Assembly Instructions

of

KONE ADC

conversion

into

TSG

Documentation history

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3	2.1	03.12.15	JE
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5	2.3	24.12.19	CSA
6	2.4	07.02.20	CSA

Fordern Sie die Umbauanleitung auf Deutsch an, indem Sie den QR Code einscannen.

Demandez les instructions d´instruction de montage **en français**, en scannant le code QR.

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Content

1 Essential information

1.1 Value of assembly instructions

The product assembly instructions are provided by the manufacturer or supplier to provide the information required by the customer or fitter to ensure proper, safe and reliable assembly. These brief assembly instructions serve to clarify the basic steps of mechanical assembly. The electrical connection, commissioning and settings of the TSG are explicitly not part of these instructions.

1.2 Copyright protection

1.3 Instructions in the assembly manual

All instructions in the assembly manual must be followed without exception.

1.4 Informal activities performed by the fitter

The system fitter is personally responsible for participating in a training course. He or she must inform the manufacturer/supplier without delay of any missing or defective parts in the delivery.

1.5 Requirements for assembly personnel

Persons responsible for installation and maintenance must be instructed regarding generally applicable safety and labour health requirements. They must be familiar with Langer&Laumann products. Installation tools must be fully functional and measuring instruments must be subject to continuous monitoring.

1.6 Explanation of symbols

WARNING:
This symbol directs your attention to a possible hazard that could lead to severe bodily injuries or death.

CAUTION:
This symbol directs your attention to a possible hazard that could lead to minor bodily injuries. The same symbol is also used to warn of potential damage to property.

NOTE:
Your attention is drawn to applications and other useful information.

2 Activity performed

Replacement of the KONE ADC drive with a ***Langer & Laumann Ing. Büro GmbH TSG door drive***

3 Advantages

- Very economical package.
- A faulty control device and motor can be quickly and easily replaced with a TSG from ***Langer & Laumann Ing. Büro GmbH*** .
- ***Just a few*** mechanical attachments are required.
- All necessary parts are included with delivery.
- The conversion is ***very quick*** and ***easy*** to perform.
- The electrical wiring can also be performed by ***less experienced fitters***.
- ***No hand-held*** terminal is required for setting parameters. All parameters can easily be adjusted on the device.
- ***Measurements are very easy to perform***.
- The conversion kit is available from ***Langer & Laumann Ing. Büro GmbH*** as ***warehouse inventory***.

4 Tools required

Angle grinder
Drilling machine
Metal drill bits, 9 and 11 mm
Hexagon socket wrench set
Fork wrenches size 10, 13
Screwdriver
Side cutter

5 Conversion instructions

1. Please remove all packaging and check against the parts list for completeness.
2. Remove the old drive motor including the electronics and support.
3. Remove the large drive disc. **CAUTION:** The wire cable is still required for the 2:1 transmission ratio for the slow door panel.
4. Mount the TSG counter roller using the clamping station and tighten the support bracket.
5. Mount the TSG drive on the TSG Motor bracket and tighten the Buffer bracket.
6. Mount the TSG on the counter roller side on the door machine (see Fig. 3: Counter roller, ready mounted, page 14).
7. Mount the TSG on the drive side on the door machine (see Fig. 4: TSG drive, ready mounted, page 14). **CAUTION:** The TSG counter roller and TSG drive must be aligned to each other!
8. Set the TSG toothed belt in place, connect it with the TSG toothed belt lock and clamp it with the clamping station.
9. Position the TSG door panel carrier on the fast door panel and connect it with the TSG toothed belt lock (pad underneath the TSG door panel carrier depending on the situation to maintain distance to the door panel).
10. Move the TSG stop up to the TSG door panel carrier.
11. Fasten the buffer stop included with delivery together with the support on the door operator. The car door must be completely closed when the buffer stop meets the stop.
12. Remove the latch with magnet holder then dismounting the magnet and spring (see Fig. 11: Kone ADC latch rebuilt on L&L, 3D, page18).
13. Screw L & L Sinus drive for Kone ADC into the holder and connect conrods with the moving axis (see Fig. 13:Kone ADC without magnetic latch and spring, page 18).
14. Mount latch back to the old position.
15. Control the infrastructure.
16. The electrical connection of the locking motor by means of the supplied cable.
17. TSG electronics calibrate. It should be noted that both in the open and in the closed position, a fixed buffer is present. For further commissioning and electrical connection is made at this point to the manual of the TSG.

