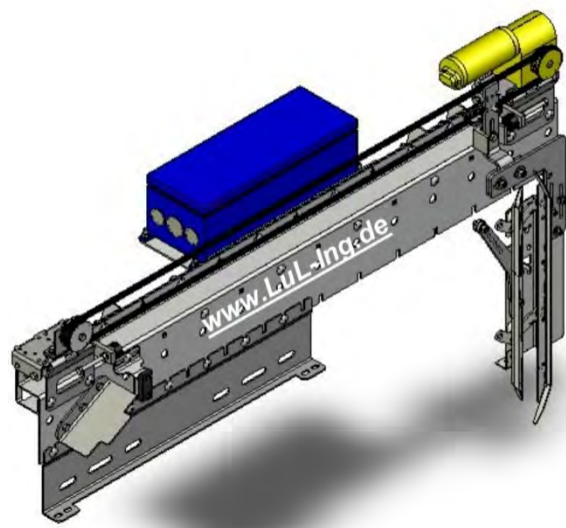


Installation Instructions

Schindler QKS11 L&L to TSG door operator



document history

No.	ver.	date	worker
4	1.3	04.01.08	CSA
5	1.4	28.10.14	CSA
6	1.5	26.11.15	JE
7	1.6	31.12.19	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.

Langer & Laumann Ing.-Büro GmbH
Wilmsberger Weg 8
48565 Steinfurt
Germany

Telephone: +49 (2552) 92 7 91 0

Email: info@LuL-Ing.de

Web: www.LuL-Ing.de

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1 Basic Instructions

1.1 Status of the Installation Instructions

Product installation instructions are enclosed by the manufacturer or supplier in order to provide the customer or fitter with the essential knowledge necessary for correct and safe installation. These brief installation instructions are intended to clarify basic mechanical installation steps and to illustrate the principal differences between the door operator versions for telescopic 2-panel and central 2-panel. Electrical connection, commissioning and adjustment of the door control unit are expressly not components of these instructions.

1.2 Copyright

We reserve all rights pertaining to these technical documents. It is prohibited to reproduce them, make them available to third parties or to use them in any other unauthorised manner without our prior agreement. Changes require our express prior and written agreement.

1.3 Instructions in the Installation Manual

All instructions in the installation manual absolutely must be adhered to.

1.4 Informal Measures by the Fitter

The fitter installing the system is him/herself responsible for participating in training. He/she must immediately inform the manufacturer/supplier of missing or damaged delivered parts.

1.5 Requirements of Installation Personnel

Persons responsible for installation and maintenance should be familiar with the generally applicable safety and work-hygiene regulations. They should be familiar with Langer & Laumann products. Installation tools are to be properly functional and measuring instruments must be subject to continuous checks.

2 General

2.1 Summary Sketch

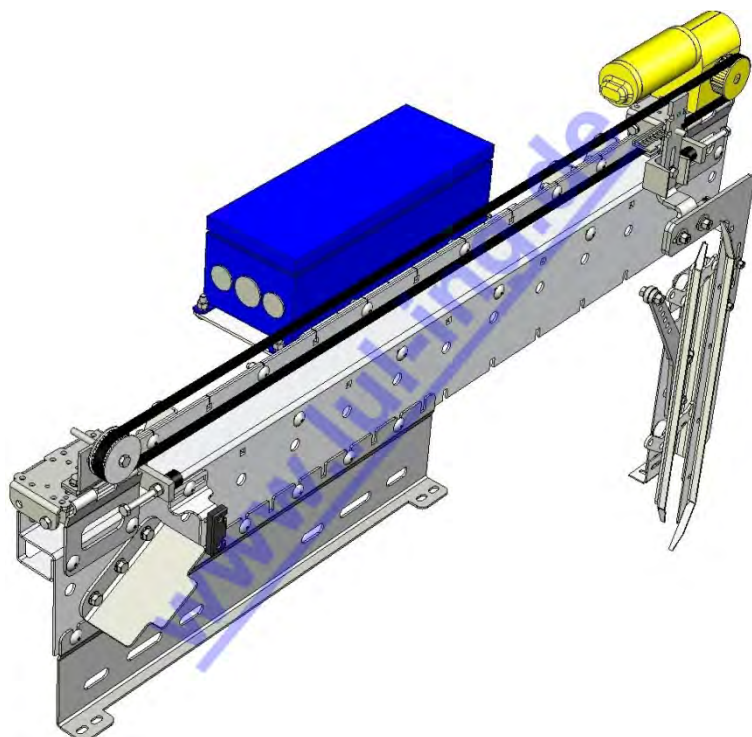


Fig. 1: L&L QKS11 door operator - 3D view (TR)

