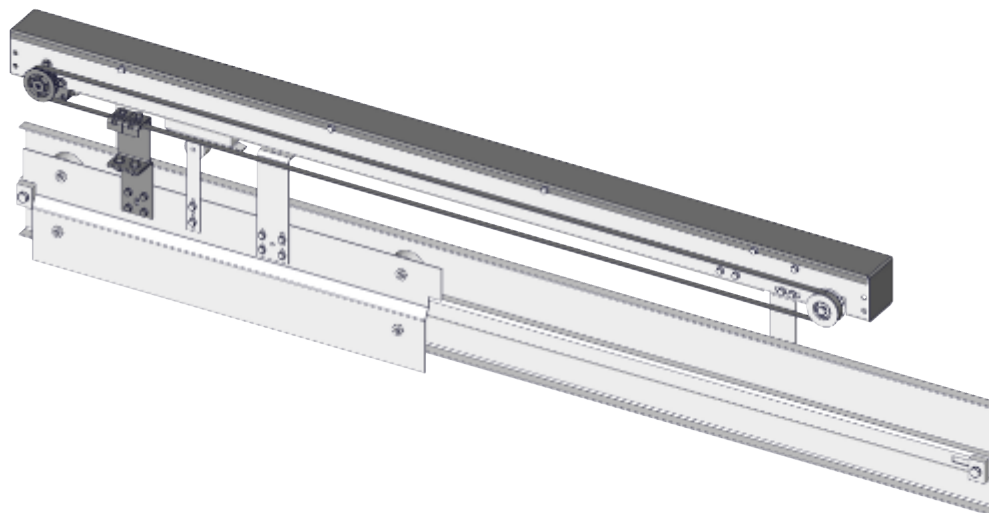




Manual
Otis AT400
to TSG V4

Shows **TL**, **TR** mirrored, **C** as well as **TL**.

Information

Manufacturer	Langer & Laumann North America Inc.
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Telephone	+1 (219) 309-1200
E-Mail	support@lul-ing.com
Internet	www.lul-ing.com

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



Get the manual **in English** by scanning the QR code.



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



1 About this manual

1.1 Purpose

These conversion instructions contain important information and basic mechanical assembly steps for converting an existing system. Observing the manual helps to avoid hazards, repair costs and downtimes and increases the reliability and life of the device.

1.2 Scope of application

These conversion instructions apply to the following conversion set:

- Otis AT400 to TSG V4

1.3 Version information

The issue status of these conversion instructions is stated on the cover page and in the footers on every page.

Always keep and use the current version of all documentation.

If an outdated version of this or the required supplementary documentation is used, this can lead to incorrect assembly.

1.4 Contact information

See page 2.

1.5 Target group

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

In addition to reading these conversion instructions, the following requirements and previous technical knowledge of the user is required for correct operation of the device:

- comprehensive technical knowledge of the existing elevator systems
- knowledge of the user manuals of these elevator systems
- classification as qualified employee

1.6 Other applicable documents

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

- Assembly 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

Before starting any work, the employees must have read through these conversion instructions carefully and understood them.

The safety and handling information in these conversion instructions must be observed.

The local accident prevention regulations and general safety provisions that apply at the place of use must be observed.

2.2 Employee requirement

2.2.1 Qualification and areas of activity of the employees

The tasks described in this manual set different requirements for the qualification of the assigned employees. Inadequately qualified employees are not able to correctly assess the risks and expose themselves and others to the risk of injuries. It is prohibited for inadequately qualified employees to be in the working/danger zone. Persons whose ability to respond is influenced, for example, by drugs, alcohol or medication may not work on the elevator system.

Qualified employees Work on mechanical components may only be carried out by suitably qualified employees (elevator installer for defined tasks in elevator construction according to DGUV 303-001).

Electrically qualified employees Work on electrical components may only be carried out by electrically qualified employees or elevator installers with further training as an electrically qualified person for defined tasks in elevator construction according to DGUV 303-001.

2.2.2 Personal protective equipment

Personal protective equipment is worn to protect persons from safety and health impairments during work. Wear the specified personal protective equipment.

