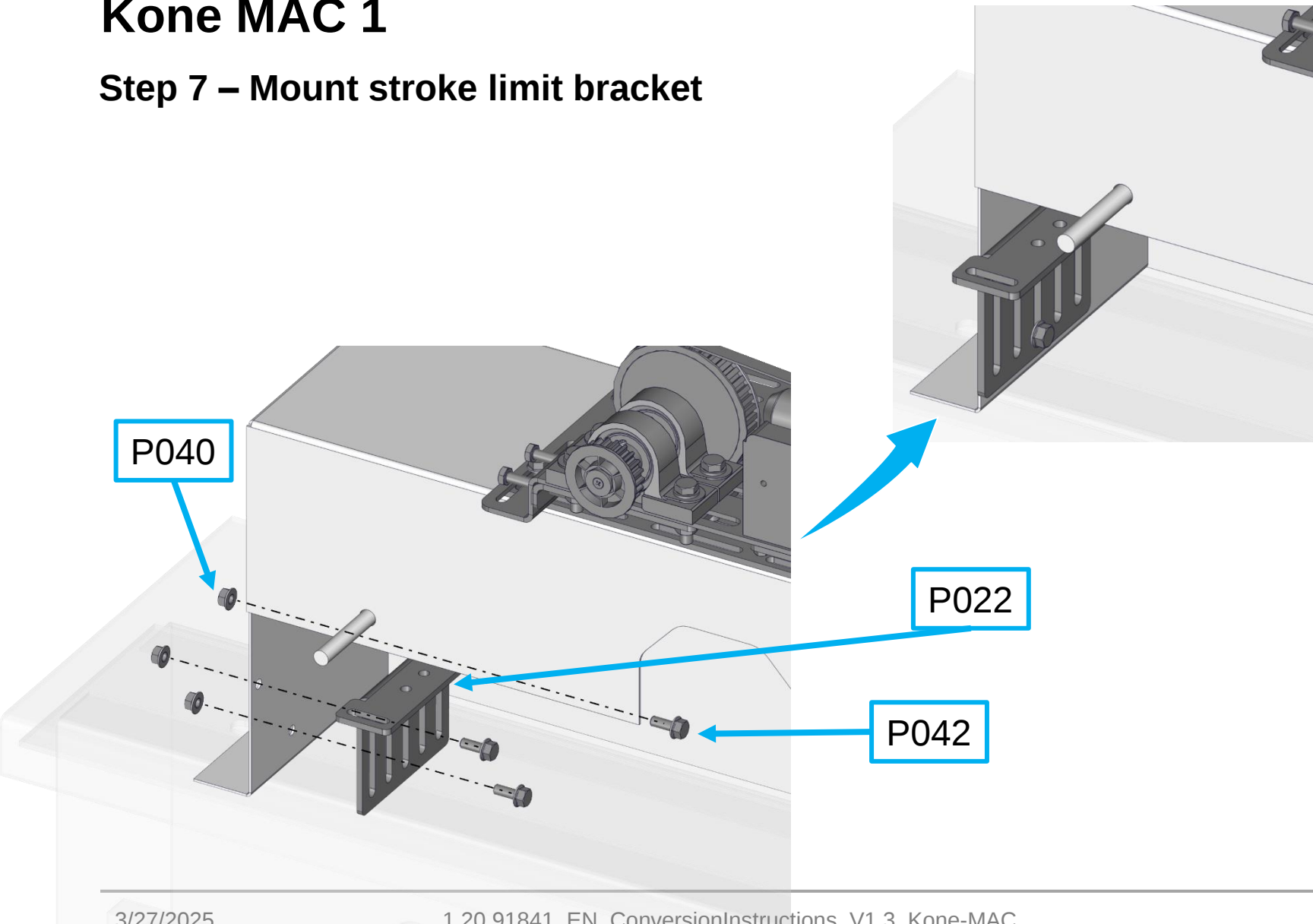
Position	Image	Part Number	Description	Quantity
P022		1.20.92090	L-shaped bracket	1
P040		1.36.00501	Serrated Nut M8	3
P042		1.36.00720	Serrated Hexhead Flange Bolt M8x20	3

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Kone MAC 1

Step 7 – Mount stroke limit bracket



Kone MAC 1

Drive wheel - Bill of Materials (pages 20–22)



Position	Image	Part Number	Description	Quantity
P004		1.20.61090	Endless synchronous belt (8M)	1
P008		1.20.60007	Synchronous belt lock	1
P011		1.20.60870	Flange hub	1
P012a		1.20.60871	Taper bush 1201 (1/2")	1
P012b		1.20.60872	Taper bush 1201 (3/4")	1
P012c		1.20.60873	Taper bush 1201 (1")	1
P013		1.20.60900	Round plate	1
P014		1.20.60901	Round plate	1

Kone MAC 1

Drive wheel - Bill of Materials (pages 20–22)

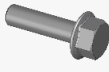


Position	Image	Part Number	Description	Quantity
P015		1.20.60905	Rectangular plate	1
P016		1.20.60910	Rectangular plate	2
P018		1.20.60920	L-shaped bracket	1
P019		1.20.60921	L-shaped bracket	1
P021		1.20.91120	Buffer (30mm)	2
P028		1.36.00140	Serrated Hexhead Flange Bolt M8x12	4
P029		1.36.00171	Spring washer for M6	6
P030		1.36.00200	Nut M6	6

Kone MAC 1

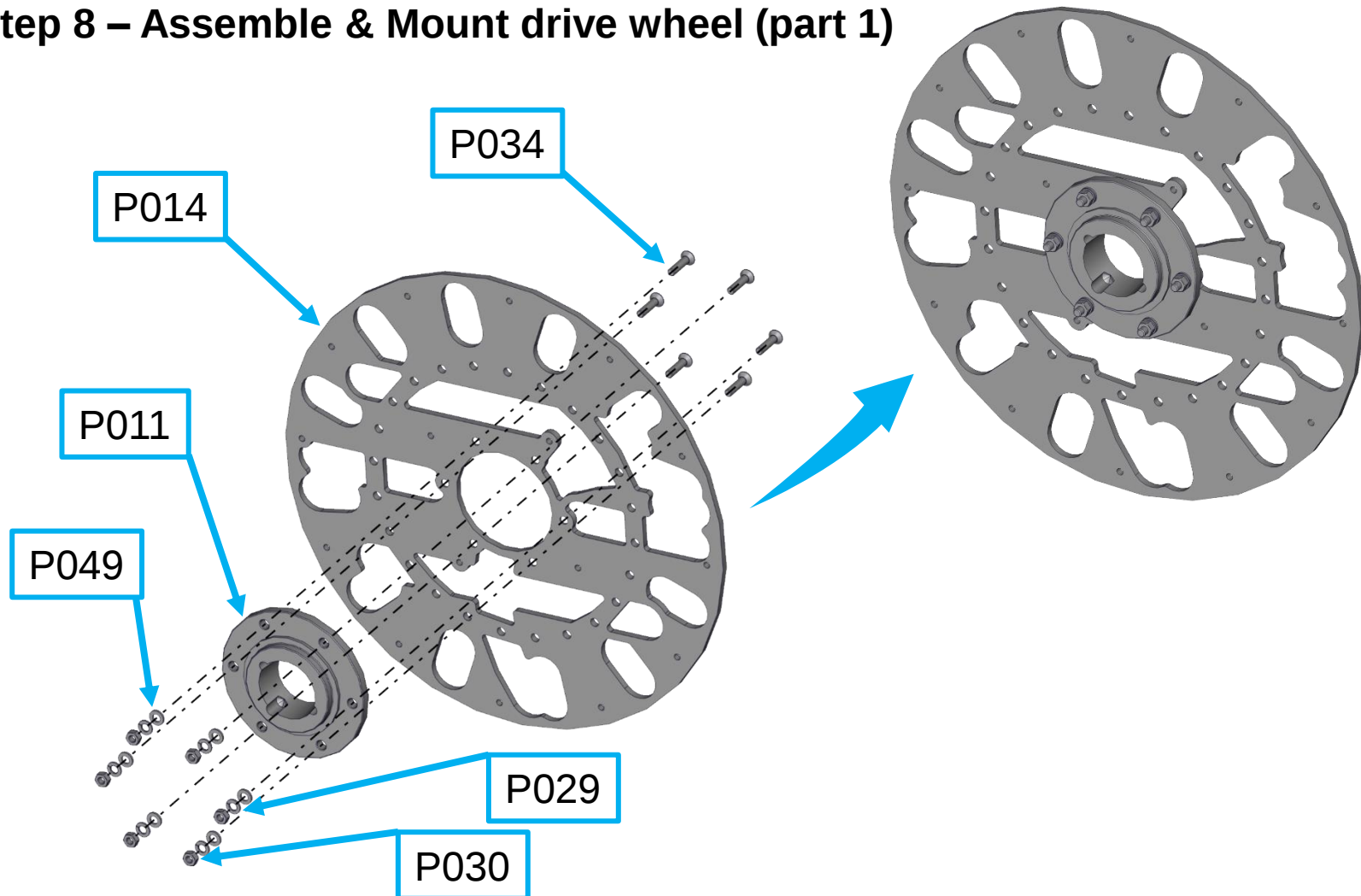
Drive wheel - Bill of Materials (pages 20–22)



Position	Image	Part Number	Description	Quantity
P032		1.36.00353	Countersunk Socket Bolt M5x12	8
P033		1.36.00362	Countersunk Socket Bolt M6x30	16
P034		1.36.00366	Countersunk Socket Bolt M6x25	6
P040		1.36.00501	Serrated Nut M8	4
P043		1.36.00730	Serrated Hexhead Flange Bolt M8x30	2
P045		1.36.00870	Sleeve (15mm)	2
P046		1.36.00881	Sleeve (12mm)	16
P049		1.36.05611	Washer 6.4	6

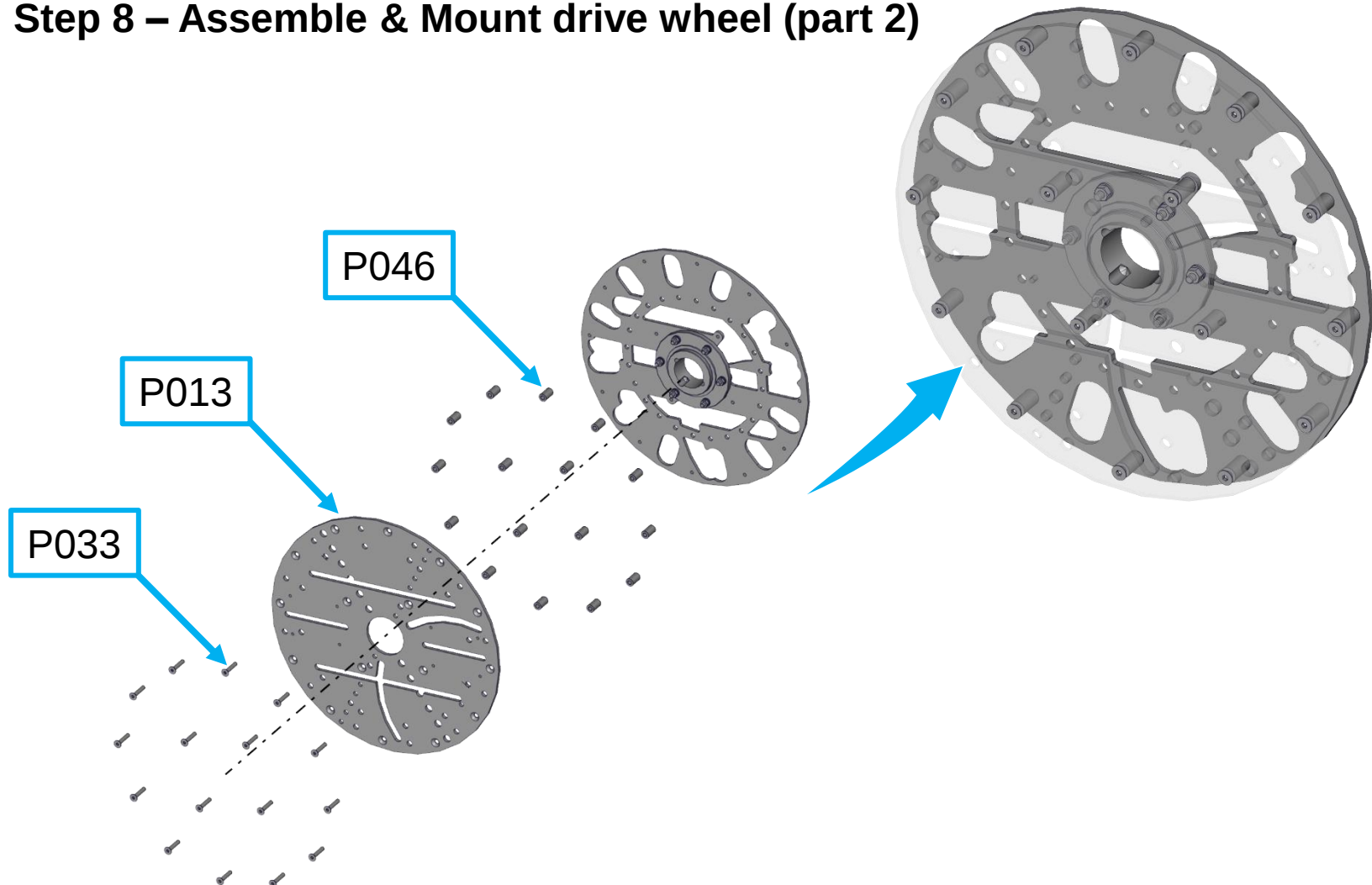
Kone MAC 1

Step 8 – Assemble & Mount drive wheel (part 1)



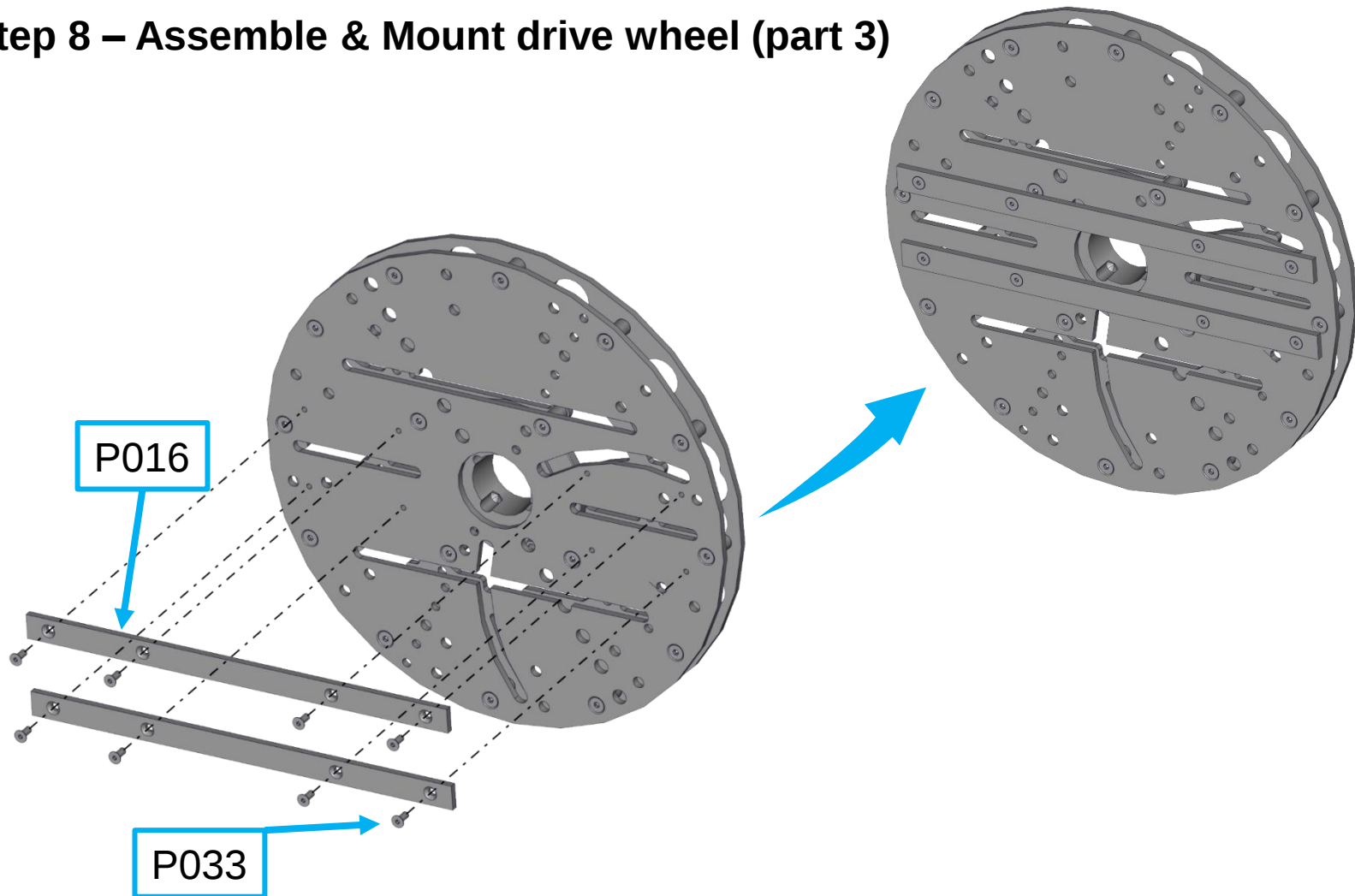
Kone MAC 1

Step 8 – Assemble & Mount drive wheel (part 2)