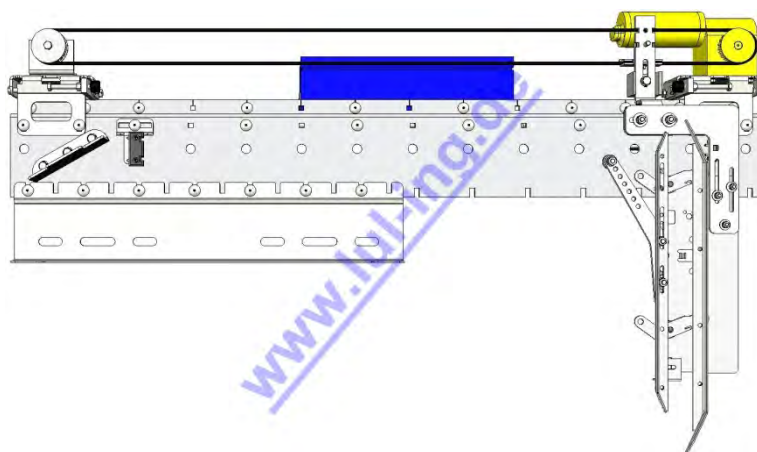


Fig. 2: L&L QKS11 door operator - view from the front (TR)

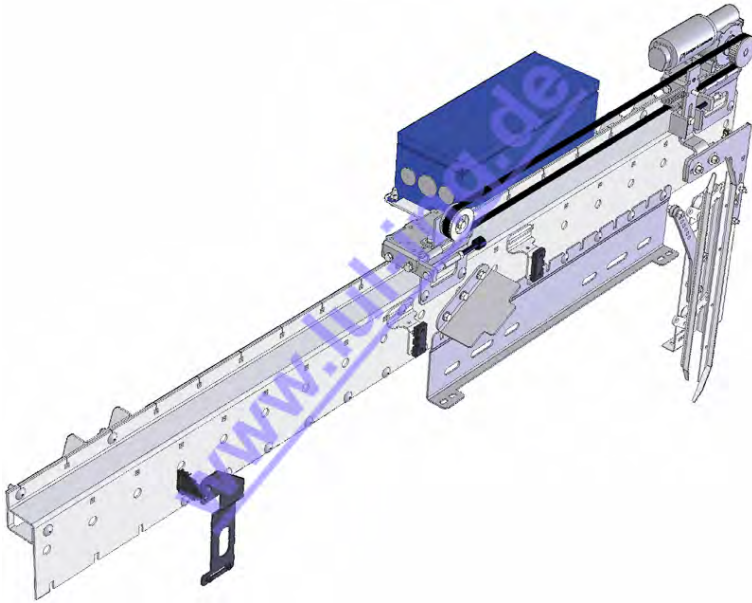


Fig. 3: L&L QKS11 door operator - 3D view (C)

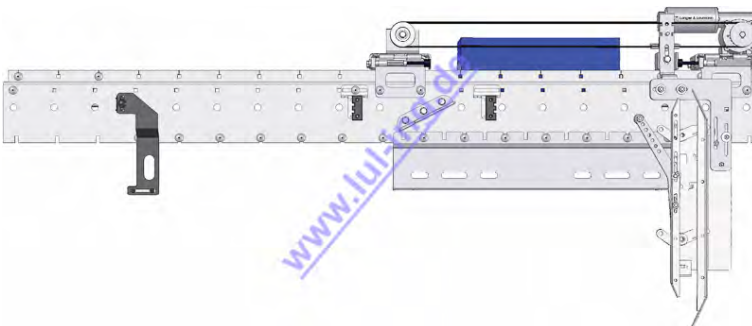


Fig. 4: L&L QKS11 door operator - view from the front (C)

