

Car Frame Series WCF

1:1 and 2:1 Top Suspension

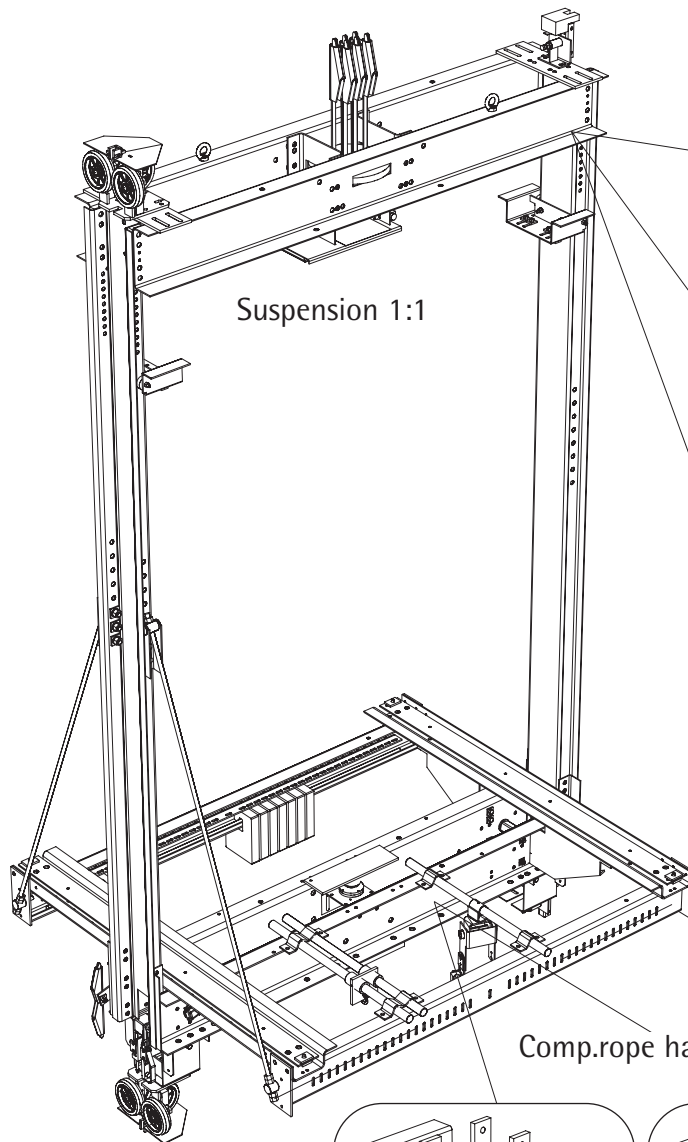
Operating instructions

Blatt/sheet D383MGB.000
Datum/date 22.03.2002
Stand/version C-21.07.2014
Geprüft/approved WAT/MZE

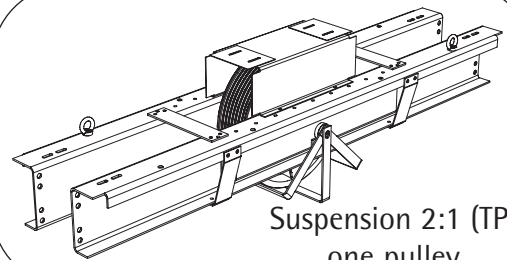
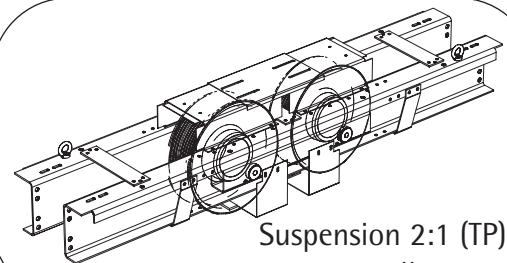
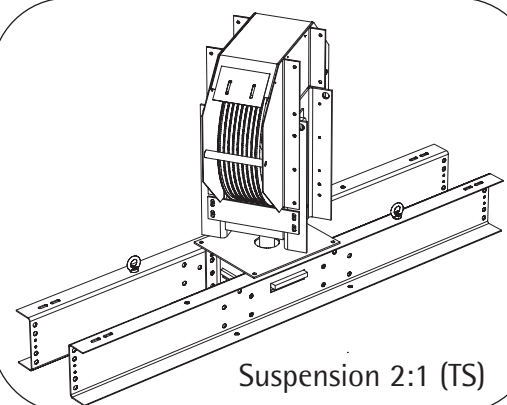


Car Frame Series WCF 1:1 and 2:1 Top Suspension

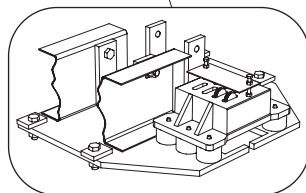
D383MGB 07.2014



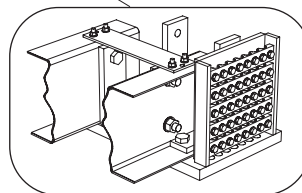
Suspension 1:1


Suspension 2:1 (TP)
one pulley

Suspension 2:1 (TP)
two pulleys


Suspension 2:1 (TS)



Comp. rope hanger



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We reserve the right to make alterations with respect to the specifications and figures in this manual.



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1 General information prior to installation

1.1 Description and functions

The car frame series WCF is a car frame used for passenger-, passenger-goods and freight elevators.

Because of its modularity structure and its variety of different (optional) equipment (safety gears, rope suspensions, ...) covers the WCF car frame a wide range of use.

The WCF Series can be also equipped with a braking system, which safeguards against uncontrolled lift car movement in up direction. A non-directional speed governor with corresponding tensioning weight must be fitted if this braking system is used.

The WCF car frames do have fully isolated car platform supports which guarantees excellent ride comfort.

Because of its optional modules like balancing beams, isolated roller guides and isolated compensation rope hangers it can be used in high speed elevators as well.

The built-in safety devices are set, synchronized and lead sealed ex-works, according to the order. For reasons of safety, it is forbidden to readjust these settings once they have been made.

The car frame operating range is defined as follows:

WCF10:

- Nominal speed $\leq 2.5 \text{ m/s}$
- All up load $\leq 3000 \text{ kg}$ ($Q \leq 1000 \text{ kg}$)
- Car depth $\leq 2100 \text{ mm}$
- Car width $\leq 2250 \text{ mm}$

WCF16:

- Nominal speed $\leq 6.0 \text{ m/s}$
- All up load $\leq 5000 \text{ kg}$ ($Q \leq 1600 \text{ kg}$)
- Car depth $\leq 2750 \text{ mm}$
- Car width $\leq 2650 \text{ mm}$

WCF25:

- Nominal speed $\leq 6.0 \text{ m/s}$
- All up load $\leq 8000 \text{ kg}$ ($Q \leq 2500 \text{ kg}$)
- Car depth $\leq 3100 \text{ mm}$
- Car width $\leq 3050 \text{ mm}$

WCF35:

- Nominal speed $\leq 6.0 \text{ m/s}$
- All up load $\leq 12000 \text{ kg}$ ($Q \leq 3500 \text{ kg}$)
- Car depth $\leq 4000 \text{ mm}$
- Car width $\leq 4160 \text{ mm}$

General:

- Safety gear devices: Roller type SG
Progressive type SG
Bi-directional SG
- Guide: Sliding guide shoe
Roller guide shoe
- Suspension: 1:1 and 2:1 on top

Further options:

- Load weighing system
- Balancing beams
- Compensation chain - or comp. rope hanger
- Travelling cable hanger

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1.2 Liability and guarantee

This instruction handbook is written for people who are familiar with lift servicing and installation. Sufficient knowledge of lifts is essential.

WITTUR accept no responsibility for damage caused by improper handling, or for damage caused as a result of actions other than those stated in these operating instructions.

The WITTUR guarantee may be voided if parts other than those described in these instructions are installed.

Unless stated otherwise, the following are not permissible due to technical safety reasons:

- The use of safety gear devices or brake components other than those installed
- Carrying out modifications, of any kind, on brake components
- Destroying of seals
- Frame modification
- Modification of the actuating mechanism
- Readjustment of settings have been made ex-works
- Carrying out faulty or improper maintenance, maintenance or inspection checks
- using unsuitable accessories, spare parts or operating material which has neither been released by the WITTUR Company nor consists of original WITTUR spare parts

1.3 Safety precautions

WITTUR machine installation or repair engineers are chiefly responsible for the safe operation of machinery.

It is essential to comply with and keep abreast of all safety rules and legal obligations in order to avoid personal / product damage during installation, maintenance and repair work.

Important safety advice and danger warnings are emphasized with the following symbols:



General danger warning



High danger risk warning (i.e. crushing edge, cutting edge etc.).



Risk of damage to machinery parts (i.e. due to incorrect installation, or such like).



Important information sign

These operating instructions belong with the whole installation and must be kept in a safe place at all times (i.e. drive room).

The proper assembly and installation of WITTUR car frames requires correspondingly well trained fitting engineers. The responsibility of training lies with the company appointed to carry out the work.

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Before starting installation work:



Only properly trained personnel may carry out work, or be allowed access to the installation site.

- Attach safety devices to guard against falling (platform or harnesses)
- Cover any floor openings
- Secure installation tools or objects against accidental falling
- Lift shaft openings should be cordoned off and suitable warning signs should be erected when working in shaft openings
- Work involving electrical equipment should only be carried out by an electrical engineer or qualified personnel.

1.4 Preparation

Before beginning installation work it is in your own interest to ascertain the constructional and spatial conditions. Where (workshop or on site) and when which installation operations can or must be carried out. It is recommended therefore, taking into account all the given circumstances, to plan the various operational sequences in advance, rather than carrying them out prematurely and in an unconsidered manner.

On receipt of the delivery, the goods or components should be checked for correctness and completeness with the order sheet

The details on the name plates should be compared with the order sheet and also check:

- that the factory and order number correspond
- the rail head width and model
- the total load (G)
- the tripping speed
- for 2:1 suspension: the rope pulley diameter, the number of rope grooves and rope groove diameter are suited to the ropes

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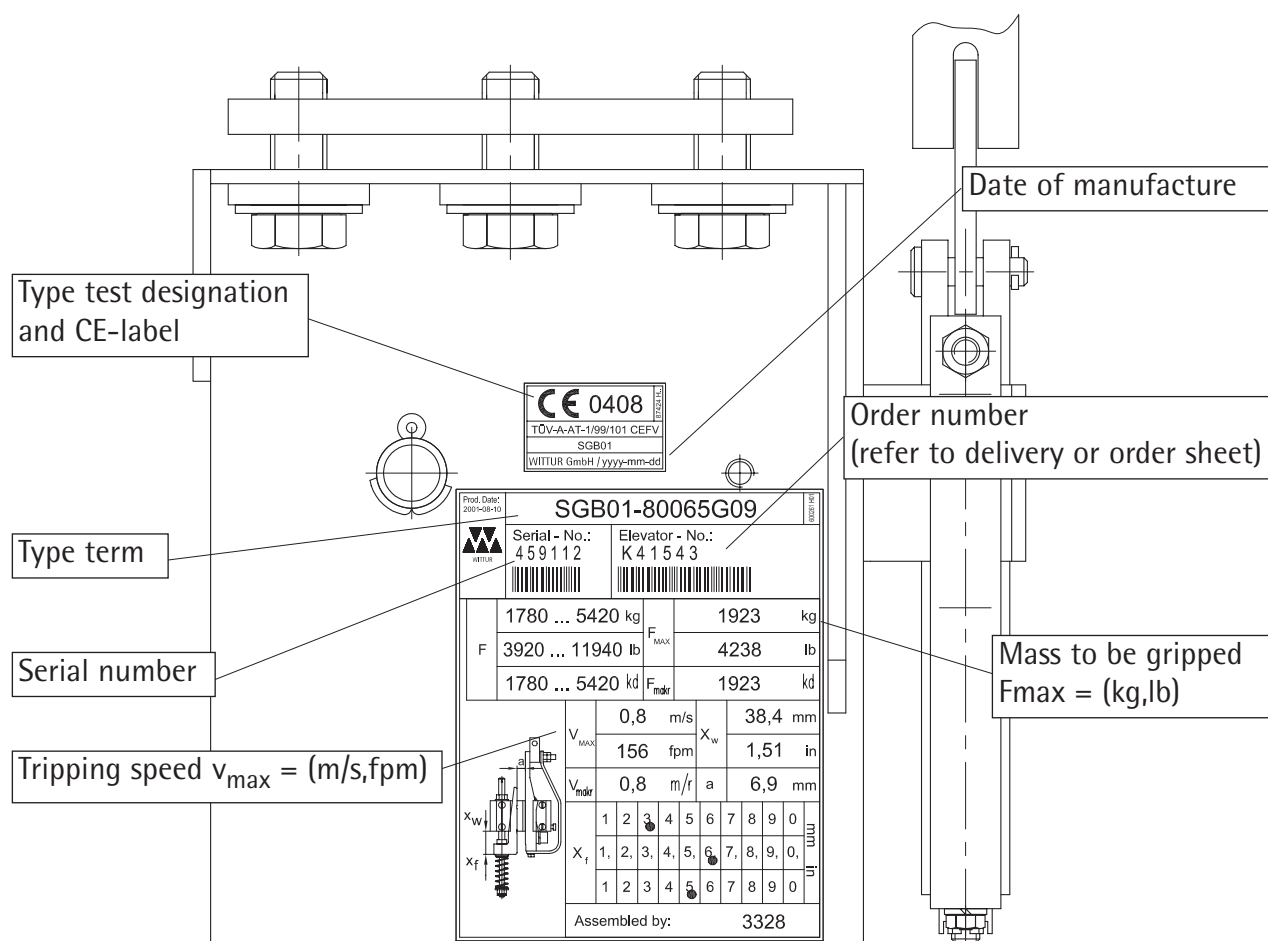
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1.5 Safety gear name plate

The safety gear device identification indicators are located on the side of the safety block. These consist of a name plate and a identification sticker.



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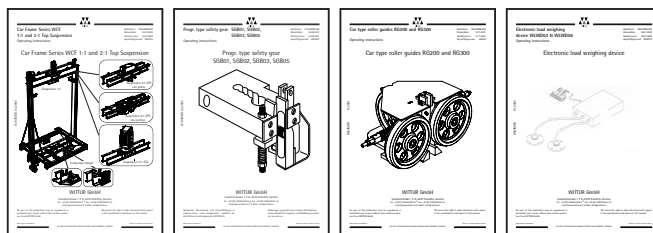
Operating instructions

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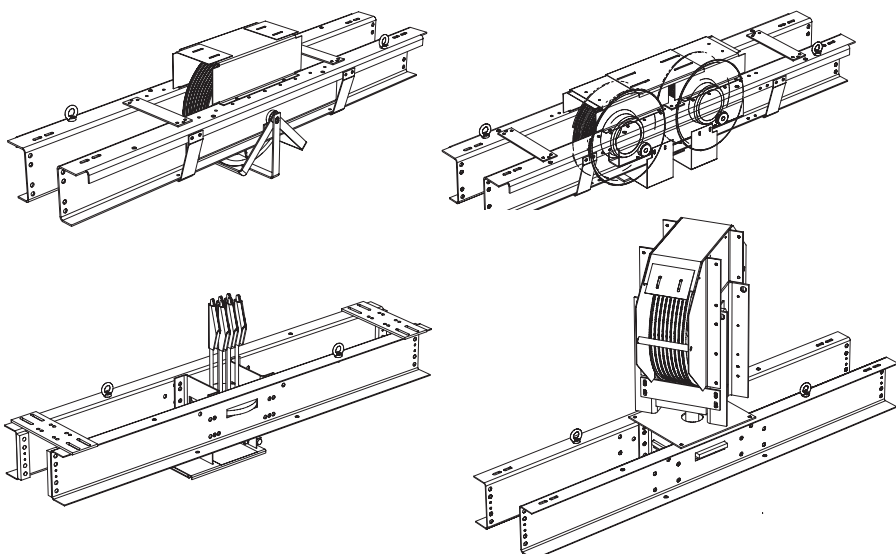
1.6 Content of supply

After delivery, check the lift car frame for damage and for full delivery of parts. The content of supply covers:

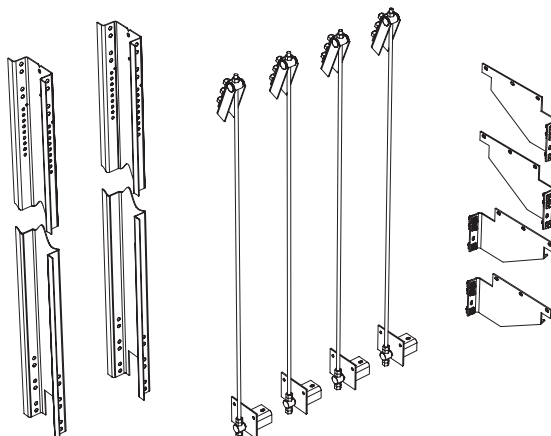
- Car frame operating instructions manual
- Safety gear operating instructions manual
- Guide shoe operating instructions manual
- Load weighing device operating instr. man.