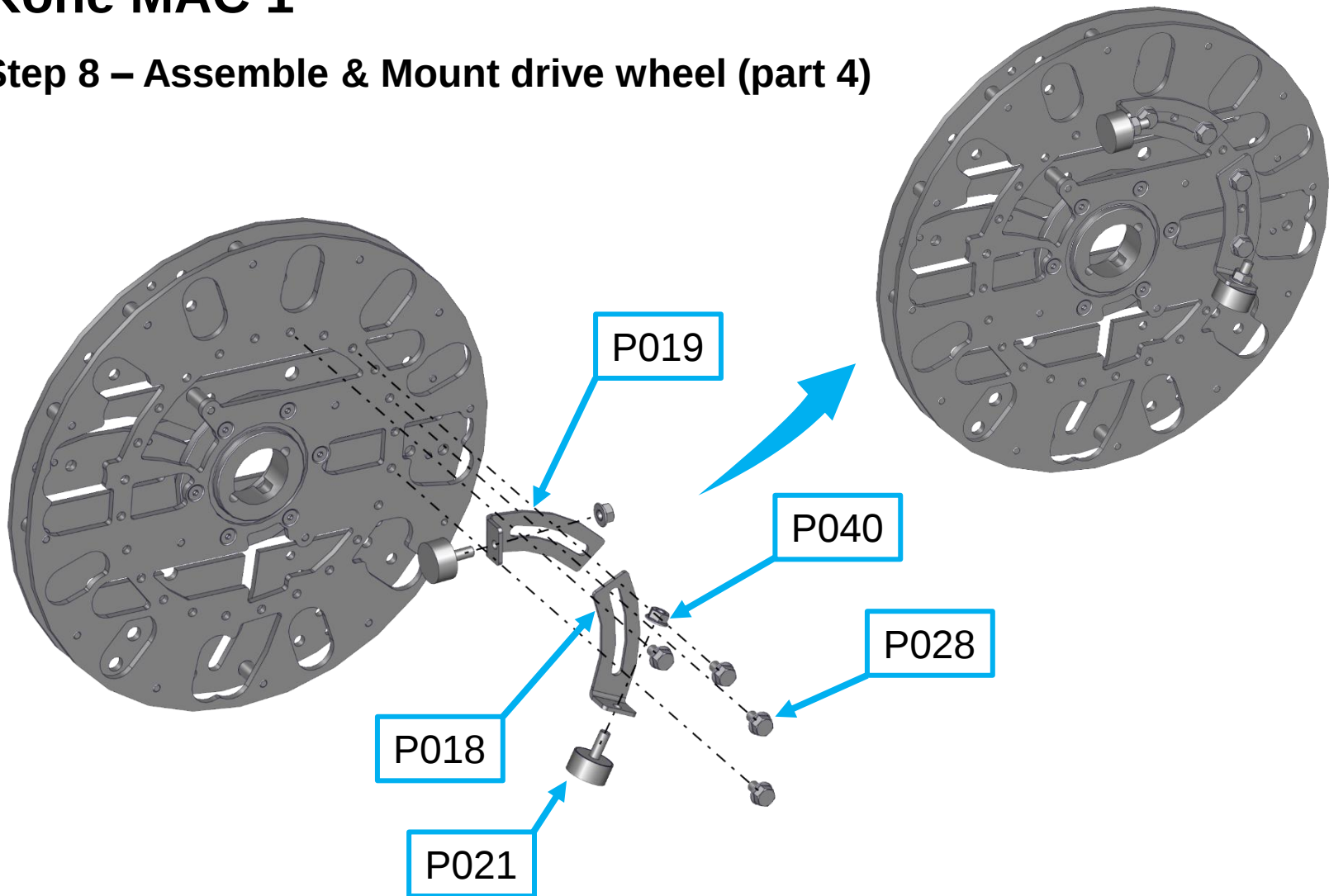
Kone MAC 1

Step 8 – Assemble & Mount drive wheel (part 3)



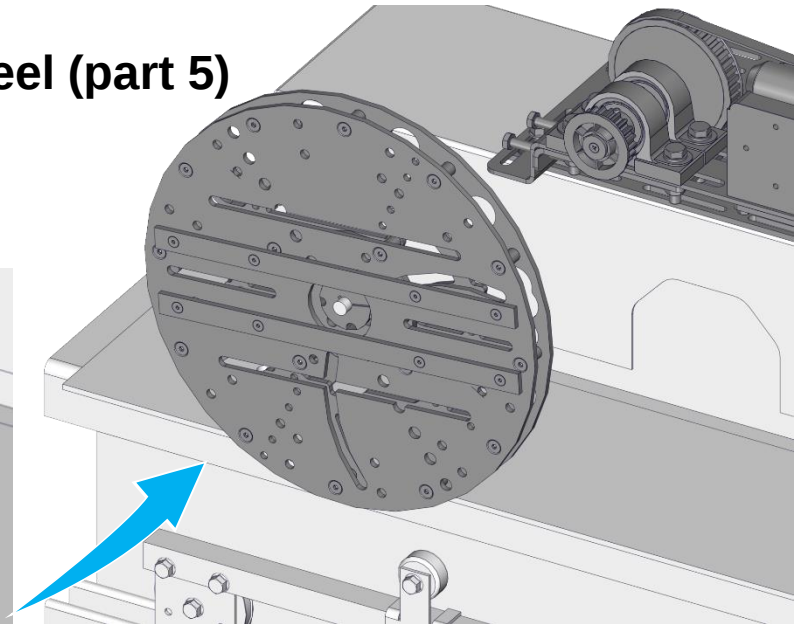
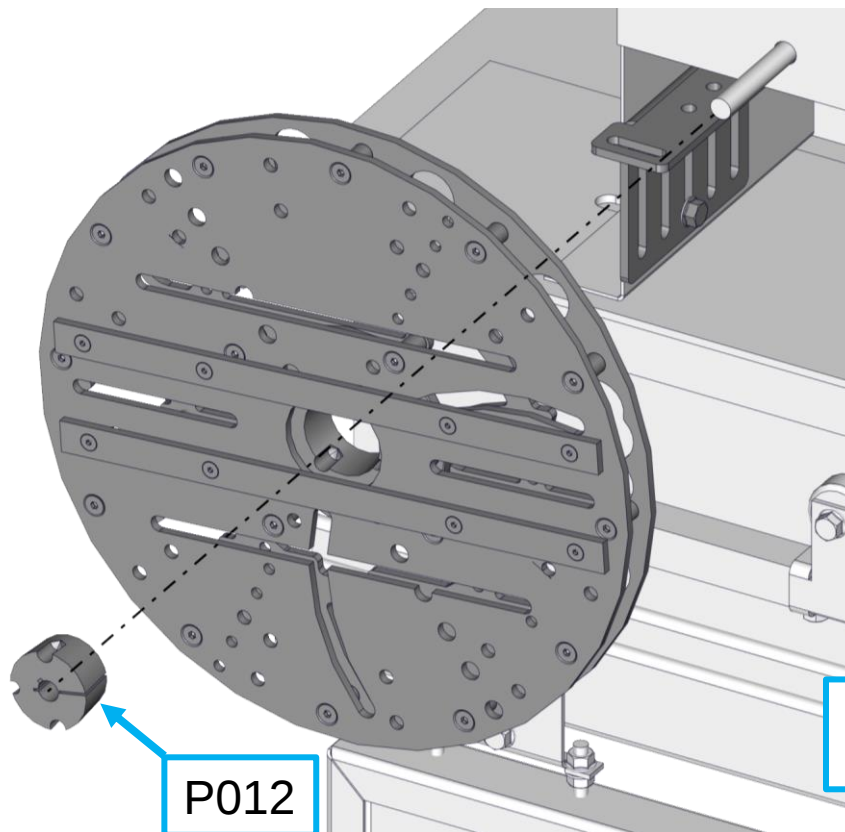
Kone MAC 1

Step 8 – Assemble & Mount drive wheel (part 4)



Kone MAC 1

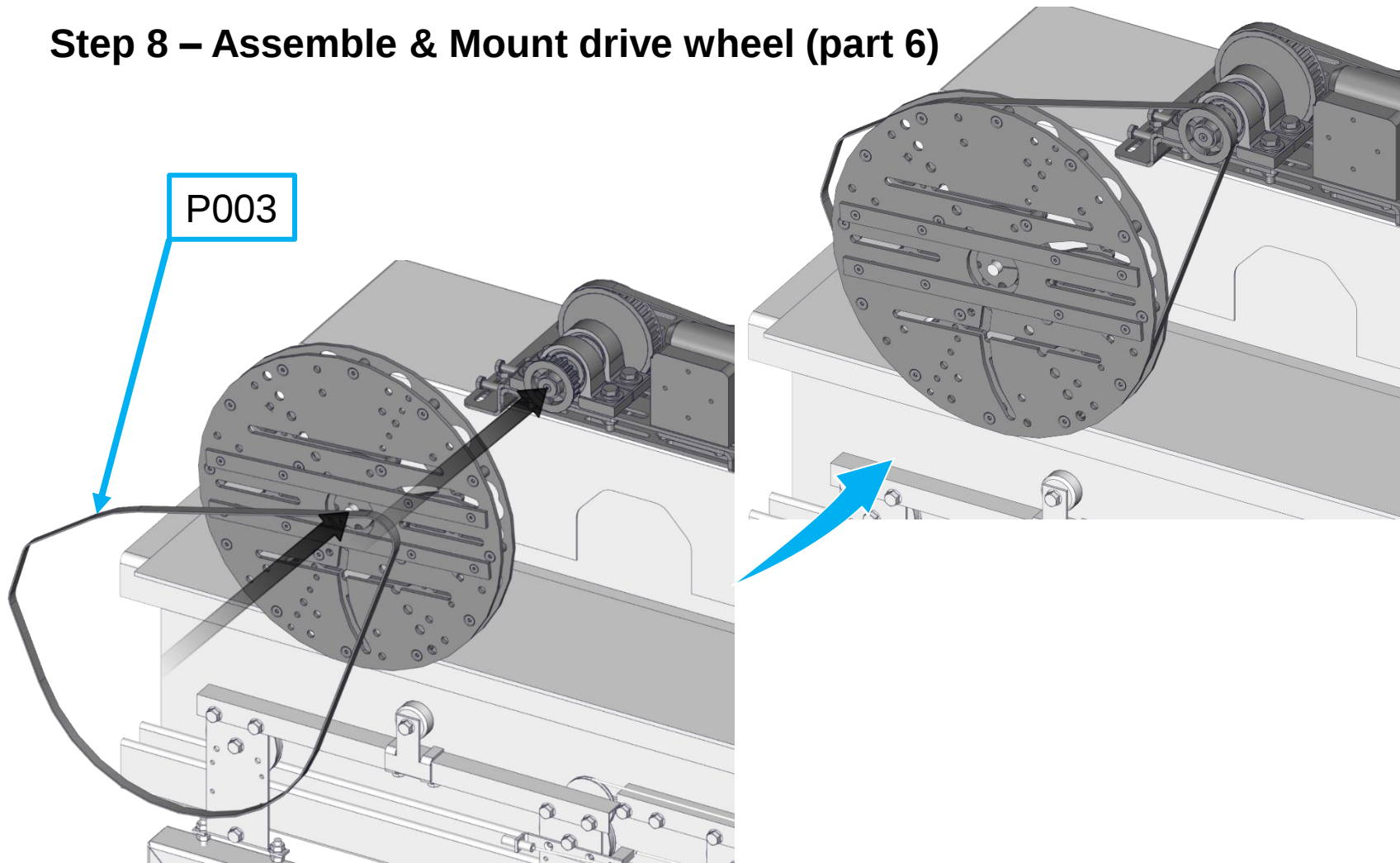
Step 8 – Assemble & Mount drive wheel (part 5)



NOTE: Please, select the proper taper bushing 12a, 12b or 12c, according to shaft diameter.

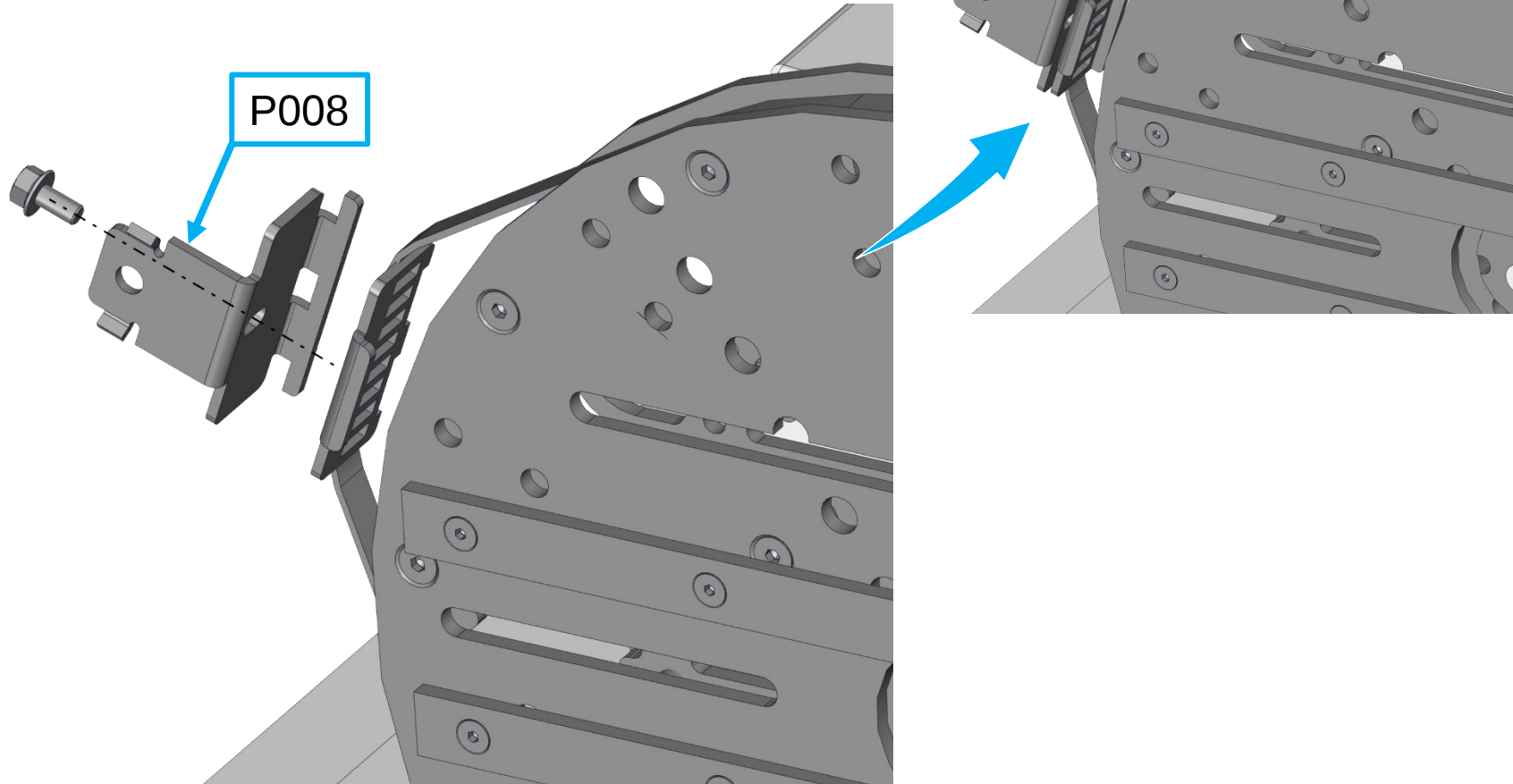
Kone MAC 1

Step 8 – Assemble & Mount drive wheel (part 6)