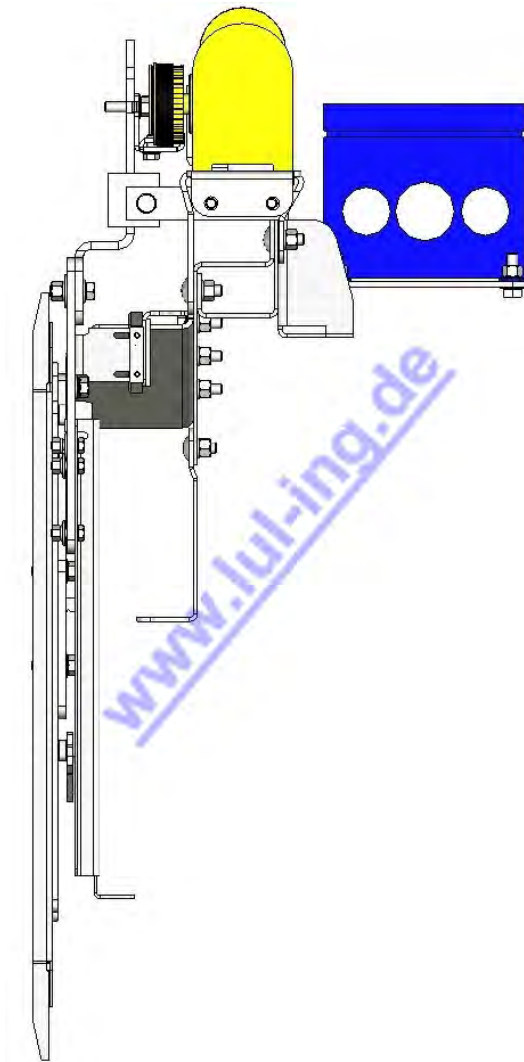


Fig. 5: L&L QKS11 door operator - view from the side

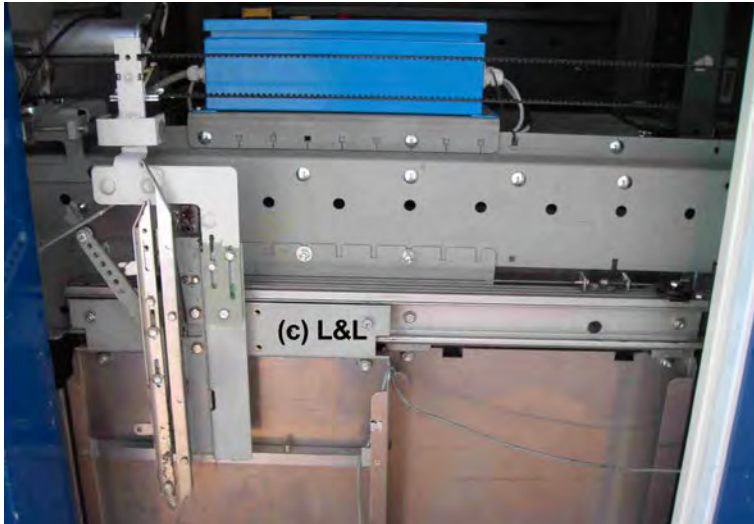


Fig. 6: overview QKS11 L&L - door operator after conversion (here: telescoping right)

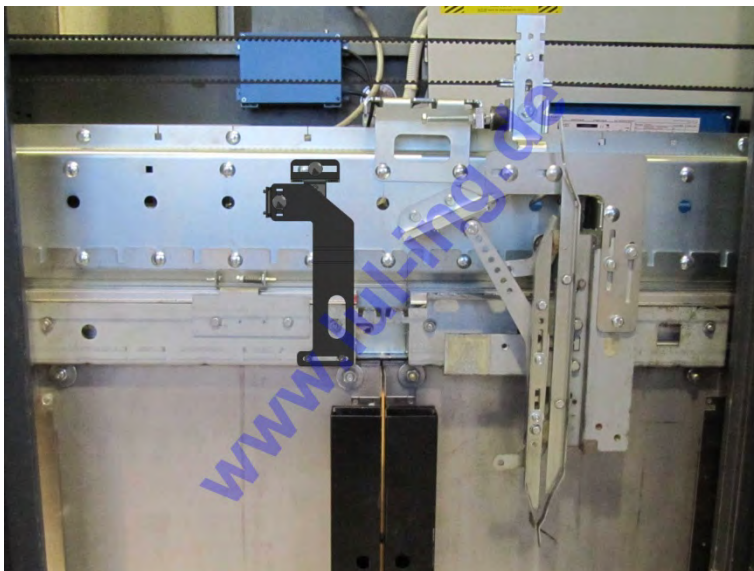


Fig. 7: overview QKS11 L&L - door operator after conversion (here: center opening)

2.2 Variant of QKS11

Following the variants of QKS11:

Tabelle 1: variants

Door width (configuration)	2 panel telescoping left	2 panel telescoping right
700	X	X
800	X	X
900	X	X
1000	X	X
1100	X	X

(X) = existing, (-) = not existing

2.3 Measure

Tabelle 2: Measure

Door width (configuration)	2 panel telescoping left [mm]	2 panel telescoping right [mm]
700	1120	1120
800	1270	1270
900	1420	1420
1000	1570	1570
1100	1720	1720

2.4 Scope of Delivery of Mechanical Assemblies

- Door mechanism (completely assembled incl. cogs, belt, drive, buffer)
- door-panel carrier (incl. bolts, washers)
- Safety limit switches (incl. bracket, actuator)
- Control cabinet bracket
- Housing (incl. TSG PCB)
- Springing retainer (incl. shims)

2.5 Description of Product Functions

All the door drives operate according to the same function principle. The doors are activated by a DC motor using toothed belts and two or more pusher dogs.

The DC motor drives a toothed belt. The pusher dogs are fastened to the toothed belts by means of a catch. The cab doors are firmly interconnected with the pusher dogs.

The existing retractable door cam is modified by material included in the delivery. The existing retractable door cam is folded up into the closed position by means of a lever.

3 Assembly Instructions for Mechanical Part

3.1 Fundamental Info

In principle, the door frame is pre-commissioned for all types of doors and are pre-assembled as much as possible at the factory.

However, there are a few items that still have to be assembled on the cabin doors and adapted on site. Likewise, adjustments are required on the pulleys, the limit switches as well as the door pusher dogs. The existing retractable door cam on the shaft opening remains intact in principle, but requires additional metal parts.

Bei der Demontage ist zu beachten, dass sowohl die Führungsschiene (Laufschiene) der alten Türmaschine als auch die 2 zu 1 Übersetzung der Türflügel erhalten bleibt.

As all the assembly steps for the 2 panel telescopic left and 2 panel telescopic right door models are all similar in principle, the following description deals with both door types at the same time. Wherever there are distinct differences, these will be explained explicitly.

