Installation instructions

for ISO-PE easy

SKG goods lift with one accompanying person

Preliminary observations

The existing shaft dimensions must be checked to ensure they match the system drawing. If there are deviations, technical clarification must be sought from us **prior to starting installation.**

During installation the relevant safety instructions must be observed.

Never stand below the unsecured cabin. Risk of fatal injury!

These installation instructions represent a recommendation based on our experience, they are not operating instructions.

Please see our system drawing for soldering in of the lift system. Forwards, i.e. side X of the system drawing, always represents the side on which the machine room door is drawn. Install according to the sequence given in this book.

Deviations from the photos are possible due to continual technical changes.

The control is supplied in a separate carton. This carton contains, alongside these installation instructions:

A Wiring diagram
B Load capacity signs
C Operating instructions
D System drawing

All threaded fastenings must be tightened to the torques specified in the table: **Strength category 8.8**

Tightening torques 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 M 8 mushroom head screws for the frame are tightened to **25 Nm**.

Contents

The fittings and the system accessories are contained in the supplied cartons. The cartons are individual packages. These contain fastening and assembly equipment, as well as information sheets. You can use the information sheets for the application in question.

Warning:
The fastening of the lift frame to the building may under some circumstances require structural certification. Please ask your structural engineer for an appropriate connection.

We cannot supply these fastenings as the materials used for walls and ceilings may vary and thus the connecting material may also be subject to other requirements.

Installation sequence

1. Frame installation
2. Installation of the governor tension weight
3. Insertion of the car
4. Installation of the drive mechanism
5. Installation of the speed governor
6. Installation of the sensor for the overload unit
7. Installation of the chain
8. Installation of the governor rope
9. Installation of the shaft doors
10. Installation of the electrical components and cable routing
11. Adjustment of the overload unit
12. Checking of the travel path
13. Final safety test


Corner bar
Cap profiles
Spacer
Emergency unlocking hole
Guide rail
Rope for the governor
Travel path cladding
Rope nuts main-current emergency limit switch
Emergency unlocking hole
Contact-secured travel-path limiter
Pushbutton element
Travel-path limiter contact safeguard
Shaft doors
Governor tension weight
Activation cam for telescopic car apron
Telescopic car apron

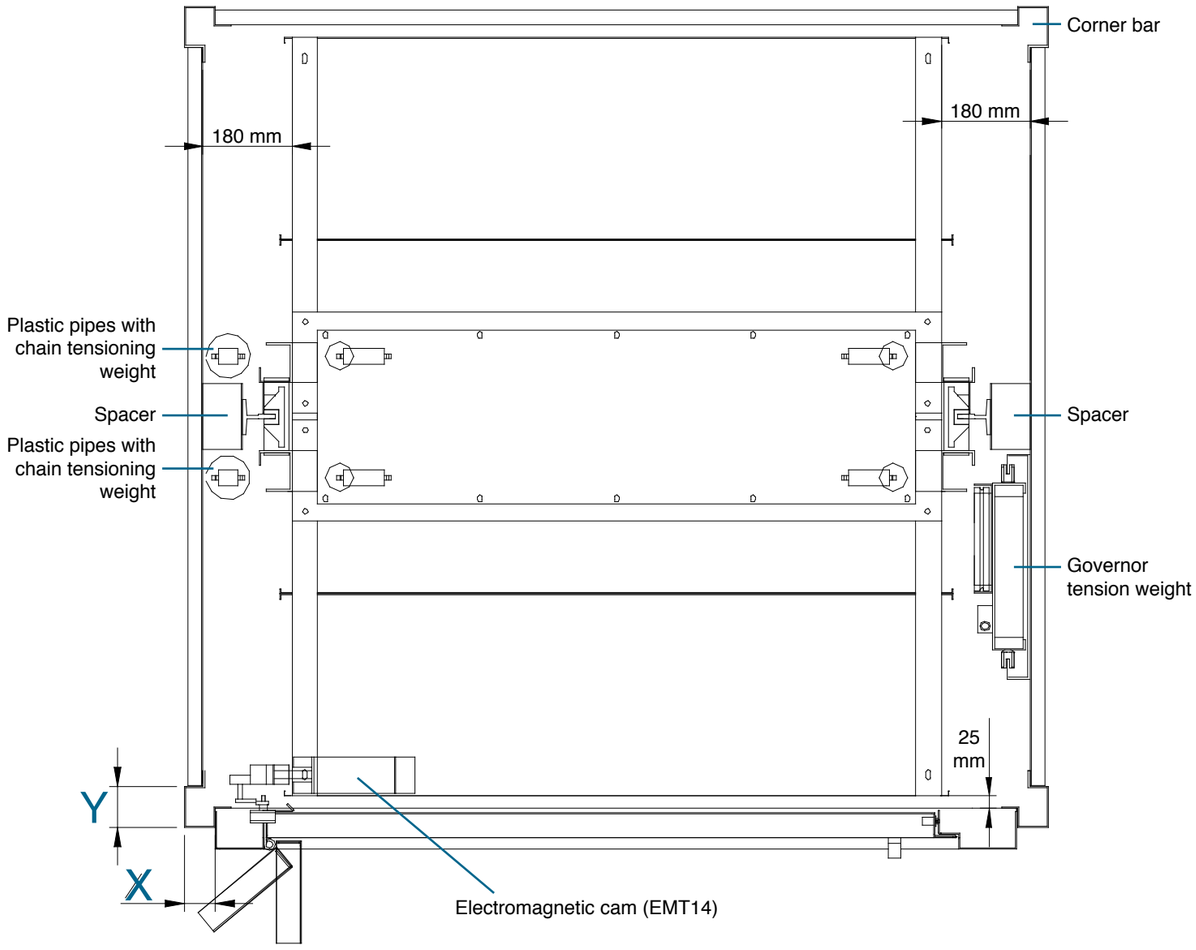
the plastic pipes for the chain tensioning weights and the travel path cladding. The frame bars are 2 m long. The bottom frame bars are shortened and identified with red dye. First install the corner bars with the red marking!

Bear in mind that the car must be placed in the guide rails. We recommend placing the car in the frame before inserting the guide rails.

Long cap profile front or rear side = car width in mm plus 310 mm

Long cap right or left = car depth in mm plus 40 mm

The corner bars have a splay of 60 mm at the front and rear side. This dimension is indicated by X in the sketch. On the sides the splay is approximately 80 mm. This dimension is indicated by Y in the sketch.

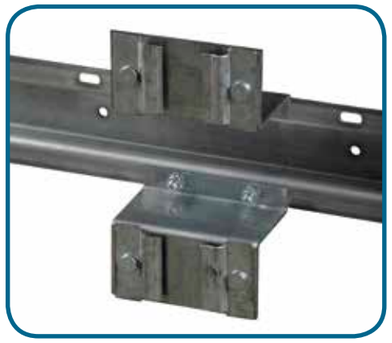


Before positioning the lower corner bars the support points must be aligned. Use metal strips to compensate any height difference

Aligned corner bar with two cap profiles.

Spacer must be fitted on both sides between the guide rails and the cap profile. Later the plastic pipes will be secured on the right side alongside the brackets.

Cap profiles with screwed-in spacer brackets

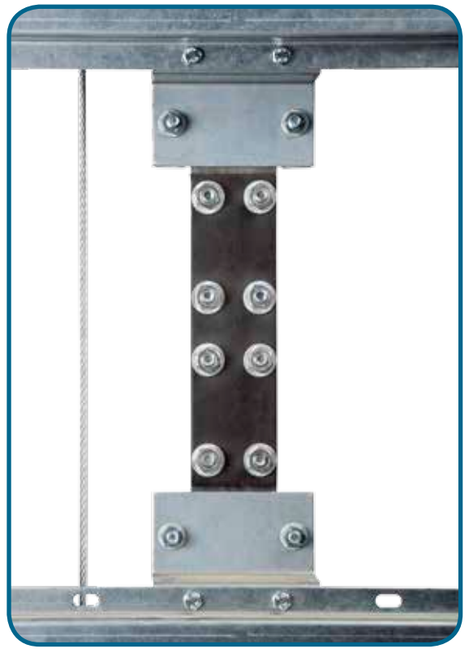


The corner bars are screwed to the connection lugs.

We recommend temporary fastening of the guide rails alongside the spacers until the car is inserted. In this way the car can be placed, completely assembled, in the frame.

Subsequently the guide rails are positioned in the guide shoes of the car. Car and guide rails can then be exactly positioned and screwed in.

