Assembly Instruction

for ISO-MAX
SKG Goods Lift

Preliminary Remarks

Check if the existing shaft dimensions comply with the system drawing. In the event of deviations, contact us for a technical clarification **before starting the assembly.**

The assembly is to be done in compliance with the relevant safety instructions.

Never stand under the unsecured cabin.

There is a danger of death!

This assembly instruction is a recommendation due to our experience, it is not a work instruction. Please refer to our system drawing when plumbing the lift system. The front, that is page X of our system drawing, always describes the page on which the machine room door is drawn.

Assemble the parts according the order indicated in this booklet.

Deviations to the photos are possible due to constant technical improvements.

The controlling device will be delivered in a separate box. In this box you will find the following in addition to this assembly instruction:

A Circuit diagram
B Lifting capacity signs
C Manual
D System drawing

All bolted connections are to be tightened with the torque moments indicated in the table: **strength class 8.8**

Tightening torque values of all screws

M 4	5 Nm
M 5	7,1 Nm
M 6	12 Nm
M 8	30 Nm
M 10	60 Nm
M 12	105 Nm

Exception: the round-head screws M 8 for the frame are tightened with **25 Nm**.

Table of Contents

The mounting material and the accessories of the system can be found in the delivered boxes.There are individual packages in the boxes. The packages contain mounting and assembly material as well as information sheets. The information sheets refer to the respective use of the material.

Caution: The mounting of the elevator frame to the building may have to be tested structurally. Please refer to your structural engineer for a relevant connection. We cannot deliver this mounting material, since the material used for the wall and the ceiling can differ and thus the connecting material is subject to other requirements.

Assembly sequence


Corner post
Top hat profile
Spacer
Emergency release hole
Guide rail
Cable for speed limit device
Track cladding
Cable nuts for the emergency limit main switch (optional)
Emergency release hole
Track limiter contact switch
Push-button element
Track limiter contact switch
Shaft doors
Limiter tensioning weight

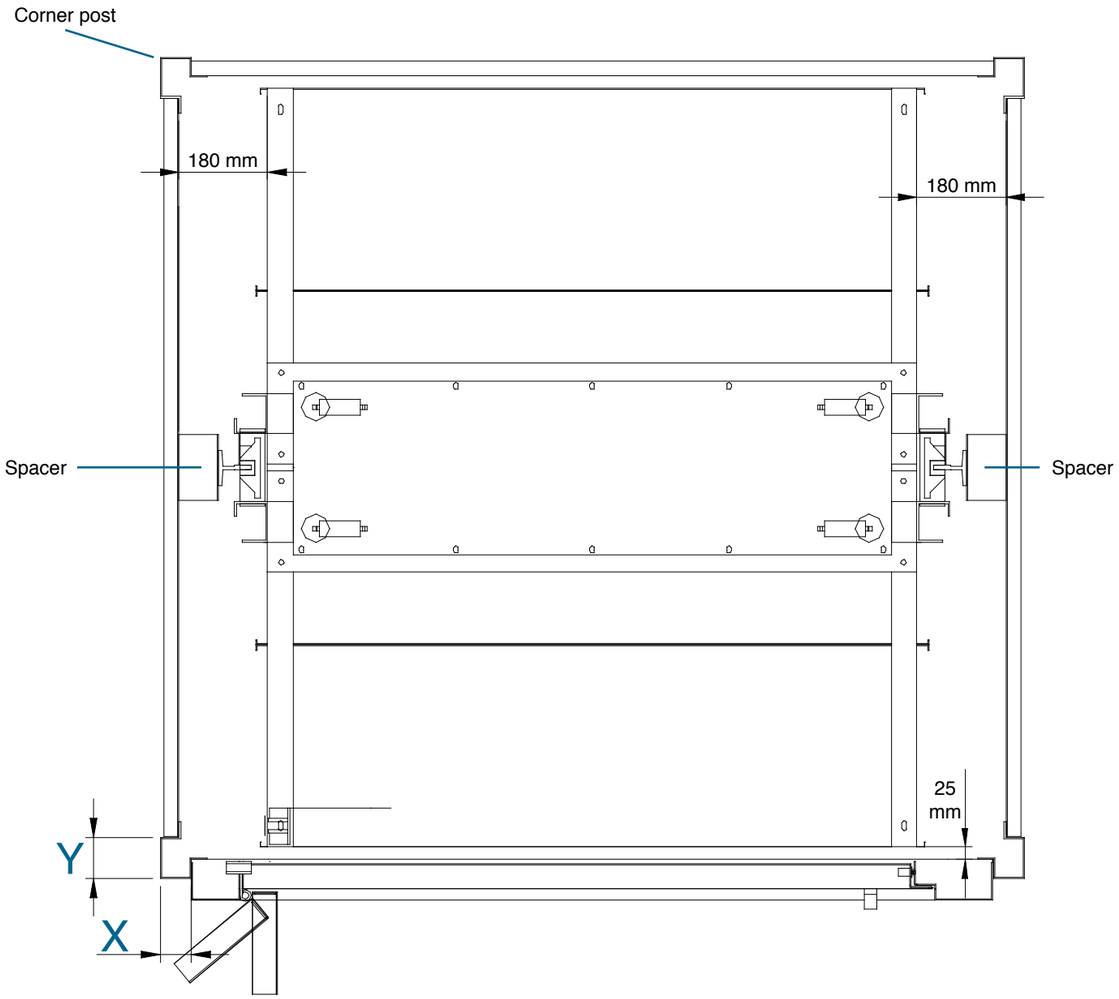
The frame consists of 4 corner posts, top hat profiles for the front and back, top hat profiles for both sides, guide rails, plastic pipes for the chain tensioning weights and for the track shrouding. The frame corner posts are 2 metres long. The undermost corner posts are shortened and marked with red colour. First mount the corner posts with the red marking.

Please note that the cabin is to be inserted in the guide rails. We recommend putting the cabin in the frame before installation of the guide rails.

Length of top hat profile front and rear = cabin width in mm plus 310 mm

Length top hat profile right and left = cabin depth in mm minus 40 mm

The corner posts have a folded edge of about 60 mm at the front and rear. This measure is indicated in the sketch with an X. The folded edge is about 80 mm thick on the sides. This measure is indicated in the sketch with a Y.



Prior to the setting up of the undermost corner posts the contact points are to be aligned. Height differences are compensated by means of metal plates.

The corner posts must stand on solid ground.

Aligned corner post with two top hat profiles.

Spacers must be mounted on both sides between the guide rail and the top hat profile. Later the plastic pipes will be mounted on the right side next to the spacers.

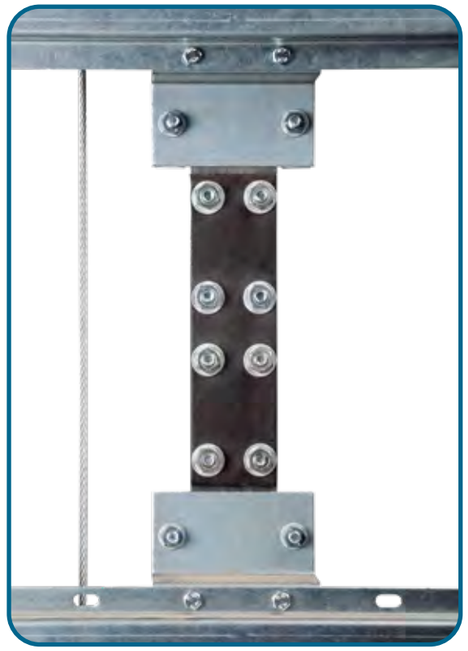
Top hat profiles with screwed spacers.

The corner posts will be screwed to the connecting pieces.

We recommend provisionally securing the guide rail next to the spacer until the cabin is inserted. In this way, the completely mounted cabin can be put into the frame.

Later on, the guide rails will be put into the guide shoes of the cabin. Cabin and guide rails can be exactly positioned and screwed.

