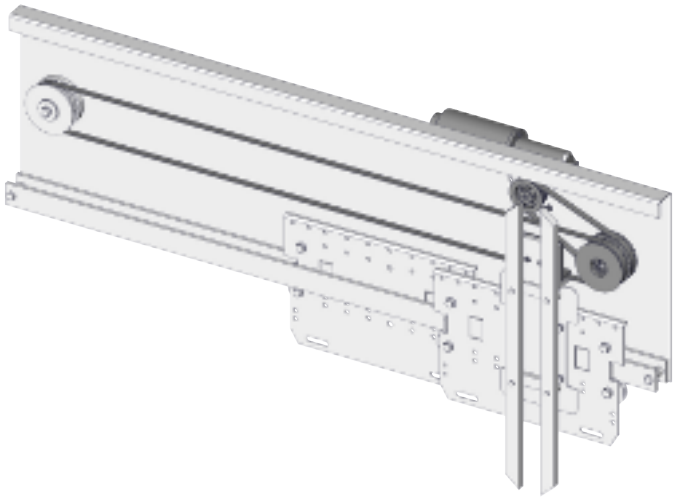
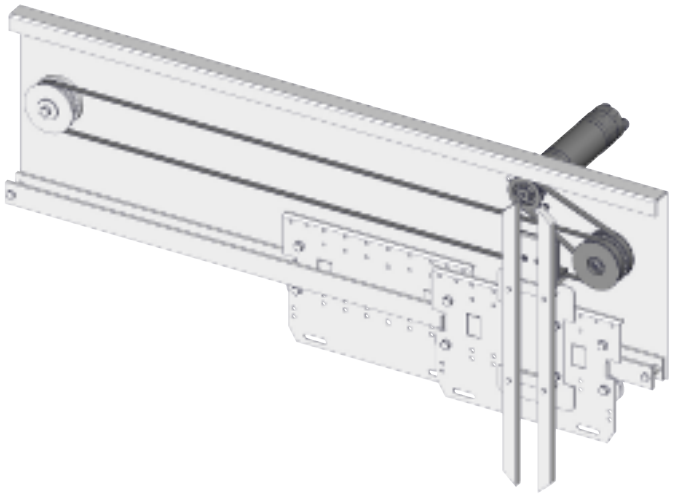
Langer & Laumann®
smart door solutions



Shows TL, TR is a mirror image of it, ZT like TL
Variant 1, TSG motor
(Chapter 7)



Shows TL, TR is a mirror image of it, ZT like TL
Variant 2, PLG motor
(Chapter 8)

Conversion Instructions

Sematic 2000-900H

to TSG V4

Shows **TL**. **ZT** like **TL**, **TR** mirror image.

Imprint

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Dokument **in Deutsch** durch Scannen des QR-Codes anfordern.

Obtenir le document **en français** en scannant le code QR.

1 About these instructions

1.1 Purpose

These conversion instructions contain important information and general mechanical assembly steps for the conversion of an existing system. These instructions must be observed to avoid hazards, repair costs and downtimes and increase the reliability and service life of the system.

1.2 Scope

These conversion instructions apply to the following conversion kit:

— Sematic 2000-900Hto TSG V4

1.3 Version information

The version number of these conversion instructions is shown on the front page and footer of each page.

Always retain and use the latest version of all documents.

Using an outdated version of this and any required and supplementary documentation can lead to incorrect assembly.

1.4 Contact information

See page 2.

1.5 Customers for whom these instructions are intended

These conversion instructions are intended for end customers of Langer & Laumann Ing.-Büro GmbH.

To ensure correct operation of the system, in addition to reading these conversion instructions, personnel must have the following qualifications and relevant technical knowledge:

— Extensive technical knowledge of these systems

— Thorough knowledge of the operating instructions of these systems

— Recognised as a qualified specialist

1.6 Other applicable documents

The following documents are required for work not described in these conversion instructions:

— Fitting instructions for the door control unit with information on electrical connection, fitting and commissioning

— Information on components not manufactured and supplied by Langer & Laumann

2 Safety

2.1 General safety instructions

Personnel must have carefully read and understood these conversion instructions before starting the conversion work.

The safety instructions and guidelines specified in these conversion instructions must be observed.

The accident prevention regulations applicable at the place of use and general safety regulations must be observed.

2.2 Personnel requirements

2.2.1 Personnel qualification and scope of work

The work described in these instructions places different demands on the qualifications of personnel. Insufficiently qualified personnel cannot correctly assess the potential risks and may expose themselves and others to the risk of injury. Insufficiently qualified personnel are not permitted to enter work areas/danger zones. Persons whose reactions are influenced, e.g. by drugs, alcohol or medication, must not work on the system.

Qualified personnel Only qualified personnel (lift fitters for specific activities in lift construction in accordance with DGUV 303-001) may work on mechanical components.

Qualified electricians Only qualified electricians or lift fitters with advanced training as qualified electricians for specific activities in lift construction may work on electrical components in accordance with DGUV 303-001.

2.2.2 Personal protective equipment

Personal protective equipment is used to protect people against health and safety impairments during their work. The specified protective equipment must be worn.

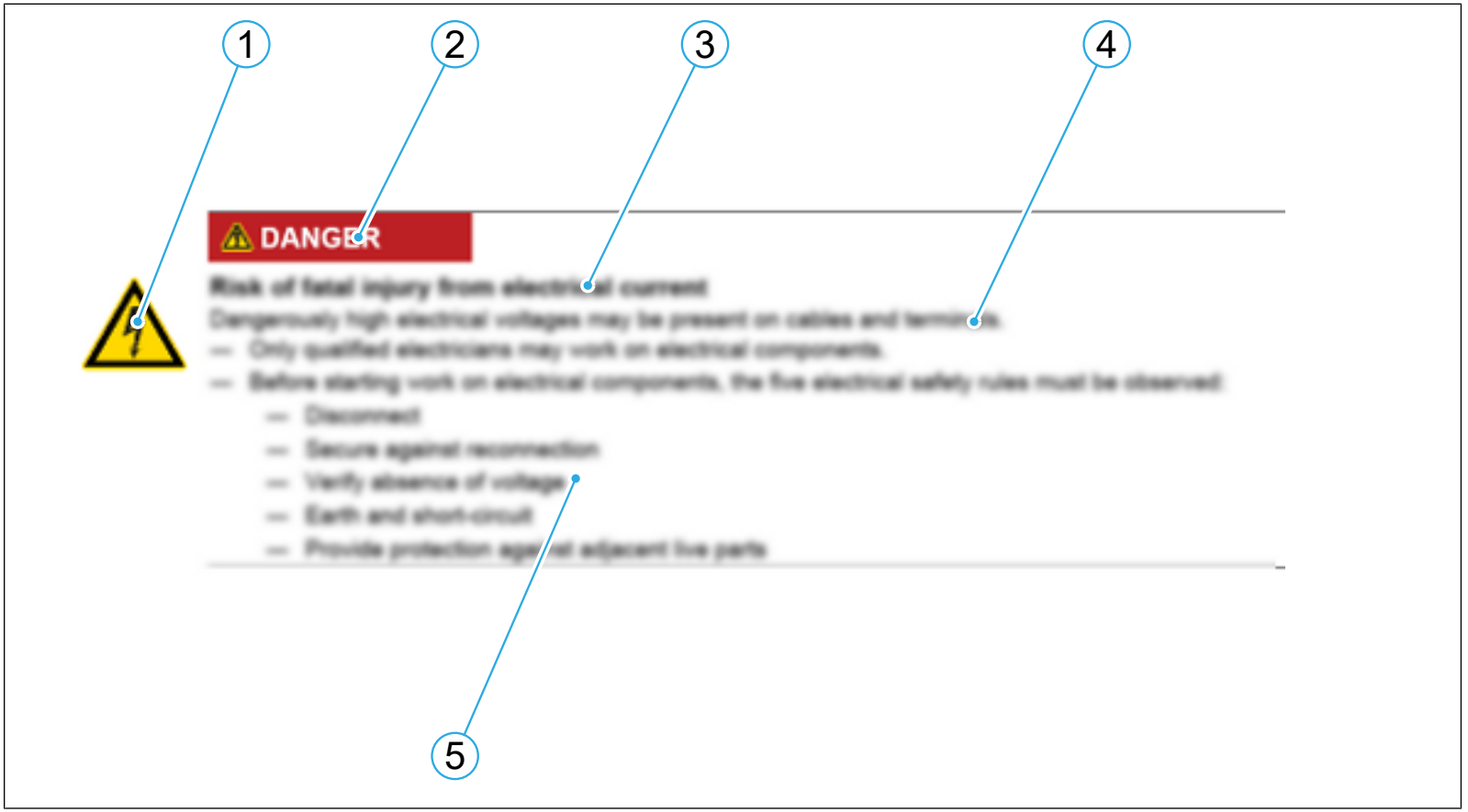
Symbol	Meaning
	Wearing protective work clothing protects against hazards in the workplace.
	Wearing slip-resistant safety footwear protects against injuries to the feet.
	Wearing cut and puncture-resistant protective gloves protects against injuries to the hands.
	Wearing a protective cap protects against head injuries.
	Wearing goggles protects against eye injuries.
	Wearing hearing protection protects against hearing damage.
	Wearing a fall arrest system protects against falls.

Table 1: Personal protective equipment

2.3 Warnings

2.3.1 Structure of warning notices

All warning notices in this document are structured as follows:



1	Hazard symbol	2	Signal word
3	Type and source of hazard	4	Possible consequences of non-observance
5	Procedure for hazard prevention		

2.3.2 Meaning of signal words and symbols

The following signal words are used in this document:

Signal word	Meaning, consequences if not prevented
DANGER	Warns of an imminent hazardous situation which results in death or serious injury.

Table 2: Meaning of signal words

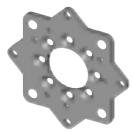
The following hazard symbols are used in this document:

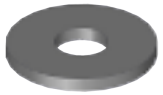
Symbol	Designation
	Automatic start-up
	Electrical hazard

Table 3: Meaning of hazard symbols

3 In the box

The conversion kit components are shown in the table. The position numbers are used in the following chapters to identify the individual components. For logistical reasons, the packaging can contain further components that are not required for actual use.

Pos.	Illustration	Item number	Description	Quantity
P001		8.20.xxxxx.04	TSG electronics	1
P002a		8.20.400xx.xx	TSG motor	1
P002b		8.20.504xx.xx	TSG motor	1
P003		x.20.xxxxx	Endless timing belt 8M	1
P004		1.20.60160	Timing belt pulley D = 56 mm, 8M	1
P005a		1.20.60350	Star-shaped motor bracket	1
P005b		1.20.60360	Star-shaped plate	1

Pos.	Illustration	Item number	Description	Quantity
P006		1.20.92295	Double timing belt pulley, 8M/H	1
P007		1.36.00315	Button head screw M4 × 12 mm	1
P008		1.36.00336	Countersunk screw M4 × 12 mm	1
P009		1.36.00358	Countersunk screw M6 × 12 mm	4
P010		1.36.00501	Nut M8	1
P011		1.36.00509	Nut M8	3
P012		1.36.01036	Washer M6	1
P013		1.36.01410	Washer M6	2

Pos.	Illustration	Item number	Description	Quantity
P014		1.36.05080	Set screw M5 × 20 mm	3
P015		1.36.00130	Locking screw M5 × 12 mm	3
P016		1.36.00353	Countersunk screw M5 × 12 mm	4

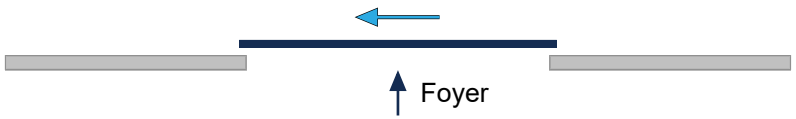
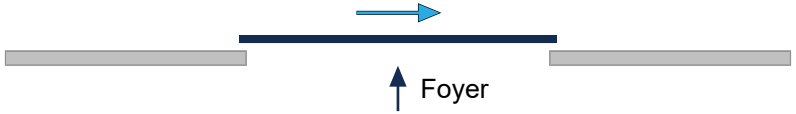
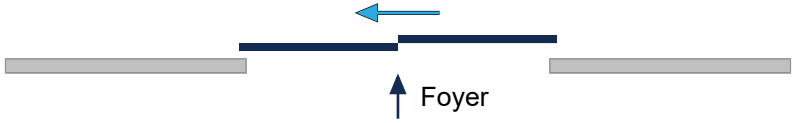
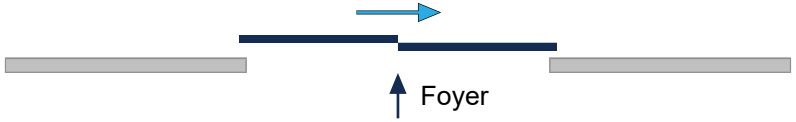
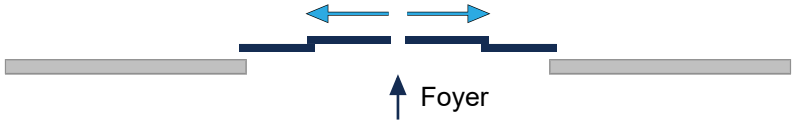
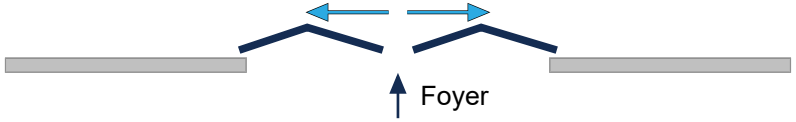
4 Required tools

The tools required for the conversion are shown in the table. The position numbers are used in the following chapters to identify the individual tools.

