Index of keywords in the installation instructions for the chair lift type T80

Installation instructions for T80 inclined stair lifts

The installation is to be carried out by qualified technical personnel only!

The following work may be carried out **by qualified personnel only**:

Installation
Adjustments and settings
Maintenance work
Fault finding/rectification

Qualified personnel are persons who

- know how the machine works
- have received instruction on how it works
- have read and understood the operating, installation and service manuals
- are aware of the dangers posed by the machine (and also its components)
- know and understand the interrelationships between the mechanical components
- know and understand the interrelationships between the electrical components
- have the appropriate tools/measuring instruments and know how to use them

When carrying out any work on the machine, please note:

- Do not allow other persons to access the machine when there is an increased danger potential (covers removed, safety devices disabled etc.).
- Avoid the risk of tripping up due to the open machine, tools lying around, electrical cables etc.
- The potential dangers of the machine may not have been increased after conclusion of the work on the machine
- Parts of the machine that are not yet firmly connected to the building/running rail are to be secured against falling over

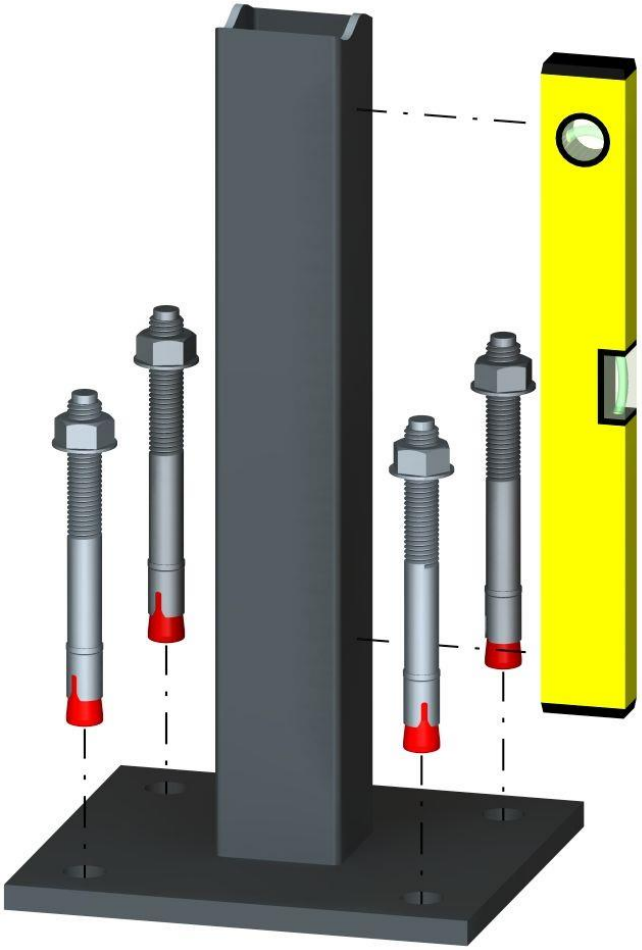
 **The safety instructions in the operating manual are to be observed!!**

1.) Check that the necessary building work has been carried out (e.g. removal of the railing, lintel chamfers, removal of the opposite handrail, relocation of electrical cables etc.).

2.) In order to avoid damage, only unpack those parts of the system that are actually required at any one time. The unpacked parts of the system are to be stored temporarily on the foam material provided. Transporting the chair: insert a tube of an appropriate length (40 x 3 mm) into the upper roller set, which can then be held for transport (the lifting unit is to be fastened to the tube).

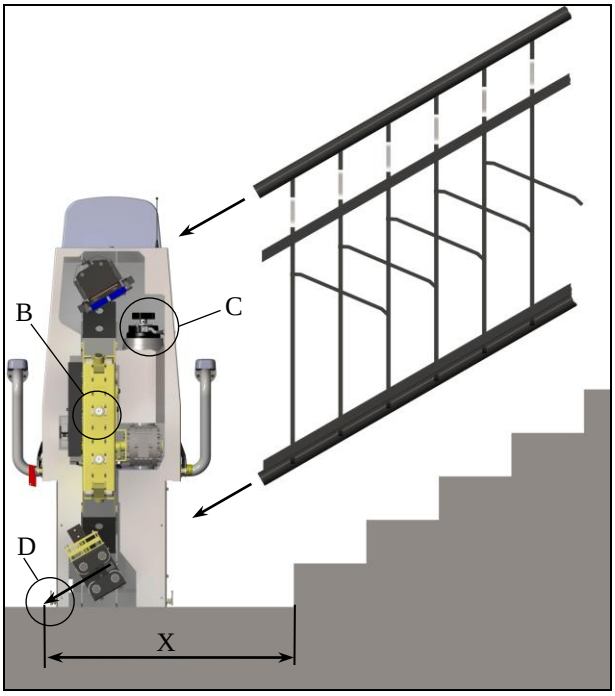
3.) Position the support (in the case of support mounting) in accordance with the installation drawing and fasten it with dowels. When doing this, ensure that the supports are installed vertically (spirit level).

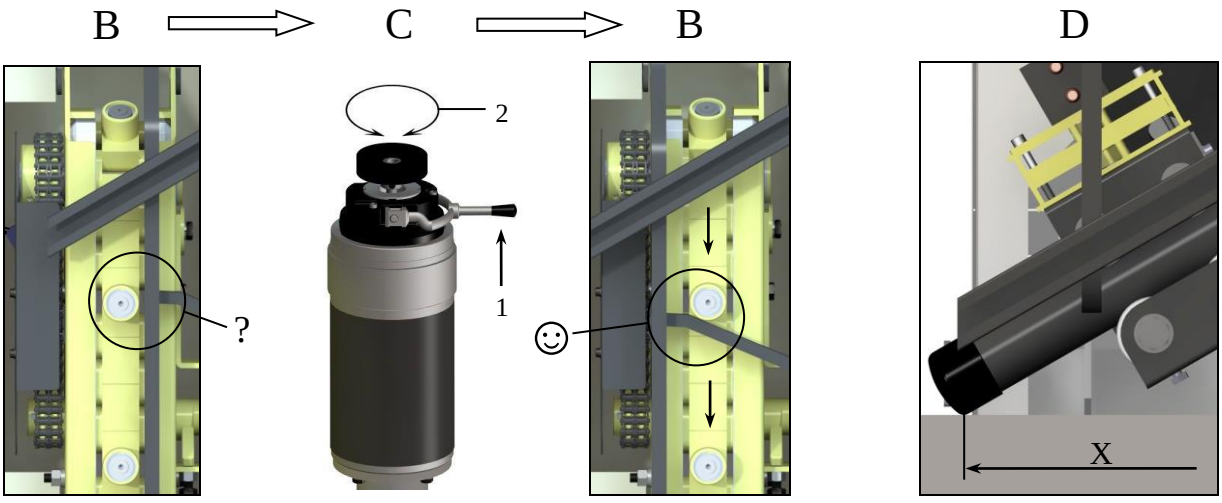
Important!!
It is essential to pay attention to Appendix I on page 20!



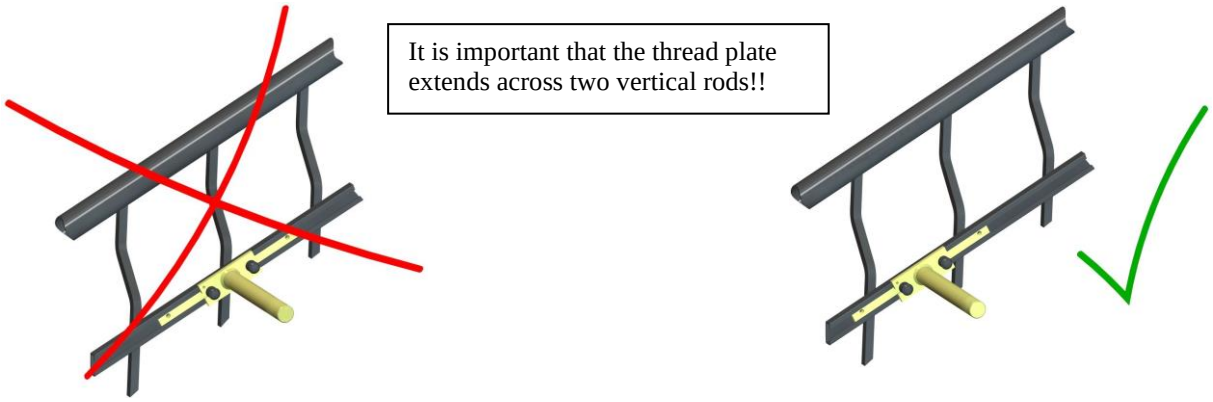
4) In rare cases it may be the case that the lower end of the track or the lifting unit (at the bottom station) does not rest on the floor. In this case, please proceed directly to item 23 on page 18)!

Align the chair lift in accordance with the dimensions on the installation drawing.
Rotate the upper and lower roller heads in accordance with the pitch angle of the running rail.
Insert the first (lowest) section of the track into the roller heads (the track sections are all sequentially numbered (small round metal signs on the individual track sections)).
If the track cannot be inserted any further, because one or more support rods are located in front of the support rollers (**B**), then pull the brake vent lever upwards and at the same turn the hand wheel in the UP direction (**C**). The respective directions of rotation are indicated directly on the hand wheel. This causes the individual support rollers to move downward, and the track can be inserted further.
Push the end caps onto the track tubes before the lower track tube rests on the floor.
The track must be inserted so far that it rests on the floor (**D**).



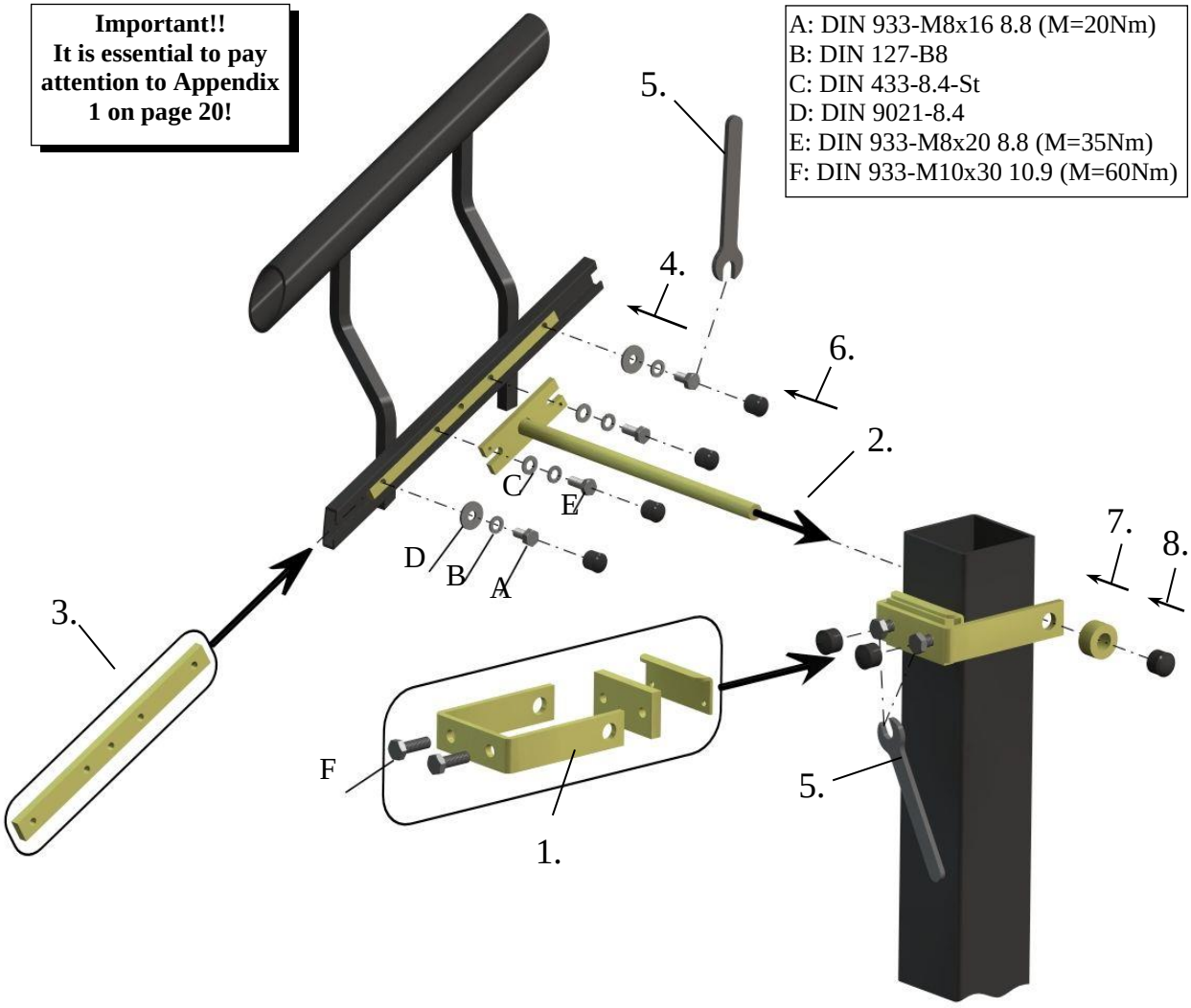


5.) If the dimensions of the lifting unit and the track (dimension X) correspond to those on the installation drawing, fasten the track using the side mounts provided in the case of support mounting (***it is essential to pay attention to page 6***) (the use of the adjusting rings is described on the following page), or to the wall (*see page 6*).