Screwed on counter plate



The guide rail must also be shimmed. Bear in mind that the guide rail may transmit forces into the fame in a non-perpendicular direction. For this reason the guide rail is clamped and not screwed. Only tighten all the clamping screws once the guide rail is aligned.

The guide rail ends are screwed to a counter plate. These screwed connections should only be tightened once the guide rail is aligned.

After the corner bars and cap profiles are fitted, the plastic pipes for the running down chain must be installed.

First install the red labelled pipes. The pipes are attached to the right cap profiles with pipe clips. The holes are pre-stamped.

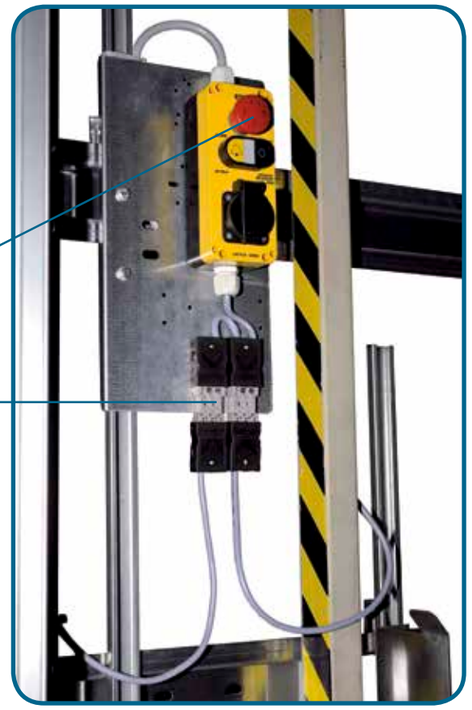
Ensure that the chain tensioning weights cannot touch the ground.

The travel path cladding is riveted to the front or rear cap profiles. The travel path cladding comprises perforated sheet strips, which are arranged according to the floor spacings.

After installation of the travel path cladding at the car opening travel path, the projections must be less than 2 mm.

Corner bar with threaded cap profiles and travel path cladding

The stop switch in the pit and the clutch for the safety bar must be reachable from the open shaft door without entering the shaft.



Only if the plug of the travel-path limiter is located in the coupling at the pit stop switch is the system ready for operation. For this reason the travel-path limiter is suspended alongside the pit stop-switch in the frame.

For all work in the pit, the travel-path limiter is suspended at at least 1.8 m height.

For all work in the shaft, the travel-path limiter must always be correctly inserted.

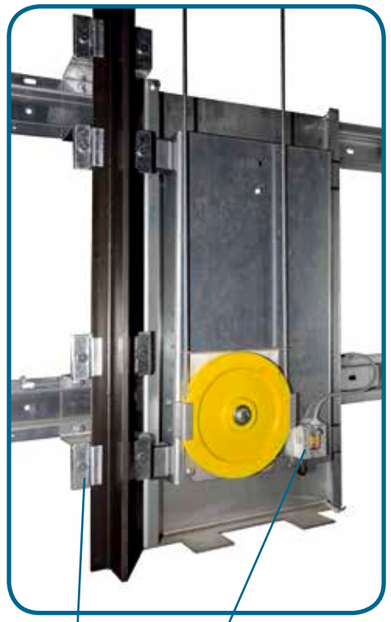
Otherwise there is a risk of fatal injury!

Suspension device

Suspended travel-path limiter

We recommend the governor tensioning weight is suspended loosely in the cap profiles. The tensioning weight can now be pushed on to the cap profiles during assembly. Thus there is enough space to position the guide rail alongside the spacers, while the car is inserted. Governor tensioning weight with fitted rope.

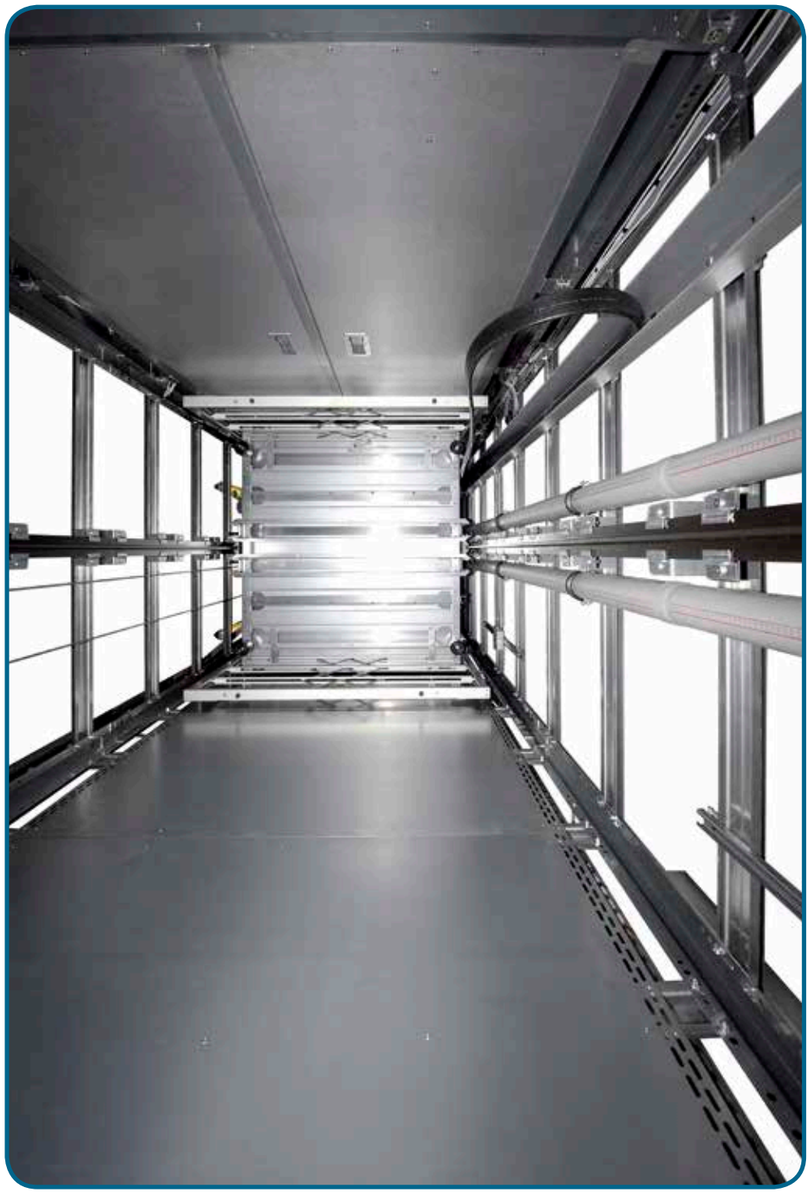
Governor tensioning weight with fitted rope



Once the car is inserted and the guide rails screwed to the spacers, the tensioning weight is pushed along the cap profiles up to the spacers and clamped.

Position at least one clamping plate from below so that the clamping weight is connected to the frame in a form-locking manner.