Pos.	Symbol	Description
T001		Soft face hammer
T002		Hammer
T003		Puller for bearings and pinions
T004		Pipe wrench
T005		Side cutters
T006		Circlip pliers
T007		Angle grinder
T008		Measuring tool (folding rule or measuring tape)
T009		Slotted screwdriver
T010		Phillips screwdriver
T108		Combination spanner, size 8
T113		Combination wrench, size 13
T119		Combination spanner, size 19
T202.5		Allen key, size 2.5
T203.0		Allen key, size 3
T204.0		Allen key, size 4

5 Definition of door opening directions

The possible door opening directions are shown in the following table in schematic form.

L: Left opening	
R: Right opening	
TL: Telescopic left opening	
TR: Telescopic right opening	
C: Center opening	
CT: Center telescoping opening	
FD: Folding door	

6 Disassembly of existing components

⚠ DANGER

Danger to life from rotating/moving system components

— Before starting work, switch off the system completely.
— Keep away from unsecured rotating/moving system components.

⚠ DANGER

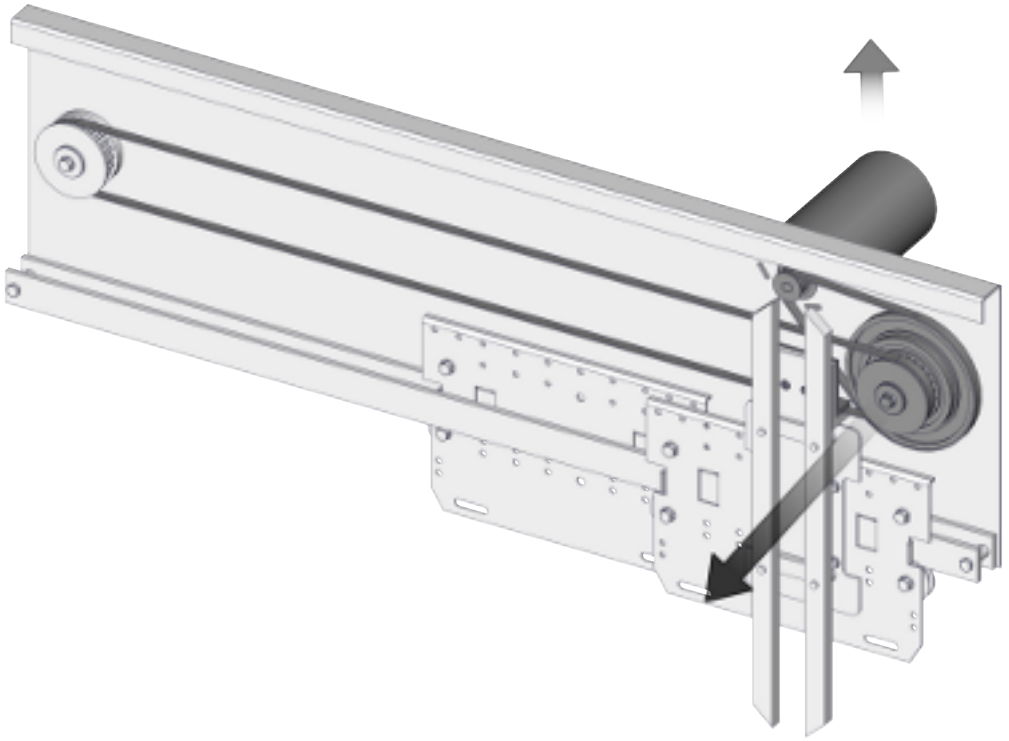
Risk of fatal injury from electrical current

Dangerously high electrical voltages may be present on cables and terminals.

— Only qualified electricians may work on electrical components.
— Before starting work on electrical components, the five electrical safety rules must be observed:
  — Disconnect
  — Secure against reconnection
  — Verify absence of voltage
  — Earth and short-circuit
  — Provide protection against adjacent live parts

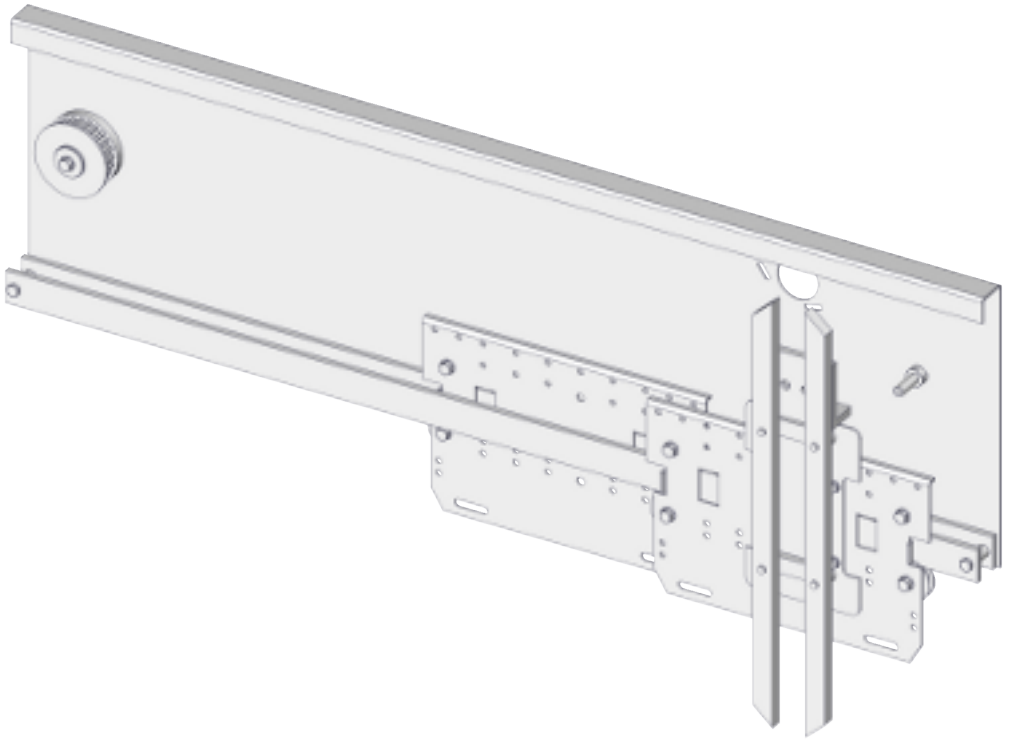
Tools

Pos.	Symbol	Description
T002		Hammer
T003		Puller for bearings and pinions
T004		Pipe wrench
T005		Side cutters
T006		Circlip pliers
T007		Angle grinder
T1xx		Combination spanners, as needed



Shows the components to be dismantled.

The large timing belt is reinstalled in a later step.



7 Assembly variant 1

7.1 Mounting the motor bracket and motor on the door frame

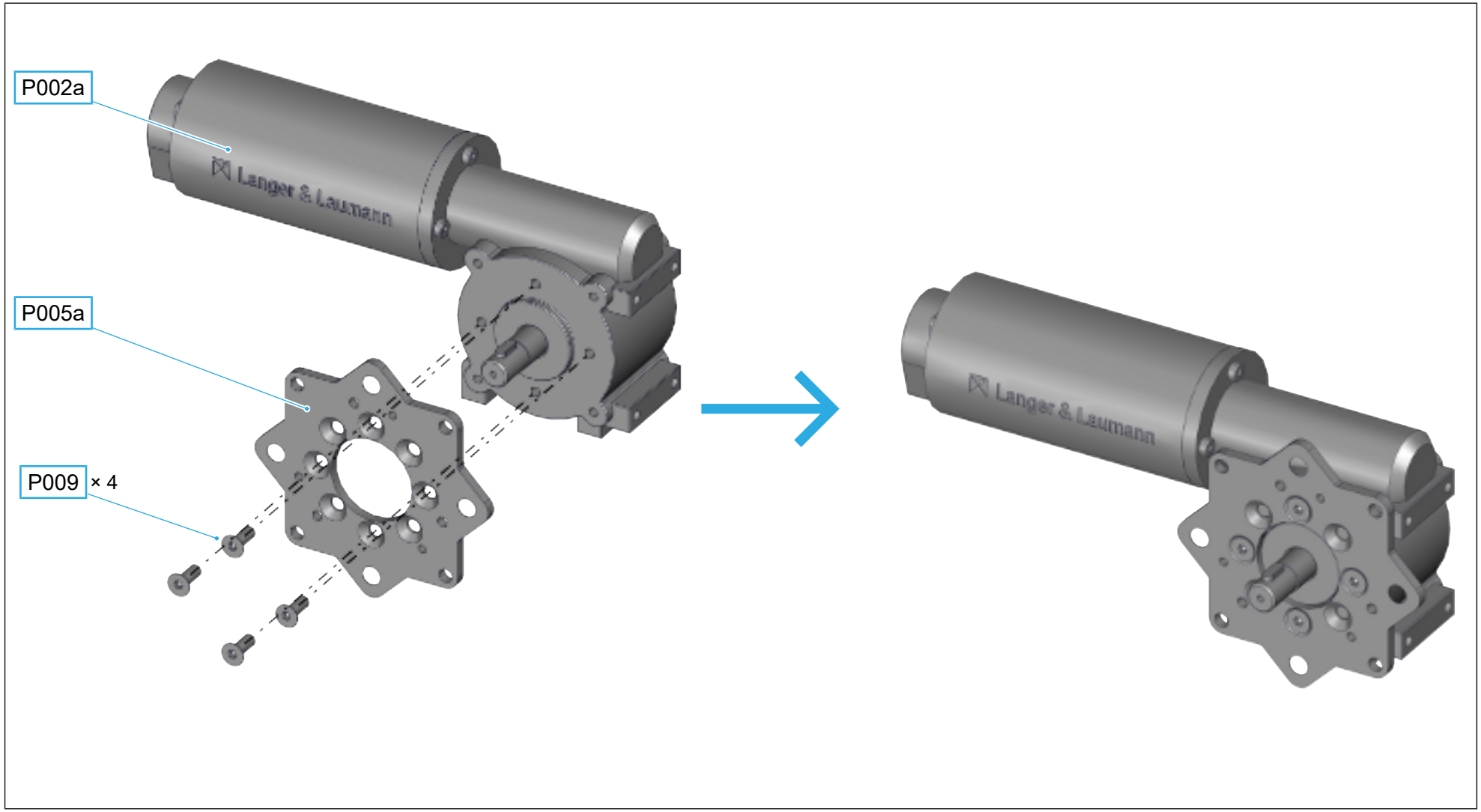
Components

Pos.	Illustration	Item number	Description	Quantity
P002a		8.20.400xx.xx	TSG motor	1
P004		1.20.60160	Timing belt pulley D = 56 mm, 8M	1
P005a		1.20.60350	Star-shaped motor bracket	1
P008		1.36.00336	Countersunk screw M4 × 12 mm	1
P009		1.36.00358	Countersunk screw M6 × 12 mm	4
P011		1.36.00509	Nut M8	3

Pos.	Illustration	Item number	Description	Quantity
P014		1.36.05080	Set screw M5 × 20 mm	3

Tools

Pos.	Symbol	Description
T010		Phillips screwdriver
T108		Combination spanner, size 8
T202.5		Allen key, size 2.5
T204.0		Allen key, size 4