Screwed counter plate



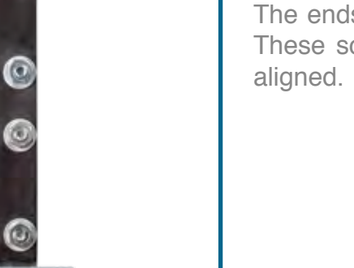
The guide rail must also be underlaid. Please note that the guide rail must not pass on forces vertically into the frame. This is why the guide rail is clamped rather than screwed. Only tighten all clamps, when the guide rail is aligned.

The ends of the guide rails will be screwed to a counter plate. These screws are only to be tightened when the guide rail is aligned.

After mounting the corner posts and top hat profiles, the plastic pipes must be mounted for the down running chain.

First mount the red marked pipes. The pipes are mounted with pipe clamps on the right top hat profiles. The holes are stamped in.

Make sure that the chain tensioning weights cannot touch the ground.

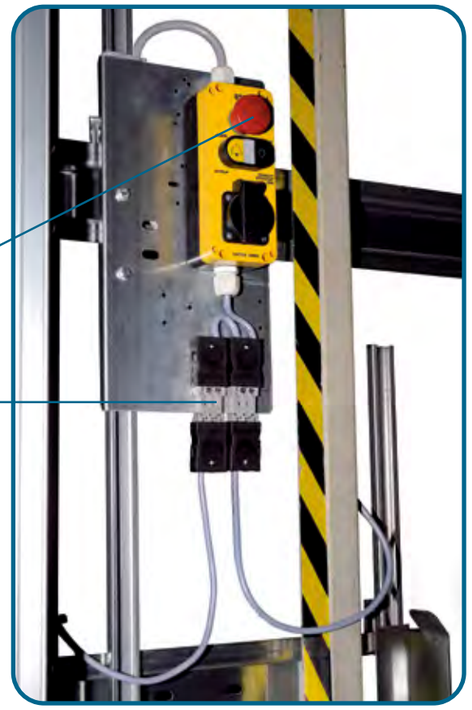


Corner post with screwed top hat profiles and track cladding

The battle plates are riveted to the front and rear top hat profiles. The track cladding consists of holed metal plates, which are ordered according to the floor distances.

After mounting the track cladding the protrusions must be smaller than 20 mm at the track of the cabin opening.

The pit stop switch and the coupling for the track limit device must be clamped to the top hat profiles and easy to reach.



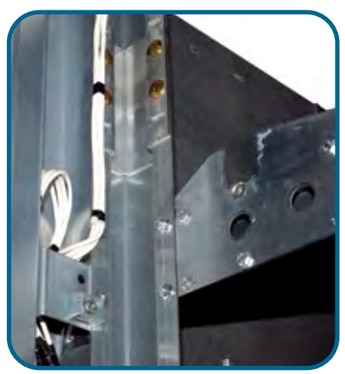
The system is operational only if the plug of the track limit device is in the coupling at the pit stop switch. For this reason the track limit device will be suspended next to the pit stop switch into the frame.

During all work in the pit, the track limit device will be suspended at a height of at least 1.8 metres.

During all shaft work always insert the track limit device correctly.

Otherwise danger of death!

Suspension device



Suspended track limit device

We recommend mounting the restrictor tensioning weight loosely in the top hat profiles. The tensioning weight can now be shifted onto the top hat profiles during the fitting. Thus there is enough space left to position the guide rail next to the spacers during the insertion of the cabin.

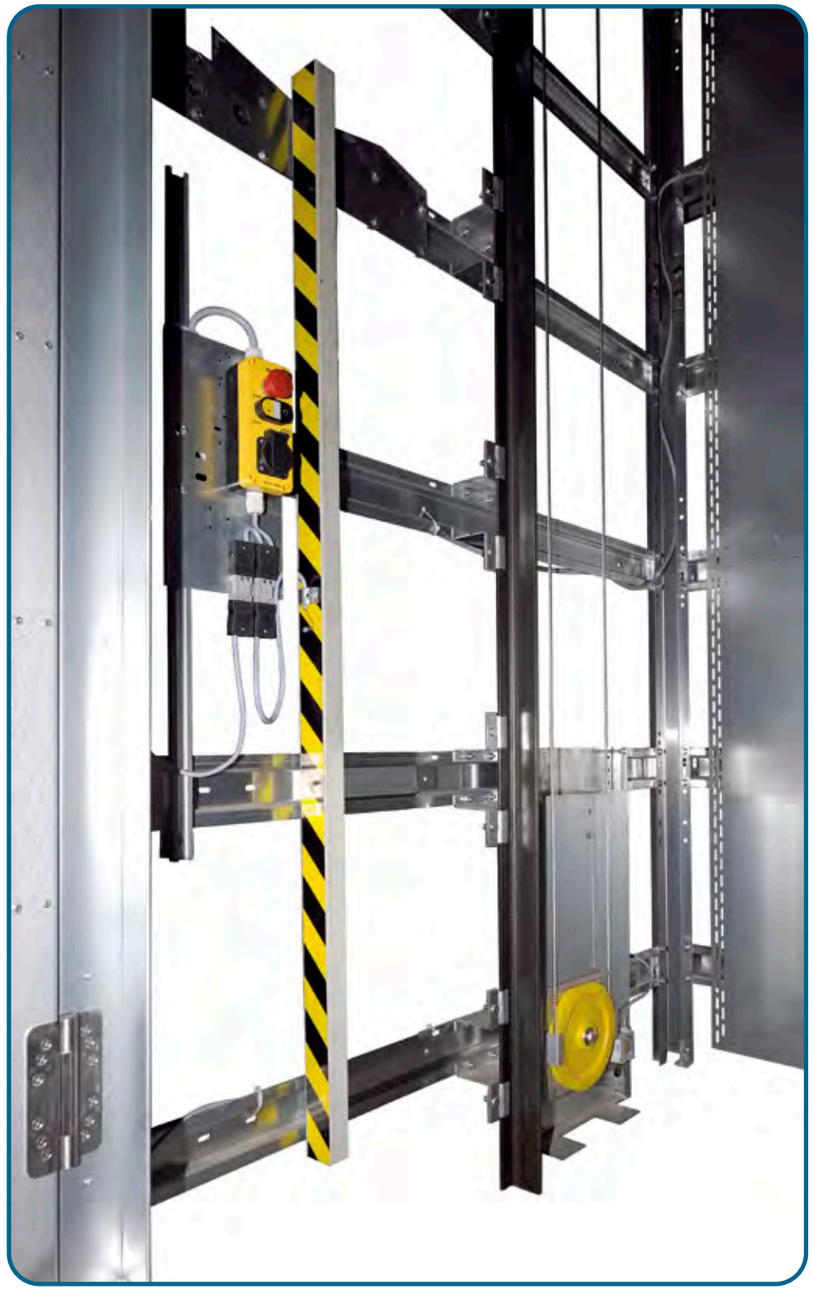
Restrictor tensioning weight with mounted cable

Contact restrictor tensioning weight

Clamping plates

When the cabin is inserted und the guide rails are screwed on the spacers, the tensioning weight is shifted along the top hat profiles up to the spacers and clamped.

Put at least one clamp plate in from below, in order to positively connect the tensioning weight with the frame.