The existing wire cable must be shortened:

1. Remove the black "rocker" (see Fig. 5: Black "rocker", page 15) by loosening the two screws.
2. Move the slow door panel to the appropriate position so that you can reach and loosen the two screws holding the wire cable onto the door panel (see Fig. 6: Slow door panel with wire cable, page 15).
3. Release the wire cable on the door panel.
4. Loosen the wire cable on the opening side by removing the cable clamp (see Fig. 7: Open side with cable clamp, page 16).
5. Loosen the locking screw and remove the wire cable onto the large driving wheel.
6. Shorten the wire cable by the length of wire that was guided around the driving wheel.
7. Fasten the wire cable onto the opening side again. Adjust the slow door panel.

NOTE:
It is often useful to examine the exact position of the belt and the stop buffer before mounting the individual components or assemblies.

6 User setting - h parameters

Table 1: h parameters

Parameter	Funktion	Min.-Wert	Default-Wert	Max.-Wert	Faktor	Einheit
hA	Only for use with optional add on boards (valid from version TSG V4). 00: Opportunity to move to the intermediate position and Ready For Operation (usable with add on board 4E/4A relais or 4E/4A electronic) **01: interlock or skate drive (e.g. QKS9, usable with add on board additional drive)** 03: interlock with emergency power supply (e.g. Koch, usable with add on board additional drive) 04: enabling mode (usable with add on board 4E/4A electronic) 05: external sensor, two channel (usable with add on board 4E/4A electronic)	00	00	05		
h7	Opening time of the skate	00	00	99		[1/100 Sekunde]
hb	Closing time of the skate	01	50	99		[1/100 Sekunde]
hC	Stop between opening of the skate and opening of the door	01	50	99		[1/100 Sekunde]

6.1 Short description

The TSG extension board for drive is able to activate and move at least two additional drives. It is connected with the control section of the TSG main board for this purpose. Parameters can be adjusted in the TSG main board for activating the function (hA), changing the opening and closing time of the drive (h7, hb) and setting the time delay between the opening of the drive and the opening of the door (hC).

6.2 Activation of the function

To be able to use the TSG drive expansion board function, activation must be set to **01** with parameter **hA**.

NOTE:
For additional information on parameter settings, see the TSG door control device manual.

6.3 Opening and closing time of drive

The opening and closing time of the drive can be adjusted with parameter **hb and h7**.
Values can be changed in increments of 0.01 seconds. A time of 0.50 seconds can be applied as the default value for both the in and out travel of the drive. However, this value must be monitored and adjusted to specific local conditions as appropriate.

CAUTION:
The values must not be set larger than the time actually required to move the drive in or out. Otherwise the drive could fail!

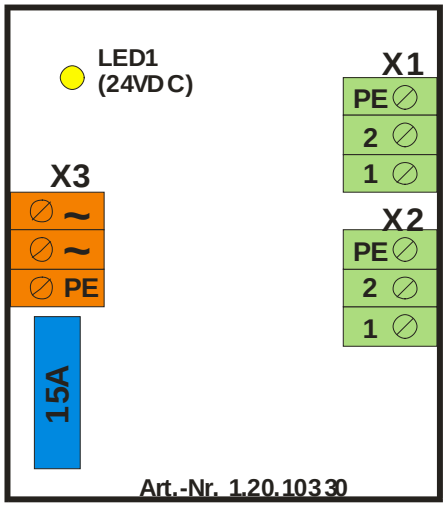
NOTE:
When a value is changed and confirmed, it is permanently stored. This means that the modified value is still available even after a power failure.

6.4 Time delay between door drive and drive

A setting can be made so that when an open command is sent from the elevator controller to the door control device, the drive first moves the skate apart and then the door moves up. Parameter **hC** can be adjusted for this purpose.