Shaft view from below

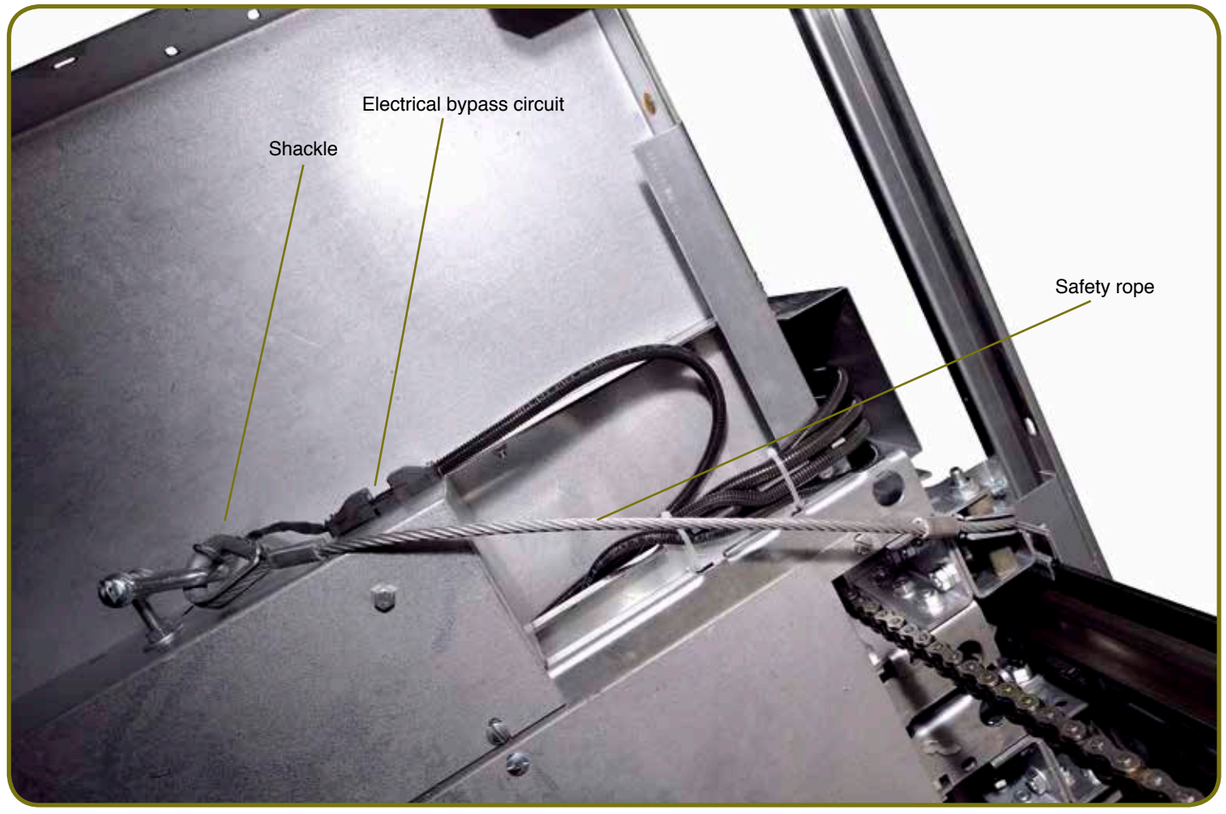


The car can now be inserted in the prepared frame Move the car in the frame up to the guide rails.

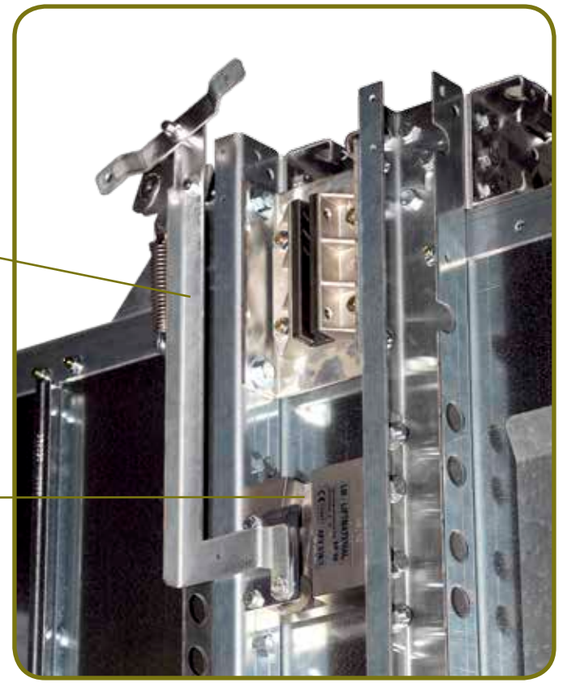
Position the guide rail in the guiding shoes of the car. Then the car can be moved further together with the guide rails up to the fastening position of the guide rail.

Secure the guide rails with clamping plates above the car. Then lift the car into the guide rails and secure against falling. Now the clamping plates can be attached in the lower region of the guide rails.

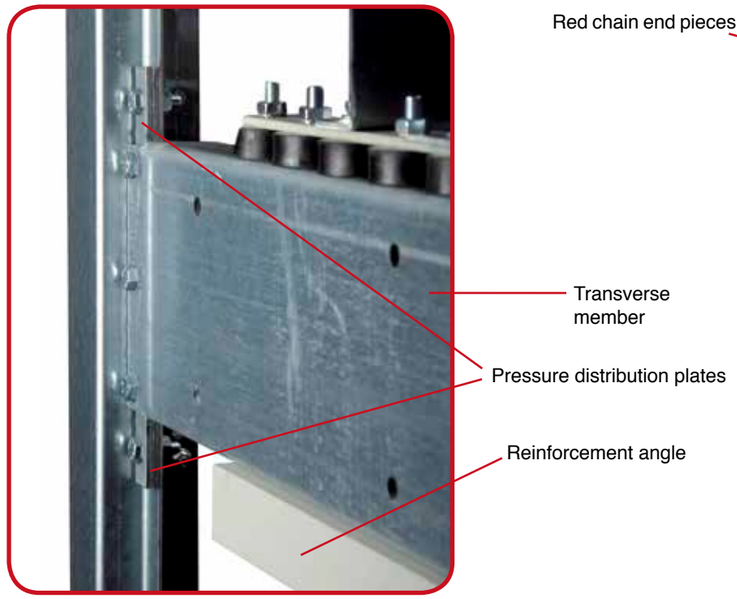
Riding on the car roof is forbidden. The car roof may only be accessed (see EN81-3 0.3.12.1). To do this two safety ropes must be placed on the cabin around the guide rail and secured with the shackle. Inevitably this causes the electrical bypass to open so that the safety circuit is opened.



Riding on the cabin is forbidden!

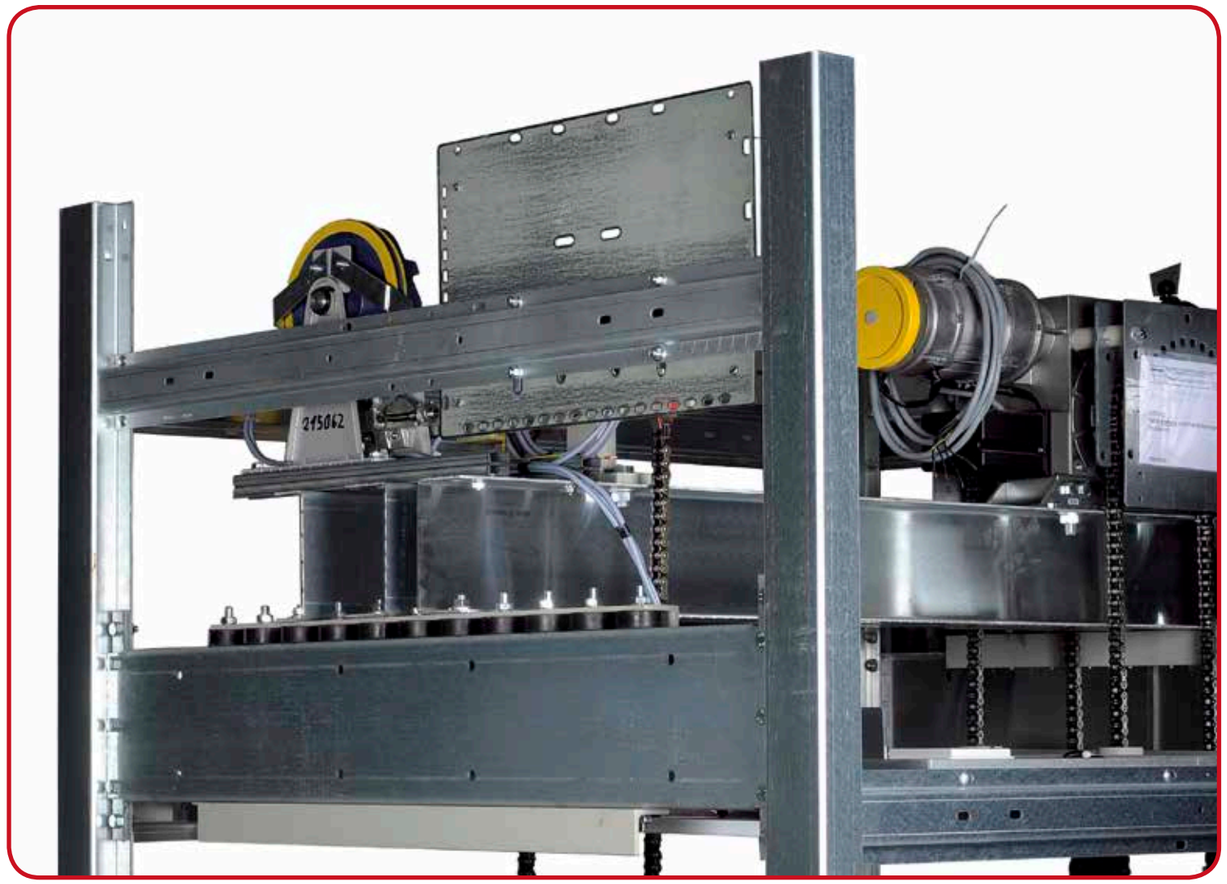


First the transverse member must be fitted. The transverse member must be screwed to the corner bars using pressure distribution plates.