P002a
P005a
P009 × 4
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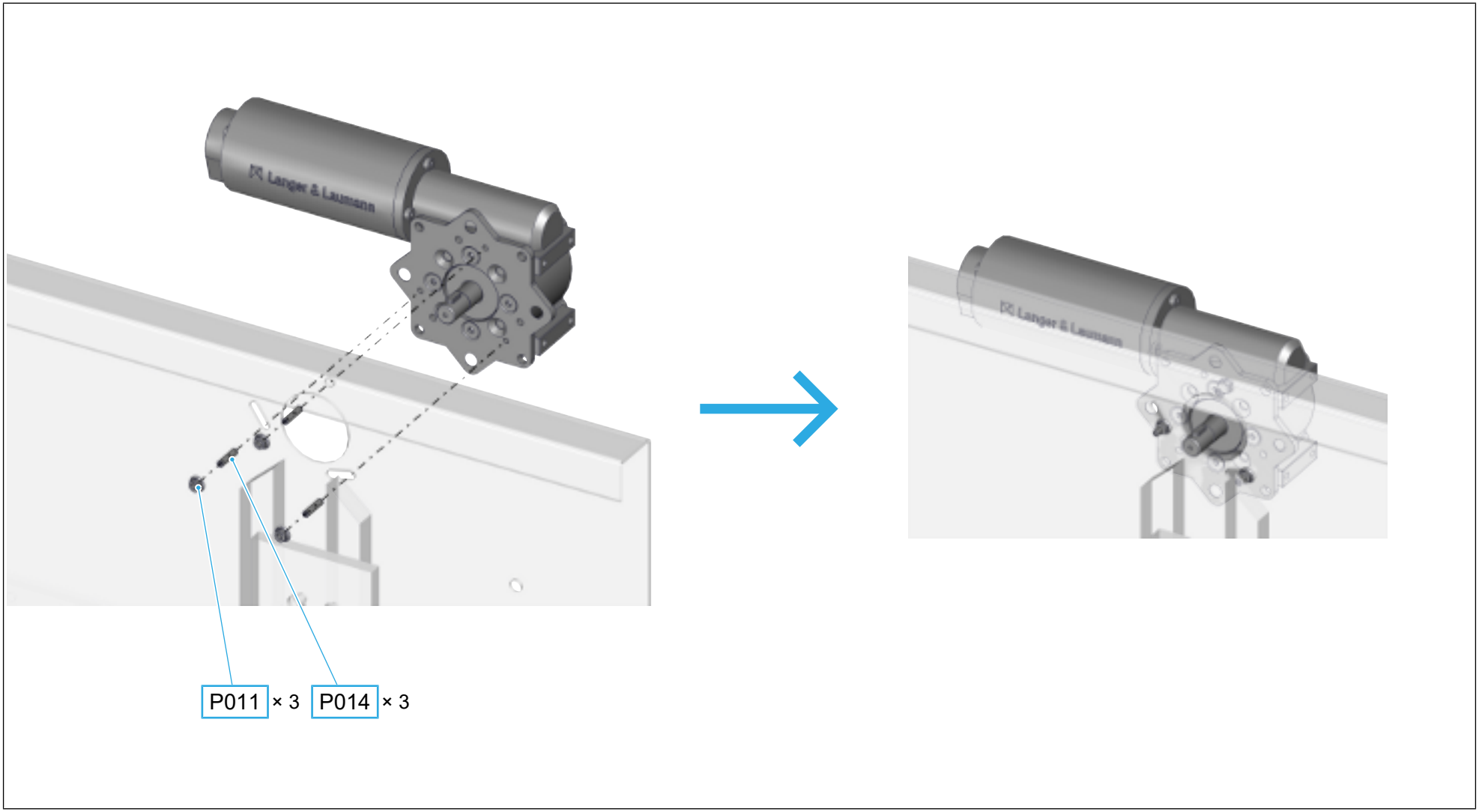
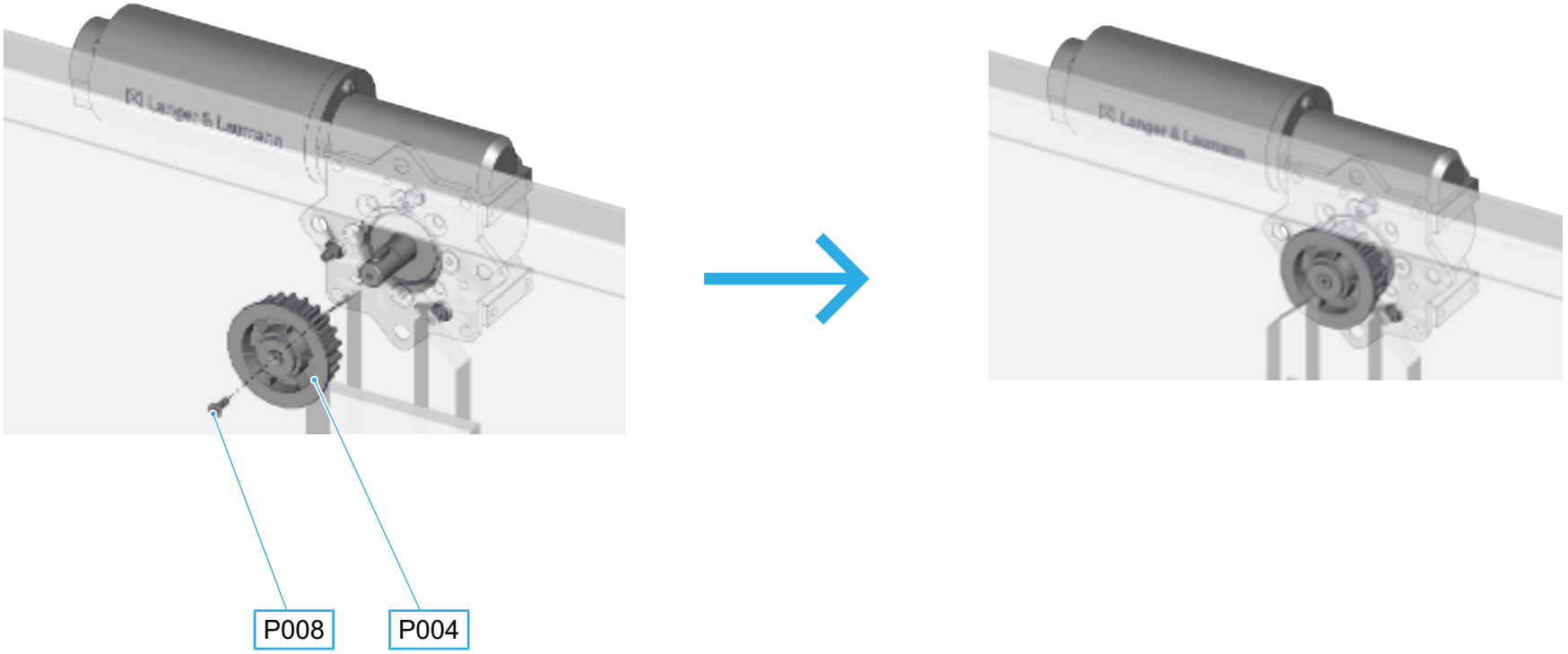
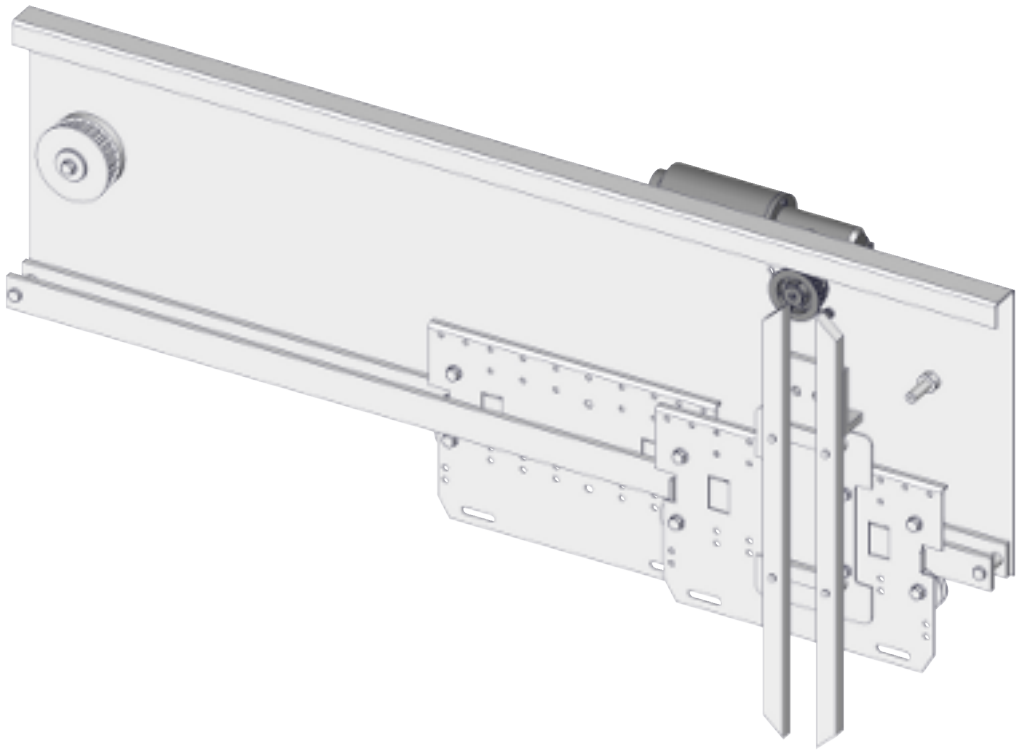
Langer & Laumann

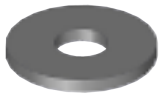

P011 × 3
P014 × 3


P008
P004



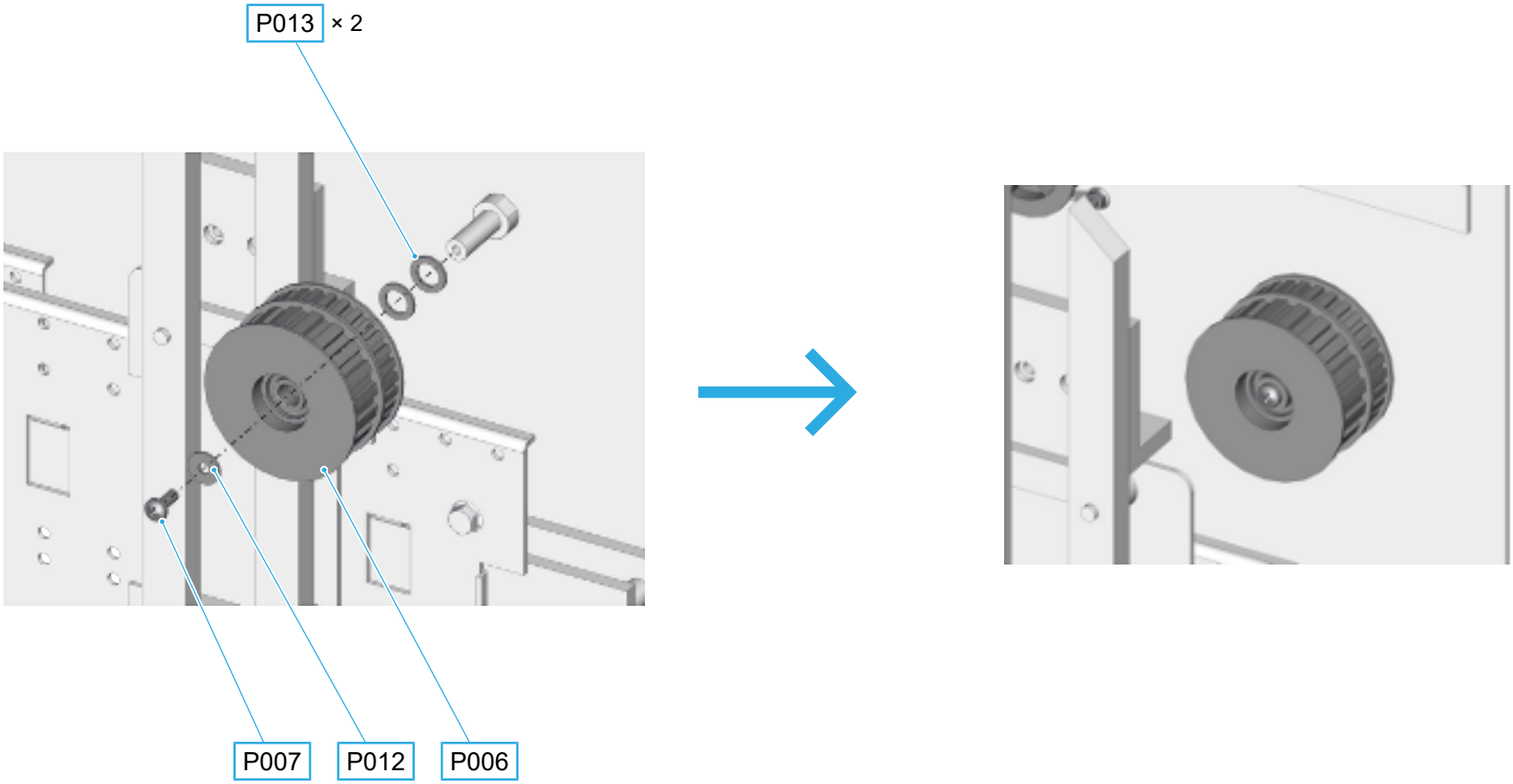
7.2 Mounting the double timing belt pulley on the door frame