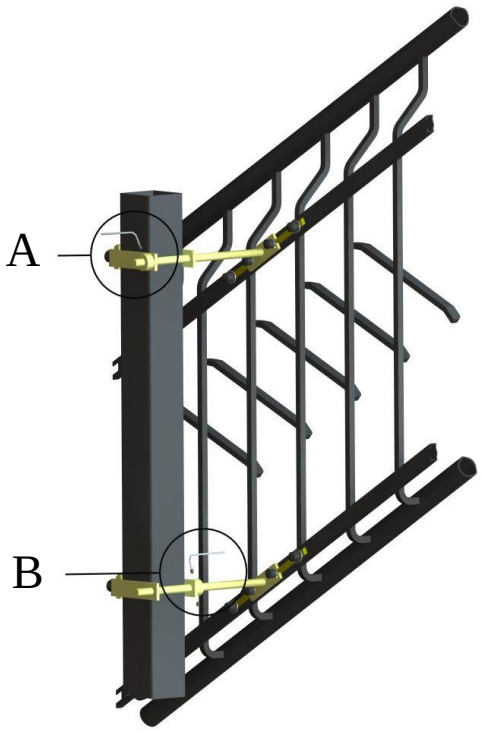
Important!!
It is essential to pay attention to Appendix 1 on page 20!

A: DIN 933-M8x16 8.8 (M=20Nm)
B: DIN 127-B8
C: DIN 433-8.4-St
D: DIN 9021-8.4
E: DIN 933-M8x20 8.8 (M=35Nm)
F: DIN 933-M10x30 10.9 (M=60Nm)



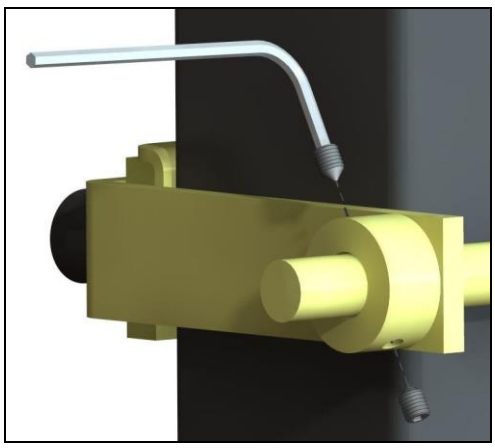
- When using a thread plate and a pressure bracket (see page 5):

The side mounts are to be additionally secured as shown below. In the case of the lower side mount, the adjusting ring must first be pushed onto the round material and only then inserted into the fixing bracket. Once the track has been fully aligned, the adjusting rings are to be positioned as near as possible to the fixing brackets and tightened firmly. Cut off any excess round material and place the cap over the respective outer adjusting ring (top) or round material (bottom). The adjusting rings are to be attached only at the rail end points (if supports are present there).

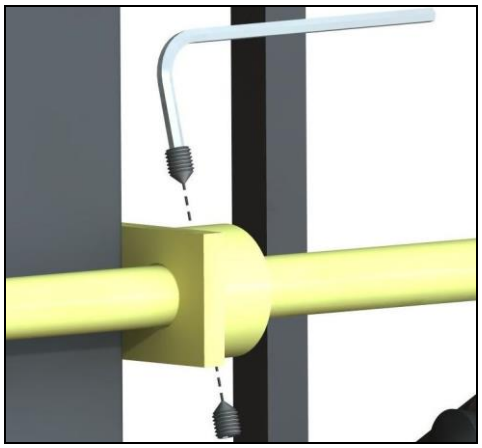


If the track has to be placed so close to the support that it is no longer possible to attach the lower adjusting ring, then this can be omitted.
The positioning of the grub screw is system-specific and must be decided on site.

A



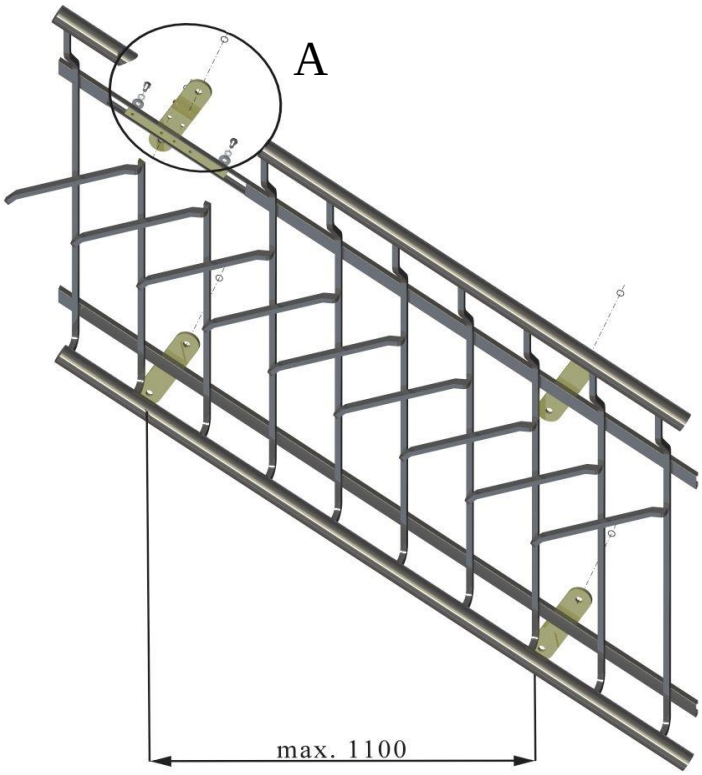
B

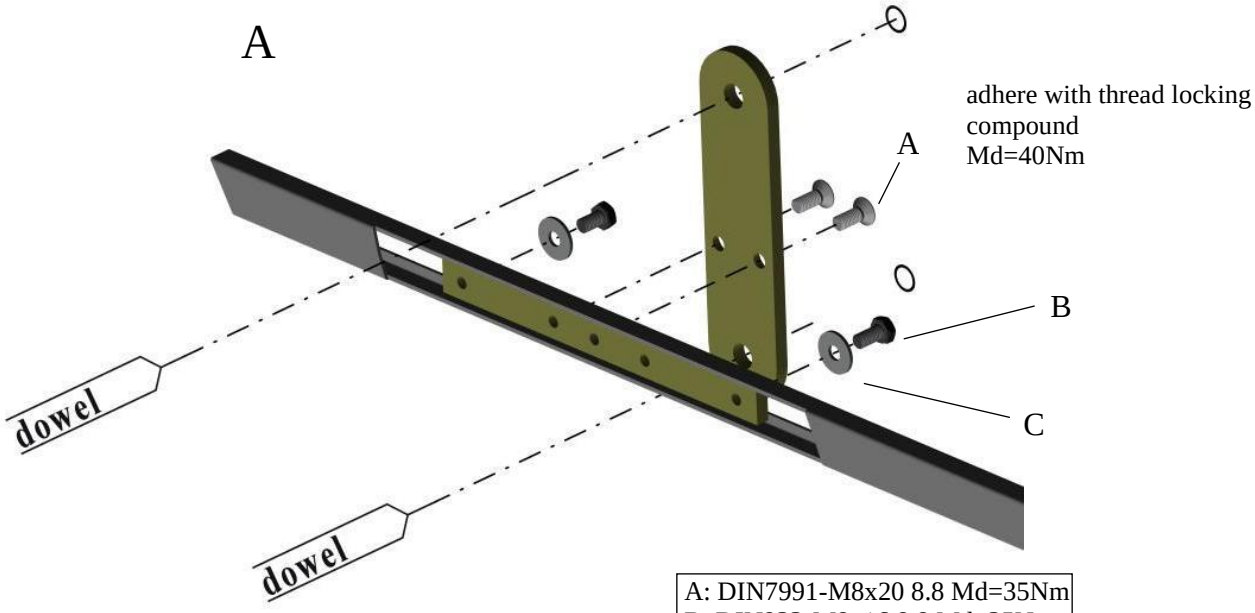


Example of wall fastening

Building fabric	**concrete (C25)** **steel** **other** (only in conjunction with M12 threaded rod)

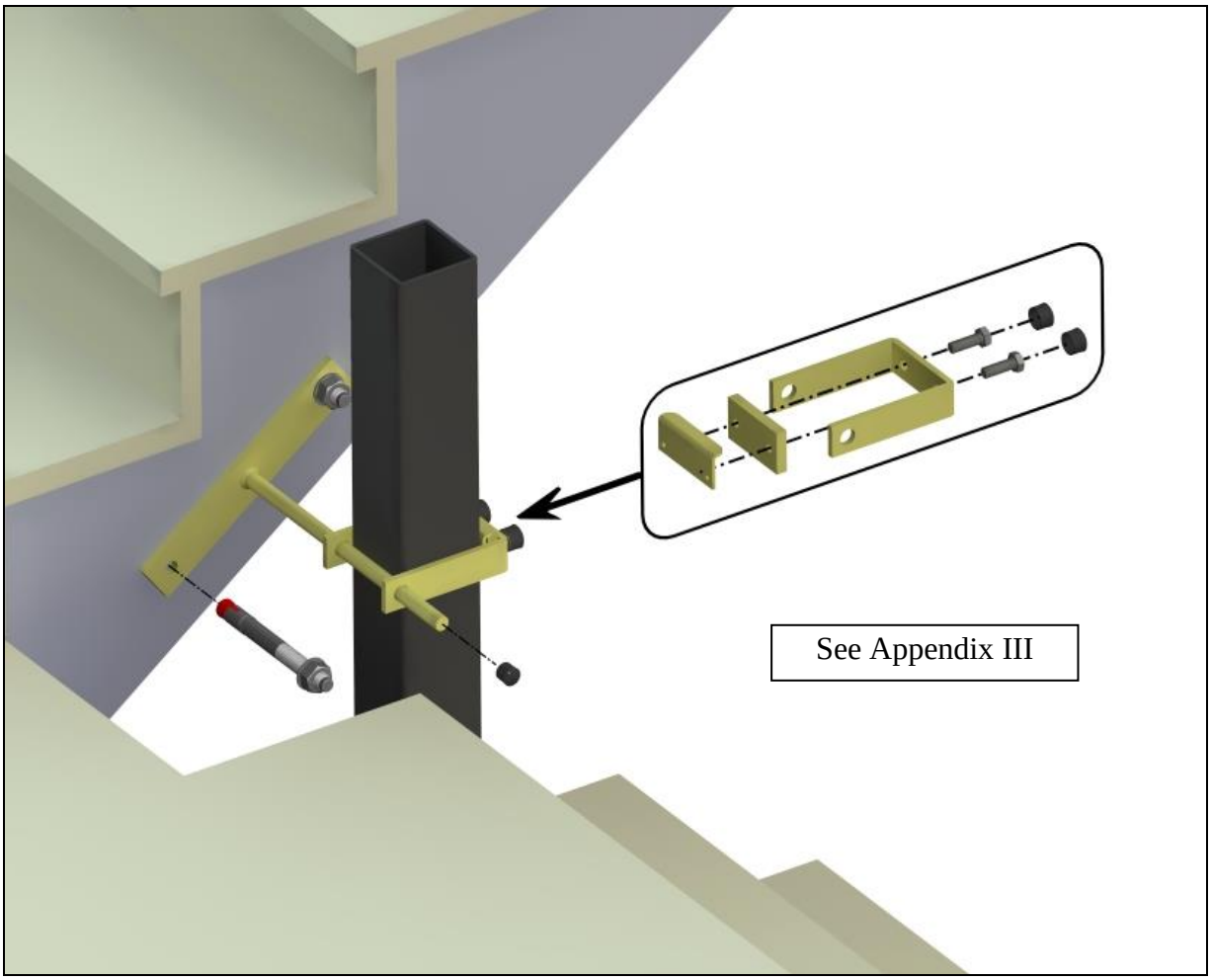
Hole diameter for the connecting element: 14mm
Axis spacing for the connecting element: 120mm
Recommended dowel selection: category 3



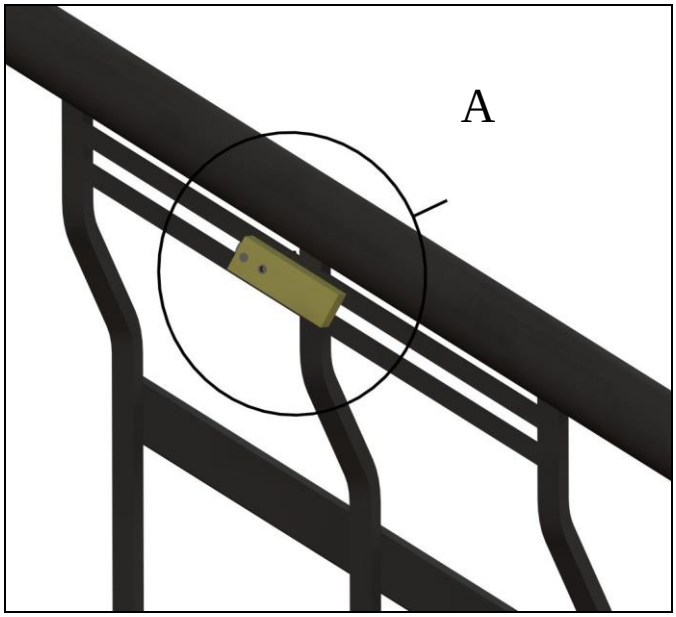


A: DIN7991-M8x20 8.8 Md=35Nm
B: DIN933-M8x16 8.8 Md=35Nm
C: DIN9021-8.4

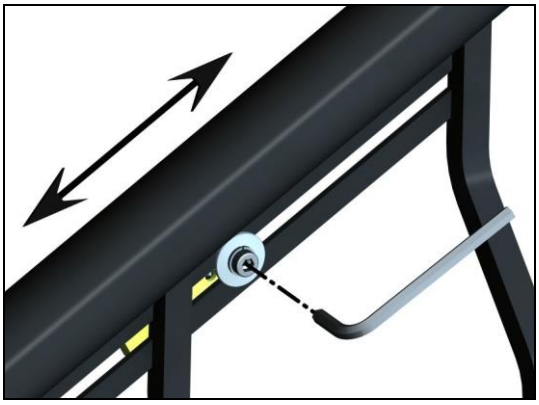
6.) The supports (in the case of support mounting) must additionally be fastened to the stair stringer or to the wall (if possible). Cut off any excess mounting material.

