

# Operating Manual

**GEDA<sup>®</sup>**  
**300 Z/ZP**

**Construction Hoist / Transport Platform**  
For loads and persons



# EC Declaration of Conformity



The manufacturer

**GEDA-Dechentreiter GmbH & Co. KG**  
 Mertinger Str. 60  
 DE-86663 Asbach-Bäumenheim

hereby declares that the machine

Designation: **Building hoist / Transport platform**  
 (for temporary, non-public use by authorised persons)

Type: **GEDA® 300 Z/ZP**

Year of manufacture: see type plate of the machine

Serial No.: 36800 / 36801  
 41800 / 41801  
 42800 / 42801

is in compliance with all pertinent provisions of the following directives at the time of being put on the market.

<u>Directives:</u>		<u>Applied conformity evaluation procedure:</u>
2006/42/EC	Machinery Directive	Appendix VIII
2006/95/EC	Low Voltage Directive	Appendix IV
2004/108/EC	EMC Directive	Appendix II
2000/14/EC	Noise Emissions Directive	Appendix V

Applied (harmonised) norms:  
 EN ISO 12100-1/-2      EN ISO 3744  
 EN 60204-1/32  
 EN 50081-1  
 EN 50082-2

<b>EC type testing procedure:</b>		
Type testing certification		EG-MRL 031and 031/2
European notified body	0036	TÜV SÜD Industrie Service GmbH Westendstraße 199 80686 München

This EC conformity declaration becomes null and void if any changes are made to the aforementioned machine that have not been authorised by the manufacturer. Authorised representative for technical documentation is the signatory. Address see manufacturer.

Johann Sailer  
 (Managing Director  
 GEDA-Dechentreiter GmbH & Co. KG)

Asbach-Bäumenheim 2011.03.01

# INSTRUCTION MANUAL

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# 1 Guide

You will come across a series of illustrations and symbols while reading this manual which are intended to help you navigate through and understand this manual. The different meanings are explained below.

Text display	Meaning
<b>Bold type</b>	Emphasises particularly important words / passages
• List 1	Denotes lists
○ List 2	Denotes lists
(brackets)	Item numbers
➤ Instruction	Instruction to personnel Always given in chronological order




The masculine form of address is mostly used in this manual to make reading easier. It goes without saying that both genders are always implied and addressed.

## 1.1 Images

The images used refer to a specific machine type. They may only be a schematic representation of other machine types. The fundamental function and operation is not affected by this.




## 1.2 Warning notices

Activities with specific hazards (to life and limb or potential damage to the machine) are indicated by warning notices. The instructions given in the warning notices must be observed.



Warning level	Consequence	Probability
 <b>GEFAHR</b>	death / serious injury	is imminent
 <b>WARNUNG</b>	serious injury	possible
 <b>VORSICHT</b>	minor injury	possible
<b>VORSICHT</b>	material damage	possible

### 1.3 Overview of warnings in the manual



#### 1.3.1 Electric shock

 	 <b>DANGER</b>
	<p><b>Electric shock</b>                  Parts remain live even after actuating the EMERGENCY STOP or after switching off the machine at the master switch.                  Applies to all work on electrical parts.                  Disconnect mains supply upstream from the master switch.</p>



#### 1.3.2 Crushing by car

	 <b>DANGER</b>
	<p><b>Danger to life</b>                  by crushing.                  Never stand underneath the car / In the hazard area during operation.                  Turn the master switch off and secure against being switched back on while working in the hazard area.</p>

#### 1.3.3 Do not use the hoist in the event of fire



	 <b>DANGER</b>
	<p><b>Danger to life</b>                  Do not use the hoist in the case of fire.</p>

#### 1.3.4 Reaching into the travel path during operation



	 <b>DANGER</b>
	<p><b>Danger to life</b>  <b>Crushing or amputation of limbs.</b>                  Never reach into the travel path of the machine during operation.</p>





**1.3.5 Secure machine against being switched on**

		<b>DANGER</b>
	<p><b>Danger to life</b>                  Due to the machine being switched on during servicing / repair work or when there is a defect. Secure master switch with a padlock to prevent it from being switched on.</p>	



**1.3.6 Falling tools / parts**

		<b>DANGER</b>
	<p><b>Danger to life</b>  <b>Falling tools / parts.</b>                  Secure tools / parts against falling. Use the car roof.</p>	



**1.3.7 Fall and trip hazard**

		<b>WARNING</b>
	<p><b>Fall and trip hazard</b>                  Look out for steps and objects on the ground when entering / exiting the car.</p>	









**1.3.8 Suspended loads**

		<b>WARNING</b>
	<p><b>Danger to life</b>                  Raised load.                  Do not stand under suspended loads.                  Do not stand on suspended loads.                  Only lift loads at the suspension points.                  Only use suitable lifting gear.</p>	

**1.3.9 Prevent access for unauthorised persons**

		<b>WARNING</b>
	<p><b>Danger to life</b>                  Access only for authorised individuals.                  No access for unauthorised individuals.</p>	