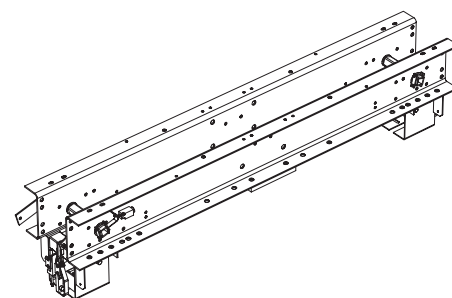
- Crosshead beam (pre-assembled)



- Bottom Cross beam incl. safety gear housing and synchronization (pre-assembled)



- Uprights
- Diagonals or Plattform support



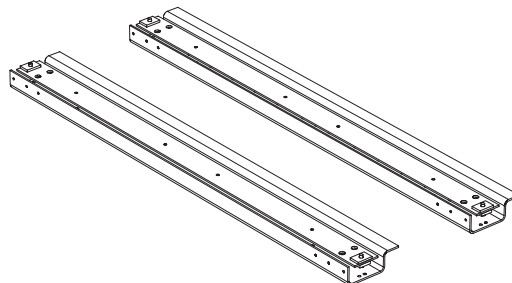
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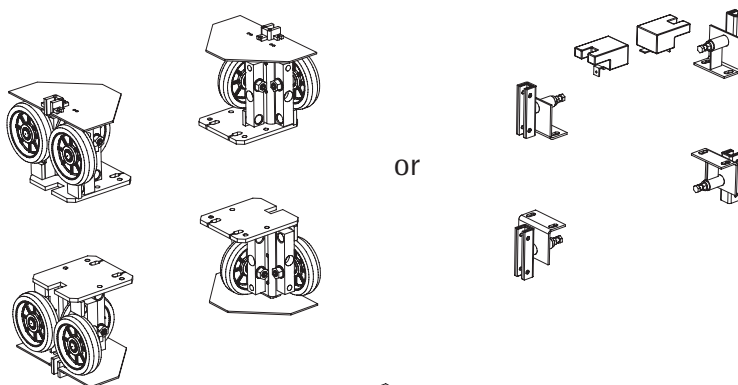
Blatt/sheet D383MGB.007
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- Platform support
 (incl. lower car fixing material)

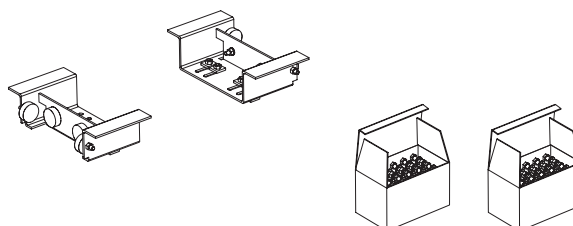


Accessories:

- Guide shoes

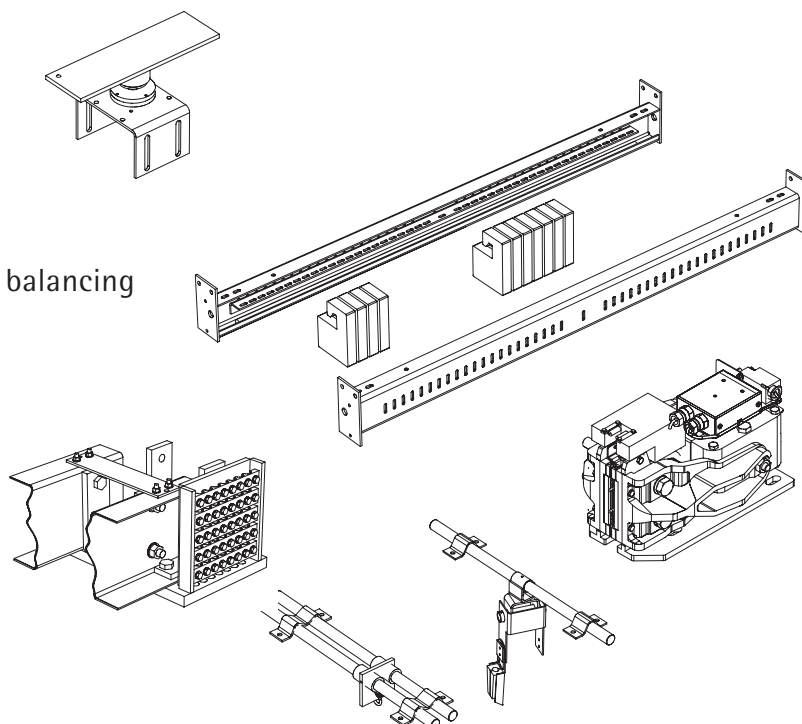


- Upper car fixing (incl. isolation buffer)
- Screw packages



Optional parts:

- Load weighing device
- Ring/balancing beams (incl. balancing weights)
- EBRA
- Compensation rope hanger
- Compensation chain hanger
- Travelling cable hanger



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2 Installation



Car frame installation can either be carried out at the bottom of the lift shaft or on a stable installation platform in the lift shaft (also guide clamps could be used which can take the total load of frame and car)!



The guide rails should have been already properly set. The distance between the guide rails should be checked before installing the car frame.

2.1 Placing the bottom cross beam between the rails

The bottom cross beam is delivered pre-assembled. It contains the safety gear, the synchronization and the buffer plate. The safety gear device is bolted and synchronized.



Note the correct position of the lower cross beam in relationship to the governor rope position (check layout drawing).

Procedure:

If WCF is delivered with safety gear type SGB04 (Simplex or Duplex) or SGB03 Duplex, one safety gear housing has to be removed!

- (1) Set cross beam at an angle (see Fig.)
- (2) Clip one safety gear head onto the rail
- (3) Turn Cross beam back into the horizontal position, pushing the second safety gear device onto the rail
- (4) Re-mount the second safety gear housing (if SGB04 or SGB03-Duplex is delivered)
- (5) Adjust the cross beam in the middle of the guide rails (safety gear gripping wedge must overlap guide rail blade)



Check that the beam is horizontal in the lateral direction.

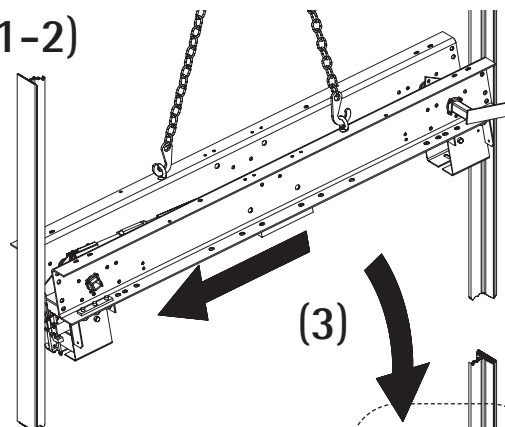
- (6) Fix the guide shoe to the safety gear housing. Adjust RGF125 (0,3 to 1mm clearance). For setting of the rest refer to operating instructions.

tion of guide shoes.

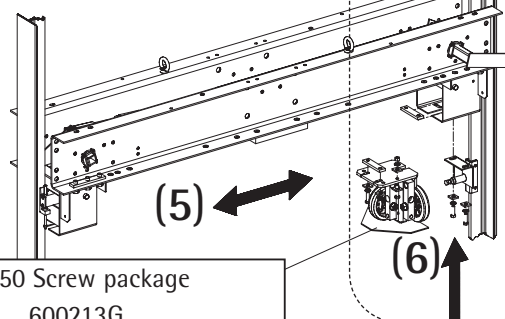


During installation the frame must be supported so that it does not rest on the guides.

(1-2)



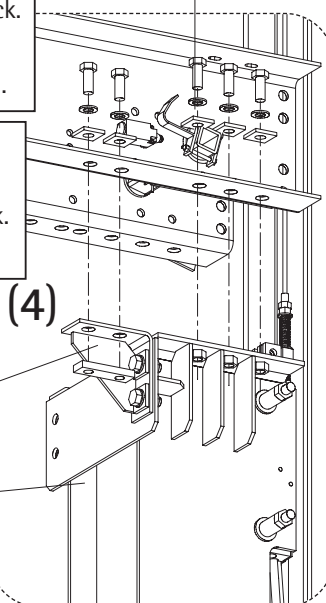
(3)



(5)

(6)

- WRG150 Screw package 600213G..
- WRG200, WRG300 Screw pack. 600214G..
- RGF125 Screw pack 900635G..
- SLG1 Screw package 600210G..
- SLG2, SLG3, SLG4 Screw pack. 600211G..



(4)

Stiffener bracket

SG-housing (e.g. SGB04-Duplex)

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- (7) Lift OSG-lever by hand and
- (8) ... secure it with a rope or wire around nearest guide fixing


2.2 Securing the uprights to lower cross beam

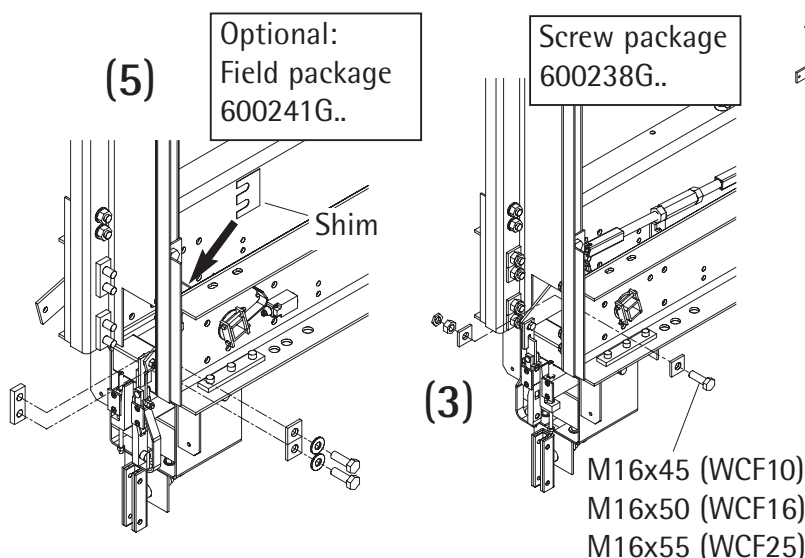
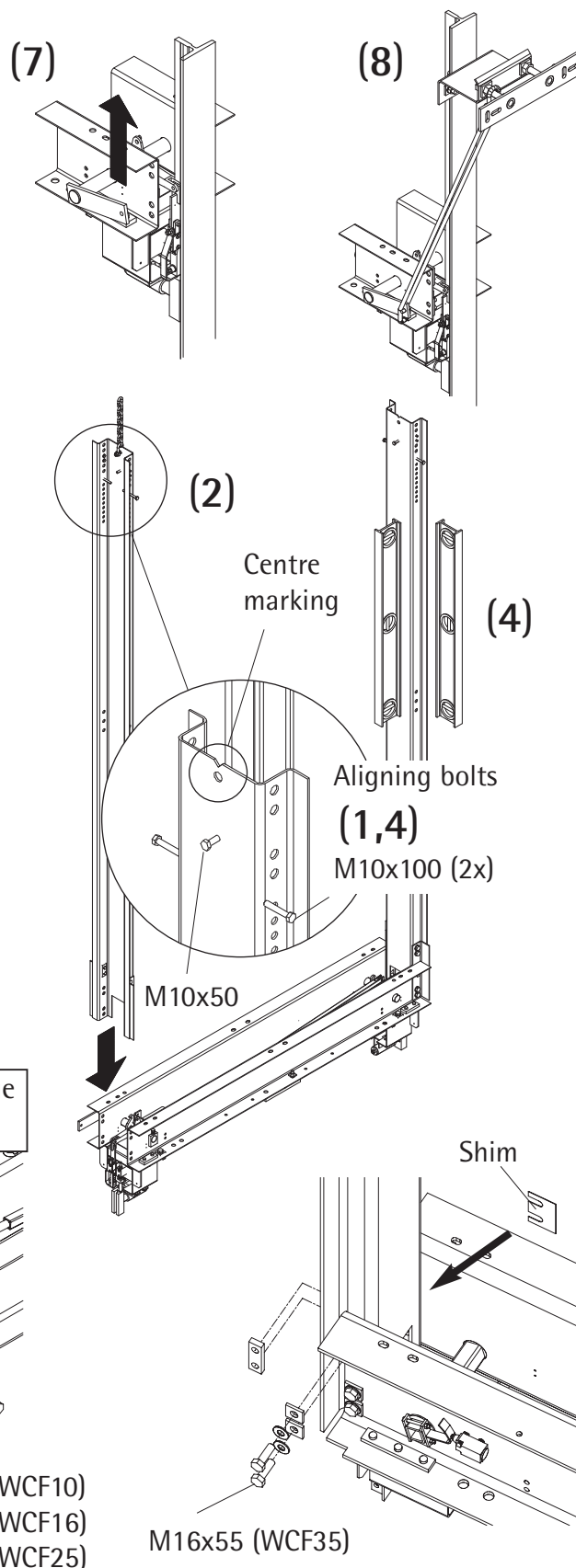
- (1) Fit the aligning bolts in the threaded holes at top of the uprights
- (2) Lift the uprights using the hole at the top and a shackle
- (3) Loosely bolt the uprights to the lower beam
- (4) Adjust the uprights in plumb and in centre to the guide rails using the aligning bolts

 Ensure aligning bolts are wound out to allow easy installation.

 Take care of tightening torque
Screw M16: 195Nm

- (5) Before tightening the screw joints, pack out the spaces between upright and cross beam with the shims provided

 Make sure you use the correct bolt length.
Too long bolts can interfere with the safety gear.



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2.3 Installing Crosshead beam

The crosshead beam is delivered pre-assembled. It contains the beams and adapter plates for the guide shoes.

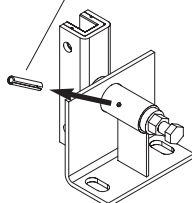
- (1) Lift in the crosshead beam into the uprights
- (2) Fit the beam to the upright. If necessary add shims between beam and upright.



Take care of tightening torque
Screw M16: 195Nm

SLG1 Screw package 600210G..
SLG2, SLG3, SLG4 Screw package 600211G..

Remove lock-pin!

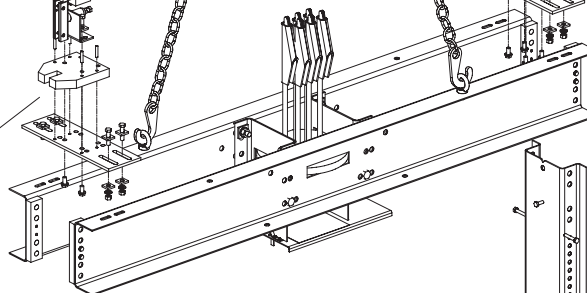
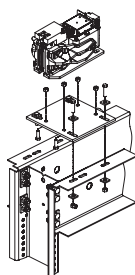


In case of car frame is used in seismic risk zones, additional restraining plates (30mm thick plate) will be placed between guide shoe and adapter plate (refer also to chapter 2.11.1).

Restraining plate:
Rivet when installing (holes in adapter plate and beam had to be drilled at building site)

- (3) Fit the guide shoe (optional EBRA) to the adapter plate. Adjust RGF125 (0,3 to 1mm clearance). For setting of the rest refer to operating instruction of guide shoes.

WRG150 Screw pack 600213G..
WRG200, WRG300 Screw pack 600214G..
RGF125 Screw pack 900635G..
EBRA Screw pack 602010G..

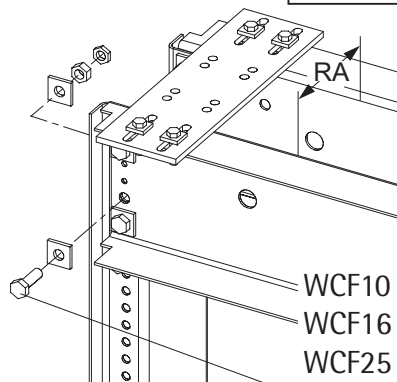


(1)

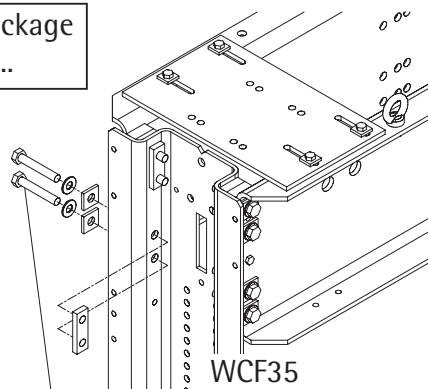


(2)

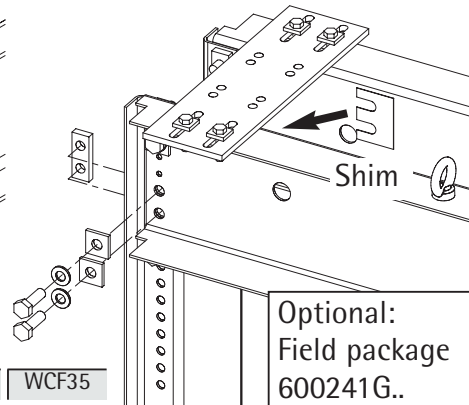
Screw package 600238G..