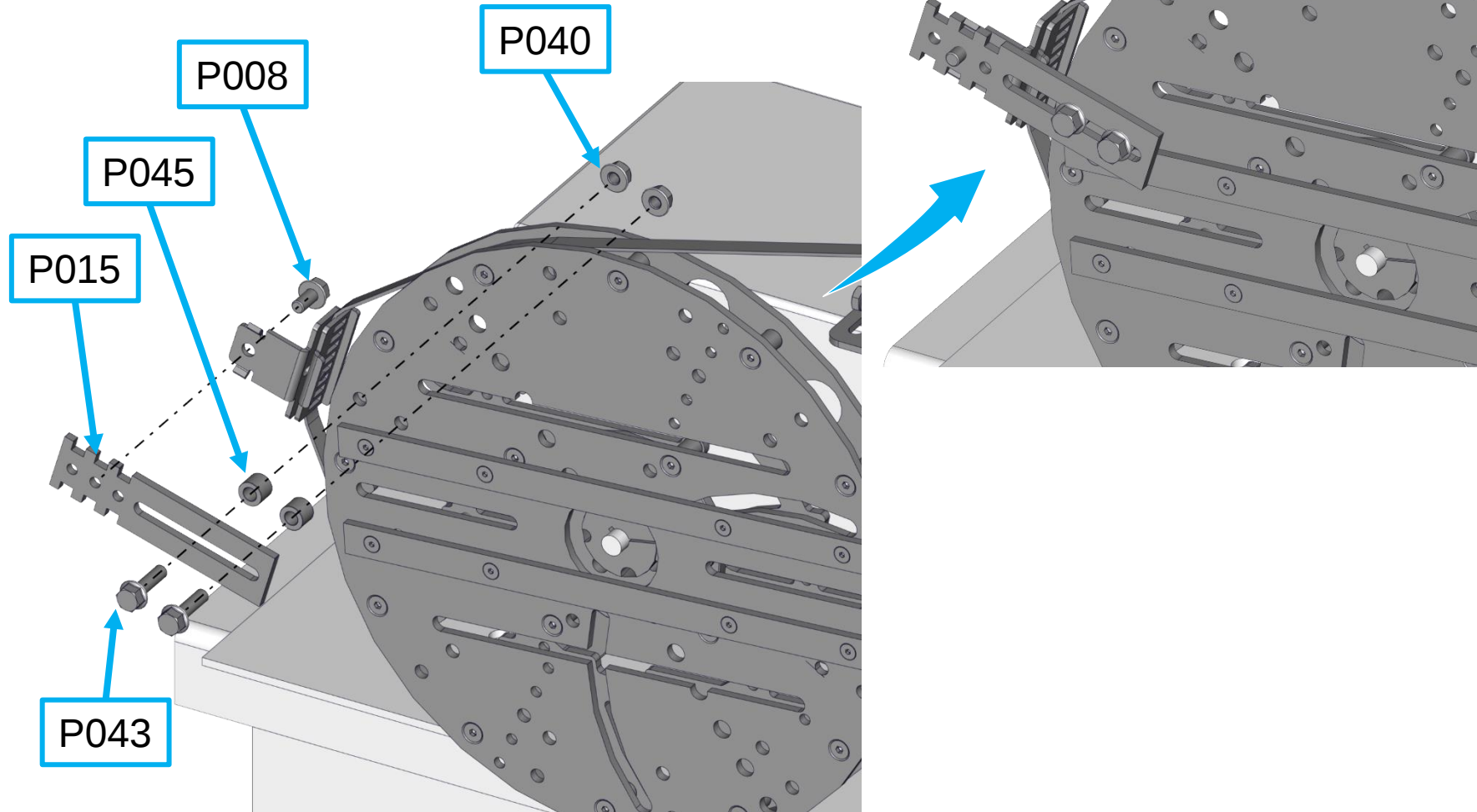
Kone MAC 1

Step 8 – Assemble & Mount drive wheel (part 7)



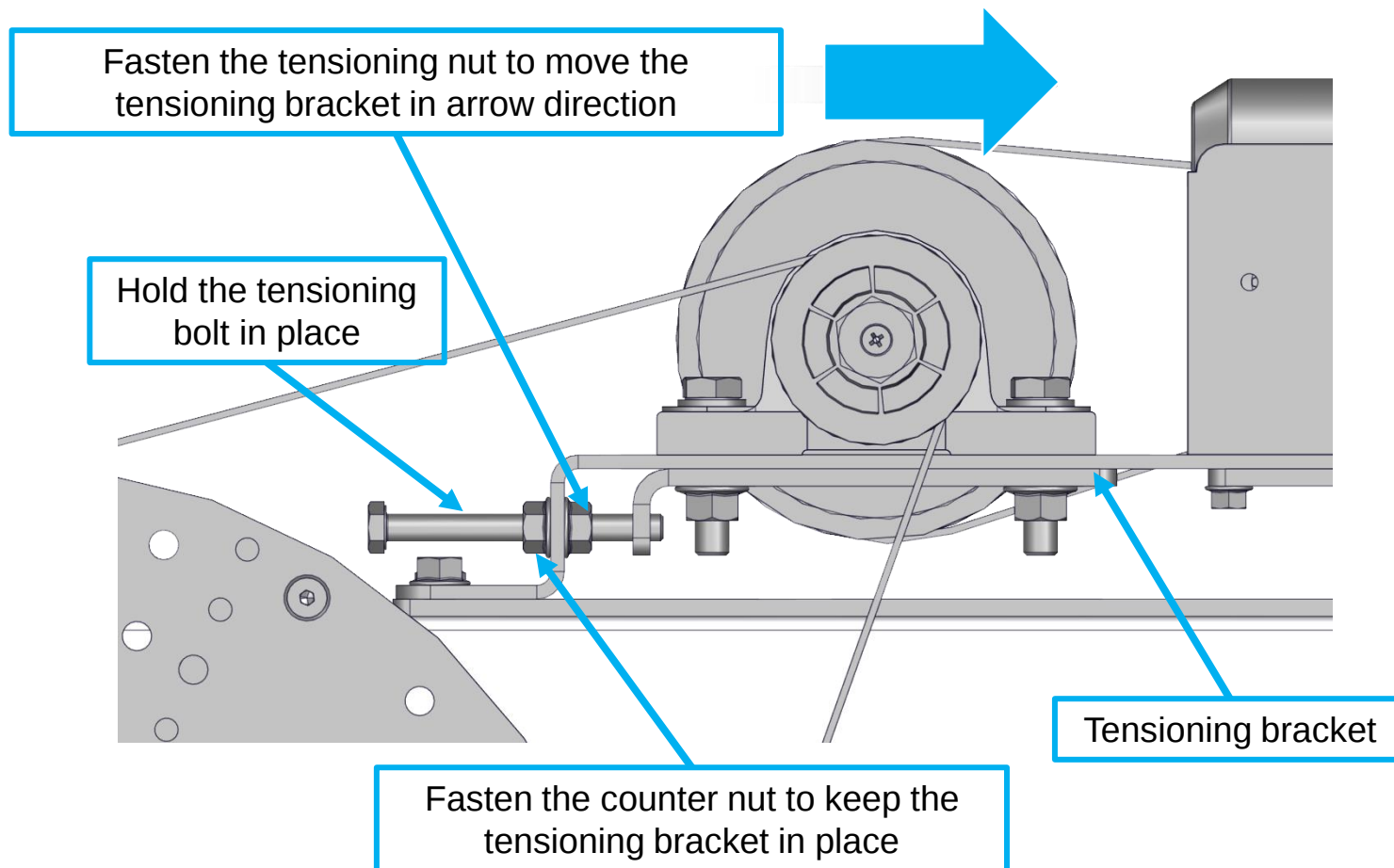
Kone MAC 1

Step 8 – Assemble & Mount drive wheel (part 8)



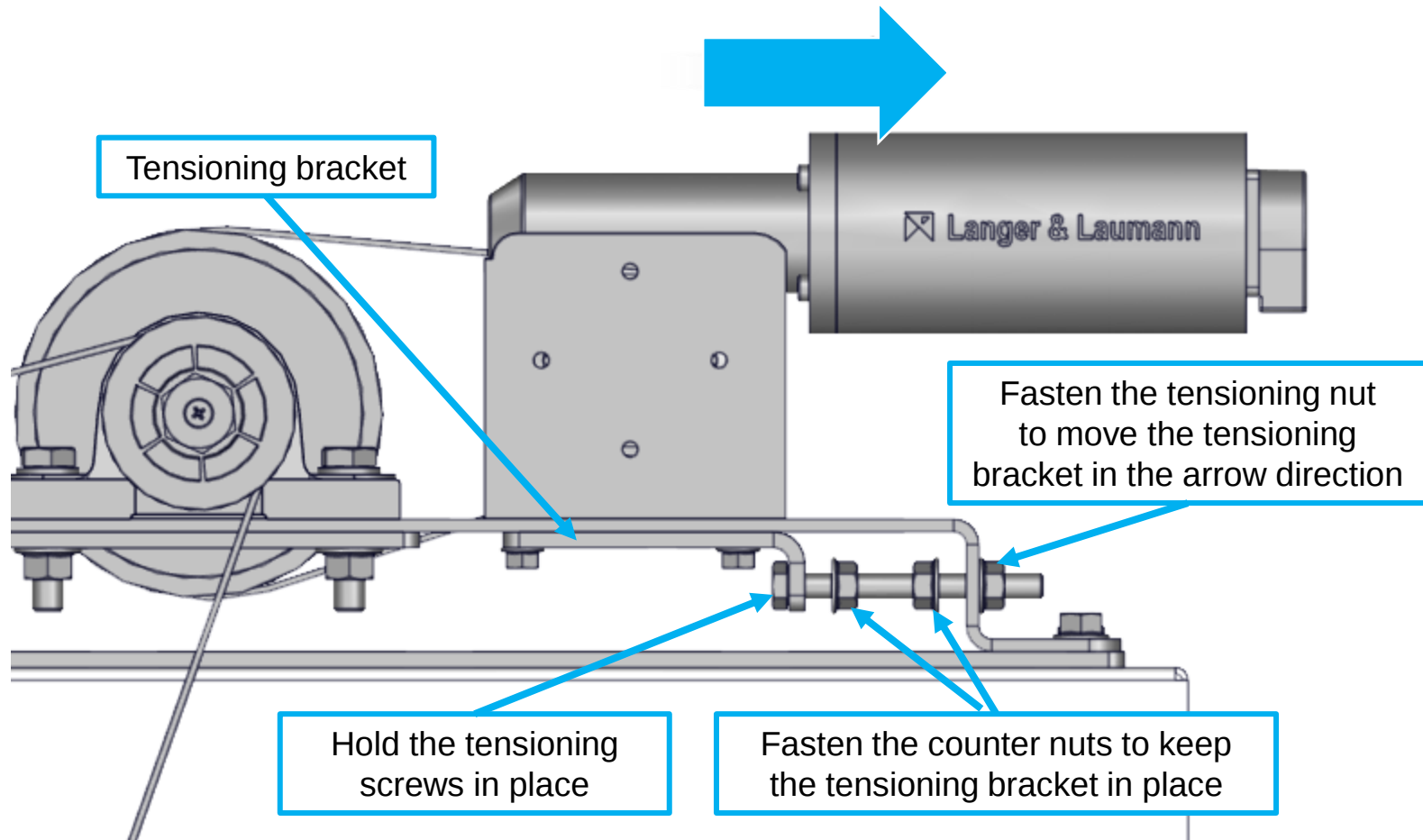
Kone MAC 1

Step 9 – Tension the synchronous belt (part 1)



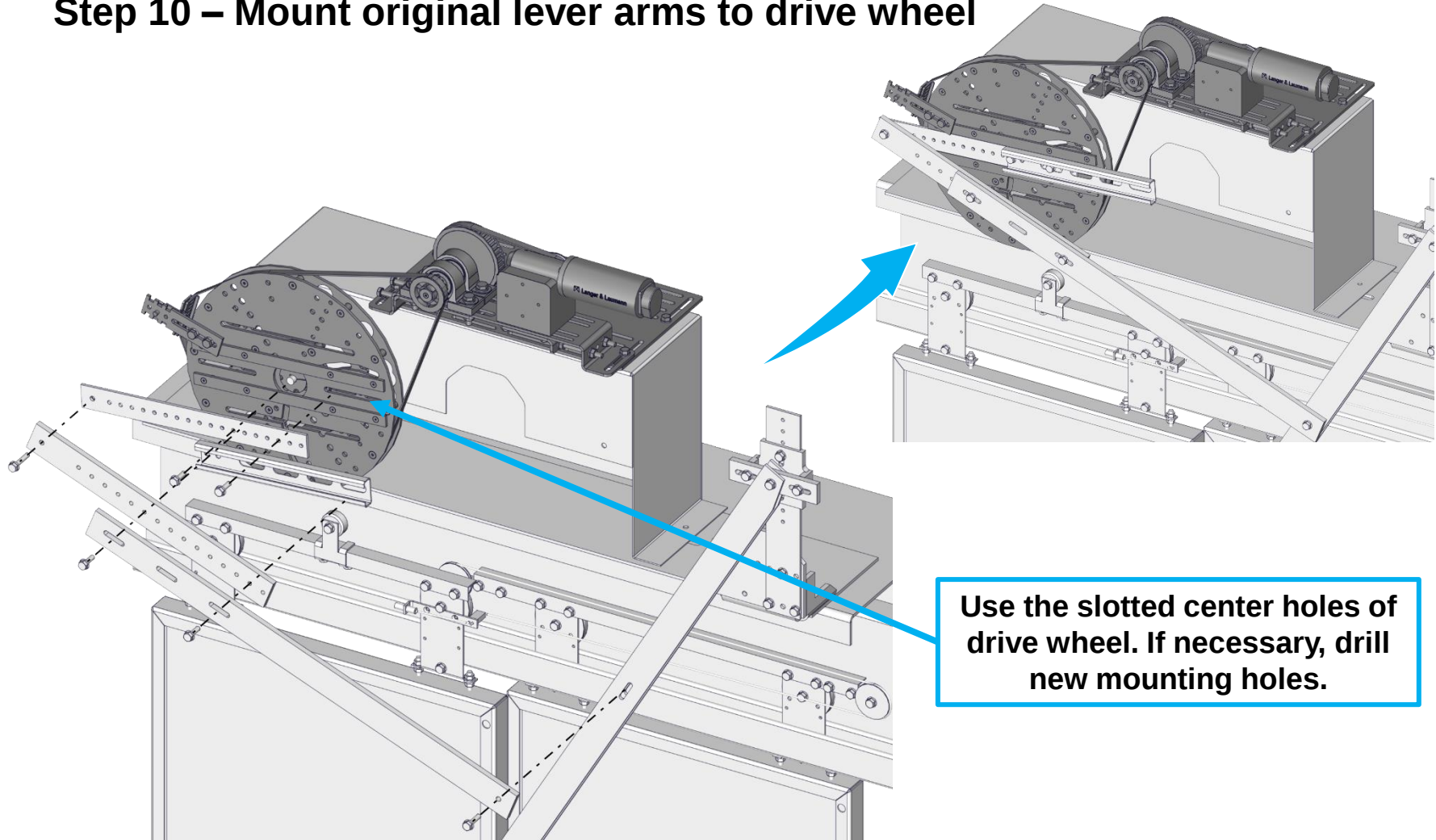
Kone MAC 1

Step 9 – Tension the synchronous belt (part 2)