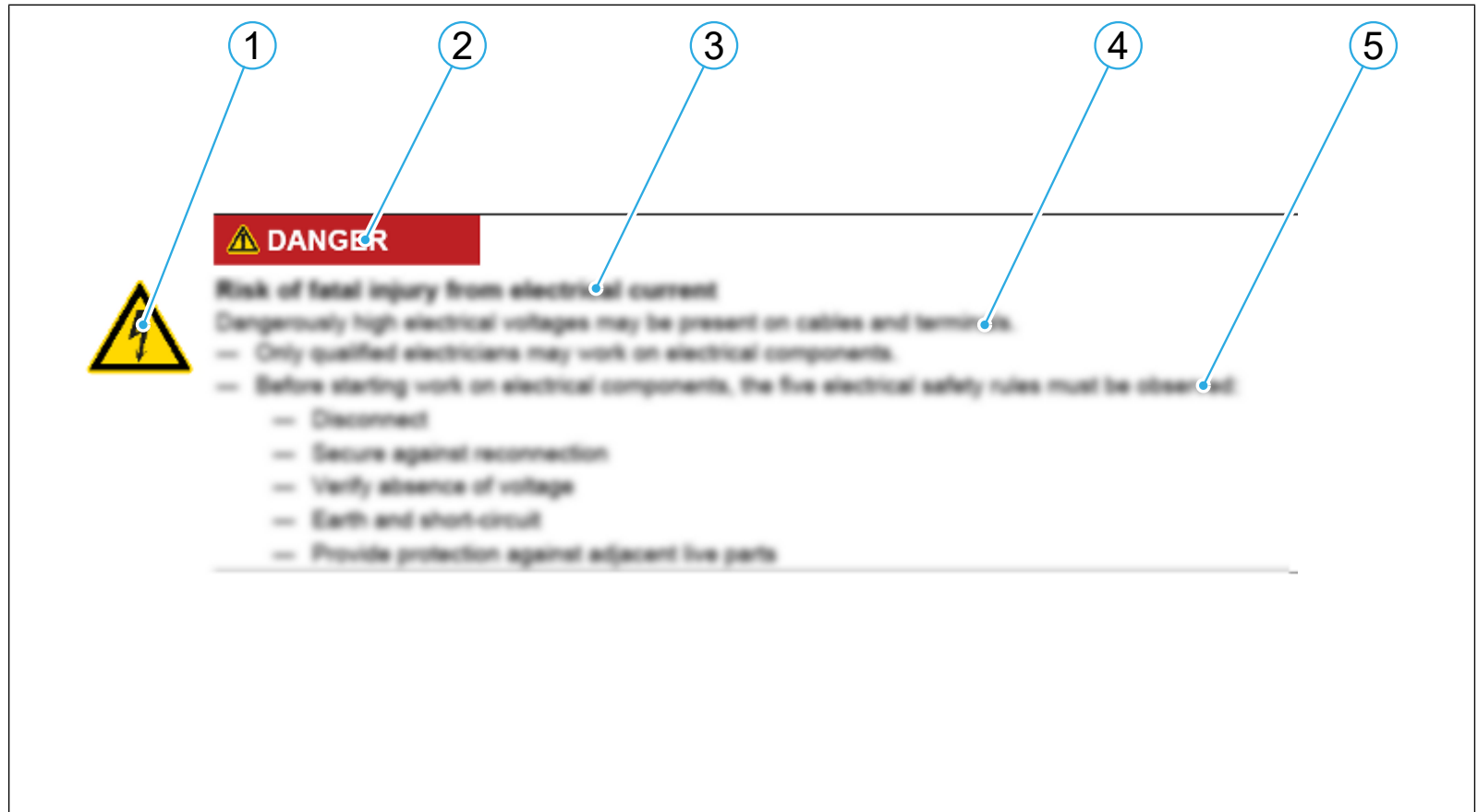
Symbol	Meaning
	Wearing protective work clothing protects against dangers in the workplace.
	Wearing slip-resistant safety footwear protects against foot injuries.
	Wearing cut and puncture resistant protective gloves protects against hand injuries.
	Wearing a protective cap protects against head injuries.
	Wearing protective goggles protects against eye injuries.
	Wearing hearing protection protects against hearing damage.
	Wearing a fall arrest system protects against falling.

Table 1: Personal protective equipment

2.3 Warnings

2.3.1 Structure of the warnings

All warnings in this document are structured as follows:



1	Danger symbol	2	Signal word
3	Type and source of the danger	4	Possible consequences of disregard
5	Procedure to prevent danger		

2.3.2 Meaning of the 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 the signal words

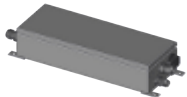
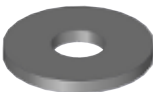
The following danger-specific symbols are used in this document:

Symbol	Designation
	Automatic start-up
	Electrical hazard

Table 3: Meaning of the danger-specific symbols

3 Scope of delivery

The table shows the components of the conversion set. The position designations are used in the following sections to designate the individual components. For logistical reasons, the packaging may contain additional components that are not needed for the current application.

Item	Image	Part number	Description	Quantity
P001		8.20.xxxxx.04	Door operator controller	1
P002		8.20.400xx.D2	Gearmotor	1
P003		1.20.60160	Timing pulley 8M (56 mm)	1
P004		1.36.00108	Hexhead Bolt M8 × 16 mm	3
P005		1.36.00335	Countersunk Socket Bolt M4 × 8 mm	1
P006		1.36.01036	Washer 6.4	3

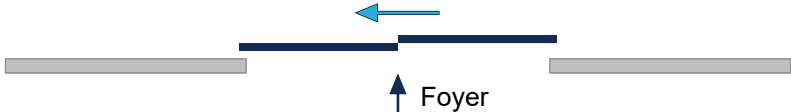
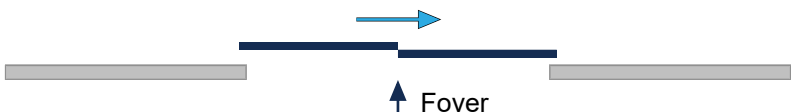
4 Required tools

The table shows the tools required for the conversion. The position designations are used in the following sections to designate the individual tools.

Item	Symbol	Description
T001		Soft-faced hammer
T002		Hammer
T003		Pull-off tool for bearings and pinions
T004		Water pump pliers
T005		Side cutters
T006		Circlip pliers
T007		Angle grinder
T008		Measuring tool (folding ruler or measuring tape)
T009		Flat head screwdriver
T010		Phillips head screwdriver
T110		Combination wrench, size 10

5 Definition of door opening directions

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

L: Left hand, single slide	
R: Right hand, single slide	
TL: Left hand, two speed	
TR: Right hand, two speed	
C: Center opening	
CT: Center opening, two speed	
FD: Folding door	

6 Disassembly of installed components

DANGER



Risk of death due to rotating/moving system parts

- Switch off the system completely before beginning work.
- Never get close to unsecured rotating/moving system parts.