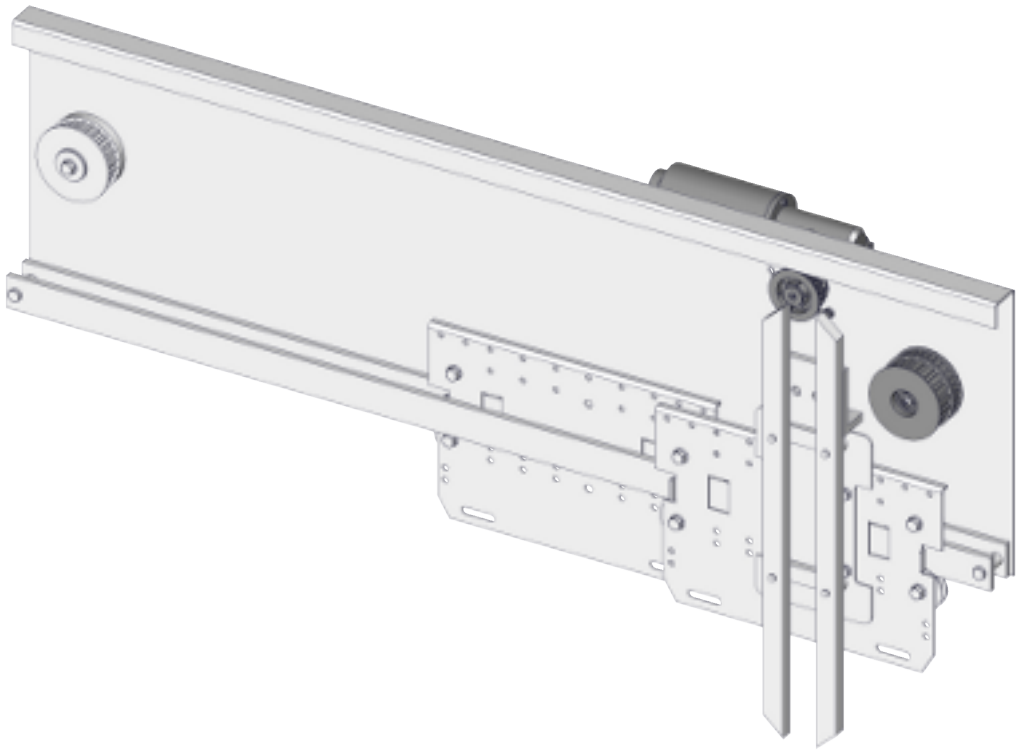
Components

Pos.	Illustration	Item number	Description	Quantity
P006		1.20.92295	Double timing belt pulley, 8M/H	1
P007		1.36.00315	Button head screw M4 × 12 mm	1
P010		1.36.00501	Nut M8	1
P012		1.36.01036	Washer M6	1
P013		1.36.01410	Washer M6	2

Tools

Pos.	Symbol	Description
T010	⊗	Phillips screwdriver
T113	⬢	Combination wrench, size 13
T119	⬢	Combination spanner, size 19


P013 × 2
P007
P012
P006

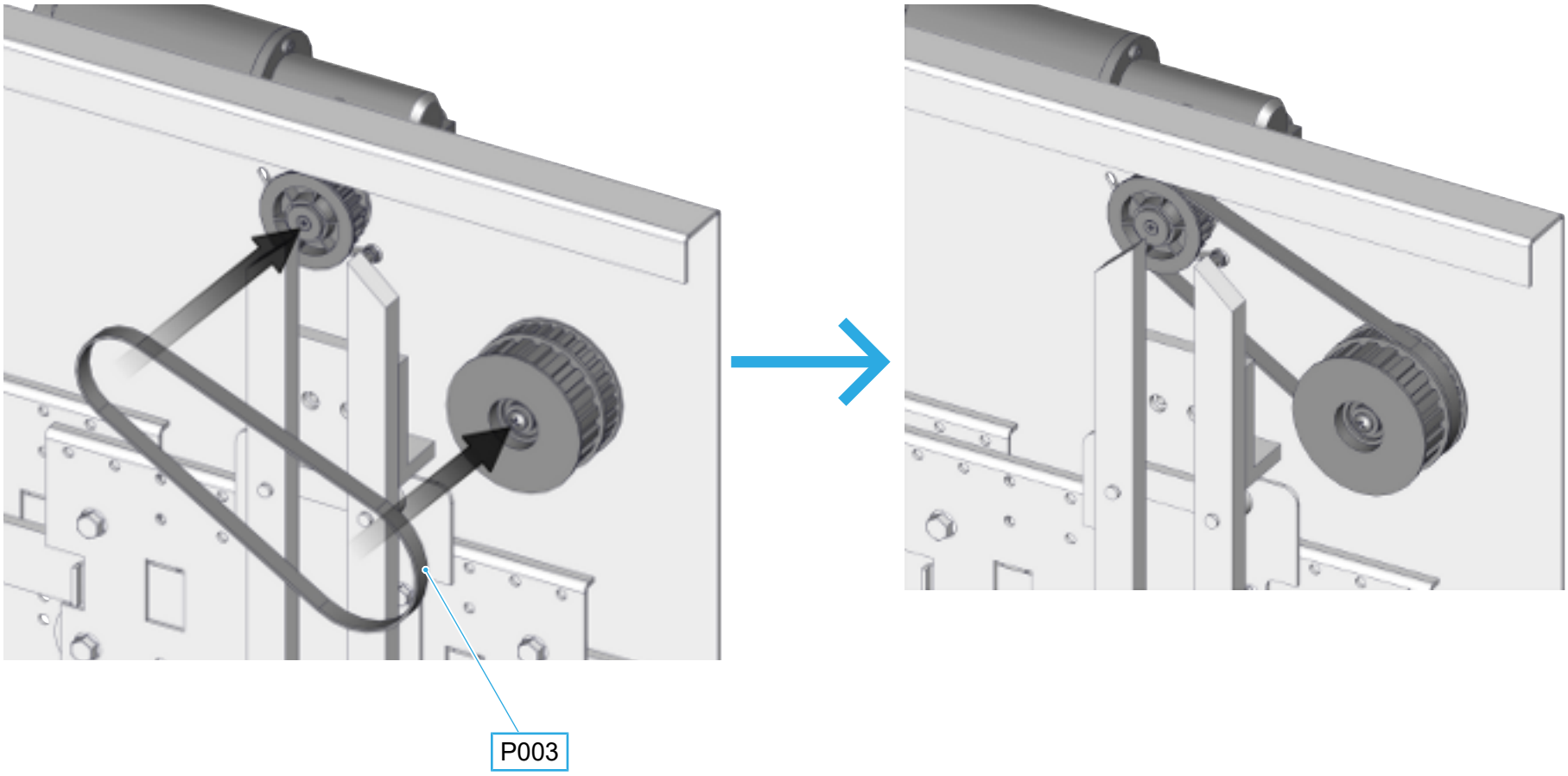


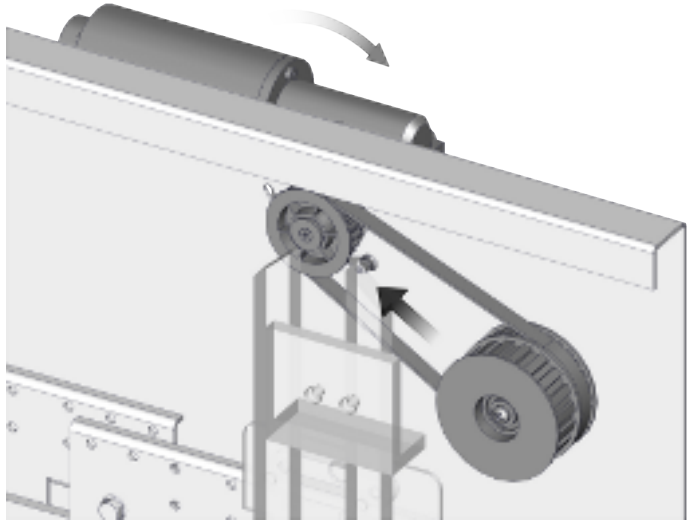
7.3 Mounting the endless timing belt on the door frame

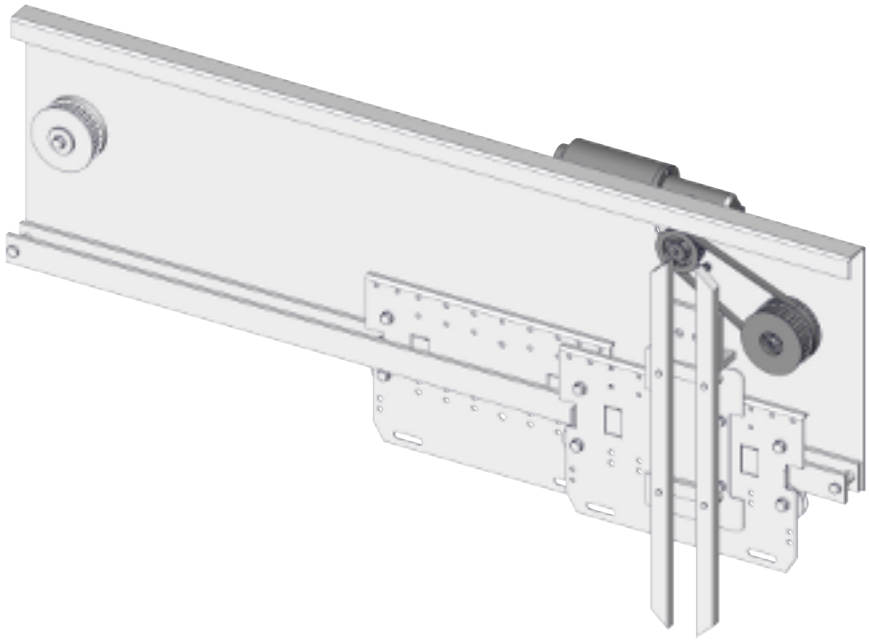
Components

Pos.	Illustration	Item number	Description	Quantity
P003		x.20.xxxxx	Endless timing belt 8M	1