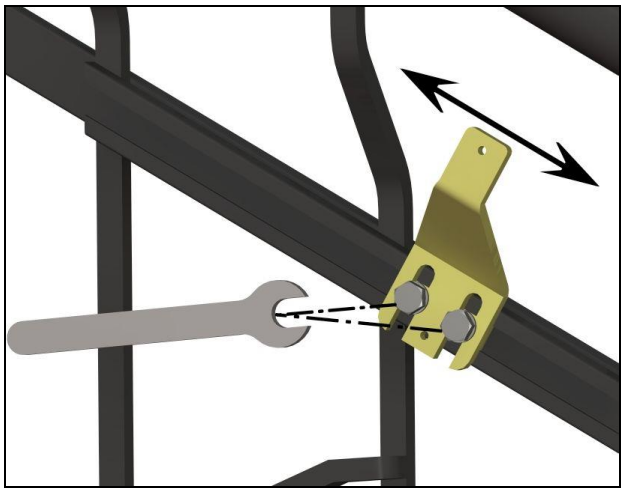


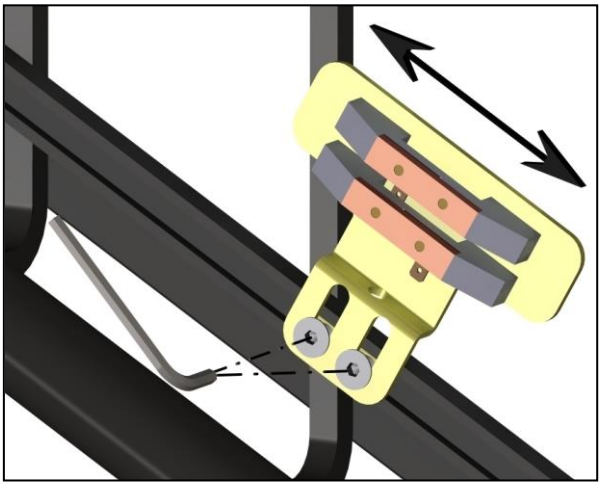
7.) Adjust the lower station (operating limit switch and floor switch curves (if fitted)).

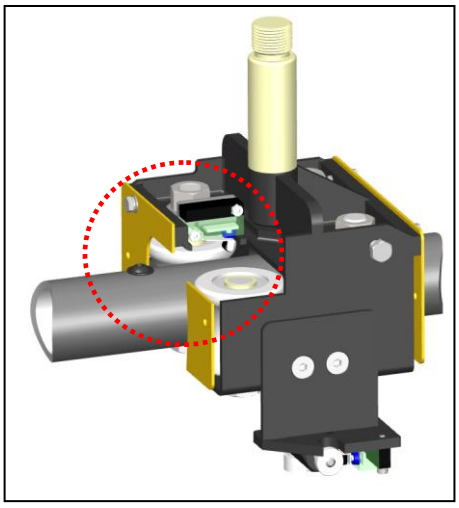


A (viewed from the rear)

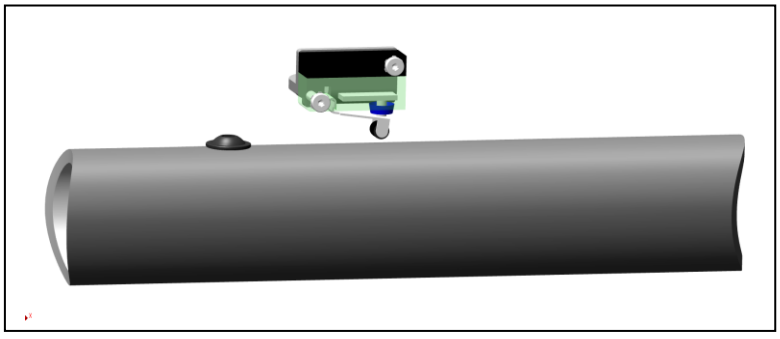








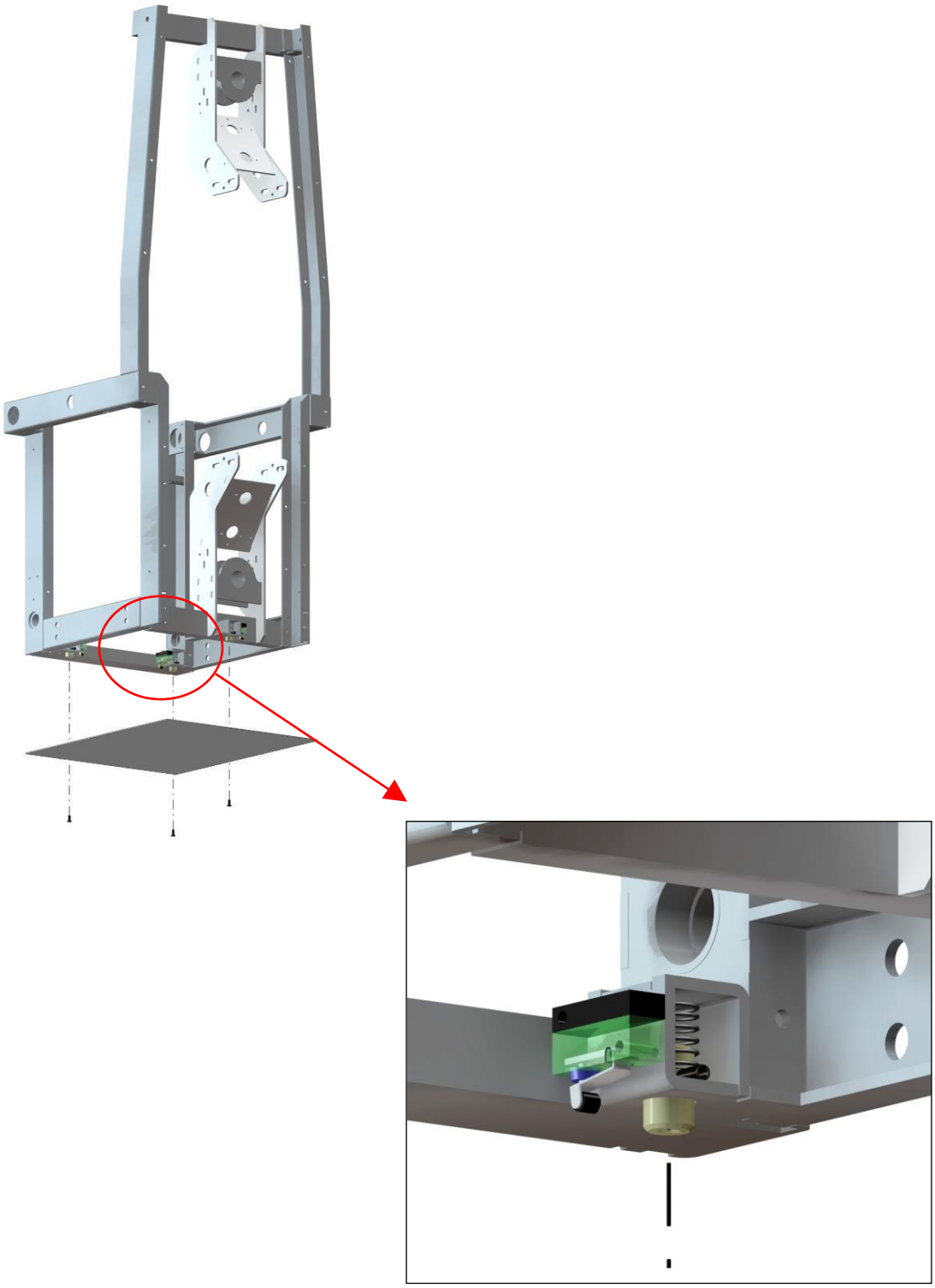
Position of the final limit switch at lower rollerset



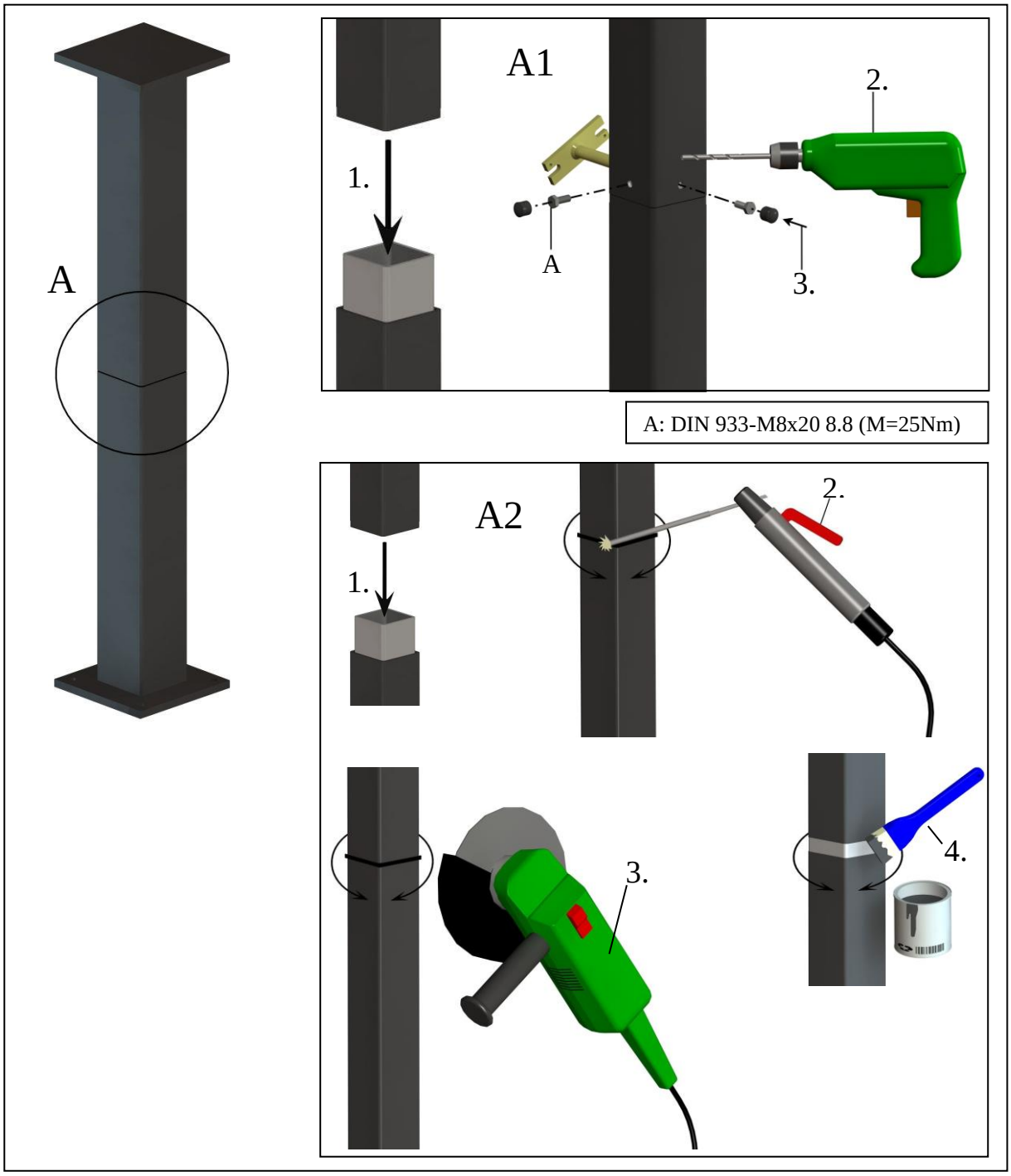
Screw for the final limit switch

The screw for the final limit switch is installed at the factory. If this must be adjusted, a new hole with M6 thread must be placed in the new position. It must be ensured that the screw is secured with bolt adhesive (e.g. Loctite 222).