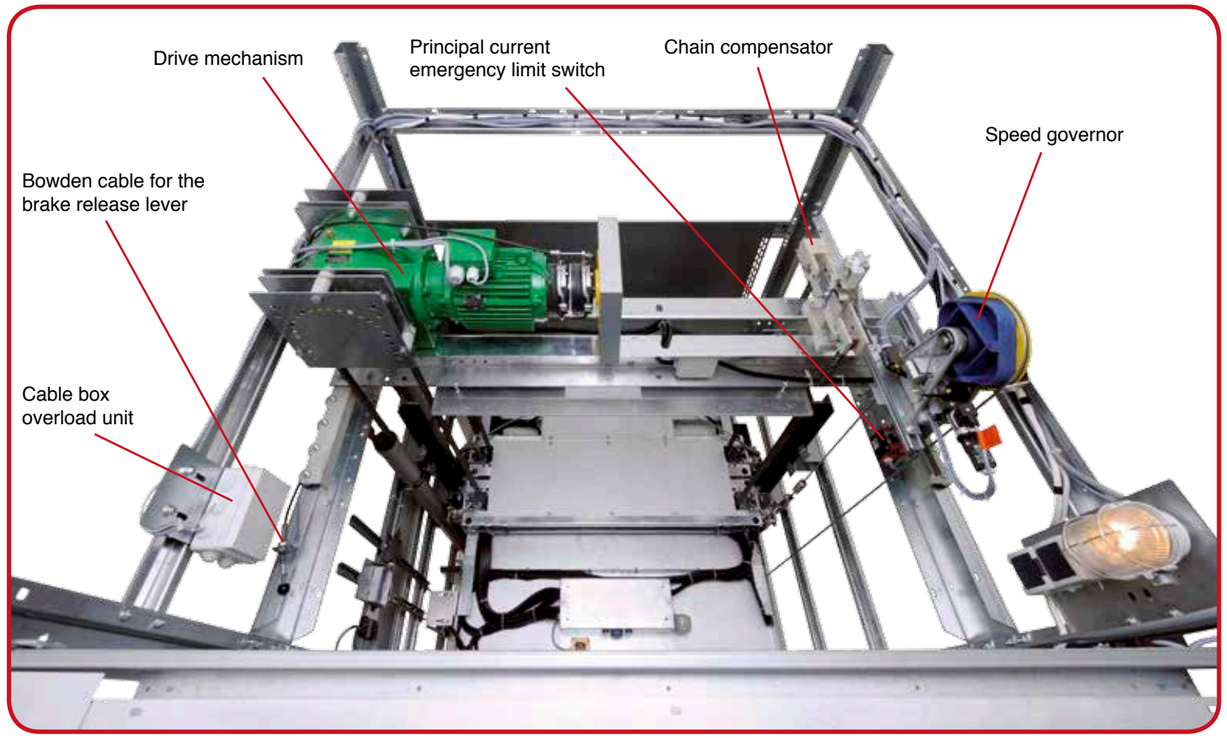
Plastic pipe with inserted chain tensioning weight

A reinforcement angle is fastened below the transverse member. On the right-hand side, the red chain end pieces are fastened to this angle.

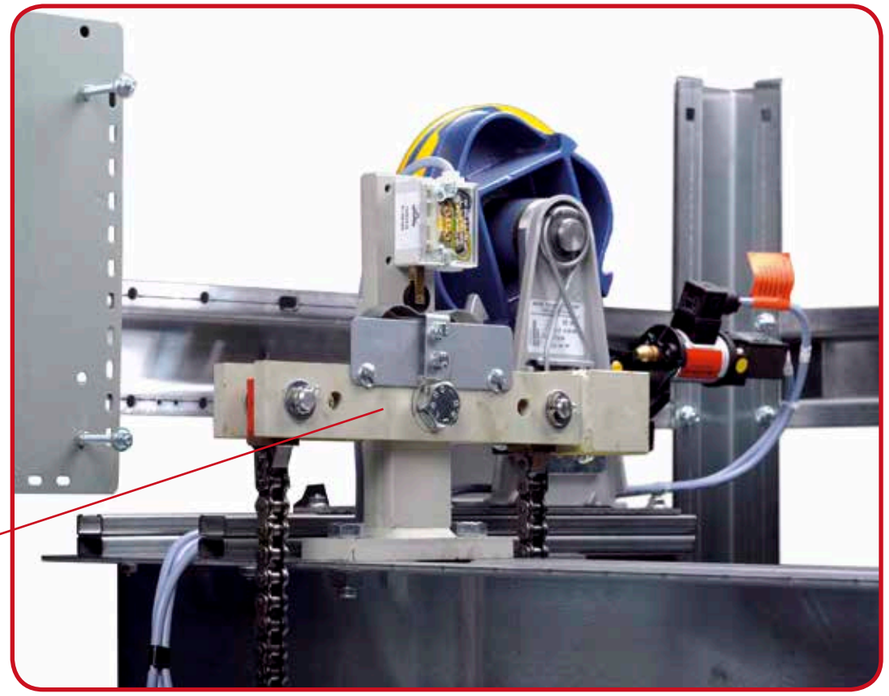


The drive mechanism is bolted to the drive mechanism carrier. All attachment parts including the cabling are ready mounted. After installation, only the chain must be fitted. The specified tightening torques of the bolted connections must be checked.

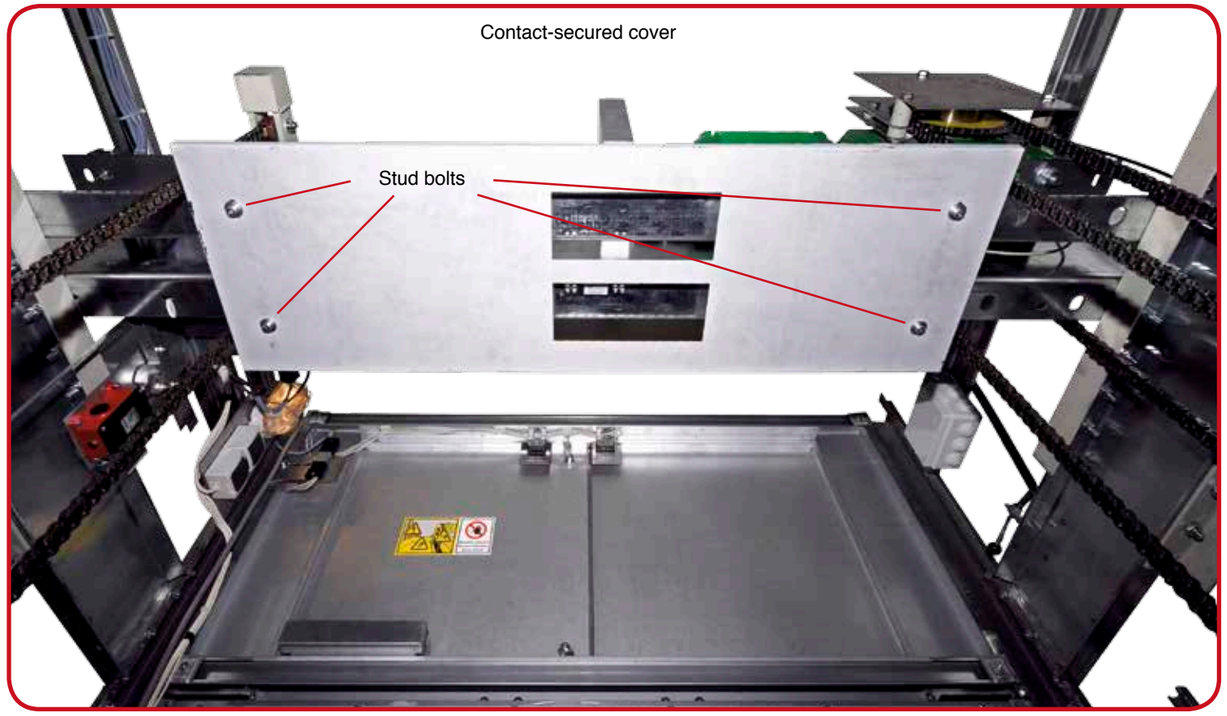
The chain must have at least 5 mm play relative to the drive mechanism carrier. This is adjustable thanks to the longitudinal holes in the drive mechanism carrier.