DANGER



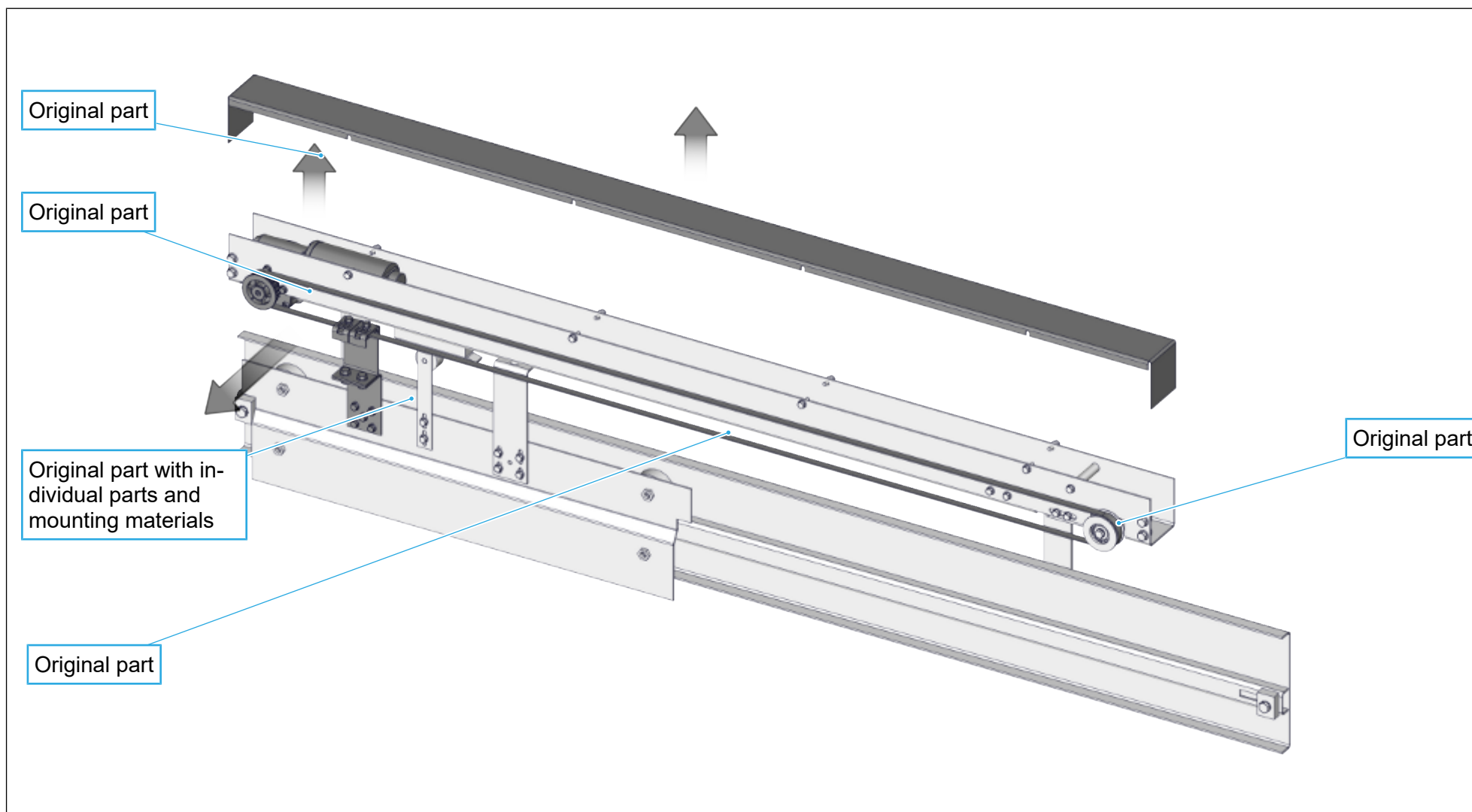
Danger of death from electric shock

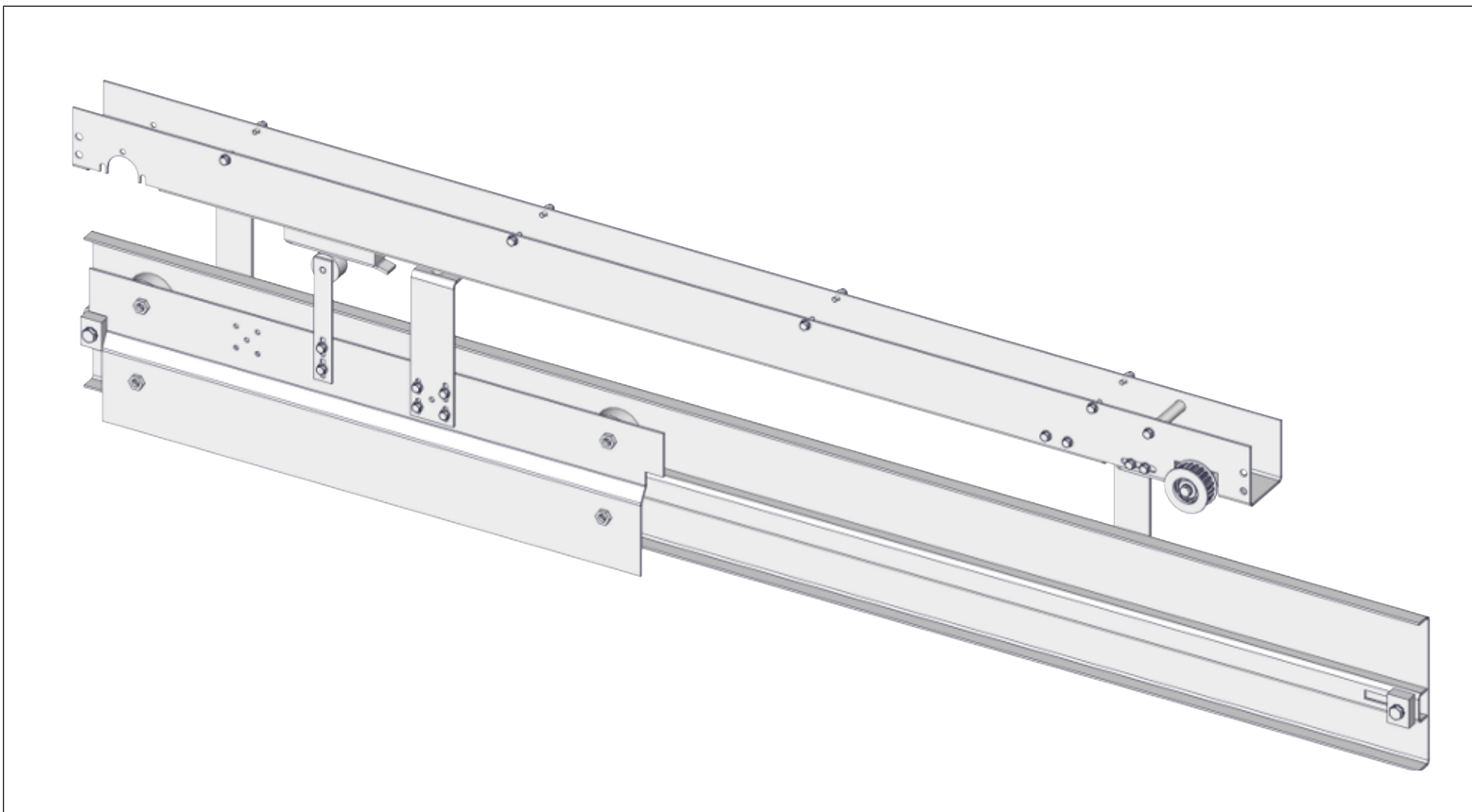
Dangerously high electric voltages can be applied to the cables and terminals.