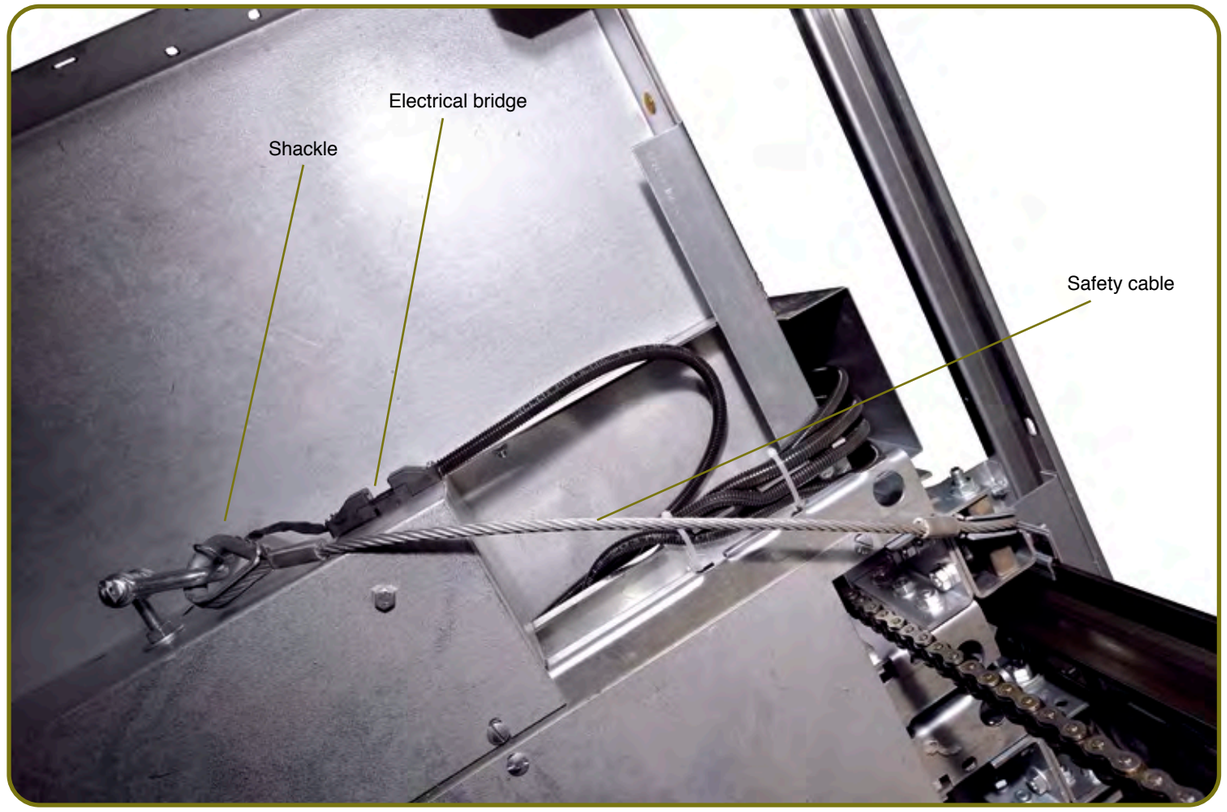


The cabin can now be inserted into the prepared frame. Shift the cabin into the frame up to the guide rails.

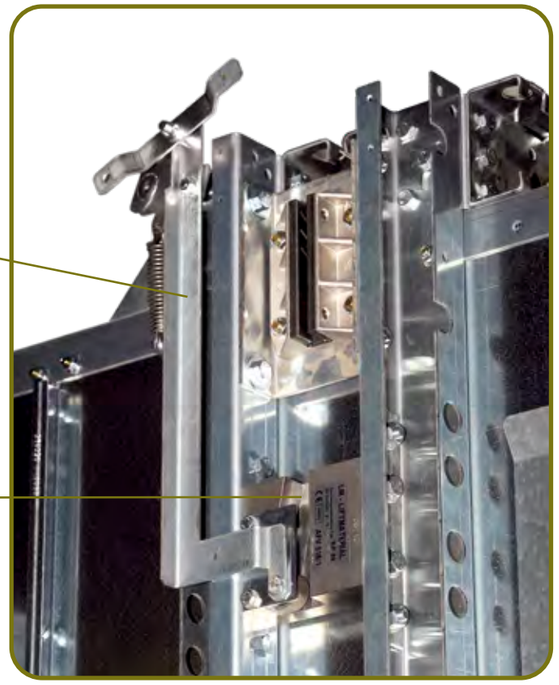
Put the guide rail in the guide shoes of the cabin. Then the cabin can be moved further to the mounting position of the guide rail together with the guide rails.

Secure the guide rails with clamping plates above the cabin. Afterwards lift the cabin in the guide rails and secure it against falls. Now the clamping plates can be mounted in the lower area of the guide rails.

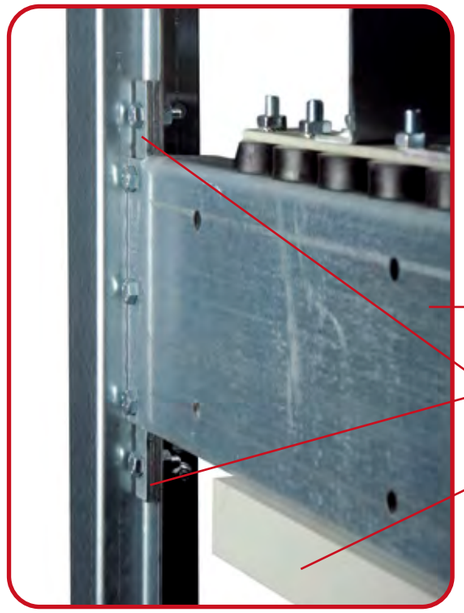
It is prohibited to ride on the top of the cabin. The top of the cabin may only be stepped on (see EN81-3 0.3.12.1). To do this, the two safety cables on the cabin must be put around the guide rail and secured with the shackle. Inevitably, the electrical bridge will thus be opened, so that the safety circuit is opened.



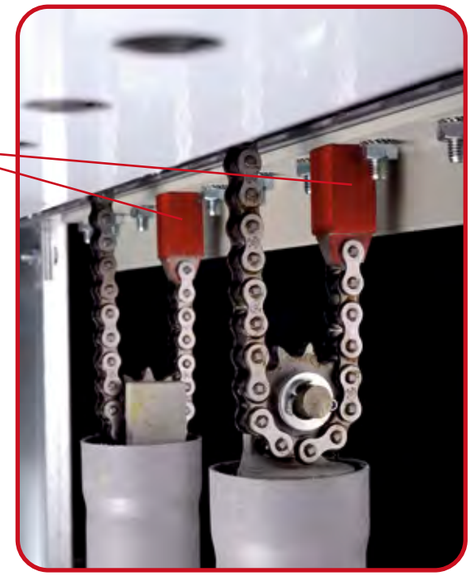
It is prohibited to ride on the cabin!