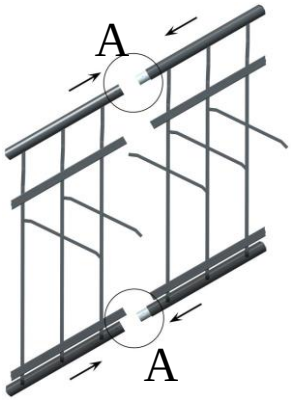
7a) If the chair lift can be driven a short way upwards on the rail, then the contact strip is to be attached to the underside of the frame. This could not be attached in the factory, because it would otherwise have been damaged during transport. As soon as the chair lift is accessible from underneath, the contact strip is as to be attached as shown below. The necessary fixing items are contained in a clear plastic bag adhered to the contact strip.

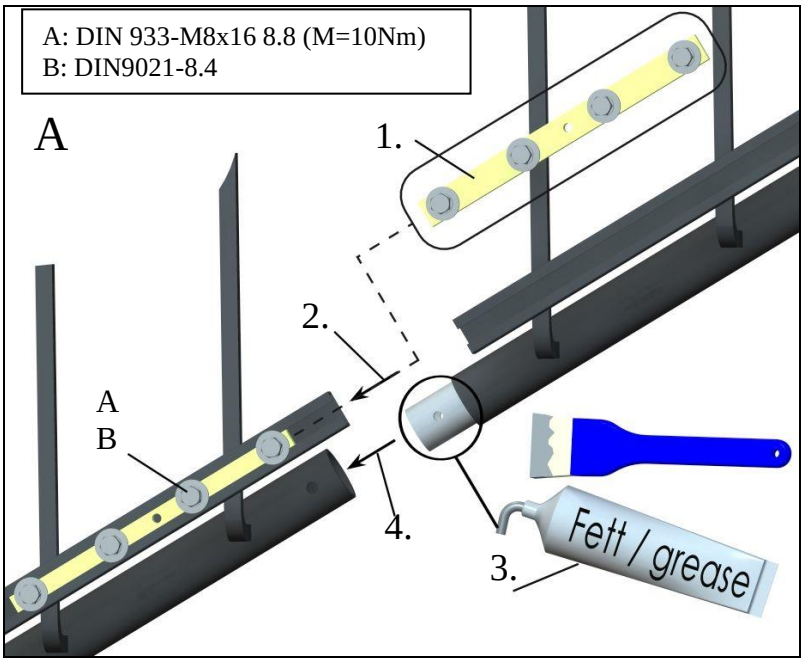


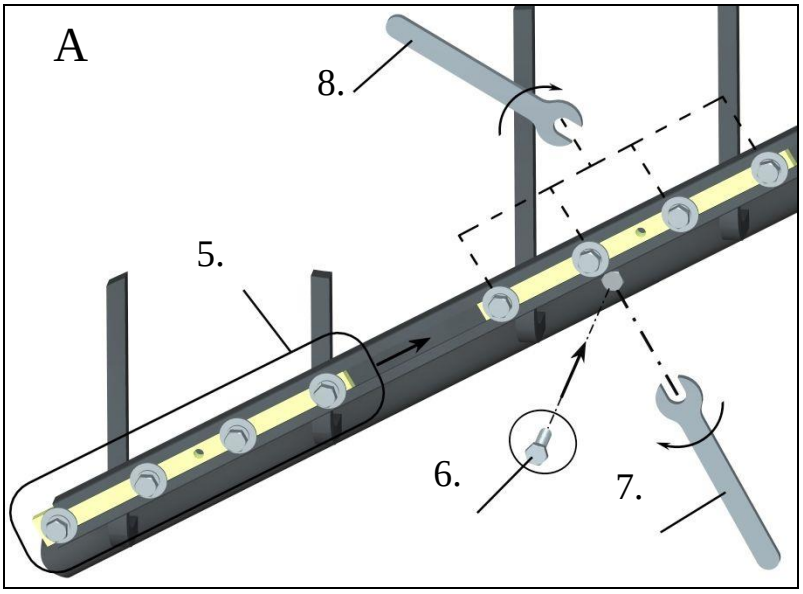
8.) Align further supports in accordance with the installation drawing and fasten them with dowels. The supports may consist of several individual parts (individual parts are numbered); in this case they are to be joined together and bolted (if the support can be fastened near to the joint (**A1**)) or welded (if the support cannot be fastened near to the joint (**A2**)). Furnishings are to be suitably protected against damage due to welding and grinding work.



Grease the track connecting tubes, fit the next track section onto the preceding section and bolt them together (screw into the pre-drilled holes at top and bottom). In the case of support mounting, the halfen rails are to be bolted together by means of the connectors provided (*see page 12*). The new track section is to be fastened to the support or to the wall.







If the track part has kinks or curves, then the flat bar sometimes has to be inserted into the halfen rail from below, or the flat bar is replaced by halfen nuts (square nuts).

9.) Before driving with the lift, the track tubes must first be cleaned of any dirt. Drive the lifting unit to a position shortly before the end of the last track section and carry out any necessary adjustments. **Ensure that the lifting unit does not leave the track when doing this!!!**

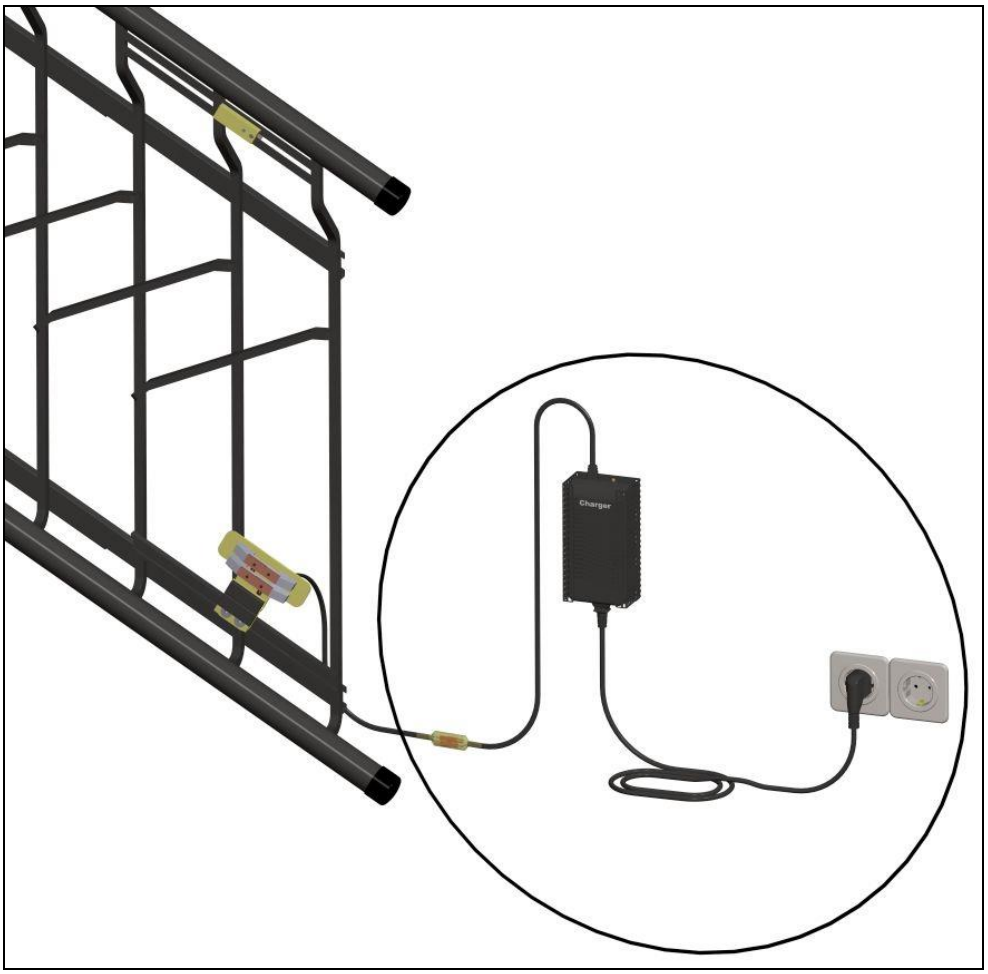
10.) Repeat items 8 and 9 until the entire track has been installed.

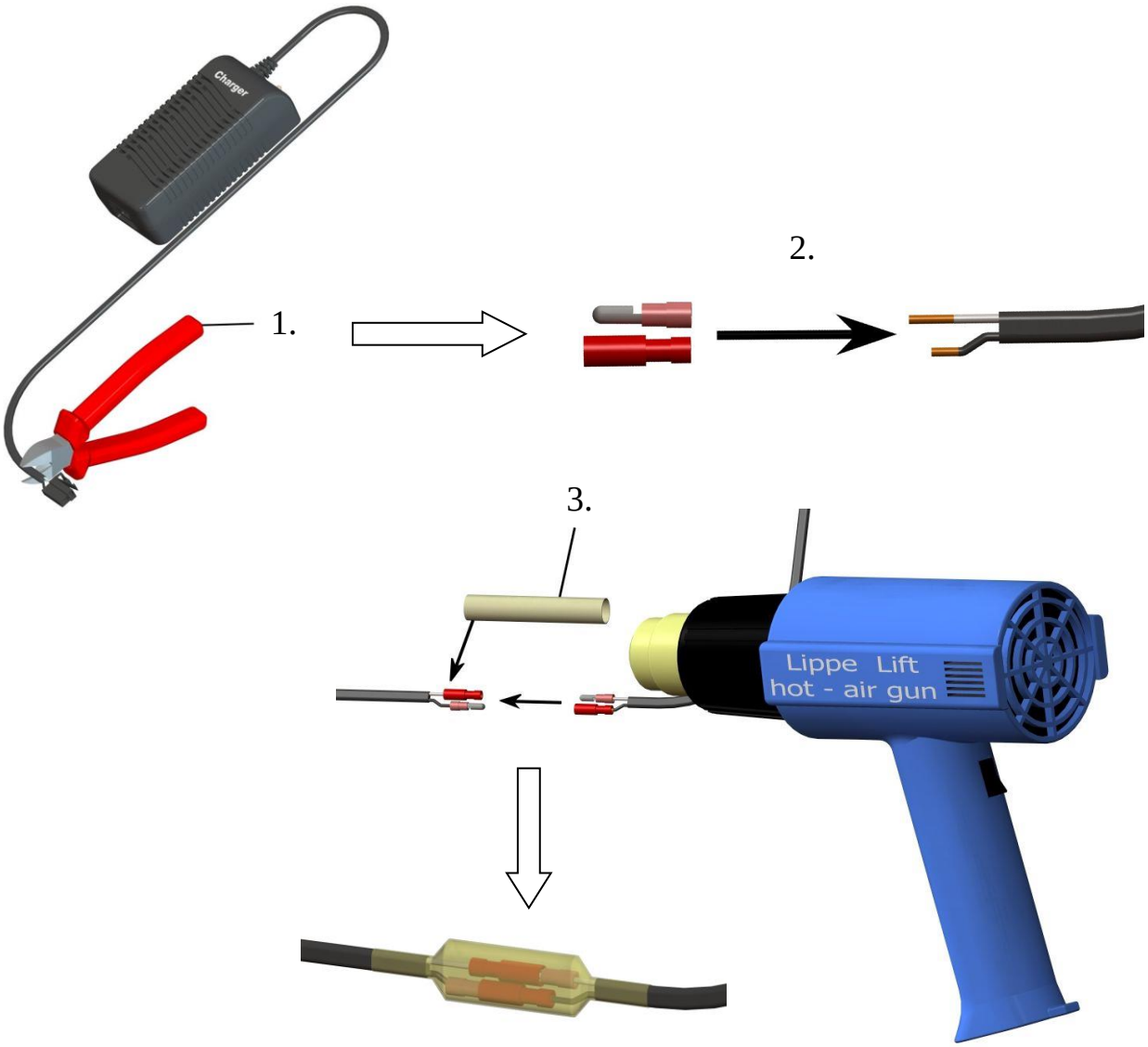
11.) Adjust the top and, if existing, the middle stations (*see item 7 (page 9)*).