For safety reasons all nuts and bolts, which are already tightened upon delivery, must be re-tightened on-site.

3.2 Order of Installation

The sequence, set out here for the assembly, is merely a recommendation. This does not claim to be complete.

3.2.1 Dismantling of old door operator

The guide rail (sliding rail) and the 2 to 1 multiplication of the door wings are retained. Merely the upper part of the old door machine (drive part) is renewed. For this, the screws in the guide rail (sliding rail) are undone and removed. The guide rail (sliding rail) is held by additional screws alongside the actual drive part. These must be undone, however not removed. The guide rail (sliding rail) can now be pulled forwards slightly and the old drive part removed upwards or slightly to the side.

3.2.2 Assembly of retaining plate

The retaining plate (see Fig. 8: QKS11 L&L retaining plate / page 11) is assembled behind the guide rail (sliding rail). All screws in the guide rail (sliding rail), undone earlier, are tightened again and aligned using a spirit level.

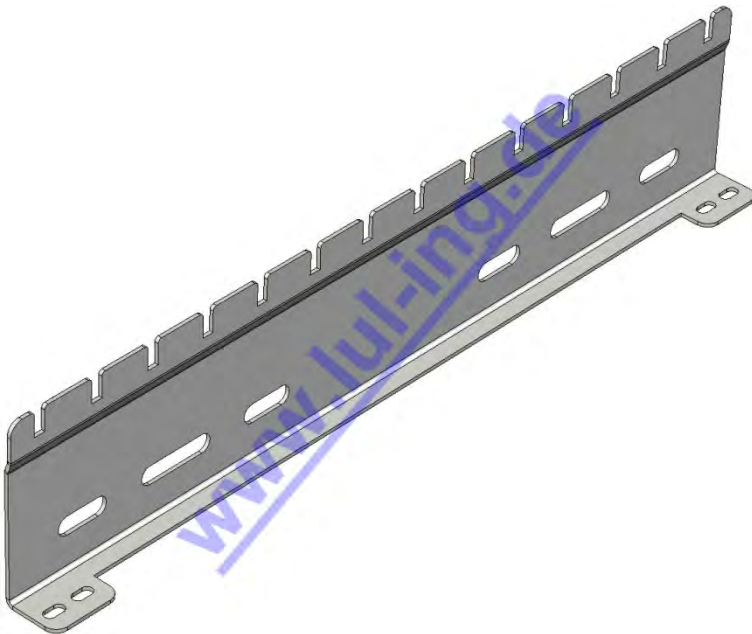


Fig. 8: QKS11 L&L retaining plate

The movement of the door must be checked (no dragging or similar when moving the door by hand).

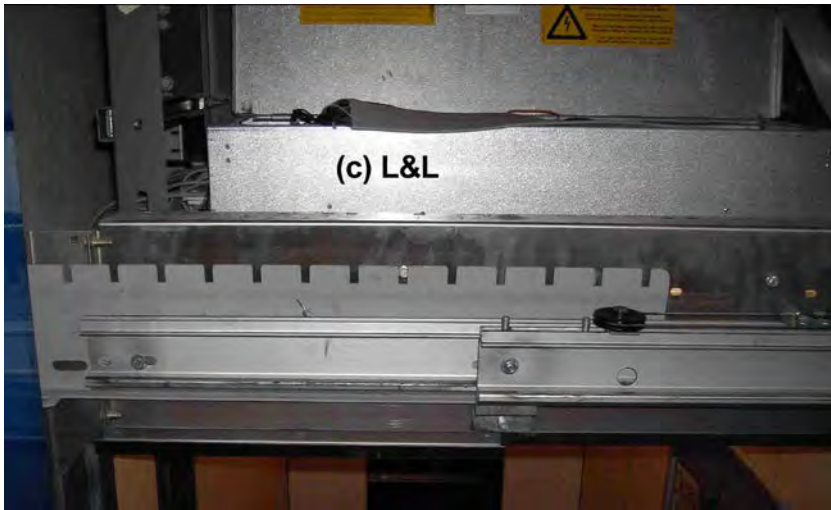


Fig. 9: Retaining plate assembled (here: 2 panel telescoping right)

In some versions of the original QKS11 door operator it can be one or both tabs have to be separated, so that the retaining plate can be mounted behind the rail (see Fig. 10: QKS11 L&L - section line on the retaining plate / page 12 and Fig. 11: QKS11 L&L - separated tab / page 13).