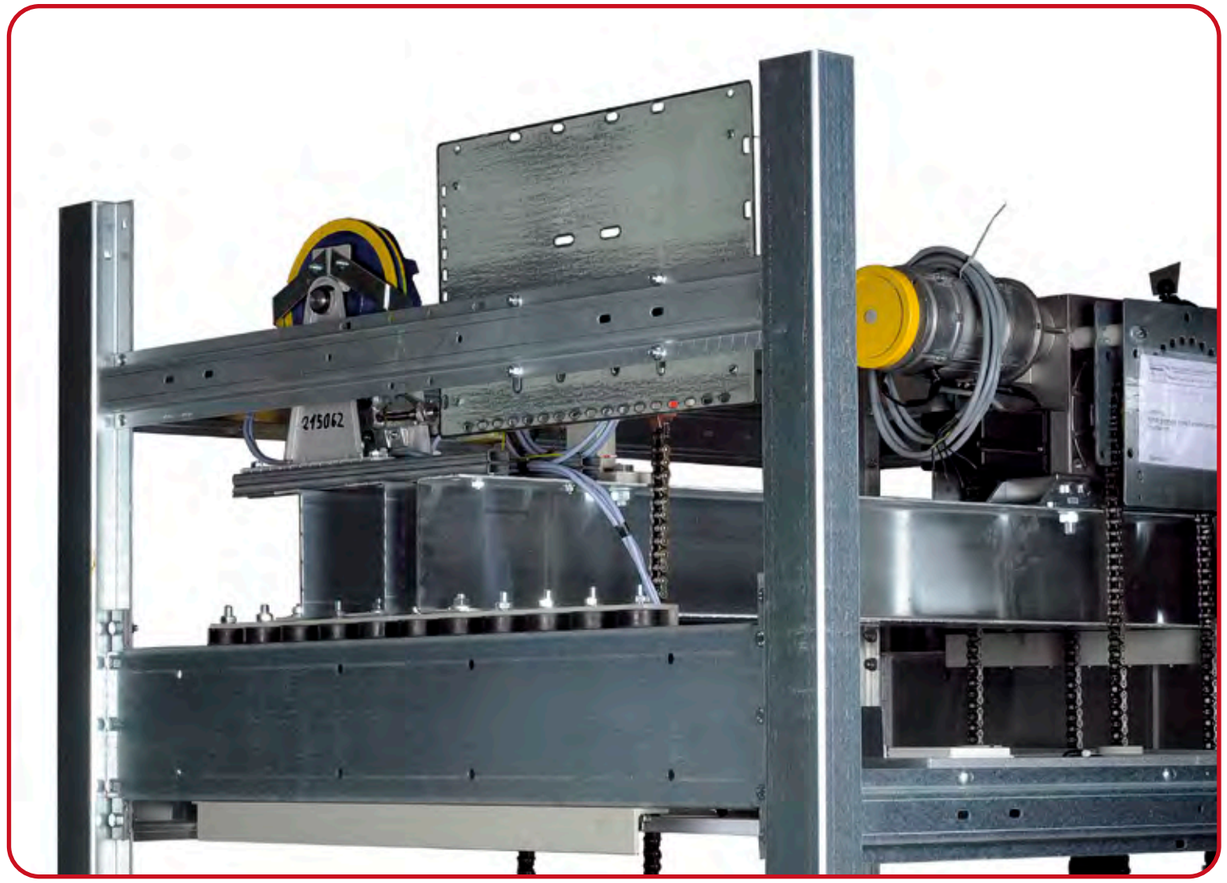
First, the cross-member must be mounted. The cross-member must be screwed with pressure distribution plates to the corner posts.



Plastic pipe with inserted chain tensioning weight

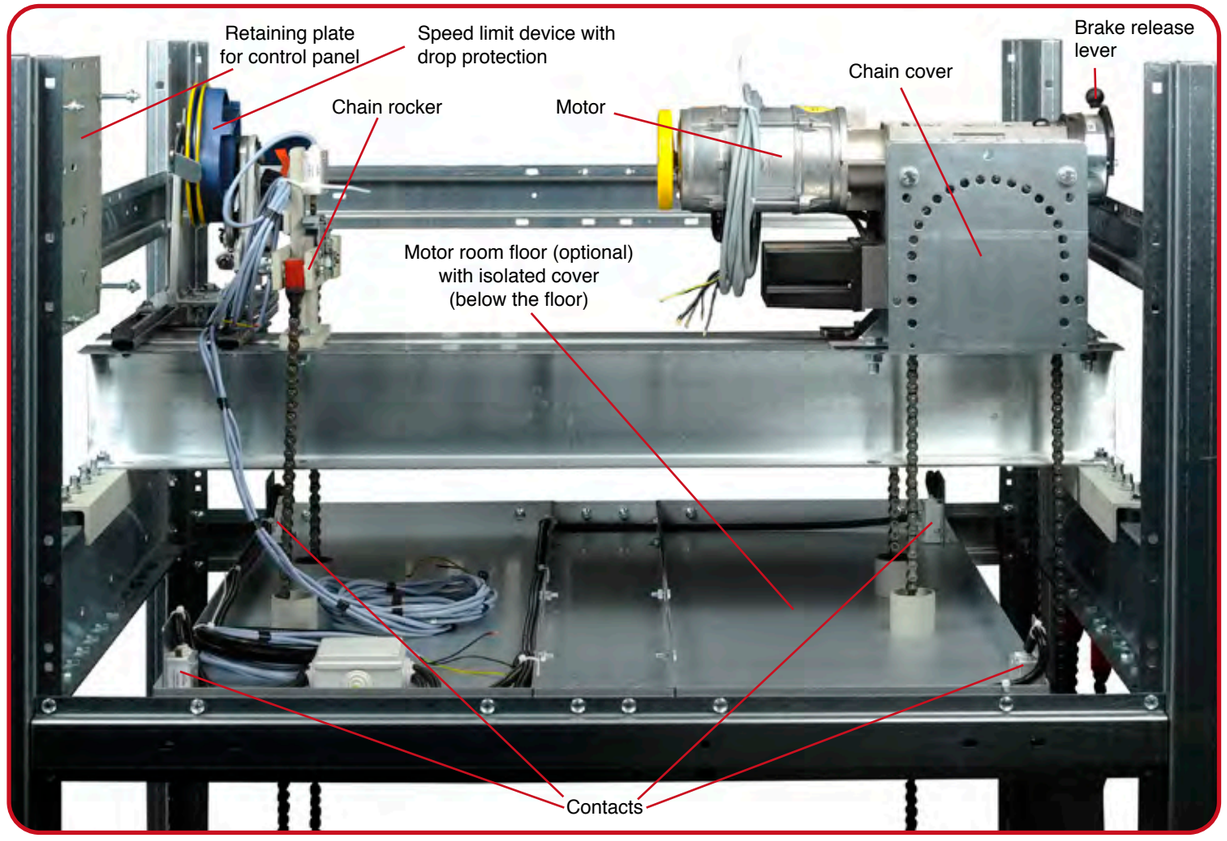


A stiffening bracket will be mounted below the cross-member. On the right side, the red chain ends will be mounted at this angle.

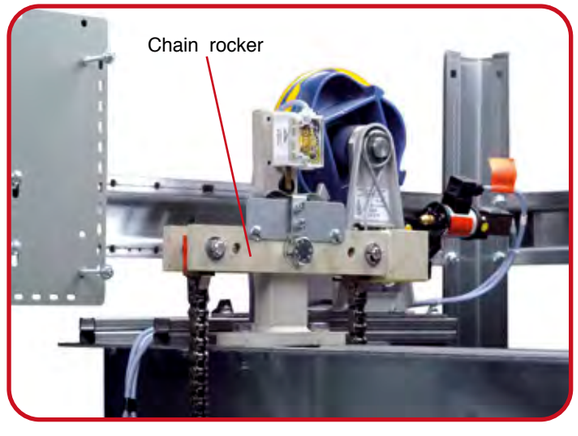


The motor will be mounted on the motor carrier. All add-on components including cabling are pre-mounted. After the mounting only the chain must be mounted. The prescribed torque moments at the bolted connections are to be checked.

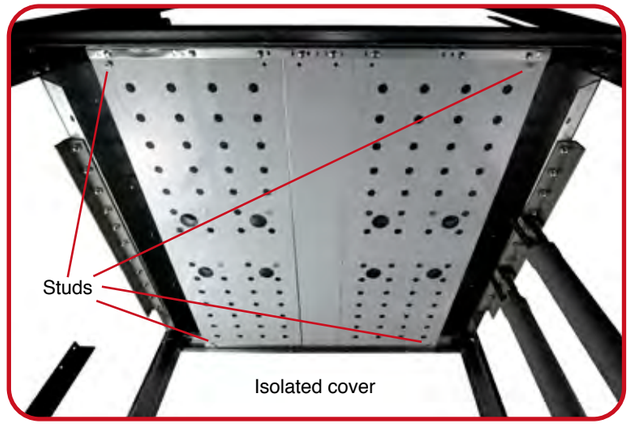
The chain must at least have 5 mm room from the motor carrier. This is adjustable through the long holes in the motor carrier.