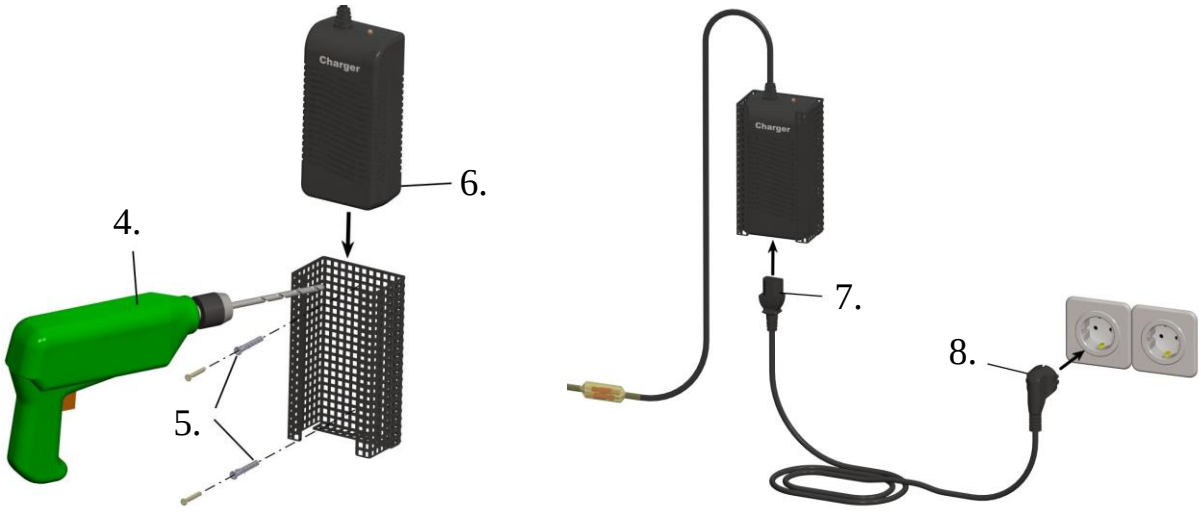
12.) Connect the positive and negative conductors of the battery chargers to the loading stations (use ferrules and subsequently insulate the joints with heat shrink sleeving using a hot air gun). Connect the battery charger to the house mains electricity supply. The function is subsequently to be checked (a function test is possible only if the lifting unit is in the charging station with its charging contacts). The battery charger should be mounted, if possible, in that way a user can easily see it.

13.) Connect the running rail to the building's potential equalisation cable (indoor installations: min. Cu 6 mm², outdoor installations: min. Cu 10 mm², or according to national regulations).

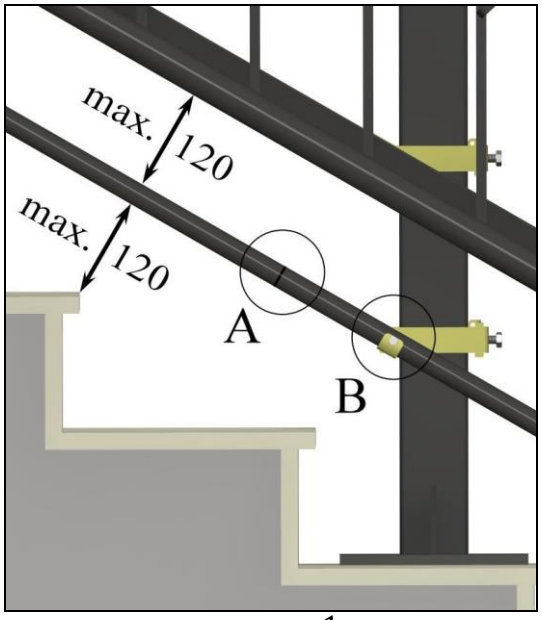
14.) The arrangement of the external control units must correspond to the requirements of the intended user, according to whether he/she sits, stands or is in a wheelchair. The height of the external control unit should be **800 to 1100 mm** above the floor. The external control units are to be installed in such a way that the entire track can be seen from the respective control position if possible.
In the case of external control units that are connected to one another, the cables are to be laid in a cable duct or a conduit.

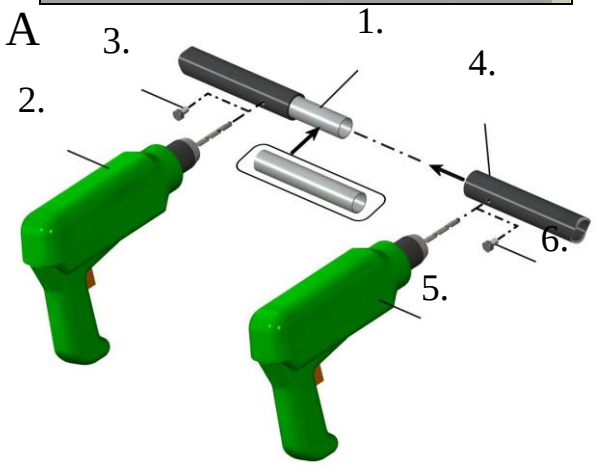


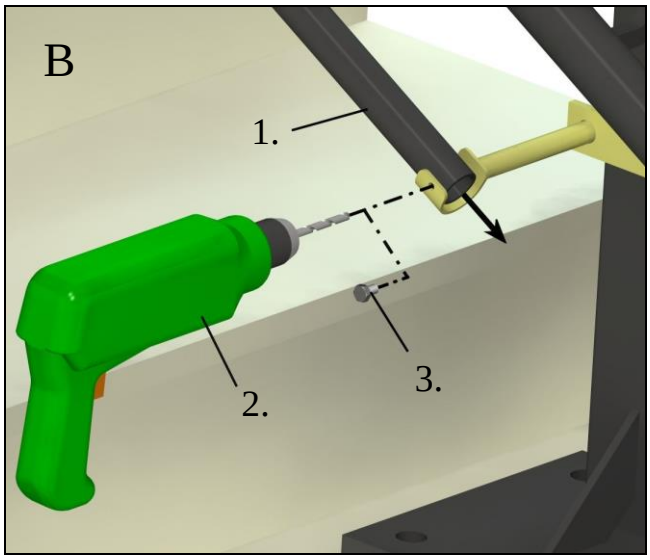

Charger
1.
2.
3.
Lippe Lift
hot - air gun


Charger
6.
4.
5.
Charger
7.
8.

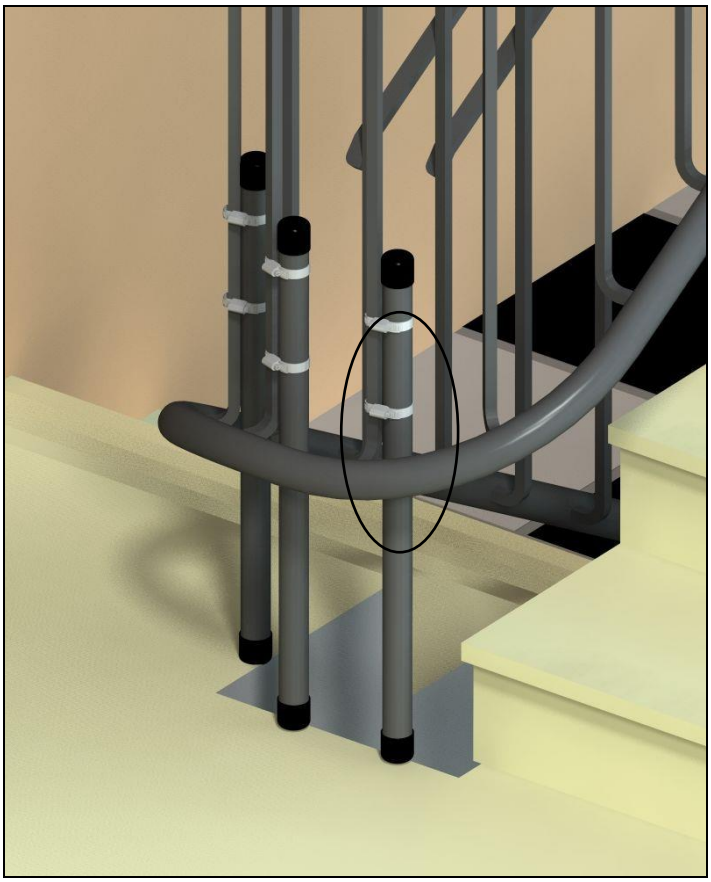
15.) Attach the lower tube if necessary or foreseen. It is furthermore possible to use halfen rails on the straight track sections instead of lower tubes. These are fastened with normal side mounts to the supports.

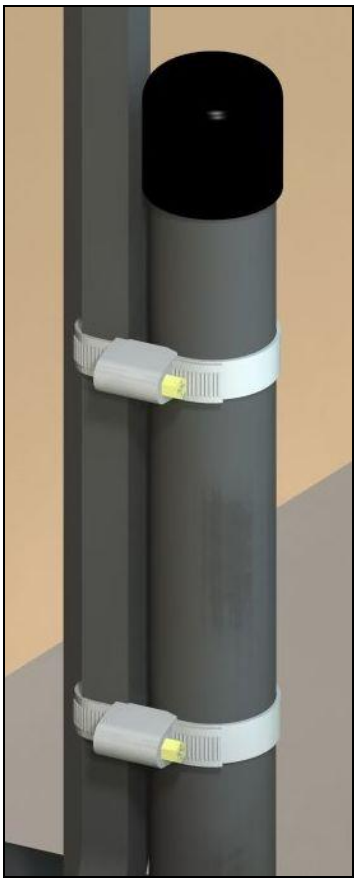






16.) Tubes are intended to be used as anti-falling devices in curves. These tubes are to be fixed to the vertical rods using the fastening clips provided (two fastening clips per tube). The tubes should overlap the vertical rods by approx. 200 mm and be fed as far as the steps if possible. The clearance distance between the individual tubes may not exceed 120 mm.

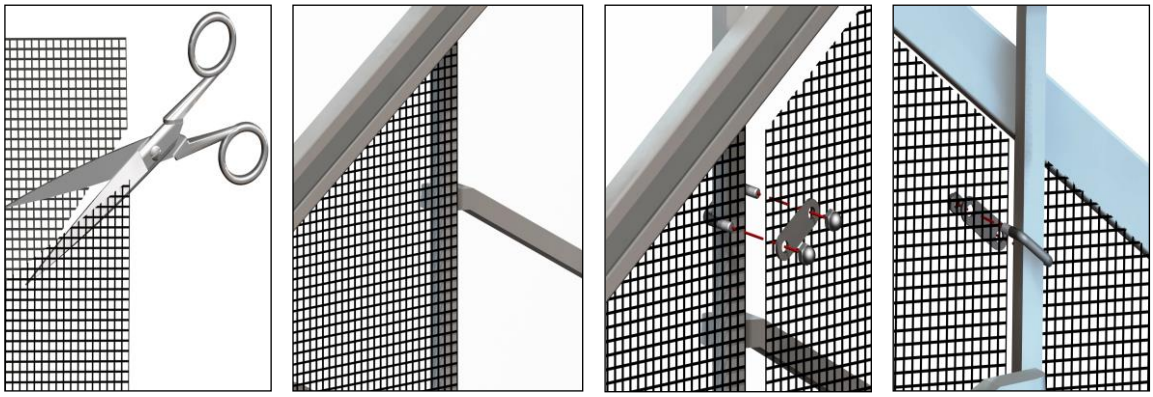




17.) Where necessary, a rear-sided cover made of Plexiglas is to be attached on the rear side of the track between the halfen rails to prevent reaching through.

The reach-through protector is clamped tight using brackets. The Plexiglas panels, which are already cut to size, are numbered sequentially on the protective film (starting from the bottom).

Another variant of the reach-through protector is to use a flexible woven screen made of fibre glass in place of the Plexiglas. This can be cut to size very easily on site with a normal pair of scissors and fastened to the vertical rods using the clamps provided (as shown below). Joints are to be placed exactly against a vertical rod and fastened there with an overlap of approx. 10mm. We recommend a max. fixing distance of 500 mm. The woven screen is supplied rolled up



18.) All caps are to be attached (bolts, supports, side mounts and track tubes).

19.) Carry out several test runs under full load and check **all** safety and control functions (including the engagement of the arrester). Engage the arrester with 125 % of the max. load bearing capacity: Unhook both springs on the speed limiter (at the screw) and turn the lift in the downhill direction using the hand wheel with the brake vented until one arrester pendulum is fully engaged and the arrester switch interrupts the complete power circuit. After that, turn the lift in the uphill direction using the hand wheel with the brake vented until the pendulum is released again and **attach both springs**. Labels in the respective national language are to be applied over the original labels if necessary!

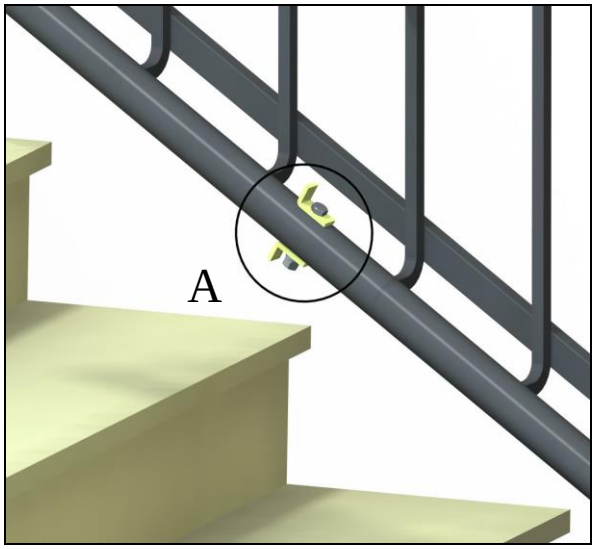
20.) Give detailed instructions to the user (let him/her drive himself/herself).