6.5 Technical data for TSG electronics

6.5.1 Overview of TSG drive expansion board



X1: Connection for drive 1

X2: Connection for drive 2

X3: Alternating voltage connection

LED 1: 24[VDC] ok

6.5.2 Terminal assignment for TSG drive expansion board

Table 2: TSG expansion board X1 – drive 1

X1 drive 1 (3-pin screw connector)**:**		
1	Connection 1	
2	Connection 2	
PE	PE	

Table 3: TSG expansion board X2 – drive 2

X2 drive 2 (3-pin screw connector)**:**		
1	Connection 1	
2	Connection 2	
PE	PE	

Table 4: TSG expansion board X3 – mains power connection

X2 drive 2 (3-pin screw connector)**:**		
~	Connection 1	
~	Connection 2	
PE	PE	

7 Illustrations

Fig. 1: KONE ADC before conversion (here: KONE ADC2, TR)

Fig. 2: KONE ADC with TSG, conversion complete

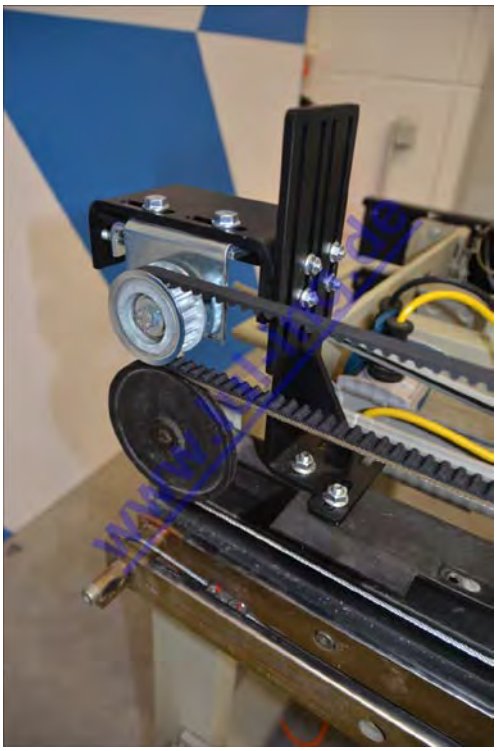


Fig. 3: Counter roller, ready mounted

Fig. 4: TSG drive, ready mounted

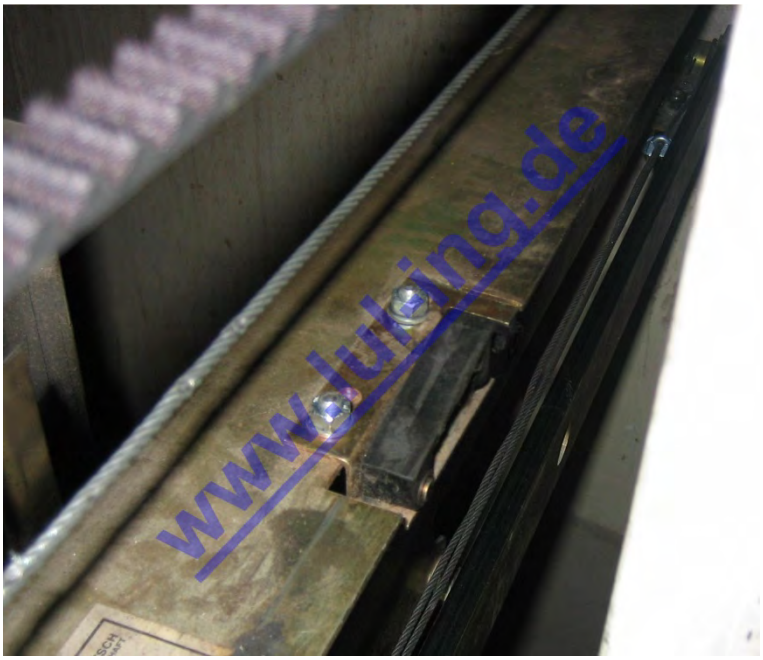


Fig. 5: Black "rocker"