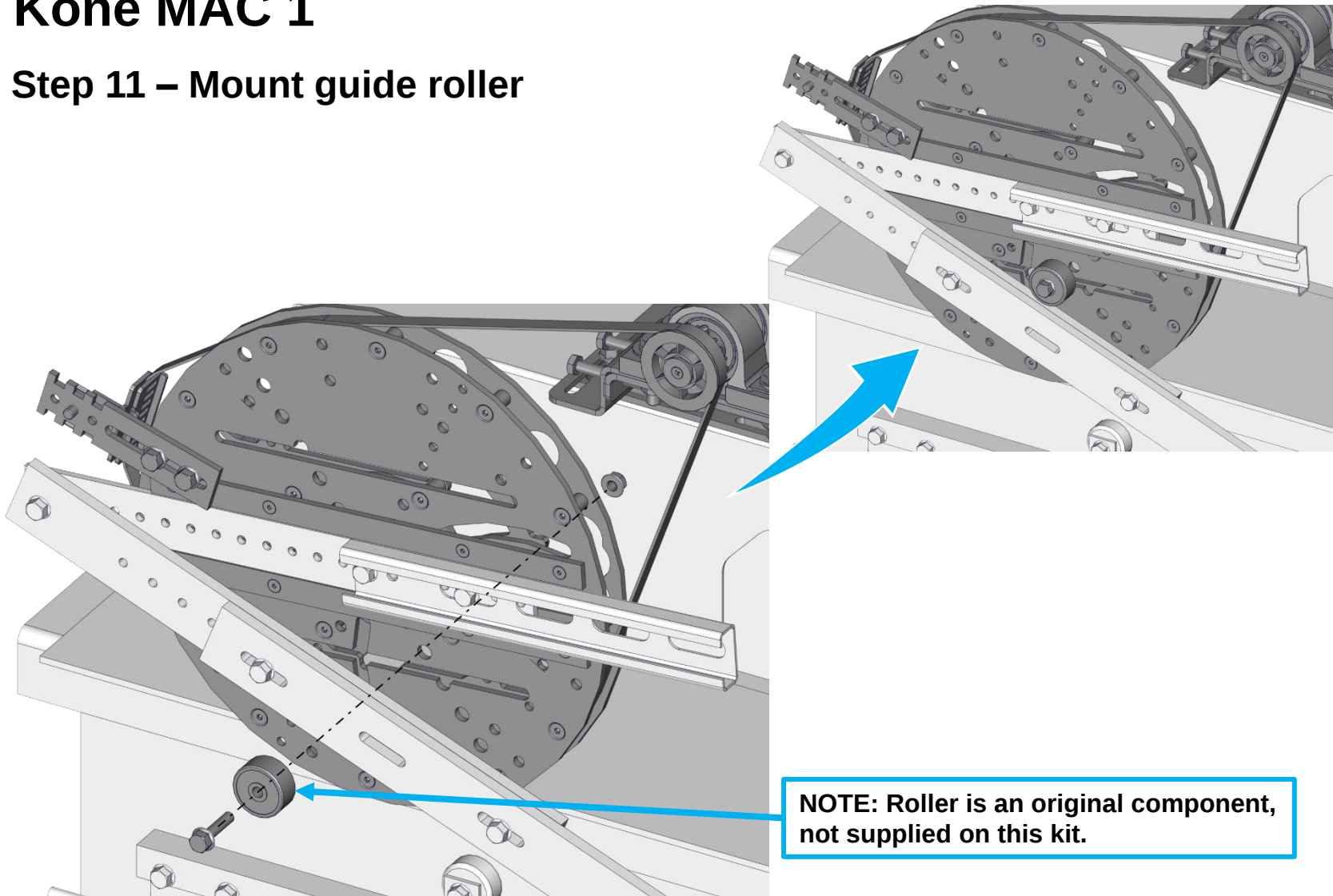
Kone MAC 1

Step 10 – Mount original lever arms to drive wheel



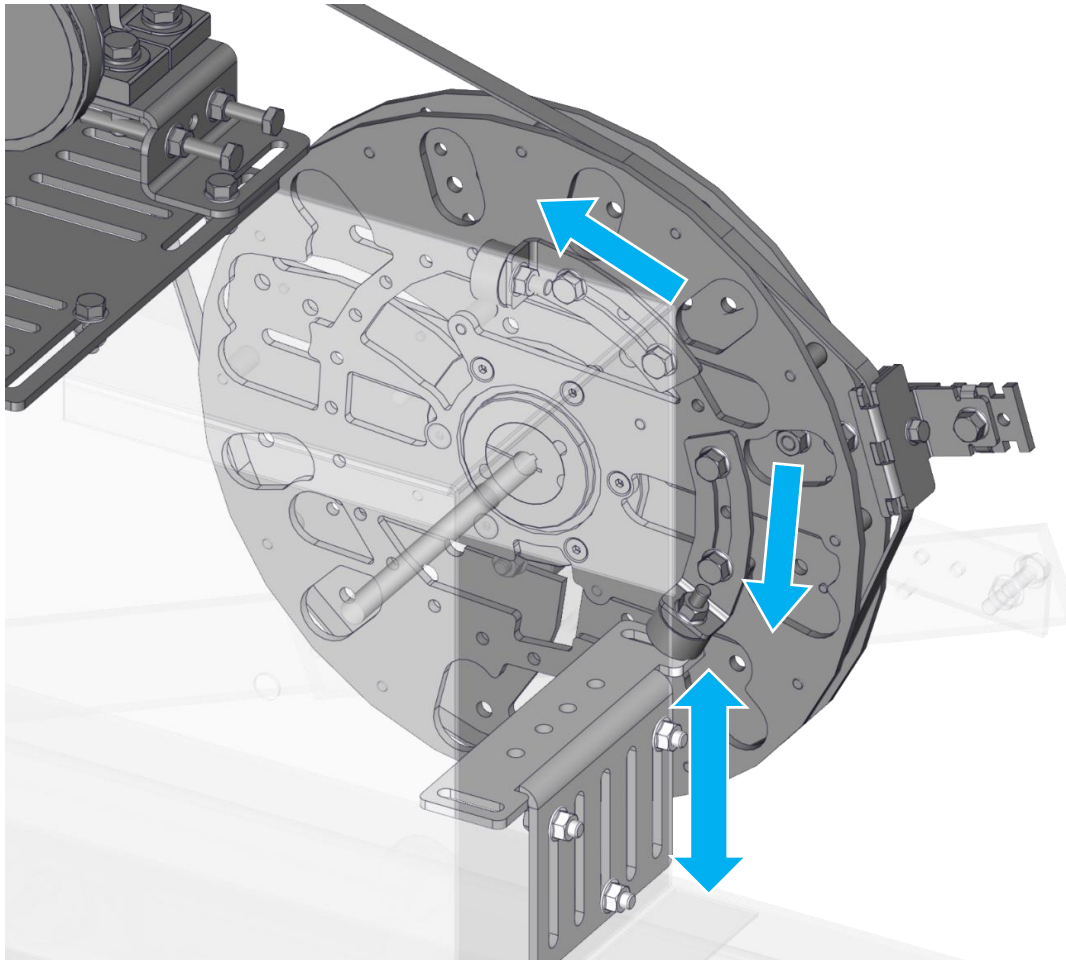
Kone MAC 1

Step 11 – Mount guide roller



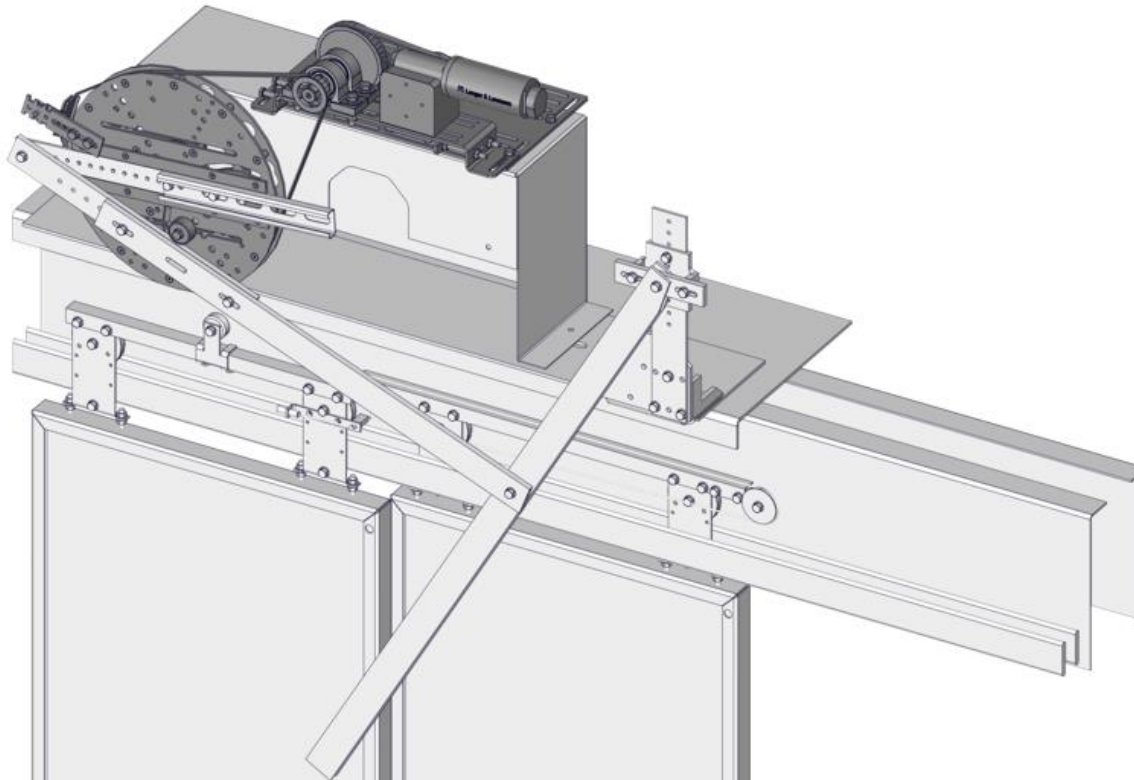
Kone MAC 1

Step 11 – Adjust stop bumper brackets



Kone MAC 1

Finished Assembly



Kone MAC 1

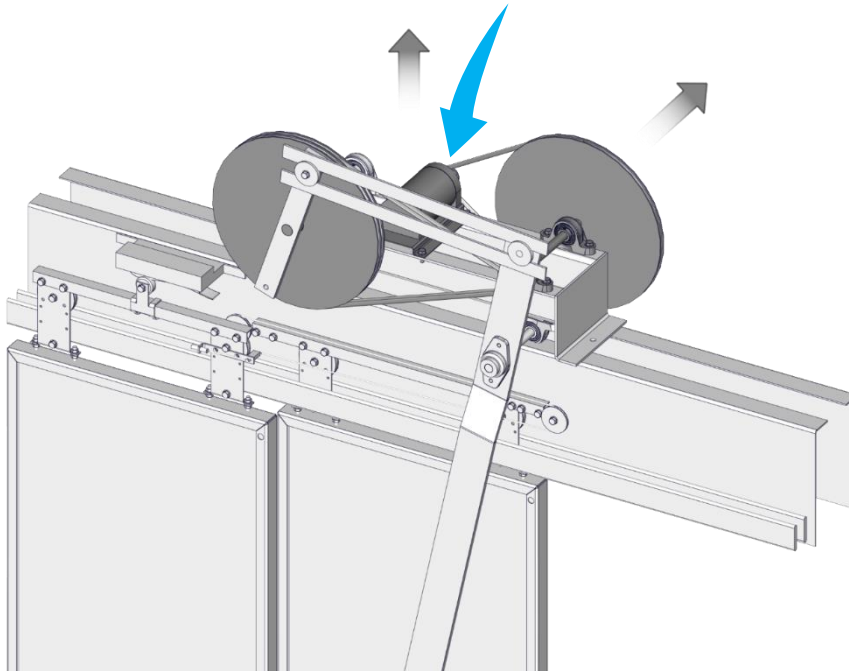
Recommended Parameter Settings

NOTE: Fitting, connecting and commissioning the door control unit are described in the *Manual* supplied with the door control unit.

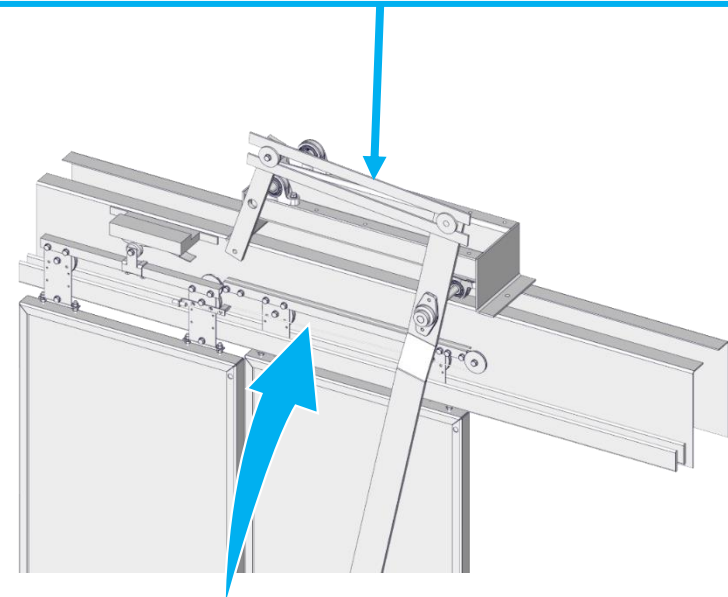
Parameter	Function	Value
A8	Additional mechanical transmission	1.2
A9	Release of the parameter A8	0.1
P2	Maximum opening speed	15
P3	Maximum closing speed	15
P8	„Blocked detection“ threshold value in closing direction	Set individually

Kone MAC 2

Step 1 - Remove current components



NOTE: Lever arm will remain in place for now!

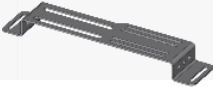
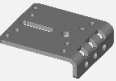
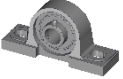


NOTE: Original Components Removed

Kone MAC 2

Gearmotor drive - Bill of Materials (pages 39-41)

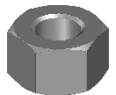


Position	Image	Part Number	Description	Quantity
P002		8.20.400xx.xx	Gearmotor	1
P004		1.20.61090	Endless synchronus belt (8M)	1
P005		1.20.23200	Hat shaped bracket	1
P006		1.20.23220	L-shaped bracket	1
P007		1.20.23230	Drive shaft	1
P009		1.20.60160	Timing pulley (56mm)	1
P010		1.20.60532	L-shaped bracket	1
P020		1.20.85150	Pillow block bearing (20mm)	2

Kone MAC 2

Gearmotor drive - Bill of Materials (pages 39-41)



Position	Image	Part Number	Description	Quantity
P023		1.20.96053	Shaft key (5x5x14mm)	1
P024		1.20.96055	Shaft key (6x6x10mm)	1
P025		1.20.96110	Timing pulley 8M (112mm)	1
P026		1.36.00003	Phillips Panhead Bolt, M4x10	1
P031		1.36.00332	Countersunk Socket Bolt M4x10	1
P035		1.36.00430	Nut M8	2
P036		1.36.00440	Washer 8.4	4
P037		1.36.00451	Washer 4.3	1

Kone MAC 2

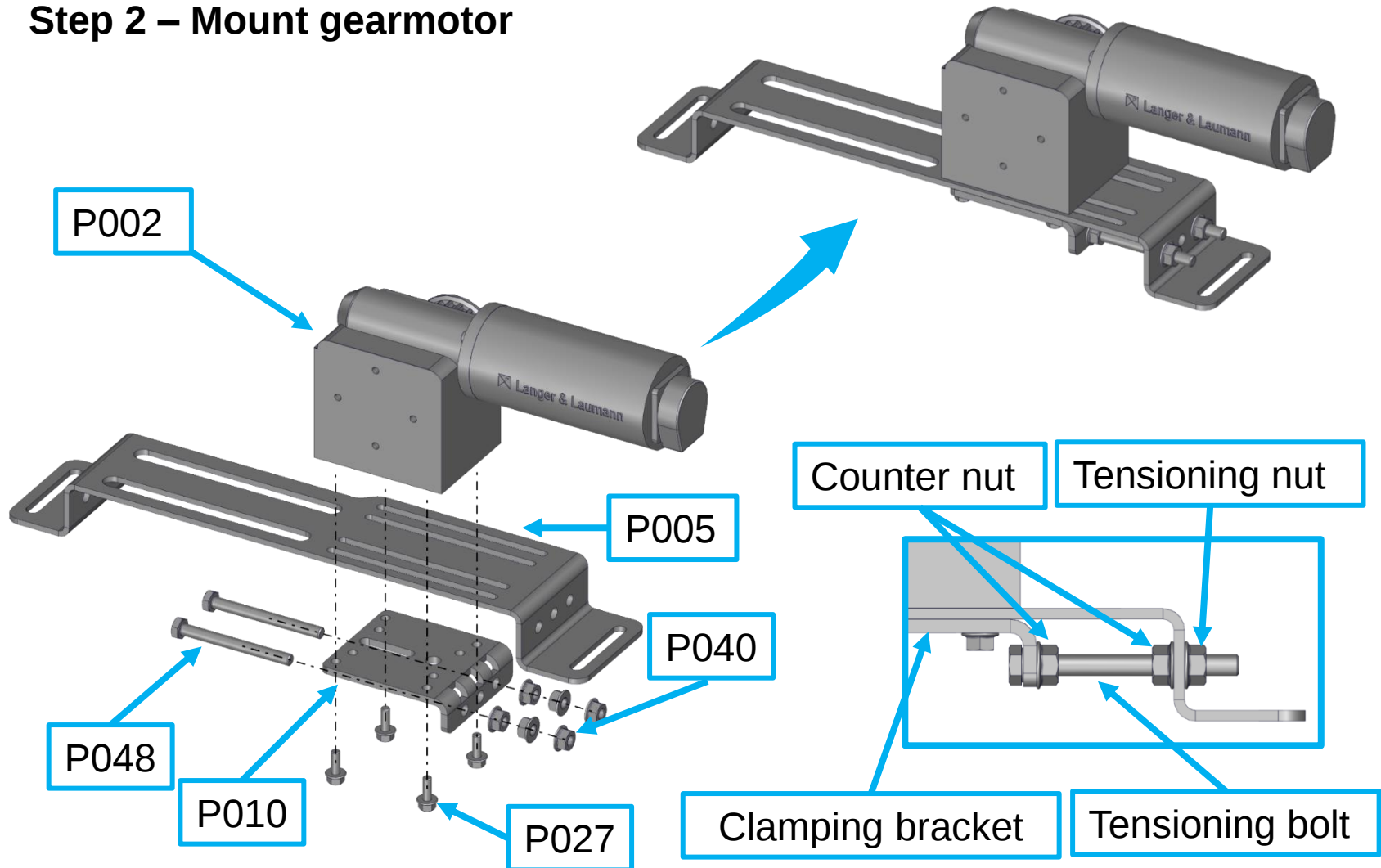
Gearmotor drive - Bill of Materials (pages 39-41)



