1) Assembly

1.1) The contact-secured cabin railing comprises following components:

- Telescopic railing support without contact 1 x
- Telescope railing support with pre-assembled force-actuated contact (2 switches) 1 x,
- Crossbar made of round tube 2000 mm long
- (hand and knee rail) 2 x,
- Safety bolt with chain and cotter pin 2 x,
- Marking according to EN 81-20, 5.4.7.4
- Plastic end cap for round tube grey 4 x,
- U-washer large 22 x (for fastening the railing supports),
- Nut M8 14 x (for fastening the railing supports)
- Screw M8 14 x (for fastening the railing supports)
- Adjusting ring 4 x (for fastening the crossbars),
- Toe board 2 x (for fastening the crossbars),

1.2) Assembly steps with pre-mounted contact

Step 1:
Mount one of the two vertical railing supports with suitable fastening material (e.g. with the supplied M8 bolts, nuts and washers) given the fixing options on the elevator car top. It must be ensured on site that the components under strain can withstand the transmitted forces.

Fig. 1

Step 2:
Insert the knee rail crossbar (round tube) into the mounted railing support with an overhang of at least 100mm. Push the second railing support which is not yet mounted to the car roof into the other end of the crossbar also allowing a sufficient overhang of at least 100mm. Then fix the unmounted railing support onto the cabin roof using the method outlined in step 1. Make sure that nothing protrudes into the path of the cabin railing during assembly. Make sure that the distance between the vertical railing supports is not larger than 1800mm for stability reasons. If necessary, the crossbars (hand and knee rail) can be cut down to a suitable length. In a next step, insert the hand rail crossbar through both railing supports. Secure both crossbars against horizontal movement by way of placing two adjusting rings per rail flush to the railing supports from outside (see figure 1). In order to achieve compliance with EN81-20 5.4.7.3, a foot guard must be fixed either to the vertical railing supports (horizontally) or to the cabin roof (vertically). The following pictures show the mounting of the foot guard to the supports (Fig. 2) and the connection (overlap) from toe board to toe board (Fig. 3). If necessary, cut the toe boards to a suitable length.

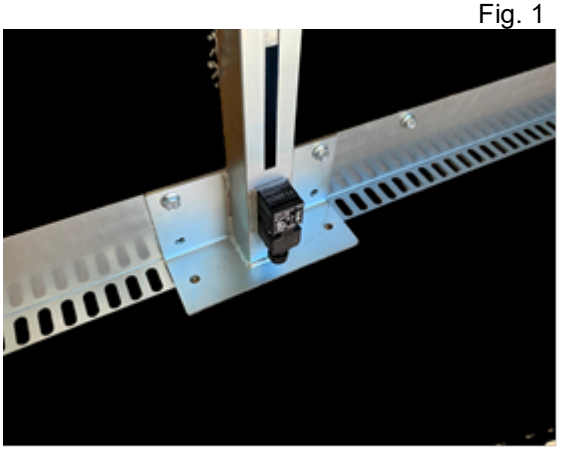

Fig. 2

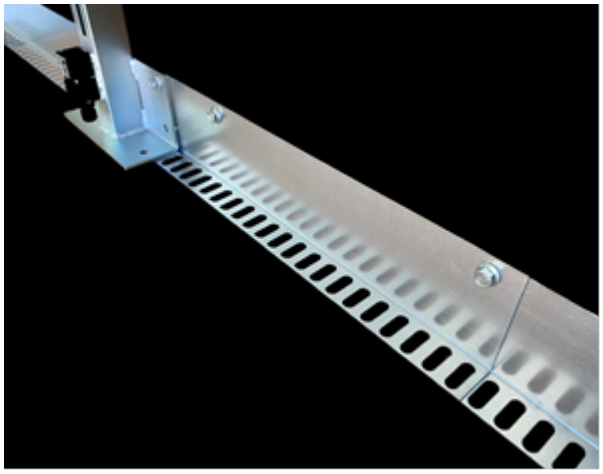

Fig. 3

Step 3:
Fix the plastic caps to both ends of the crossbars (hand and knee rail) to avoid sharp edges.

Step 4:
Insert both safety bolts into the corresponding holes of the telescopic railing supports while in retracted position. Secure the bolts with cotter pins (Fig.4).