Fig. 6: Slow door panel with wire cable

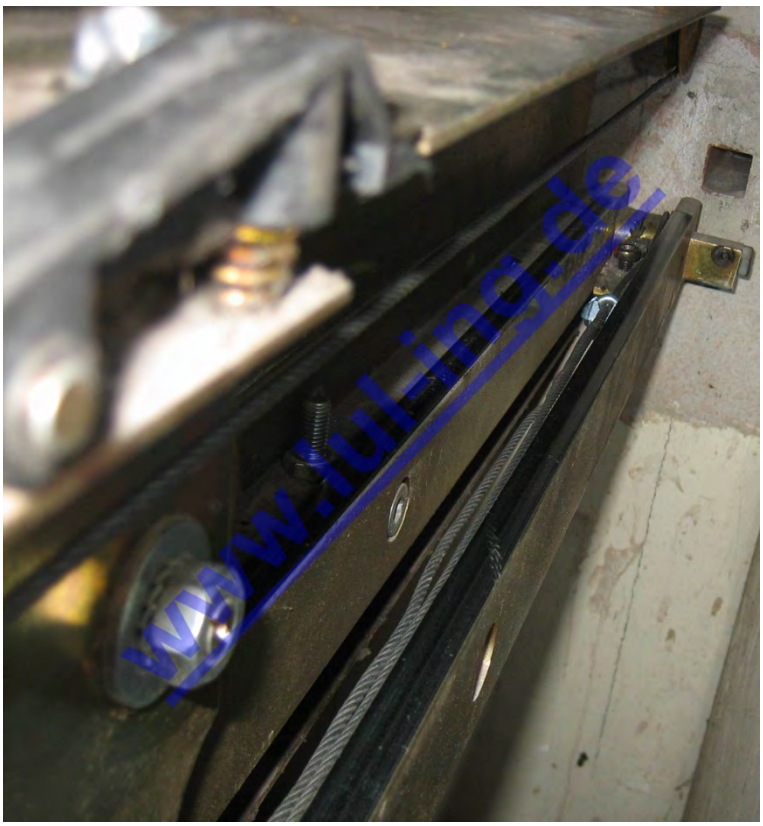


Fig. 7: Open side with cable clamp

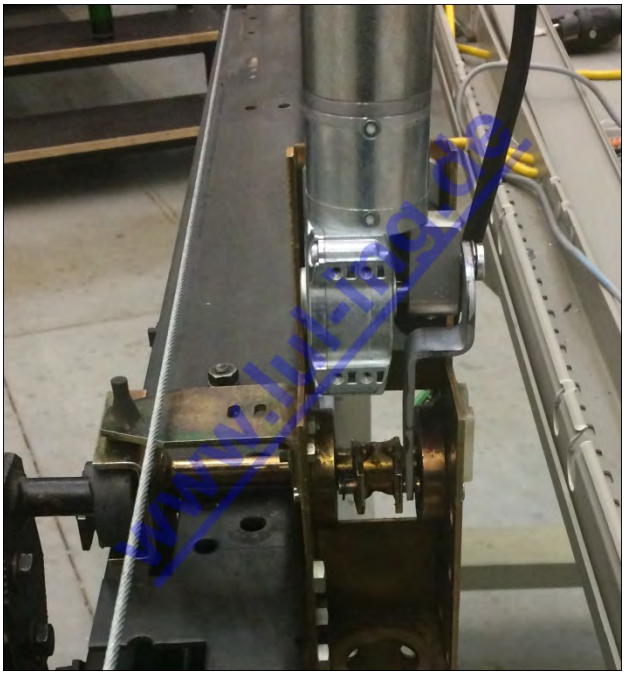


Fig. 8 Kone ADC latch rebuilt

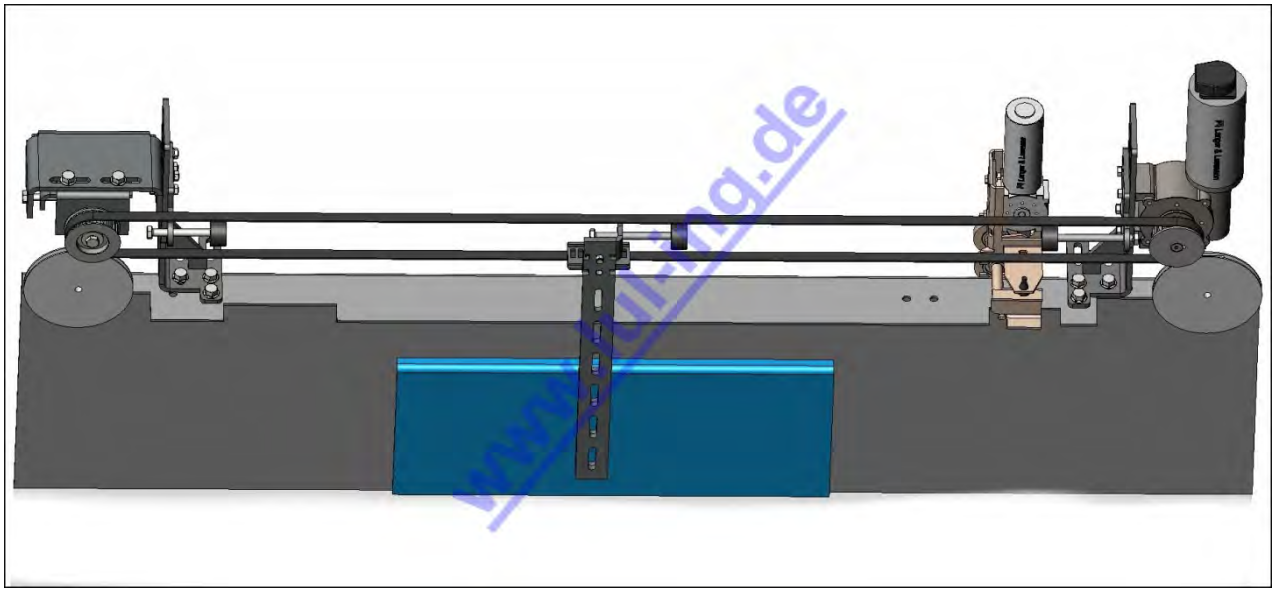