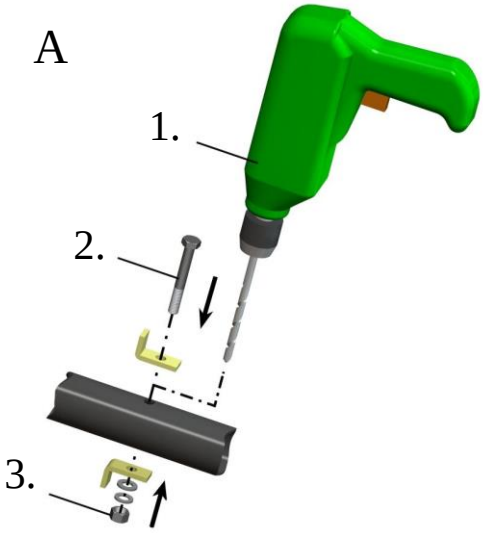
21.) Touch up any paint damage (a pot of paint is supplied) and instruct the customer not to drive with the lift until the paint has dried and operation is allowed in accordance with the national regulations.

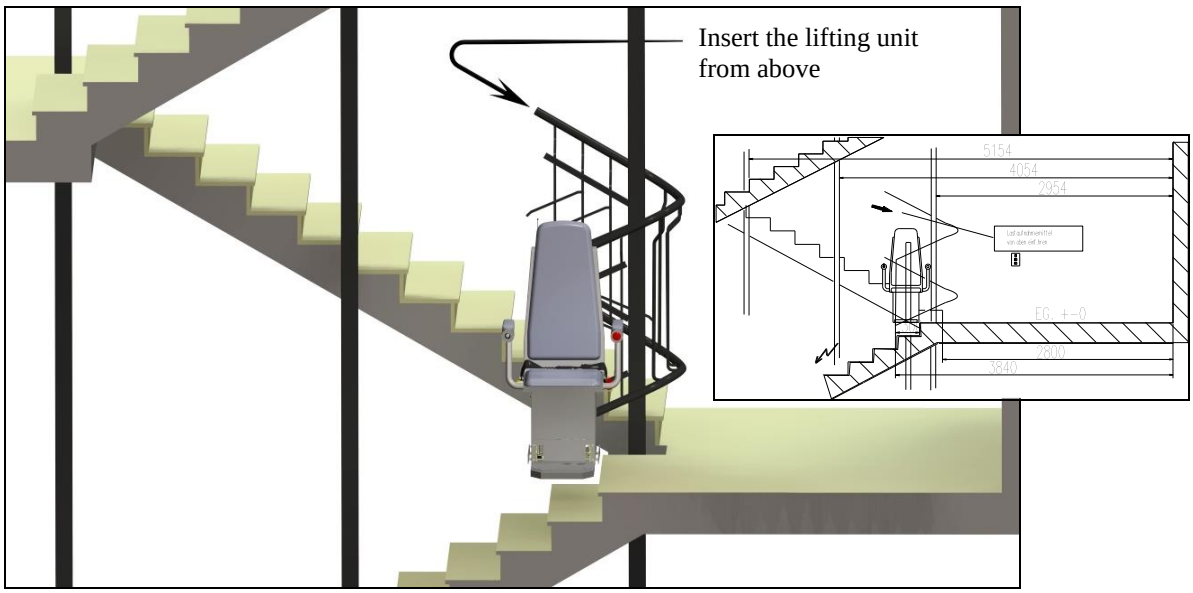
22.) Complete the installation report in detail and send it to the manufacturer's customer service department.

23.) ***Regarding item 4 on page 4 (non-contact of the lifting unit with the floor)***

- Establish an auxiliary point: the lowest point of the lowest track section (see dimensional data on the installation drawing (*see example below*)).
- Align and fasten the track in accordance with the dimensions on the <u>installation drawing</u> (*see item 5 page 5*).
- Make <u>absolutely sure</u> that the anti-falling safety device (see below) (two brackets) is attached to the lower track tube (**<u>danger of falling!!</u>**).
- Raise the lifting unit and push the roller heads onto the track tube.
- If the support rollers are resting on the support rods, lift up the brake vent lever and at the same time turn the hand wheel in the DOWN direction. The respective directions of rotation are indicated directly on the hand wheel. This causes the lifting unit to move downwards (*see also item 4 page 4*).







After that, continue with items 5 to 21.

Disassembly of a T80 chair lift

1.) Drive the chair lift to the lowest station.

2.) Dismount the electrical components (external control unit, battery chargers).

3.) Set the main switch to OFF.

4.) Remove the backrest (to allow access to the brake and hand wheel).

5.) Starting from the uppermost station, successively dismount the track sections in a downward direction (including the last track section before the lifting unit).
Attention: It is essential to eliminate or secure any sources of danger created, such as a danger of falling (missing railing) or a danger of being cut (sharp edges), in an appropriate way!

6.) Remove the lifting unit from the running rail in an appropriate way:
- If the lifting unit is standing on the floor:
Loosen the last track section. Pull the brake vent lever upwards and at the same time turn the hand wheel in the DOWN direction. The last track section can then be pulled carefully out of the roller heads.
- If the lifting unit is not standing on the floor:
Pull the brake vent lever upwards and at the same time turn the hand wheel in the UP direction and pull the lifting unit in an upward direction out of the last running rail section.

7.) Dismantle the supports (cut through any welded supports if necessary).
Pay attention to the safety instructions regarding hot work in order to avoid fires.

Disposal instructions

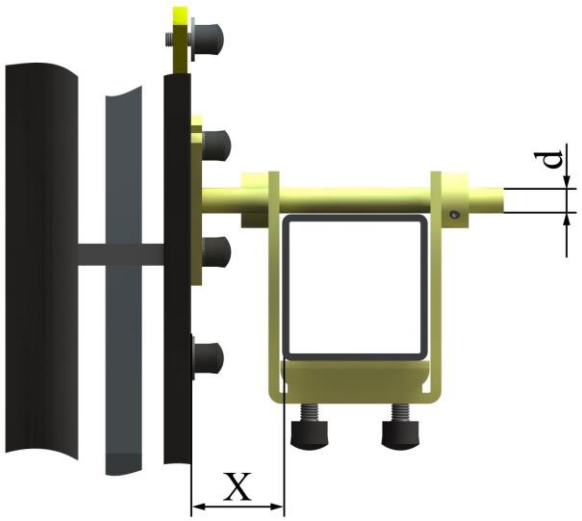
1.) Steel scrap: steel parts of the track and supports; steel parts of the lifting unit

2.) Special waste: plastic parts, motor, cables, printed circuit boards, batteries

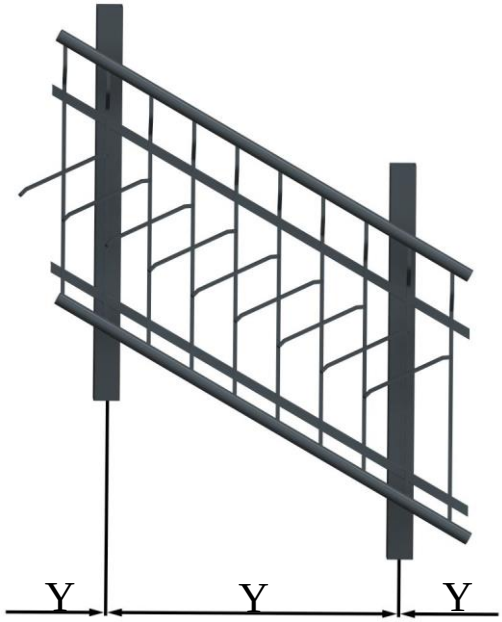
Note: our powder coating is free of lead and cadmium

Appendix I

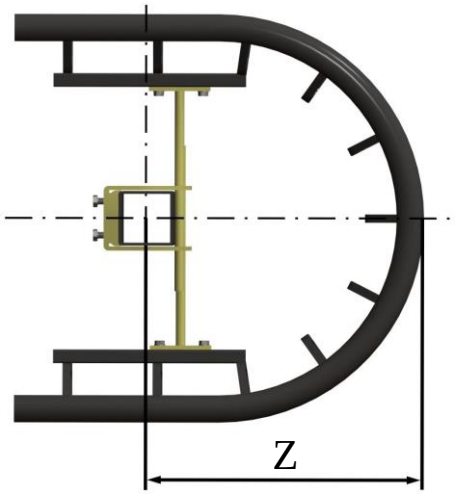
Maximum dimensions for the installation of a T80 chair lift:



d= 14mm → X= max. 50mm
d= 25mm → X= max. 120mm



Y= max. 1100mm



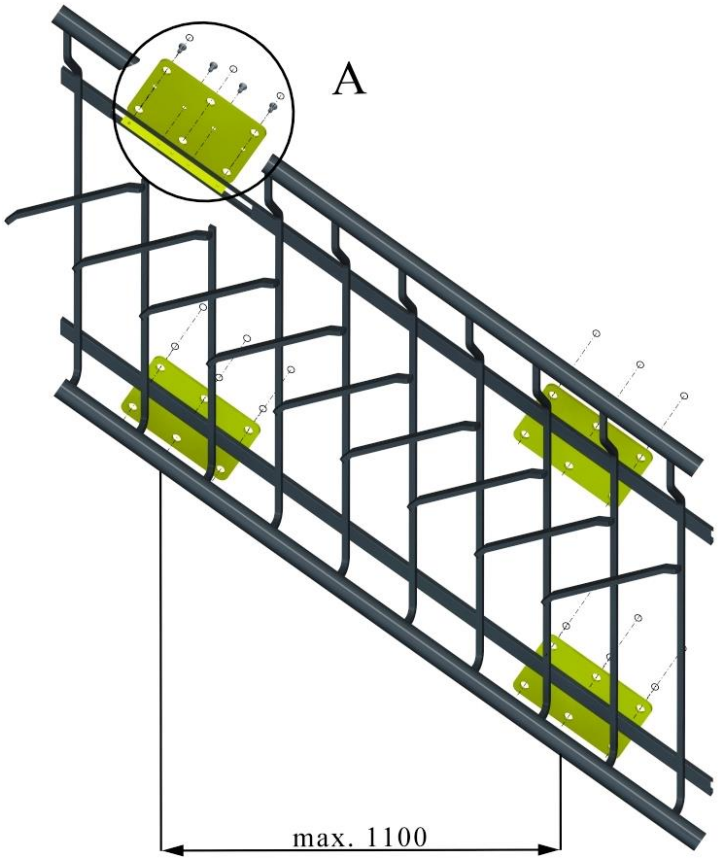
Z= max. 350mm

Appendix II

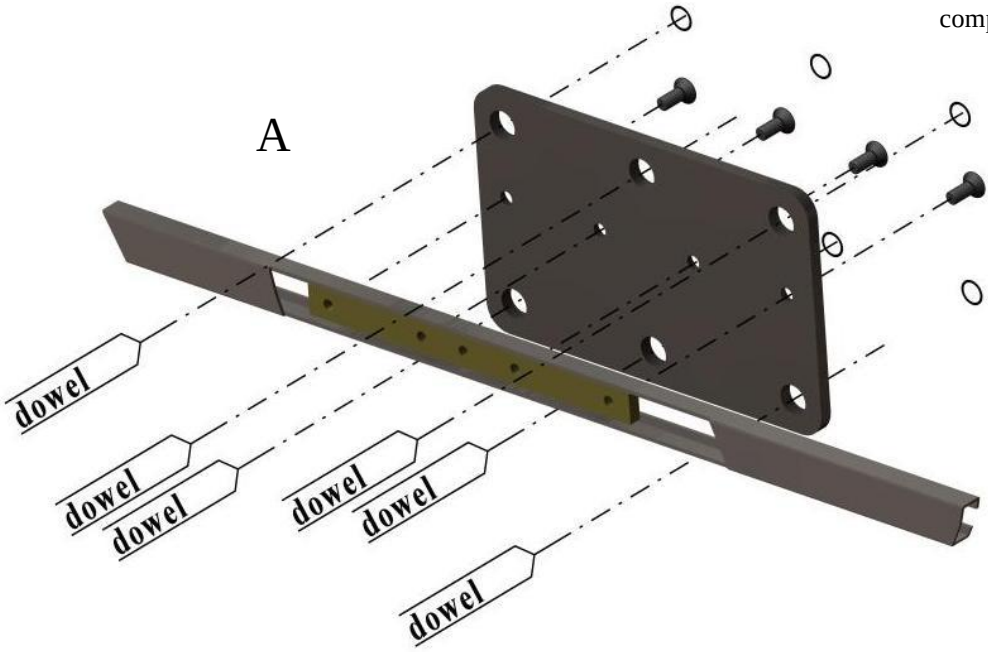
Additional wall fastening options

Building fabric: horizontal coring brick, vertical coring brick, lime malm brick

Drill hole diameter for connecting element: 18mm
Axis spacing for connecting element: 100 mm and 110mm
Recommended dowel selection: category 5



