Index of keywords in the installation instructions

Keyword **Page**

Installation instructions for T80 inclined stair lifts

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

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

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
- have a sufficient understanding of the German or English language respectively

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

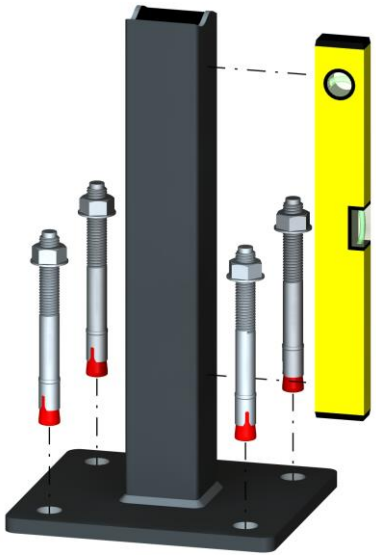
The safety instructions in the operating manual are to be observed!!

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.).

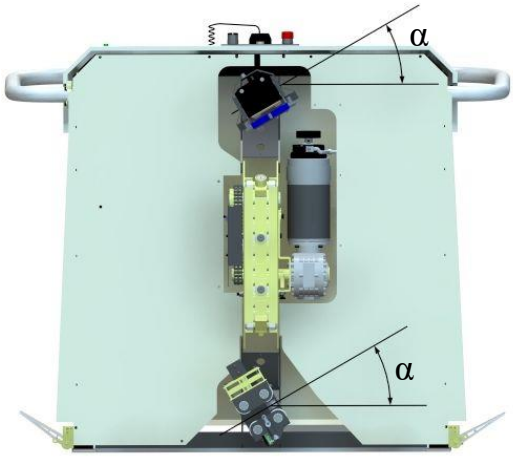
2.) In order to avoid damage, only unpack those parts of the system that are actually required at any one time. The unpacked parts of the system are to be stored temporarily on the foam material provided. The platform can be held by the barriers (as far to the inside as possible) and in this way transported. Transport of the stool and standing platform: Insert a tube of an appropriate length (40 x 3 mm) into the upper roller set, which can then be held for transport (the carriage 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 19!

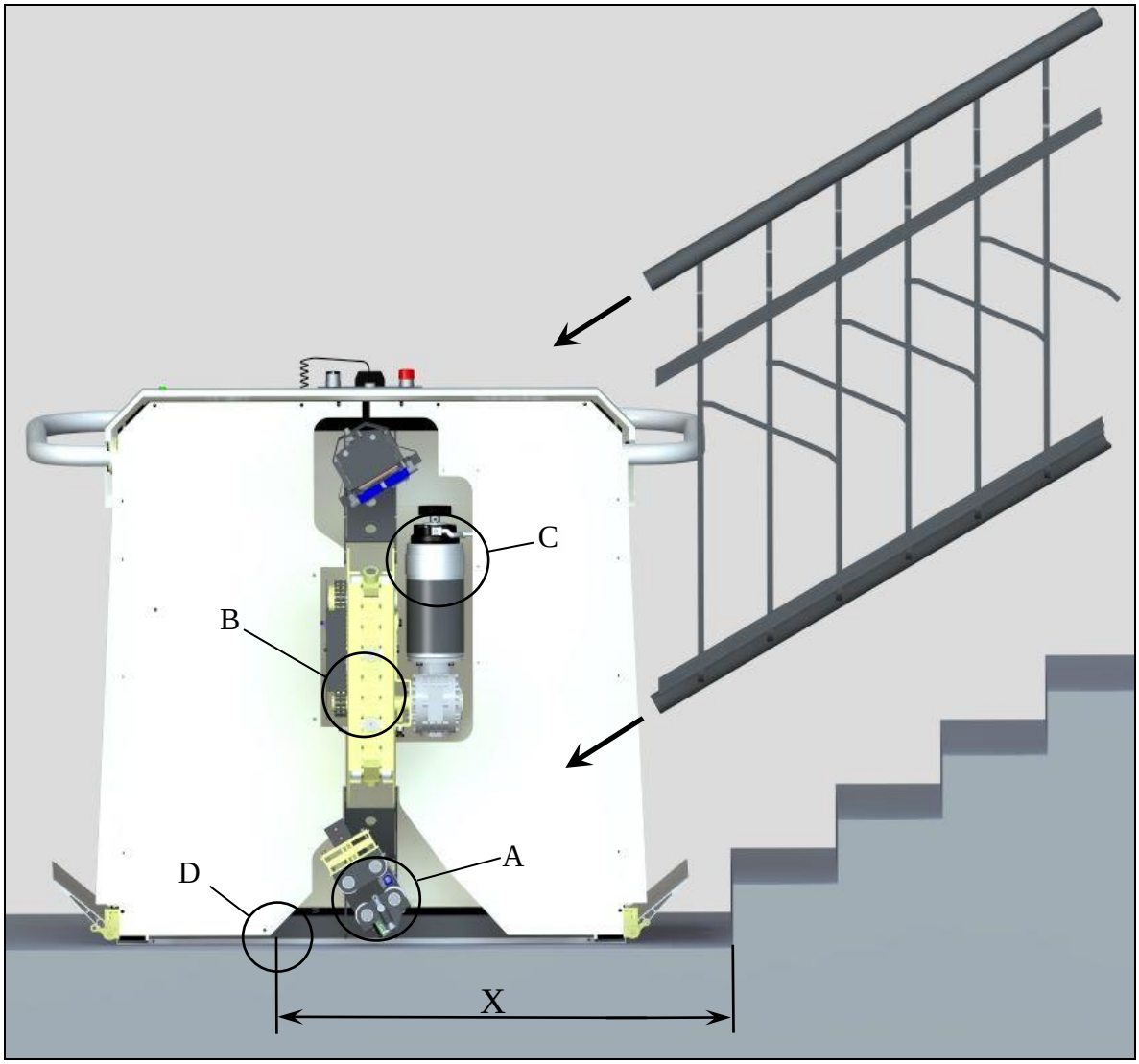


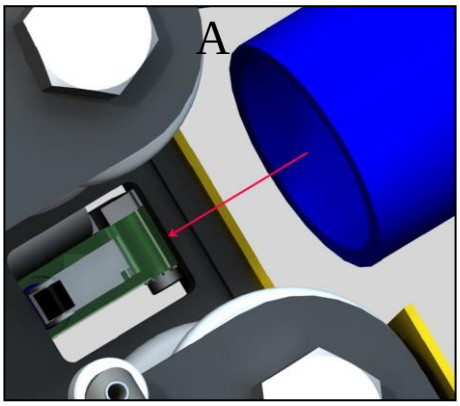
4.) Rotate the roller heads to match the angle of inclination of the track.

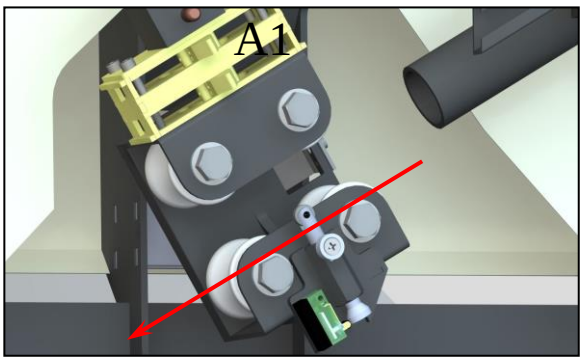


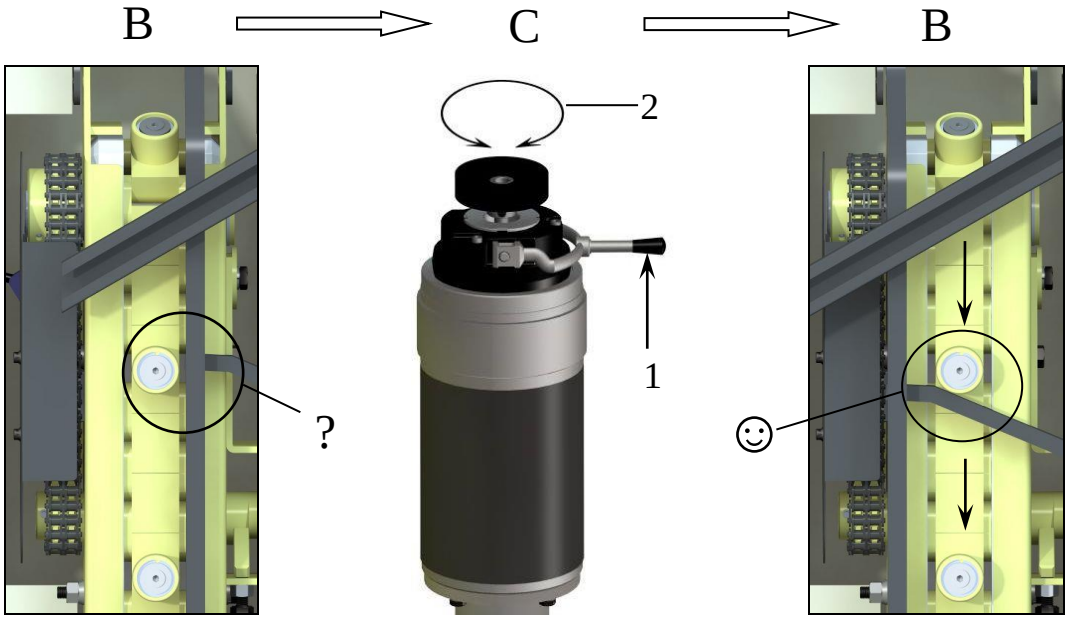
5.) **In rare cases it may be the case that the lower end of the track or the carriage (at the bottom station) does not rest on the floor. In this case, please proceed directly to item 25 on page 20)!**

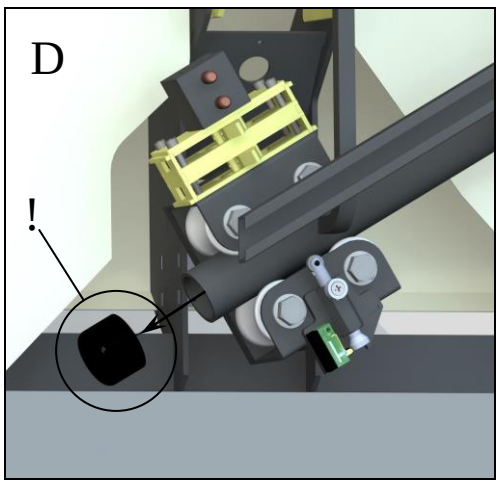
- Align the platform in accordance with the dimensions on the installation drawing.
- Insert the first (lowest) section of the track (the track sections are all sequentially numbered (small round metal signs on the individual track sections)). When doing this, be sure to depress the roller of the bypass switch (if fitted) by hand (**A**) (see page 5). Make sure you remove your hand in time (danger of crushing).
- If the track cannot be inserted any further, because one of more support rods are located in front of the support rollers (**B**), then pull the vent lever of the brake 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**).