1.3.10 Wear safety clothing

 	 <b>DANGER</b>			
	<p><b>Danger to life</b> Risk of fire and explosion as a result of using combustible cleaning materials.</p>			
	<p>Only use suitable, non-combustible cleaning agents.</p> <p>Do not use steam-jet equipment / high-pressure cleaners. This can damage electrical components.</p> <p>Do not touch sockets, cables or electrical components with wet or damp hands.</p> <p>Cleaning work on live components must only be carried out by qualified electrical personnel.</p> <p>Wear personal protective equipment.</p>			
				

## 1.4 **Abbreviations**

The following abbreviations may be used in the manual.

max.	maximum	Nm	Newton metre
min.	minimum	km/h	kilometres per hour
mins.	minutes	mph	miles per hour
etc.	et cetera	inc.	including
poss.	possible / possibly	if nec.	if necessary
e.g.	for example	i.e.	i.e.
ml	millilitre	reg.	regarding
mm	millimetre	RH	relative humidity
°C	degrees Celsius	approx.	approximately
°F	degrees Fahrenheit	Ø	diameter
ft.	feet	®	registered trademark
ft/m	feet per minute	©	copyright
m/min	metres per minute	TM	trademark (trade name)
in.	inch	%	per cent
etc.	et cetera	‰	per mille
lbs.	pounds	dB (A)	sound pressure level
lbf.-ft	pounds per feet	LWA	sound power level
kg	kilogram	>	greater than
l	litre	<	less than
gal.	gallons	±	plus or minus
kip	kilopound		

## 1.5 **Imprint**

GEDA Dechentreiter GmbH & Co. KG

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## 2 Identification data

### 2.1 Machine

Machine model	300 Z / ZP
Year of manufacture	See nameplate

### 2.2 Manufacturer

GEDA Dechentreiter GmbH & Co. KG  
Street: Mertinger Straße 60  
Town / city: DE-86663 Asbach-Bäumenheim  
Country: Germany  
Tel.: +49 (0)9 06 / 98 09-0  
Fax: +49 (0)9 06 / 98 09-50  
Email: [info@geda.de](mailto:info@geda.de)  
Home page: [www.geda.de](http://www.geda.de)

### 2.3 GEDA representatives

Northwest branch	East branch
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GEDA USA, LLC	GEDA RUSSIA
P.O. BOX 752086 USA 77275 Houston, Texas Tel. +1(713) 621 7272 Fax +1(713) 621 7279	Yaroslavskoe shosse 42 129337 Moscow Tel. +7(495) 663 24 48 Fax +7(495) 663 24 49

### 2.4 Ordering spare parts

Spare parts are ordered exclusively through the manufacturer / representative.

Only original GEDA spare parts may be used. Only original GEDA spare parts guarantee full function as well as safety and reliability. The use of unapproved spare parts releases us from any liability for damage arising as a consequence of such use.

Please supply the following details with each order for spare parts:

- Machine model
- Year of manufacture
- Serial No.
- Name of the component
- Item-No.
- Order quantity
- Operating voltage (if applicable)

### 3 Technical data

#### 3.1 Speeds

##### 400 V

Travel:	(12 m/min.)
In the safety area (0-2 m)	
Car control unit	(12 m/min. or 9 m/min <sup>#</sup> )
External control unit	(12 m/min. or 9 m/min <sup>#</sup> )
Load capacity: Standard operation / assembly	500 kg / 300 kg

##### 230 V

Travel:	(12 m/min.)
In the safety area (0-2 m)	
Car control unit	(12 m/min. or 9 m/min <sup>#</sup> )
External control unit	(12 m/min. or 9 m/min <sup>#</sup> )
Load capacity: Standard operation / assembly	300 kg / 300 kg

##### Safety gear

Triggering speed	(22 m/min.)
------------------	-------------

#### 3.2 Drives

##### 400 V

Power	1.9 kW
Nominal current	4.6 A
Start-up current (max.)	23 A

##### 230 V

Power	1.7 kW
Nominal current	11 A
Start-up current (max.)	31 A

#### 3.3 Assembly height

230 V	max. 50 m
-------	-----------

#### 3.4 Emissions

Sound power level LWA:



<sup>#</sup> 9 m/min. may be stipulated by national provisions.

### 3.5 Dimensions and weight

#### NOTE

The installation of optional equipment (such as e.g. roof, assembly bridge, etc.) increases the dead weight. The useful load decreases accordingly.

#### 3.5.1 Base unit / platform / cable box:

Weight	730 kg
Platform internal dimensions	1.32 m x 0.96 m

#### 3.5.2 Mast section

Length	1.5 m
Weight	44 kg (52 kg with assembly parts)
Mast oversail for operation	max. 3 m
Mast oversail for assembly	max. 5.5 m
Fixing distance	6 m
Vertical distance of mast fixtures	max. 6 m
Vertical distance of travelling cable guide	max. 6 m

#### 3.5.3 Landing-level safety gates

The hoist GEDA 300 Z/ZP has been type-tested together with the GEDA landing-level safety gates:

GEDA COMFORT	Item-No.: 01212
GEDA STANDARD	Item-No.: 01217
GEDA STANDARD Basic	Item-No.: 01268

and fulfils the requirements for safe transfer between landing level and car. GEDA lifts with type test certification must also only be used in combination with tested GEDA landing-level gates. For assembly of landing-level safety gates see corresponding instruction manual.