- Work on electrical components may only be carried out by electrically qualified employees.
- Before starting any work on the electrical components, complete the five electrical safety steps:
 - Disconnect completely
 - Secure against reconnection
 - Verify that the installation is dead
 - Carry out earthing and short-circuiting
 - Provide protection against adjacent live parts

Tools

Item	Symbol	Description
T002		Hammer
T003		Pull-off tool for bearings and pinions
T004		Water pump pliers
T005		Side cutters
T006		Circlip pliers
T007		Angle grinder
T1xx		Combination wrench, as needed

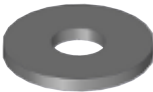




7 Assembly

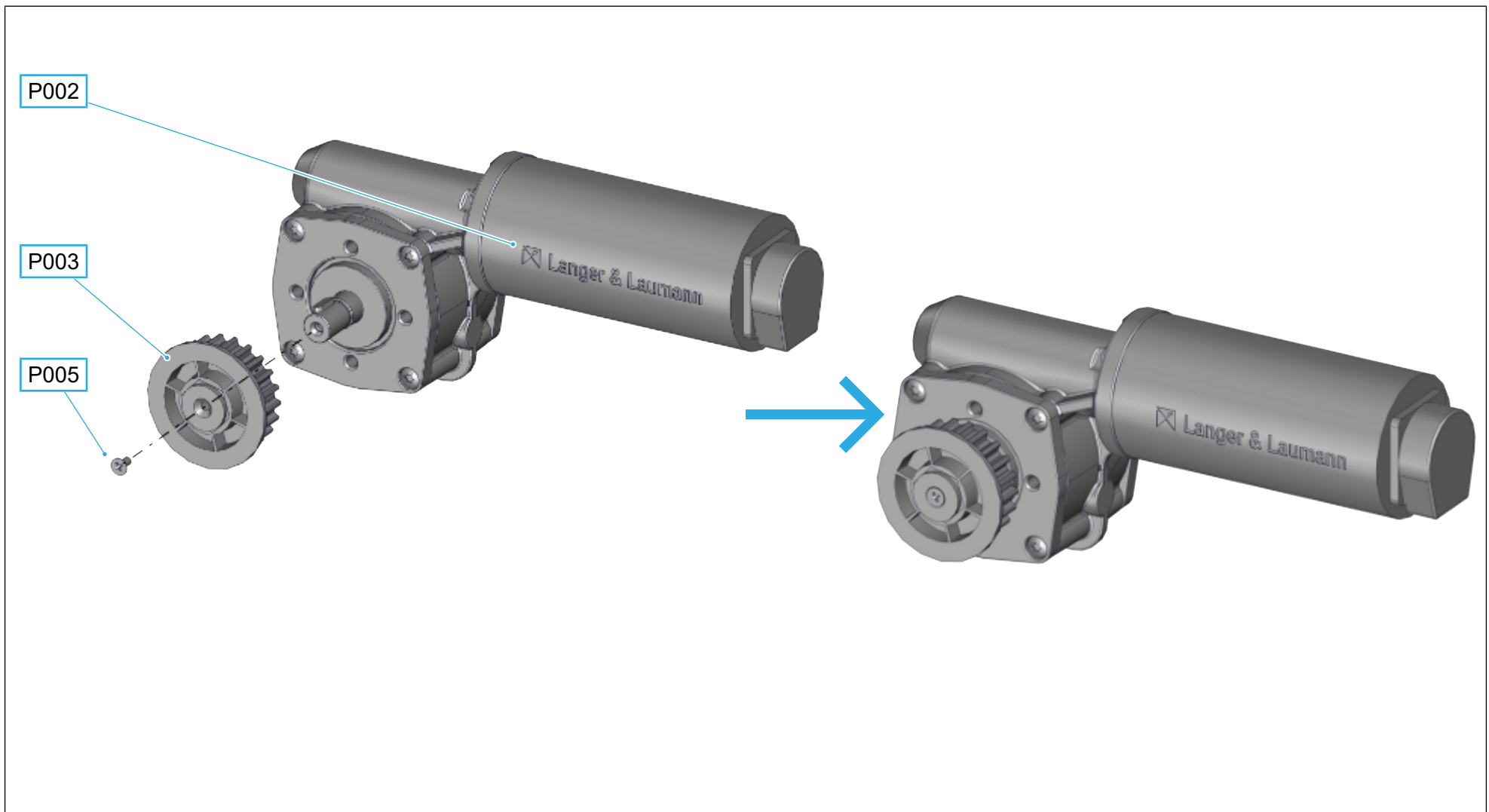
7.1 Mount the motor on the crossbar

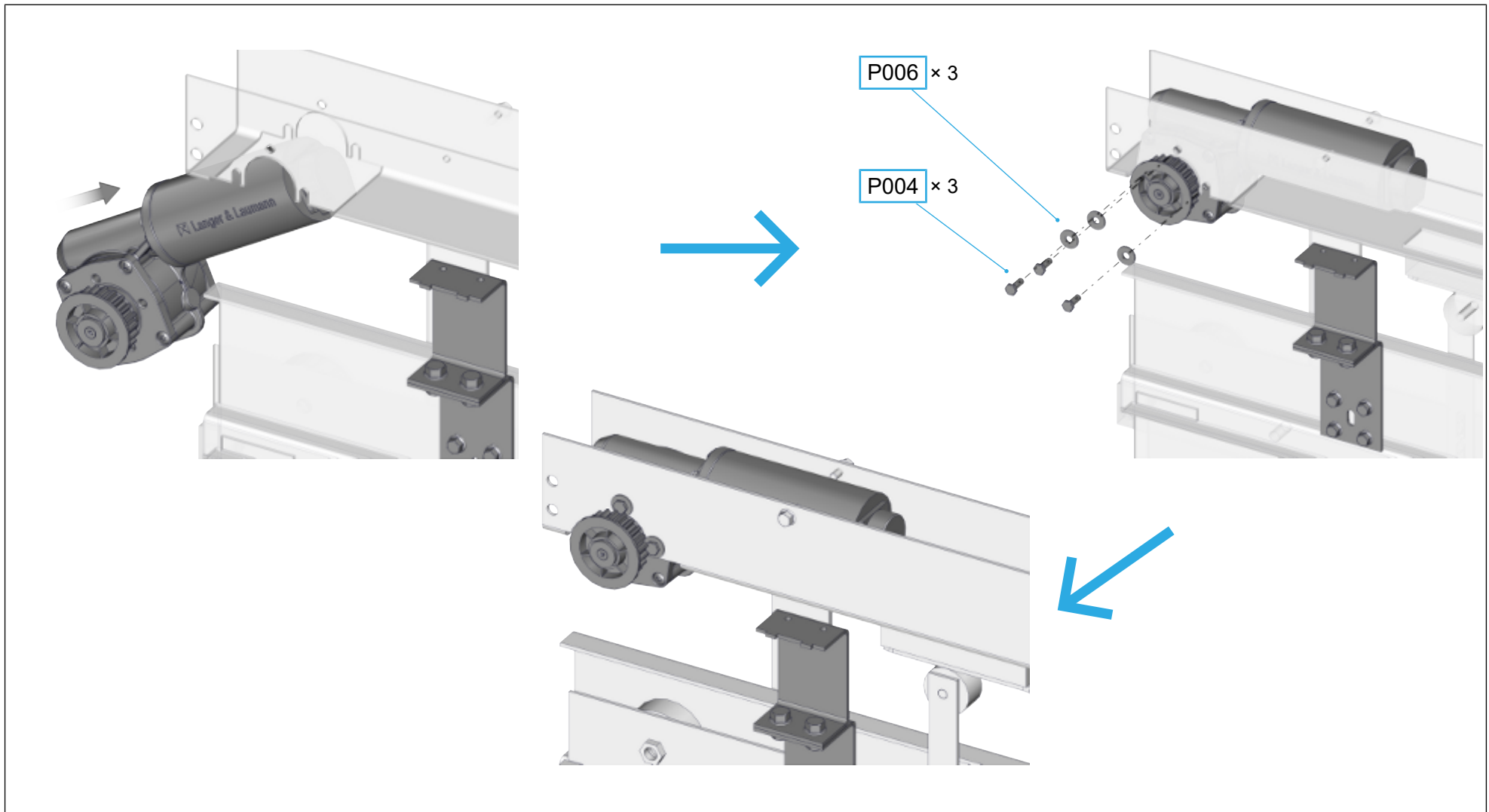
Components

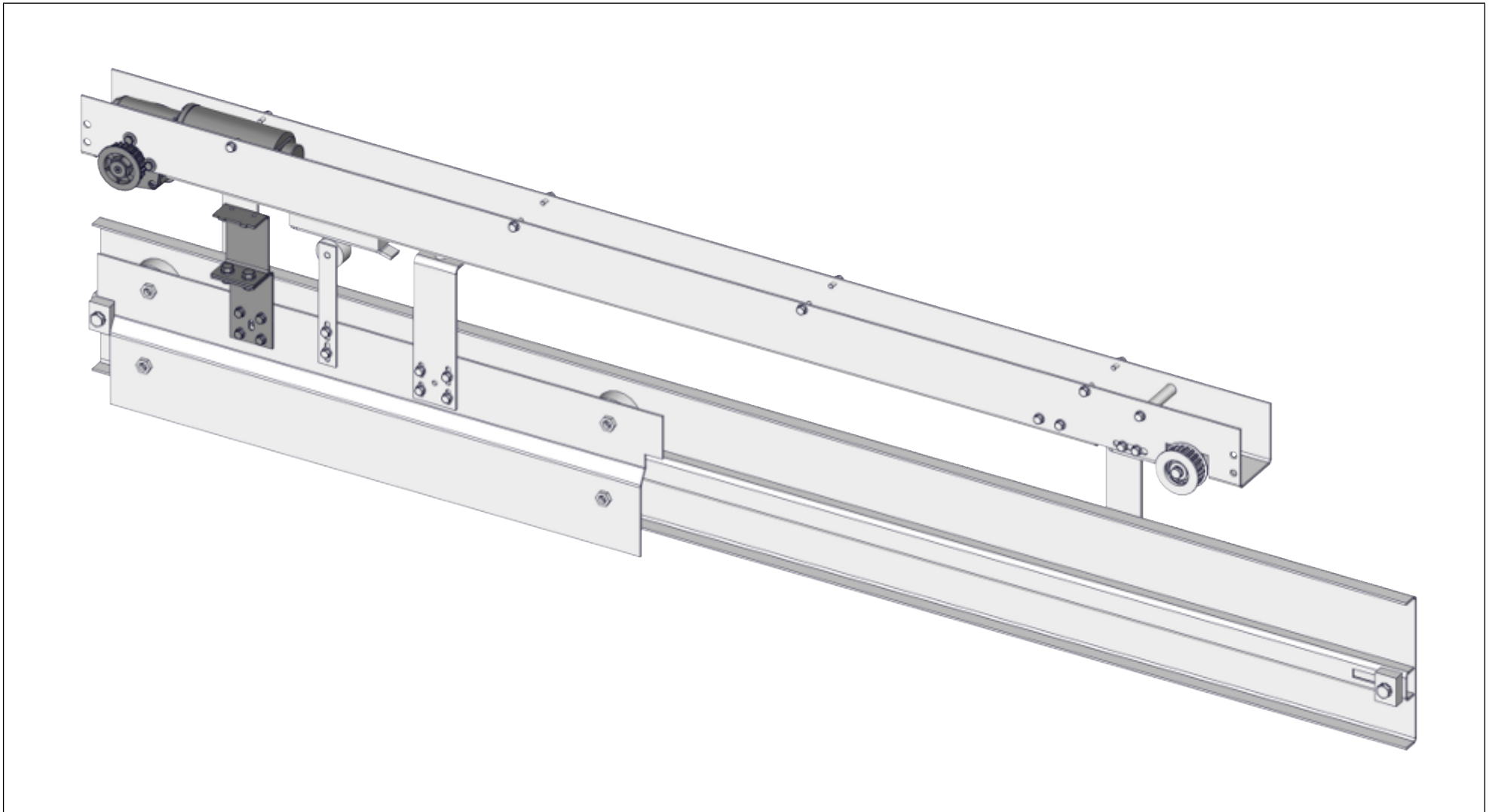
Item	Image	Part number	Description	Quantity
P002		8.20.400xx.D2	Gearmotor	1
P003		1.20.60160	Timing pulley 8M (56 mm)	1
P004		1.36.00108	Hexhead Bolt M8 × 16 mm	3
P005		1.36.00335	Countersunk Socket Bolt M4 × 8 mm	1
P006		1.36.01036	Washer 6.4	3