Pos.	Symbol	Description
T1xx	⬢	Combination spanners, as needed


P003



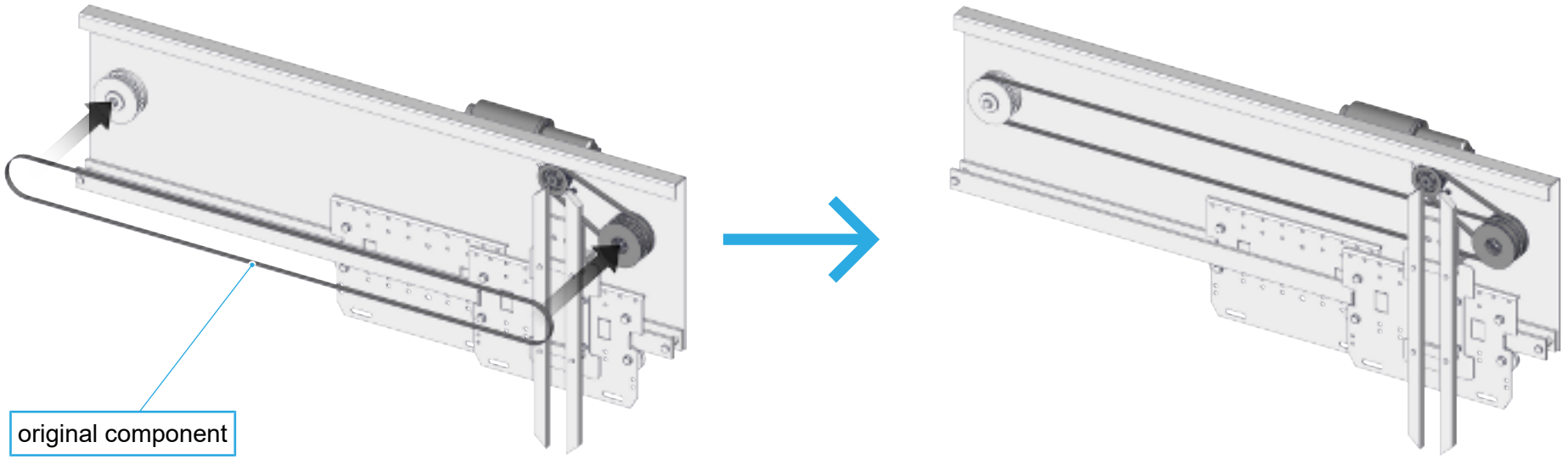


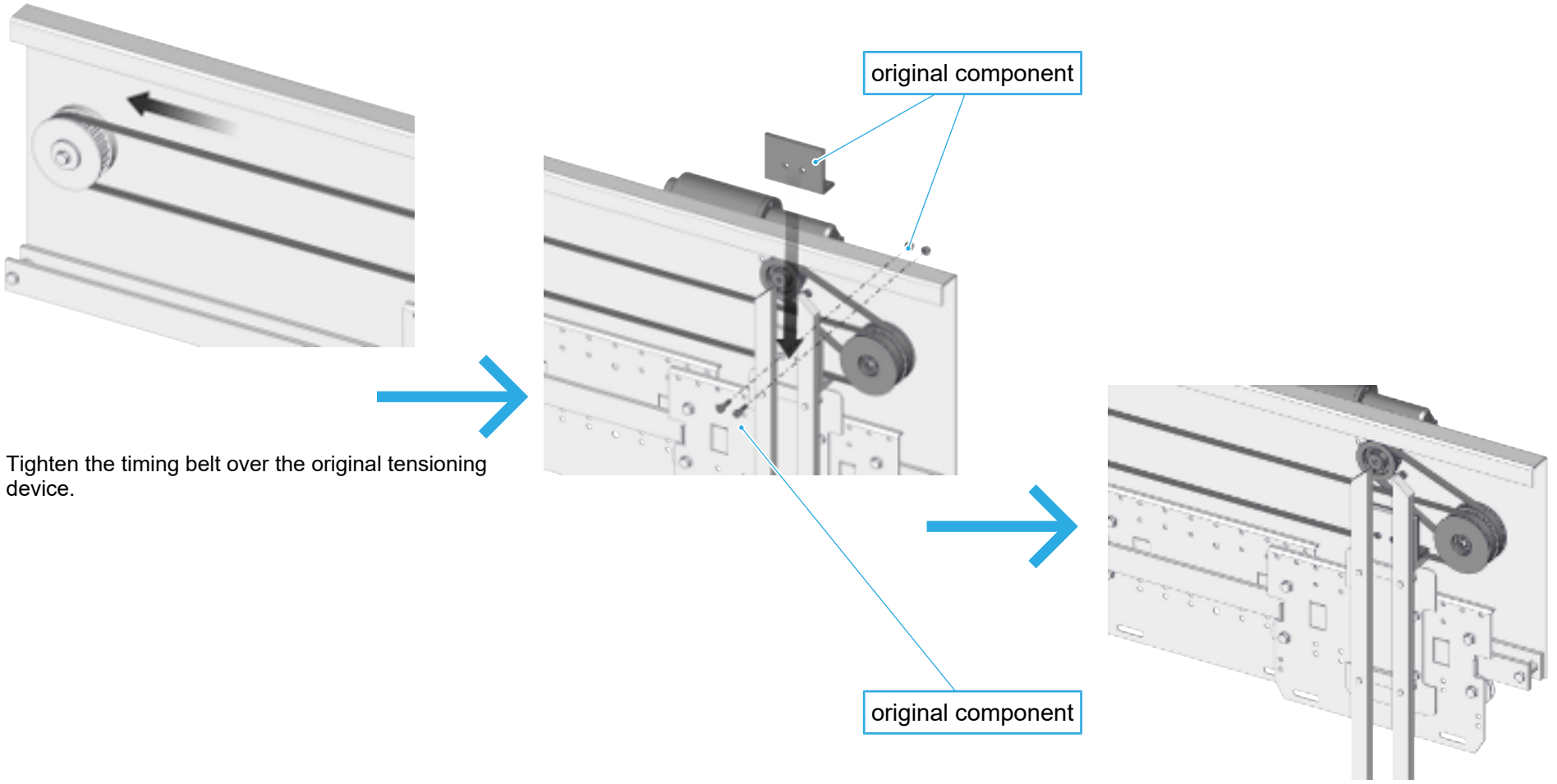
Tighten the endless timing belt by moving it in the slotted holes.

7.4 Mounting original components

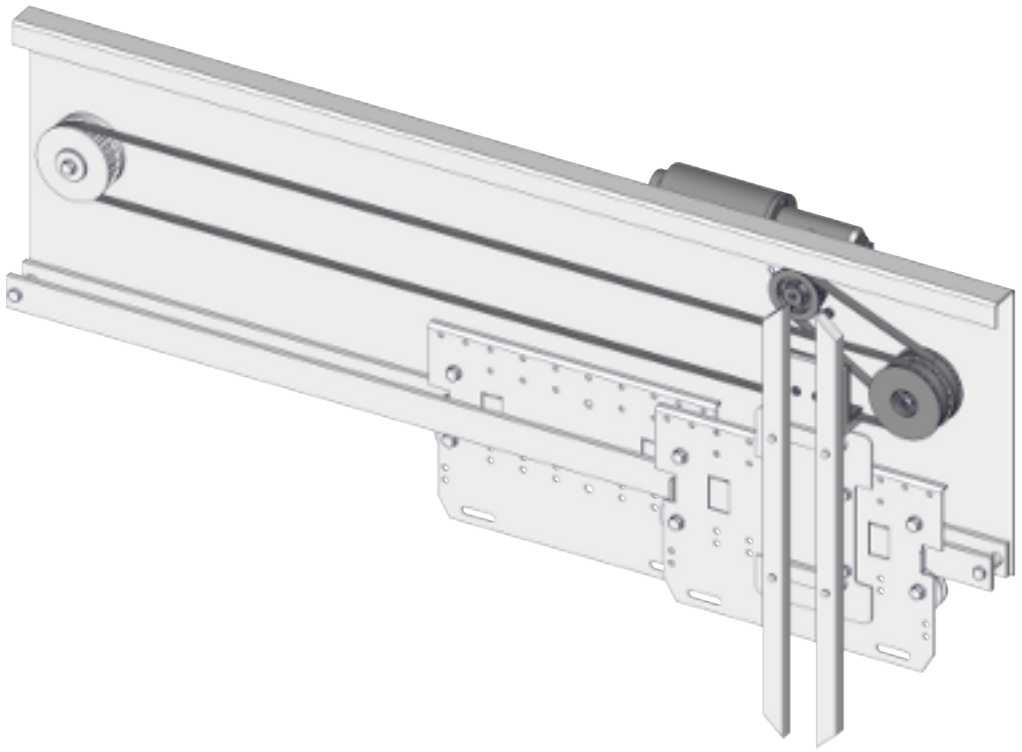
Tools

Pos.	Symbol	Description
T1xx	⬢	Combination spanners, as needed
T2xx.x	⬣	Allen keys, as needed





Tighten the timing belt over the original tensioning device.



8 Assembly variant 2

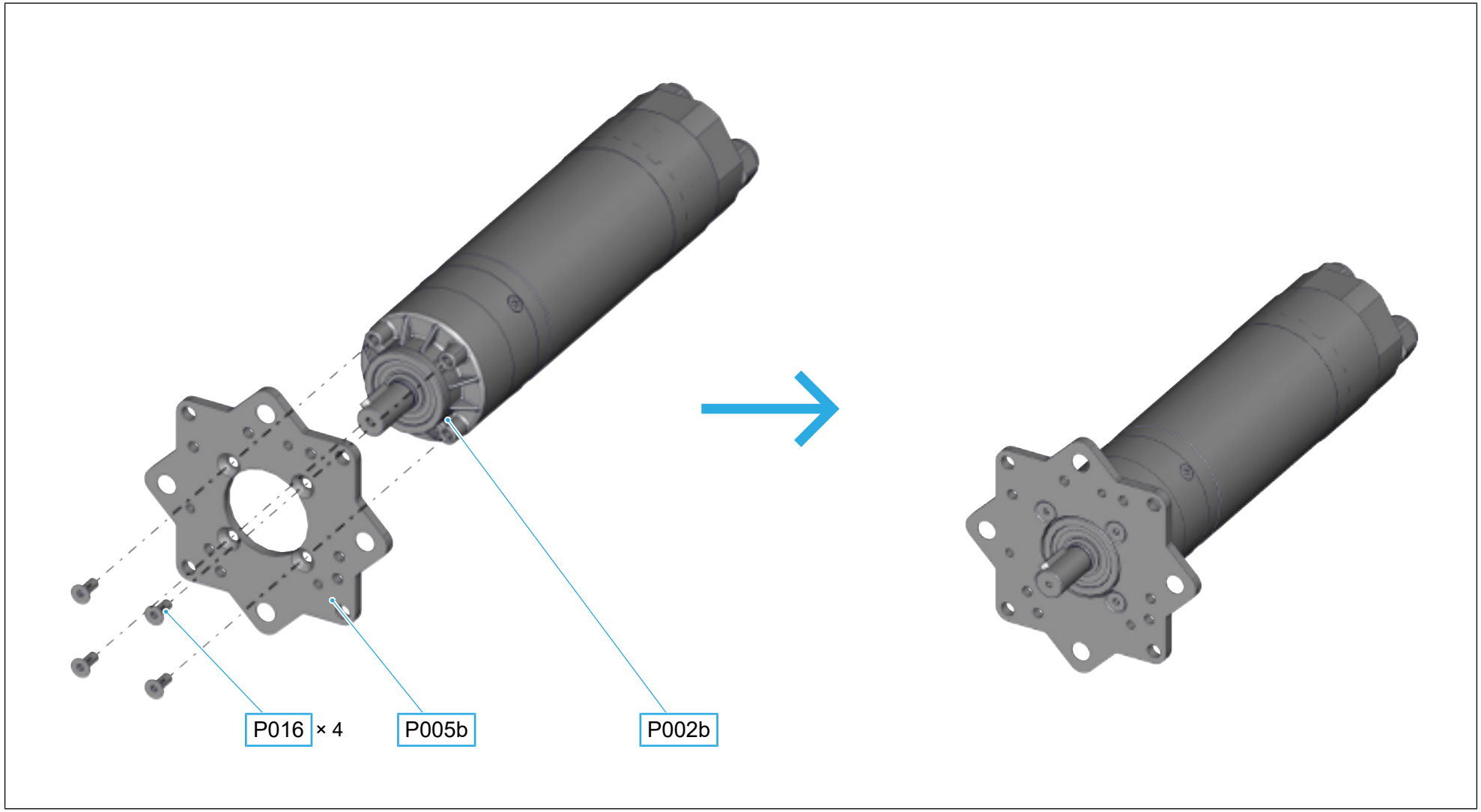
8.1 Mounting the motor bracket and motor on the door frame