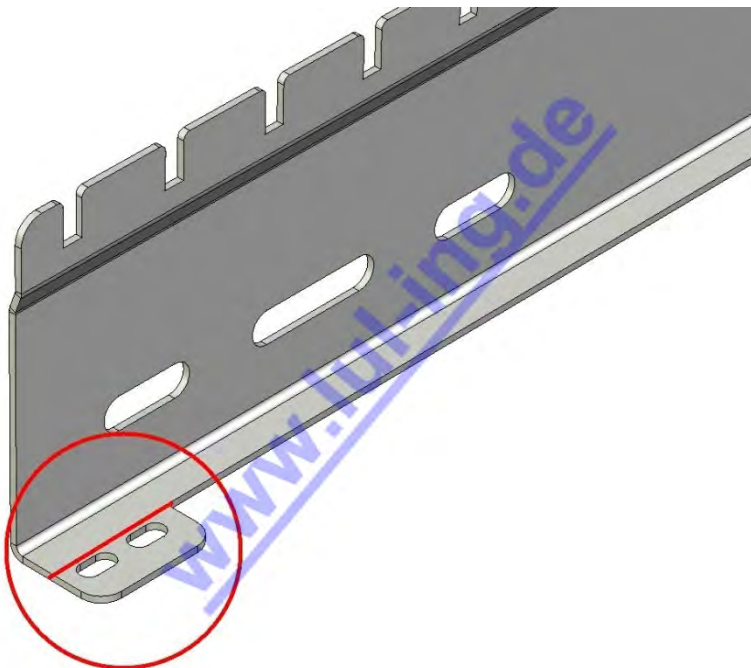


Fig. 10: QKS11 L&L - section line on the retaining plate

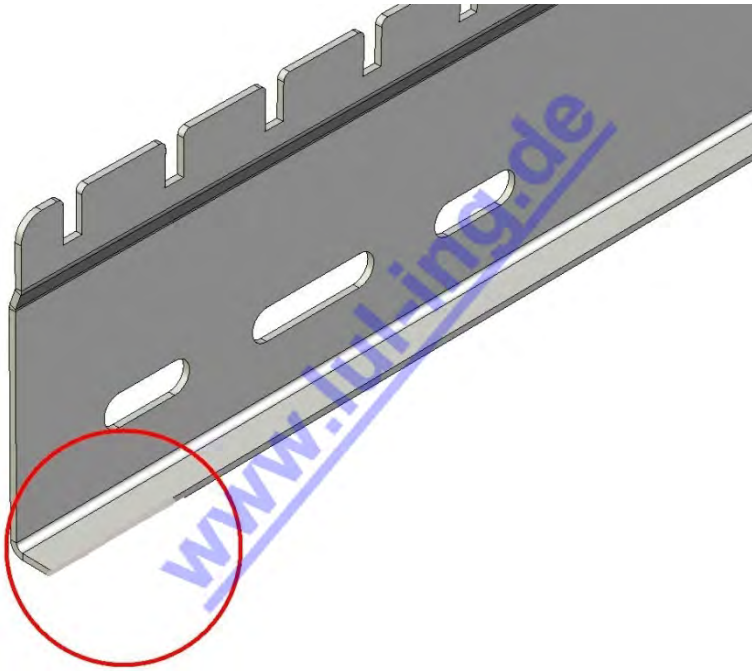


Fig. 11: QKS11 L&L - separated tab

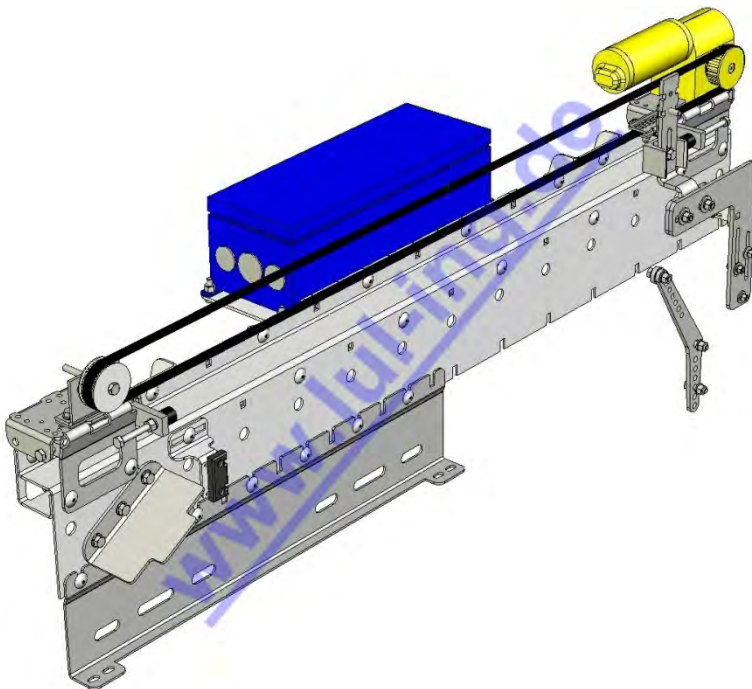


Fig. 12: QKS11 L&L door operator - scope of delivery

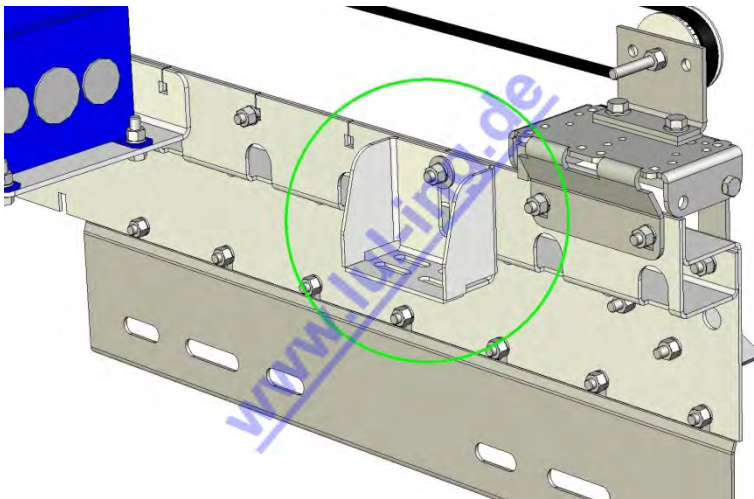


Fig. 13: QKS11 L&L: holder door operator

3.2.3 Assembly of door contact and carrier

The old door contact (including retainer) and the previous synthetic roller on the retractable door cam, are dismantled. With the exception of the two screws with which the old door contact was secured, the parts are no longer required.

The attached carrier is secured to the retractable door cam with the help of 3 screws (see Fig. 14: View of folding retractable door cam with carrier / page 15). Two screws are screwed into the long holes, one screw is screwed into the lower hole as protection against twisting, whereby, first, the two screws are assembled in the long holes and the third screw is not inserted until completion of the adjustment work, through drilling of a further hole in the retractable door cam.

In a centre opening door operator is a second safety contact on the left side mounted. So both panels are quiered (see Fig. 4: L&L QKS11 door operator - view from the front (C) / page 6 und Fig. 7: overview QKS11 L&L - door operator after conversion (here: center opening) / page 8)

3.2.4 Conversion of retractable door cam with lever arm for curve

The attached lever arm (directed towards the closing side) is assembled on the retractable door cam (see Fig. 14: View of folding retractable door cam with carrier / page 15). When so doing, the existing long holes must be used (depending on the installation situation, it may be necessary to shorten the lever arm on the underside).