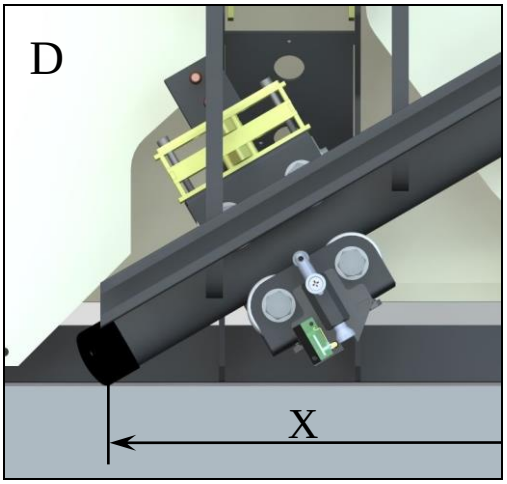



A

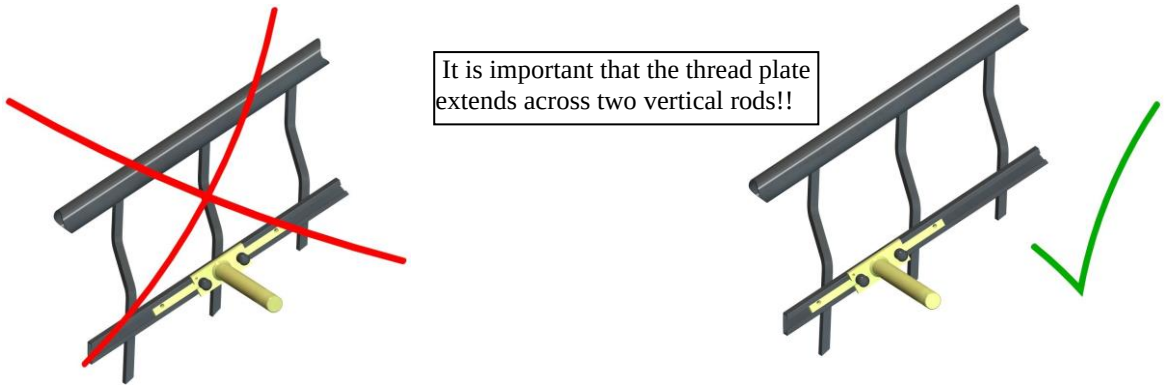

A1

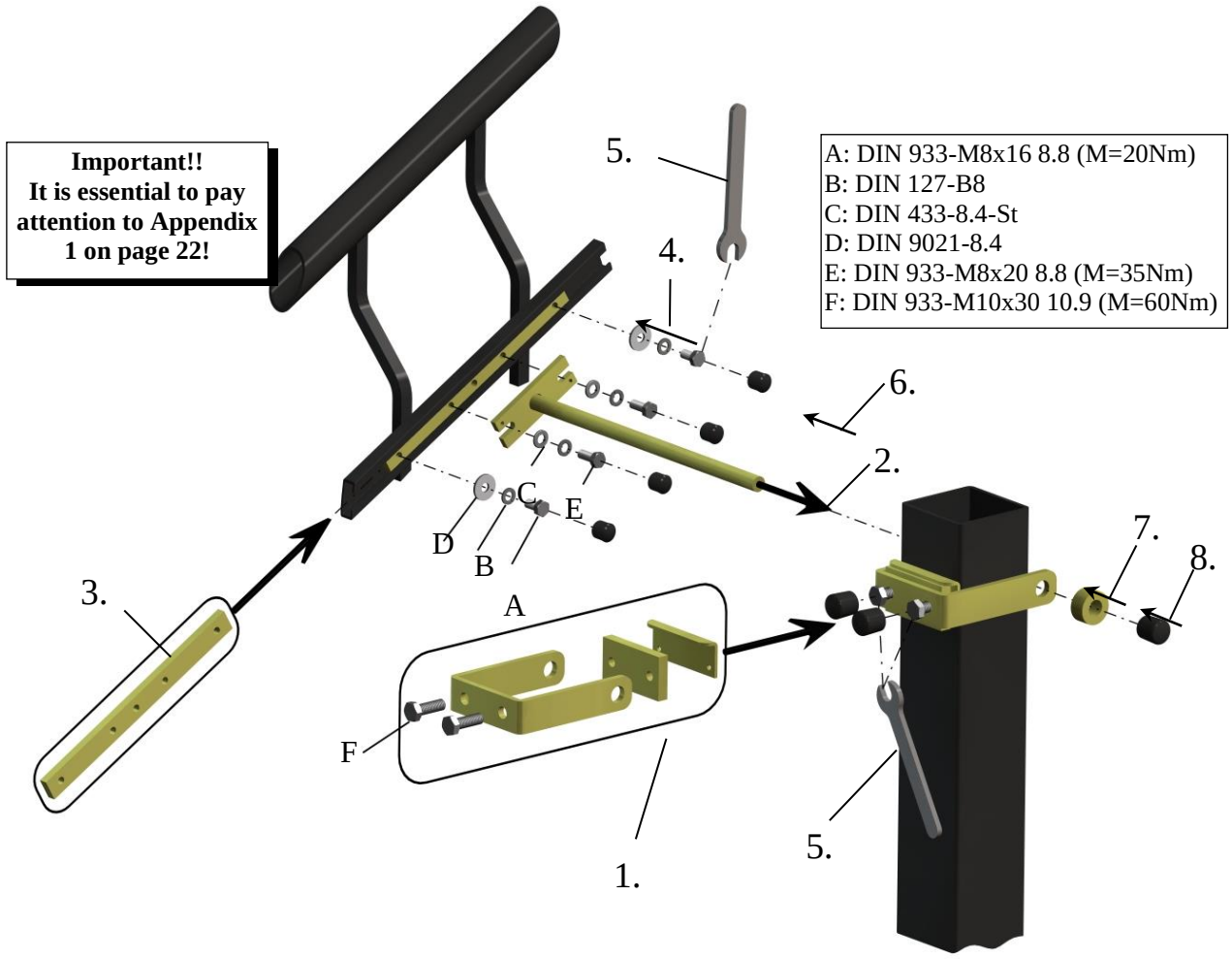

B
C
B
2
1
?


D
!


D
X

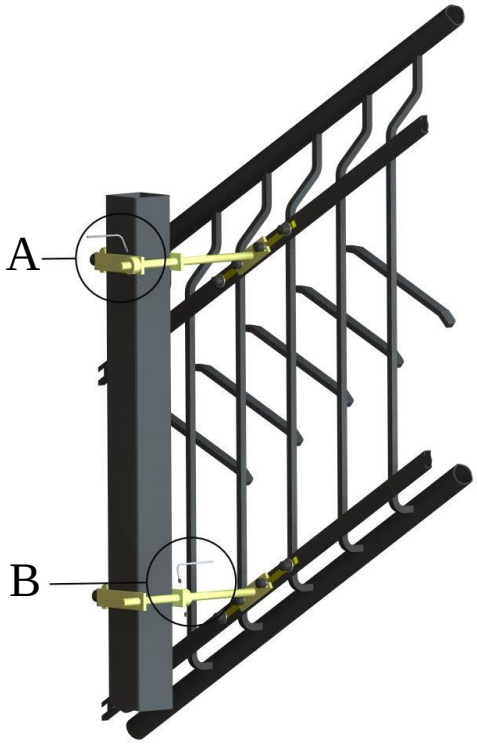
6.) If the dimensions of the carriage and the track (dimension X) correspond to those on the installation drawing, fasten the track (using the side mounts provided in the case of support mounting (***it is essential to pay attention to page 7***) (the use of the adjusting rings is described on the following page), or to the wall using the mounting plates (*see page 7 and page 23ff*)).





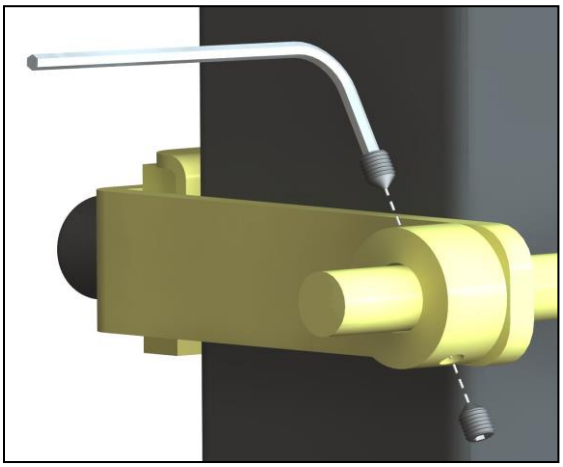
- When using a thread plate and a pressure bracket (see page 6):

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).

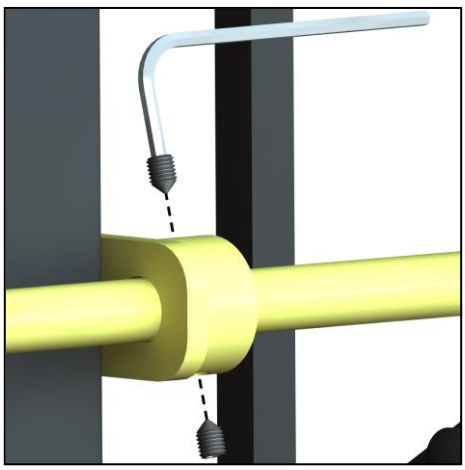


If the track must be placed so close to the support that it is no longer possible to attach the lower adjusting ring, then this can be omitted.
The positioning of the grub screw is system-specific and must be decided on site.