### 3.6 Mast

#### 3.6.1 Inclination of mast

Vertical inclination of the mast max. 0.5°. Check inclination during and following installation using appropriate means.

### 3.7 Technical information on assembly

#### 3.7.1 Foundation

The foundation must reliably transfer existing loads into the subsoil.

The following points must therefore be ensured before each installation operation.

- Evidence of the load-bearing capacity of the foundation
- Evidence of the load-bearing capacity of the subsoil

Since the load-bearing capacity of the subsoil is often very difficult to estimate, a specialist soil investigator should be called on if there is even the slightest doubt, in particular for high / complicated superstructures.

The following points must be taken into account when assessing the subsoil:

- Maximum permissible soil pressure
- Predicted settlement
- Predicted groundwater levels
- Predicted thawing and frost processes
- Construction activities expected in direct proximity to the installation site

Steel plates and concrete can be used as load-distributing base supports.

The foundation must be horizontal. The ground pressure data includes no safety factors.

#### 3.7.2 Soil pressure

Assembly height [m]	10	20	30	40	50
Weight (kg)	1815	2130	2500	2870	3185
Load-bearing capacity (kN/m <sup>2</sup> )	73	86	101	115	128



### 3.8 Tightening torques

#### 3.8.1 Mechanical screw connections without torque control

<b>Data refers to bolts in strength class 8.8</b>					
	Tightening torque			Tightening torque	
M 8	25 Nm		M 16	210 Nm	
M 10	49 Nm		M 18	300 Nm	
M 12	86 Nm		M 20	425 Nm	
M 14	135 Nm		M 24	710 Nm	

#### 3.8.2 Mechanical screw connections with torque control

<b>Mast elements to one another</b>	
150 Nm	Tightening torque
<b>Mast tubes</b>	
50 Nm	Tightening torque

#### 3.8.3 Electrical screw connections (metal screw connections)

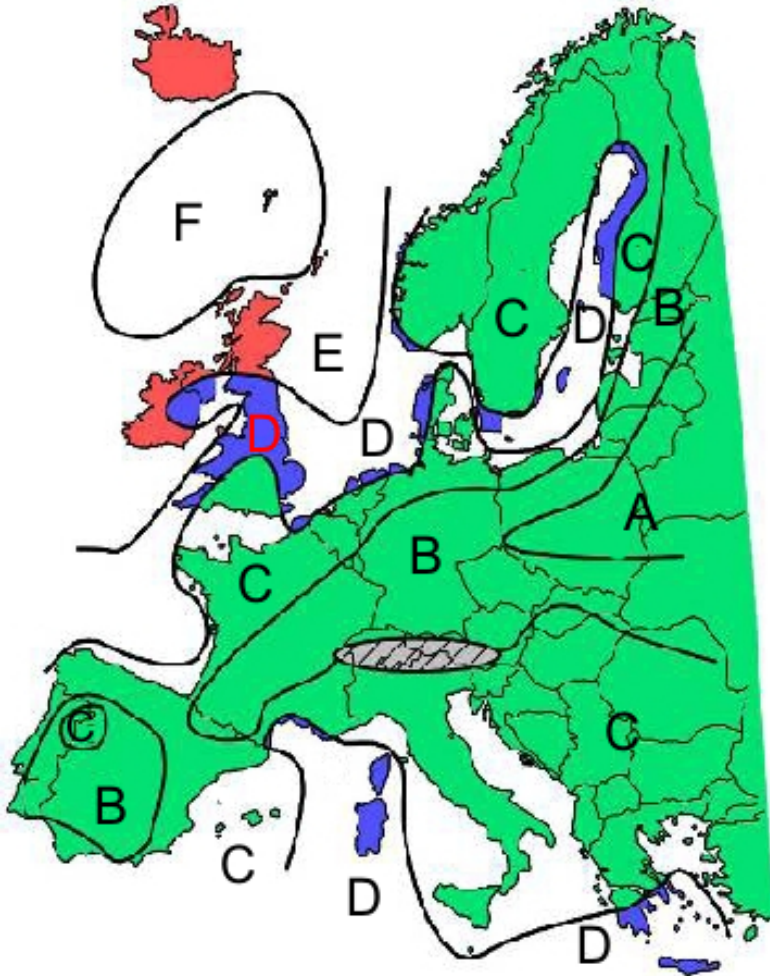
	Tightening torque			Tightening torque	
M 4	1.2 Nm		M 12	15.5 Nm	
M 5	2 Nm		M 16	30 Nm	
M 6	3 Nm		M 20	52 Nm	
M 8	6 Nm		M 24	52 Nm	
M 10	10 Nm		M 30	52 Nm	

### 3.9 Safety distance from live wires

The table below shows the minimum safety distances for each machine component from live, non-insulated wires. Country-specific regulations must be observed.