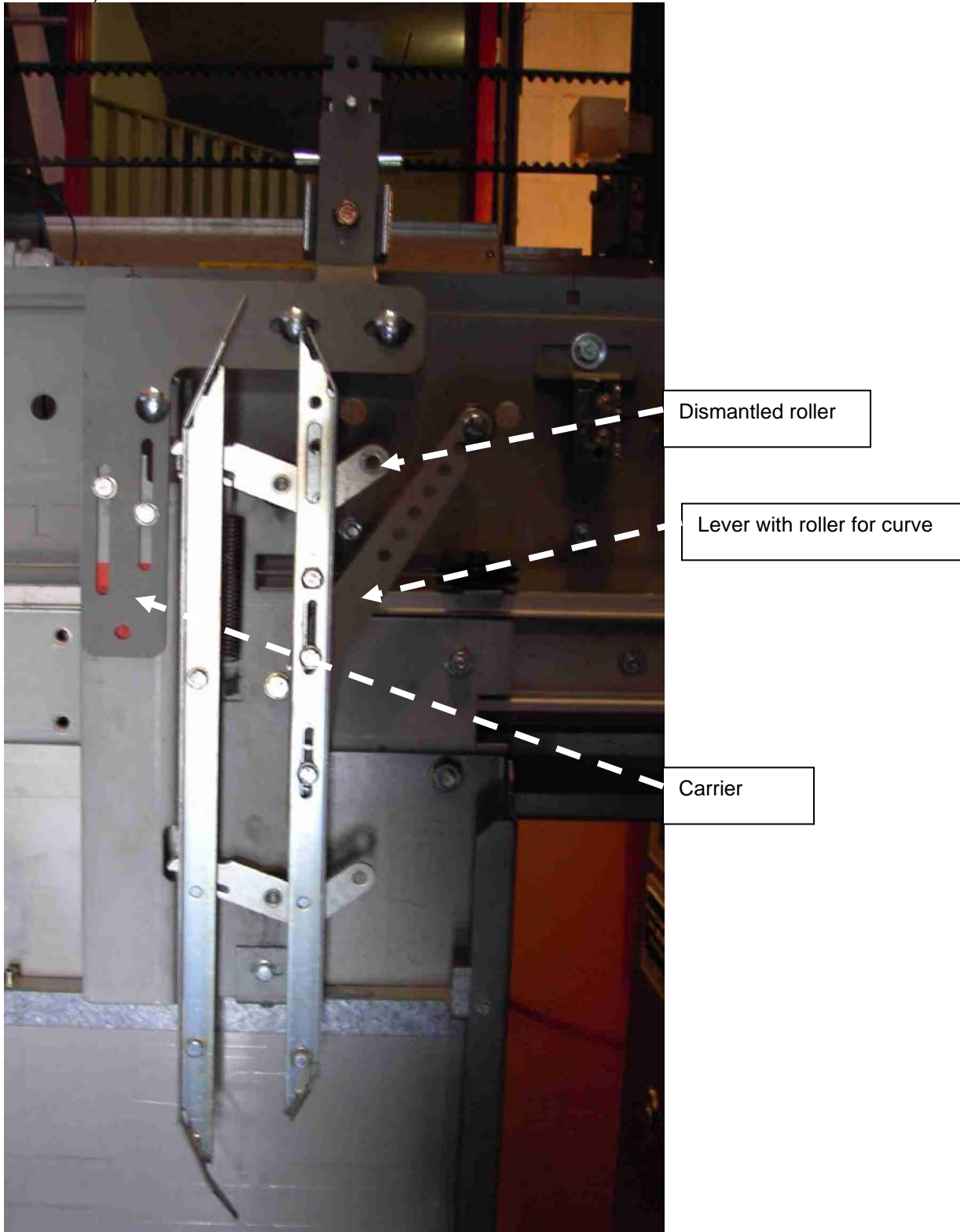


Fig. 14: View of folding retractable door cam with carrier

3.2.5 Assembly of new door operator

The new door drive is placed onto the retaining plate, already assembled, from above and secured with the screws. Experience has shown that, on the closing side of the door machine, the second hole on the underside of the door drive and the third hole on the upper side of the retaining plate must coincide with one another (see Fig. 15: Closing side QKS11 (here: telescoping right) / page 16).

Note: As a result, door drive and retaining plate are not flush sideways!

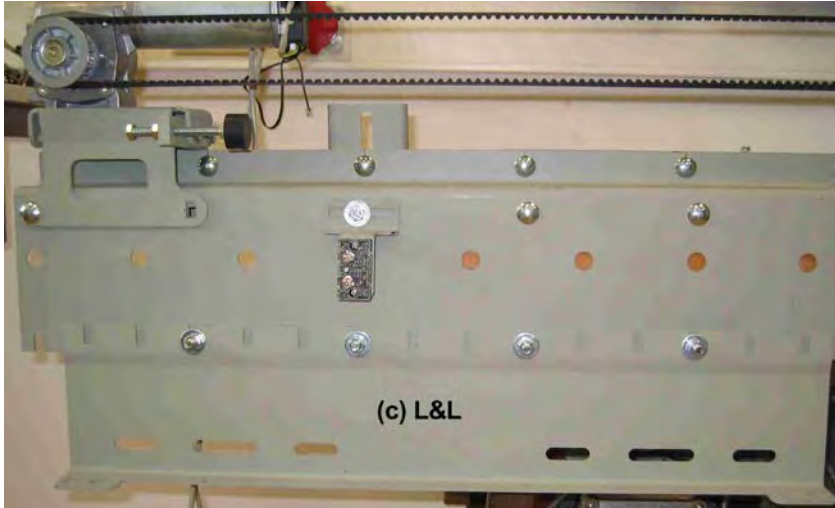


Fig. 15: Closing side QKS11 (here: telescoping right)

After securing the door drive to the retaining plate and securing the carrier to the toothed belt (with the help of the toothed belt lock), check whether the travelling path of the door or carrier is within the limit stops (buffers), and whether the door can be opened and closed fully. If this is not the case, adjust the limit stops (buffers) if necessary; if this is not sufficient, move the entire door drive on the retaining plate.

Note: Attention should also be paid to ensuring that the safety contact moves into the safety switch. The fine adjustments are carried out later.

3.2.6 Mountings for door machine on cabin roof

The door machine is secured to the cabin roof of the lift using the mountings.

3.2.7 Assembly of curve for retractable door cam

The attached curve for the retractable door cam is secured to the door machine. When so doing, attention must be paid to ensuring that the lever arm on the retractable door cam moves against this curve with the roller in the closed position and, as a result, closes the retractable door cam completely. As the position of the curve on the door drive is not always clear, the suitable location for assembly must be identified on the door machine on-site and the corresponding holes drilled (see Fig. 16: View of curve for retractable door cam (here: telescoping to the left) / page 17).