WCF10
WCF16
WCF25



WCF35



Optional:
Field package 600241G..

RA [mm]	WCF10	WCF16	WCF25	WCF35
200	M16x45	M16x50	M16x55	-
200	M16x70	M16x80	M16x80	M16x70
200	-	M16x100	M16x110	M16x100

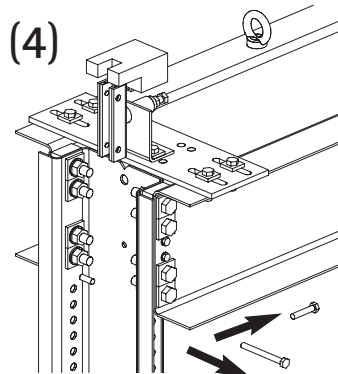
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(4) Remove the aligning bolts



2.4 Installing Platform support

The platform support is delivered pre-assembled. It contains a beam including isolation springs and car fixing plates.

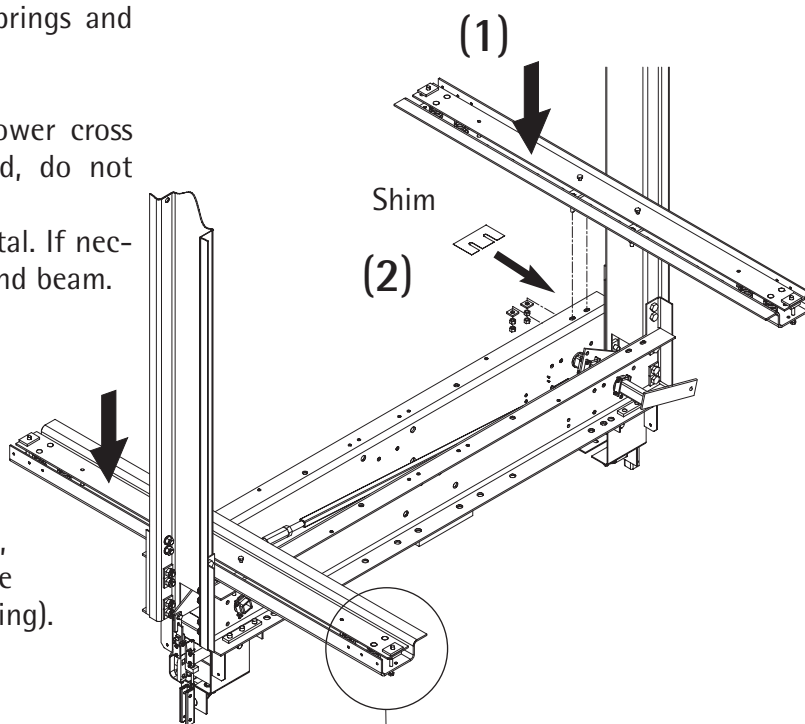
- (1) Fit the platform support to the lower cross beam (if ring beams are delivered, do not tighten the screw joint)
- (2) Check that the profiles are horizontal. If necessary, add shims between profile and beam.



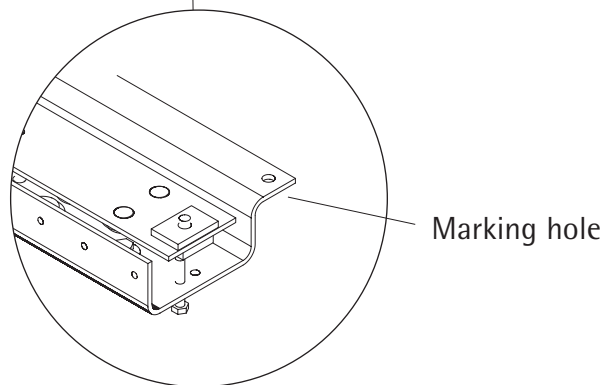
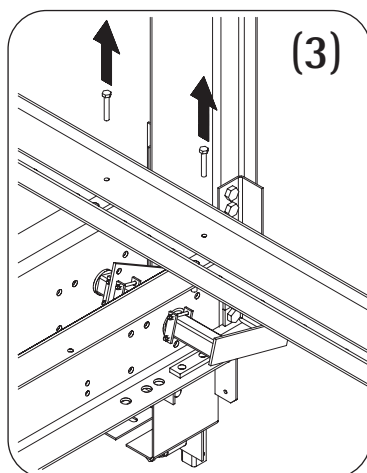
Take care of tightening torque
Screw M12: 80Nm



If asymmetrical platform is used,
the marking hole must be on the
main door side (see layout drawing).



(3) Remove the lock screws



Marking hole

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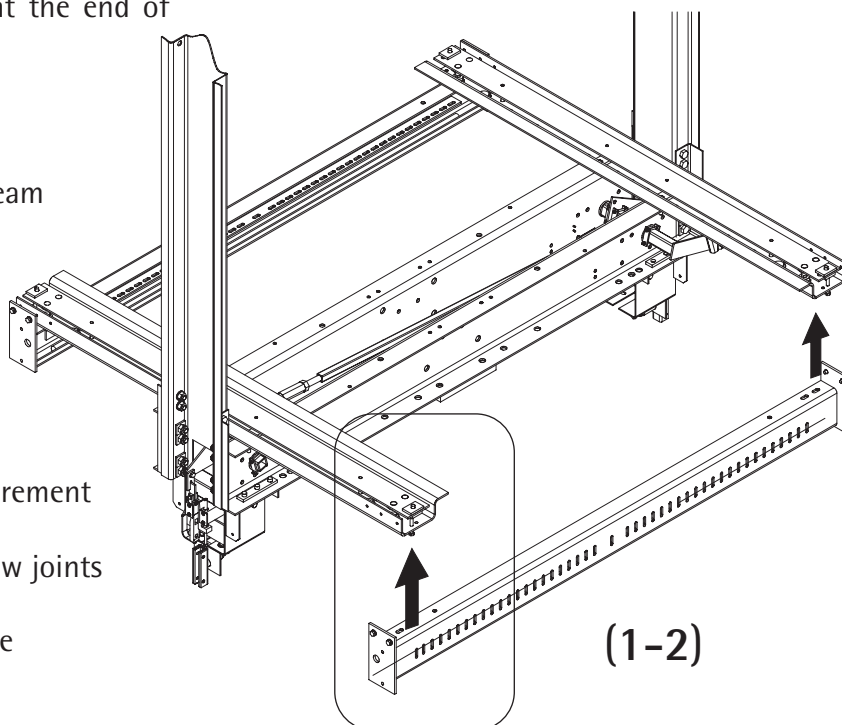
2.5 Ring-, Balancing beams (optional)

- (1) Remove the nuts and washers at the end of the platform support beams
- (2) Install the ring beams (tighten the screw joint slightly)

 Note position of balancing beam (see layout drawing)

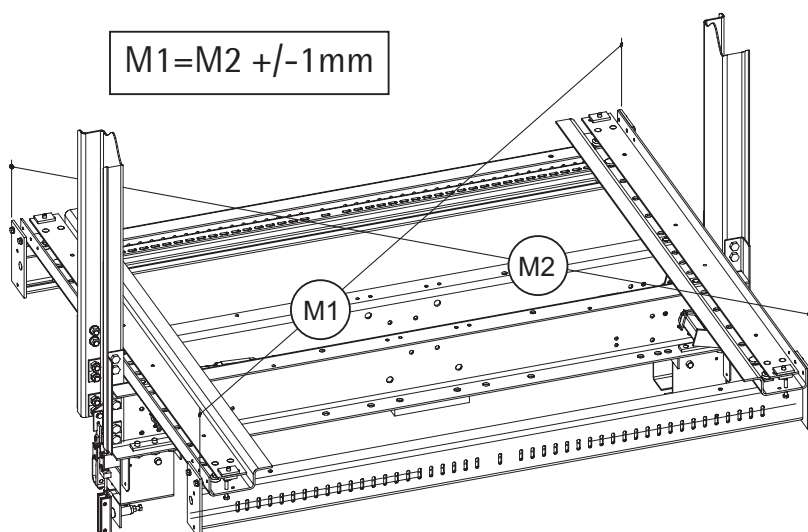
- (3) Check the square by cross measurement and adjust as necessary
- (4) Tighten all platform support screw joints

 Take care of tightening torque
Screw M10: 46Nm
Screw M12: 80Nm



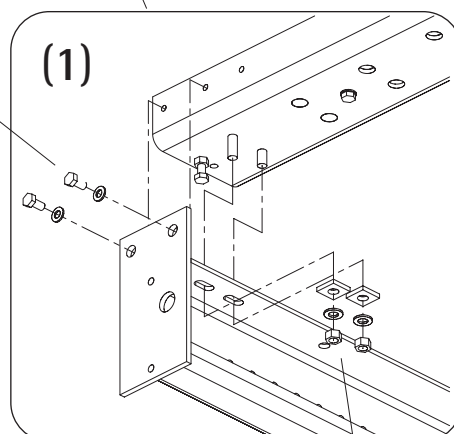
(3)

$$M1 = M2 \pm 1\text{mm}$$



M10x20

(1)



M12

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2.6 Installing the diagonal rods (1-3) or Platform support (4)

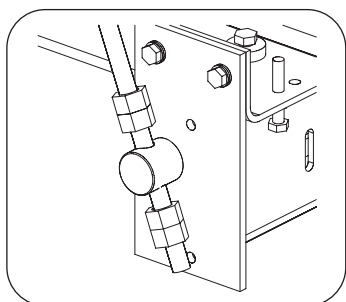
(1) Bolt the fixing brackets to the uprights

 Choice of fixing holes is depending on the isolation profile length.

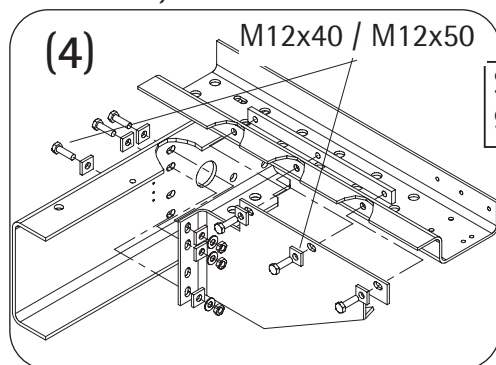
(2) Bolt the adapters at both ends of the platform support beams, if no ring beams are fitted

(3) Install the adjustable diagonal rods

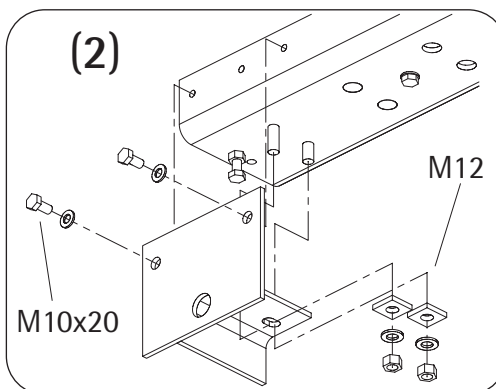
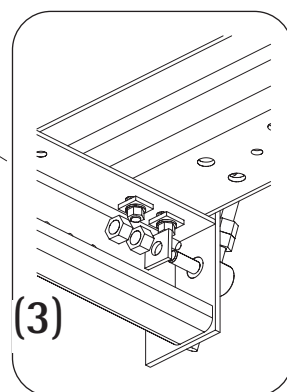
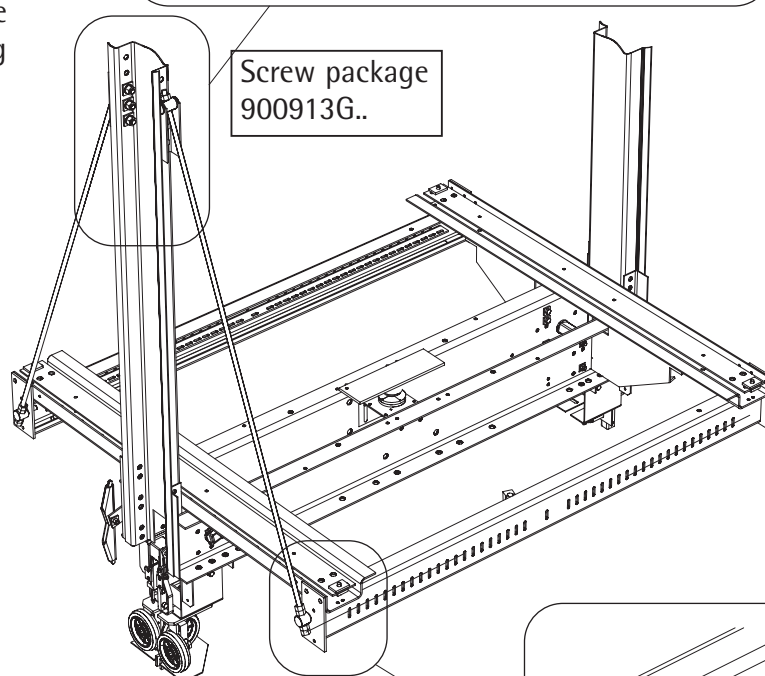
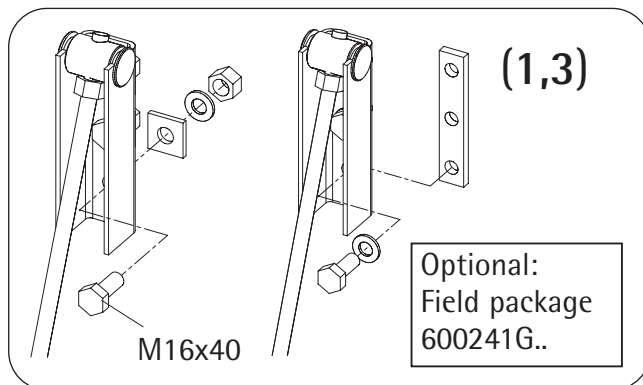
 Do not tighten the 4 nuts at the lower ends of the support.



(3) Install the platform support (if ordered)



Take care of tightening torque
Screw M10: 46Nm
Screw M12: 80Nm
Screw M16: 195Nm



Car Frame Series WCF

1:1 and 2:1 Top Suspension

Operating instructions

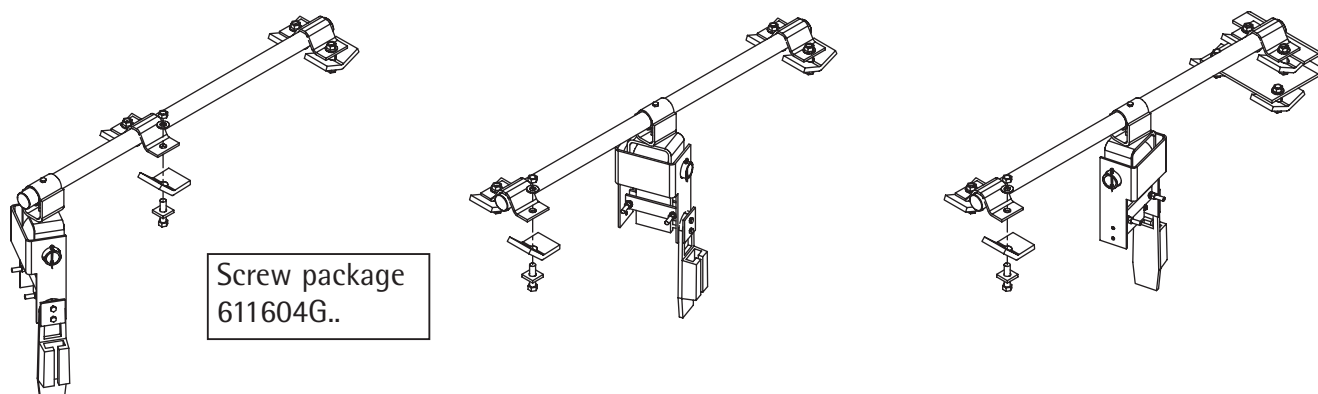
Blatt/sheet D383MGB.014
Datum/date 22.03.2002
Stand/version 22.03.2002
Geprüft/approved WAT/MZE

2.7 Travelling cable hanger and compensation chain fixings

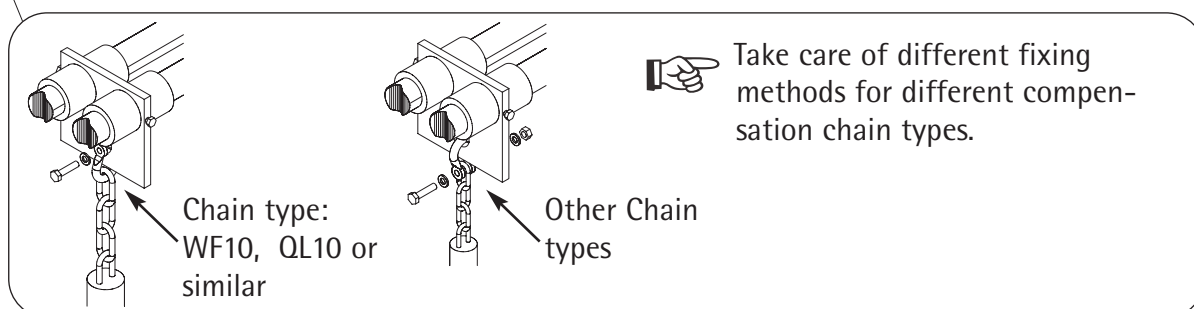
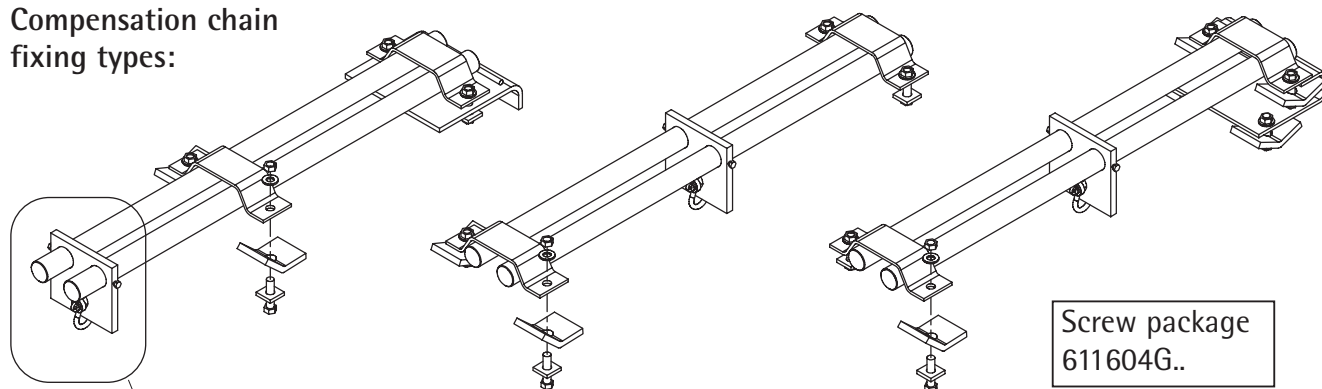
Before installing the car fix the cable hanger and chain fixings to lower cross beam (for position refer to layout drawing).