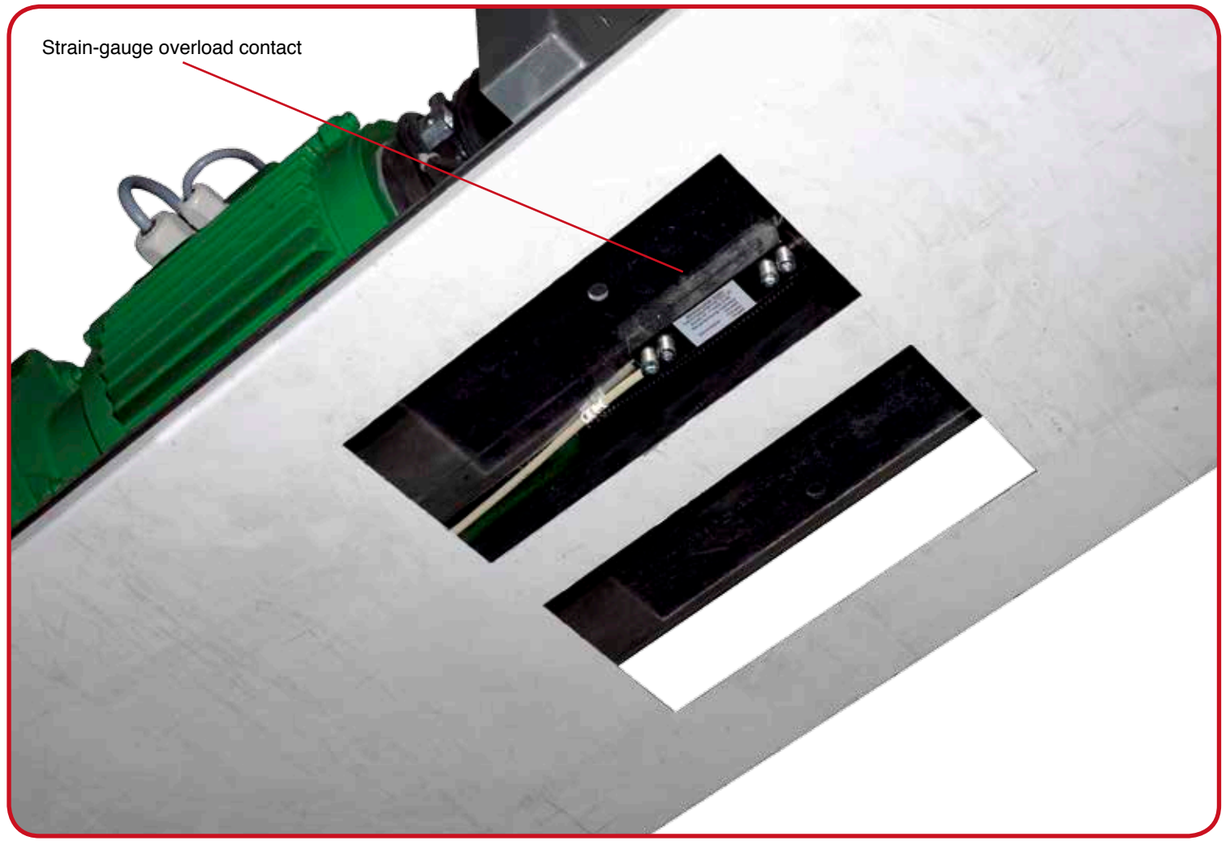


The chain compensator is likewise bolted to the drive mechanism carrier. Please fit so that the switch can be seen from the machine room door.

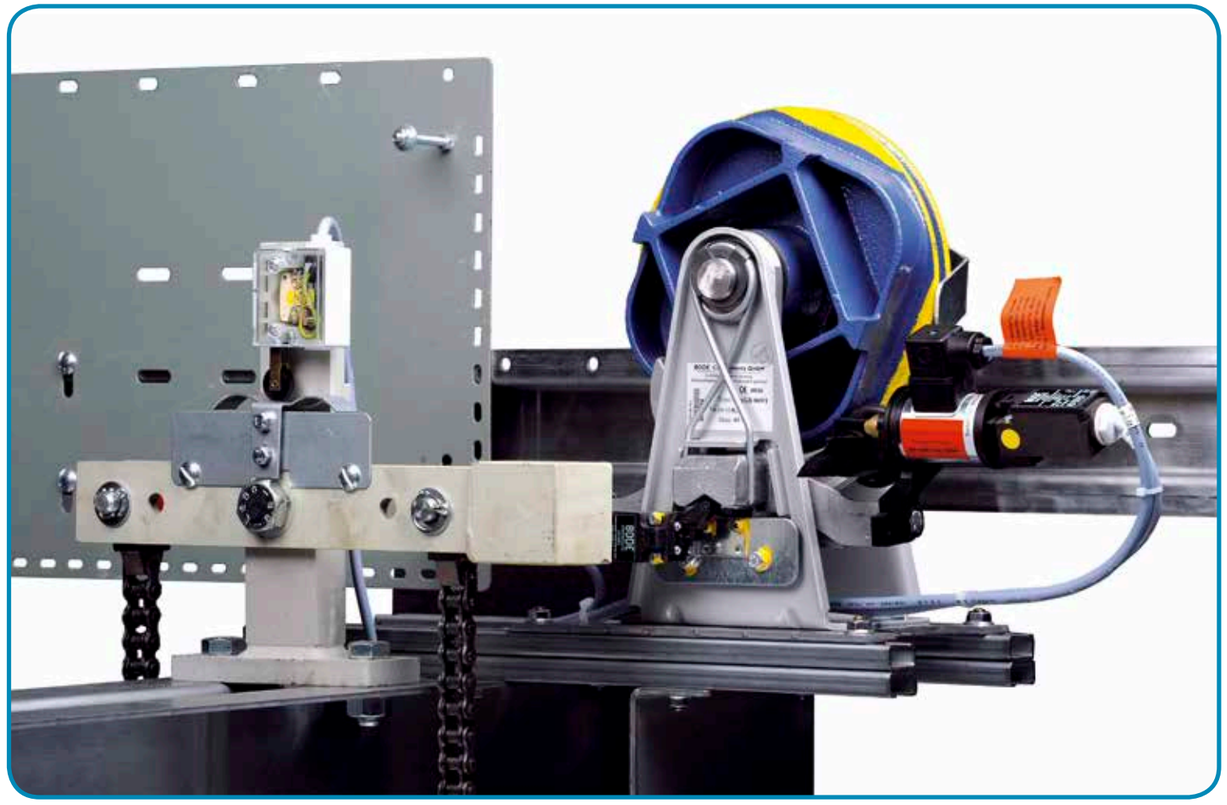


The contact secured cover for the drive mechanism carrier is bolted to the drive mechanism carrier using four stud bolts. Switches for activation of the contact-secured cover are fitted on the drive mechanism carrier.

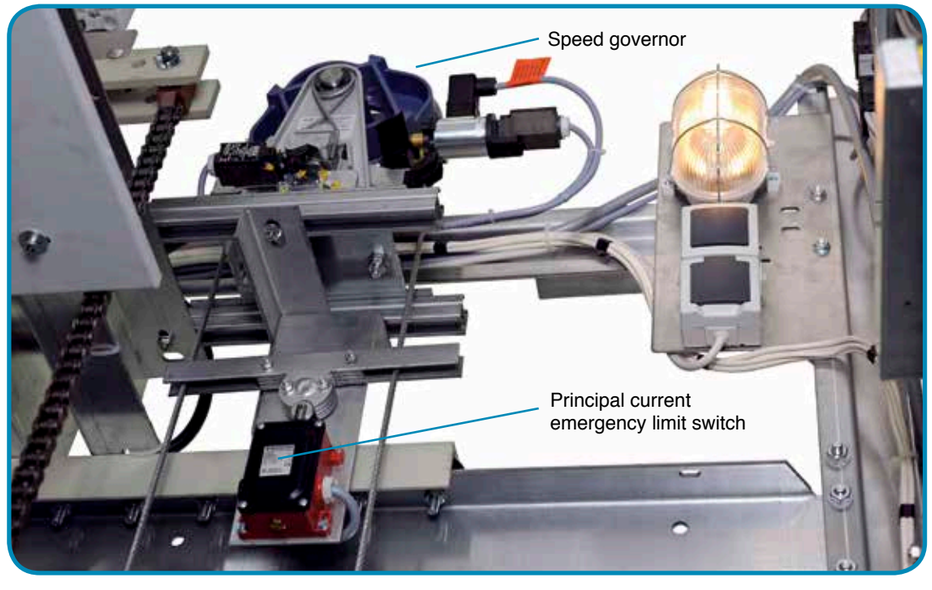




The governor is fastened to the drive mechanism carrier. Seen from the machine room door, the governor is positioned on the front right. All attachment parts are pre-fitted. The governor must always be attached so that the electrical components can be seen.