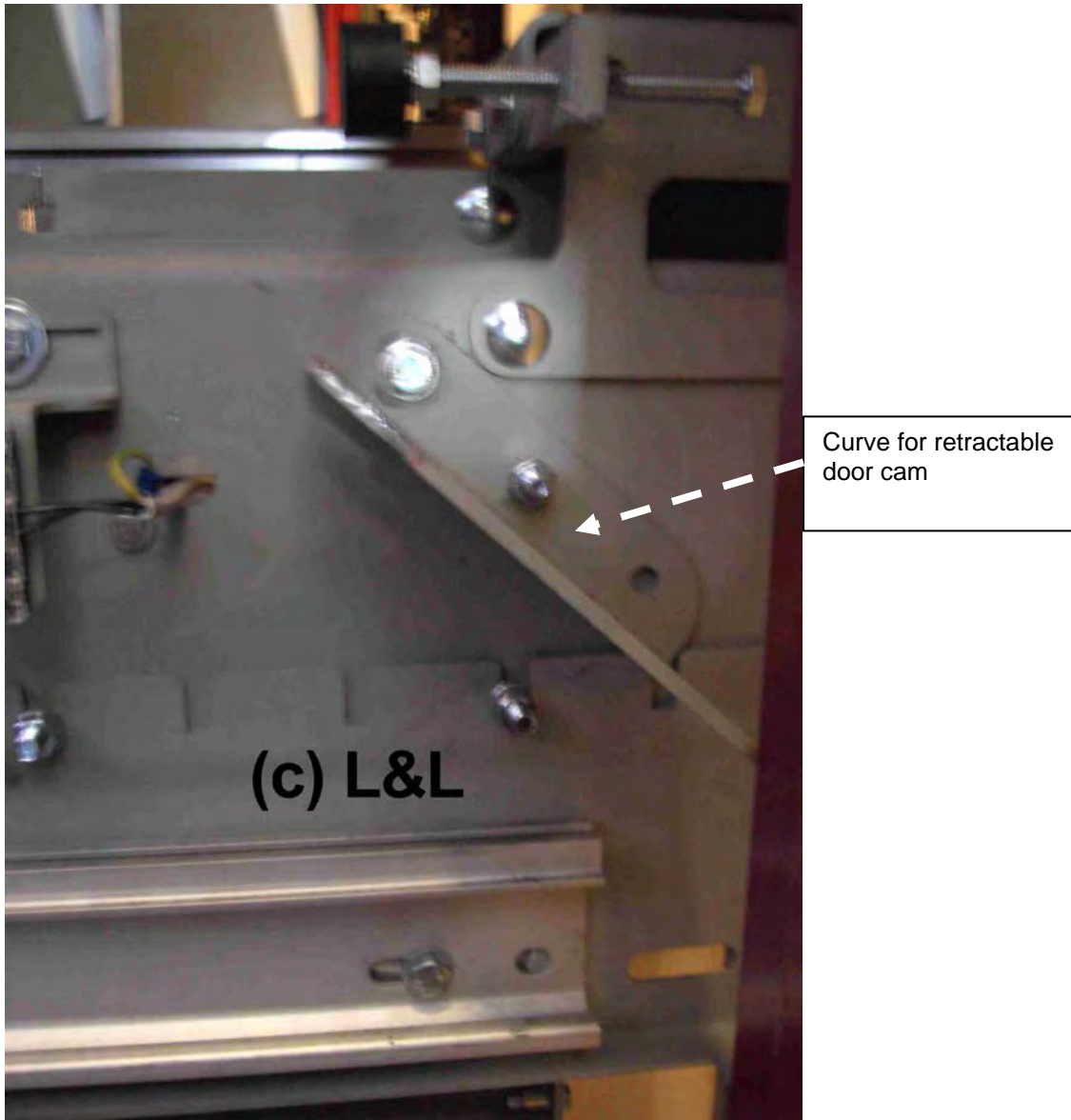


Fig. 16: View of curve for retractable door cam (here: telescoping to the left)

3.2.8 Conclusion

In conclusion, check and correct all settings and the running of the door and, if necessary, secure the entire machine finally to the cabin.

3.3 Safety Equipment

All the safety regulations listed in EN81 must still be observed after modifying the new door machine.

In the case of a telescopic lift door, it should be noted that the door panel has a door interlock.

Extract from EN81-1:

Ch. 8.10 Lift-compartment sliding doors with several mechanically linked door panels

8.10.1 In the case of lift-compartment sliding doors with several directly mechanically interlinked door panels, it is permissible,

- a) to attach the installation as per 8.9.2
 1. either only on one door panel (the fastest one in the case of telescopic doors)
 2. or on the door drive, as long as there is a form-fitting link between the drive element and the door panels,,
and
- b) in the event of locking only one door panel and in accordance with the conditions as per 11.2.1 c, if this one interlock prevents the opening of the other door panels due to their intermeshing with each other in the closed position.

When attaching and commissioning the TSG in/on a lift cabin, it must be ensured that the maximum permitted total weight of the lift cabin is not exceeded under maximum rated load.

In the event of an emergency stop or shut-down of the lift, it must be ensured that the TSG door-control unit does not cause any unintentional, dangerous or uncontrolled door movements.

The simulated limit switch for "Door open", "Door closed" and "Door blocked" on the controller for the door and locking bar drive must not be used as safety equipment with any safety relevance.

4 Assembly Instructions for Electrical Part

4.1 *Calibrating the door*

Following the installation of the mechanical components on the cab and the mounting of the cab doors, the door must be calibrated once. The following conditions must absolutely be observed:

- Any existing shaft locking weight must not bounce
- The cab doors and all the shaft doors must move easily.
- The toothed belts must be taut (one should only be able to depress it in the centre by two fingers).
- The connector rail X1 (inputs) and X2 (outputs) must be stripped temporarily for calibration purposes.

After calibration is completed, the connector rails X1 and X2 must be reconnected.

(We refer to the further calibration of the door contained in the enclosed Operating Instructions for the door control unit TSG200/400 at this time.)

5 Contact

You can reach us at the following address with any questions or queries:

Langer & Laumann Ing.-Büro GmbH
Wilmsberger Weg 8
48565 Steinfurt
Germany

Telephone: +49 (2552) 92 7 91 0

Email: info@LuL-Ing.de

Web: www.LuL-Ing.de