! Take care of tightening torque
Screw M12: 80Nm

Travelling cable hanger types:



Compensation chain fixing types:



Car Frame Series WCF


1:1 and 2:1 Top Suspension

Operating instructions

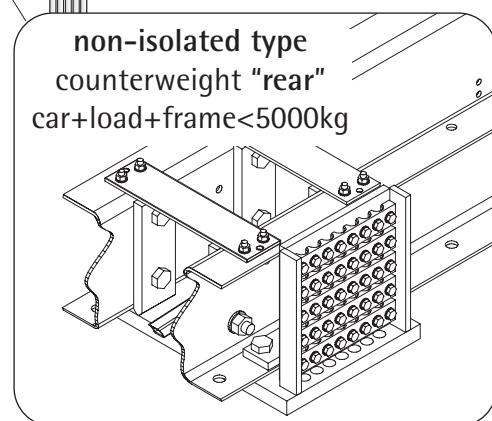
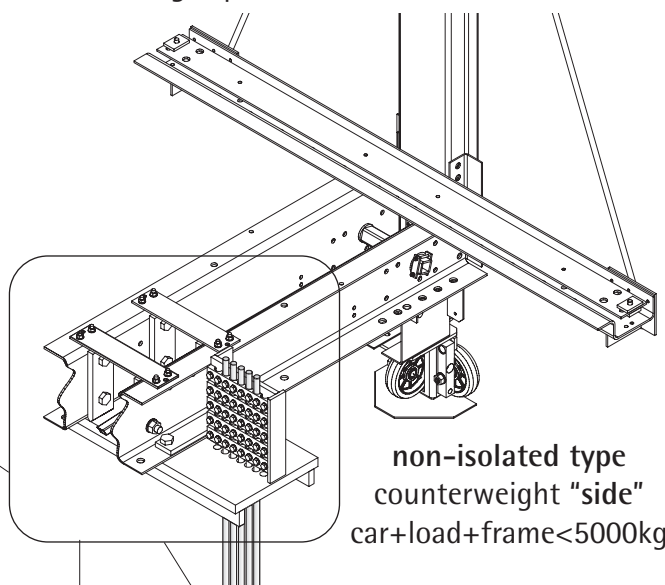
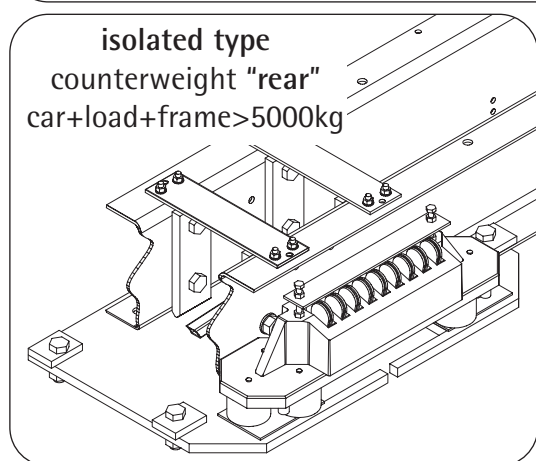
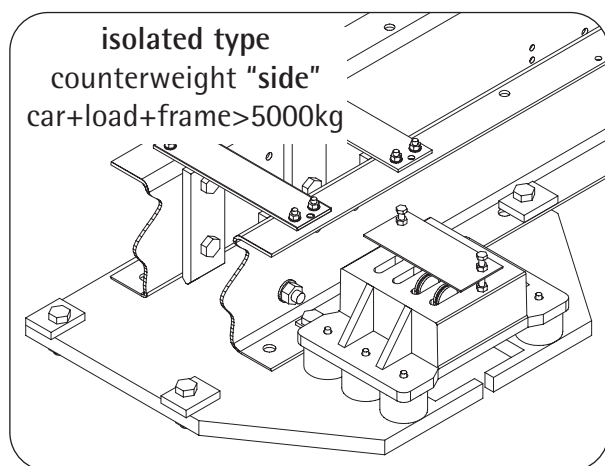
Blatt/sheet D383MGB.015
 Datum/date 22.03.2002
 Stand/version 22.03.2002
 Geprüft/approved WAT/MZE

2.8 Compensation rope hangers


Compensation ropes are generally used in elevators with great travel and speeds $>3.5\text{m/s}$ (some codes may require rope compensation with speeds $>2.5\text{m/s}$).

 Compensation ropes are not available for WCF10 car frames.

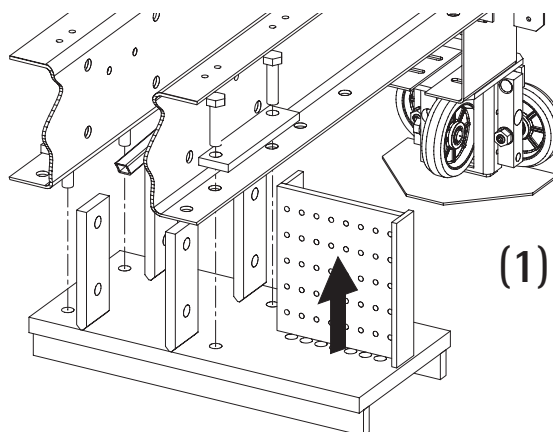
With WCF car frames non-isolated and isolated compensation rope hangers are available (each for counterweight position "side" or "rear").



2.8.1 Installation of compensation rope hangers

 The way of fixing the hanger to the car frame is for all types the same.

- (1) Lift the hanger base plate to the car frame lower beam and tight the screws M20.



Car Frame Series WCF

1:1 and 2:1 Top Suspension

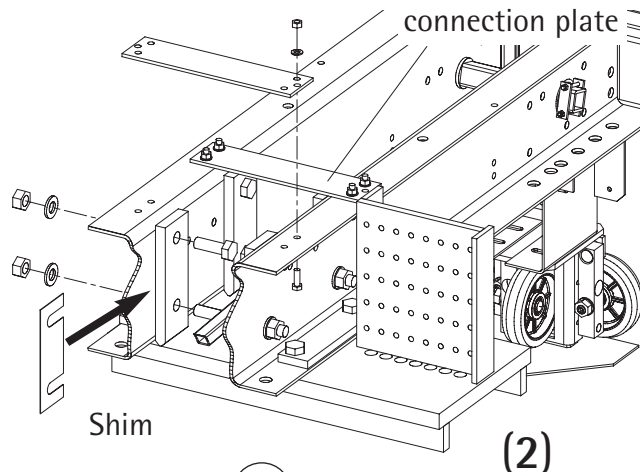
Operating instructions

Blatt/sheet D383MGB.016
Datum/date 22.03.2002
Stand/version 22.03.2002
Geprüft/approved WAT/MZE

- (2) Stuck the screws from inside out through vertical fixing plates and lower beam and tighten (use delivered shims if required). Mount connection plates on top of the lower beam profiles.



Take care of tightening torque
Screw M10: 46Nm
Screw M20: 385Nm



2.8.2 Installation of compensation ropes

(A) non-isolated type

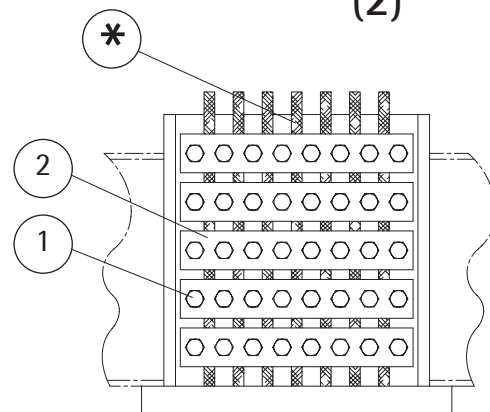
The screws (1) are tightened beginning from the centre of the fixing plate (2).



The tightness of the screw fixings must be checked after the tension weight has been suspended by the ropes for a few hours and again after 1-2 days.



With 2,4,6 or 8 ropes, a piece of rope (*) is placed in the middle so that an even tension is achieved at the fixing plate.



Rope arrangement according to number of ropes

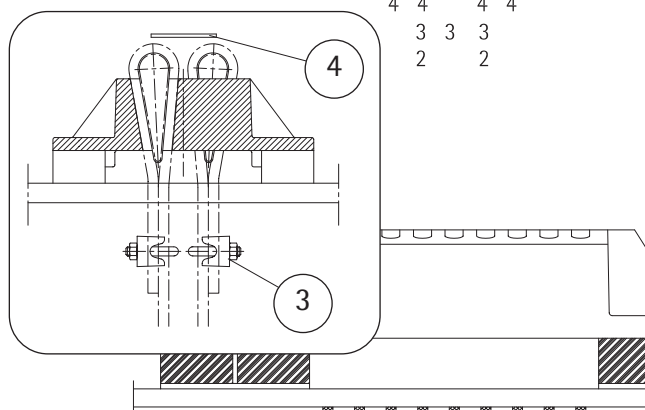
7	7	7	7	7	7	7
6	6	6	6	6	6	6
5	5	5	5	5	5	5
4	4	4	4	4	4	4
3	3	3				
2	2					

(B) isolated type

The ropes are installed to the rope anchorage according to the figures.



The number and type of grips (3) is chosen according to the regulations of the country in question.



Rope arrangement according to number of ropes

9	9	9	9	9	9	9	9
8	8	8	8	8	8	8	8
7	7	7	7	7	7	7	7
6	6	6	6	6	6	6	6
5	5	5	5	5	5	5	5
4	4	4	4	4	4	4	4
3	3	3	3	3	3	3	3
2	2	2	2	2	2	2	2

Car Frame Series WCF

1:1 and 2:1 Top Suspension

Operating instructions

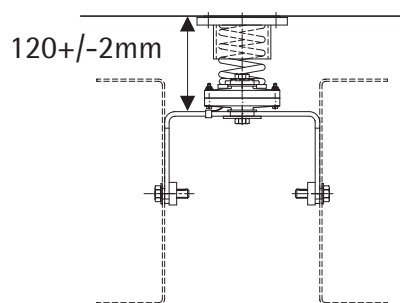
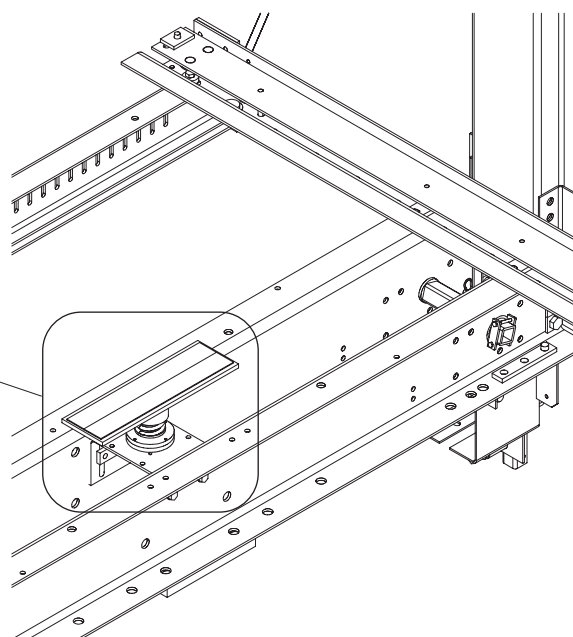
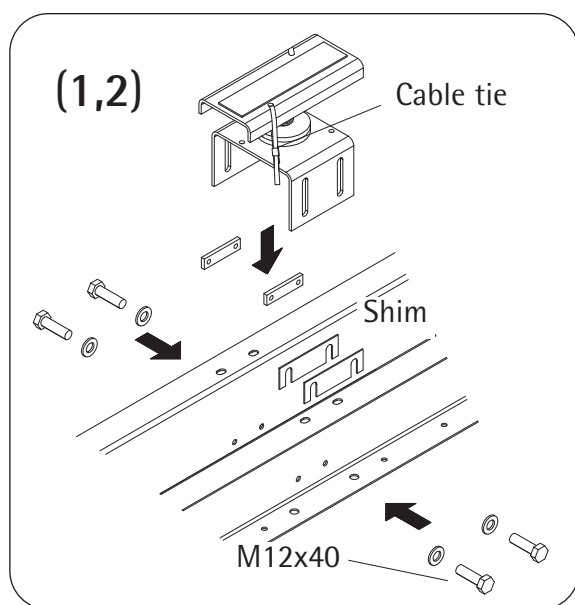
Blatt/sheet D383MGB.017
 Datum/date 22.03.2002
 Stand/version 22.03.2002
 Geprüft/approved WAT/MZE

2.9 Load weighing device

For setup of the load weighing device WLWD refer to the operating instruction manual.

- (1) Fit the load weighing device as low as possible in the lower cross beams
- (2) If necessary add shims between beams and fixing channel.

! Do not undo the cable ties at this stage.