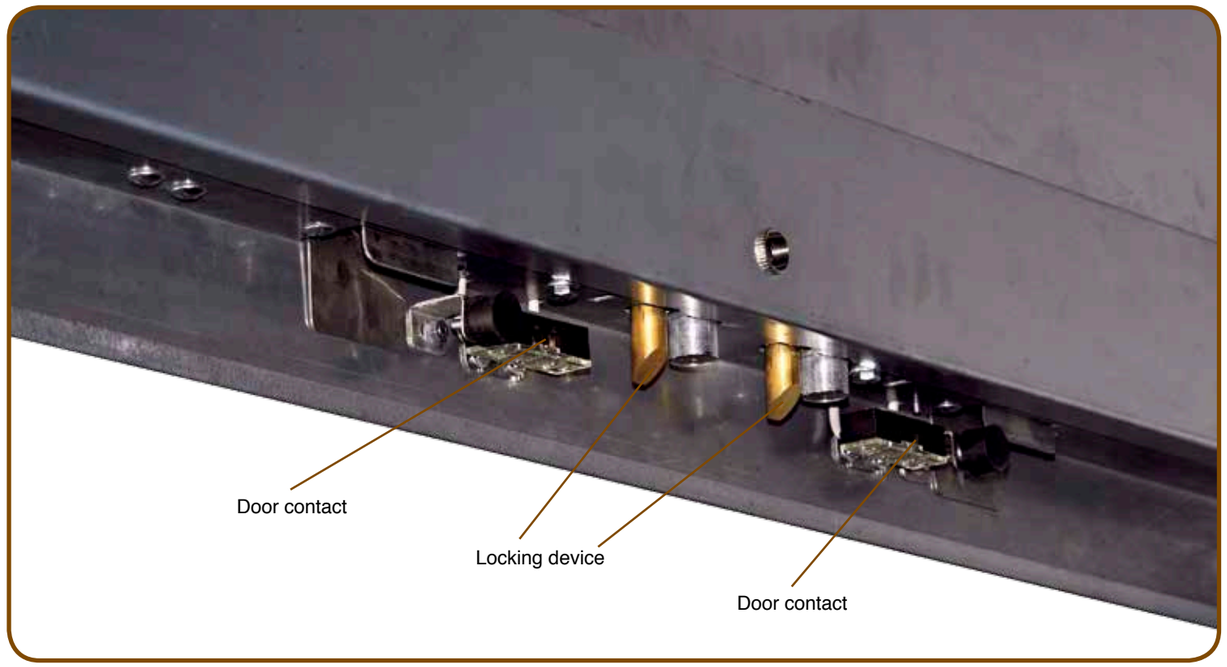
The principal current emergency limit switch is secured beneath the speed governor. The principal current emergency limit switch is switched by the governor rope. Rope nuts are mounted on the governor rope and these trip the principal current emergency limit switch, if the car tries to travel beyond the minimum top or bottom clearances.



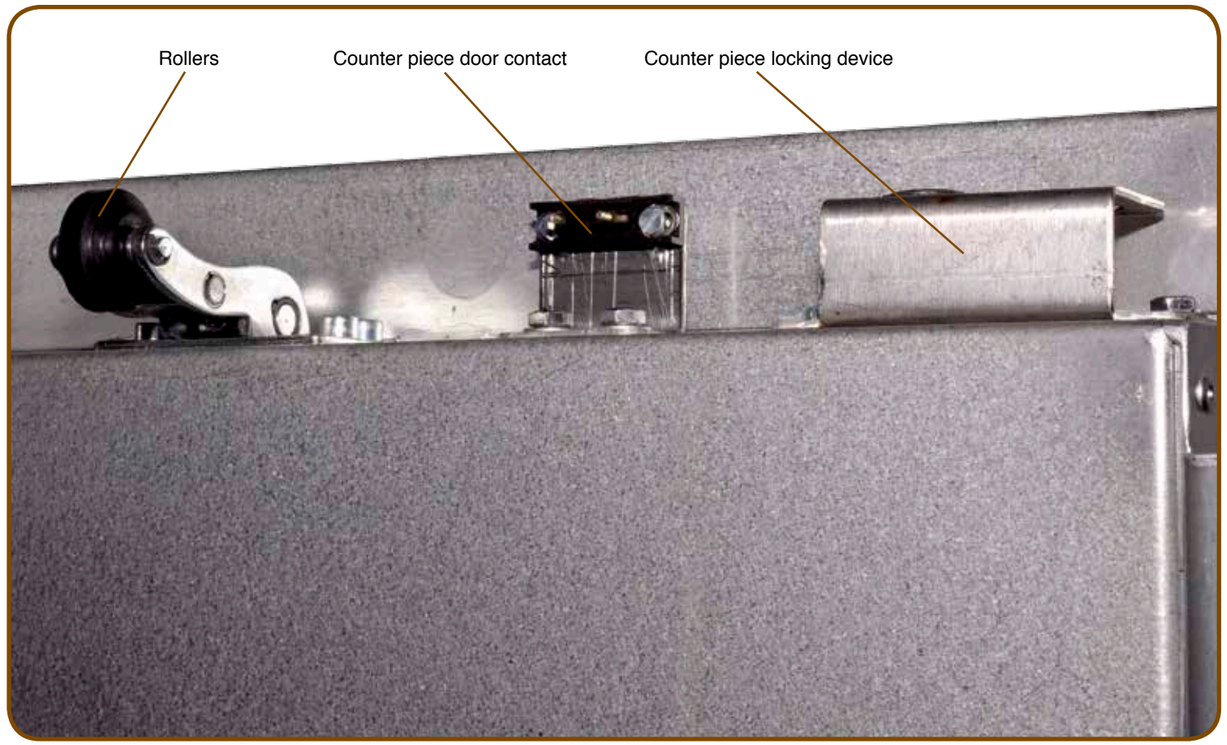
Please position the rope nuts so that the principal current emergency limit switch is deenergized if the car is 50 mm above the top stopping point or 50 mm below the bottom stopping point.

The shaft door is fitted and aligned with the sill angle on the floor. Clamping plates are used to secure the shaft door to the corner bars.

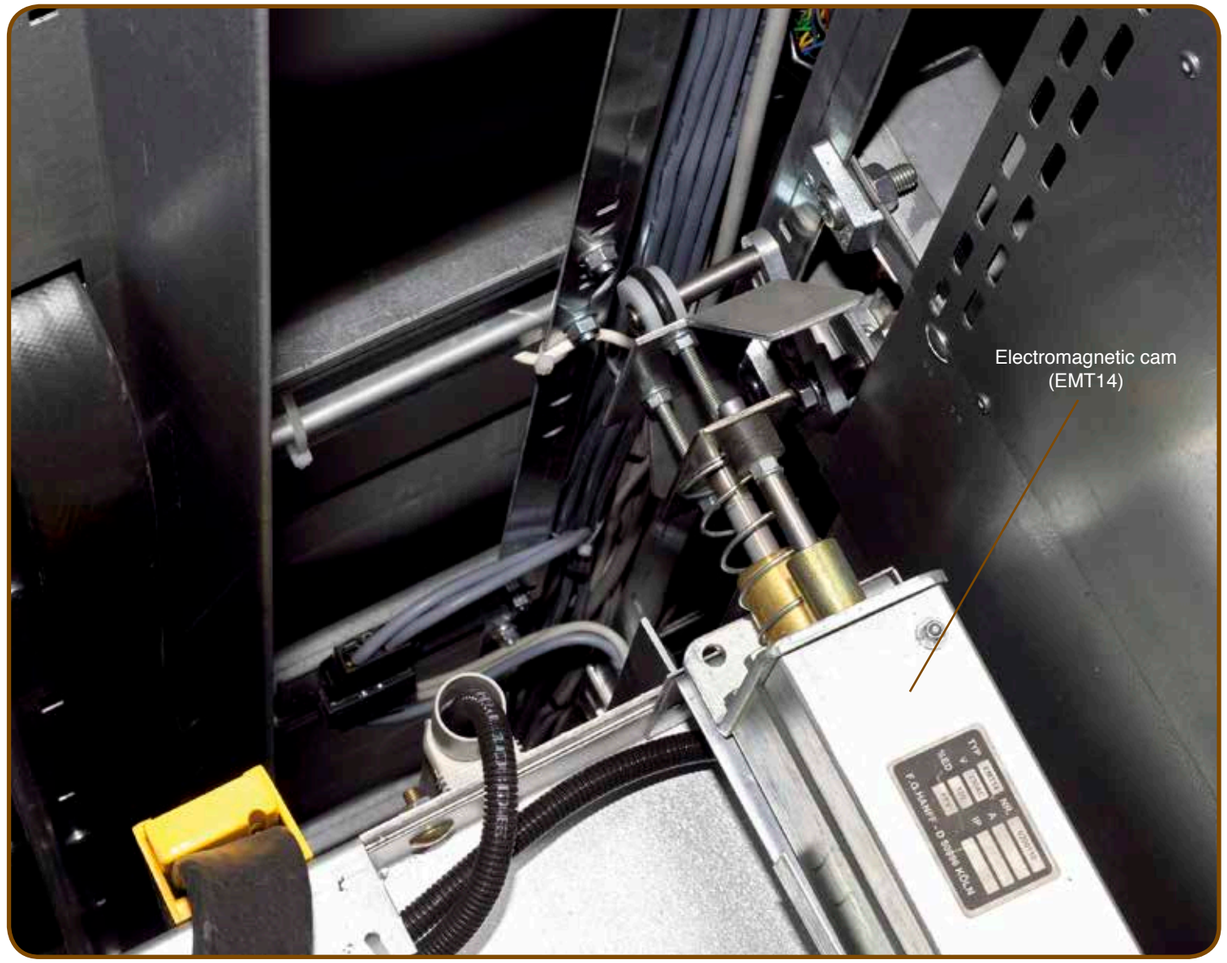
The door switch with the locking device is pre-assembled and is located in the upper door frame. The door frame is clad so that the switch on the door is not visible from the inside. The cables are routed to the side. With the door open the locking device and the door contact are visible. The coupling of the door contact is located in the door frame. The plug on the door leaf is adjustable.