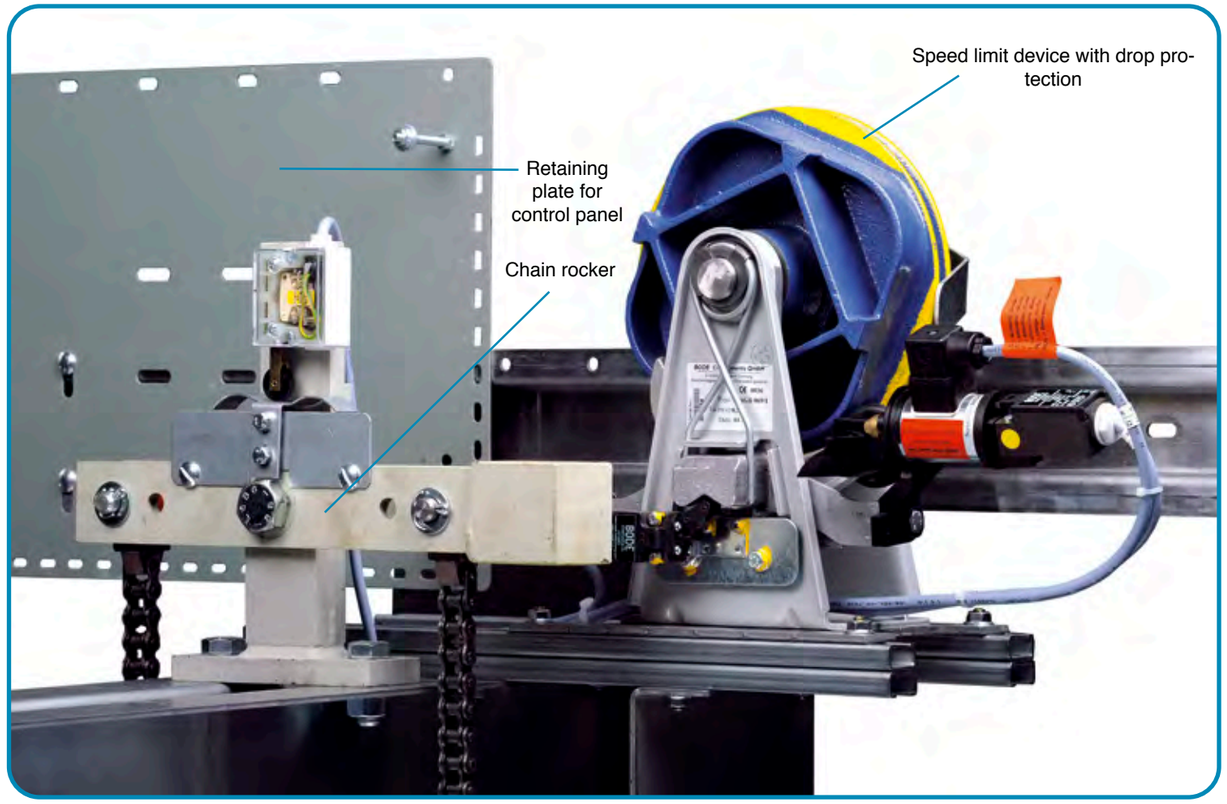
The chain rocker will also be mounted on the motor carrier. Please mount it so that the switch can be seen from the motor room door.



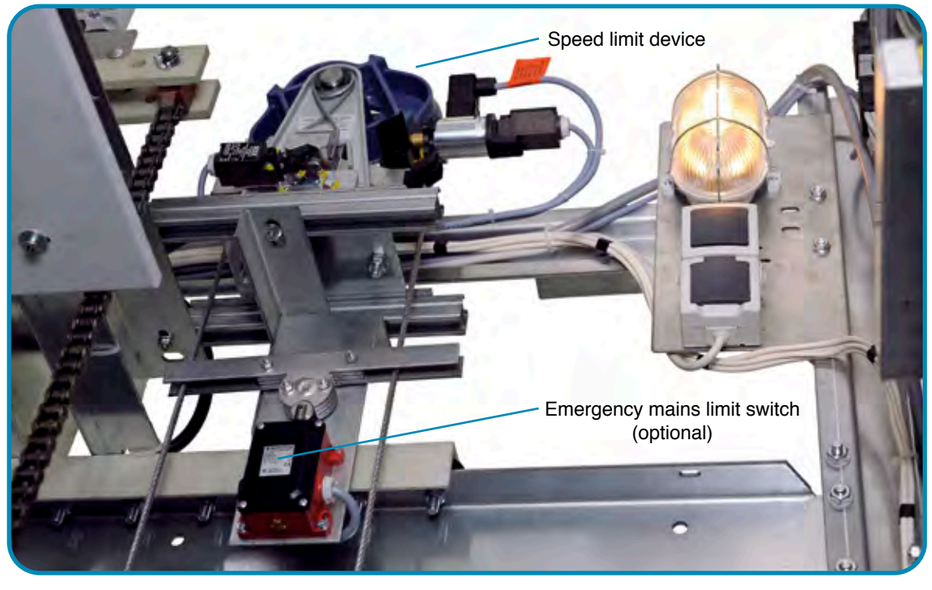
The isolated cover for the motor carrier will be mounted on the engine carrier with the four studs. Switches are mounted on the motor carrier for the operation of the isolated cover.



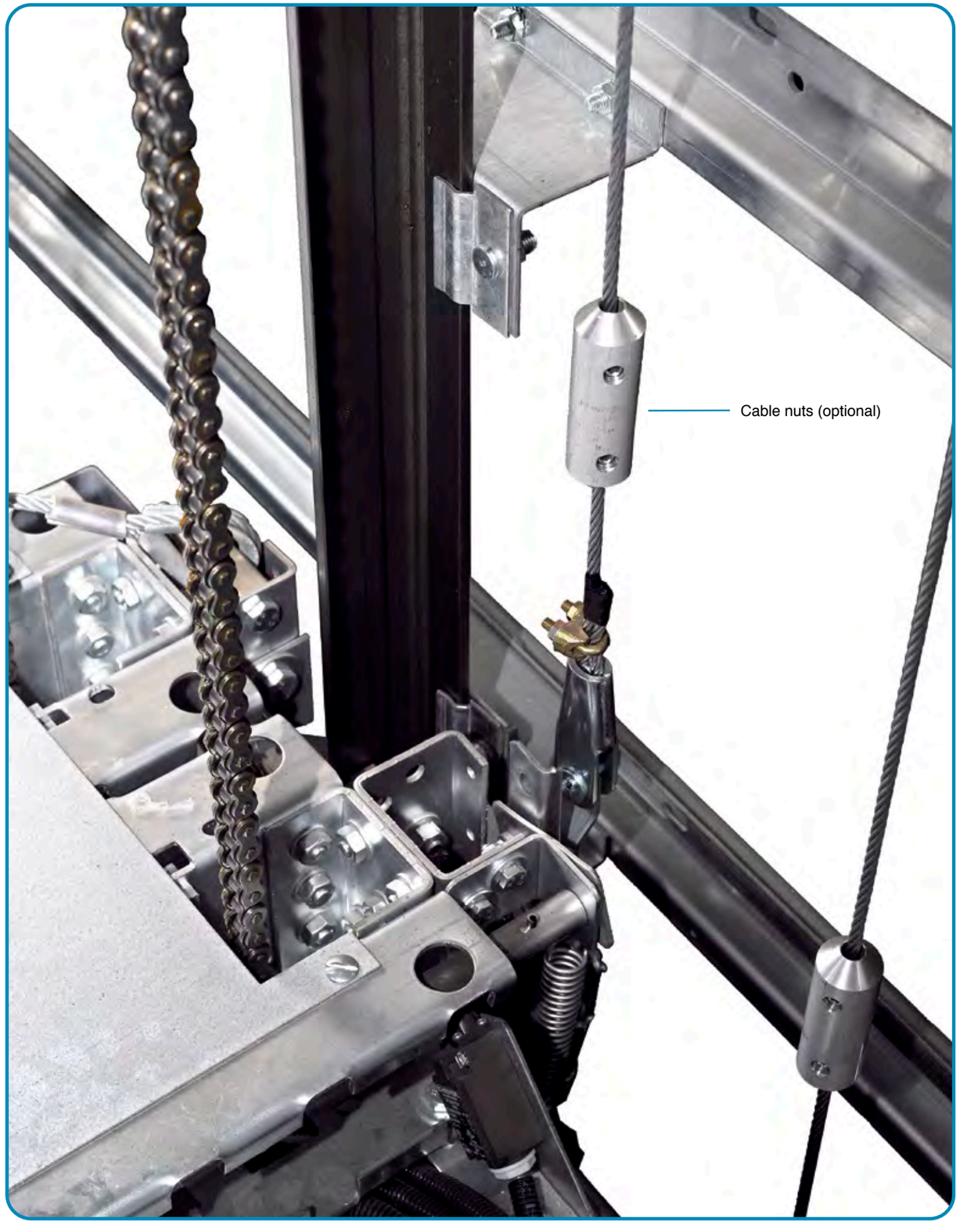
The speed limit device will be secured to the motor carrier. The speed limit device will be positioned at the front right as seen from the motor room door. All add-on components are pre-mounted. The speed limit device is to be fixed so that the electrical components can be seen.