Car Frame Series WCF

1:1 and 2:1 Top Suspension

Operating instructions

Blatt/sheet D383MGB.018
 Datum/date 22.03.2002
 Stand/version 22.03.2002
 Geprüft/approved WAT/MZE

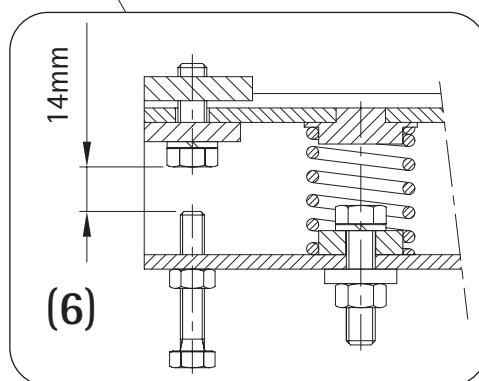
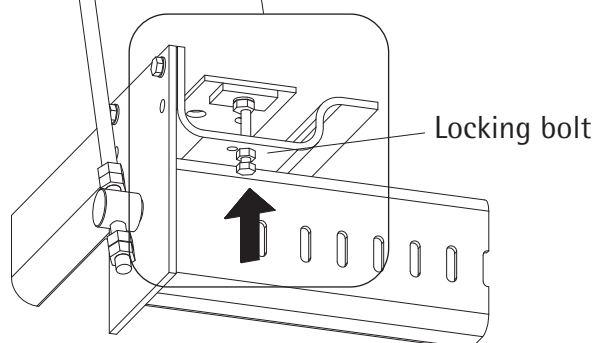
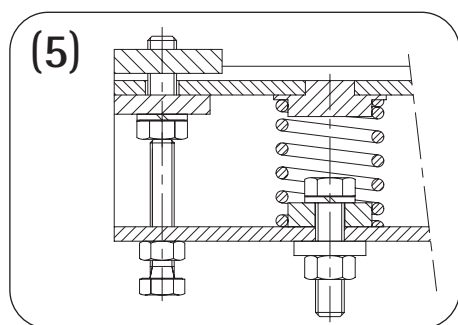
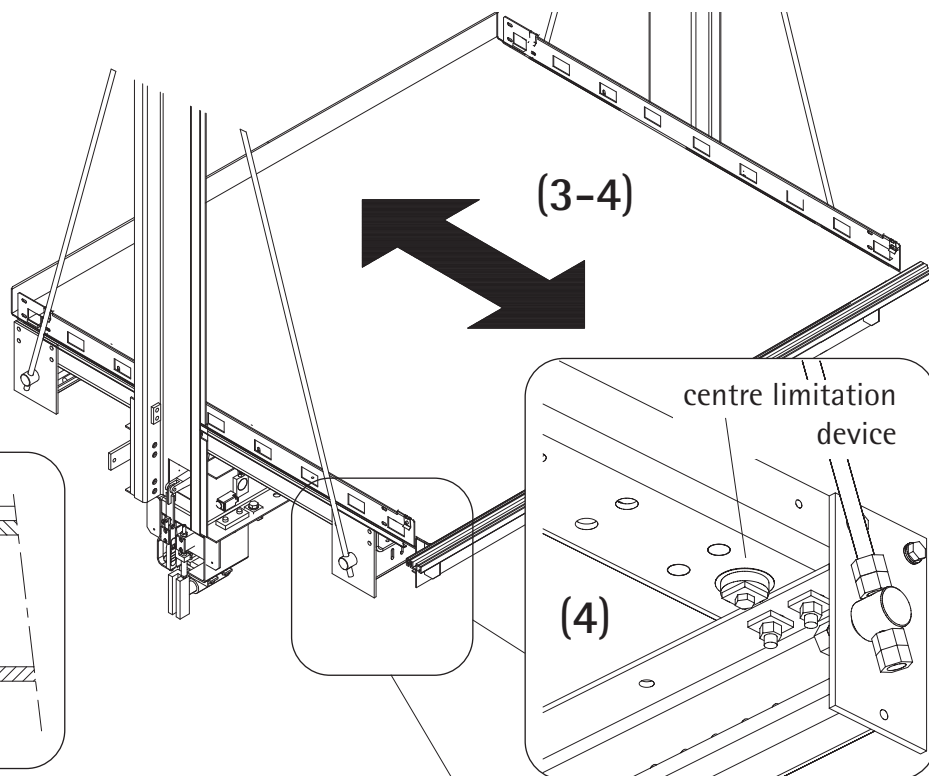
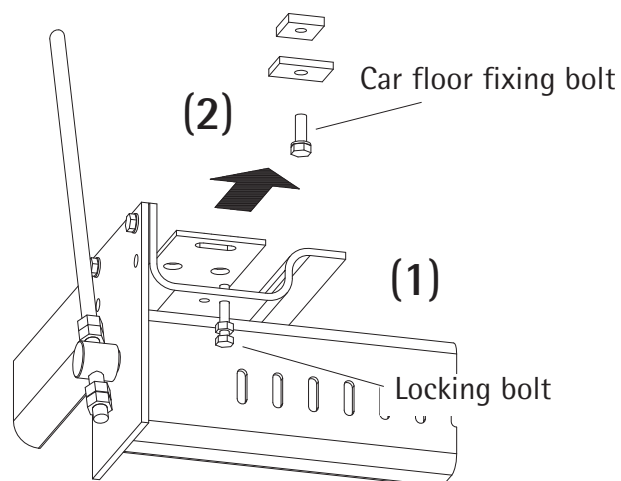
2.10 Car installation

- (1) Wind down the locking bolt
- (2) Remove the car floor fixing bolts at the end of the platform support beams
- (3) Fit the car floor to the car frame (refer to the operating instruction manual of car)
- (4) Adjust the car floor by using the centre limitation device on the bottom of the platform support beam
- (5) Lock the floor by winding up the locking bolt slightly against the fixing bolts (lock with fixing nut)



Do not overtighten

- (6) After car installation adjust the locking bolt



Car Frame Series WCF


1:1 and 2:1 Top Suspension

Operating instructions


Blatt/sheet D383MGB.019
Datum/date 22.03.2002
Stand/version 22.03.2002
Geprüft/approved WAT/MZE

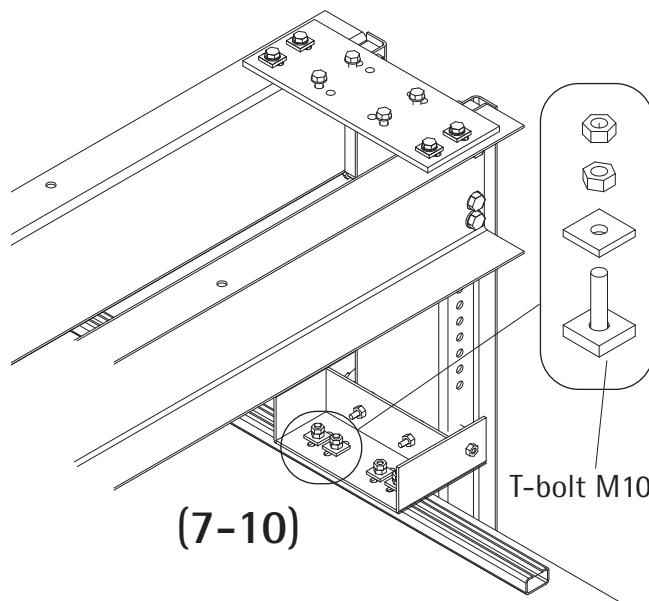
Car frame types WCF10, WCF16, WCF25 and WCF35 ($Q \leq 2500\text{kg}$)

- (7) Fix the upper isolation to the car roof channel (handtighten T-bolts)
- (8) Push the isolation tight against the upright
- (9) Tighten the T-bolts

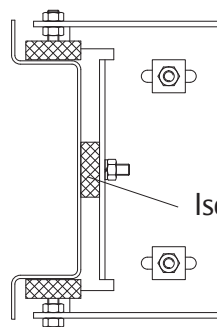
 Take care of tightening torque
Screw M10: 46Nm

- (10) Tighten the isolation studs slightly

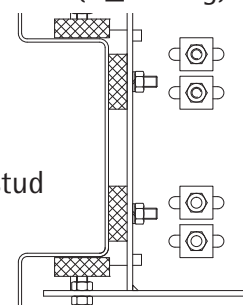
 Tighten the isolation studs so, that the bracket can slide on the upright.



WCF10




WCF16, WCF25
WCF35 ($Q \leq 2500\text{kg}$)



Isolation stud


Car frame types WCF35 ($Q > 2500\text{kg}$)

- (11) Fix the upper isolation to the car roof channel (handtighten T-bolts)


 Take care of tightening torque
Screw M10: 46Nm

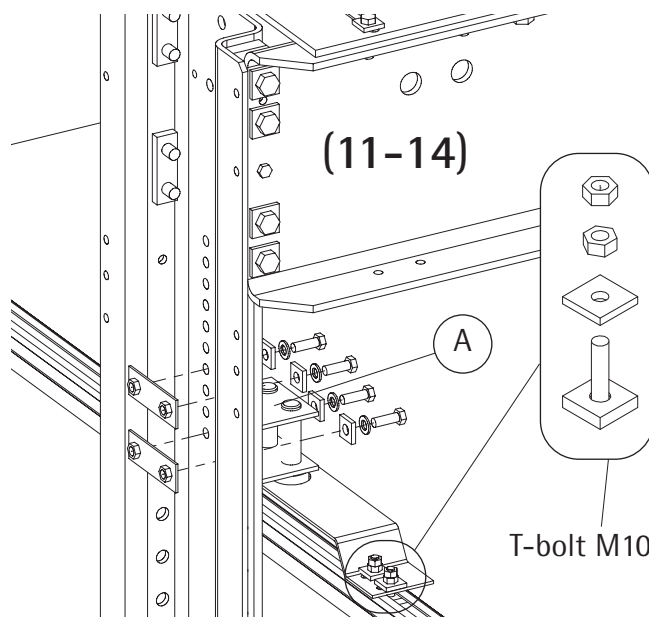
- (12) Fit the upper car isolation to the upright (tighten T-bolts)

- (13) Push the body (A) approx. 4 mm downwards (against the rubber bushing).

 The car must not be loaded during the adjustment.

- (14) Tighten the screws of the body

 Take care of tightening torque
Screw M12: 80Nm



Car Frame Series WCF


1:1 and 2:1 Top Suspension

Operating instructions

Blatt/sheet D383MGB.020
Datum/date 22.03.2002
Stand/version 22.03.2002
Geprüft/approved WAT/MZE

2.11 Car frame final installations

(1) Tighten the diagonal rod nuts

 Hand tighten the upper nuts and then lock the lower nuts.

2.11.1 Earth quake - guide shoe retainers

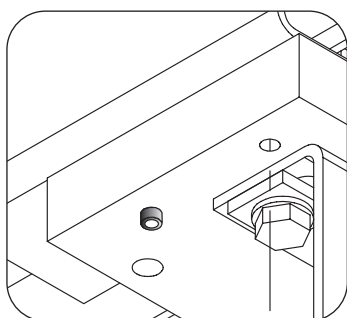
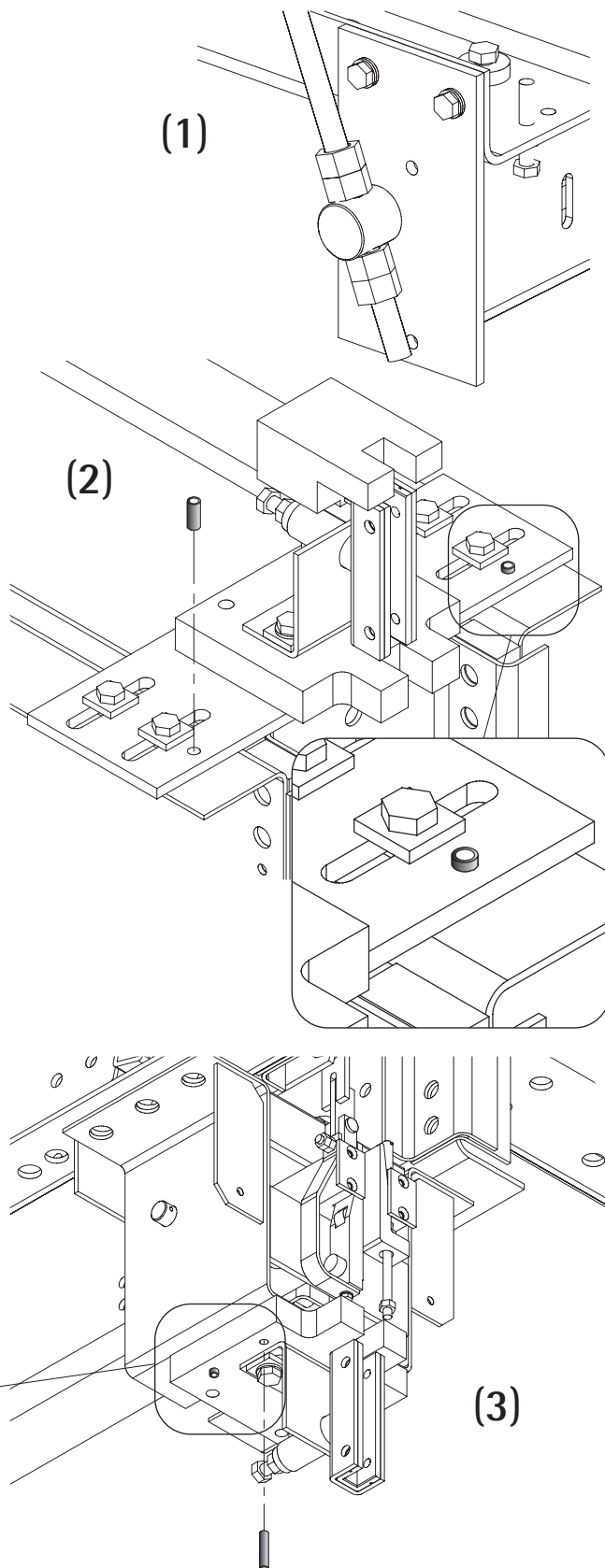
If the car frame is used in seismic risk zone, 4 pcs. guide shoe retainer plates (30 mm height) are delivered (for sliding guides and roller guide WRG150 only).

Upper car frame guides:

- (2) Drill holes $\varnothing 10$ mm through adapter plate and crosshead beam profiles, and secure with delivered spring type straight pins 10x24 mm.

Lower car frame guides:

- (3) Drill holes $\varnothing 8$ mm through retainer plate and safety gear housing, and secure with delivered spring type straight pins 8x40 mm.



Car Frame Series WCF


1:1 and 2:1 Top Suspension

Operating instructions


Blatt/sheet D383MGB.021
Datum/date 22.03.2002
Stand/version 22.03.2002
Geprüft/approved WAT/MZE

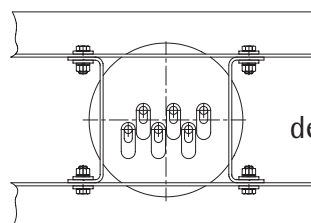
2.12 Roping of the car frame

2.12.1 Suspension 1:1

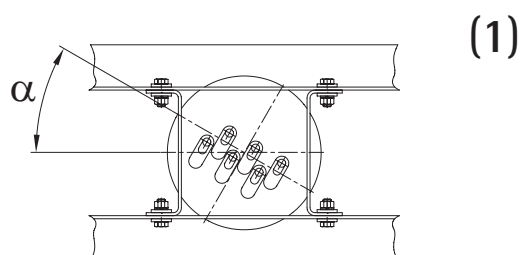
 The rope hitch plate is rotatable and can be aligned with the corresponding rope arrangement of the elevator

(1) Adjust the rope hitch plate according to layout (α)

 Rope arrangement depending on rope diameter and number of ropes see figure besides:



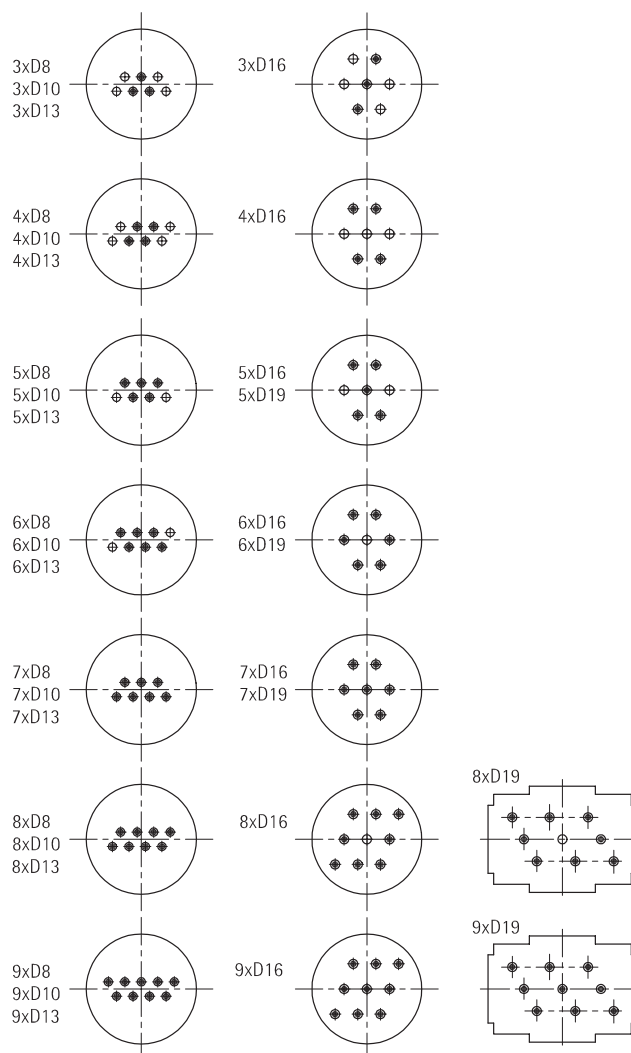
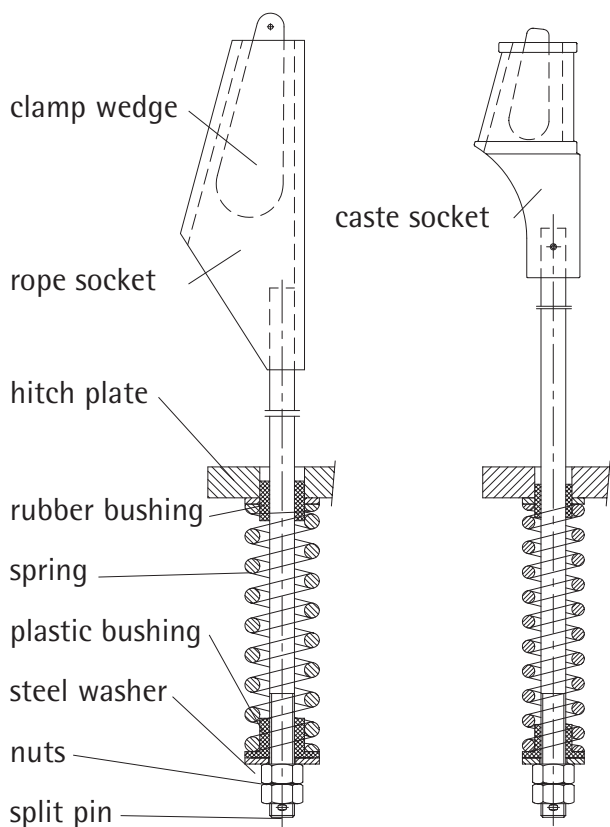
delivery position