The plug for the door contact and the cam for the locking device are located on the door leaf. Both are adjusted in the factory. Upon installation both must be checked for their sound condition.



The rollers of the deflection device must run freely and must be checked for sound condition.



The lower door is equipped with a switch, which places the system in a standstill, if the door is opened with the emergency unlocking key. This switch can be reset by pressing button S15 in the control cabinet.

Behind the emergency unlocking hole of the lower shaft door is a slider, which it is compulsory to activate if the door is unlocked with the emergency key. The slider then activates the above described switch, which shuts the system down during work in the pit.

Installation of electrical components must be carried out by an electrical technician!

Recommendation for the sequence of electrical work

All work must be carried out by qualified electrical personnel. All work must be carried out with adequate consideration of the wiring diagram.

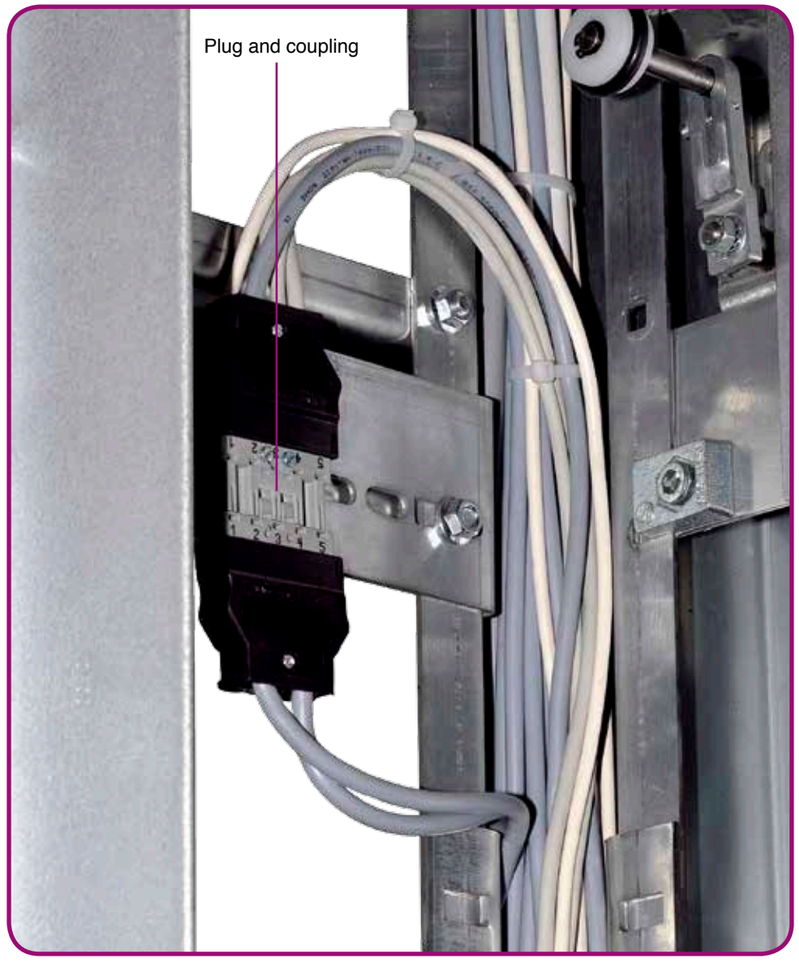
Installation of the control cabinet.
Installation of the main switch at the front right.
Route the supply cable to the main switch in a zero volts state.
Route the cable from the main switch to the control panel.
Connect the power outlet and the machine room light at the top right (customer provision).
Fit the overload unit cable socket.
Connect the drive mechanism.
Connect the speed governor.
Connect the slack chain switch.
Connect the switch of the contact-secured cover.
Attach the lower pit stop switch and wire-up.
Fit the governor tension weight switch to the tension weight and connect up.
Wire the emergency unlock to the bottom door.
Connect up the door and locking wiring harnesses as well as the pushbutton boxes of the respective floor.
Install and connect up the control current emergency limit switches in the pit and in the shaft head.
Wire the car according to the wiring diagram and fit the travelling cable.

All cables are pulled from the bottom to the top through the corner bar. Ensure there is sufficient strain relief.

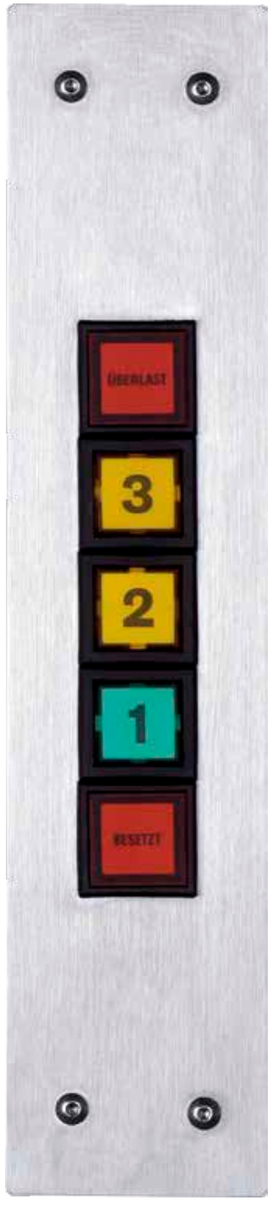
The controller is fitted in a control cabinet. The position of the control cabinet is freely selectable. Please observe the system drawing. This specifies where the control cabinet is planned. All cables are ready to be plugged in and cut to length to match the system drawing.

Control cabinet

An emergency stop switch and a switch for bypassing the drop protector are fitted in the machine room should an emergency release be required. The drop protector is supplied by battery in case of a power failure.
The supply of current to the coil at the governor causes the drop protector to be disconnected. Only if the governor is switched off can the cabin be moved using the handwheel.



The cables for the door and bolt and are provided with plugs and couplings. Both are fastened on a mounting plate. The mounting plate is clamped to the corner bar.



The pushbutton element is clamped to the shaft door. The green pushbutton marks the floor on which the pushbutton element must be fitted.

If the pushbutton elements are not fitted on the corresponding floors, the control functions incorrectly. You can take the relevant floor naming from the system drawing.

Please refer to the supplied wiring diagram for the precise cabling details of the system.