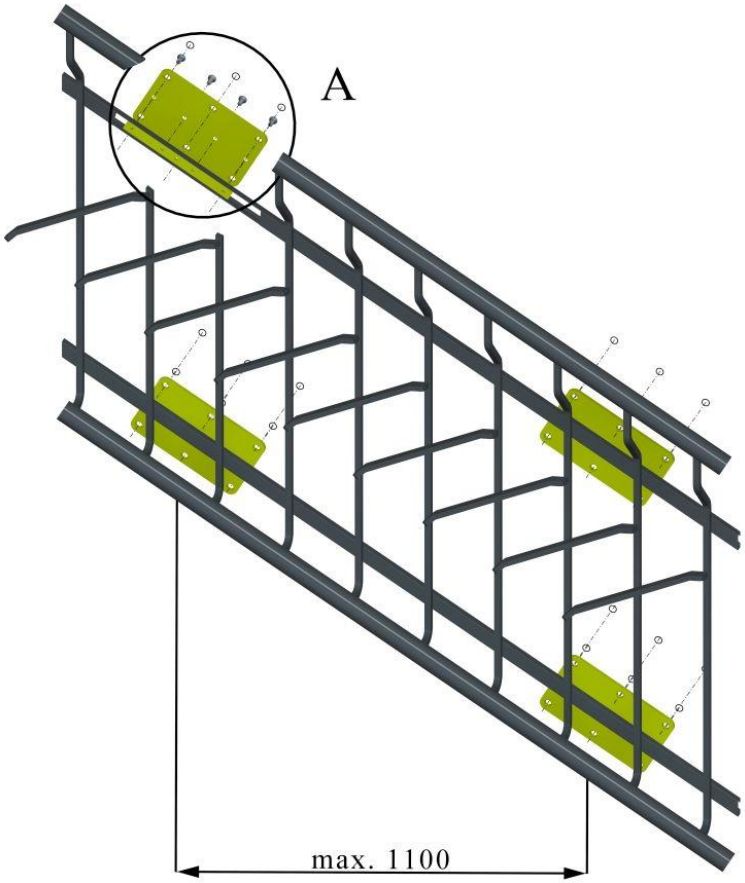
DIN7991-M8x20 8.8
adhere with thread locking compound Md= 40 Nm

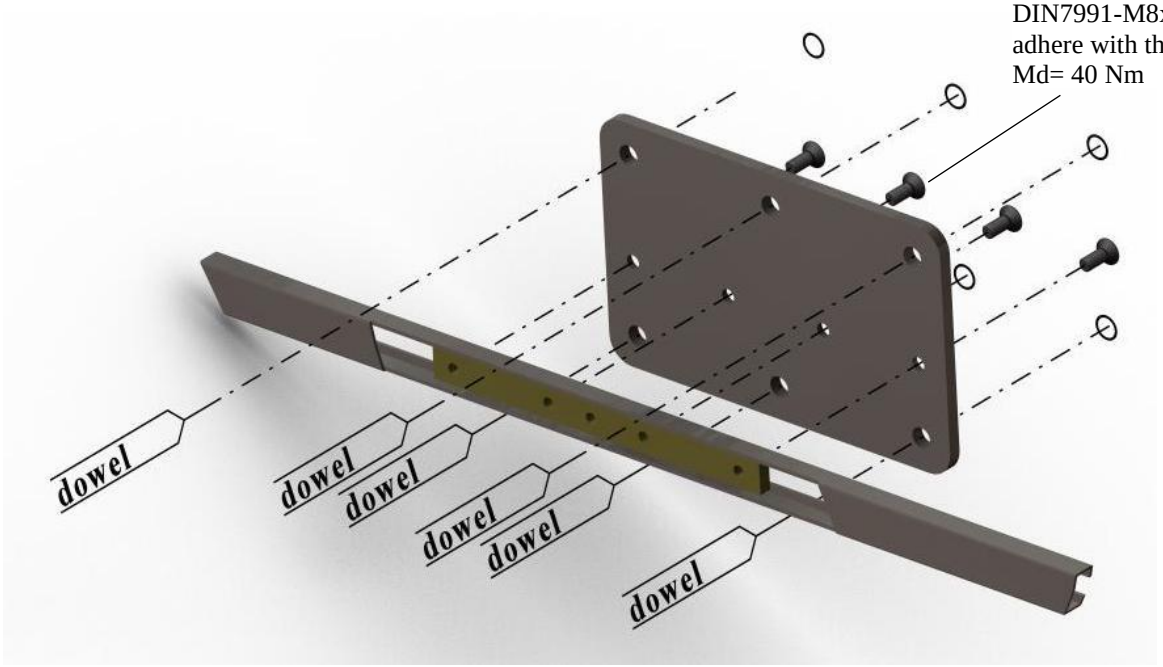


Additional wall fastening options for the following building fabrics:

Building fabric: solid brick, solid lime malm brick

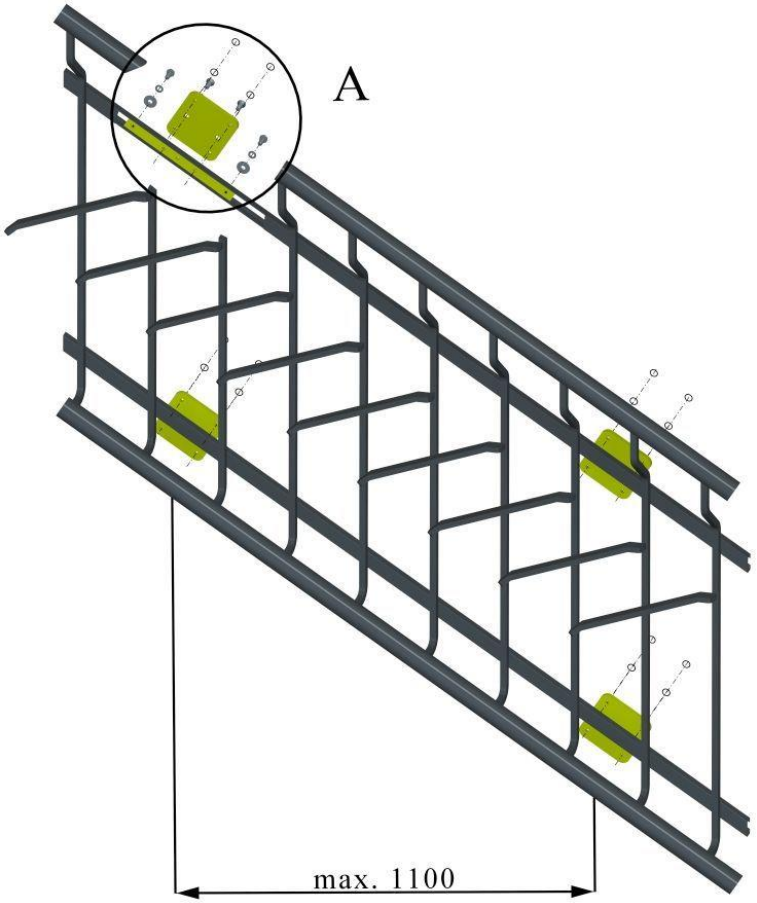
Drill hole diameter for connecting elements: 12mm
Axis spacing for connecting elements: 100 mm and 110mm
Recommended dowel selection: category 1

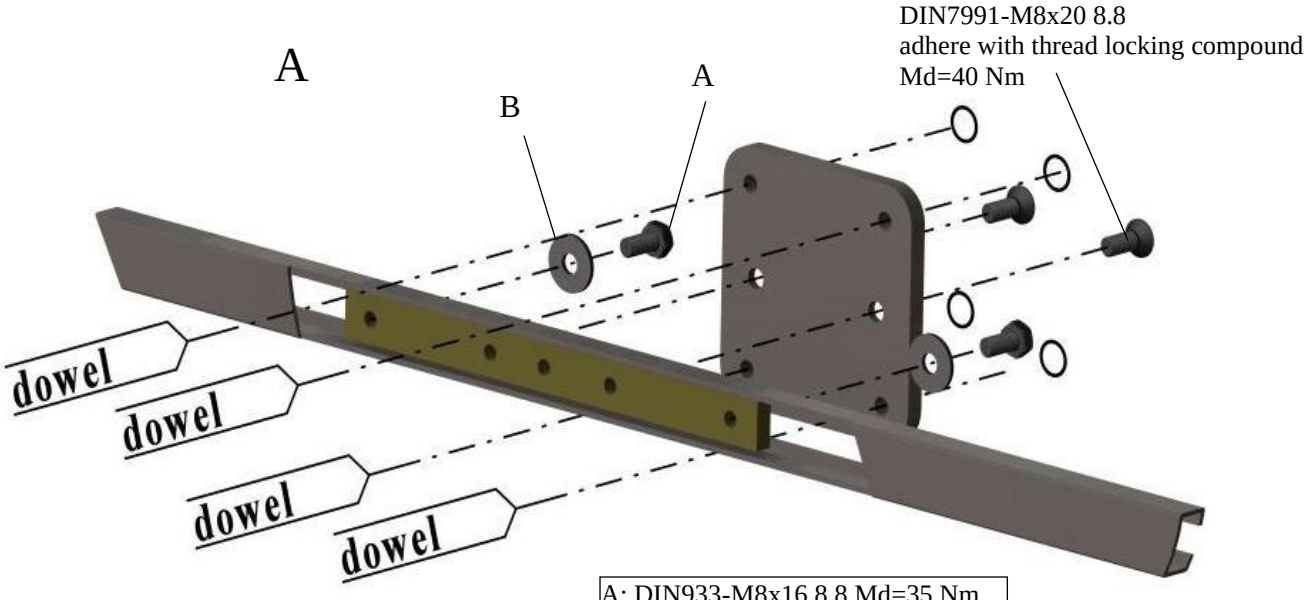




Building fabric: wood

Drill hole diameter for connecting element: 7.5mm
Axis spacing for connecting element: 75mm
Recommended dowel selection: category 6





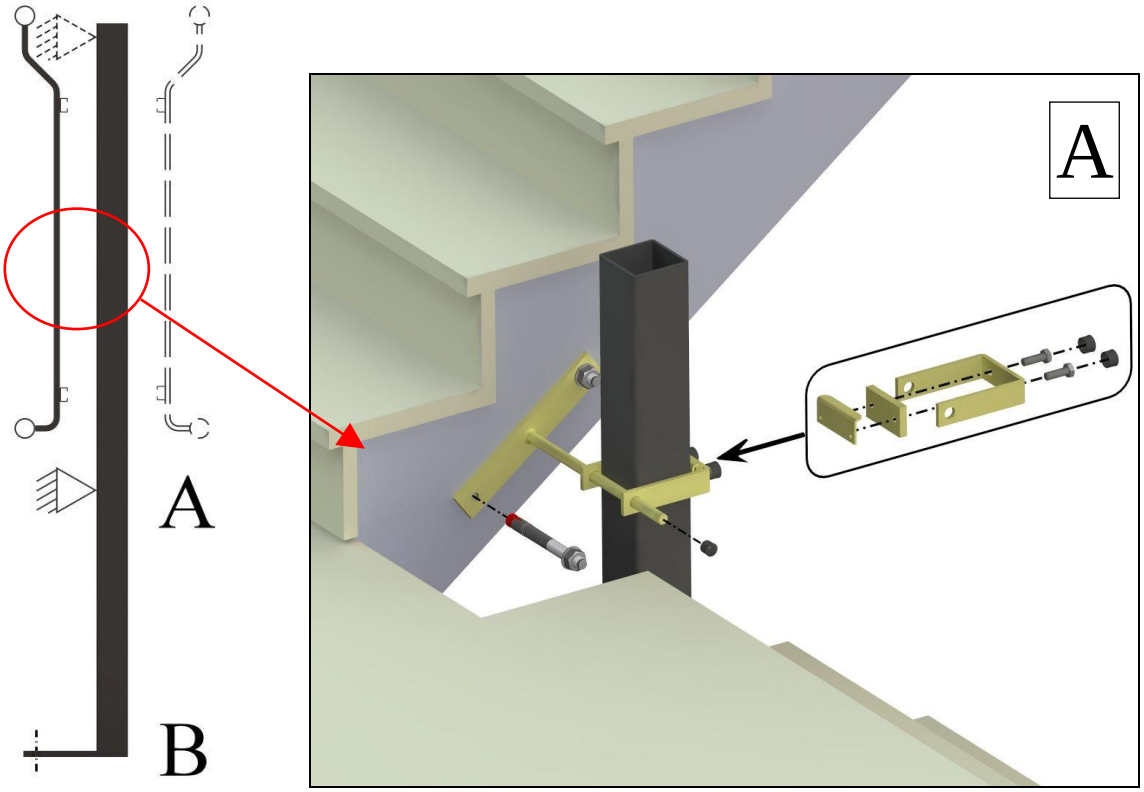
A: DIN933-M8x16 8.8 Md=35 Nm
B: DIN9021-8.4