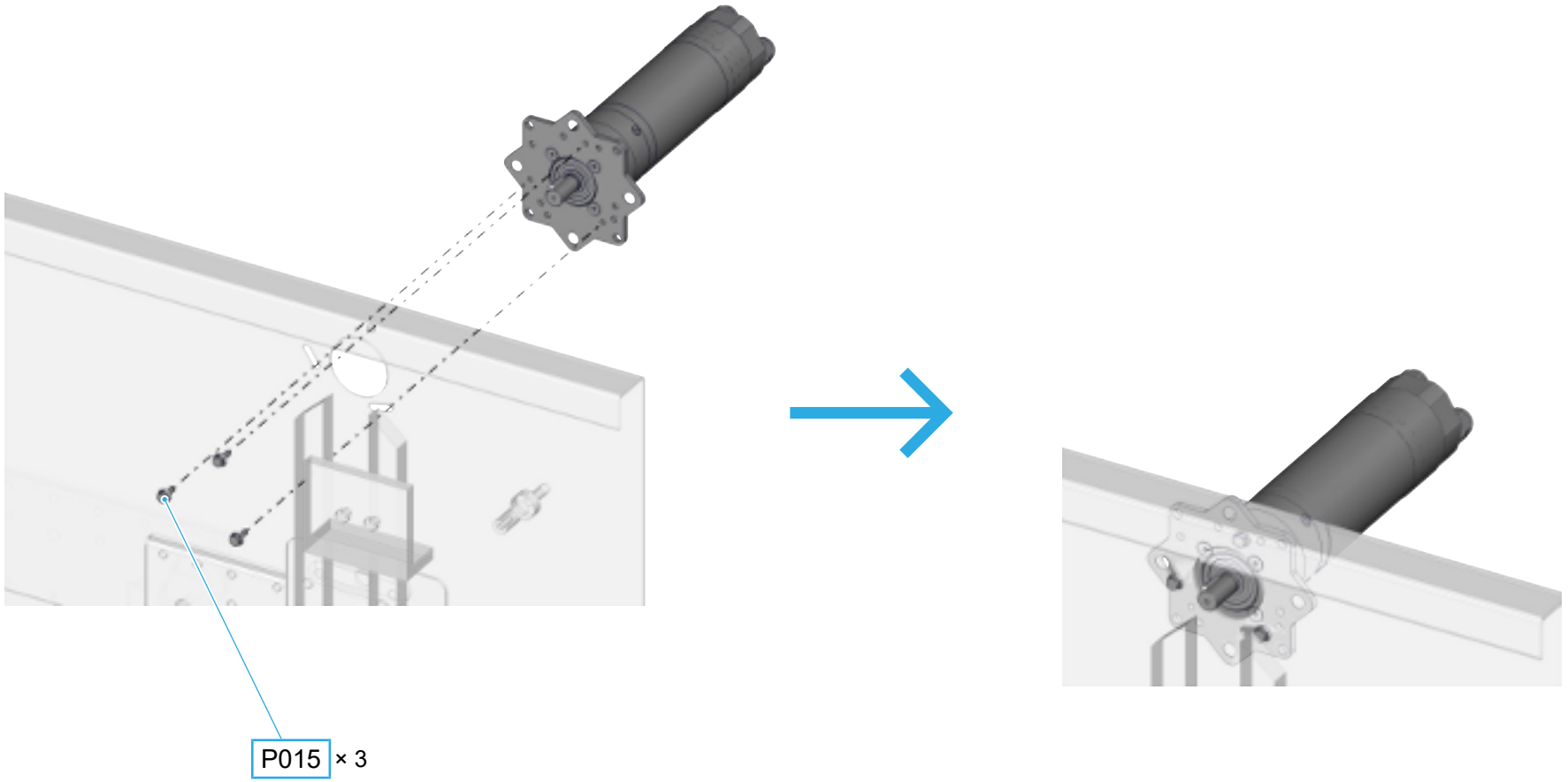
Components

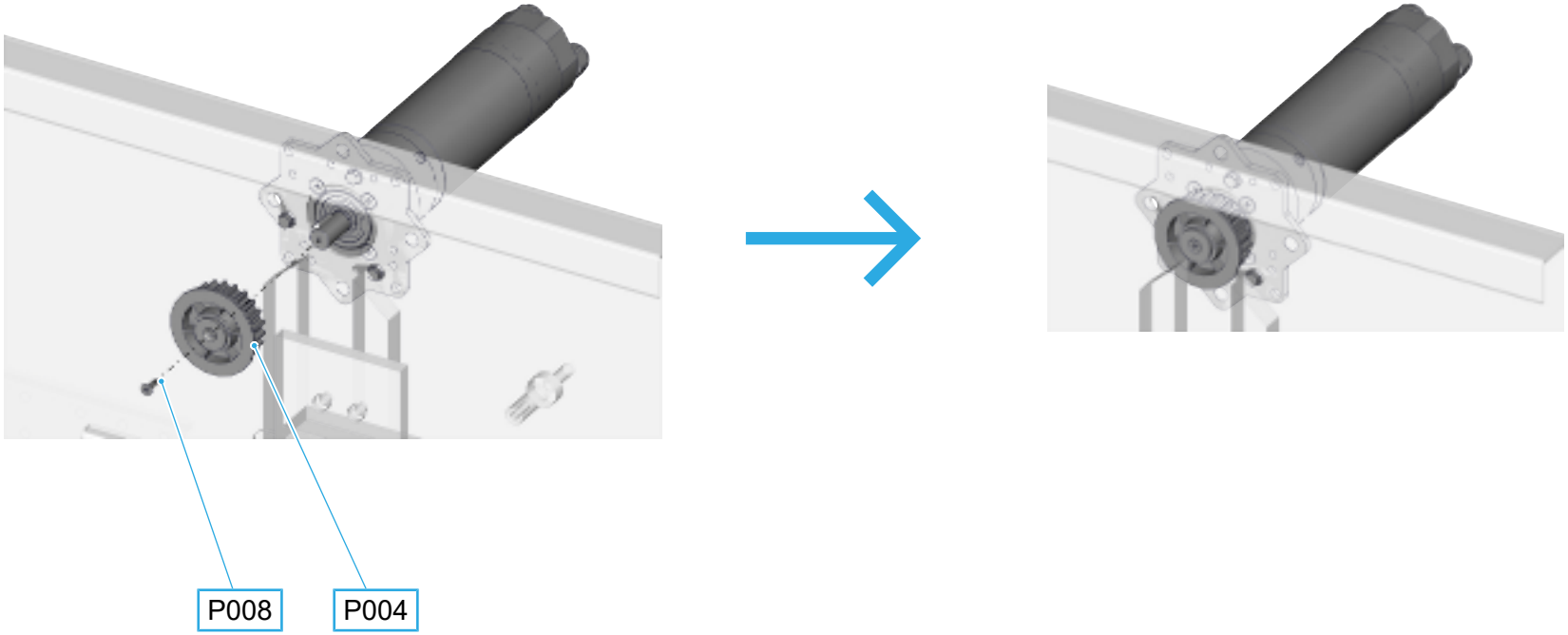
Pos.	Illustration	Item number	Description	Quantity
P002b		8.20.504xx.xx	TSG motor	1
P005b		1.20.60360	Star-shaped plate	1
P004		1.20.60160	Timing belt pulley D = 56 mm, 8M	1
P008		1.36.00336	Countersunk screw M4 × 12 mm	1
P015		1.36.00130	Locking screw M5 × 12 mm	3
P016		1.36.00353	Countersunk screw M5 × 12 mm	4

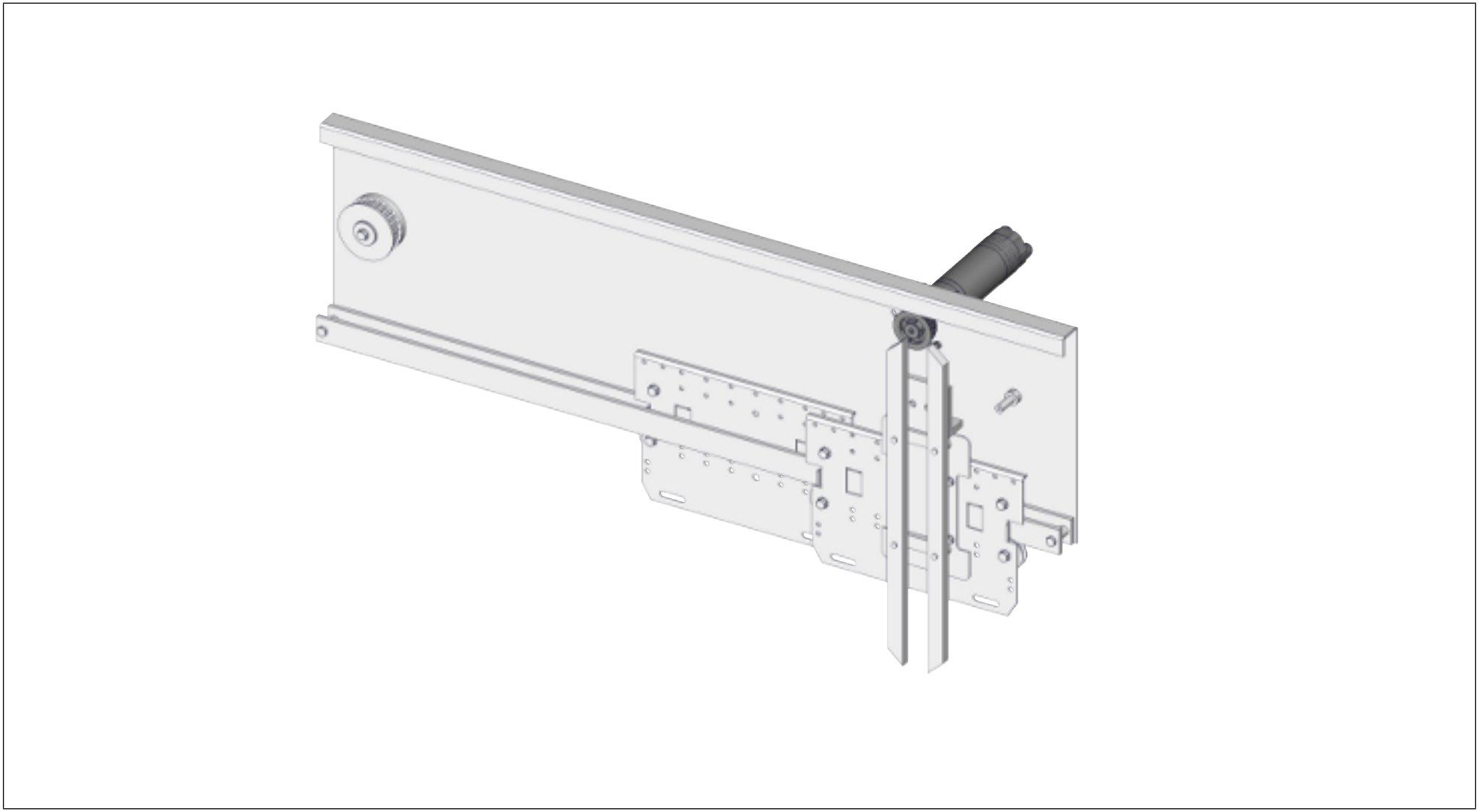
Tools

Pos.	Symbol	Description
T010		Phillips screwdriver
T108		Combination spanner, size 8
T203.0		Allen key, size 3