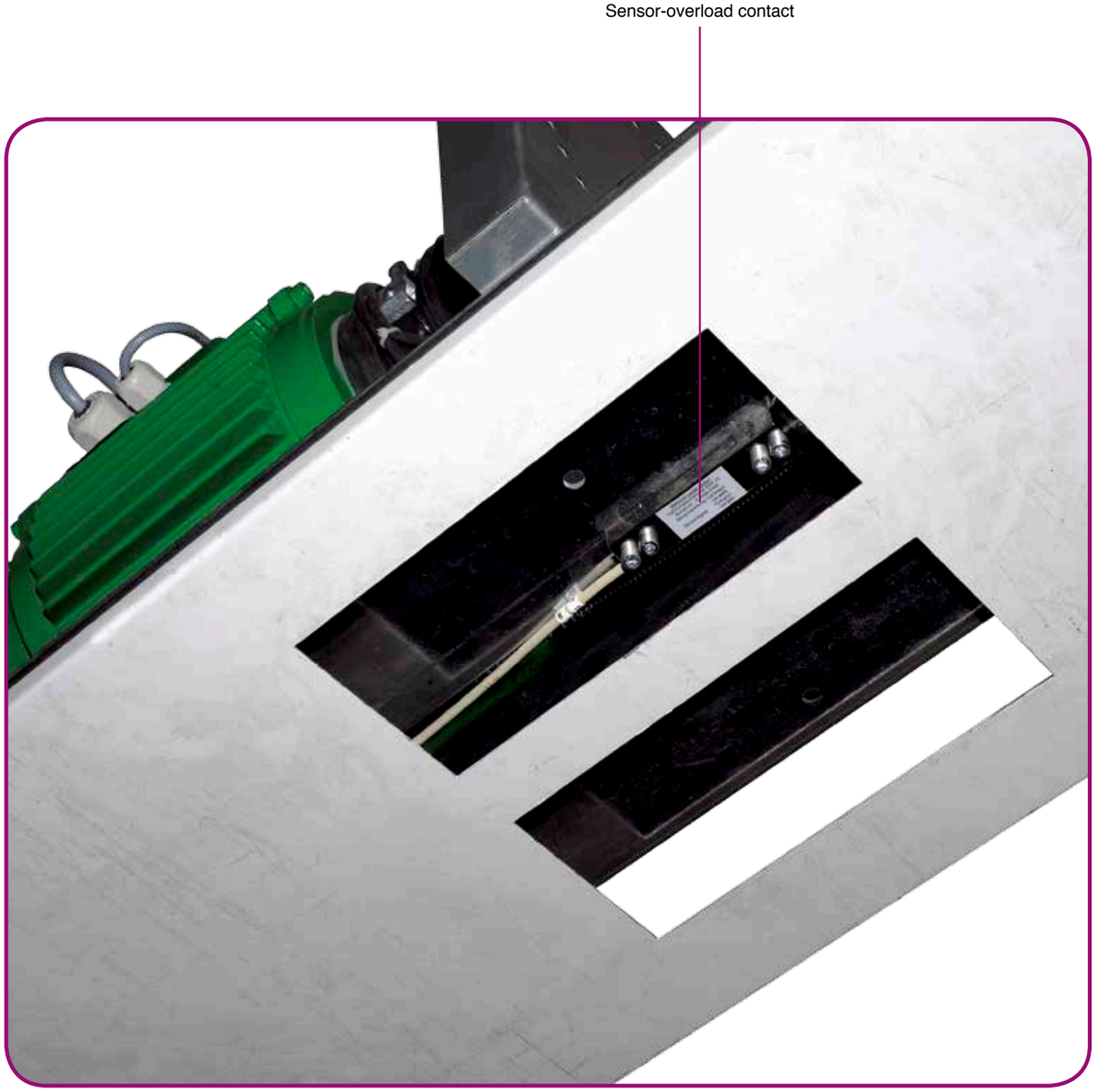
The floor switches and the limit switch for the inspection run are secured to a vertically adjustable rail. The rails are clamped in the frame ladders on the cap profiles. The floor and limit switches for the inspection run must be adjusted according to the regulations (EN or TRA). The switches are activated by the cams on the car and must be fitted so they are flush.

With two stopping points mechanical switches are used; for more than two stopping points, inductive switches are used. By contrast, the floor switches are always mechanically activated.

Overload unit installation

The overload unit comprises a sensor and a measurement amplifier that is housed in a cable box. This cable box is clamped upright on the frame. The sensor is screwed under the drive mechanism carrier.

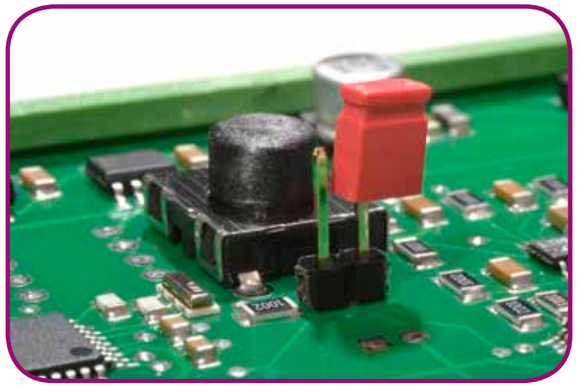
Screw the sensor-overload contact (strain gauge) centrally below the drive mechanism carrier.



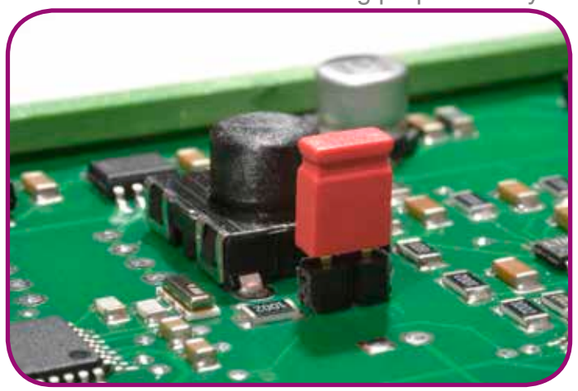
Adjustment of the overload contact on the ready for operation system

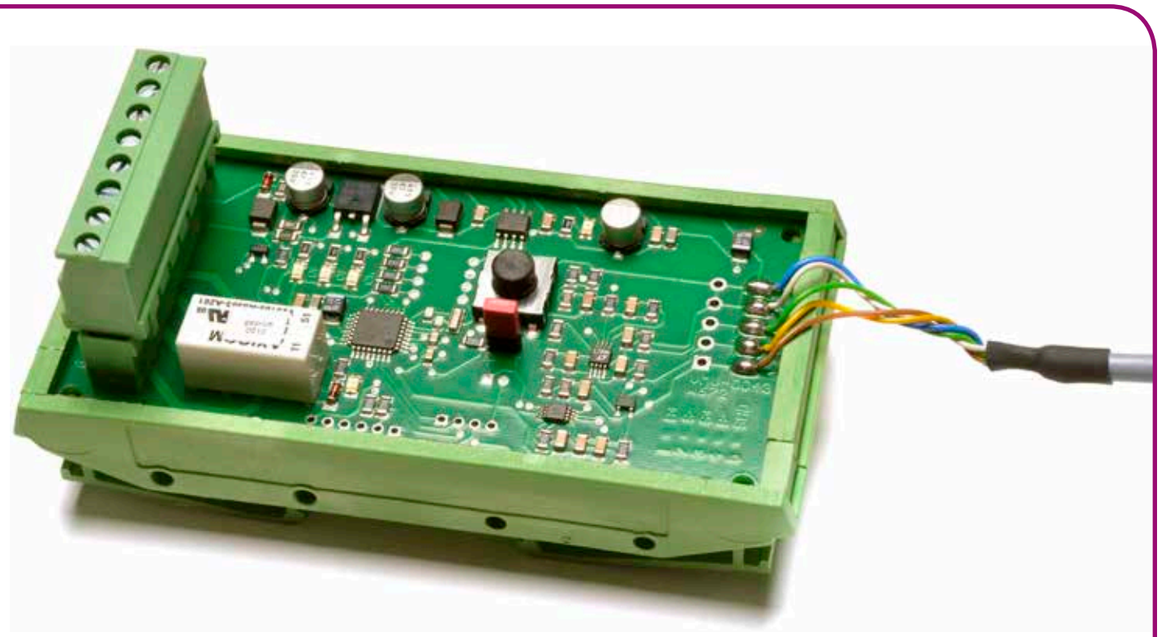
Adjustment (Set „Tara“): Load cabin with nominal load, push button 3 seconds.

Overload **“ON”** = Standard



Overload **“OFF”** = for testing purposes only





Check that the overload unit shuts down the system at an overload of load capacity + 75 kg.

That's it, done!

SKG-Dokumentennummer: D-19-298GB 11/2015 Fotos und Layout: vielbauch.de