Position	Image	Part Number	Description	Quantity
P038		1.36.00470	Washer 10.5	4
P039		1.36.00476	Hexhead Bolt M8x35	2
P040		1.36.00501	Serrated Nut M8	13
P041		1.36.00503	Serrated Nut M10	4
P042		1.36.00720	Serrated Hexhead Flange Bolt M8x20	3
P047		1.36.02112	Hexhead Bolt M10x45	4
P048		1.36.02125	Hexhead Bolt M8x80	4

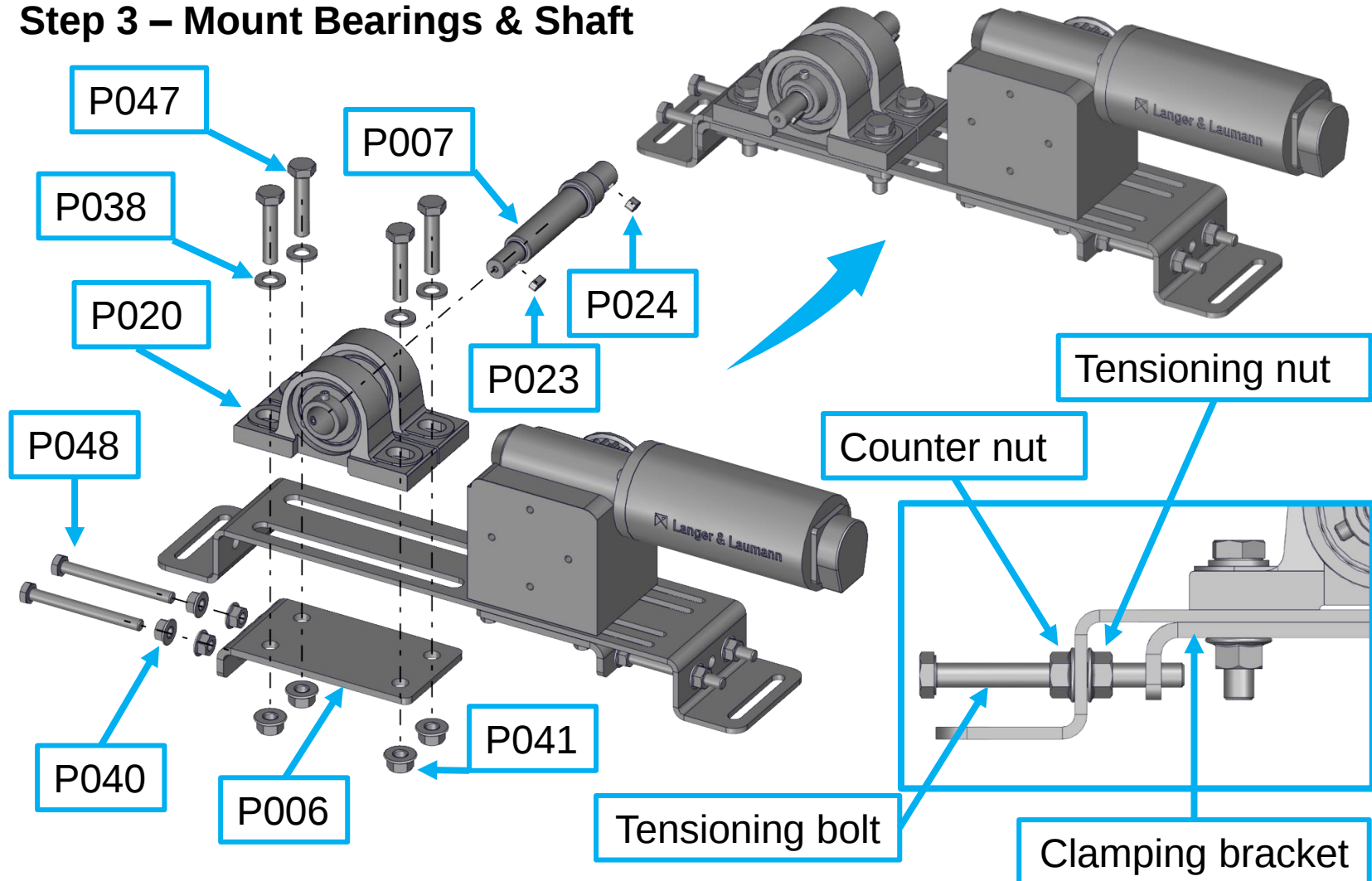
Kone MAC 2

Step 2 – Mount gearmotor



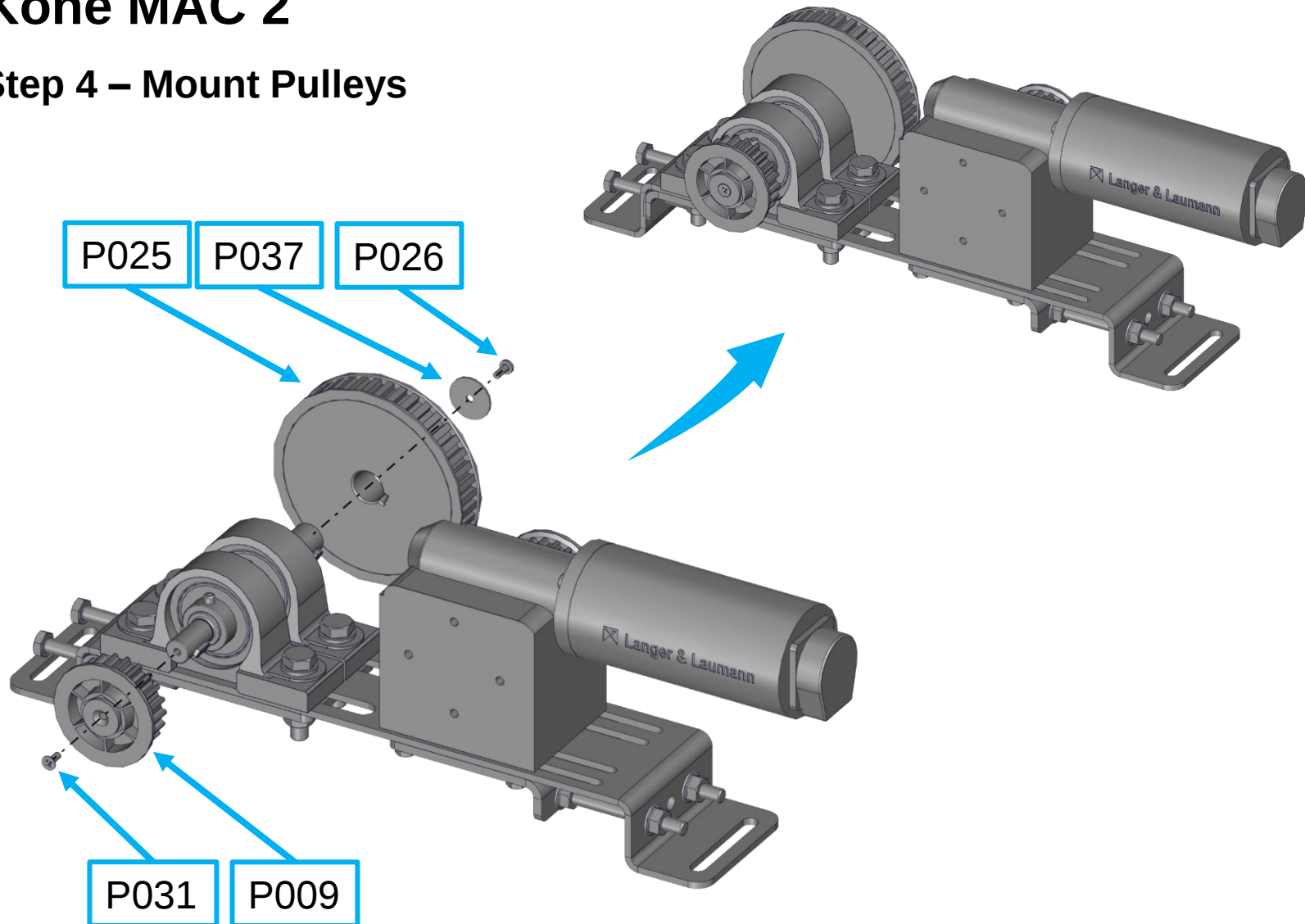
Kone MAC 2

Step 3 – Mount Bearings & Shaft



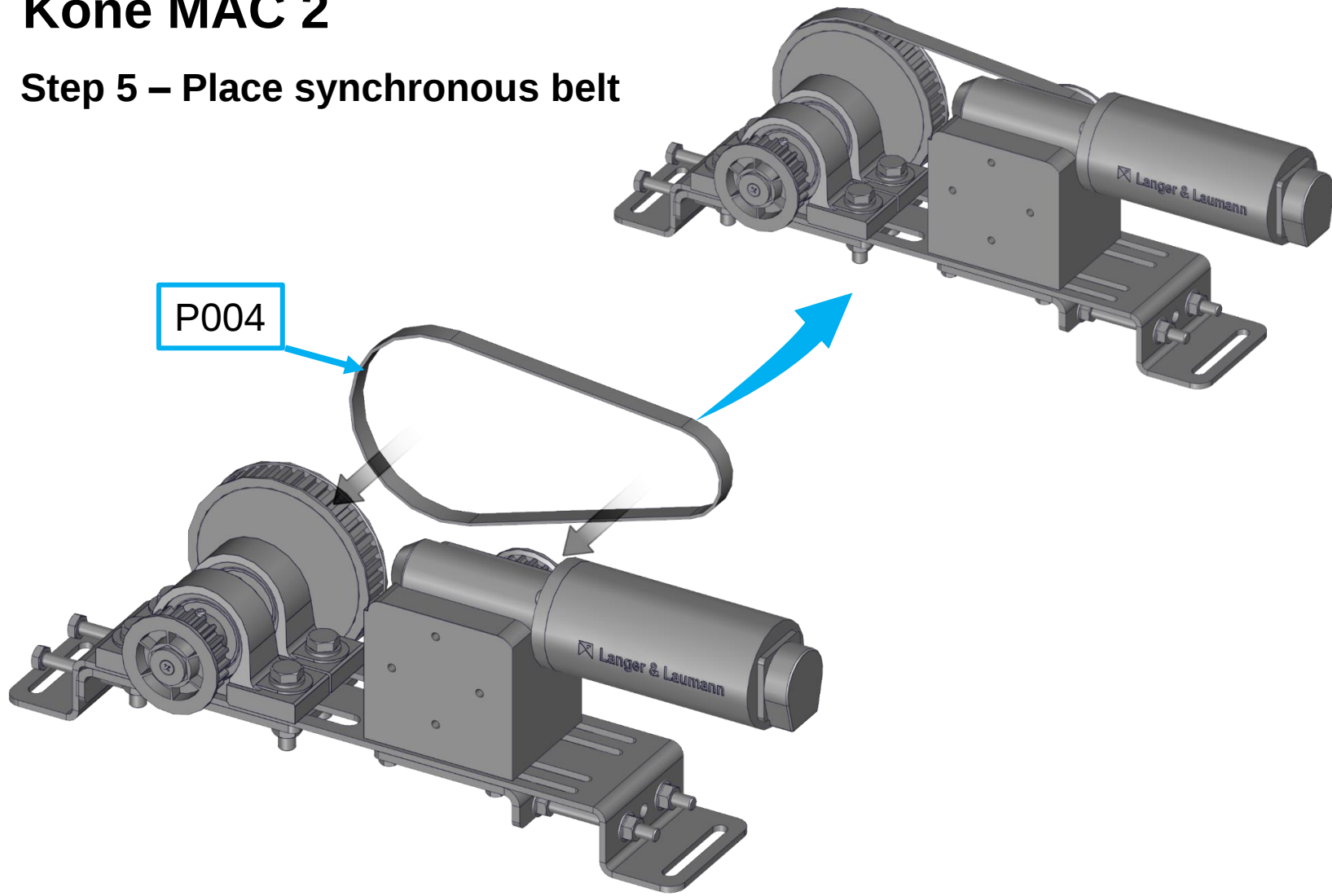
Kone MAC 2

Step 4 – Mount Pulleys



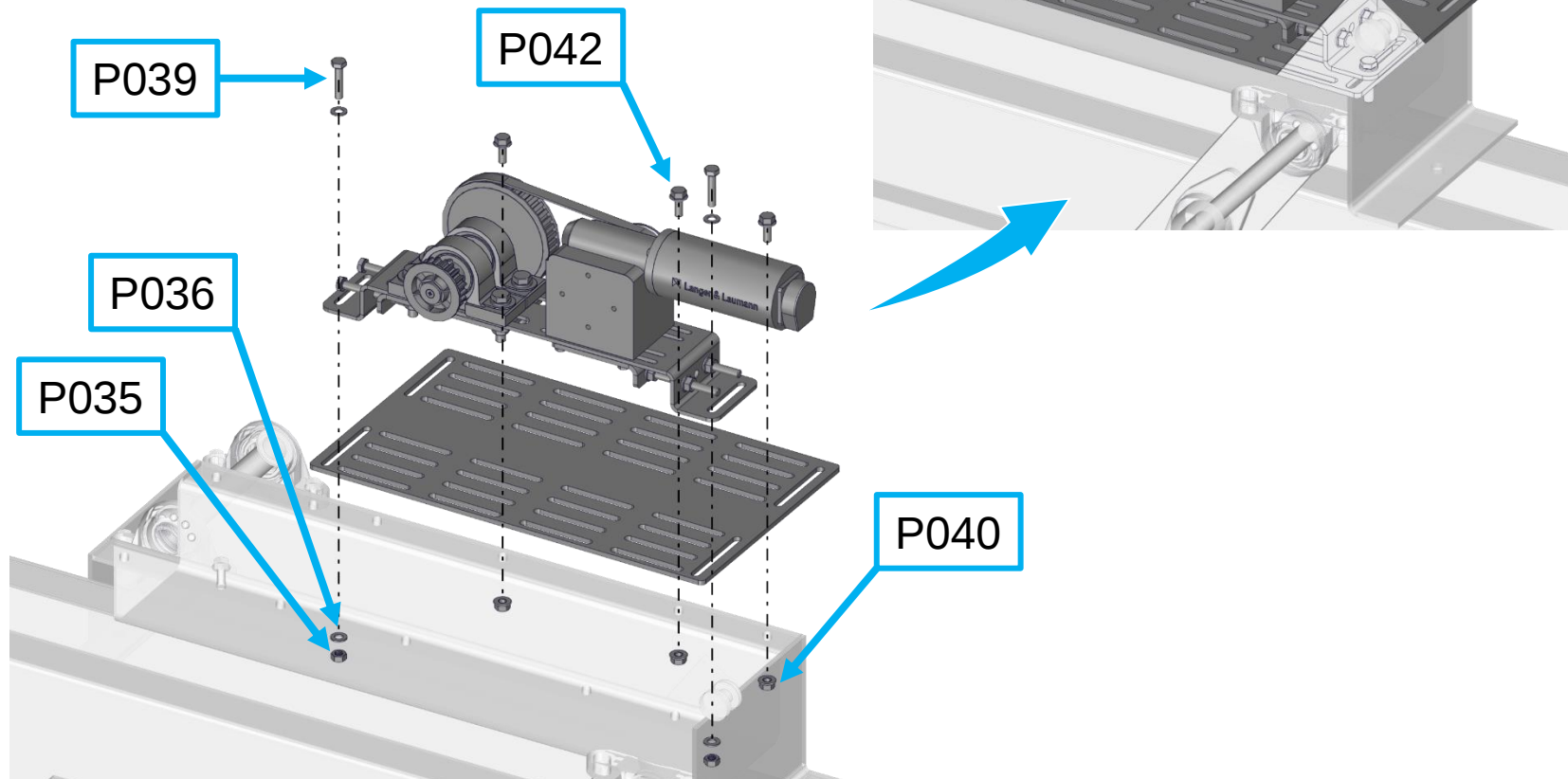
Kone MAC 2

Step 5 – Place synchronous belt



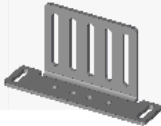
Kone MAC 2

Step 6 – Mount main bracket



Kone MAC 1

Stroke limit bracket - Bill of Materials

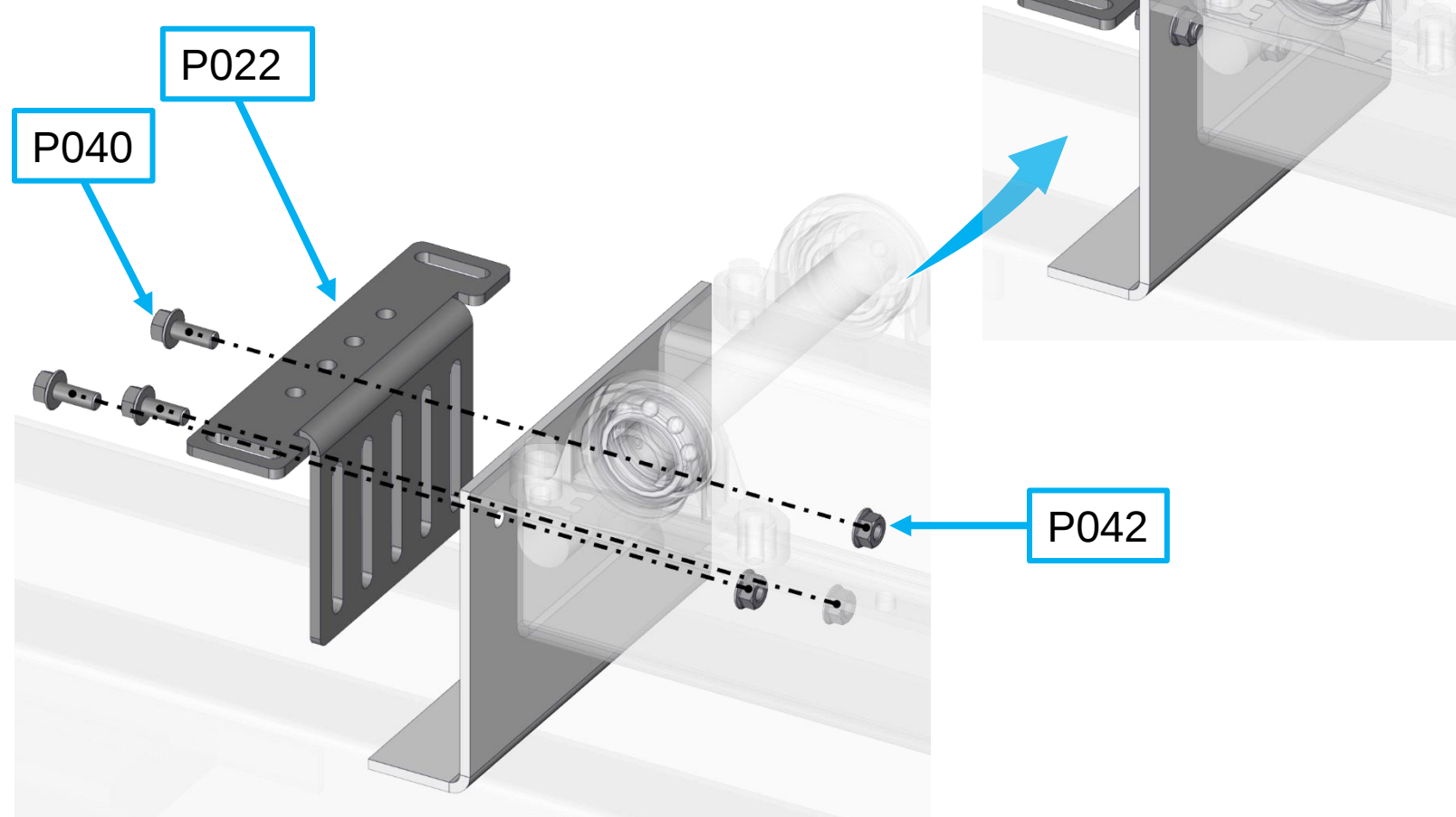
Position	Image	Part Number	Description	Quantity
P022		1.20.92090	L-shaped bracket	1
P040		1.36.00501	Serrated Nut M8	3
P042		1.36.00720	Serrated Hexhead Flange Bolt M8x20	3

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Kone MAC 2

Step 7 – Mount stroke limit bracket



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Drive wheel - Bill of Materials (pages 49-51)



Position	Image	Part Number	Description	Quantity