Fig. 9: Kone ADC 3D overview

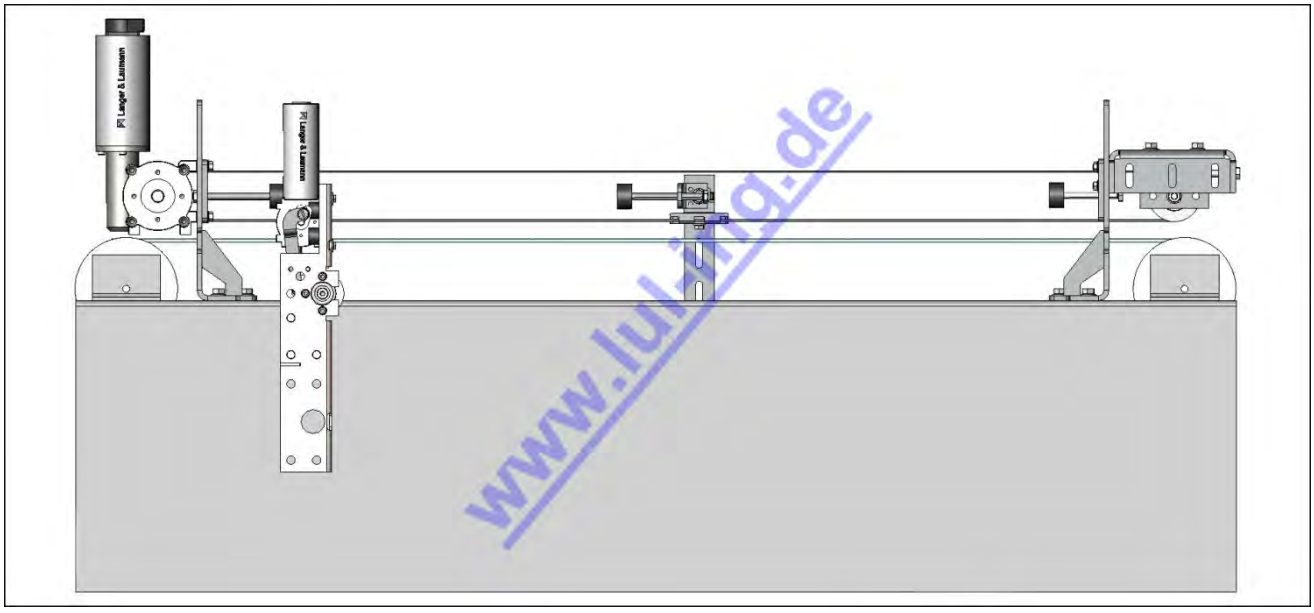


Fig. 10: Kone ADC 3D from behind

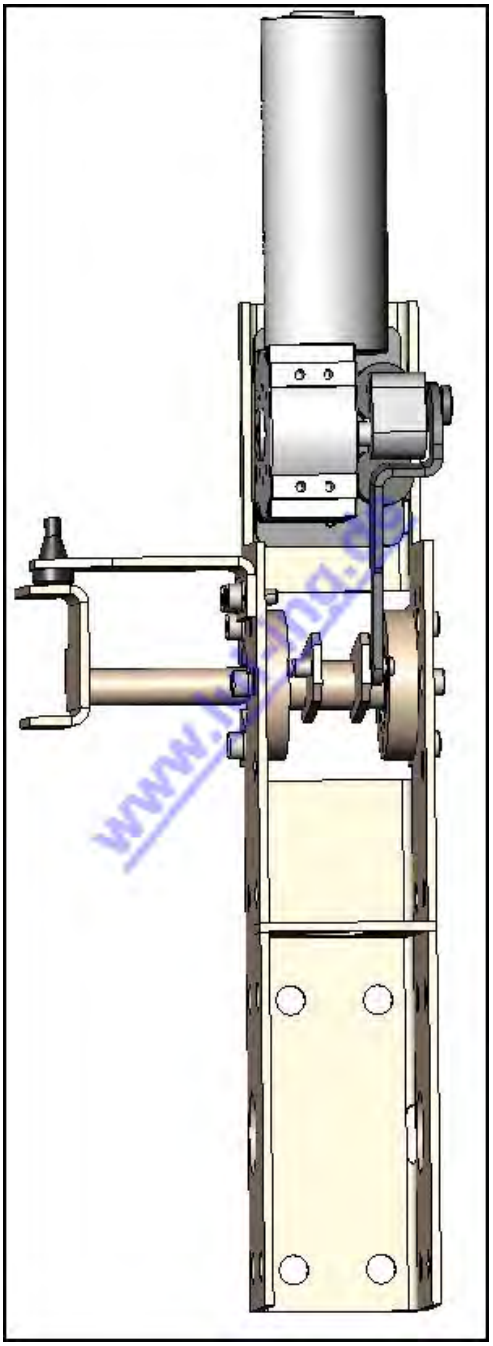


Fig. 11: Kone ADC latch rebuilt on L&L, 3D

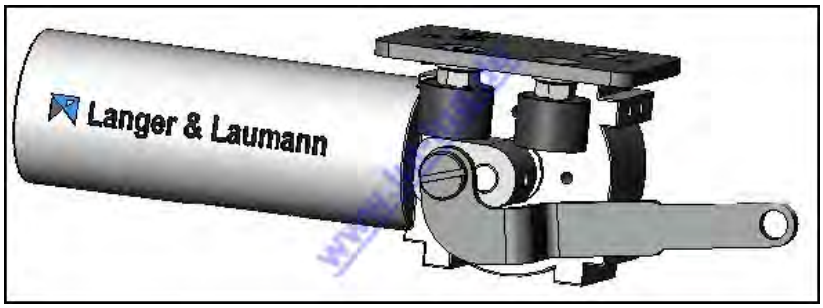