A



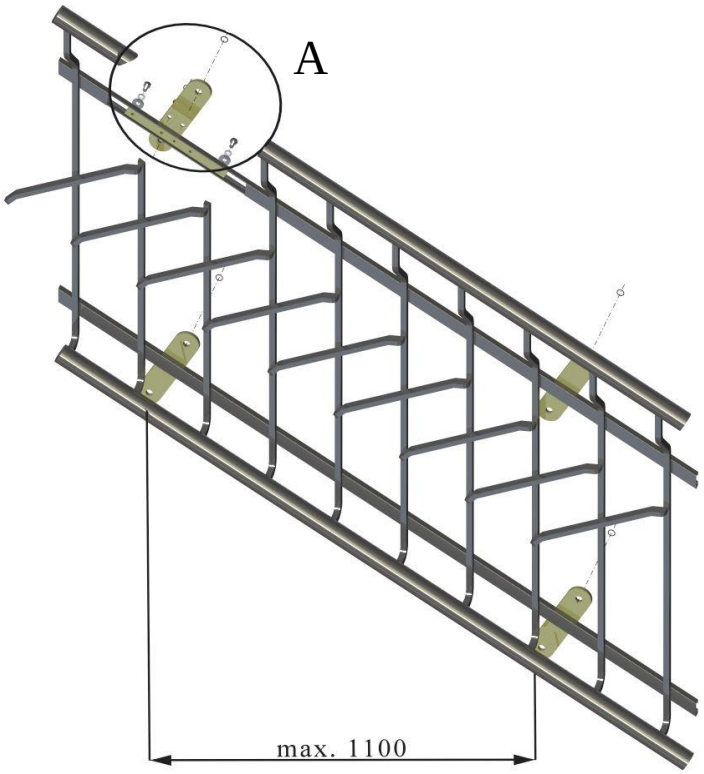
B

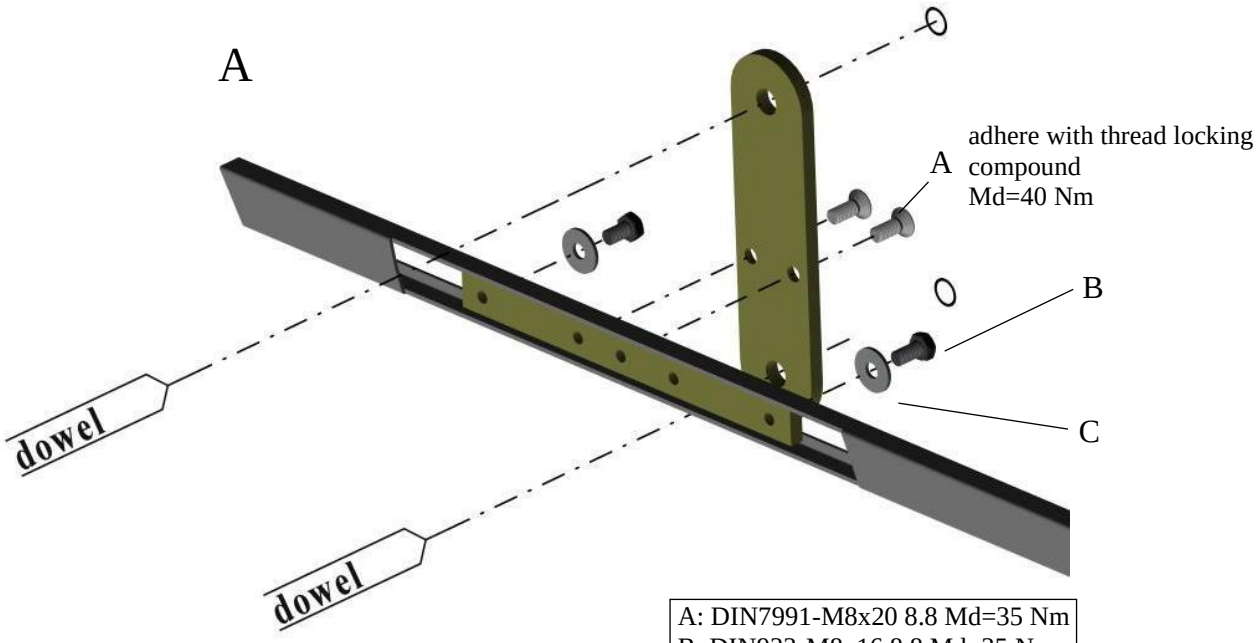


Example of wall fastening

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

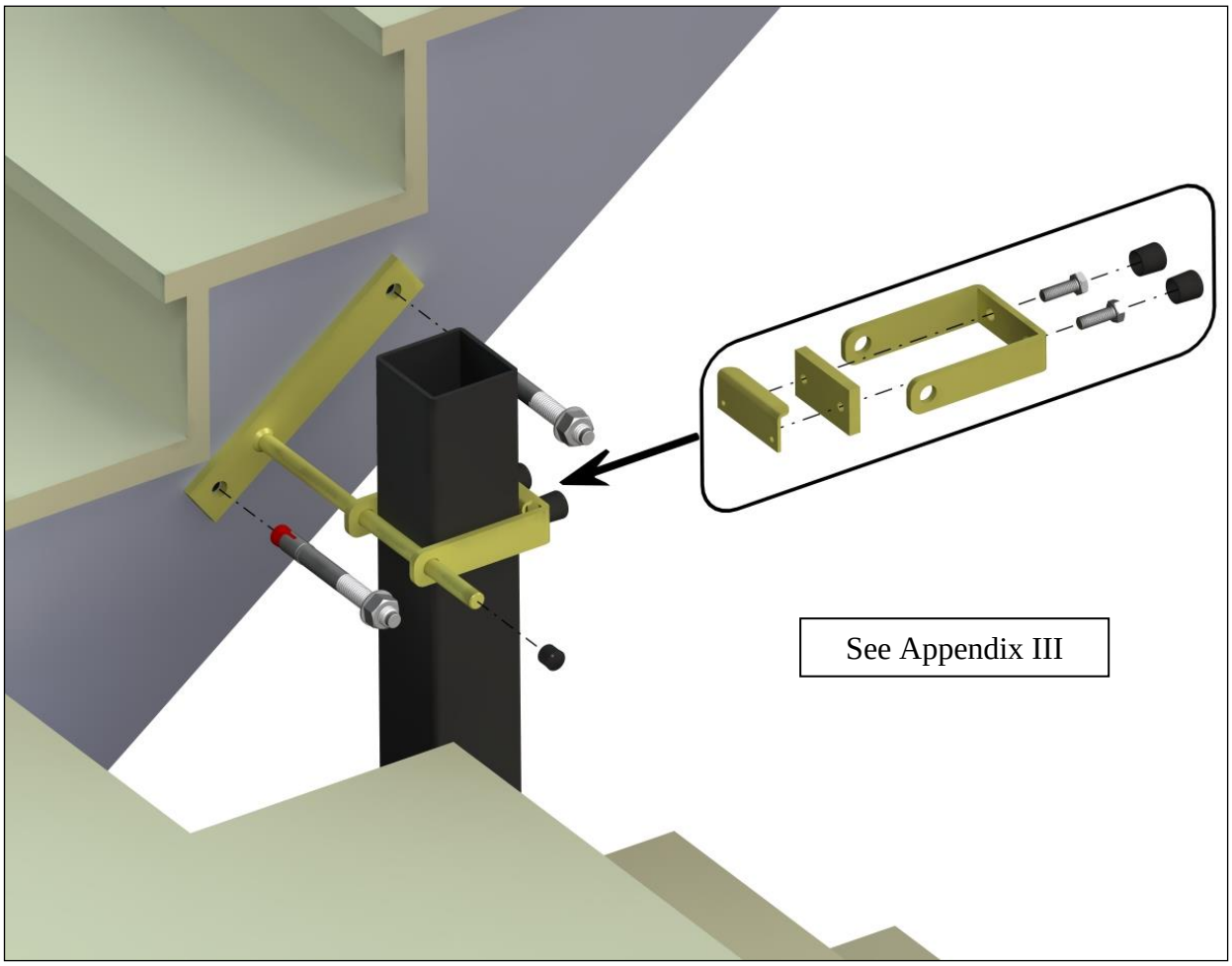
Hole diameter for the connecting element: 14 mm
Axis spacing for the connecting element: 120 mm
Recommended dowel selection: category 3



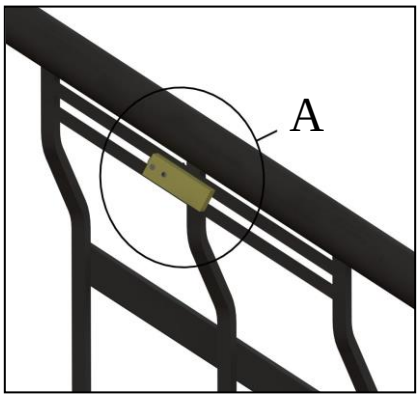


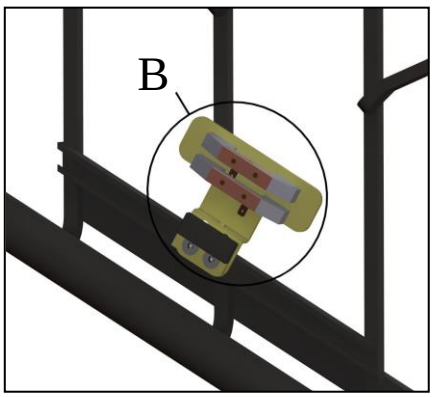
A: DIN7991-M8x20 8.8 Md=35 Nm
B: DIN933-M8x16 8.8 Md=35 Nm
C: DIN9021-8.4

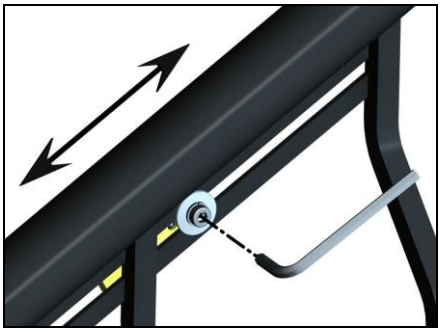
7.) The supports (in the case of support mounting) must additionally be fastened to the stair stringer or to the wall (if possible). Cut off any excess mounting material.



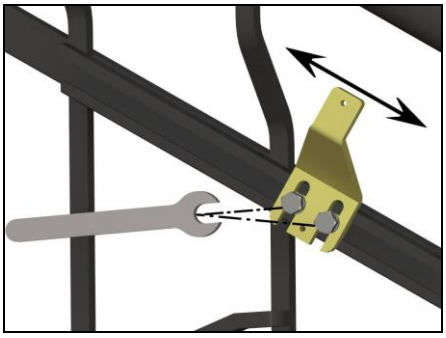
8.) Adjust the lower station (operating limit switches, bolt curves (if fitted)).



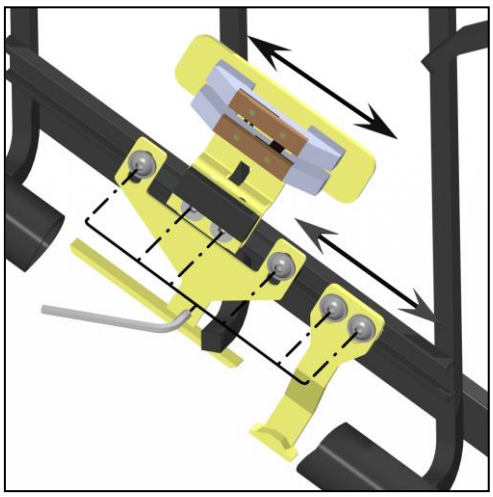




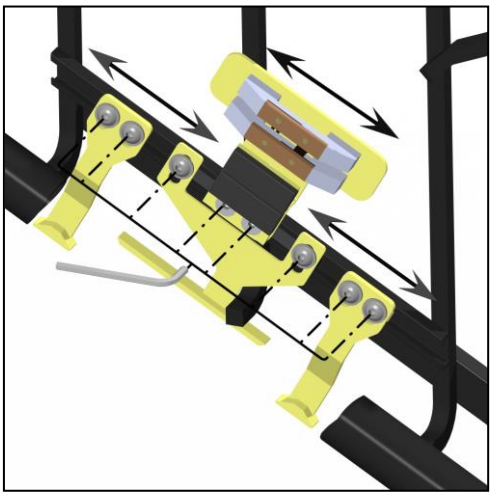
Cam for limit switch



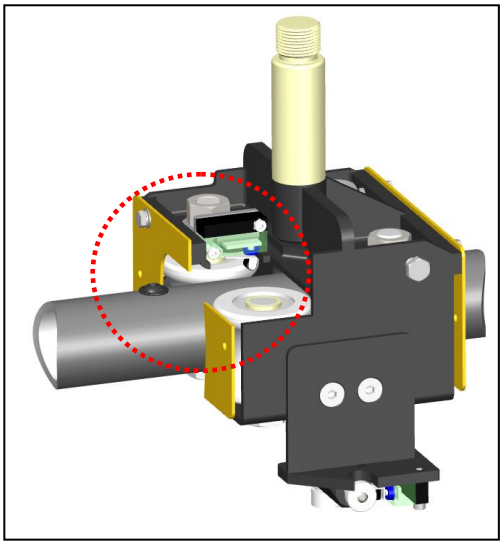
Cam for intermediate switch



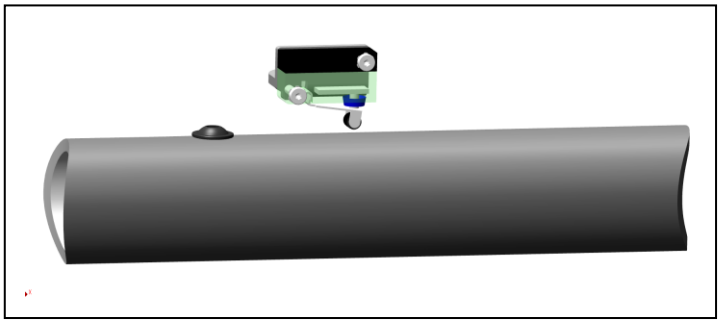
Cam for bypass switch, locking and loading station (upper stop)



Cam for bypass switch, locking and loading station (middle stop)



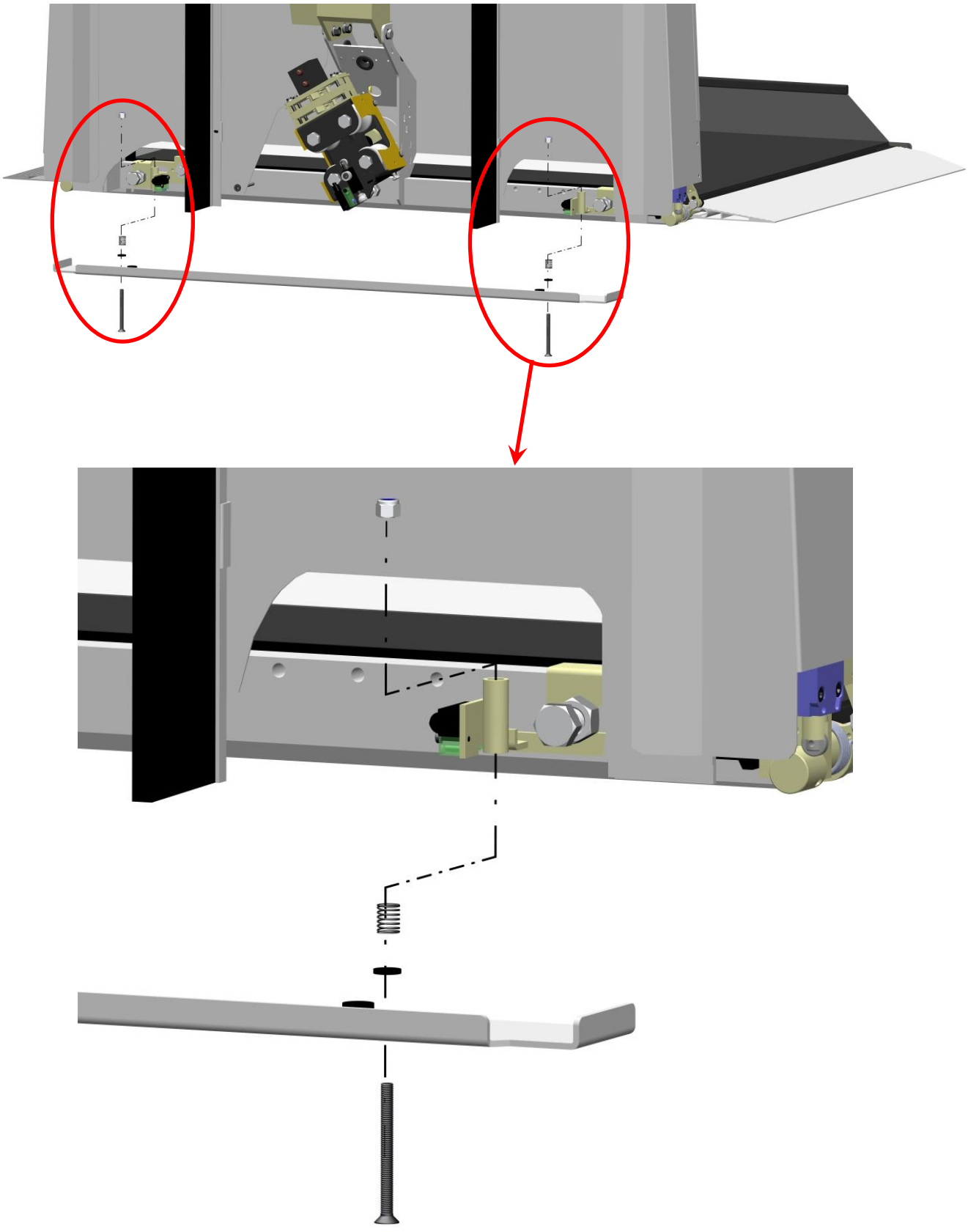
Position of the final limit switch at lower roller set