P003		8.20.60002.xx	Synchronous belt (8M)	1
P008		1.20.60007	Synchronous belt lock	1
P011		1.20.60870	Flange hub	1
P012a		1.20.60871	Taper bush 1201 (1/2")	1
P012b		1.20.60872	Taper bush 1201 (3/4")	1
P012c		1.20.60873	Taper bush 1201 (1")	1
P013		1.20.60900	Round plate	1
P014		1.20.60901	Round plate	1

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Drive wheel - Bill of Materials (pages 49-51)



Position	Image	Part Number	Description	Quantity
P015		1.20.60905	Rectangular plate	1
P018		1.20.60920	L-shaped bracket	1
P019		1.20.60921	L-shaped bracket	1
P021		1.20.91120	Buffer (30mm)	2
P028		1.36.00140	Serrated Hexhead Flange Bolt M8x12	4
P029		1.36.00171	Spring washer for M6	6
P030		1.36.00200	Nut M6	6
P033		1.36.00362	Countersunk Socket Bolt M6x30	16

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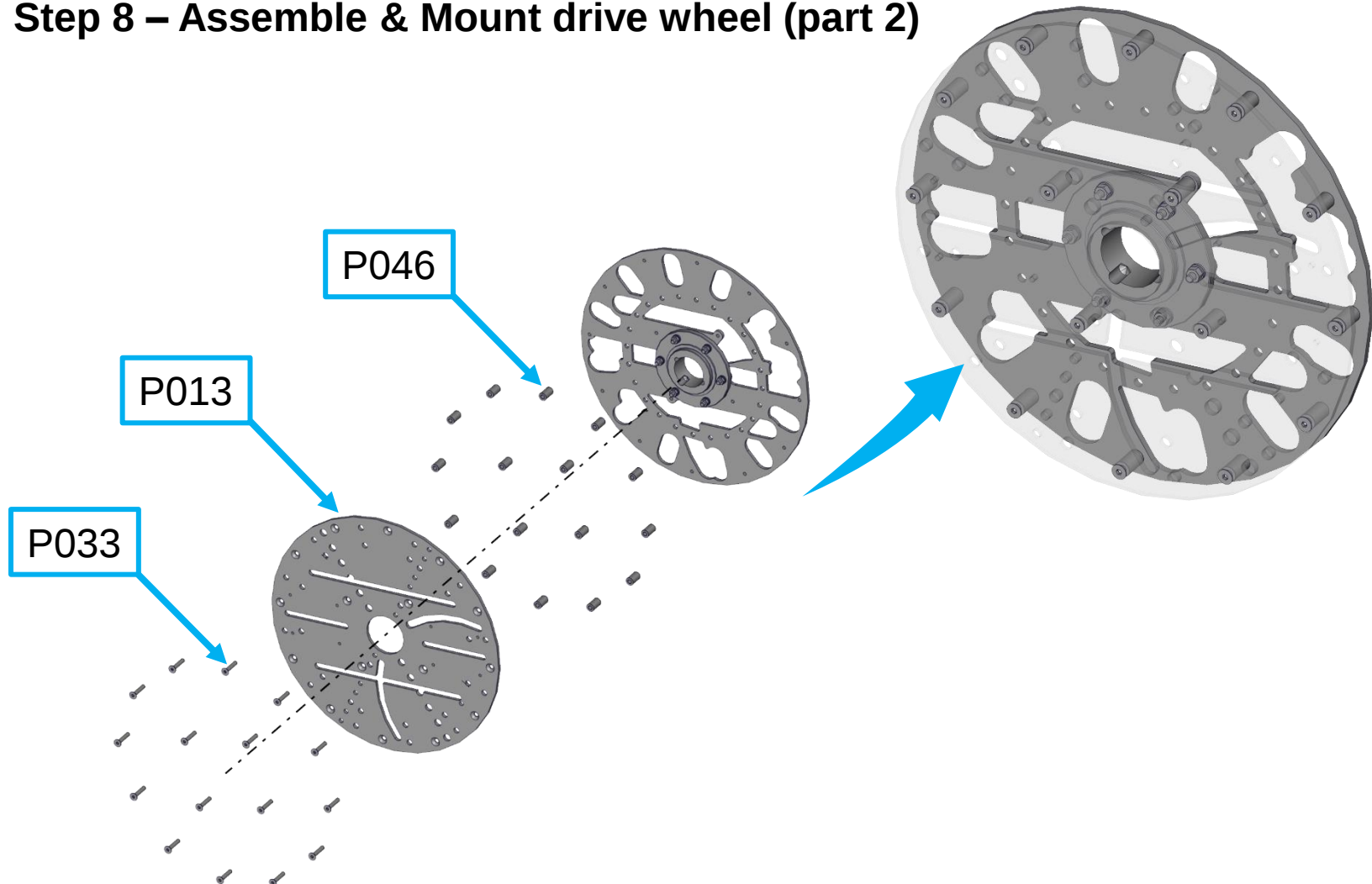
Drive wheel - Bill of Materials (pages 49-51)



Position	Image	Part Number	Description	Quantity
P034		1.36.00366	Countersunk Socket Bolt M6x25	6
P040		1.36.00501	Serrated Nut M8	4
P043		1.36.00730	Serrated Hexhead Flange Bolt M8x30	2
P045		1.36.00870	Sleeve (15mm)	2
P046		1.36.00881	Sleeve (12mm)	16
P049		1.36.05611	Washer 6.4	6

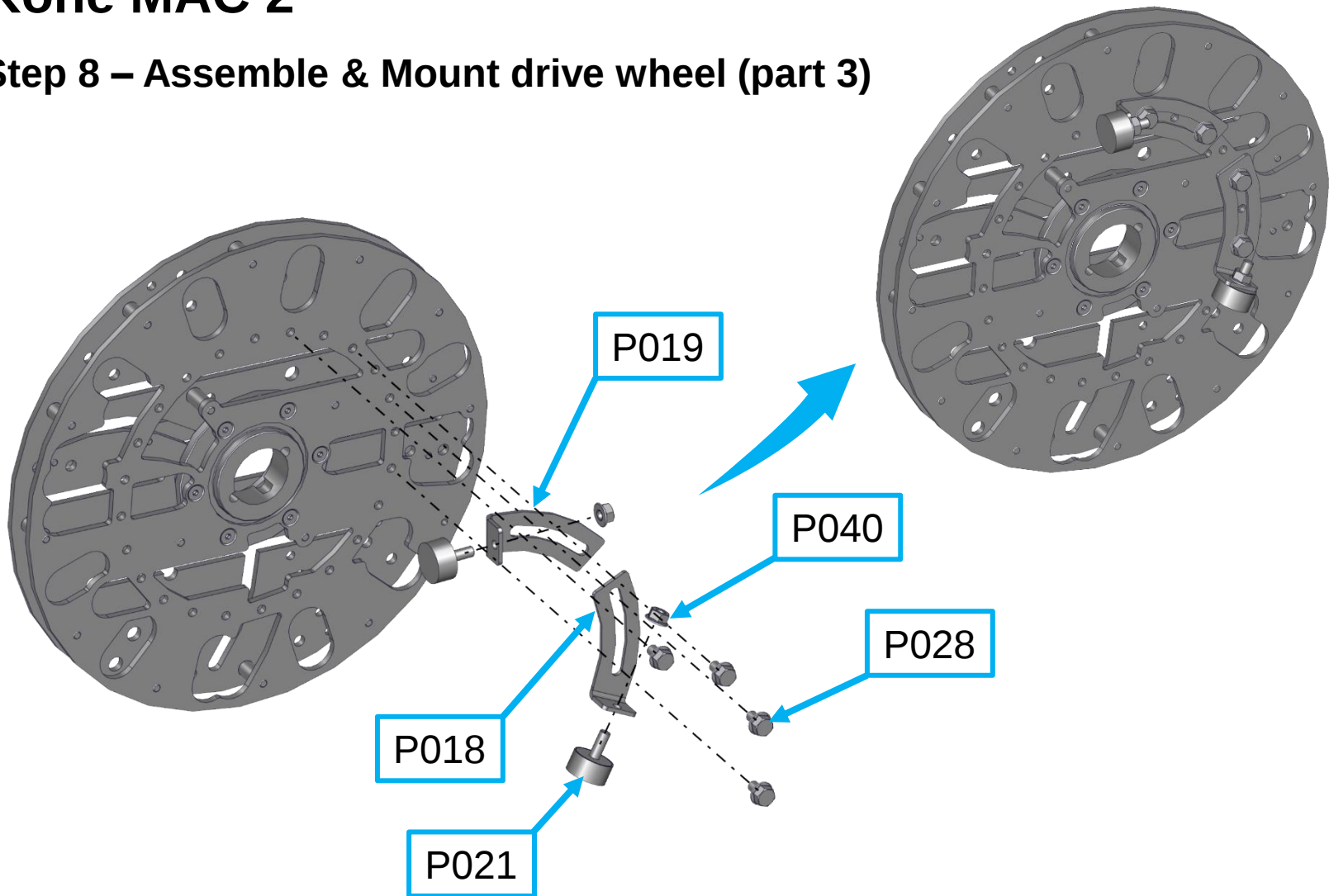
Kone MAC 2

Step 8 – Assemble & Mount drive wheel (part 2)