Fig. 12: TSG Sinus drive for Kone ADC latch

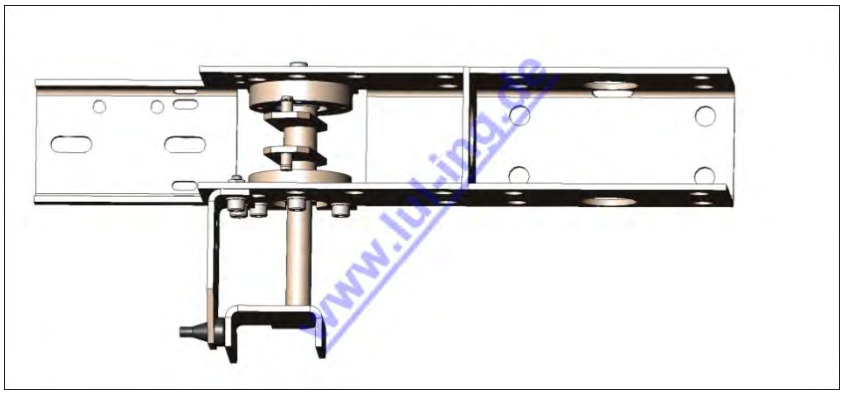


Fig. 13:Kone ADC without magnetic latch and spring

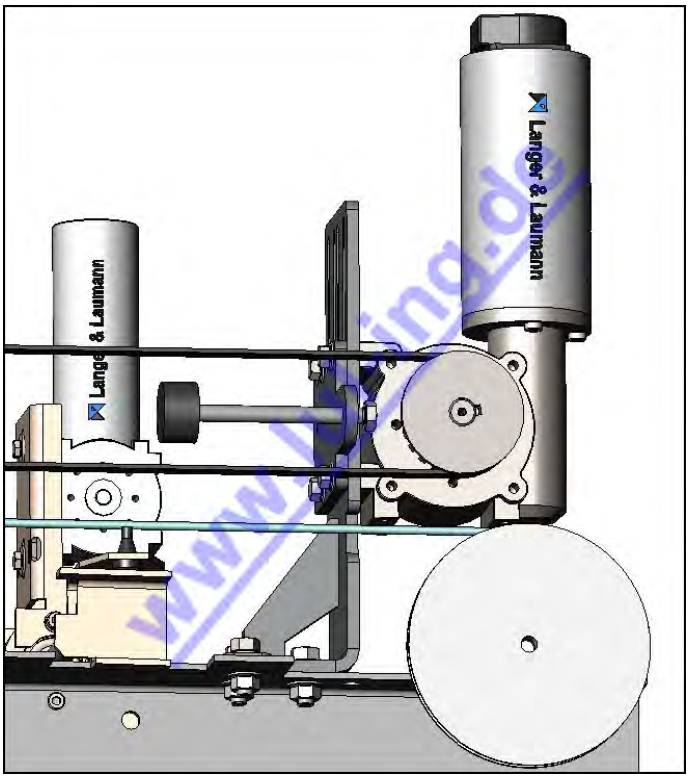


Fig. 14: L&L Kone ADC motor side