Tools

Item	Symbol	Description
T010		Phillips head screwdriver
T110		Combination wrench, size 10



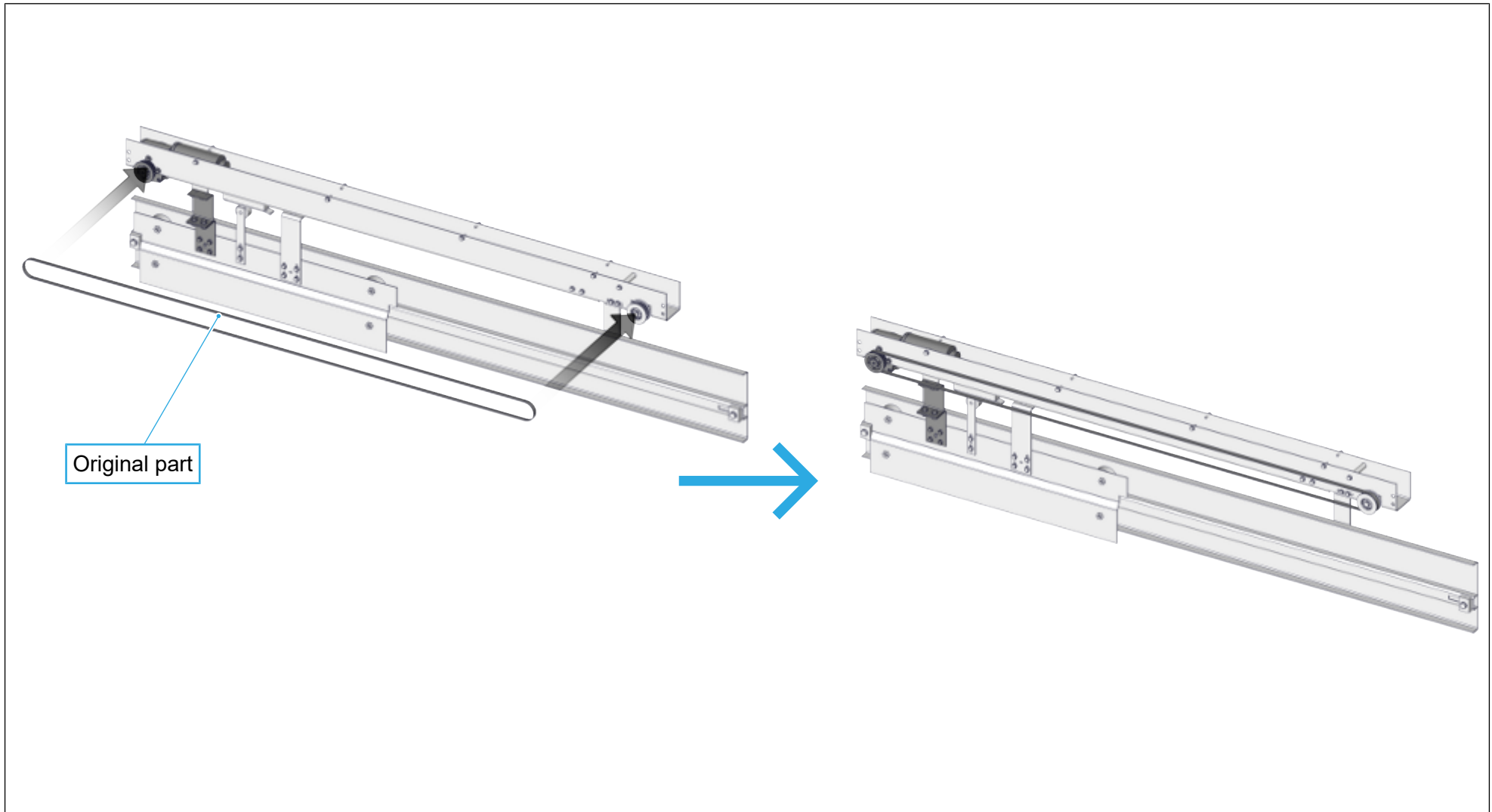