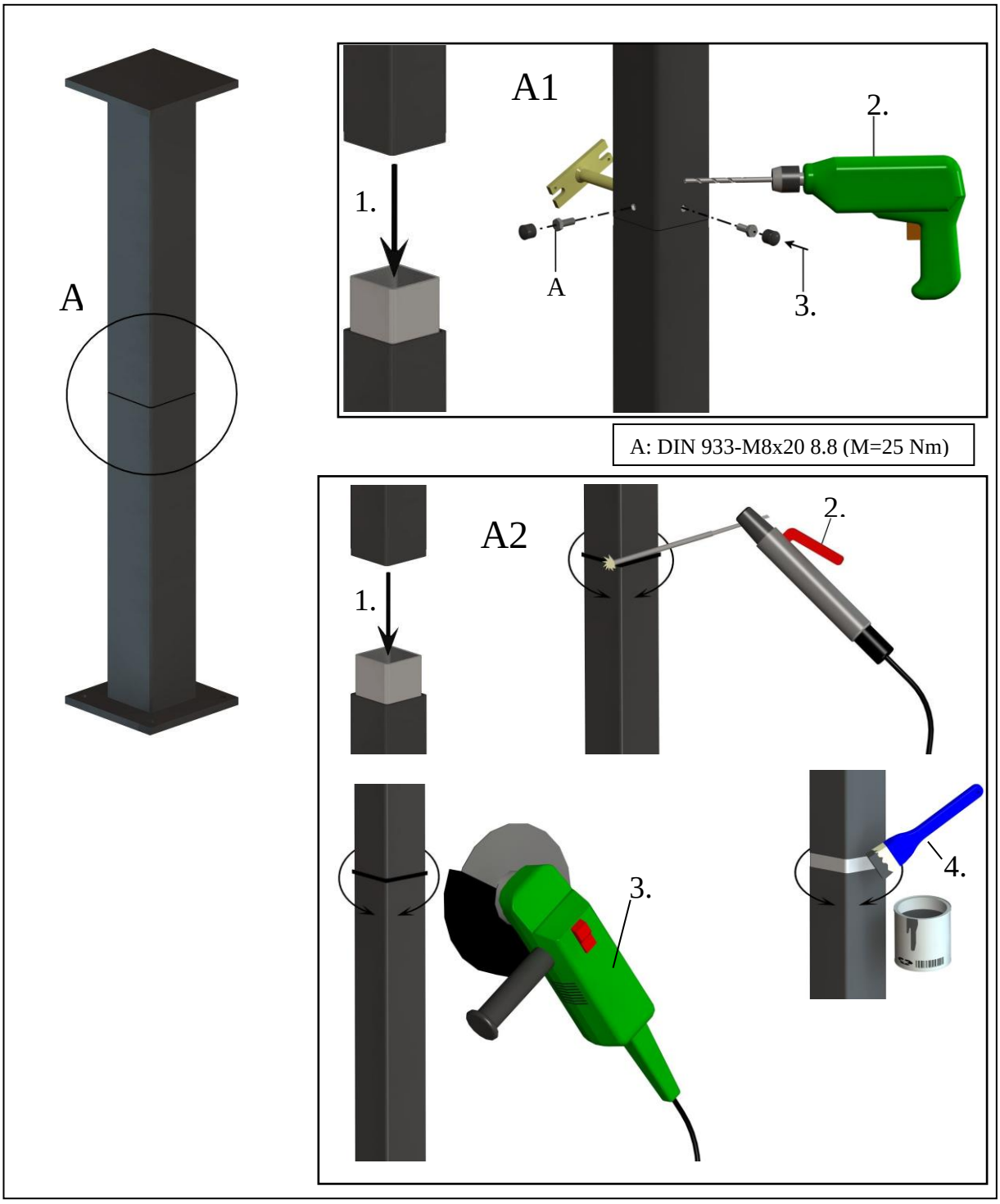
Screw for the final limit switch

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).

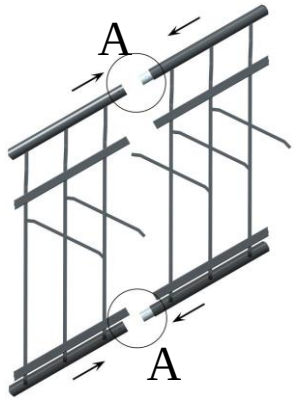
8a) If the platform can be driven a short way upwards on the rail, then the contact strip is to be attached to the underside of the frame. This could not be attached in the factory, because it would otherwise have been damaged during transport. As soon as the platform is accessible from underneath, the 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.

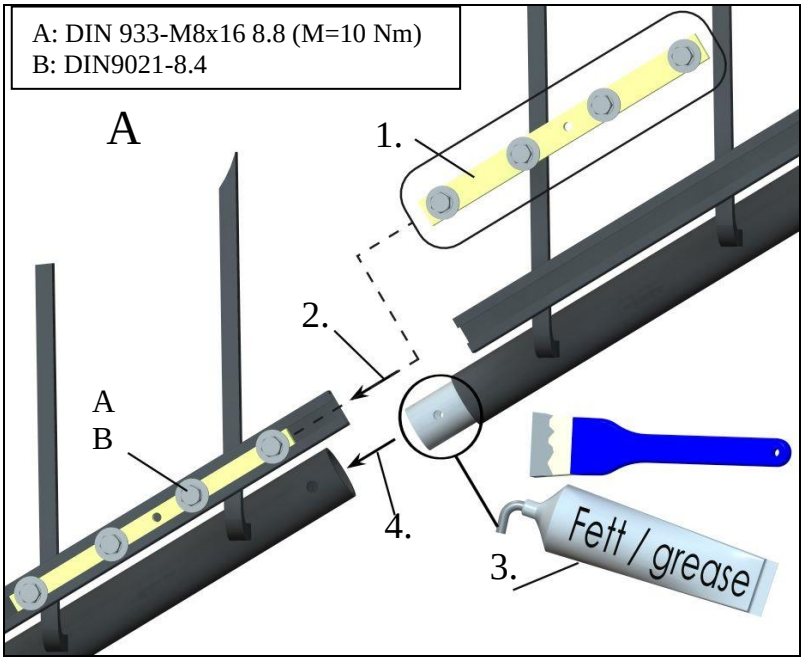


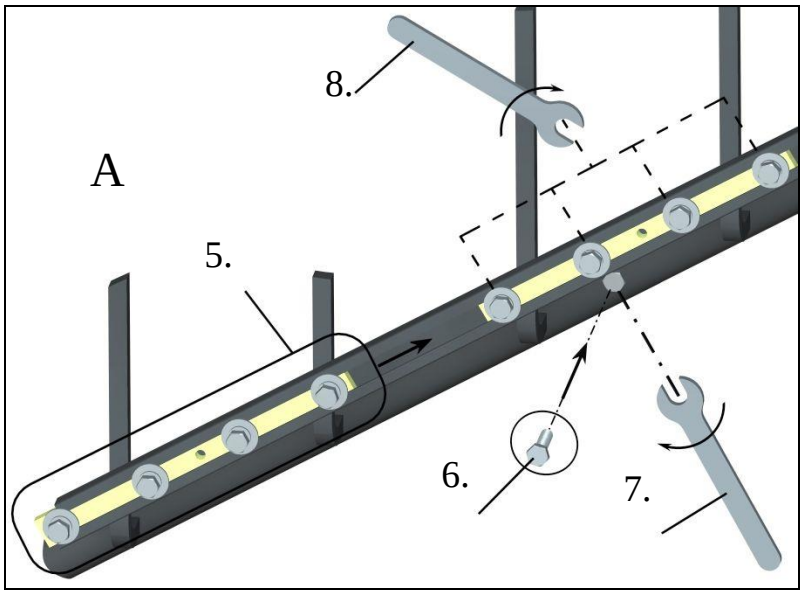
9.) Align further supports in accordance with the installation drawing and fasten them with dowels. The supports may consist of several individual parts (individual parts are numbered); in this case they are to be joined together and bolted (if the support can be fastened near to the joint (**A1**)) 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 connector provided (*see page 13*). The new track section is to be fastened to the support or to the wall.







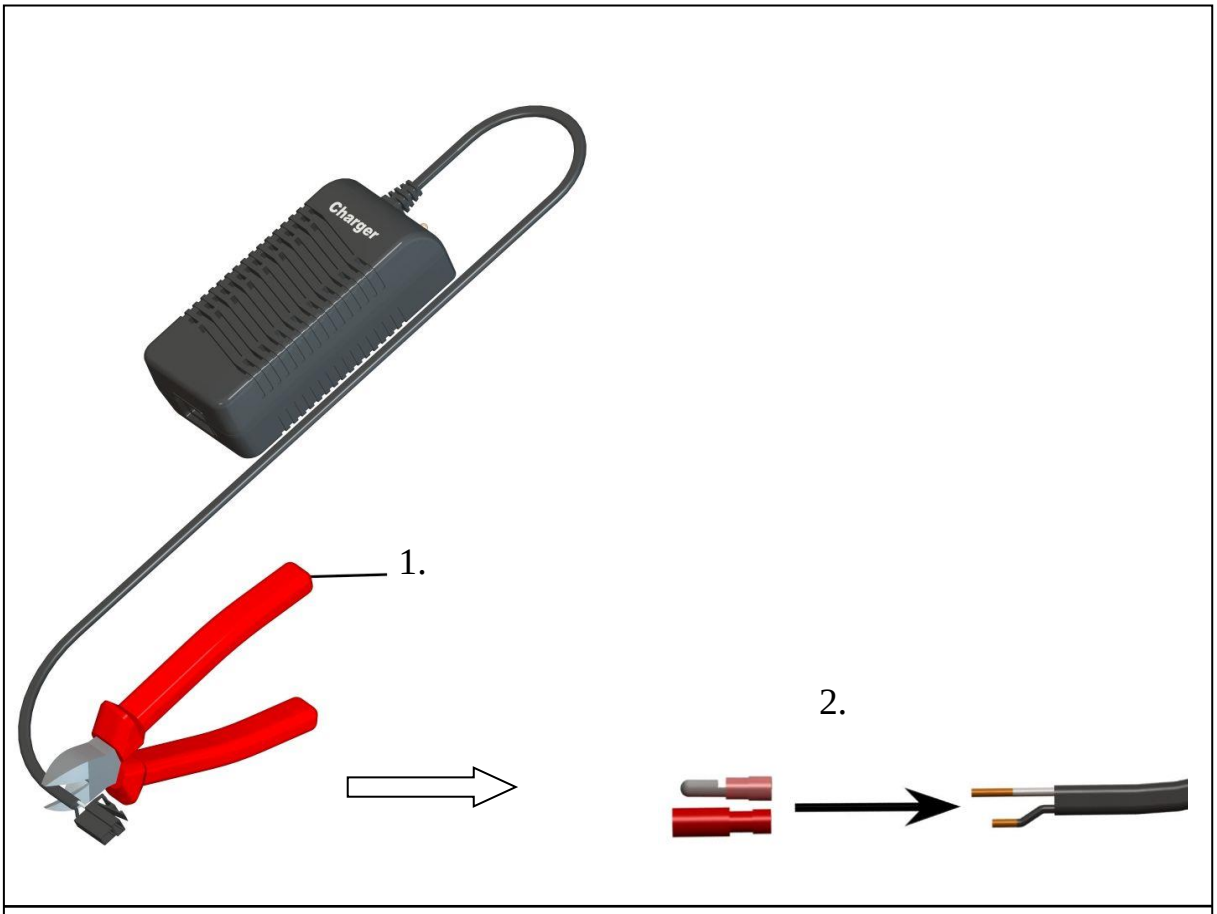
If the track part has kinks or curves, then the flat bar sometimes has to be inserted into the halfen rail from below, or the flat bar is replaced by halfen nuts (square nuts).