Rope anchor assembly see figure below:

EN81, NZS, GOST

ANSI, CSA, SAA



Car Frame Series WCF

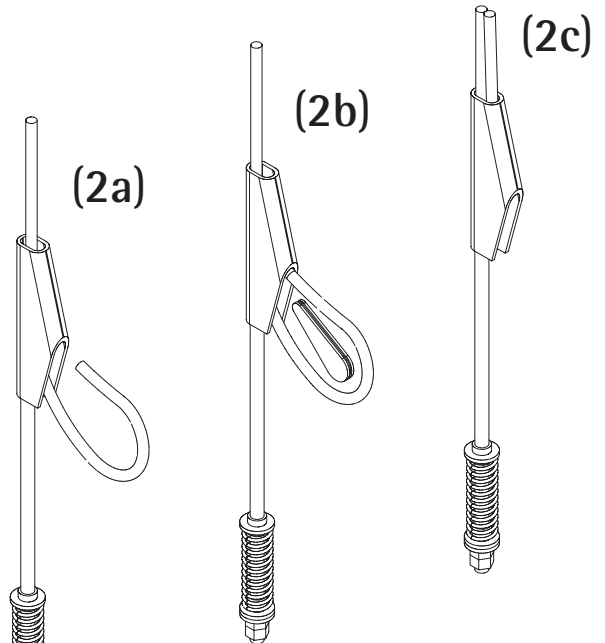
1:1 and 2:1 Top Suspension

Operating instructions

Blatt/sheet D383MGB.022
 Datum/date 22.03.2002
 Stand/version 22.03.2002
 Geprüft/approved WAT/MZE

(2) Fasten the ropes to the rope anchor:

- Make a loop on the rope by feeding the end of the rope through the socket and then feed it back. Do not twist the rope, just turn it back.
- Insert the wedge and pull the loop into the socket
- Simultaneously with an other person pulling the ends of the rope, secure proper seating by hammering the wedge with wooden block.

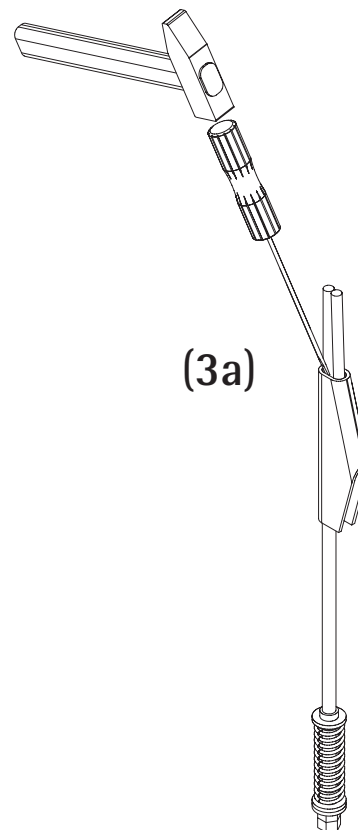


(3) Equalize the tension of ropes



After all ropes are installed as described above, let the weight of the car and/or counterweight rest on ropes to seat the wedges and ropes into the socket firmly. If any rope is tighter than the others, it can be equalized as follows:

- Tap the wedge outwards until the rope slides, using a hammer and a drift pin, which is inserted into the top of the rope socket between



(4) Secure the rope tail-end

Properly made tail-end securing will prevent wedge from falling out if rope suddenly get loose.



Be aware of local laws and regulations concerning tail-end handling methods.



The rope clip is not delivery content of the car frame!



The rope clips should be used and tighten to torque recommended by the manufacturer.

Car Frame Series WCF

1:1 and 2:1 Top Suspension

Operating instructions

Blatt/sheet D383MGB.023
Datum/date 22.03.2002
Stand/version 22.03.2002
Geprüft/approved WAT/MZE

One main method is described below but any other acceptable local method can be used.

- Secure the tail-end of the rope to the live-end with a rope clip from 25mm to $L/2$ of the wedge. The U-bolt must be fitted to the dead-end of the rope and the saddle must be fitted to the load bearing end of the rope.
- Tie the tail of the dead-end to the live rope using soft steel wire or bundle binder

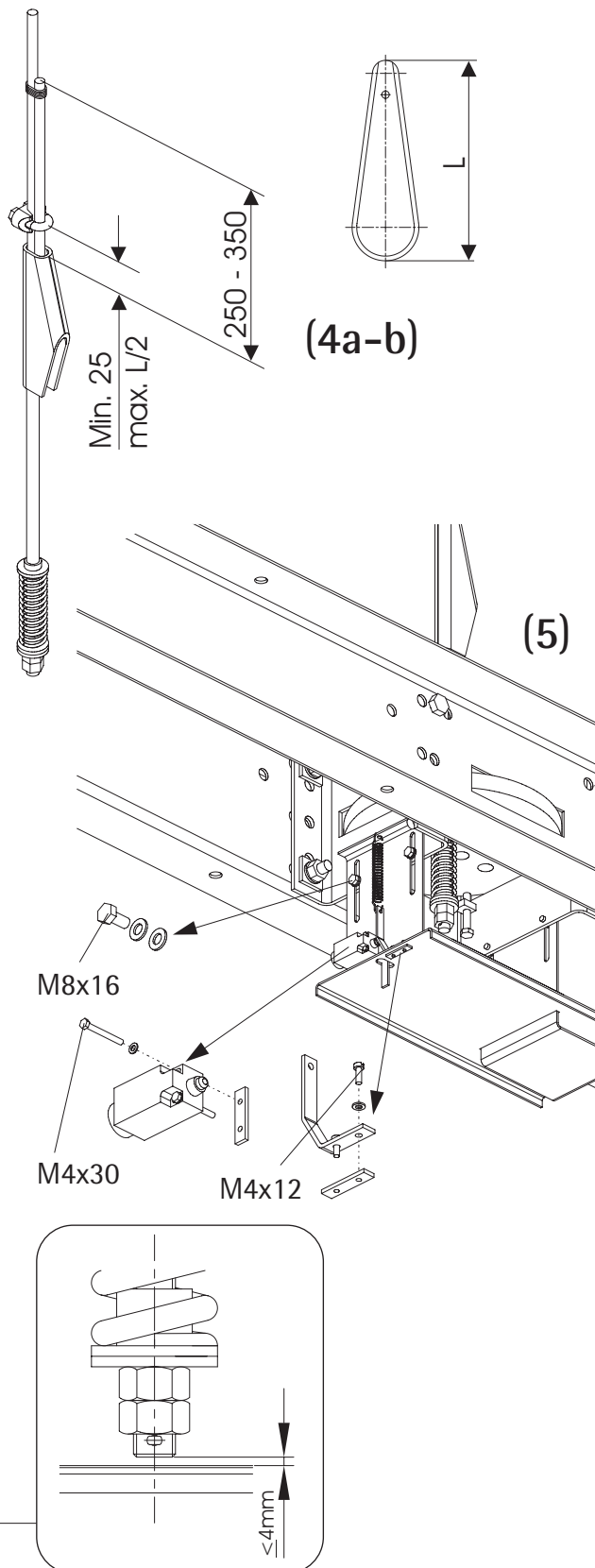
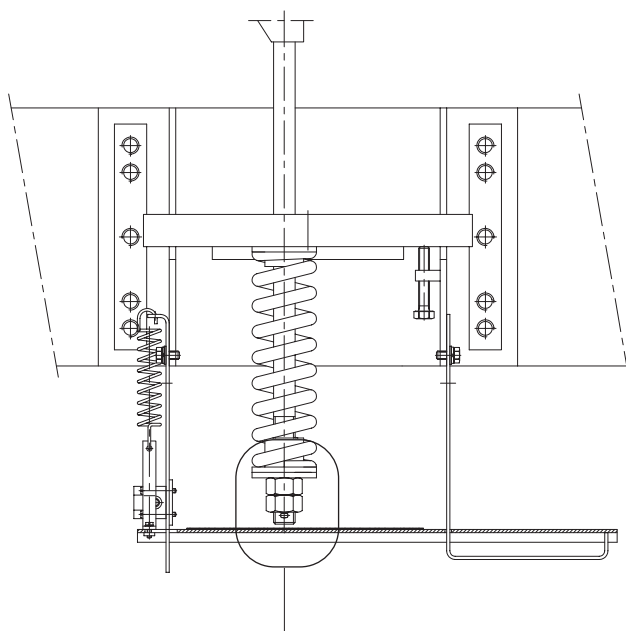


If the wedges are not enough close to each other to prevent full rotation, tie the terminations together using e.g. soft wire. Do not prevent equalization springs working.

- Mount and adjust the slack rope device (if delivered)



Adjust a gap of $\leq 4\text{mm}$ between seesaw and rope anchor rod surface. The car must be empty!



Car Frame Series WCF

1:1 and 2:1 Top Suspension

Operating instructions

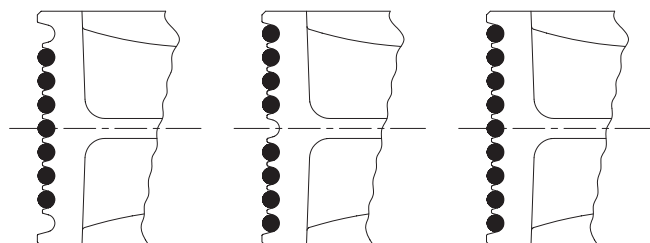
Blatt/sheet D383MGB.024
Datum/date 22.03.2002
Stand/version 22.03.2002
Geprüft/approved WAT/MZE

2.12.2 Suspension 2:1 (TP)

- (1) Remove the rope guards (A)
- (2) Pass the rope round the diverter pulleys



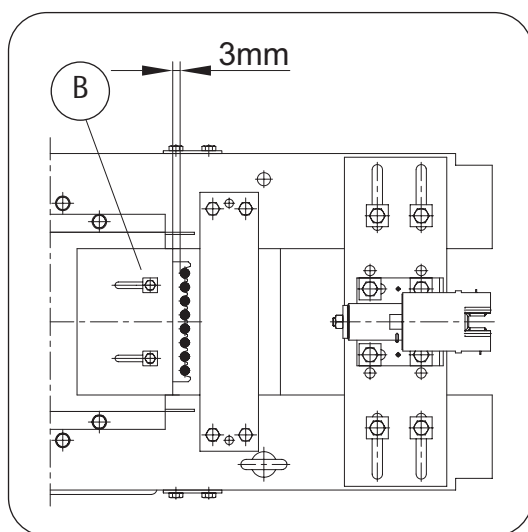
When used number of ropes is less than the number of grooves on the diverter pulley, the ropes are placed according to the figure below.



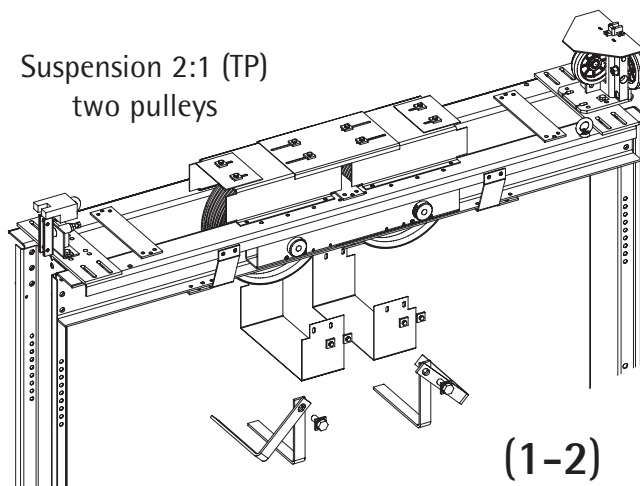
- (3) Re-fit and adjust the rope guards (A) and the rope pulley cover plates (B)



Take care of tightening torque
Screw M20: 385Nm

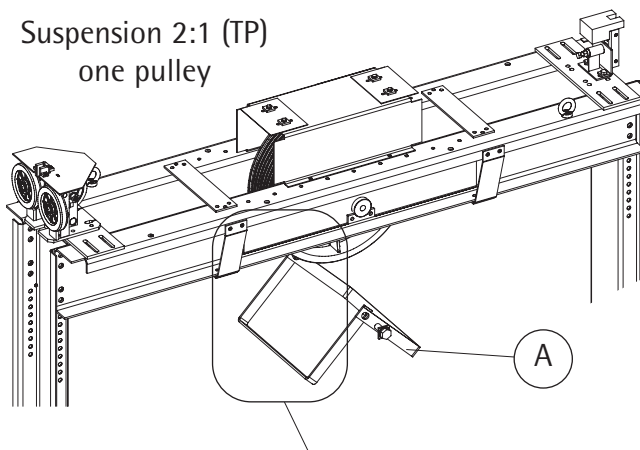


Suspension 2:1 (TP)
two pulleys



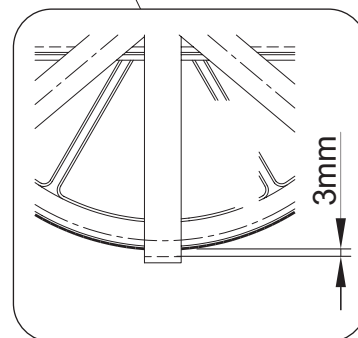
(1-2)

Suspension 2:1 (TP)
one pulley



A

(3)



Ensure 3mm gap between rope guard and ropes.



The car must be in the topmost floor when adjusting the cover plates.


Car Frame Series WCF

1:1 and 2:1 Top Suspension

Operating instructions

Blatt/sheet D383MGB.025
Datum/date 22.03.2002
Stand/version 22.03.2002
Geprüft/approved WAT/MZE

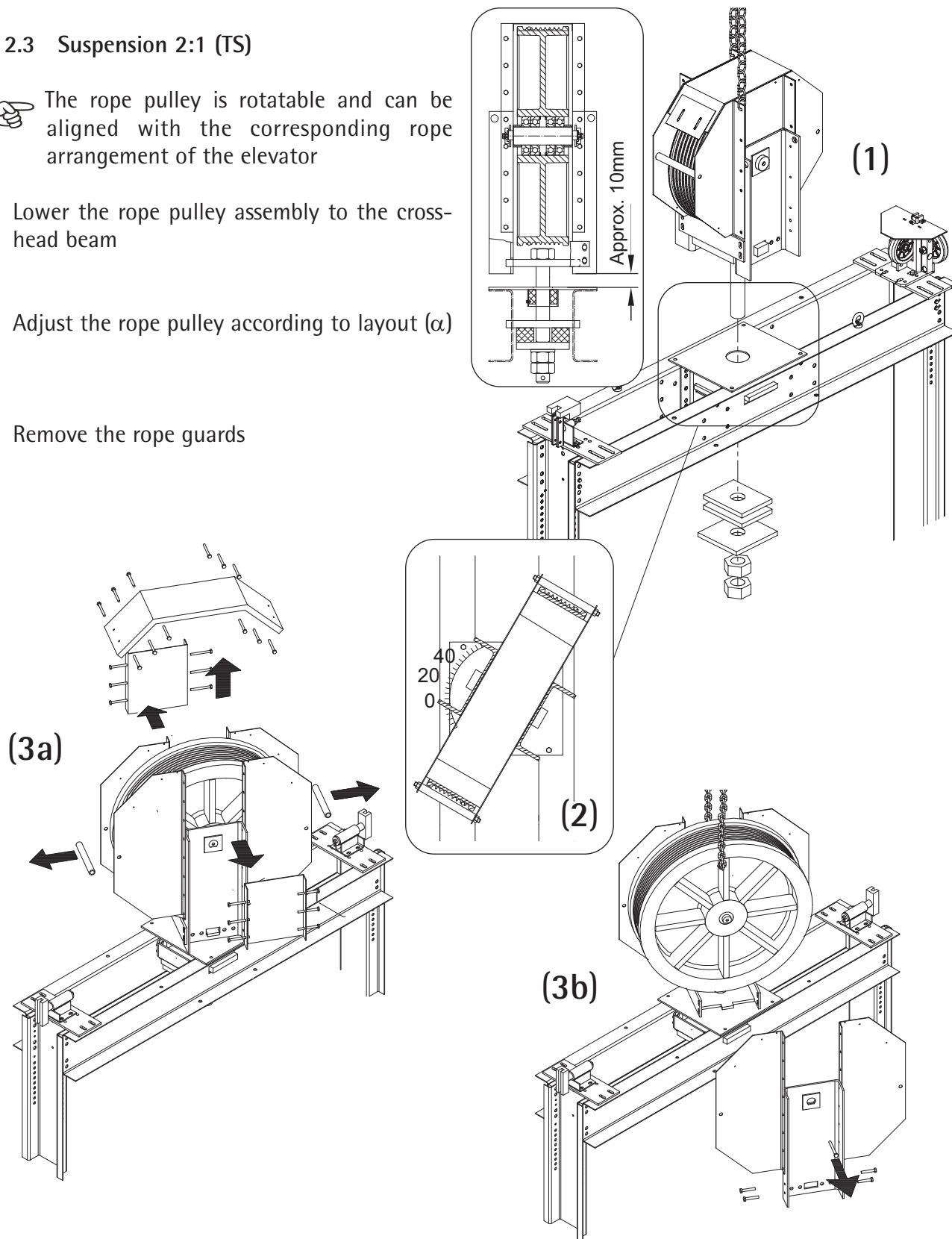
2.12.3 Suspension 2:1 (TS)