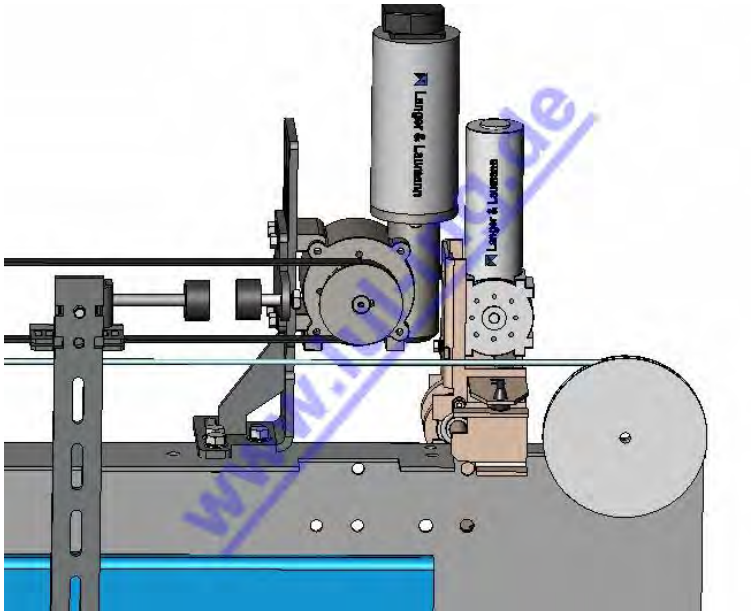


Fig. 15: Alternative motor position

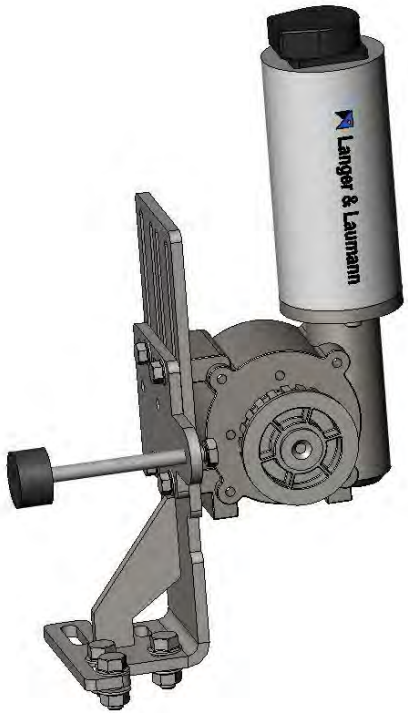


Fig. 16: L&L Kone ADC motor side

Fig. 17: L&L Kone ADC motor side

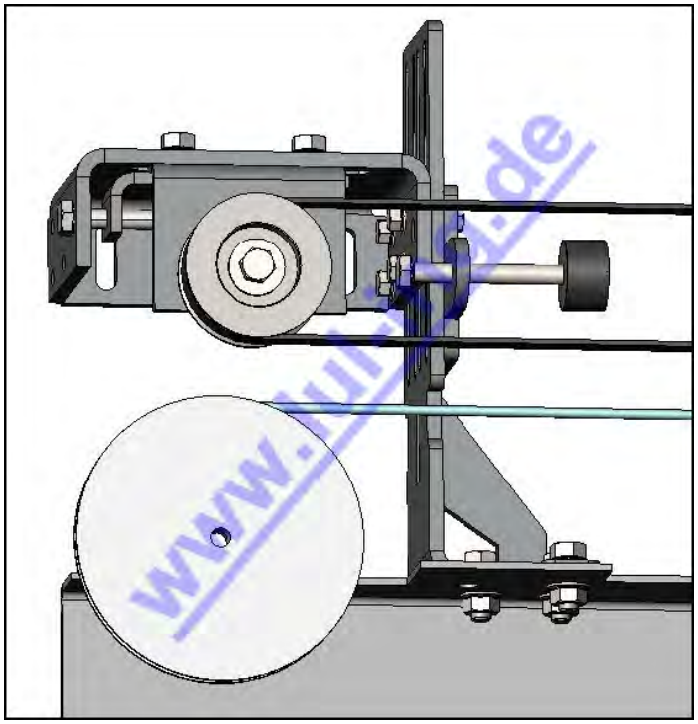