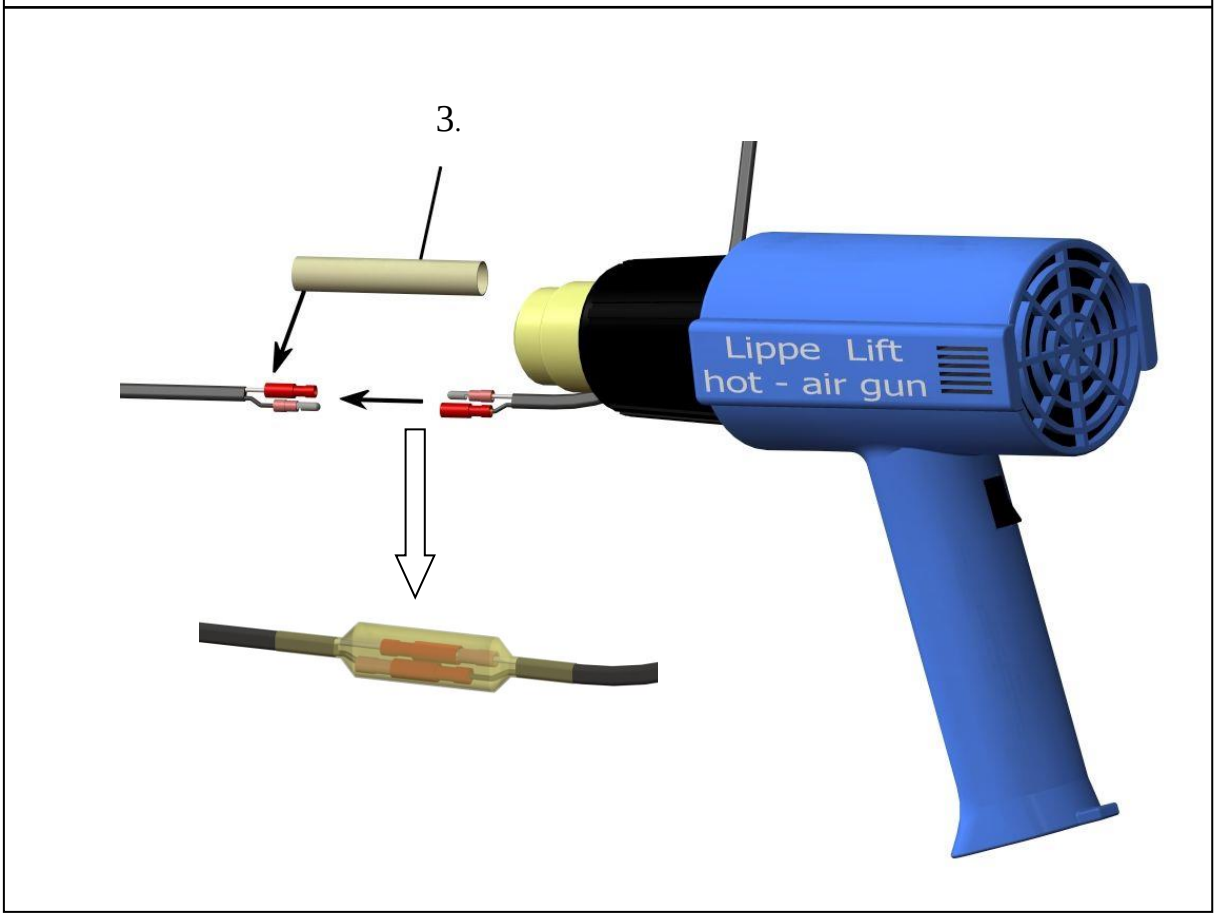
10.) Before driving with the lift, the track tubes must first be cleansed of any dirt. Drive the carriage to a position shortly before the end of the last track section and carry out any necessary adjustments. **Ensure that the carriage does not leave the track when doing this!!!**

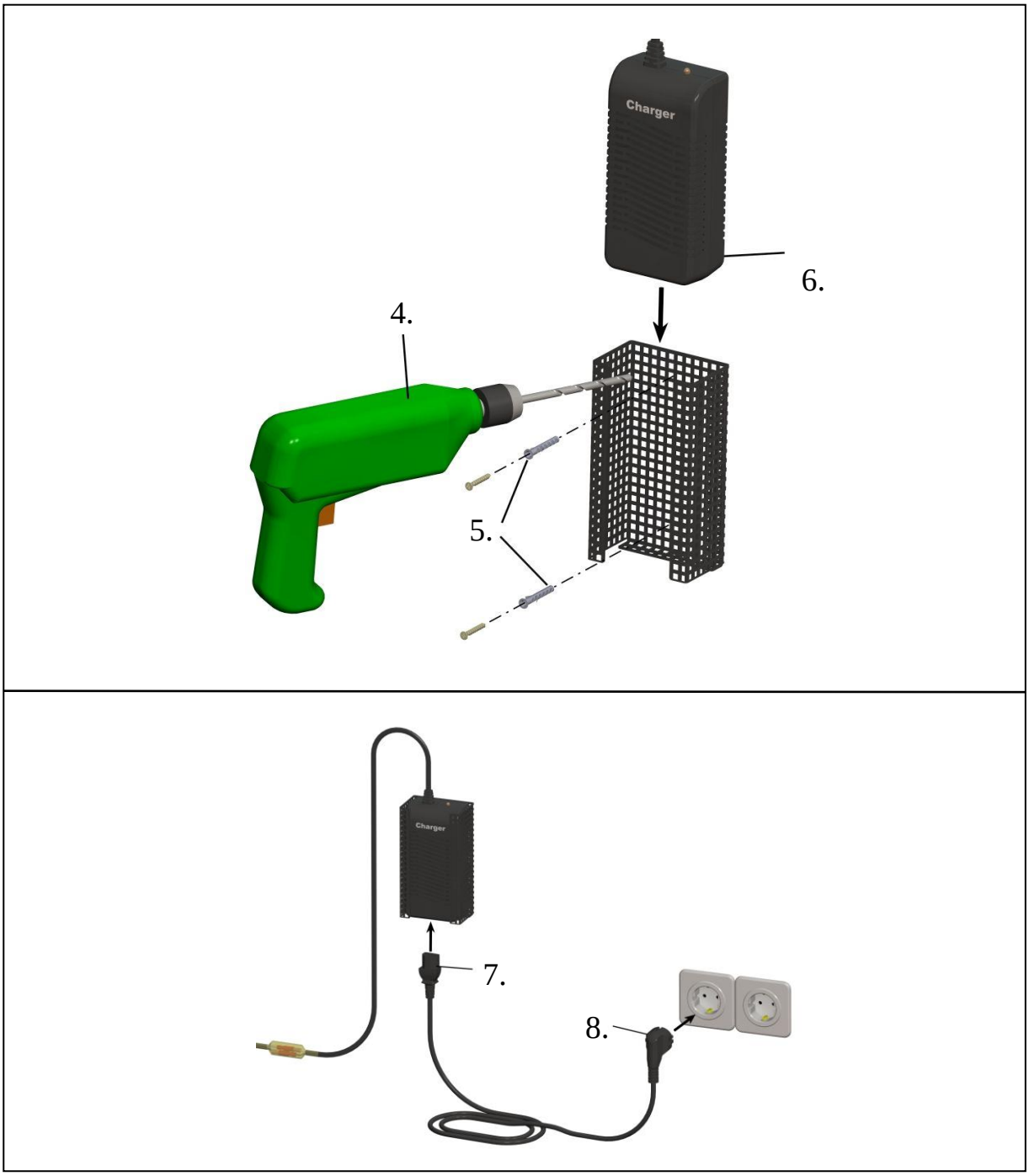
11.) Repeat items 9 and 10 until the entire track has been installed.

12.) Adjust the top and, if existing, the middle stations (*see item 8 (page 10*)).

13.) 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 carriage is in the charging station with its charging contacts). The battery charger should be mounted as far as possible in such a way that the user can easily see it.


Charger
1.
2.

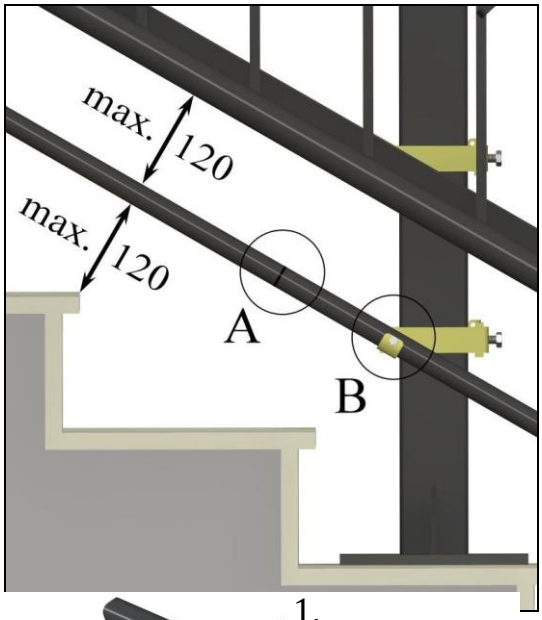

3.
Lippe Lift
hot - air gun



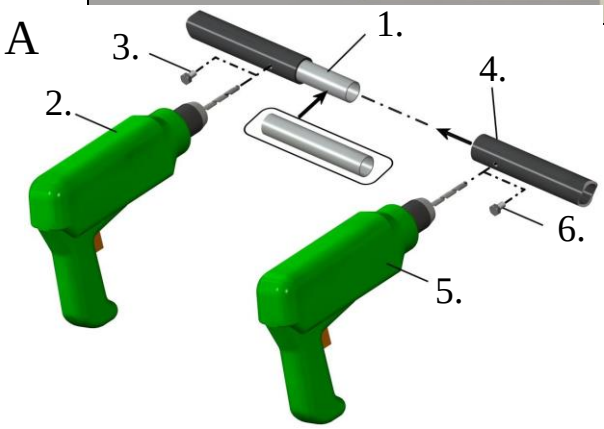
14.) Connect the rail to the building potential equalisation cable ([interior installations: Cu, min. 6 mm², exterior installations: Cu, min. 10 mm²] in Germany or according to national regulations). Since there must be a conducting connection, it may be necessary to carefully remove the powder coating at the respective point.

15.) The arrangement of the external command 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 command units should be **800 to 1100 mm** above the floor. The external command 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 command units that are connected to one another, the cables are to be laid in a cable duct or a conduit.

16.) Mount the lower tube if necessary or intended. 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.



A



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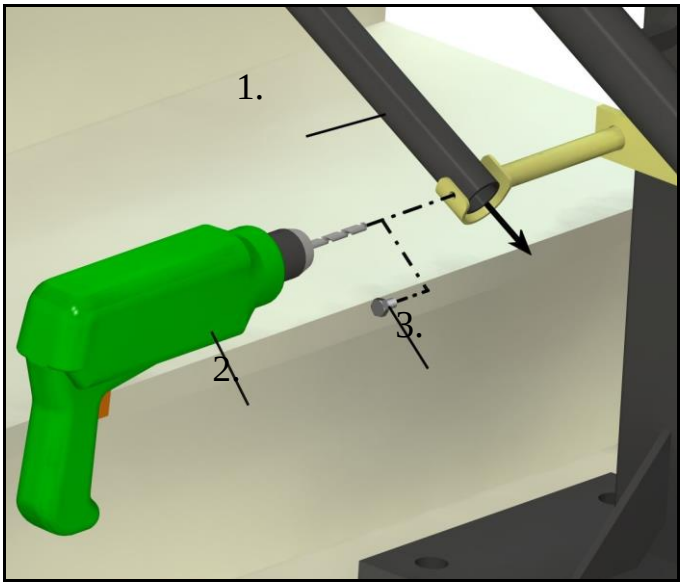
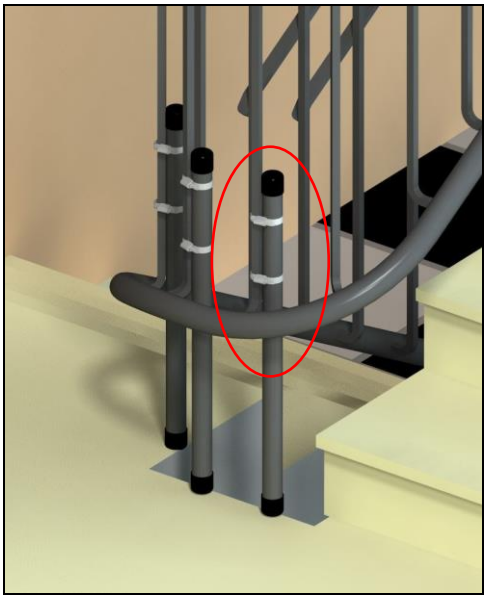
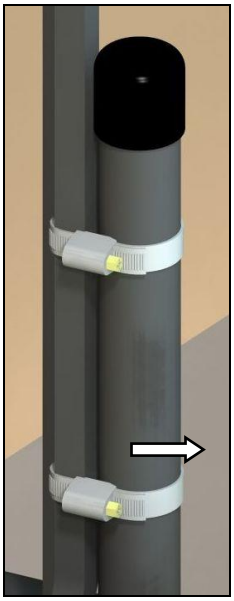
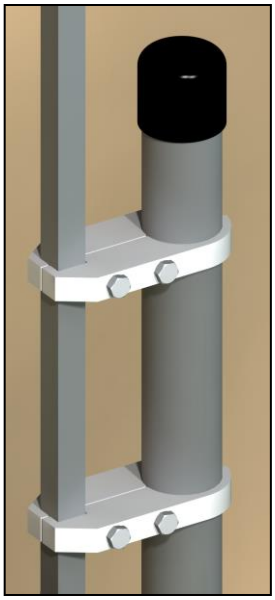


17.) Tubes are intended to be used as anti-falling devices in curves. These tubes are to be fixed to the vertical rods using the fastening clips provided (two fastening clips per tube). The tubes should overlap the vertical rods by approx. 200 mm and be fed as far as the steps if possible. The clearance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





Standard

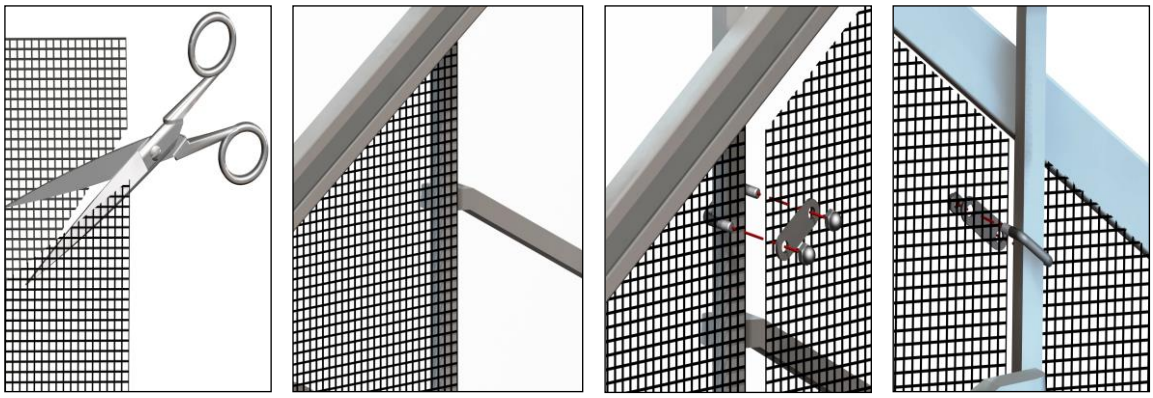


Option

18.) 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 safety device to prevent reaching through 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 version of the rear-sided cover is by using a fibre-glass net instead of the Plexiglas. At site this netting can be cut very easily with a normal pair of scissors and fixed to the vertical steel bars by delivered clamps (as shown below). The seam has to be exactly at a vertical steel bar with an overlapping of approx. 10mm, so it could be fixed there. We recommend a fixing distance of max. 500mm. The netting is furled delivered.