Voltage	Minimum distance
0 – 300 V	Avoid contact
> 300 V to 50 kV	3,0 m
> 50 kV to 200 kV	4,5 m
> 200 V to 350 kV	6,0 m
> 350 V to 500 kV	8,0 m
> 500 V to 750 kV	11,0 m
> 750 V to 1000 kV	14,0 m

### 3.9.1 European wind regions



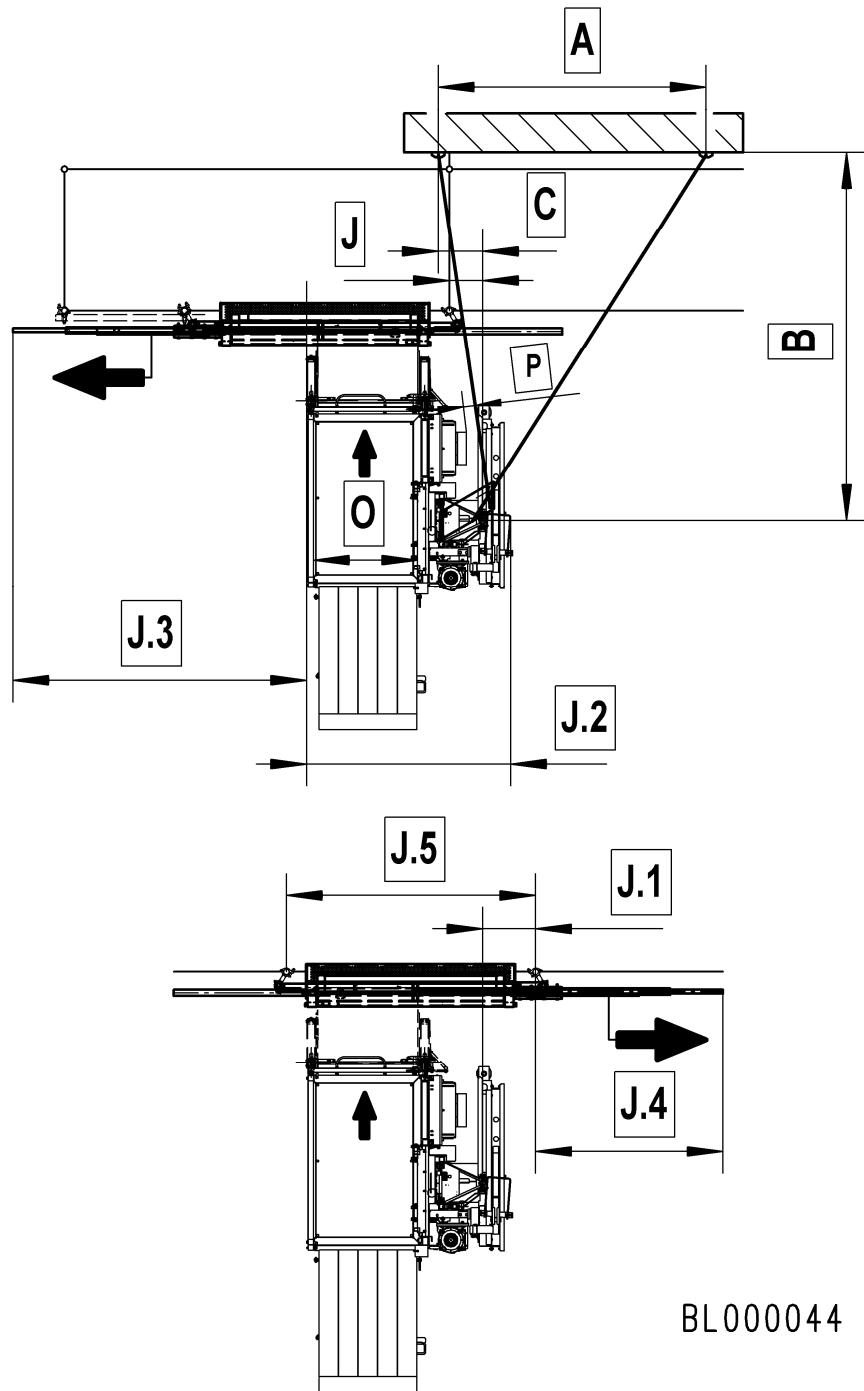
The operating company is responsible for applying the correct wind region. Local conditions such as:

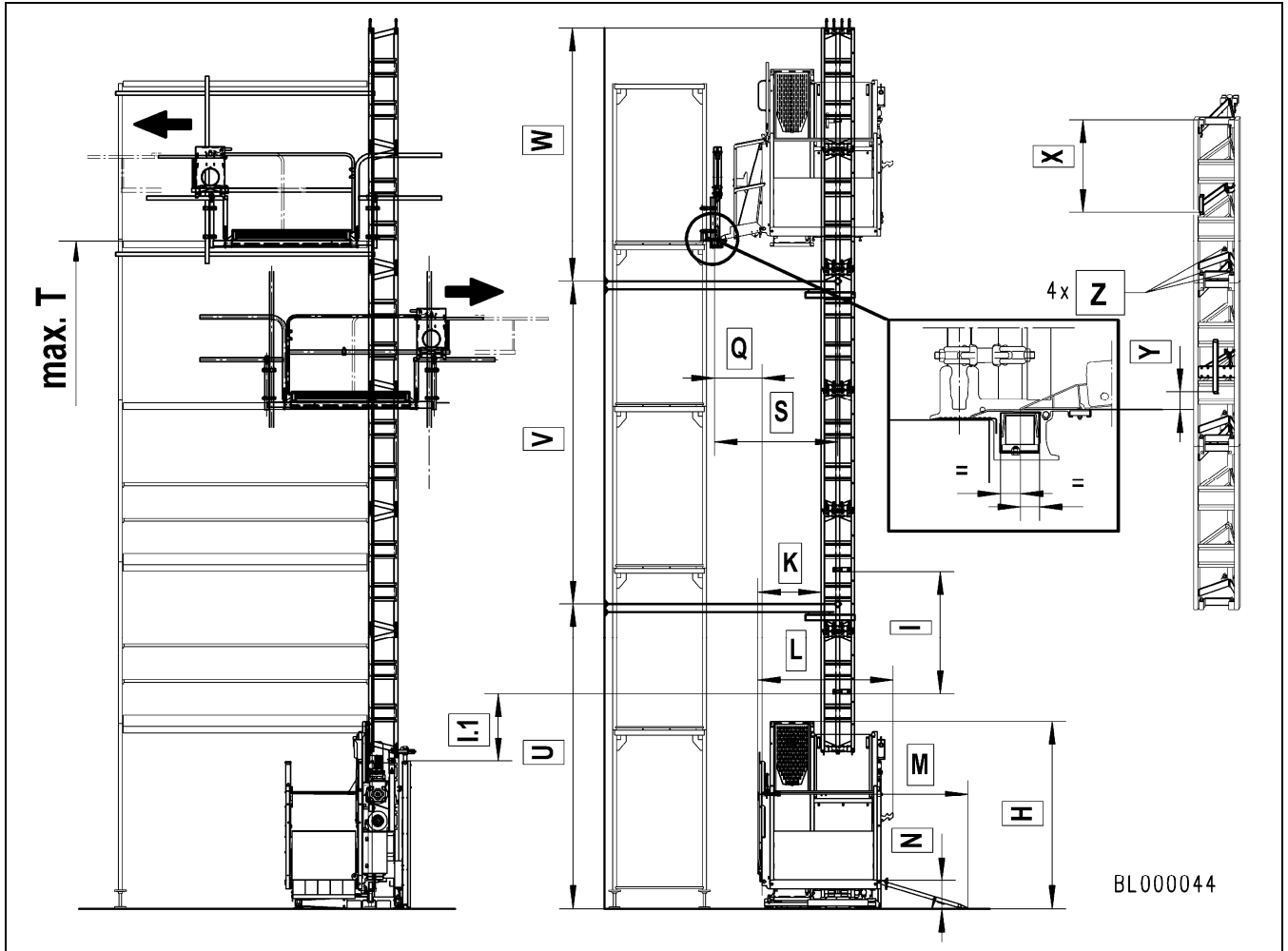
- mountains, bays, valleys,
- house gullies, thoroughfares, buildings, etc.

can create wind turbulences and make it necessary to apply another wind region.

Assembly height metres	Wind pressures by region (N/m <sup>2</sup> )			
	A/B	C	D	E
0 – 10	544	741	968	1225
10 – 20	627	853	1114	1410
20 – 50	757	1031	1347	1704

3.9.2 Assembly geometry





<b>Assembly geometry table</b>		
H	Height of the base unit (with assembly bridge)	2,3 m
I	Max. distance of cable guides	≤ 6 m
I.1	Max. distance between the first cable guide and the cable box	≤ 1 m
J	For left-opening landing-level gate Distance from the centre of the vertical scaffold bar to the centre of the circular mast tube	0.25 m
J.1	For right-opening landing-level gate Distance from the centre of the vertical scaffold bar to the centre of the circular mast tube	0,40 m
J.2	Width of the base unit	1.60 m
J.3	For left-opening landing-level gate, platform corner crossbar to the opened landing-level gate	2.30 m
J.4	For right-opening landing-level gate, distance from the centre of the vertical scaffold bar to the opened landing-level gate	1.95 m
J.5	Distance to the additional vertical fixing tube	1.47 m
K	Distance from the centre of the circular mast tube to the corner crossbar on the unloading hatch	0.78 m
L	Depth of the base unit	1.66 m
M	Depth of the base unit with opened unloading hatch	2.59 m
N	Loading height (platform on ground)	0.35 m
O	Platform width (internal dimensions)	0.96 m
P	Minimum distance between closed assembly bridge and fixing tube	> 0.10 m
Q	Platform corner crossbar to the centre of the landing-level gate crossbar tube	0.59 m
S	Distance between the centre of the circular mast tube to the centre of the landing-level gate crossbar tube	1.52 m
T	Max. assembly height	50 m
U	Height of first mast bracket	≤ 4 m
V	Vertical distance to remaining mast brackets	≤ 6 m
W	Max. projecting mast	< 3 m
X	Distance from emergency limit approach bar to mast end	> 1.25 m
Y	Distance from the landing floor to the landing limit switch approach bar	0.33 m
Z	Tightening torque of the mast connection bolts	150 Nm