 The rope pulley is rotatable and can be aligned with the corresponding rope arrangement of the elevator

(1) Lower the rope pulley assembly to the cross-head beam

(2) Adjust the rope pulley according to layout (α)

(3) Remove the rope guards



Car Frame Series WCF

1:1 and 2:1 Top Suspension

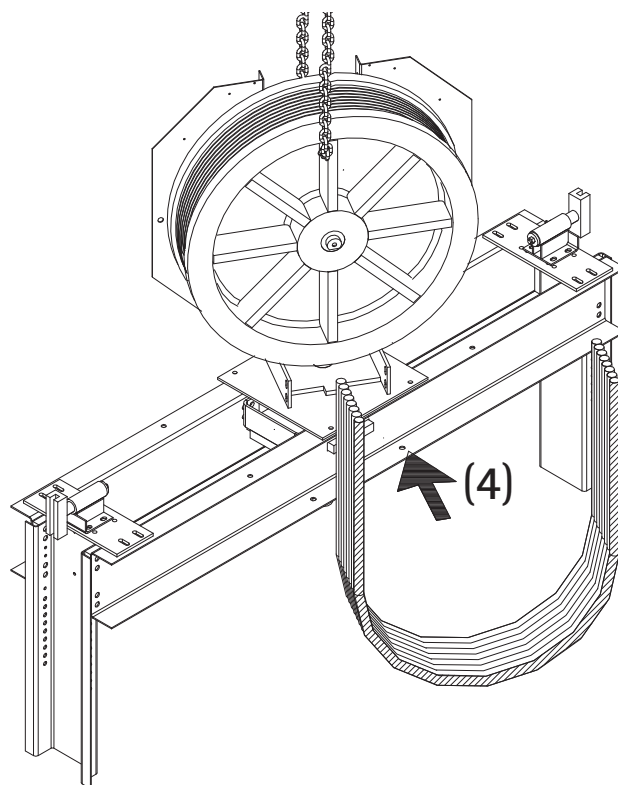
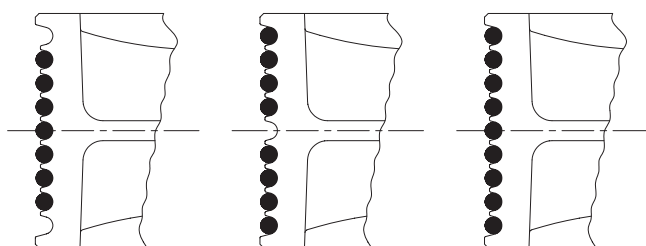
Operating instructions

Blatt/sheet D383MGB.026
Datum/date 22.03.2002
Stand/version 22.03.2002
Geprüft/approved WAT/MZE

(4) Pass the rope round the diverter pulleys



When used number of ropes is less than the number of grooves on the diverter pulley, the ropes are placed according to the figure below.



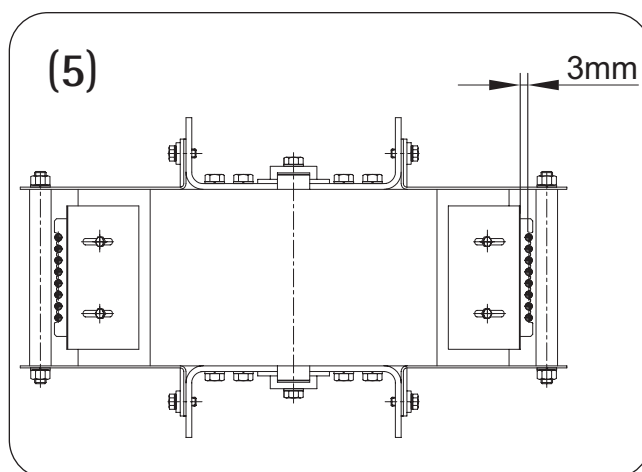
(5) Re-fit and adjust the rope guards and the rope pulley cover plates



Ensure 3mm gap between rope guard and ropes.



The car must be in the topmost floor when adjusting the cover plates.



Car Frame Series WCF

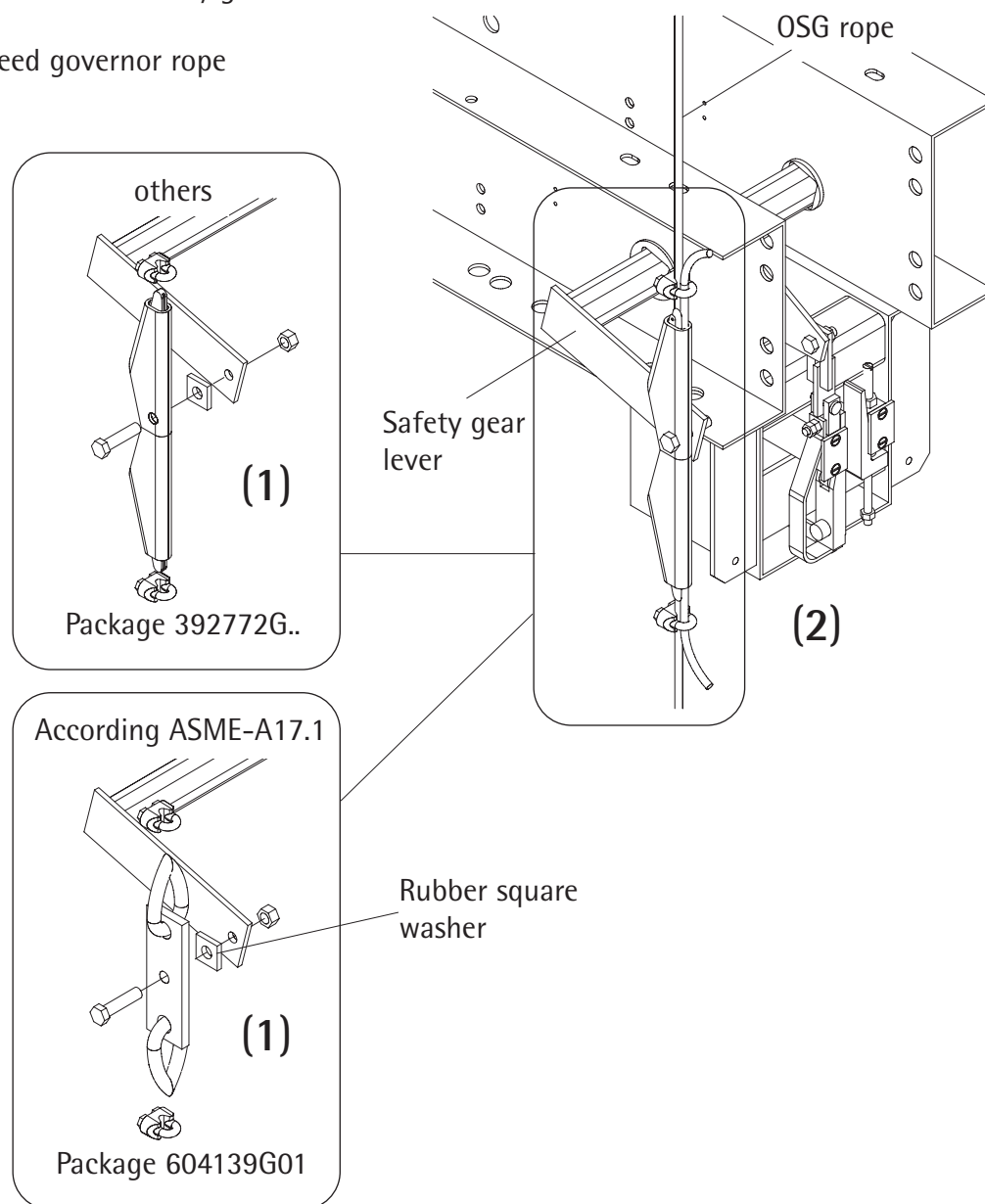
1:1 and 2:1 Top Suspension

Operating instructions

Blatt/sheet D383MGB.027
 Datum/date 22.03.2002
 Stand/version 22.03.2002
 Geprüft/approved WAT/MZE

2.13 Overspeed governor rope fixing

- (1) Fix the rope fastener to the safety gear lever
- (2) Install the overspeed governor rope



Car Frame Series WCF

1:1 and 2:1 Top Suspension

Operating instructions

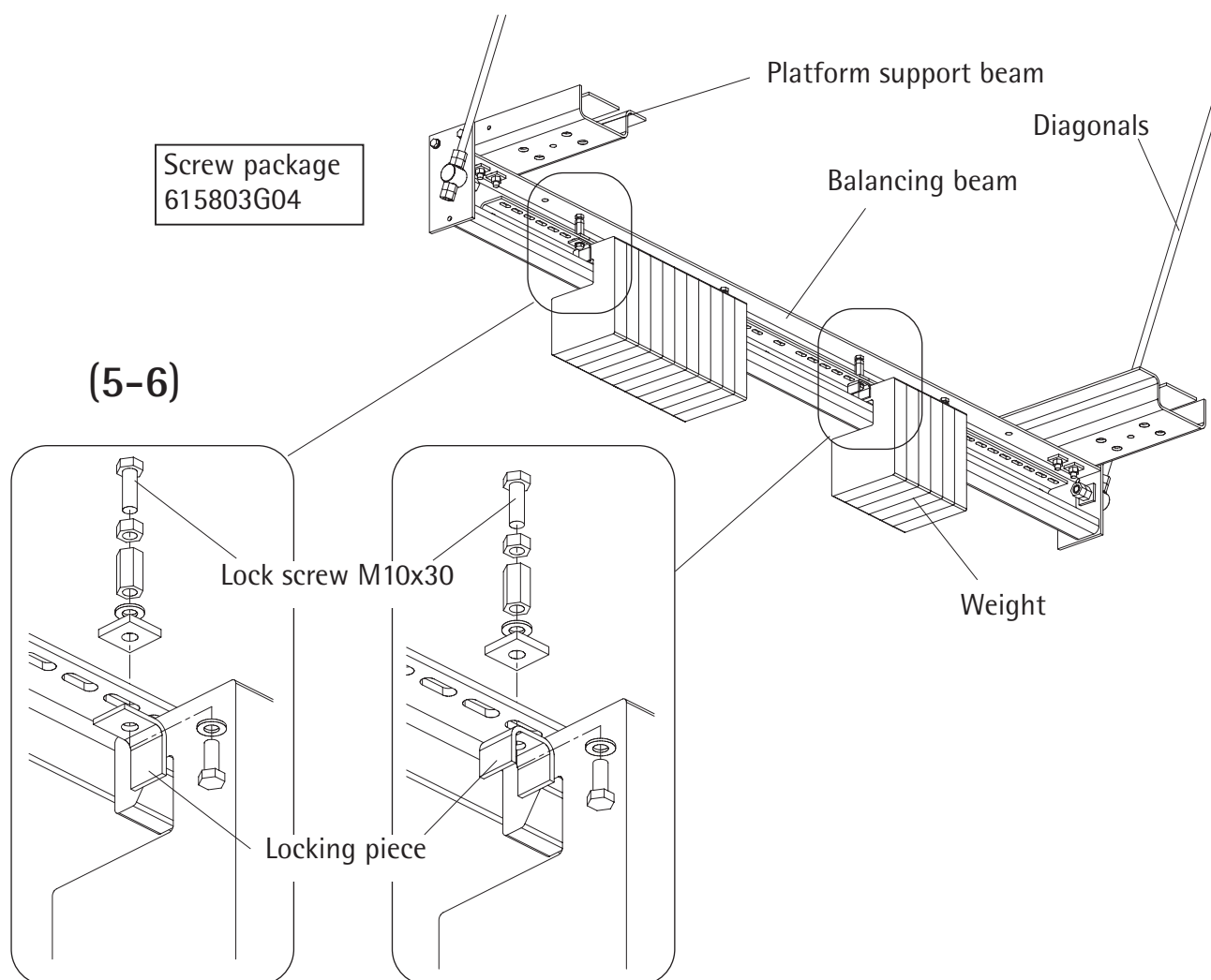
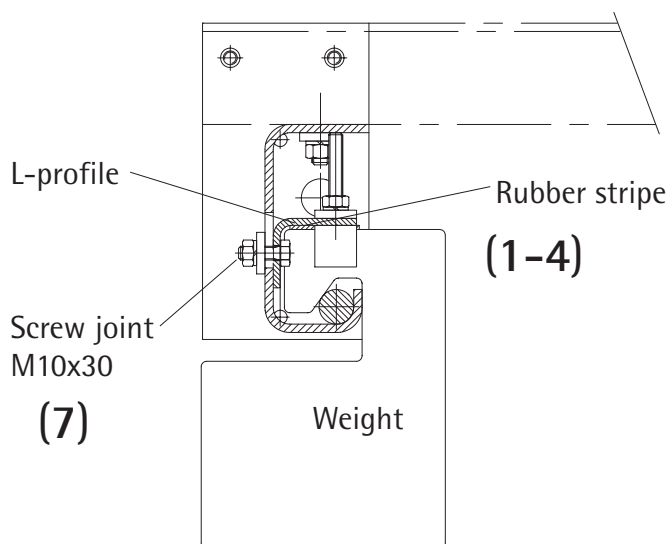
Blatt/sheet D383MGB.028
Datum/date 22.03.2002
Stand/version 22.03.2002
Geprüft/approved WAT/MZE

2.14 Balancing of the car

- (1) Set the L-profile in upper position with slightly tightened screw joints
- (2) Load the balancing beam with the weights
- (3) Place rubber stripes on top of the weight
- (4) Lower the L-profile
- (5) Fix the locking pieces
- (6) Lock down the L-profile using lock screws
- (7) Tighten the screw joints



Take care of tightening torque
Screw M10: 46Nm



Car Frame Series WCF

1:1 and 2:1 Top Suspension


Operating instructions

Blatt/sheet D383MGB.029
Datum/date 22.03.2002
Stand/version 22.03.2002
Geprüft/approved WAT/MZE


2.15 Adjustment of safety gear

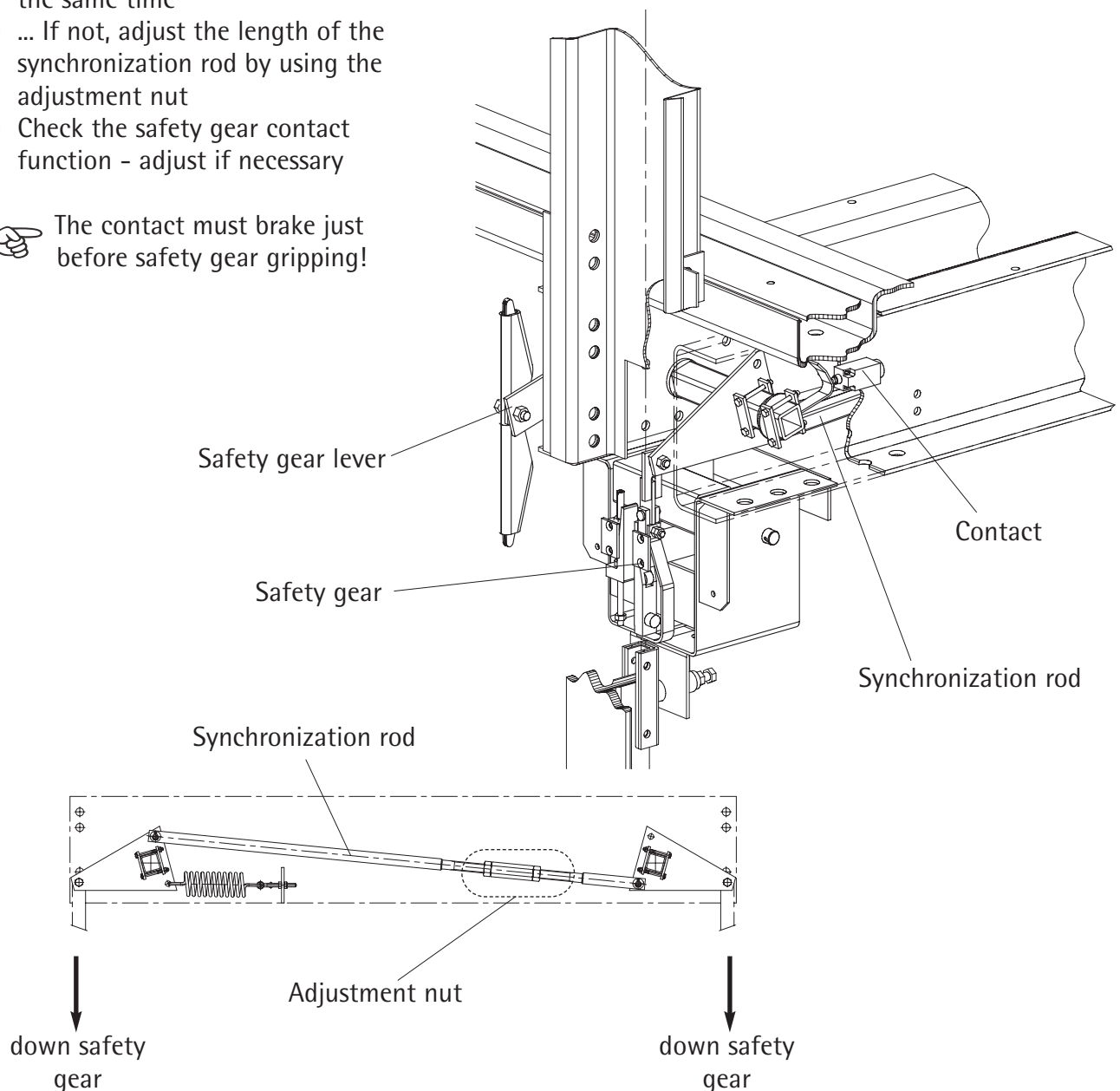
The safety gear device (safety gear, synchronization, safety gear contact) is delivered pre-adjusted. Therefore no additional assembling of the safety gear device is needed.