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

20.) All necessary danger and instruction notices are to be attached.

21.) Carry out several test runs under full load and check **all** safety and control functions (including the engagement of the safety gear). Engage the safety gear with 125 % of the max. load bearing capacity, according to version: Unhook (both) spring(s) on the speed limiter (at the screw) (if applicable loosen counter nut, don't damage sealing wax) and turn the lift in the downhill direction using the hand wheel with the brake vented until the/one arrester pendulum is fully engaged and the safety gear 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) spring(s)** (and if applicable secure). Labels in the respective national language are to be applied over the original labels if necessary!

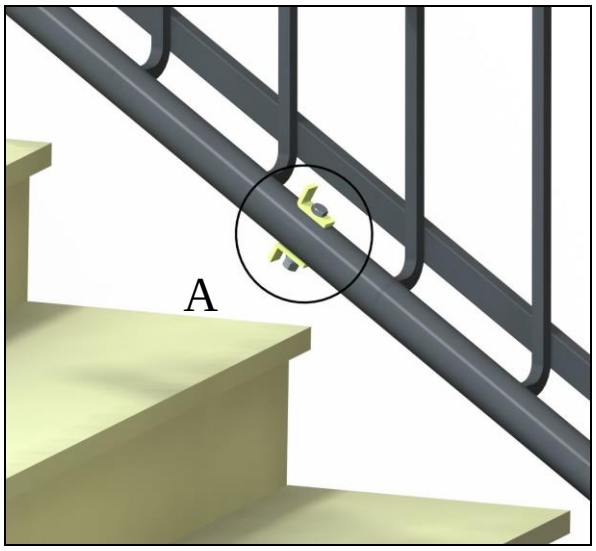
22.) Give detailed instructions to the user (let him/her drive himself/herself).

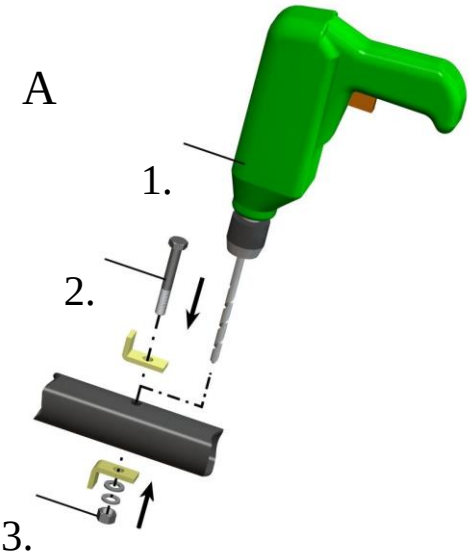
23.) Touch up any paint damage (a pot of paint is supplied) and instruct the customer not to drive with the lift until the paint has dried and operation is allowed in accordance with the national regulations.

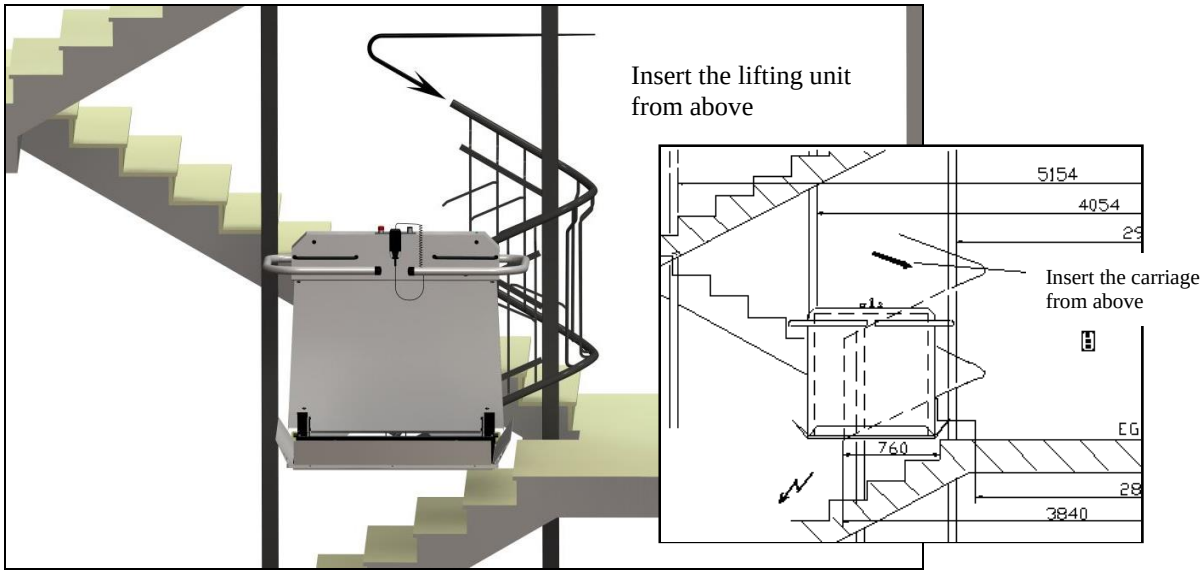
24.) Complete the installation report in detail and send it to the manufacturer's customer service department.

25.) ***Regarding item 5 on page 3 (non-contact of the carriage with the floor)***

- Establish an auxiliary point: The lowest point of the lowest track section (see dimensional data in the installation drawing (*see example below*)).
- Align and fasten the track in accordance with the dimensions on the <u>installation drawing</u> (*see item 6 page 6*).
- Make <u>absolutely</u> sure that the anti-falling safety device (see below) (two brackets) is attached to the lower track tube **<u>(danger of falling!!)</u>**.
  Raise the carriage and push the roller heads onto the track tubes (make sure that the roller of the bypass switch is not damaged (*see also item 5 page 4*)).
- If the support rollers rest 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 carriage to move downwards (*see also item 5 page 4*).







26.) After that, continue with items 7 to 22.

Disassembly of a T80 inclined stair lift

1.) Drive the carriage to the lowest station.

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

3.) Remove the front cover (to gain access to the main breaker, brake and hand wheel)

4.) Set the main breaker to OFF.

5.) Starting from the highest station, successively dismount the track sections in a downward direction (including the last track section before the carriage).
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 carriage from the track rail in an appropriate way:
- If the carriage 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 carriage 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 carriage in an upward direction out of the last track 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

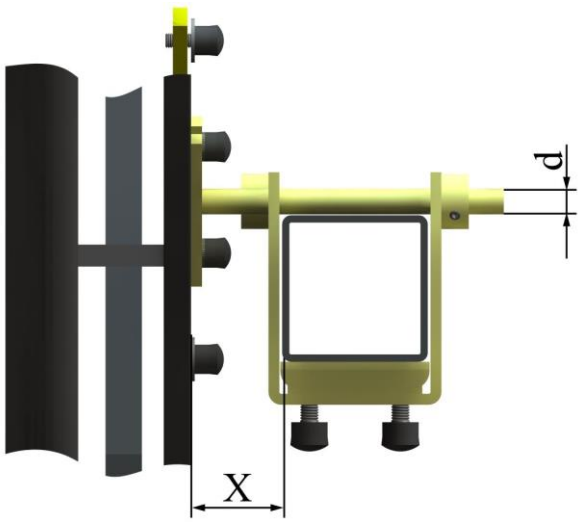
1.) Steel scrap: steels parts of the track and supports; steel parts of the carriage

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

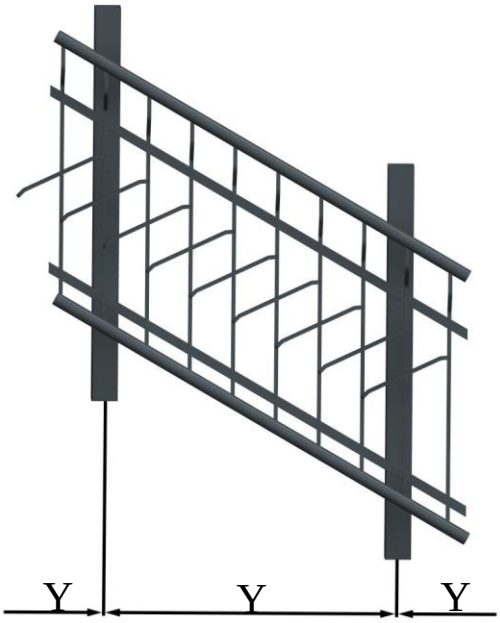
Note: our powder coating is free of lead and cadmium

Appendix I

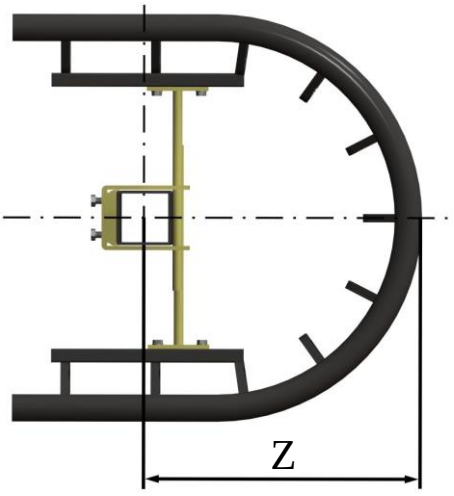
Maximum dimensions for the installation of a T80 inclined stair lift:



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



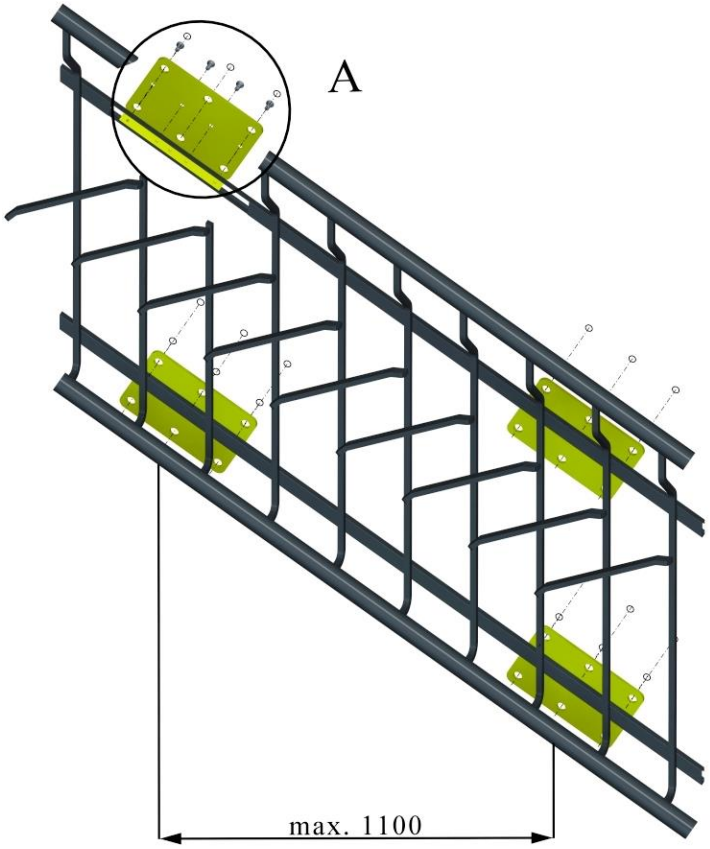
Y= max. 1100 mm

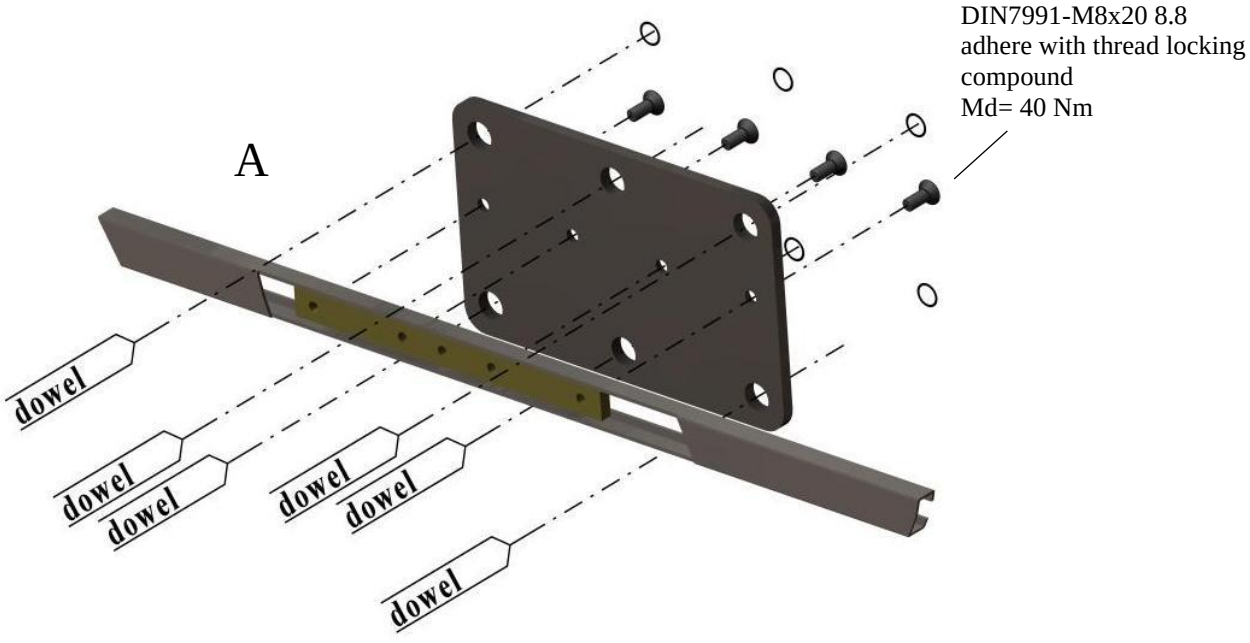


Z= max. 350 mm

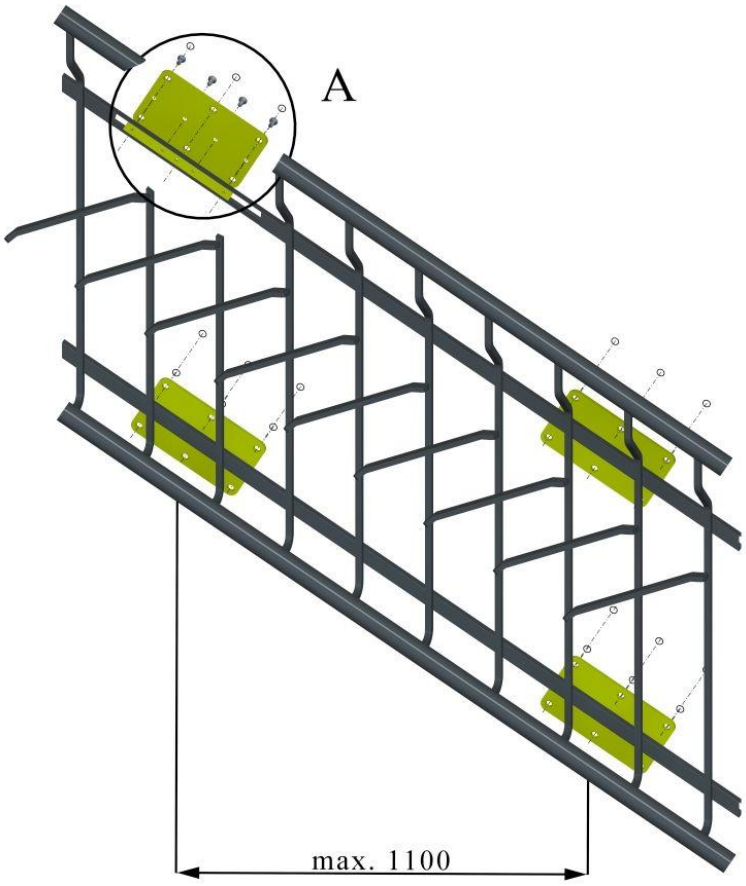
Appendix II

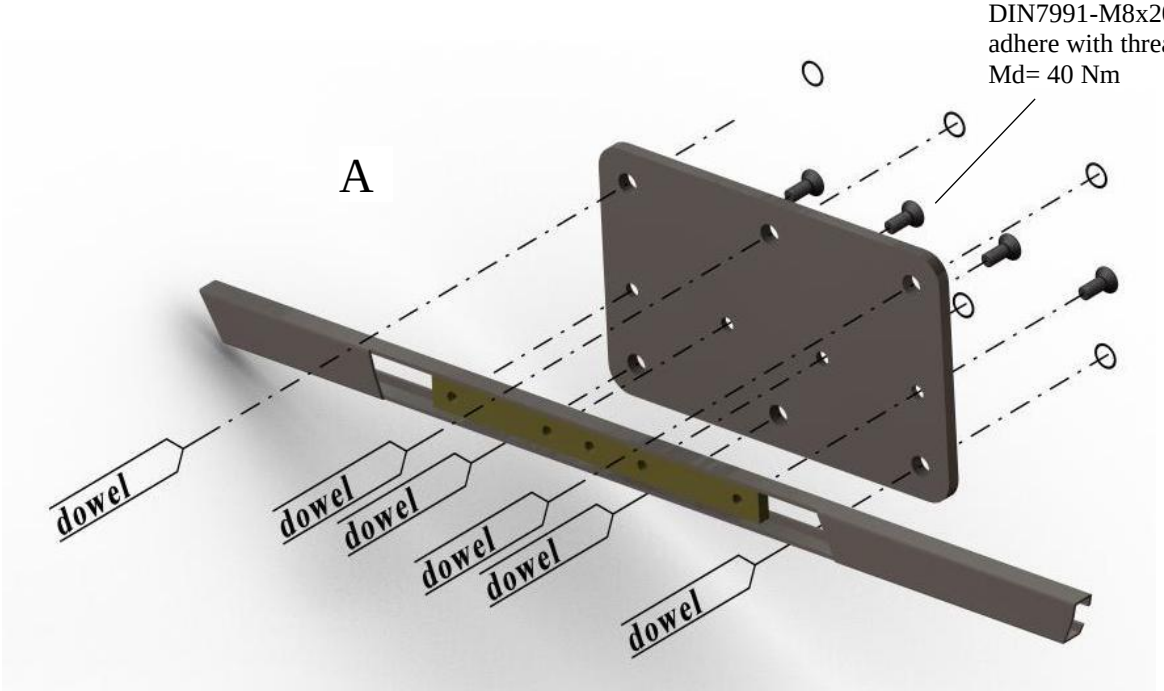
Additional wall fastening options
Building fabric: horizontal coring brick, vertical coring brick, lime malm brick
Drill hole diameter for connecting element: 18 mm Axis spacing for connecting element: 100 mm and 110 mm Recommended dowel selection: category 5





Additional wall fastening options
Building fabric: solid brick, solid lime malm brick
Drill hole diameter for connecting elements: 12 mm Axis spacing for connecting elements: 100 mm and 110 mm Recommended dowel selection: category 1

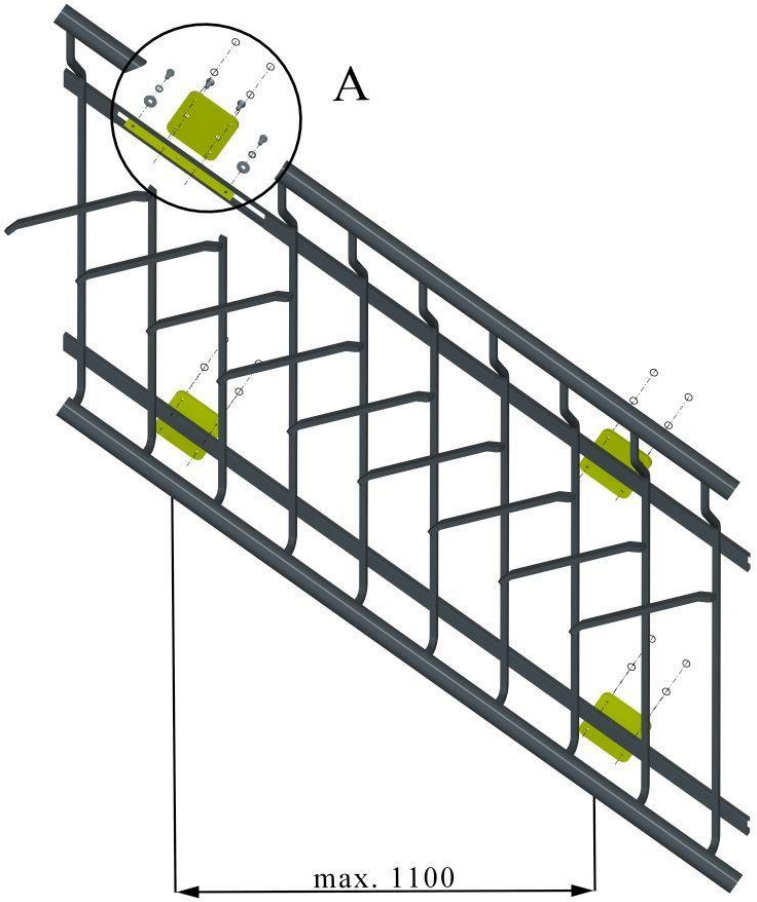


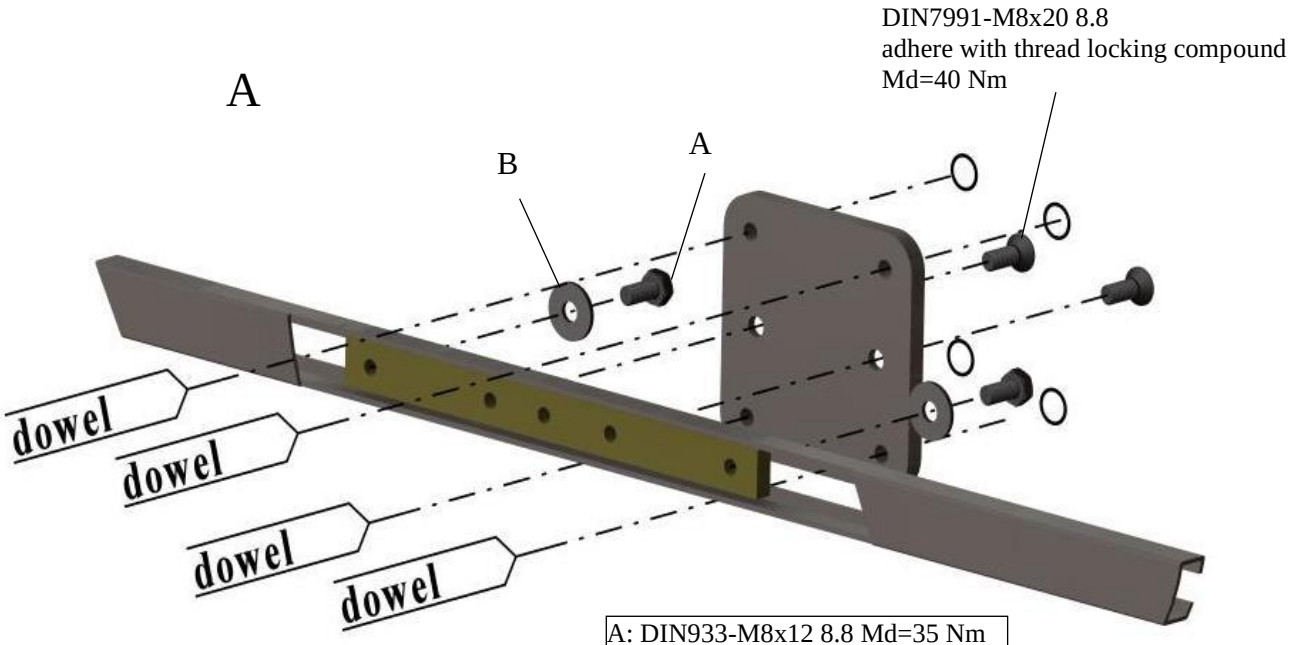


Additional wall fastening options for the following building fabrics:

Building fabric: wood

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





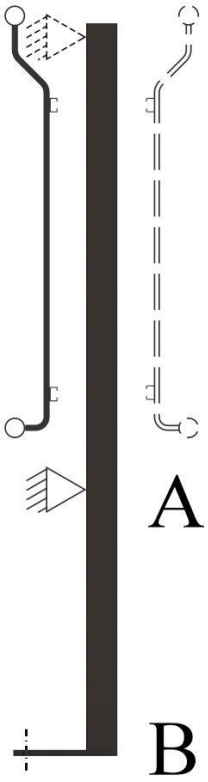
A: DIN933-M8x12 8.8 Md=35 Nm
B: DIN9021-8.4