Fig. 18: L&L 3D counter roller

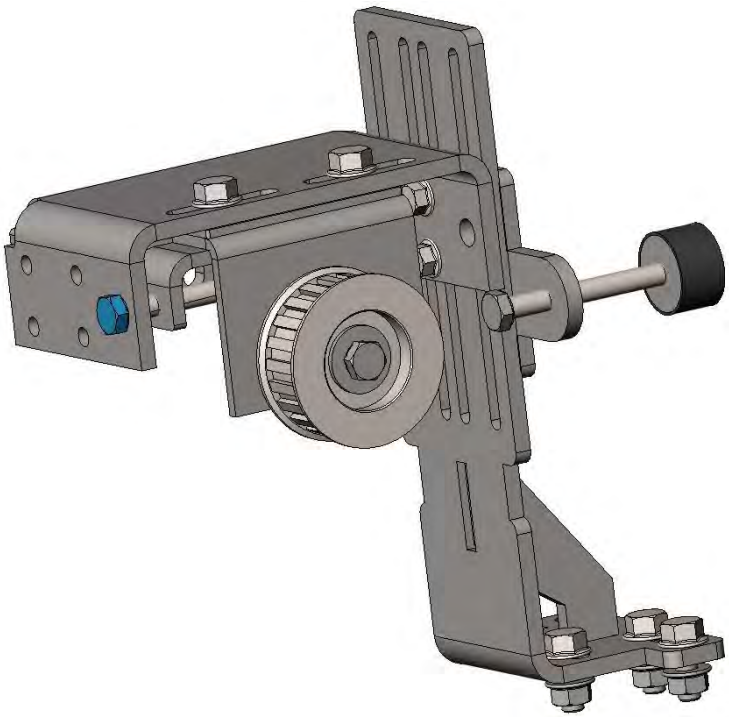


Fig. 19: L&L 3D counter roller

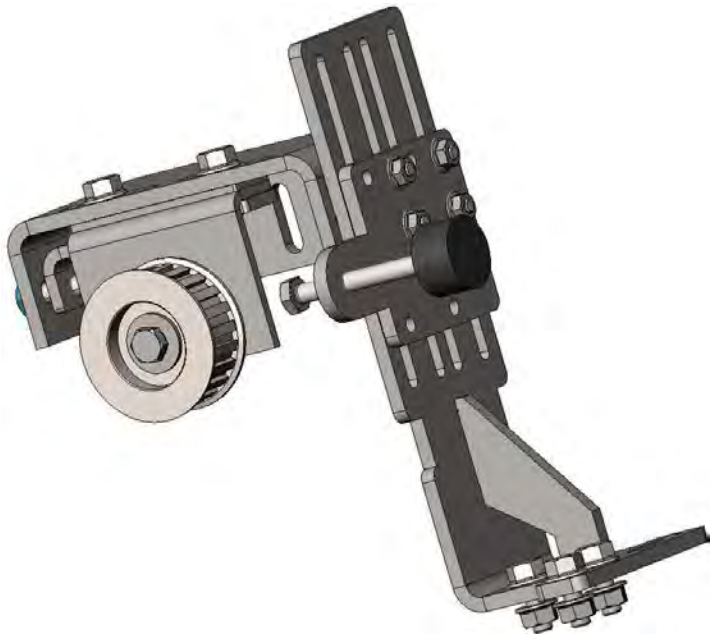


Fig. 20: L&L 3D counter roller

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