### 3.9.3 Anchoring forces

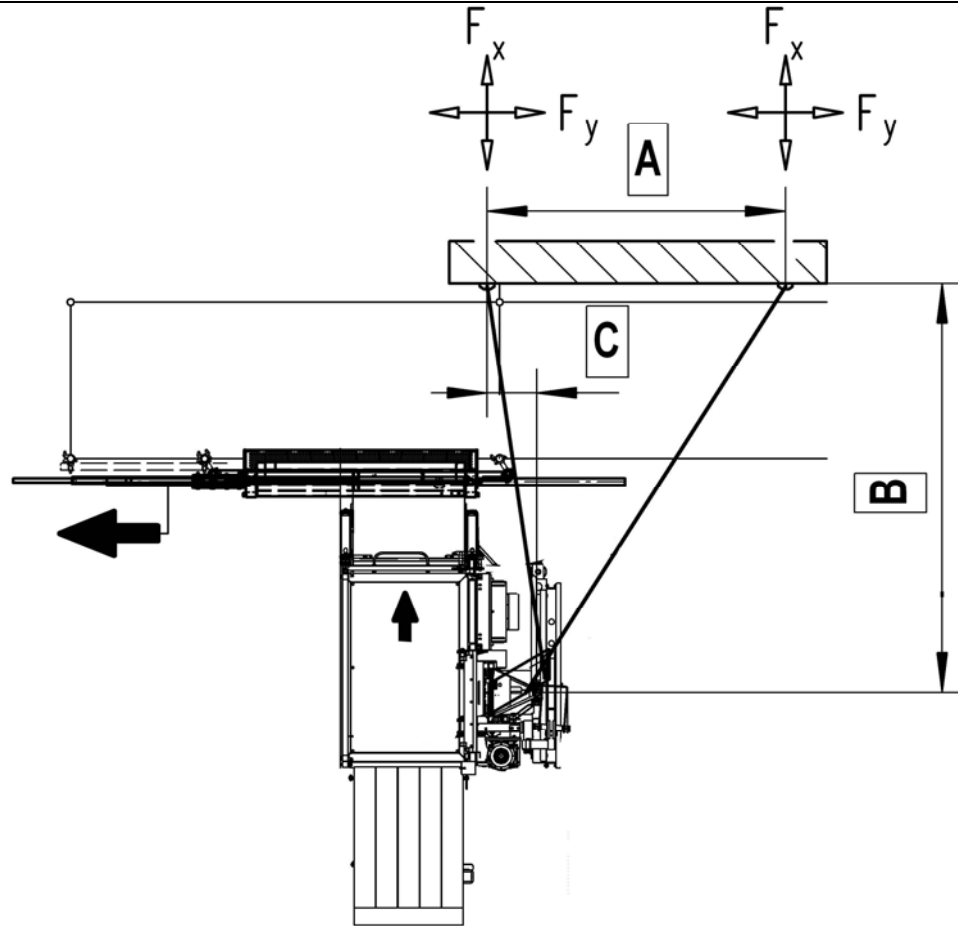
The anchoring forces must be reliably absorbed by the building structure / scaffolding. This may need to be checked by a qualified construction professional. The choice of fastening elements depends on the prevailing conditions (wall plugs / through-bolts).

The anchoring forces can be taken from the table below. The table specifies peak forces for the assembly geometry shown, which do not yet include any safety factors. The appropriate anchoring forces must be requested if the assembly geometry shown is changed.

<b>Assembly in front of a wall</b>				
A = 1.1 m; B = 1.58 m; C = max. 0.2 m				
	Top anchor point (Mast projection 3 m)		Other anchor points (or top anchor point without mast projection)	
<b>Wind region</b>	<b>F<sub>x</sub></b>	<b>F<sub>y</sub></b>	<b>F<sub>x</sub></b>	<b>F<sub>y</sub></b>
A / B / C	5.4 kN	7.4 kN	3.3 kN	4.6 kN
D	6.8 kN	9.1 kN	4.2 kN	5.6 kN
E	8.6 kN	11.5 kN	5.3 kN	7.0 kN

**Assembly in front of scaffolding**

A = 2.5 m; B = 2.48 m; C = 0.2 m



Wind region	Top anchor point (Mast projection 3 m)		Other anchor points (or top anchor point without mast projection)	
	$F_x$	$F_y$	$F_x$	$F_y$
A / B / C	5.4 kN	5.7 kN	3.3 kN	3.5 kN
D	6.8 kN	6.8 kN	4.2 kN	4.2 kN
E	8.6 kN	8.6 kN	5.3 kN	5.3 kN

### 3.9.4 Stiffener tubes

For certain assembly situations (very large distances to fixing points) it may be necessary to protect the anchoring tubes against buckling.