The emergency mains limit switch (optional) will be mounted below the speed limit device and switched by the governor cable. There are cable nuts (optional) on the governor cable which throw in the emergency mains limit switch if the cabin attempts to leave the top or bottom of the lift pit.

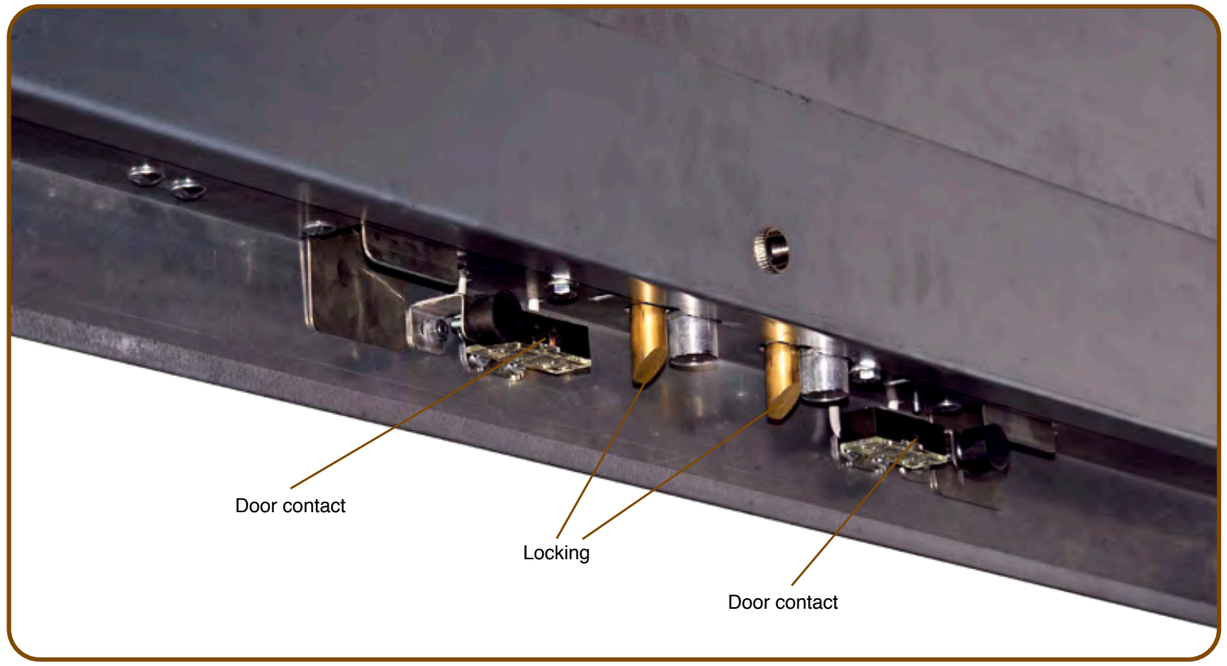


Please set the cable nuts so that the emergency mains limit switch interrupts if the cabin stops 50 mm above the top lift stop or 50 mm below the undermost lift stop.

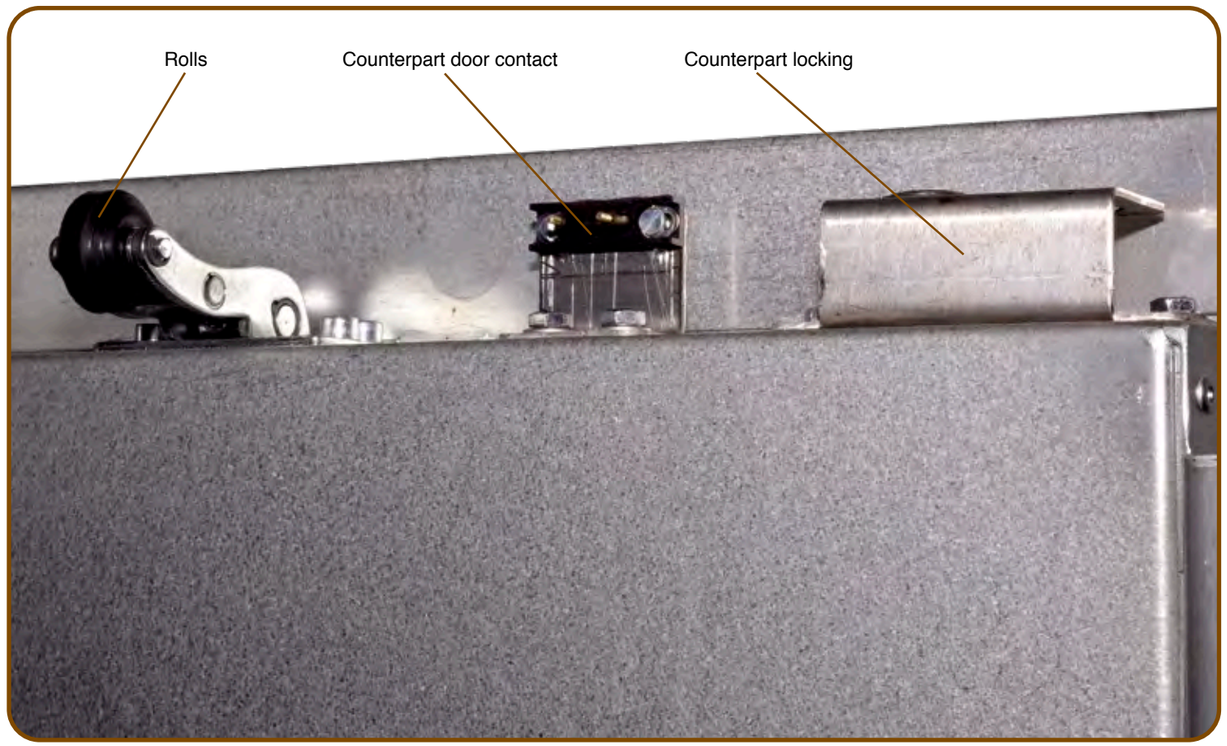


The shaft door will be set on the floor and aligned with the sill bracket. The shaft door will be secured to the corner posts with clamping plates.