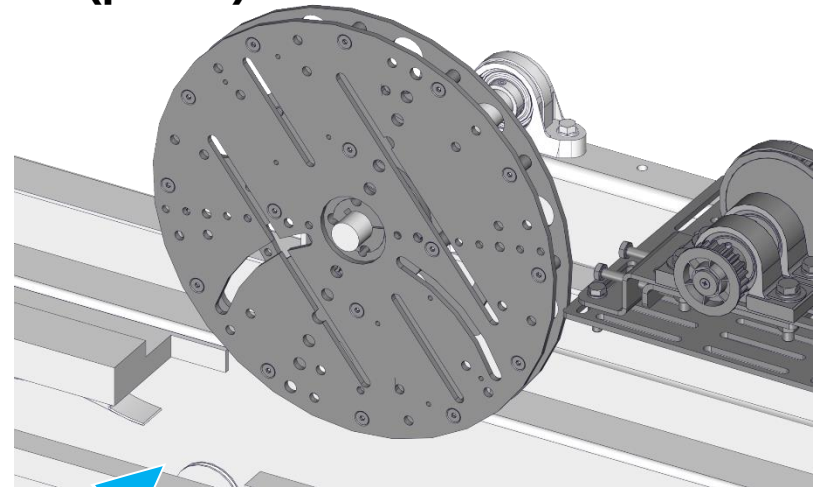
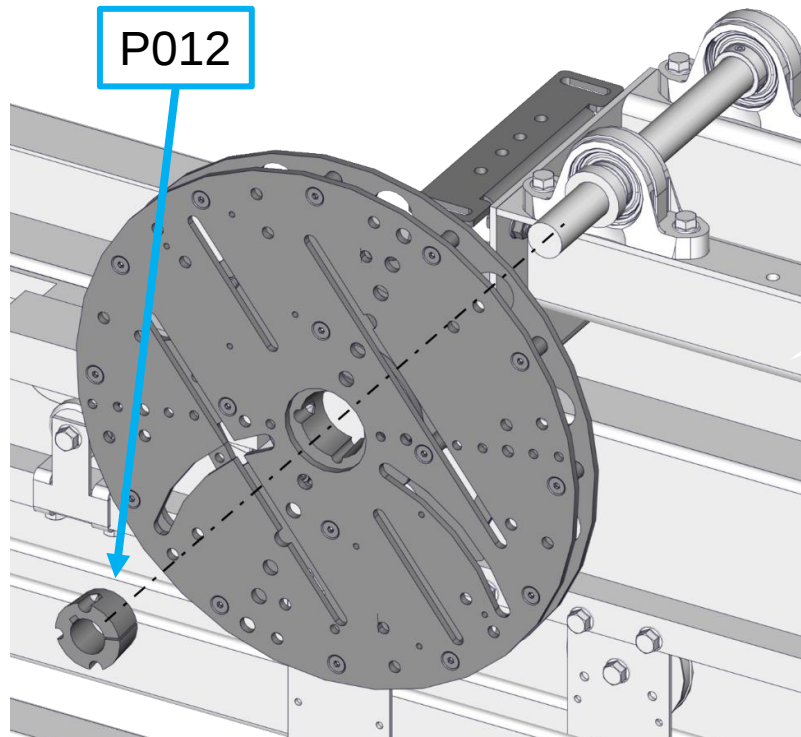
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Step 8 – Assemble & Mount drive wheel (part 3)



Kone MAC 2

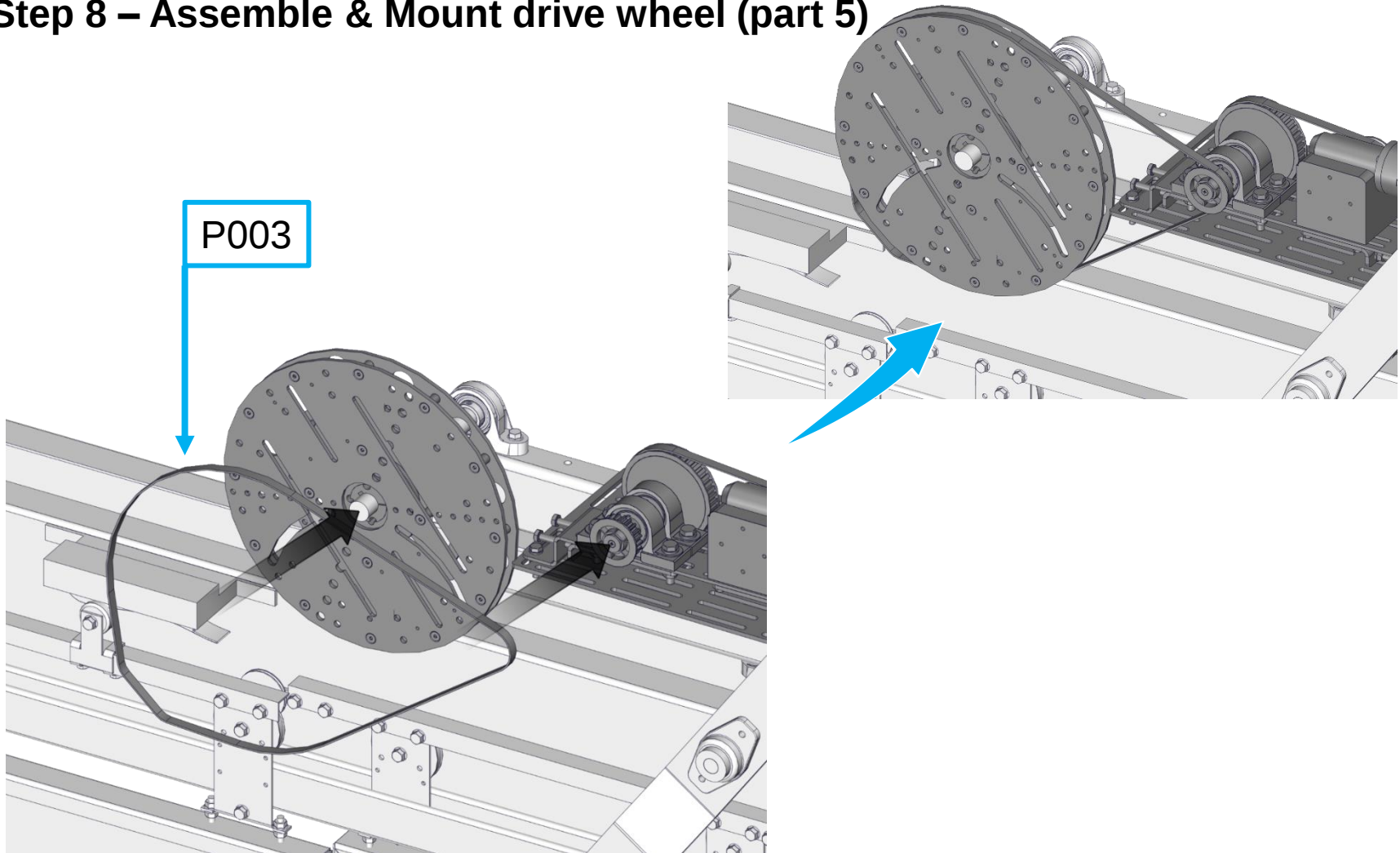
Step 8 – Assemble & Mount drive wheel (part 4)



NOTE: Please, select the proper taper bushing 12a, 12b or 12c, according to shaft diameter.

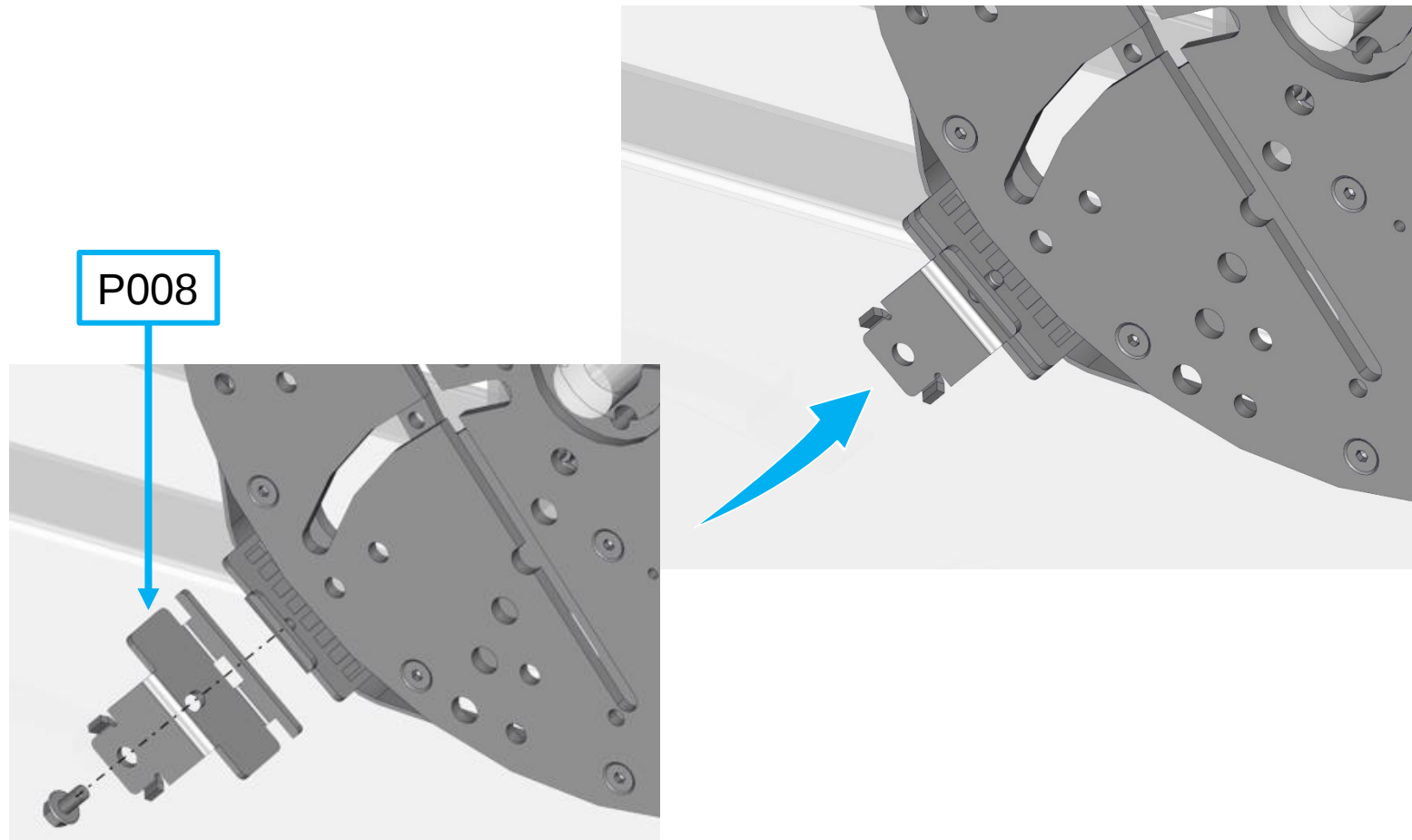
Kone MAC 2

Step 8 – Assemble & Mount drive wheel (part 5)



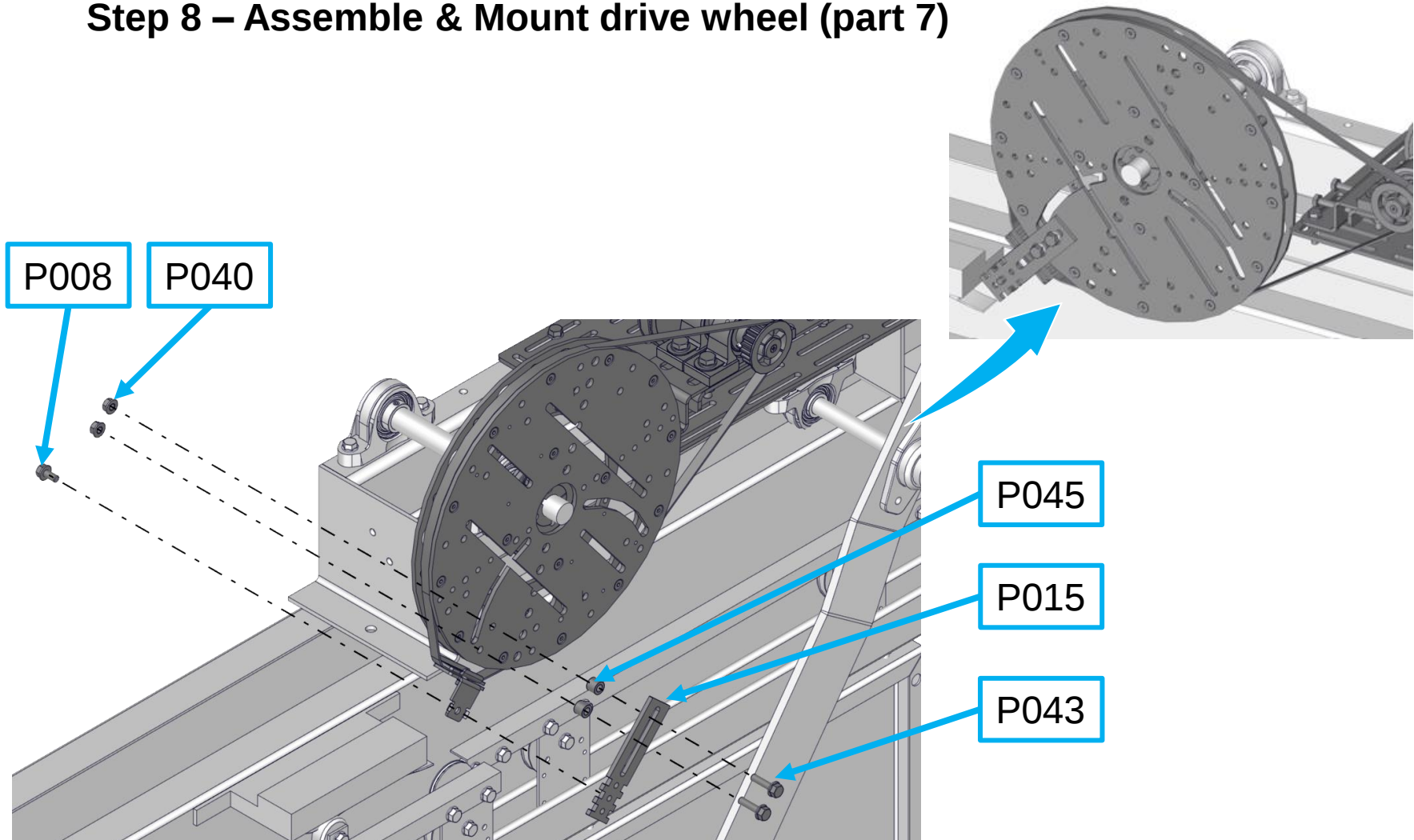
Kone MAC 2

Step 8 – Assemble & Mount drive wheel (part 6)



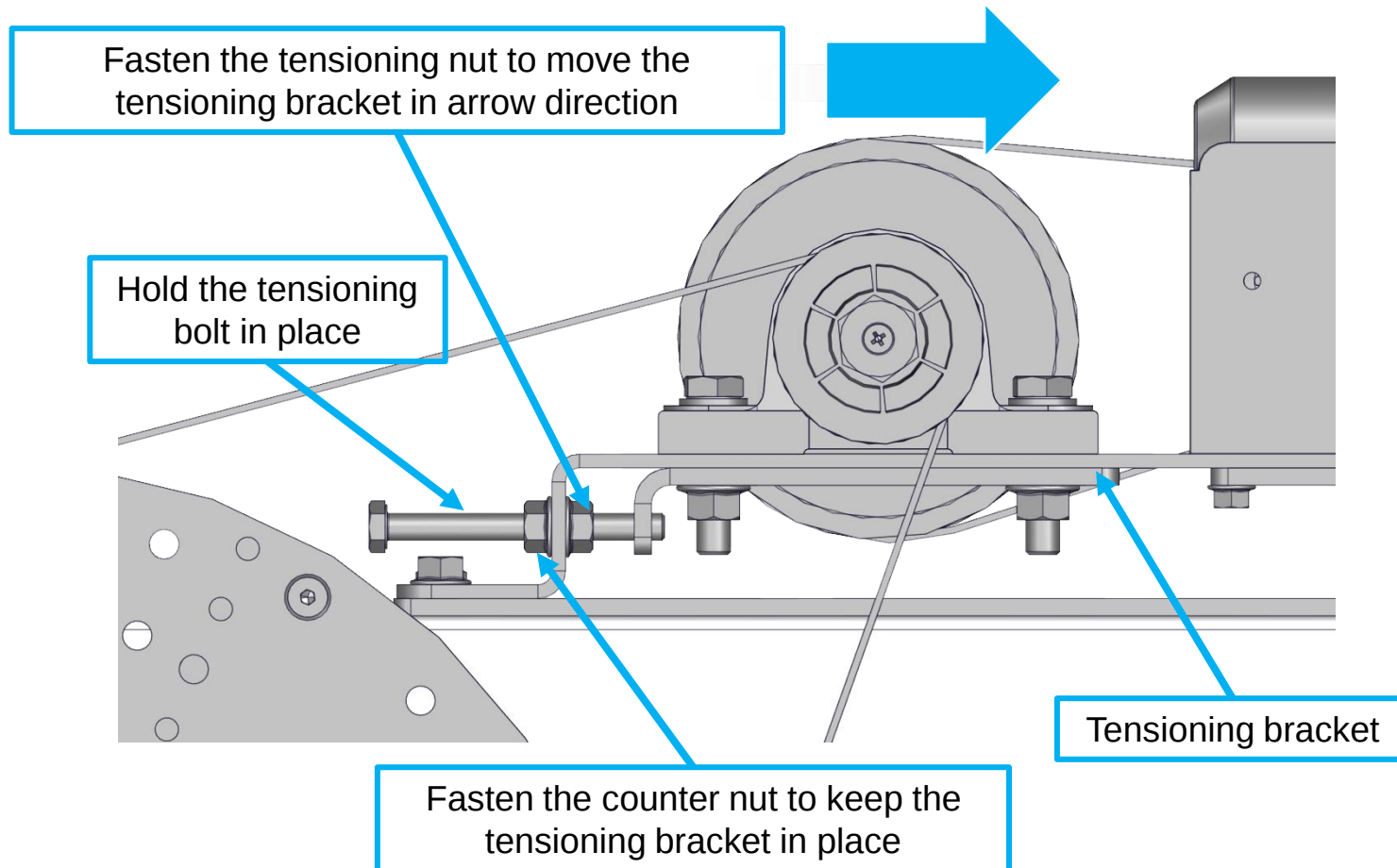
Kone MAC 2

Step 8 – Assemble & Mount drive wheel (part 7)