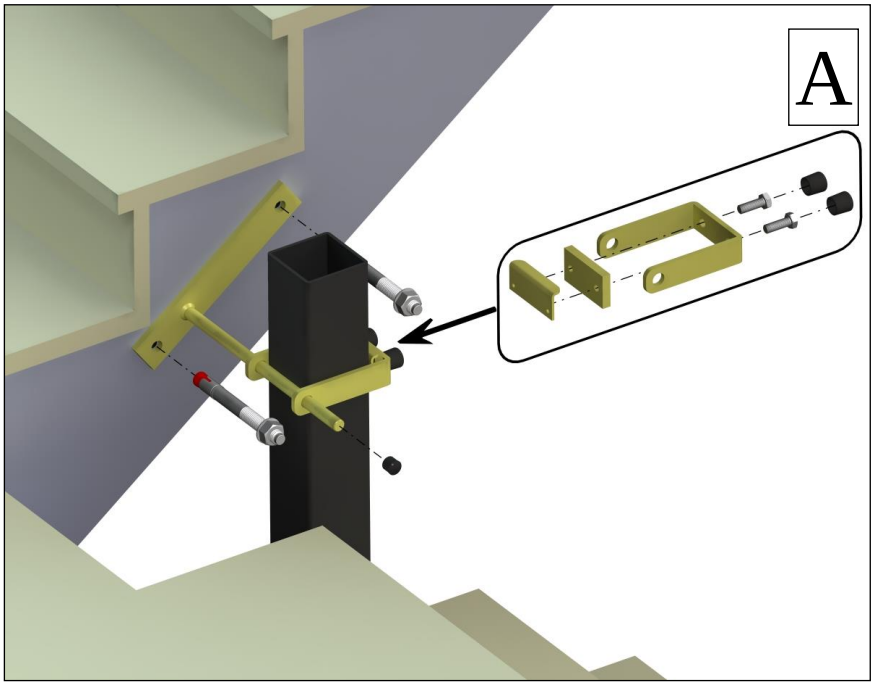
Appendix III

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: 15.0 mm
Axis spacing for connecting elements: area A: 190 mm / area B: 100 mm



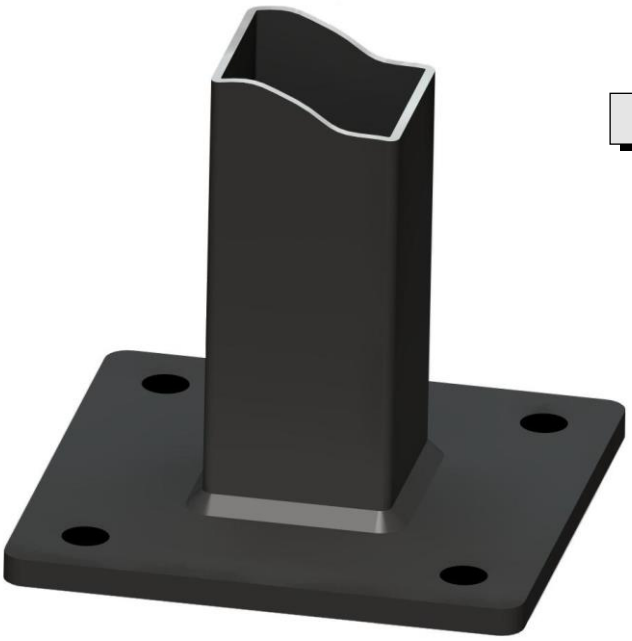


B

Recommended dowel selection: see below for category		
Area	Building fabric	
	Concrete	Other
A	2	1 or 5
B	3	1 or 5

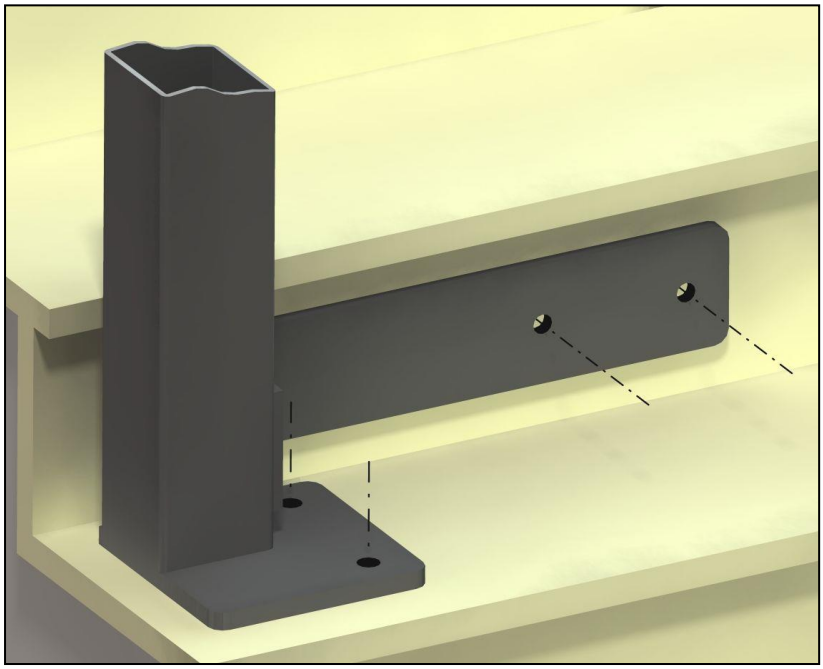
Example of a free-standing support (building fabric: concrete (C25))

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



On foundation

On steps



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

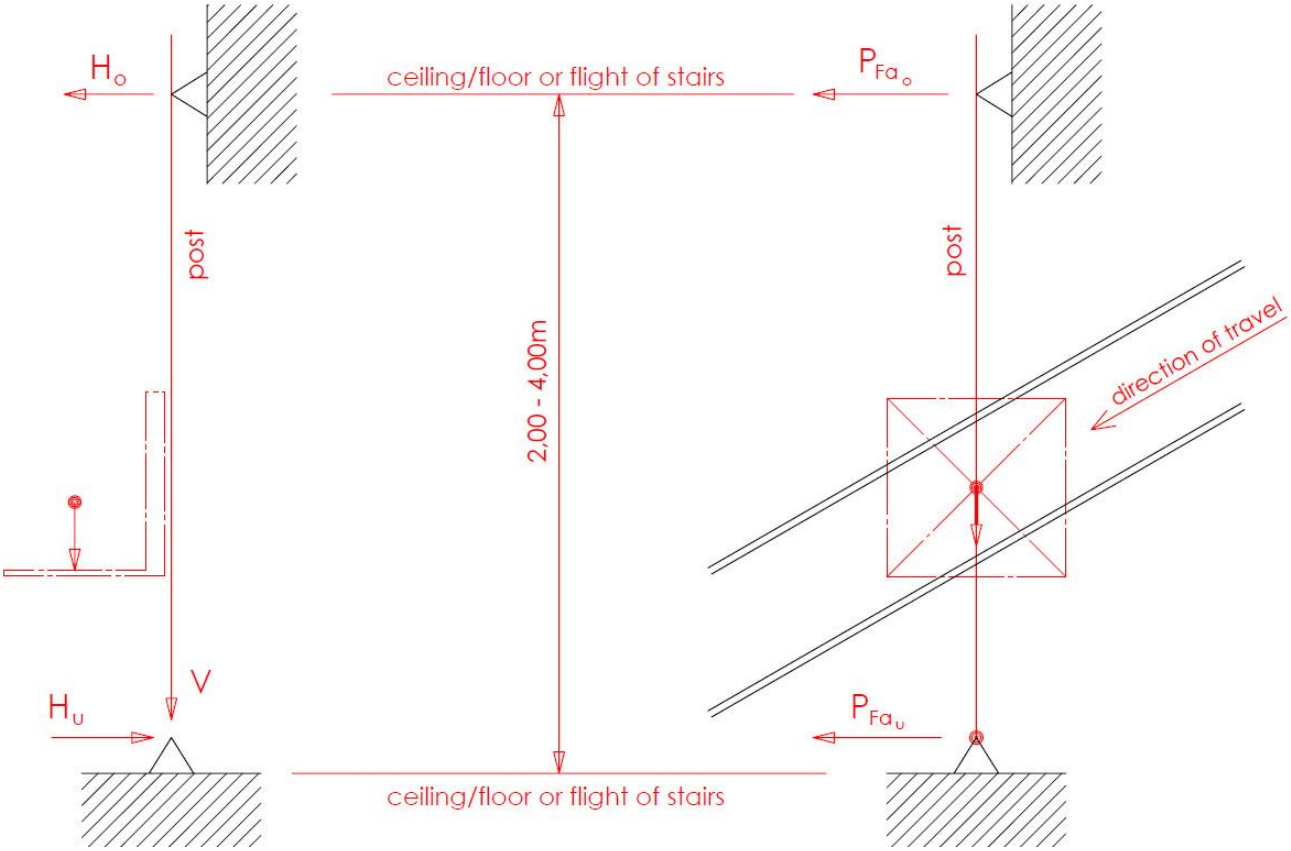
Appendix IV

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 (interior area, exterior 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

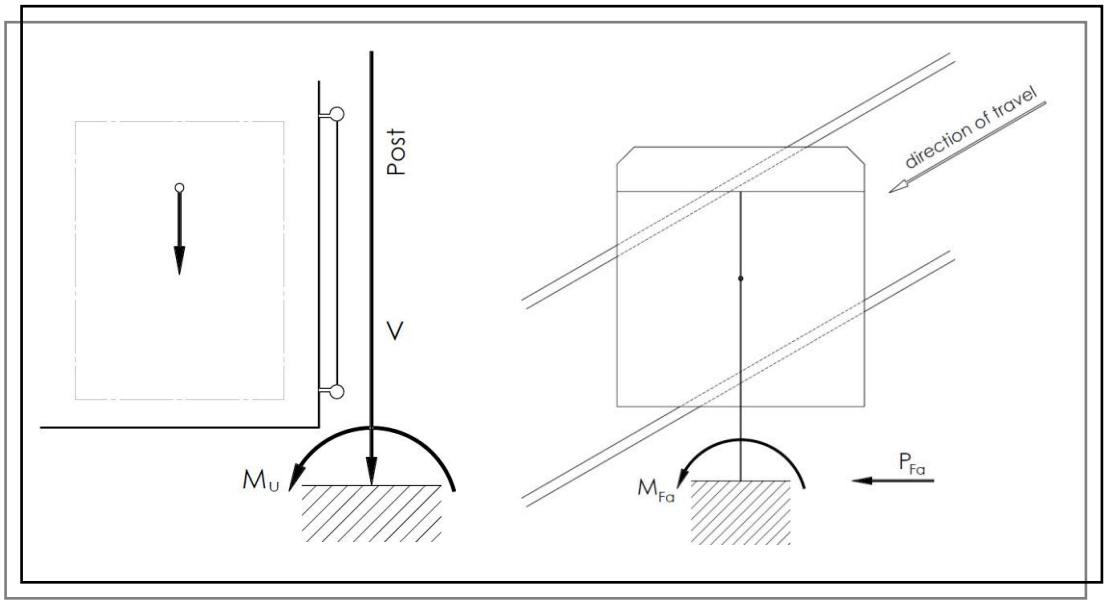
Support with two restraints



	Normal operation [KN]	Case of arrest [KN]	Remarks
Vo	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

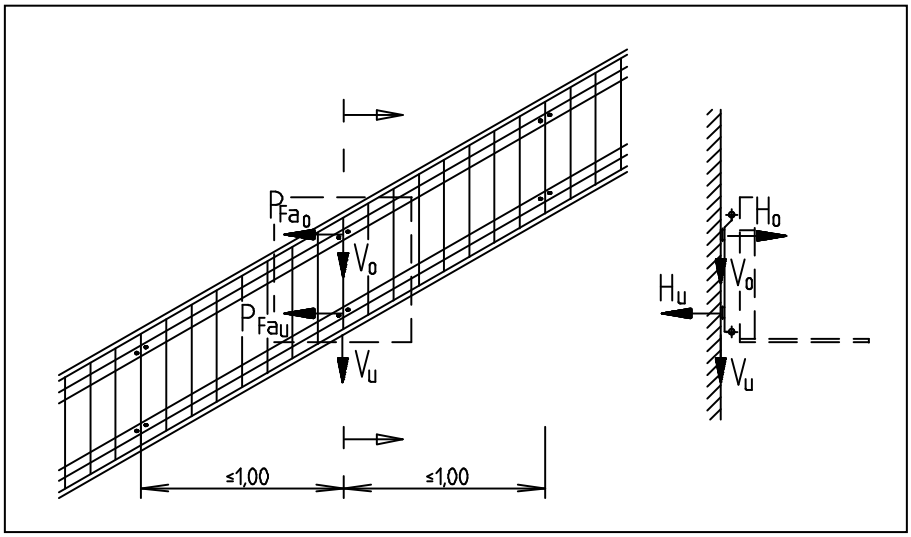
Support with one restraint



	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	