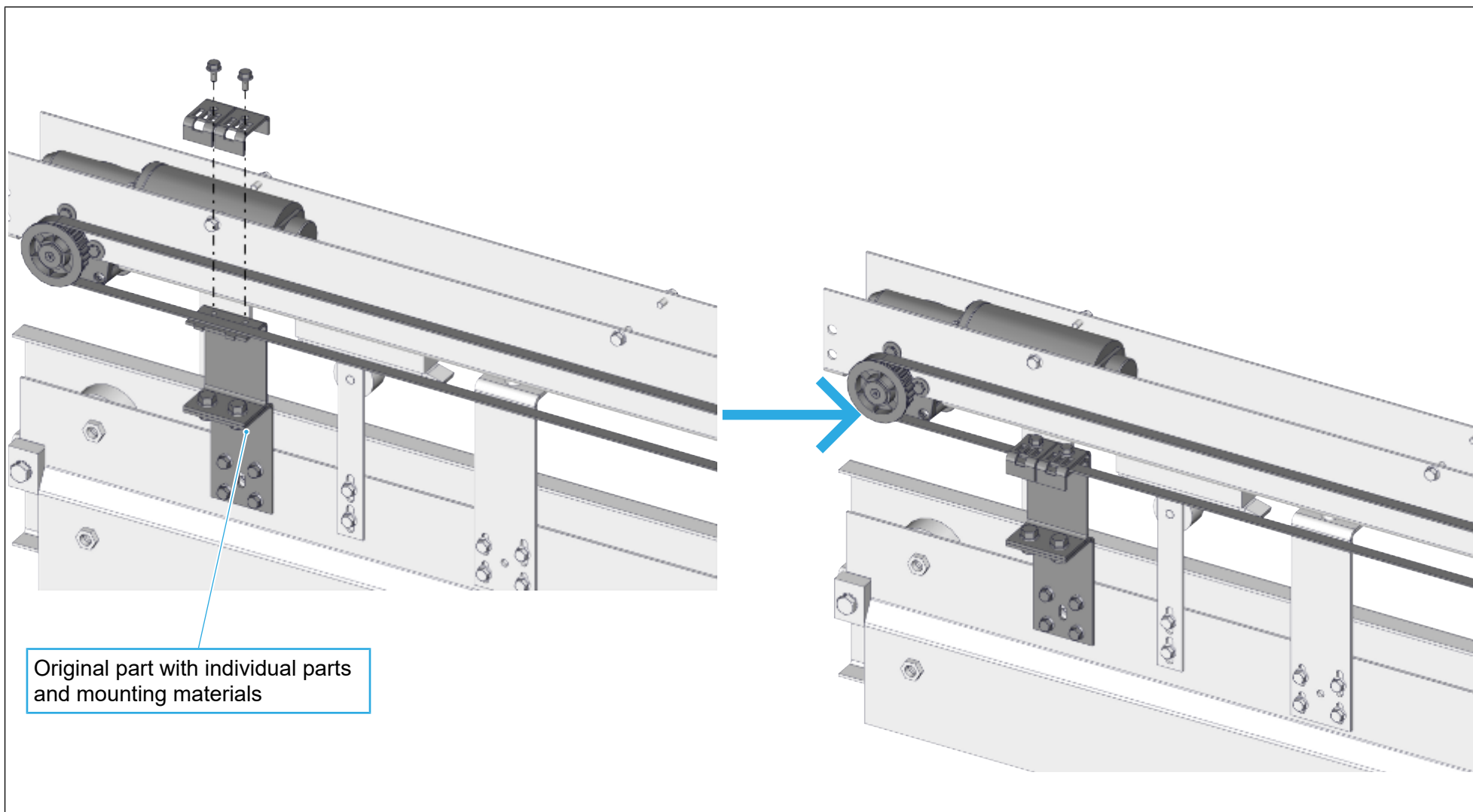


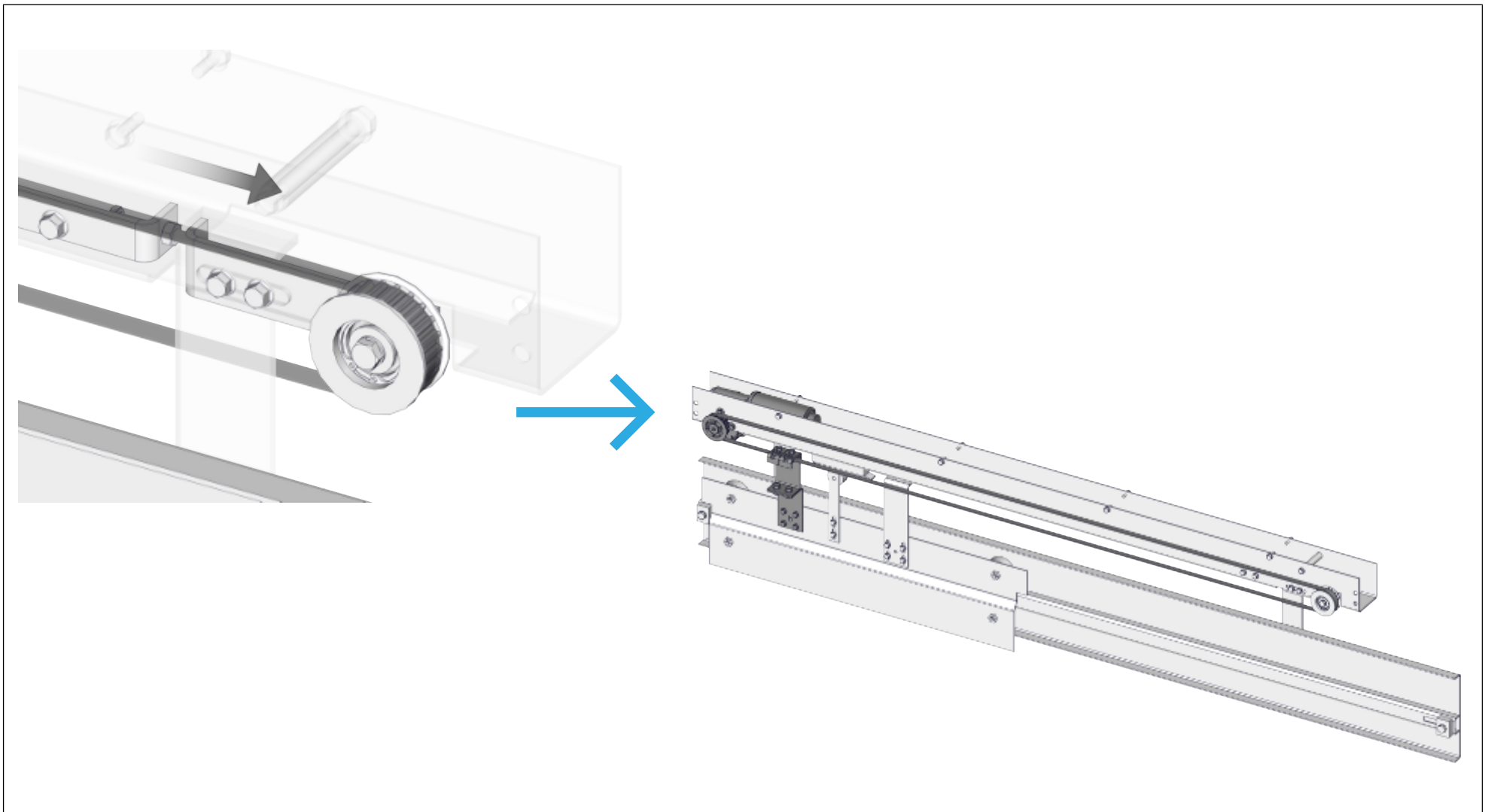
7.2 Mount the original synchronous belt and original synchronous belt lock