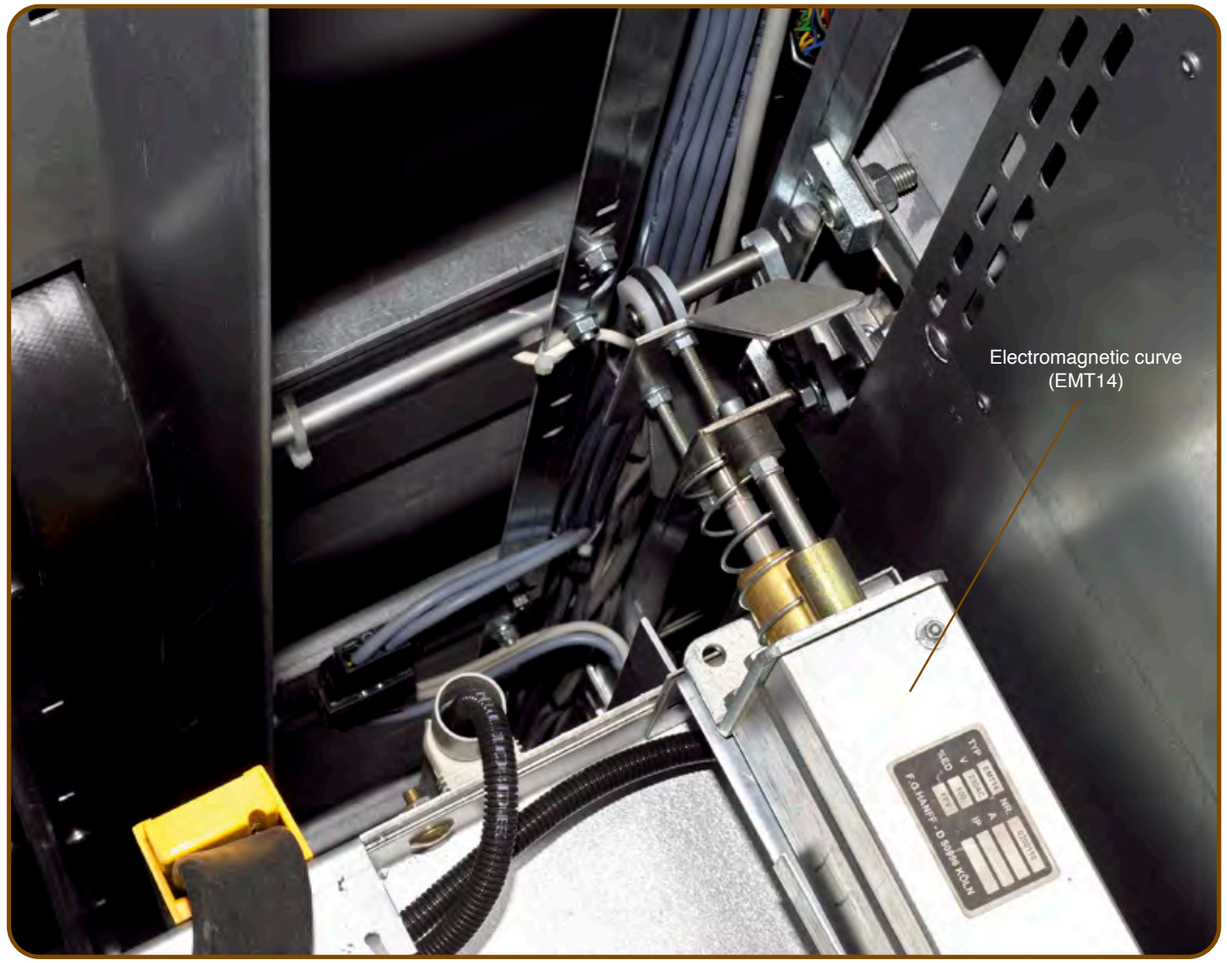
The door switch with locking is pre-mounted and is located in the upper door case. The door case is cladded so that the switches on the door are not visible from the inside. The cables are arranged at the sides. When the door is open, the locking and the door contact are visible. The coupling of the door contact is in the door case. The plug at the door leaf is adjustable.



The plug for the door contact and the cam for the locking are located at the door leaf. Both of them are set by the manufacturer. When mounting, both parts are to be checked for intactness.



The rolls of the diverter must turn freely and are to be checked for intactness.



The lower door is equipped with a switch that brings the system to a standstill when the door is opened with the emergency release key. This switch can only be reset by operating the button S15 in the switch cabinet.

There is a slider behind the emergency release hole of the lower shaft door which is activated automatically when the door is opened with the emergency release key. The slider operates the switch described above, which brings the system to a standstill during work in the pit.

The installation of the electrical components must be carried out by a qualified electrician.

Suggestion for the sequence of the electrical work

All works are to be carried out by a qualified electrician. The circuit diagram is to be consulted for all connection work.

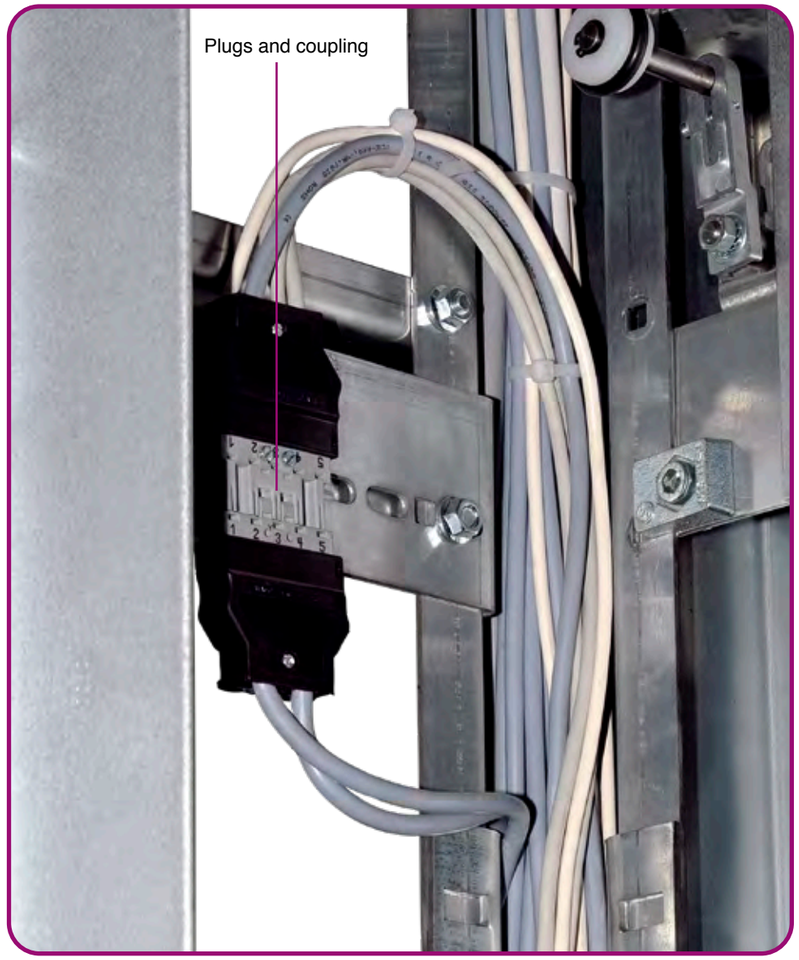
Installation of the switch cabinet.
Installation of the main switch front right.
Install the supply line without power supply to the main switch.
Install the cable from the main switch to the control panel.
Connect the socket and the motor room light on site top right.
Install the cable socket of the overload device.
Connect the motor.
Connect the speed limit device.
Connect the slack chain sensor.
Connect the switches of the isolated cover.
Install and wire the pit stop switch below.
Mount and wire the restrictor tensioning weight switch on the tensioning weight.
Wire the emergency release of the lower door.
Wire the door and locking tree, as well as the push button case of the respective floor.
Mount and wire the emergency control current limit switch in the pit and in the shaft head.
Wire the cabin according to the circuit diagram and mount the travelling cable.

All cables are drawn from bottom to top through the corner post. Keep in mind the appropriate strain relief.

The control panel is located in a switch cabinet. The position of the switch cabinet can be freely selected. Please keep in mind the system drawing. It contains the planned location of the switch cabinet. All cables are ready to plug in and cut to length according to the system drawing.

There is an emergency stop switch and a switch for bridging the drop protection for a possible emergency rescue in the motor room.

The drop protection will be supplied with energy by a battery in case of a power failure. The drop protection will be activated by supplying power to the solenoid at the limiter. The cabin can only be moved by the hand wheel when the limiter is released.