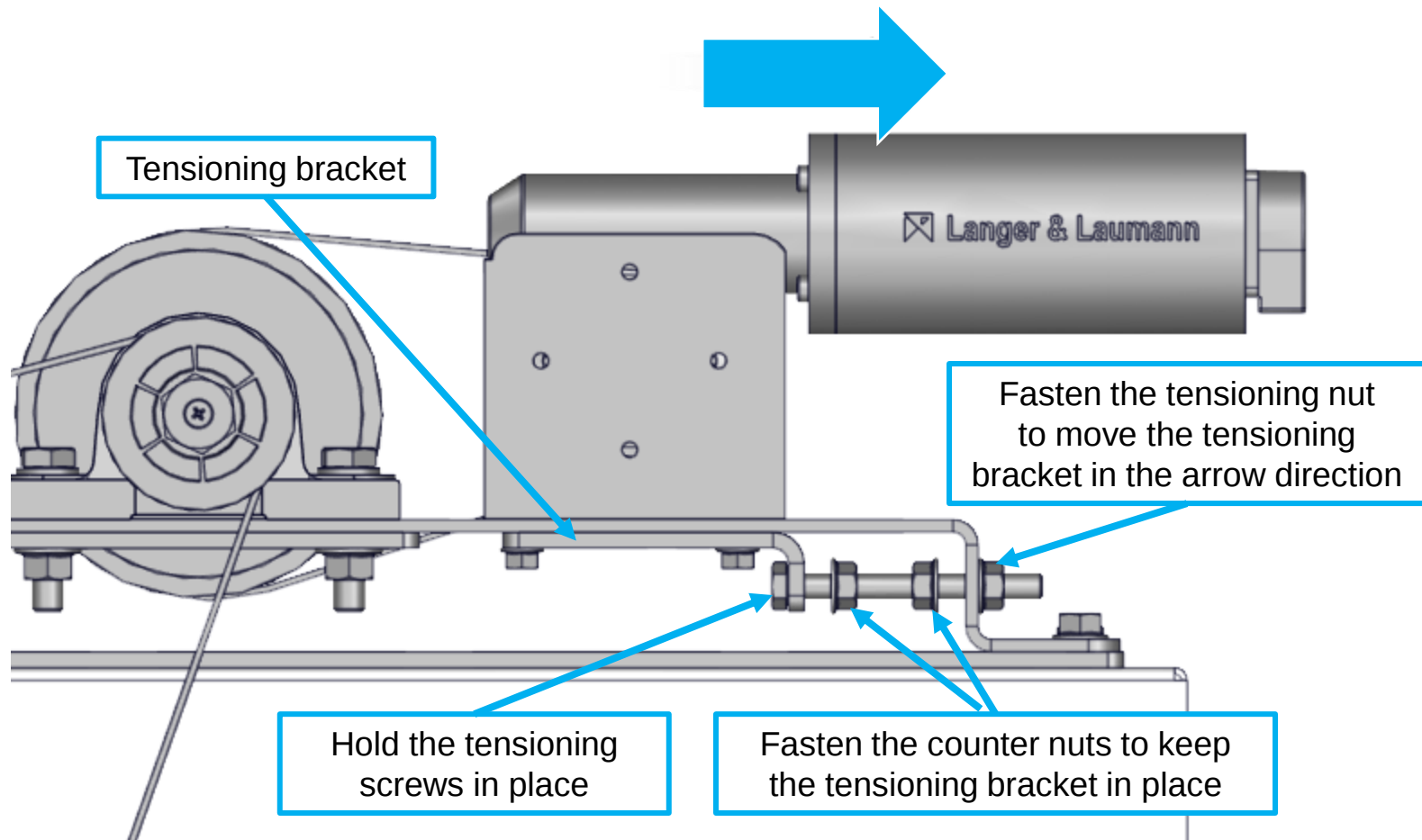
Kone MAC 2

Step 9 – Tension the synchronous belt (part 1)



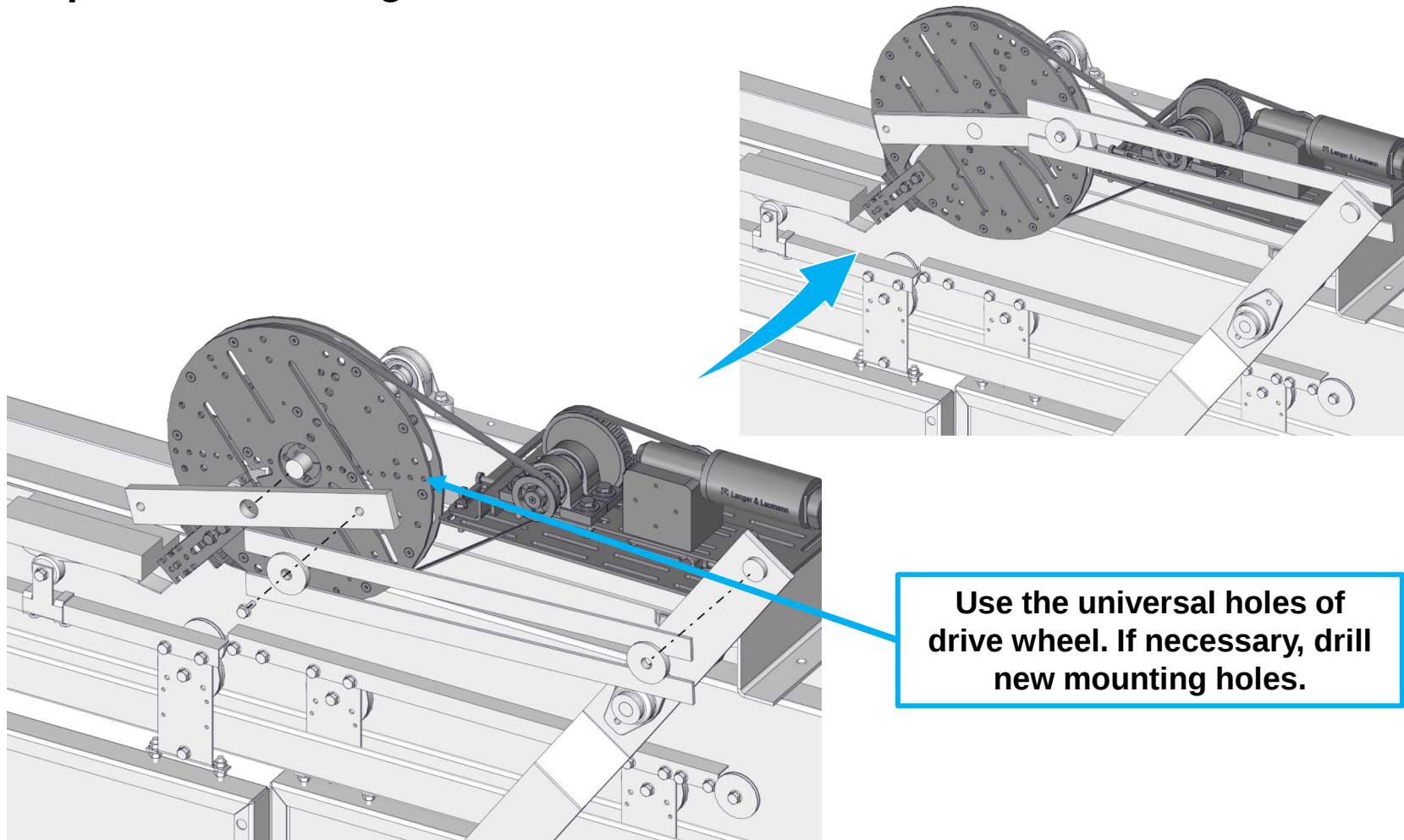
Kone MAC 2

Step 9 – Tension the synchronous belt (part 2)



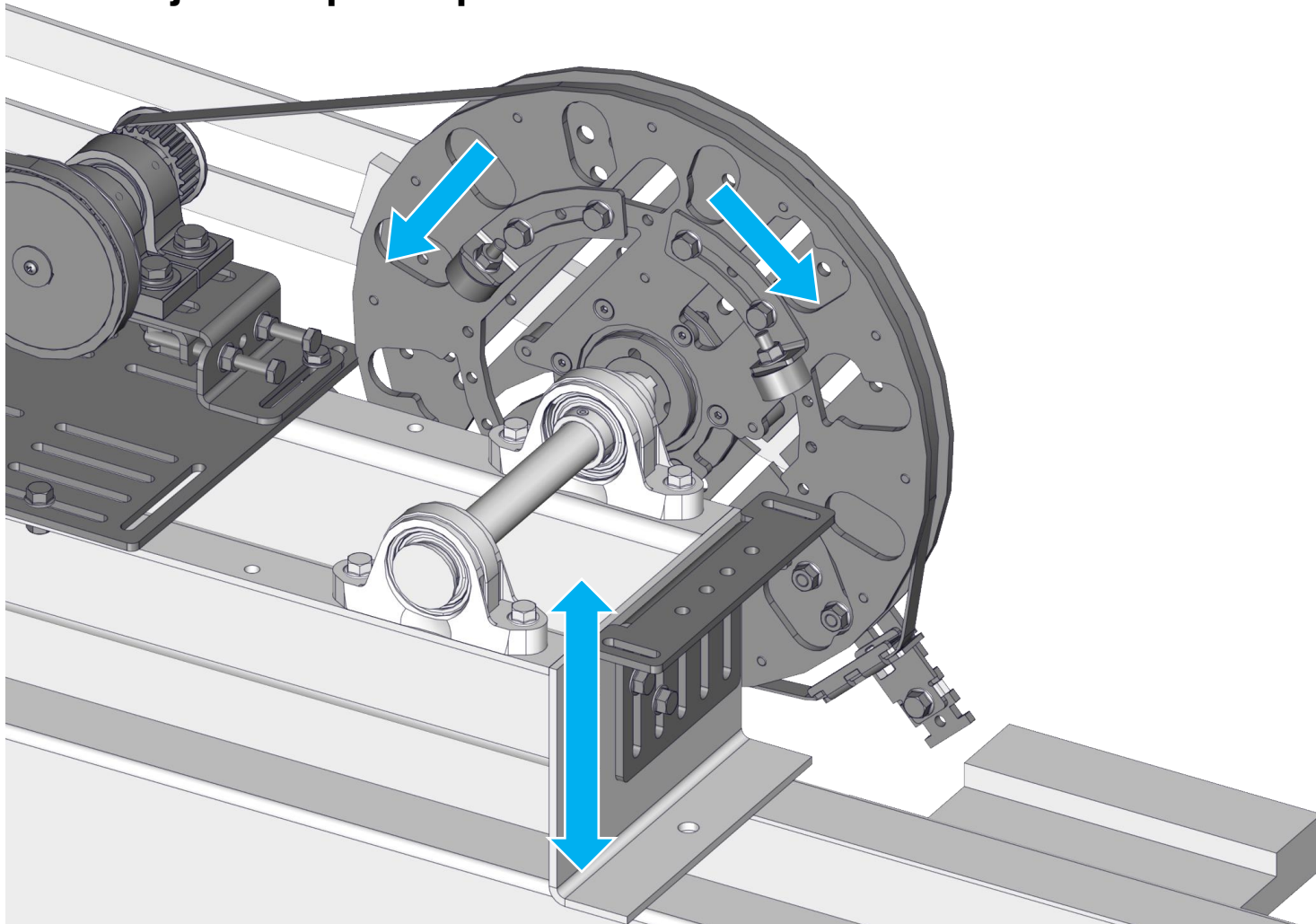
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Step 10 – Mount original lever arms to drive wheel



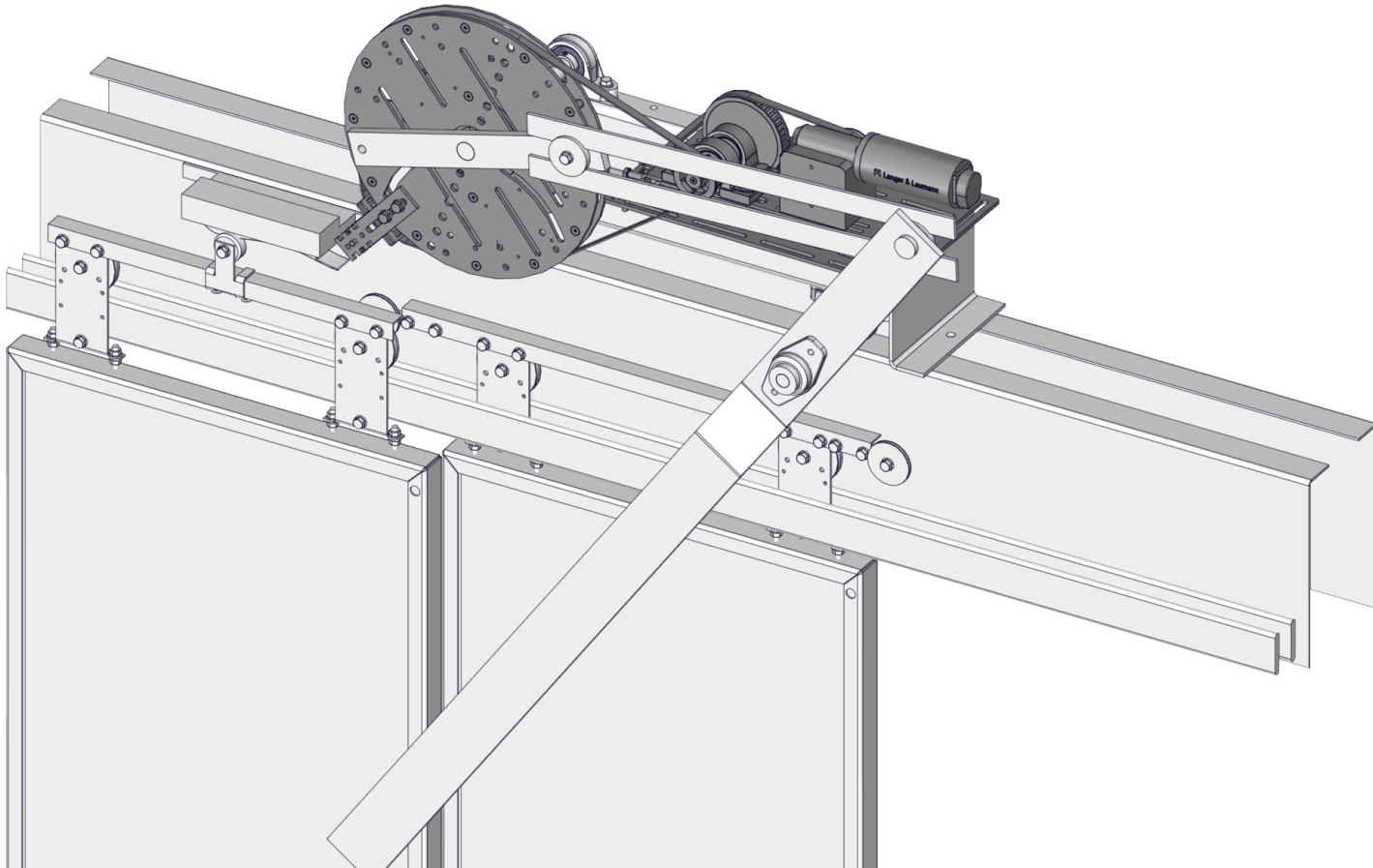
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Step 11 – Adjust stop bumper brackets



Kone MAC 2

Finished Assembly



Kone MAC 2

Recommended Parameter Settings

NOTE: Fitting, connecting and commissioning the door control unit are described in the *Manual* supplied with the door control unit.

Parameter	Function	Value
A8	Additional mechanical transmission	1.2
A9	Release of the parameter A8	0.1
P2	Maximum opening speed	15
P3	Maximum closing speed	15
P8	„Blocked detection“ threshold value in closing direction	Set individually



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