Tools

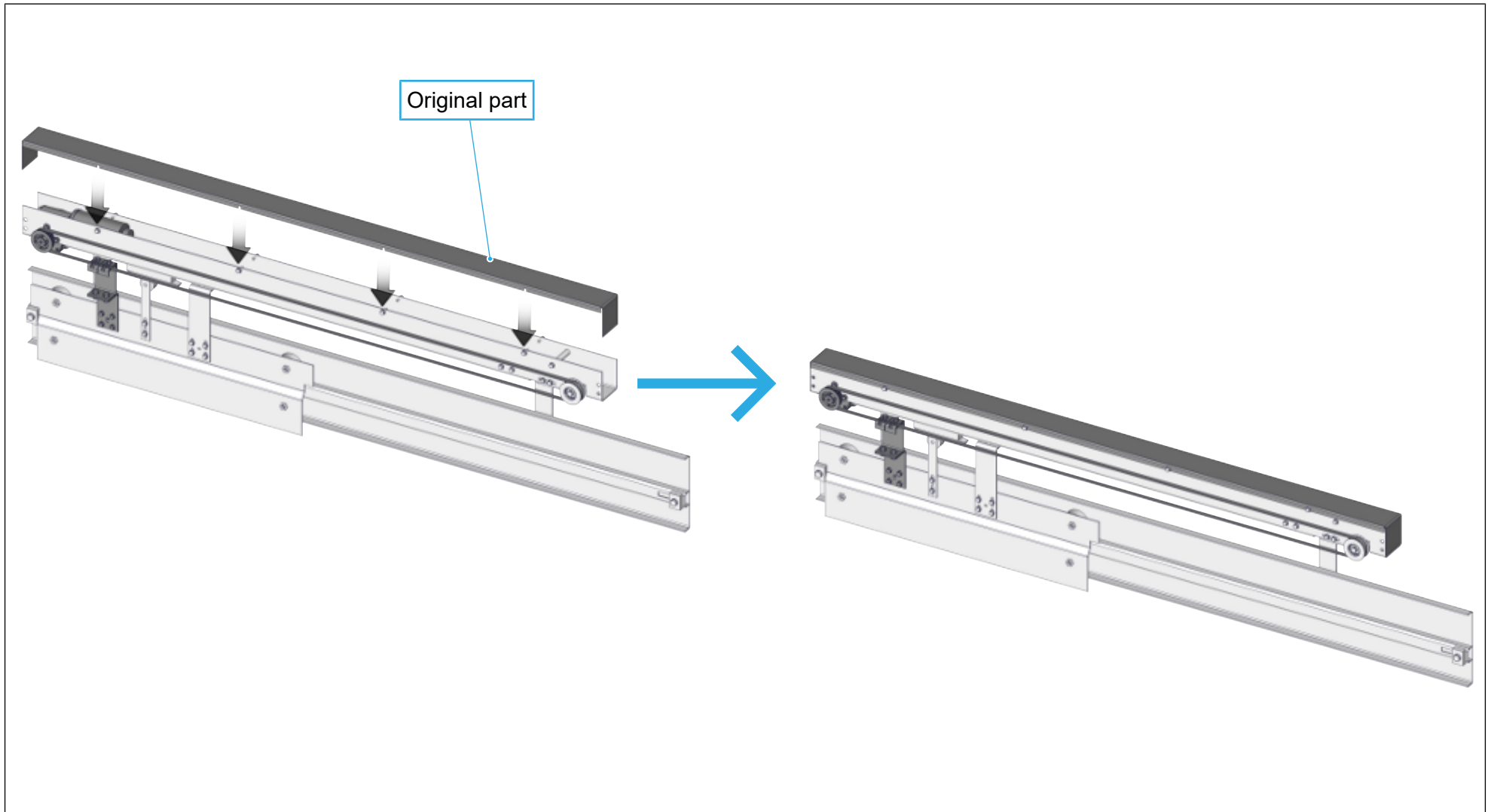
Item	Symbol	Description
T110	⬢	Combination wrench, size 10







7.3 Mount the original crossbar cover



8 Mount, connect and commission the door control device

The assembly, connection and commissioning of the door control device are described thoroughly in the **Assembly Instructions** enclosed with the door control device.



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