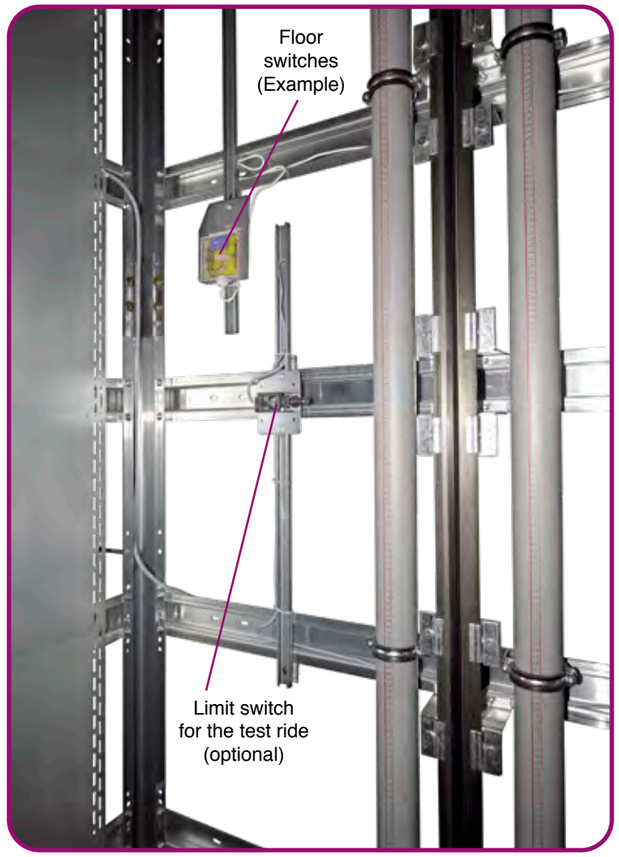


The cables for door and lock are equipped with plugs and couplings. Both of them will be mounted on a retaining plate. The retaining plate will be clamped onto the corner post.

The push-button element will be clamped on the shaft door. The green push button marks the floor on which the push-button element must be installed.

The control system does not function correctly if the push-button elements are not installed on the appropriate floors.

The system drawing shows the respective floor designation. The exact cabling of the system is indicated in the provided circuit diagram.



The floor switches (magnet switches) and the limit switch for the test ride (optional) are mounted on a vertically adjustable rail. The rails will be clamped in the frame ladders to the top hat profiles. The floor and end switches for the test ride are to be set according to the regulations (EN or TRA). The switches will be operated from the curves of the cabin and the installation must be aligning.

Inductive switches are used for floor switches. The limit switches, on the other hand, are always operated mechanically.

Installation of overload device

Adjustment of overload device (set “tare”):

1. Positioning the cabin in floor level
2. Loading cabin with rated load
3. Press button for 3 seconds

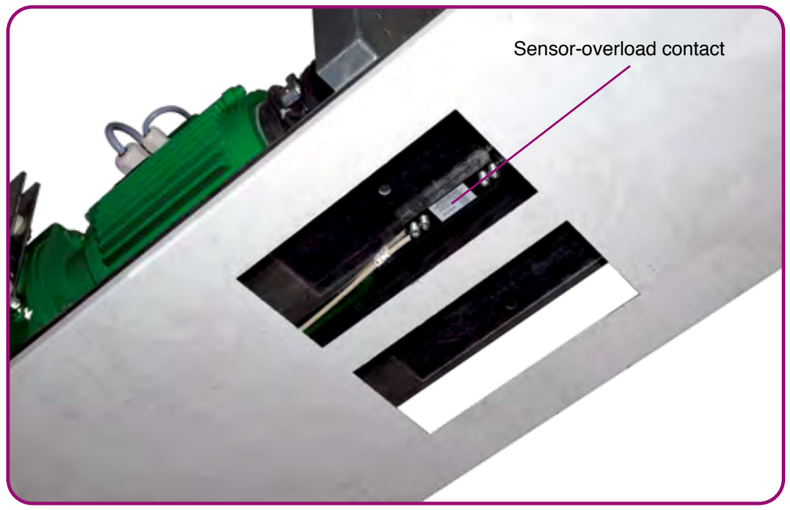
Position of jumpers:

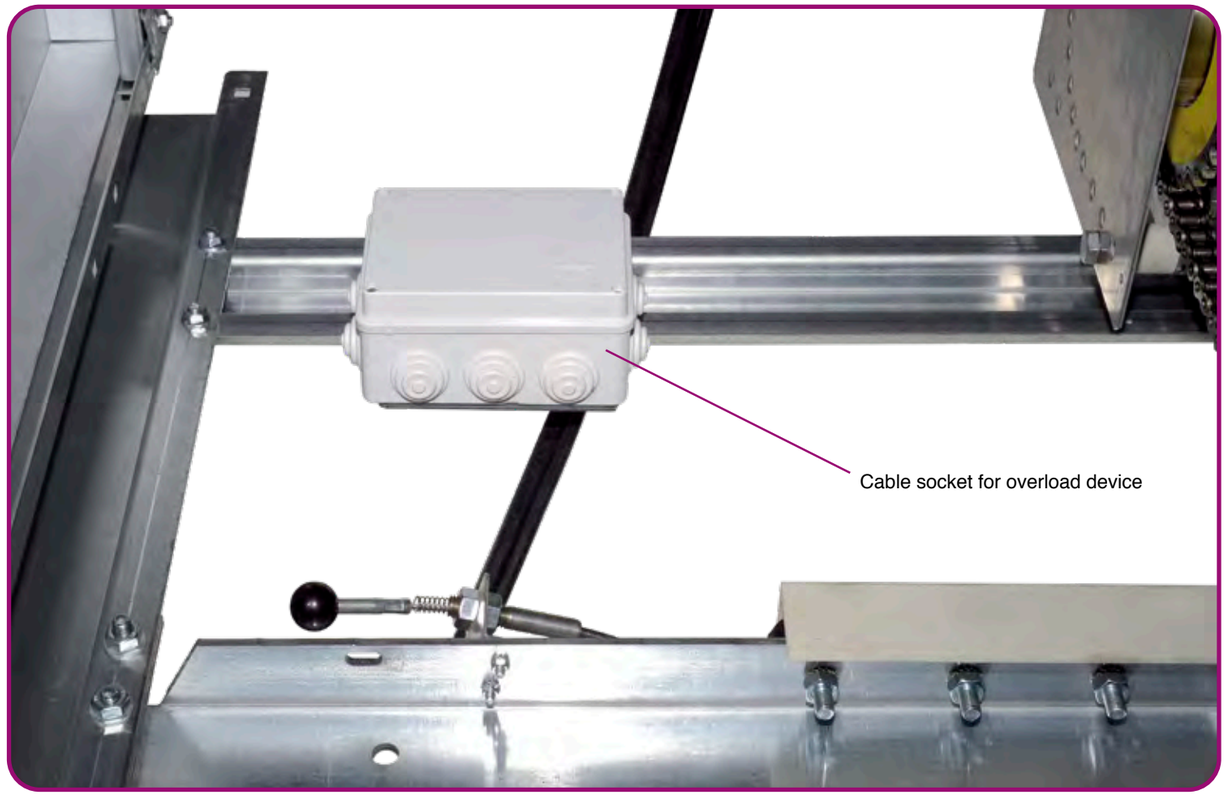
:→

Overload **„ON“** as per standard

|→

Overload **„OFF“** for testing purposes





Setting of the overload contact at the system ready to be operated

1. Load the operable system with a capacity of + 25 kg.

2. Slowly turn the potentiometer screw (in the blue cuboid) on the measuring amplifier clockwise. The overload is activated when the red diode off next to the black cuboid goes out. The potentiometer screw can be turned several times until it reaches a soft stop.

3. Check if the overload device brings the system to a standstill with a capacity of + 75 kg.

Note: By turning the potentiometer screw clockwise, the overload contact reacts to smaller weights.

Done!