P016 × 4
P005b
P002b

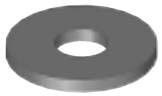

P015 × 3


P008
P004



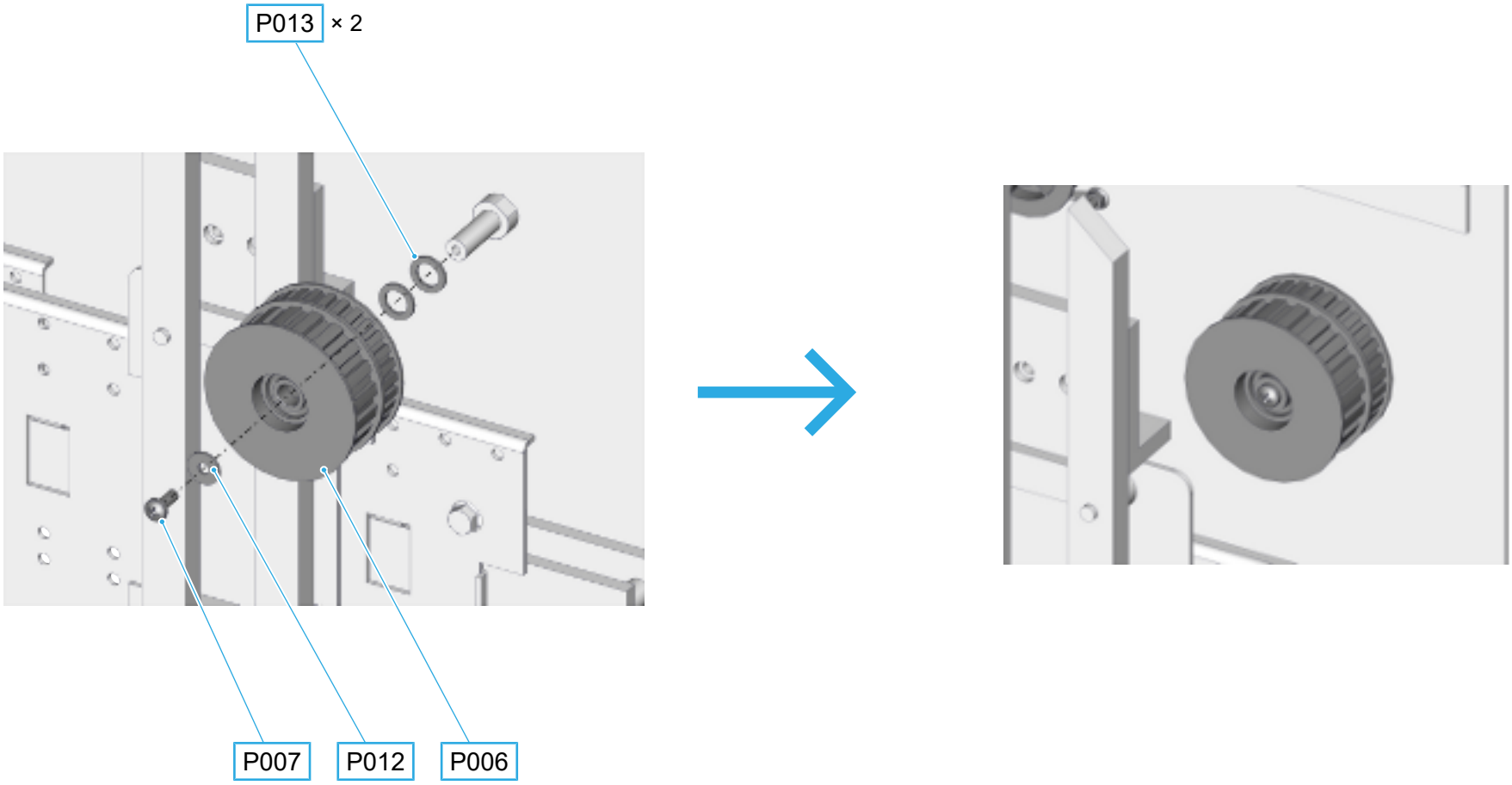
8.2 Mounting the double timing belt pulley on the door frame

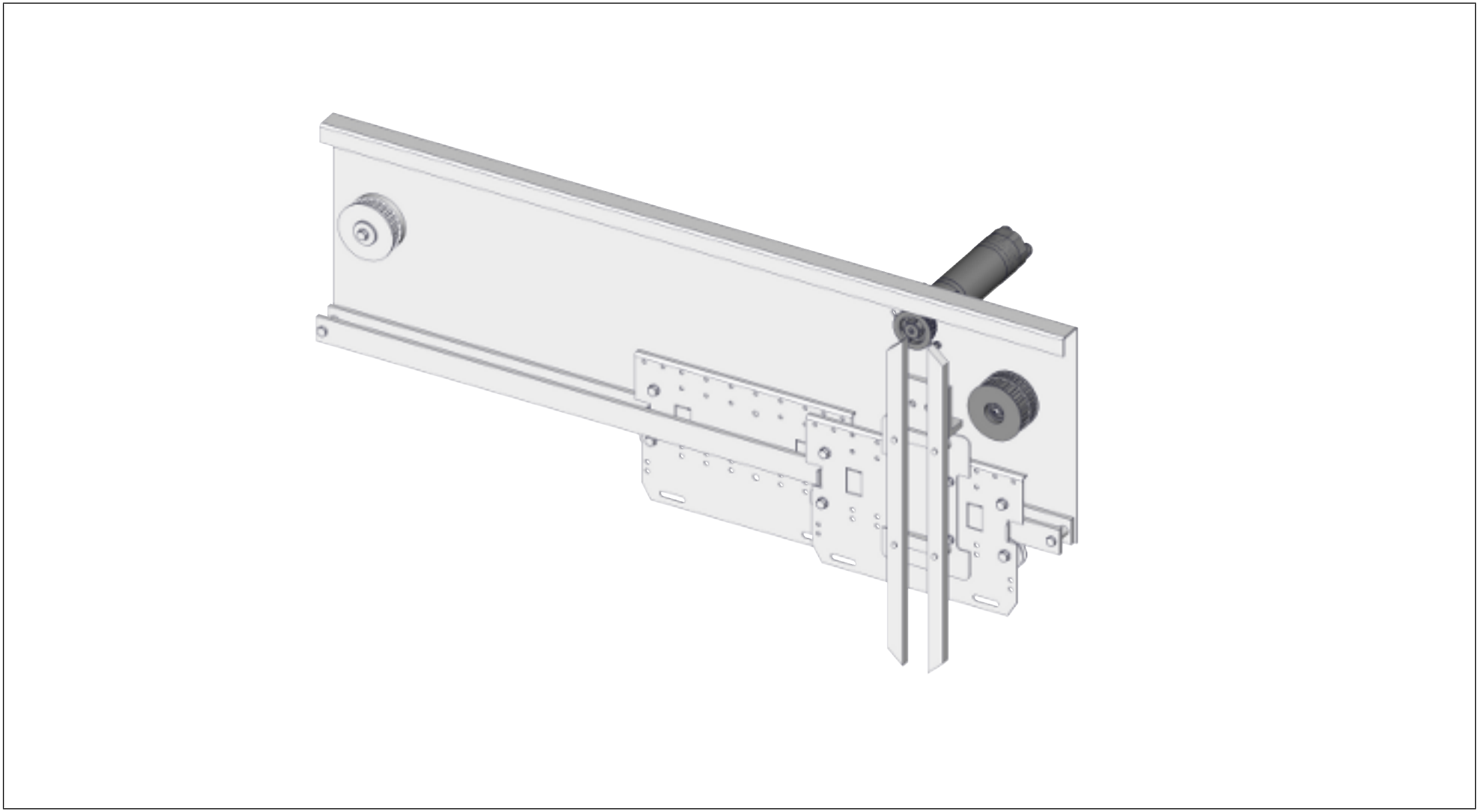
Components

Pos.	Illustration	Item number	Description	Quantity
P006		1.20.92295	Double timing belt pulley, 8M/H	1
P007		1.36.00315	Button head screw M4 × 12 mm	1
P010		1.36.00501	Nut M8	1
P012		1.36.01036	Washer M6	1
P013		1.36.01410	Washer M6	2

Tools

Pos.	Symbol	Description
T010	⊗	Phillips screwdriver
T113	⬣	Combination wrench, size 13
T119	⬣	Combination spanner, size 19


P013 × 2
P007
P012
P006

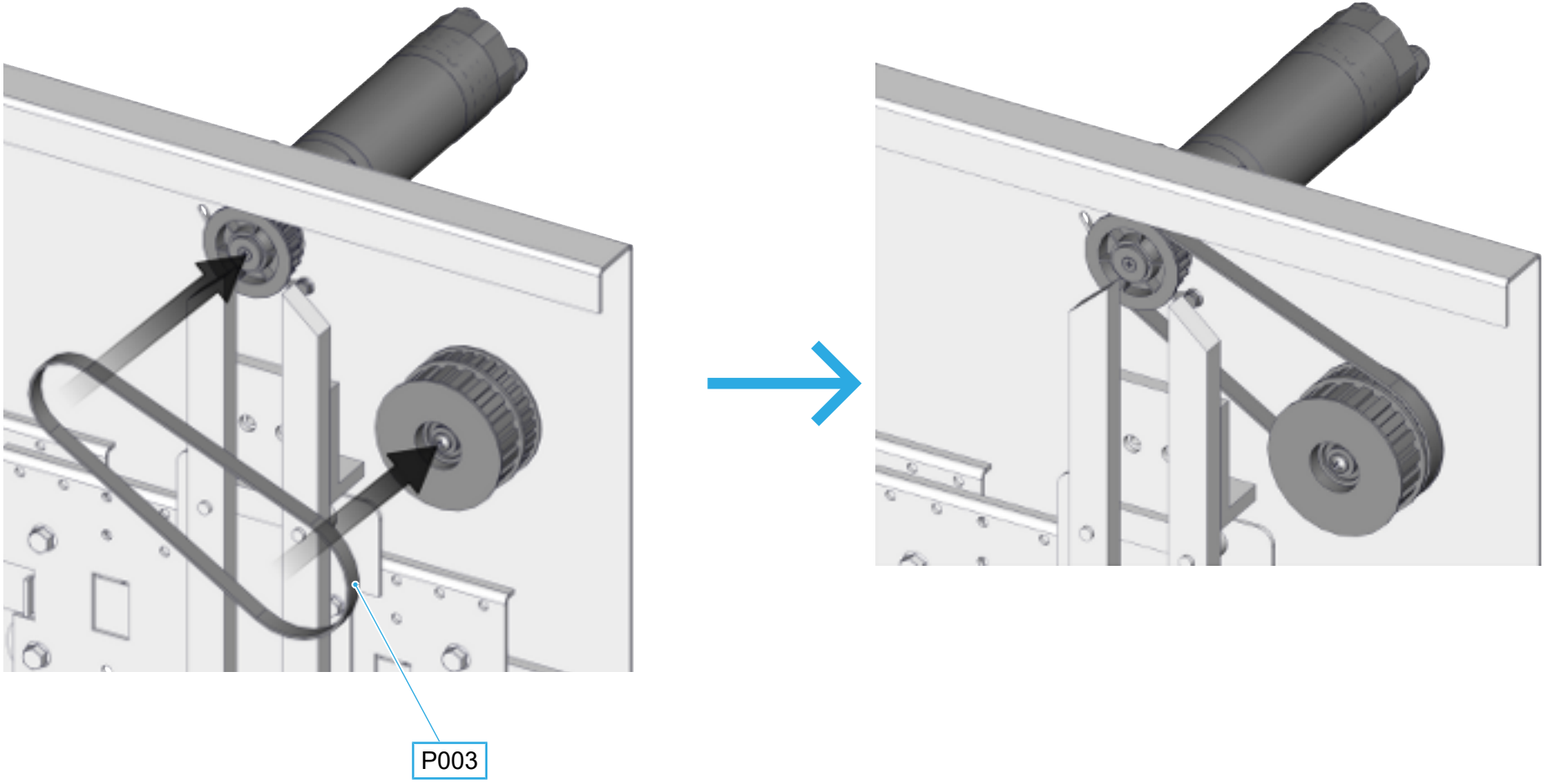


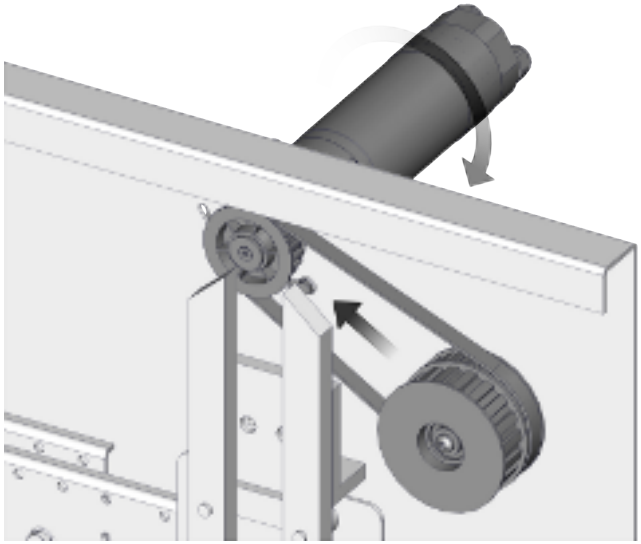
8.3 Mounting the endless timing belt on the door frame