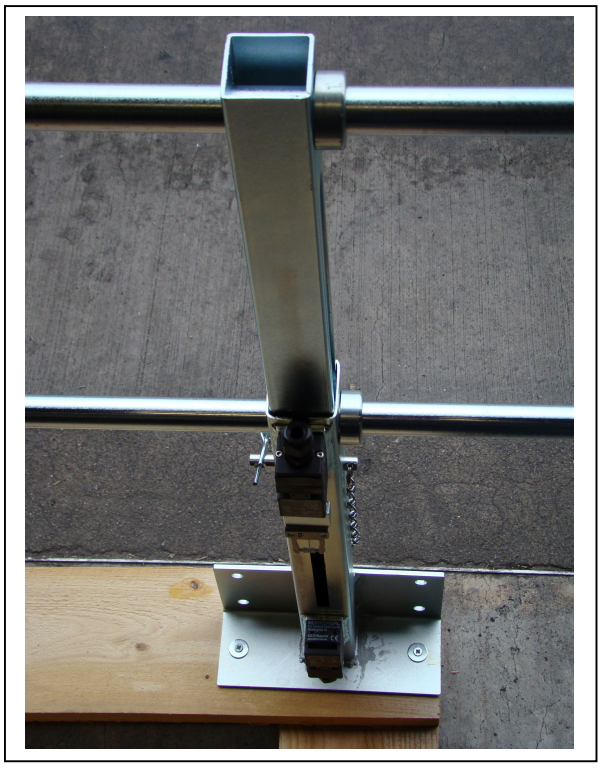

Fig. 4

Step 5:
Connect both contacts to the safety circuit of the lift. The contact must be connected in such a way that the lift can be operated in normal mode while the balustrade is retracted (technician left the car roof and lift doors closed).
Furthermore, the contact needs to be connected in a way that while the balustrade is extended to its maximum a technician can operate the lift from the car roof in inspection mode.

Notes:
Safety remark:
The maximum distance between the vertical railing supports must never exceed 1800mm, even if more than 2 supports are used!
Furthermore, the distance from the outer railing support to the end of the crossbars (handrail or knee rail) must not exceed 300 mm.

2) Usage

Step 1:
When entering the cabin roof the cabin railing is in retracted position. To prepare for the inspection mode, the railing is unlocked by removing the pins on both railing supports. The cotter pins must be removed accordingly.

Step 2:
The handrail tube is then gripped horizontally in the centre and extended upwards parallel to the car roof in such a way that the inner running railing supports do not hook into each other. Pulling up the handrail causes the lower roller lever switch to glide into the railing support (see Fig. 5). This signals the lift control that normal travel is no longer possible.
At the maximum extended height of the balustrade, both railing supports must be secured with the safety bolts and cotter pins in the provided drill holes. This prevents the handrail from lowering due to gravity (see Fig. 6).

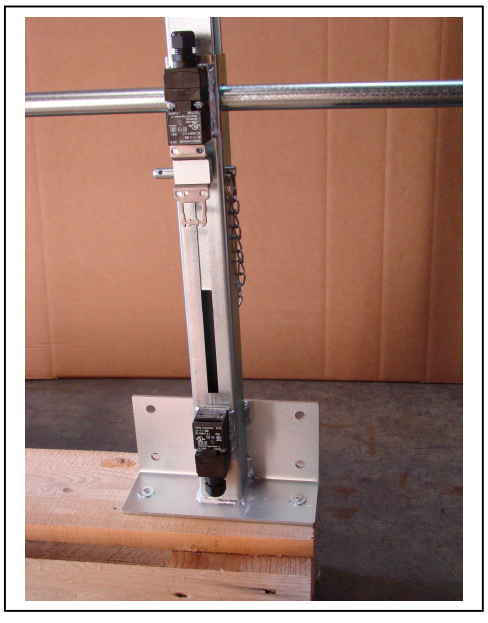

Fig. 5

When extended at maximum height,
secure both railing supports in a row with
the locking pins and the collets respectively in the
drill hole provided to
prevent the hand rail from lowering
due to gravity (see figure 4).

Fig. 6

Step 3:
When fully extended, the upper roller lever switch is immersed into the railing support as well (see Fig. 7). The upper roller lever switch must be properly integrated into the lift control system in a way that the lift can now only be operated in inspection mode to carry out necessary work on and from the car roof.

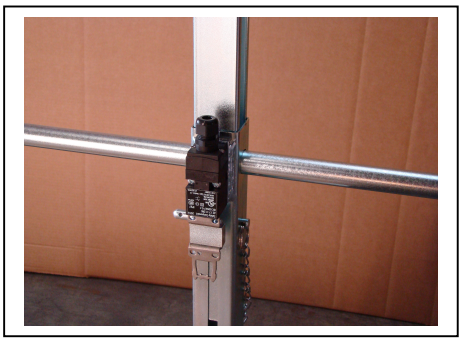

Fig. 7

Step 4:
Before leaving the lift car roof the normal travel mode must be restored. For this purpose, the safety bolts and cotter pins on both railing supports are removed one after the other. Then, the handrail is lowered until the bottom roller lever switch is completely pushed out of the railing support. The safety bolts are now inserted again in retracted position and secured with the cotter pins.

Step 5:
Only after step 4 has been completed the car roof may be left in order to ensure proper operation of the lift.