- (1) Operate the safety gear lever by hand and check that both safety gears begin gripping at the same time
- (2) ... If not, adjust the length of the synchronization rod by using the adjustment nut
- (3) Check the safety gear contact function - adjust if necessary

 The contact must brake just before safety gear gripping!

- (4) Adjust the safety gear in accordance with the operating instruction manual of the corresponding safety gear

 Take care of required safety gear running clearance (referring also to the type of guide shoe used)



Car Frame Series WCF

1:1 and 2:1 Top Suspension

Operating instructions

Blatt/sheet D383MGB.030
Datum/date 22.03.2002
Stand/version 22.03.2002
Geprüft/approved WAT/MZE

2.15.1 Electrical installation of the safety gear- and slack rope device contact



Work involving electrical equipment should only be carried out by an electrical fitter or qualified personnel.



Before carrying out work, switch off all voltage to installation equipment.



Take note of the following when laying the connection cable:

- that the single polarity cables have double insulation
- the use and laying of cables is governed by the EMC



The safety gear contact opens the lift installation's remotely controlled safety circuit.

- (1) Connect the safety gear contact
- (2) Test the safety gear contact function
- (3) Adjust the switch horizontally on its fixing bracket



Adjusting dimension: 3-5 mm from the guard peak



The contact must brake just before safety gear gripping!

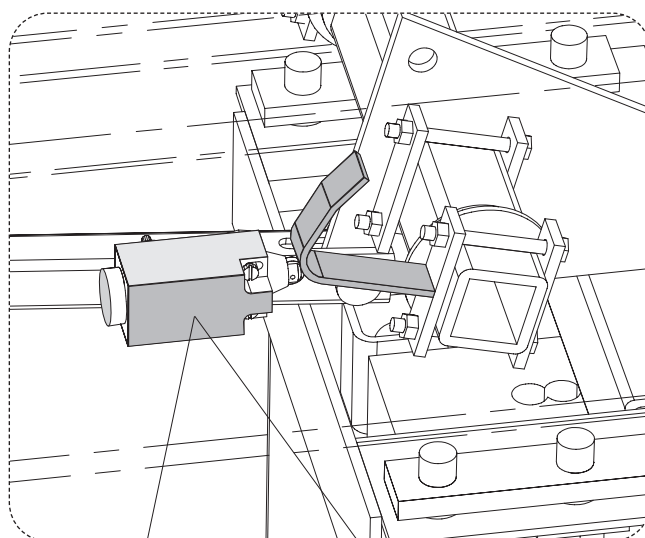
Safety gear contact (self reset type)

- use category: AC 15, A300, U_e/I_e 240V (3A)
- thermal current: $I_{the} = 10A$
- insulation voltage: $U_i = 250V$ AC
- protection type: IP 43
- approved in accordance: VDE 0470 IEC/EN 60947-5-1

- (4) Connect the slack rope device contact
- (5) Test the slack rope device contact function - adjust if necessary
- (6) Adjust the switch vertically on its fix. bracket

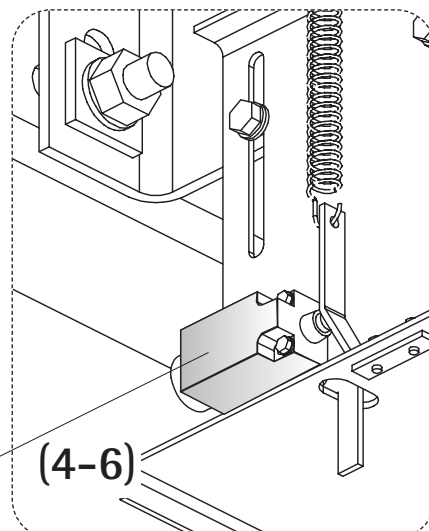
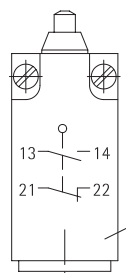
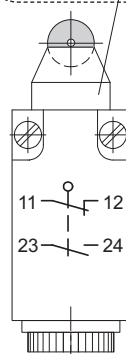
Safety switch (manual reset type)

- use category: AC 15, A300, U_e/I_e 240V (3A)
- thermal current: $I_{the} = 10A$
- insulation voltage: $U_i = 250V$ AC
- protection type: IP 43
- approved in accordance: VDE 0470 IEC/EN 60947-5-1



(1-3)

Safety gear contact



(4-6)

Car Frame Series WCF

1:1 and 2:1 Top Suspension

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3 Function testing

Operational reliability of the installation is assured, assuming that all guide lines were adhered to during proper installation. The quality and function of individual components are subject to thorough inspection and is checked before dispatch from our works. Once installation fitting is complete, the lift car frame system should undergo an operational test before commissioning or before possible inspection from a technical institute.

First test run after installation



Before the first test run:
Clean the guide rails!



Clear all people and objects from the lift shaft before commencing the test run
Risk of crushing injuries!

The entire lift travel path should be slowly travelled (in inspection mode) before the functions tests. Attention should be paid to the clearance of all fastened parts, especially with regards to the guide brackets/safety gear devices. Find and remove any protruding bolts or other dangerous restrictions well in advance.

Safety clearance inspections at the bottom of the shaft and shaft head (observe the applicable regulations/guidelines):

- Check the following distances between the shaft floor, after descending the shaft passage:
 - Distance between guide - floor
 - Distance between cross beam - floor
- Check the following distances to the shaft ceiling, on completion of ascension of the lift shaft:
 - Distance between guide - ceiling
 - Distance between rope pulleys - ceiling
 - Distance between cross beam - ceiling

Static & dynamic function testing

The procedures differ according to the safety gear device. Refer to the operating instructions of the relevant safety device.



Examine the lift car frame for changes after carrying out the safety gear test:

- deformation of components
- that the screws are firmly in place
- signs of damage or wear on the rope pulleys, guides and suspension points



Nobody should be in the lift car when carrying out test runs or functions tests!

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1:1 and 2:1 Top Suspension

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4 Maintenance, inspection and repair

4.1 Maintenance and inspection

The WITTUR lift car frame requires little servicing. Inspection checks must be carried out at regular intervals (minimum twice a year with each service) to guarantee safe operation. Alterations, damage or other irregularities should be reported, and repaired if possible. Frequent servicing and control checks not only make operation of the installation safer, but also ensure long and reliable service life.

It is recommended that control checks and servicing be carried out before legally prescribed functional tests (e.g. before TÜV tests).



The lift installation must be immediately taken out of use should any damage or irregularities to the lift car frame arise which could possibly impair operational safety.



Please contact us at WITTUR if you have any problems or queries.



Maintenance work should be expertly carried out with utmost care in order to guarantee safe installation operation.

WITTUR car frame maintenance and inspection check list

General:

- Visual inspection for general irregularities (i.e. dirt build up, corrosion, deformation, fracturing etc.)
- Check the screw connections

Lubricators:

- Replenish
- Check the felt inserts for damage, replace if necessary

Guides:

- Check inserts or rollers at every service call. Replace the sliding inlays by new one if the running clearance is more than 2mm (refer to the Chapter "Carrying out repairs"). The surface of the roller has to be clean & not broken.

Safety gear devices:

- Check the operation of the safety gear device at every service call. Refer to the operating instructions of the installed safety device.
- The surface of the wedge area has to be clean. Wedge and roller must not be cracked.
- Check the overspeed governor rope fixing

Platform support (isolation beams):

- Check visually that the platform support is not twisted (release diagonal rods to untwist), or isolation springs are broken

Rope pulley:

- Signs of wear on the rope pulley; replace if necessary
- Check the condition of the rope pulley bearings by listening to the running noise (refer to the Chapter "Carrying out repairs")

Synchronization:

- Check the operation - the safety gear must grip at the same time on both ends

Balancing weights:

- Check the fixing of the balancing weights

Rope fixing (1:1) and slack rope device:

- Check the springs of the rope fixing are not broken
- Measure the gap between seesaw and rope anchor rod surface ($\leq 4\text{mm}$ with empty car)

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4.2 Carrying out repairs



As a rule, damage or deformation of a car frame (i.e. as result of bending or heating) cannot be repaired or straightened. The damaged parts should be replaced. Only use WITTUR spare parts.



Repairs should be expertly carried out with utmost care in order to guarantee safe installation operation.



Follow all the local safety instructions during the maintenance work.

The following repairs should be carried out on site by qualified fitters/service personnel:

- The sanding down of rust (i.e. caused as result of damage to the undercoat) and application of a suitable paint sealant.
- Changing the guides / guide shoe inserts
- Changing the rope pulleys



Please contact WITTUR if for any reason something is unclear, or you encounter damage that cannot be repaired with the help of these instructions.

4.2.1 Changing the guides/inserts

The components for the guides which are subject-to-wear (sliding guides: inserts; roller guides: rollers) can be delivered individually as spare parts: (see Chapter "Spare parts").



The distance (play) to the rails (distance between guides) must be readjusted after replacement of the inserts and remounting.

4.2.2 Changing car platform isolation springs



If the springs are damaged, contact the WITTUR engineering department.

Procedures for changing a spring:

- Remove the car door panels
- Remove the upper isolation of the car
- Lift the car using a jack and extra support beam

4.2.3 Changing the rope pulley

The rope pulleys can be delivered individually as spare parts (refer to "Spare parts" chapter).

Procedures for changing a rope pulley:

- Lower the lift car onto its contact buffer
- Safeguard the counterweight against falling
- Release the ropes
- Unscrew the complete rope pulley / axle / axle bracket unit
- Dismantle rope pulley / axle / axle bracket unit
- Replace the rope pulley, and remount the parts following the instructions above in reverse order



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4.3 Spare parts list

Component	Type	Spare part			Number...	Art. No.
Sliding guide shoe	SLG1	Guide shoe	rail width	9 mm	1	92410G09
				10 mm	1	92410G10
				16 mm	1	92410G16
	SLG1A	Guide shoe	rail width	9 mm	1	92410G09A
				10 mm	1	92410G10A
				16 mm	1	92410G16A
	SLG2	Guide shoe	rail width	10 mm	1	92510G10
				16 mm	1	92510G16
				19 mm	1	92510G19
	SLG2A	Guide shoe	rail width	10 mm	1	92510G10A
				16 mm	1	92510G16A
				19 mm	1	92510G19A
	SLG3	Guide shoe	rail width	16 mm	1	430365G16
				19 mm	1	430365G19
				29 mm	1	430365G29
	SLG3A	Guide shoe	rail width	16 mm	1	430365G16A
				19 mm	1	430365G19A
				29 mm	1	430365G29A
	SLG4	Guide shoe	rail width	29 mm	1	473004G29
				32 mm	1	473004G32
	SLG4A	Guide shoe	rail width	29 mm	1	473004G29A
				32 mm	1	473004G32A
	SLG9	Guide shoe	rail width	9 mm	1	580220G09
				10 mm	1	580220G10
				16 mm	1	580220G16
				19 mm	1	580220G19
	Guide rail lubricator		rail width	9 mm	1	86375G09
				10 mm	1	86375G10
				16 mm	1	86375G16
				19 mm	1	86375G19
				29 mm	1	89870G29
				32 mm	1	89870G32
	Sliding inlay (SLG1, SLG2, SLG3*, SLG4*)	Note: Fixing material to be ordered separat		9 mm	1	86854H09
				10 mm	1	86854H10
				16 mm	1	86854H16
				19 mm	1	86854H19
29 mm				1	433371H29	
32 mm				1	433372H32	
S. inlay (SLG1A, SLG2A, SLG9, SLG3A*, SLG4A*)	Note: Fixing material to be ordered separat		9 mm	1	85119H09	
			10 mm	1	85119H10	
			16 mm	1	85119H16	
			19 mm	1	85119H19	
			29 mm	1	433373H29	
			32 mm	1	433374H32	

*) For SLG3, SLG4, SLG3A and SLG4A double number of sliding inlays is required.



WITTUR

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Component	Type	Spare part	Number...	Art. No.
Roller guide shoe *) For e.g. WRG150 type "S" (rail width 16mm only) ... 2 pcs. roller with 27mm width and 1 pcs. roller with 38mm width are required! For all other types ("L" and 19mm rail width) 3 pcs. roller with 38mm width are required!	WRG150	rail width 16 mm (Type "S") 16 mm (Type "L") 19 mm	1 1 1	581271G16S 581271G16L 581271G19
	WRG150HD	rail width 16 mm (Type "S") 16 mm (Type "L") 19 mm	1 1 1	600653G16S 600653G16L 600653G19
	WRG200	rail width 16 mm (Type "S") 16 mm (Type "L") 19 mm	1 1 1	169850G16S 169850G16L 169850G19
	WRG300	rail width 16 mm 19 mm 29 mm 32 mm	1 1 1 1	390518G16 390518G19 390518G29 390518G32
	Roller for WRG150 (incl. axle)	D150mm / 38mm wide D150mm / 27mm wide *	1 1	581274G03 581275G03
	Roller for WRG150HD (incl. axle)	D150mm / 38mm wide D150mm / 27mm wide *	1 1	600655G03 600656G03
	Roller for WRG200 (incl. axle)	D200mm / 38mm wide D200mm / 27mm wide *	1 1	168962G01 86344G01
	Roller for WRG300	D300mm / 38mm wide	1	390522G01
	RGF125	rail with 5-16mm	1	C1068
	DR=330mm	Rope DL=8mm	1	560224G03
	DR=410mm	Rope DL=8mm	1	505699G05
		Rope DL=10mm	1	560226G03
	DR=530mm	Rope DL=10mm	1	560228G03
		Rope DL=13mm	1	560229G03
	DR=656mm	Rope DL=10mm	1	560230G03
Rope pulley (incl. bearings)		Rope DL=13mm (G≤8000kg) (G>8000kg)	1 1	560231G03 602109G01
		Rope DL=16mm (G≤8000kg) (G>8000kg)	1 1	560232G03 602109G02
	DR=780mm	Rope DL=10mm (G≤8000kg) Rope DL=13mm (G≤8000kg) (G>8000kg)	1 1 1	560233G03 560234G03 602110G02
		Rope DL=16mm (G≤8000kg) (G>8000kg)	1 1	560235G03 602110G01
	DR=895mm	Rope DL=13mm (G≤8000kg) (G>8000kg)	1 1	471342G02 602111G02
		Rope DL=16mm (G≤8000kg) (G>8000kg)	1 1	471342G01 602111G01
	DR=976mm	Rope DL=13mm Rope DL=16mm	1 1	604134G01 604134G02
	Welded type (EN81, NZS, GOST)	Rope DL=8mm	1	610253G08
		Rope DL=10mm	1	610253G10
		Rope DL=13mm	1	610253G13
		Rope DL=16mm	1	610253G16
	Casted type (ANSI, CSA, SAA)	Rope DL=10mm	1	611140G10
		Rope DL=13mm	1	611140G13
		Rope DL=16mm	1	611140G16
		Rope DL=19mm	1	611140G19