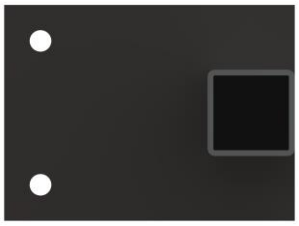
Appendix III

Example: support with additional fastening point up to upper track tube

Building fabrics: all

Drill hole diameter for connecting elements: area A: 12 mm / area B: 15.0mm
Axis spacing for connecting elements: area A: 190 mm / area B: 100mm





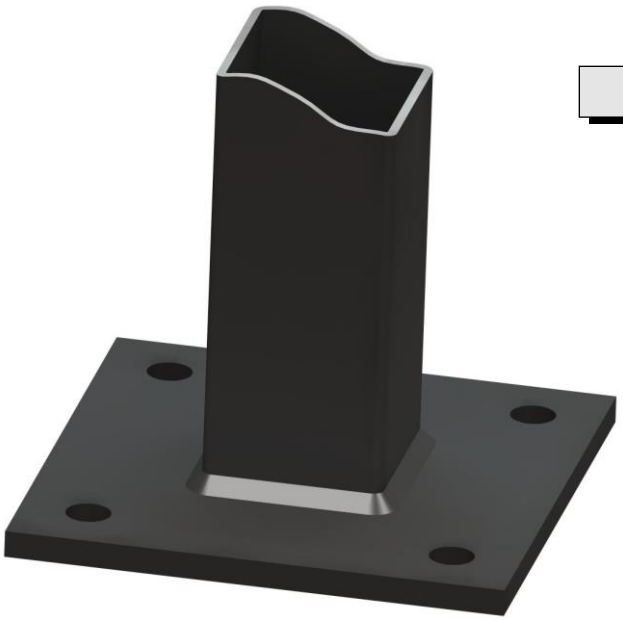
B

Recommended dowel selection: see below for category		
Area	Building fabric	
	Concrete	Other
A	2	Indoor area:7 / outdoor area: 1
B	3	Indoor area:7 / outdoor area: 1

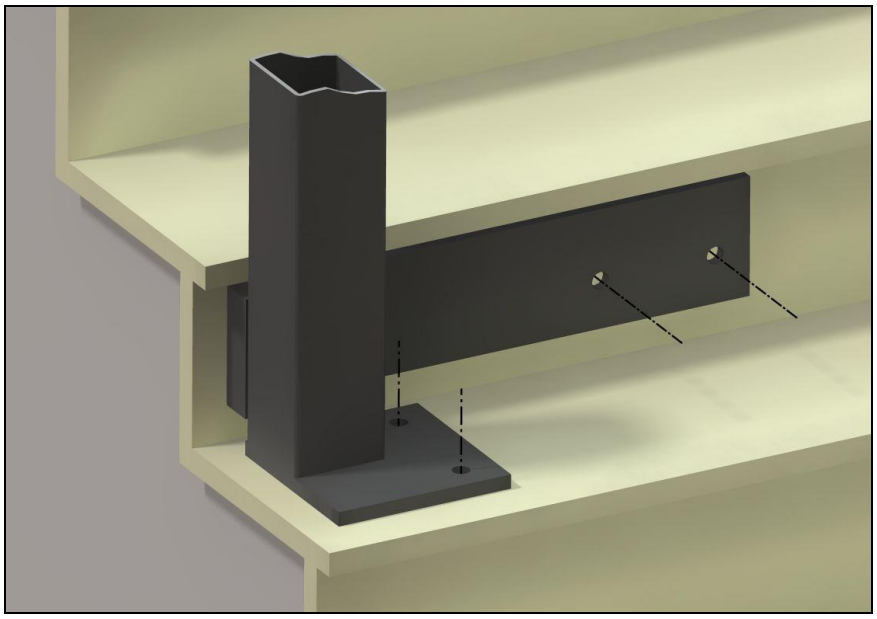
Example of a free-standing support (building fabric: concrete (C25))

Drill hole diameter for connecting elements: 20mm
Axis spacing for connecting elements: 160mm
Recommended dowel selection: category 4

On foundation



On steps



Drill hole diameter for connecting elements: 15mm
Axis spacing for connecting elements: 100mm
Recommended dowel selection: category 3

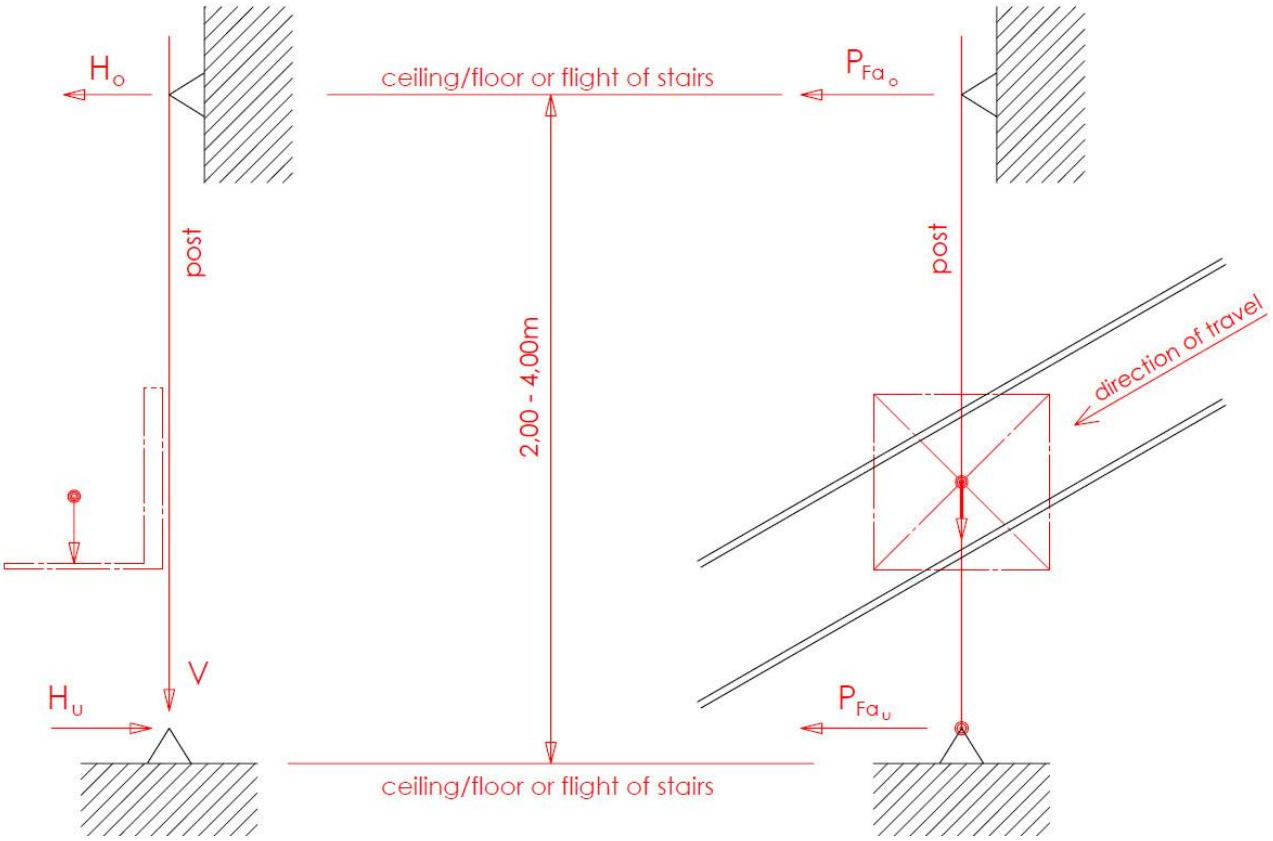
Appendix IV

The respective connecting elements are to be selected by the respective installation company. Particular attention should thereby be paid to the following parameters, among others:

- Existing building fabric
- Non-load-bearing layers on top of the building fabric
- Edge distances
- Axis spacing of the connecting elements to one another
- Area of use (indoor area, outdoor area, humid rooms, aggressive environmental influences (closeness to the sea, swimming pools), etc.)
- Permitted area of use of the respective connecting elements

Fastening forces for T80

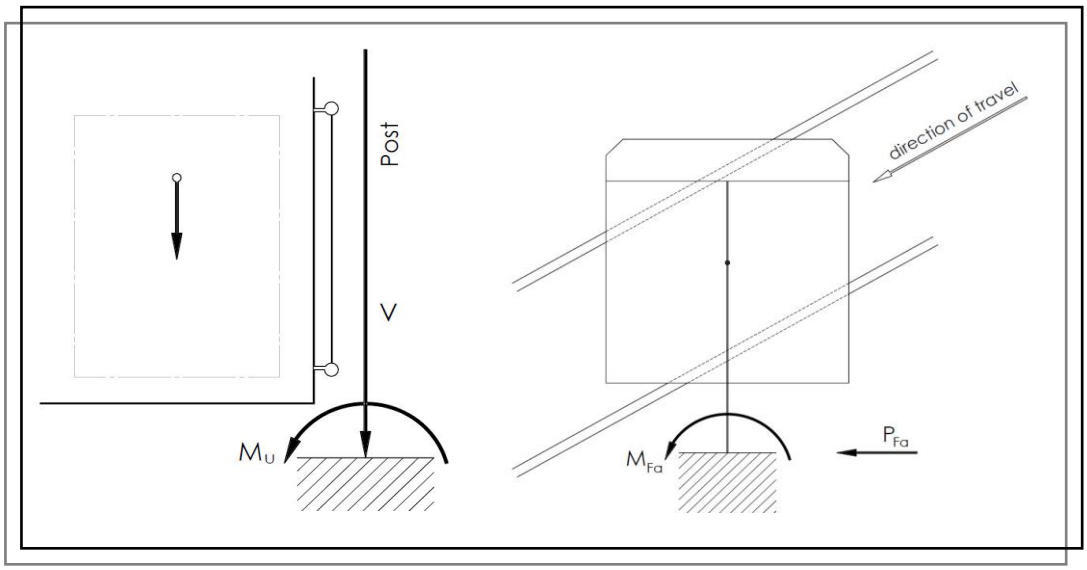
Support with two restraints



	Normal operation [KN]	Case of arrest [KN]	Remarks
V_o	2.7	4.50	These forces are omitted in the case of supports with footplates.
V_u	2.7	4.50	
H_o	1.35	2.24	
H_u	1.35	2.24	
P_{Fao}	-	1.90	Horizontal forces only in the case of arrest
P_{Fau}	-	1.90	

Fastening forces for T80

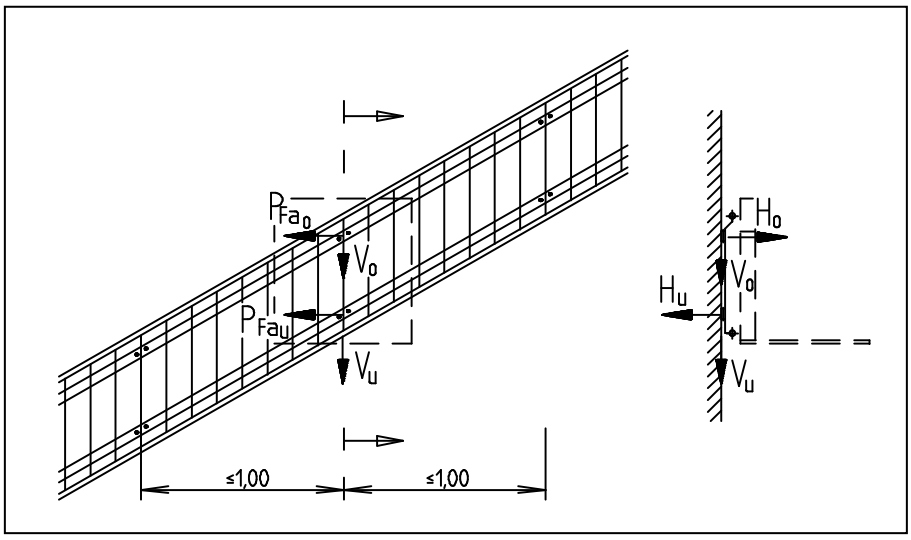
Support with one restraint



	Normal operation [KN]; [KNm]	Case of arrest [KN]; [KNm]	Remarks
V	5.4	9.00	
M_u	2.7	4.48	
P_{Fa}	-	3.80	Only in the case of arrest
M_{Fa}	-	2.85	

Fastening forces for T80

Wall fastening



	Normal operation [KN]	Case of arrest [KN]	Remarks
V_o	2,1	2,95	
V_u	3,3	4,60	
H_o	2,6	3,65	
H_u	2,6	3,65	
P_{Fao}	-	1,90	Horizontal forces only in the case of arrest
P_{Fau}	-	1,90	