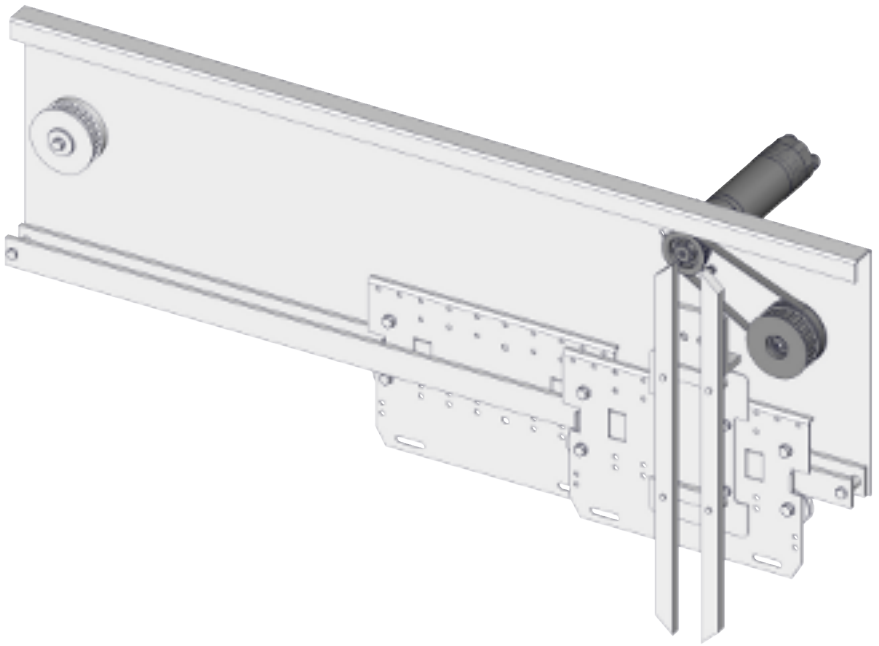
Components

Pos.	Illustration	Item number	Description	Quantity
P003		x.20.xxxxx	Endless timing belt 8M	1

Pos.	Symbol	Description
T1xx		Combination spanners, as needed


P003



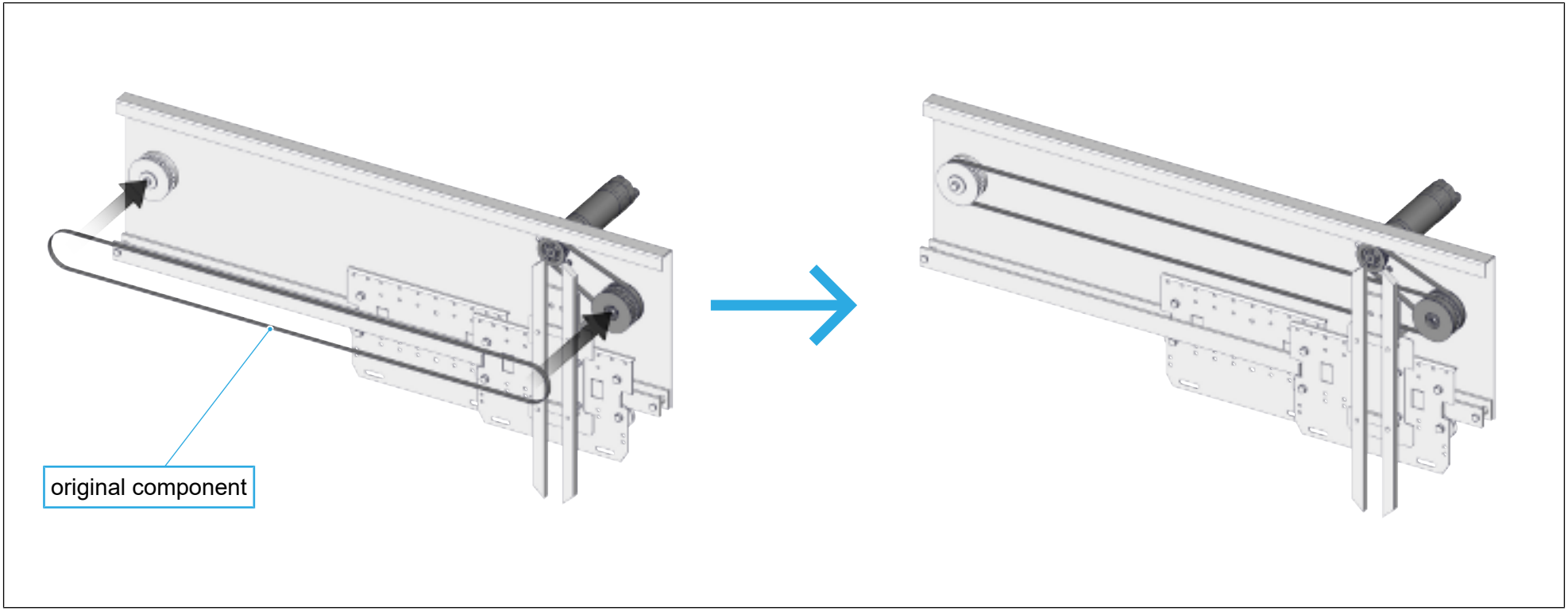


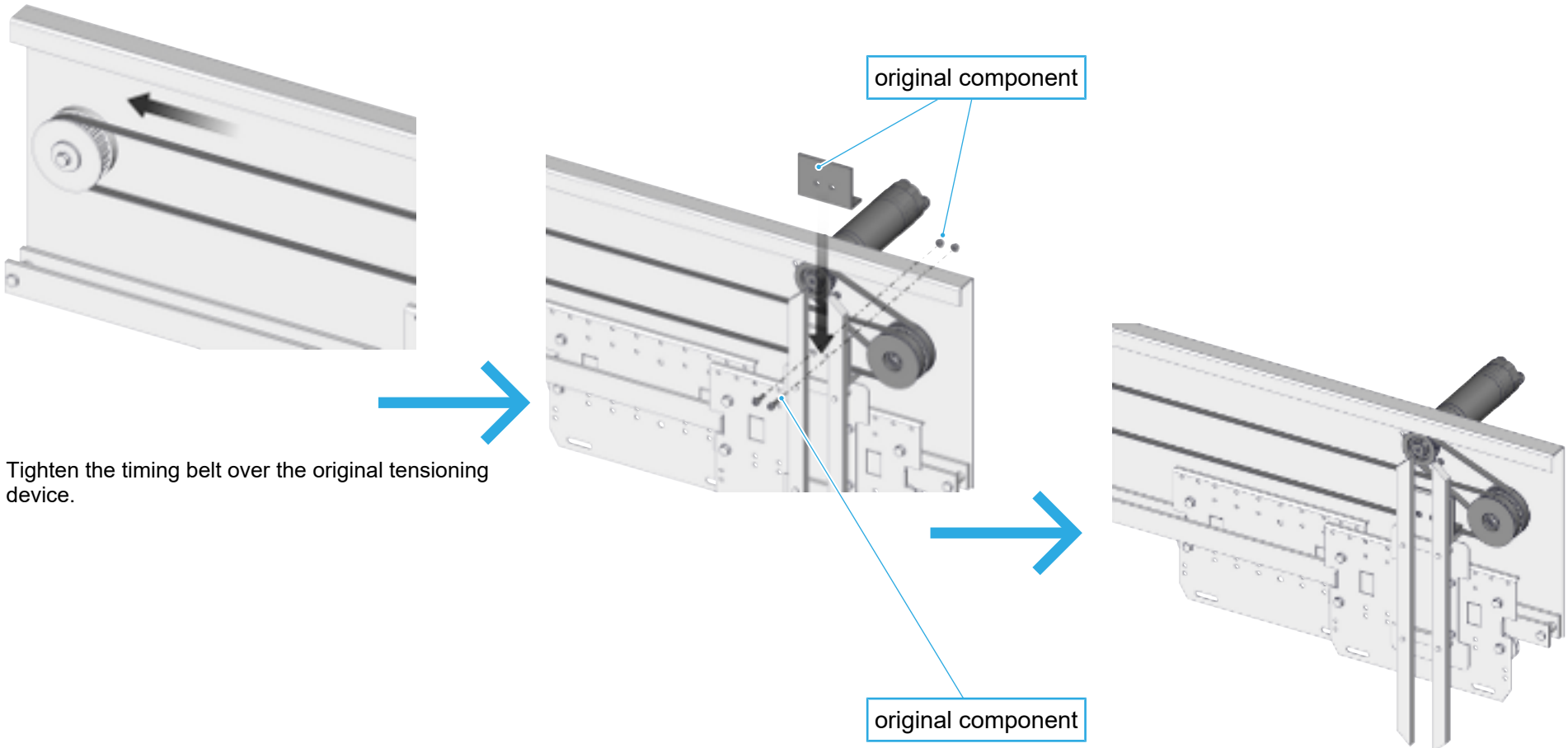
Tighten the endless timing belt by moving it in the slotted holes.

8.4 Mounting original components

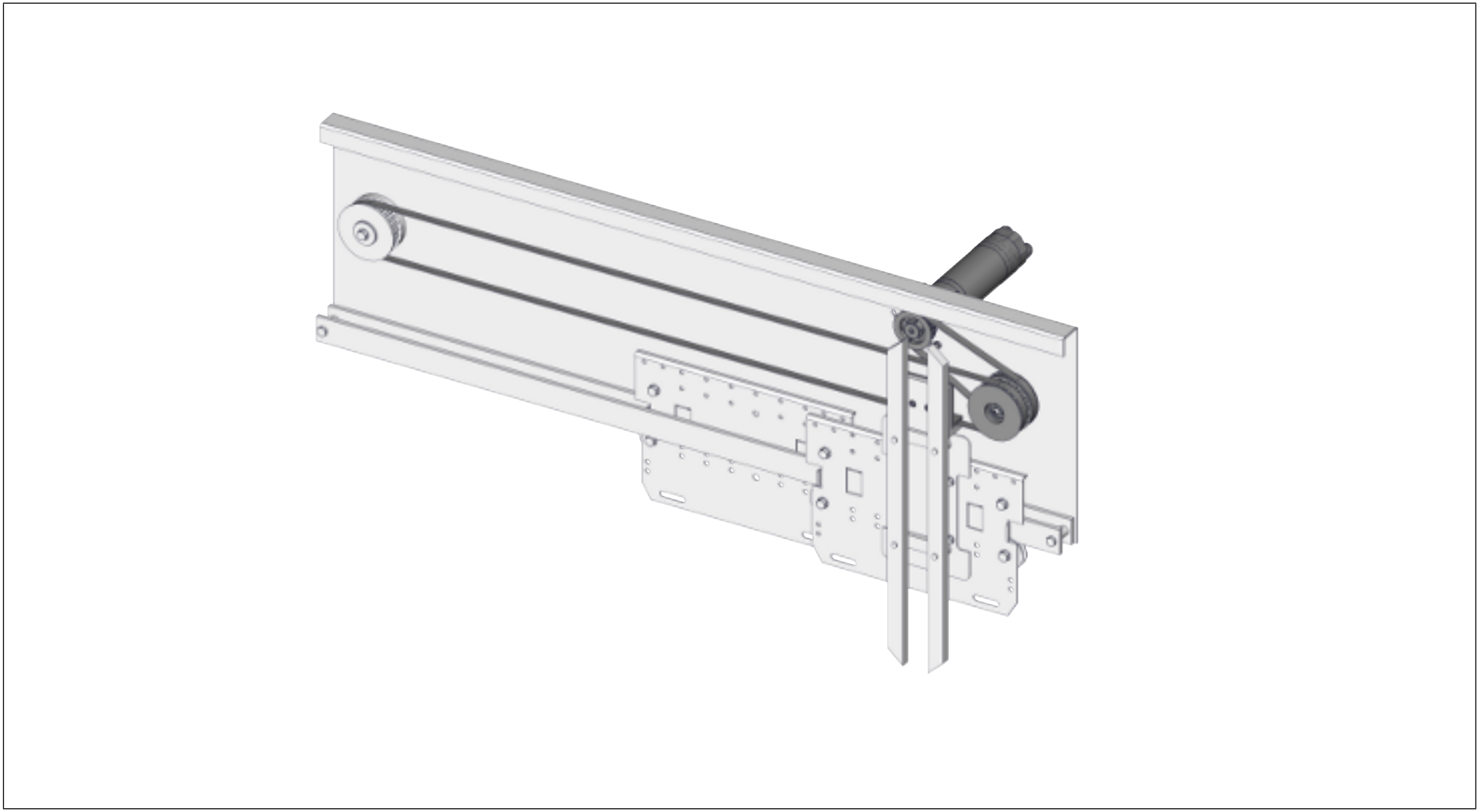
Tools

Pos.	Symbol	Description
T1xx	⬢	Combination spanners, as needed
T2xx.x	⬣	Allen keys, as needed





Tighten the timing belt over the original tensioning device.



9 Fitting, connecting and commissioning the door control unit

Fitting, connecting and commissioning the door control unit are described in detail in the **assembly instructions** supplied with the door control unit.

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