Buckling length	Permissible pressure force	The actual pressure forces in the tube must be calculated using the forces stated in the tables.  If the specified forces are exceeded, additional measures must be applied.
400 cm	8030 N	
450 cm	6460 N	
500 cm	5290 N	
550 cm	4410 N	
600 cm	3730 N	
650 cm	3200 N	
700 cm	2770 N	
750 cm	2420 N	
800 cm	2140 N	
850 cm	1900 N	

The table applies for smooth, one-part steel tubes without joint.  
 Ø 48.3 x 3.25 – St 37-2 DIN 2448 or DIN 2458



### 3.9.5 Operating materials

Grease: 2.64 lbs (1.2 kg)

Class / quality: NLGI 2

The grease quantity for a lubrication unit is enough for approx. 120 operating hours (3 months/1 shift operation). AGIP GR MU EP or similar quality of grease. (You must observe the mixing capacity of greases.)

#### **Gear oil:**

The motors are lifetime-lubricated. Refilling is not necessary under normal conditions. In the case of heavy use, the oil must be changed every 10,000 operating hours.

Filling capacity: See the manufacturer's instructions.

Oil types: See gear / motor rating plate.

Contact GEDA before using any other operating materials.

Excess quantities must be returned or disposed of in accordance with company guidelines and legal requirements.

### 3.9.6 Electrics

Operating voltage: 400 V / 50 Hz / 3 x 16 A / 3 Ph

230 V / 50 Hz / 1 x 16 A / 3 Ph

Safety class: IP 54 (NEMA 3)

The cables provided by the customer must be designed such that:

- they correspond to the connected load of the machine.
- no interference voltages or interference frequencies occur.
- the response behaviour of the safety equipment meets the relevant legal requirements.

The necessary cable cross-section must be determined while taking into account the requisite installation type according to DIN VDE 0298 Section 4 and DIN VDE 0100 Section 430. Country-specific regulations must be observed. A rubber hose coated lead of at least 5 x 2.5 mm<sup>2</sup> (or 3 x 2.5 mm<sup>2</sup> for 230V drive) is required to extend the power cord.

The machine must only be connected to a building site main cabinet according to IEC 60439-4:2004. Fuse protection min. 16 A / T; residual current device (RCD) with rated current of max. 0.03 A.

### 3.9.7 Tests

The following tests have been carried out prior to delivery:

- Dynamic test of the safety gear with 1.25 times the maximum load capacity by means of a drop test.
- Electrical tests according to EN 60204.
- Function tests.

### 3.9.8 Operating and environmental conditions

The machine may only be operated when the following operating and environmental conditions are satisfied:

Temperature range:	minimum	-20 °C
	maximum	+40 °C
Wind speed:		
Operation / maintenance / servicing	maximum	72 km/h
Installation	maximum	45 km/h

Weather conditions:  
No storms with risk of lightning.

It may be necessary to cease / prohibit operation of the machine under extreme weather conditions, even if the operating and environmental conditions fall within the bounds of those stated. For example, due to the parallel occurrence of extreme frost and storms. The operating company must provide appropriate precautions in this regard.

#### **Atmosphere:**

##### **Transporting people:**

The composition of the atmosphere must be suitable for people remaining in this area. Any reduction in the oxygen concentration as a result of displacement or consumption must in particular be prevented. The legal limit values for pollutant concentrations / aerosols and dust in the workplace must not be exceeded.

##### **Material transport:**

When transporting material, this must not lead to a concentration of abrasive / corrosive substances and of explosive fine particulate matter. If this cannot be excluded with certainty, then the corrosion protection and / or the functional reliability of the electrical components must be inspected at regular intervals and if necessary replaced. Fine particulate matter must be removed.

## 4 Safety information

This safety information must be read and observed by all persons who are entrusted with work on the machine or who supervise or instruct such people. Non-compliance with the safety information releases GEDA from any liability.

### 4.1 *Proper use*

The machine described in this manual is solely intended for: temporary use on construction sites as:

- **Construction hoist:**  
For the transport of material
- **Transport platform:**  
For the transport of material and persons (max. 3 persons)
- **Mast-guided climbing platform:**  
For the execution of construction work from the car
- **Scaffolding assembly hoist:**  
For the assembly of scaffolding and mast from the car.

The load-bearing capacities specified in the column for technical data (weight / persons) must be complied with. Improper use, non-compliance with the manual, the use of insufficiently qualified personnel, and the use of non-approved spare parts excludes any liability on the part of the manufacturer.

### 4.2 *Machine limits*

The machine may only be used while complying with:

- the technical data / features.
- the max. permissible load bearing capacity and number of persons.
- the defined operating and environmental conditions.

### 4.3 *Modifications / alterations*

Unauthorised modifications / alterations can have an unforeseeable influence on the safety of the machine. For this reason, unauthorised modifications / alterations are prohibited. Any unauthorised modifications that are carried out shall exclude the manufacturer from any liability. This also includes welding, grinding and burning operations on the machine, as well as the control programs.

#### **4.4      *Linking to other machinery***

Control-related or functional linking to other machinery is prohibited and releases GEDA from any liability.

#### **4.5      *Prohibition of certain activities***

The following activities may only be carried out by GEDA employees due to error sources that are potentially unrecognisable (to the operating company):

- Repairs to the safety gear
- Changes to the control programs

#### **4.6      *Machine operation***

Operation is only permitted in accordance with:

- the information on proper use.
- the information on the machine limitations.
- the information on operating and environmental conditions.
- all laws / regulations that must be complied with by the operating company.
- all other information in this manual.

Starting or operating the machine without having read the manual beforehand is strictly prohibited. The manual must be kept safe for continued and future use with the machine.

GEDA shall not be liable for any damage arising from non-compliance with the manual.

#### **4.7      *Foreseeable misuse***

Any use of the machine that deviates from the conditions specified above and from the stated purpose is strictly prohibited.

This in particular includes use:

- without correctly installed landing-level safety gates.
- at a greater distance from the building / scaffolding than permitted.
- without designation of the hazard area.
- in a potentially explosive area.
- as a crane, means of travel, platform for bungee jumping, conveyance of persons / materials to publicly accessible places.
- as a transport platform for persons without roof mounted, if there is a risk of objects falling into the car.

#### **4.8      *Machine hazards***

The machine has been designed and manufactured according to the current state of the art. It has been subjected to a safety inspection and acceptance procedure before delivery.

Nevertheless, personal hazards or material damage may result if operated incorrectly, used improperly, used without due care and attention, insufficiently serviced or if components fail.

#### **4.9      *Hazard sources / existing residual hazards***

As with all complex machinery, there are also sources of potential hazards in the case of GEDA machines. These are:

##### **4.9.1    *Moving, rotating, pointed and sharp-edged parts***

- Drives
- Chains / ropes / cables

##### **4.9.2    *Energies***

- Electricity
- Hot surfaces
- Potential energy (raised components / tipping / falling loads / falling tools)

##### **4.9.3    *Operating materials***

- Oils
- Greases

##### **4.9.4    *Emergency***

- Trapping of persons.

#### **4.10 Other relevant documents**

In addition to this manual, the following documents must be observed by the corresponding target group:

- The manuals for the landing-level safety gates / the electric modules.
- Customer service information, if applicable.
- Instruction manuals issued by the suppliers of purchased parts

These documents must be supplemented by the operating company with the national regulations of the country of use applicable in each case. If the machine is sold or passed on, the documentation must be passed on as well.

#### **4.11 Export licence**

Parts of the machine / electrical control unit may require export licences depending on the current status of foreign trade law. The customer shall take responsibility for acquiring the relevant export licence and shall only proceed in accordance with this licence.

#### **4.12 Warranty**

This manual does not contain any warranty agreements. These can be found in the General Terms and Conditions of Business. Proper use is a precondition for the warranty.

#### **4.13 GEDA training sessions**

GEDA conducts detailed training sessions in order to enable the highest degree of safety and economic efficiency when operating the machine. When the machine is delivered, the operating company and its personnel will receive extensive instruction in function, operation, maintenance, servicing and troubleshooting. The operating company is recommended to take advantage of these training sessions. Please contact the GEDA GmbH customer service department for information on training.

## 5 Obligations of the operating company

### 5.1 *Obligation of training / qualification*

The operating company clearly defines the responsibilities of the personnel for operation / installation / maintenance. The operating company is obliged to train all persons authorised to use the machine in the correct handling of the machine before using it for the first time, according to the respective area of activity and responsibility of the authorised individual and using practical exercises.

Training will cover at least the following:

- the scope and limitations of the area of activity and responsibility of the group of people in question.
- safety-conscious conduct.
- Avoidance of hazards during operation.
- conduct in an emergency.
- application of the emergency / evacuation plan.
- correct machine operation.
- the meaning of the warning signs, notices and pictograms.
- use and inspection of the personal protective equipment.
- how to handle operating materials and cleaning agents.

Finally, the operating company must check that each person is capable of operating the machine independently and correctly.

This training must be documented and repeated at regular intervals.

New personnel may only operate the machine under the supervision and instruction of experienced personnel.

Maintenance and repair work must only be carried out by personnel qualified for this work. The use of non-qualified personnel is prohibited and releases GEDA from any liability.

## **5.2      *Accessibility to necessary information***

The operating company must make the manual required for the relevant task available to all persons who are commissioned with operation, servicing and maintenance.

The operating company must ensure that the individuals in question have read and understood the necessary manuals.

The same applies to all relevant safety data sheets, operational instructions, accident prevention guidelines, and instructions issued by suppliers of purchased parts and service materials.

Depending on how the company is organised, the manuals may have to be made available to other individuals / departments.

## **5.3      *Checking the correct and proper condition and use***

At regular intervals, the operating company must take appropriate measures to check that the machine is being used according to the intended use, that the machine has not been modified or tampered with and that all parts are fully functional.

## **5.4      *Identifying hazards at the place of use***

The operating company must identify all hazards at the place of use of the machine and must take the necessary health and safety measures.

## **5.5      *Machines / systems requiring registration***

The operating company must register machines / systems which require registration with the responsible national authorities in accordance with the contents and deadlines of the regulations / obligations.

## **5.6      *Recurring inspections***

The operating company must have the recurring inspections, which are stipulated and regulated by national law, carried out and the results documented in an appropriate way.



**5.7      *Transporting suspended loads over the machine***

The operating company must use appropriate organisational measures to ensure that no suspended loads are transported above the machine.

**5.8      *Preparing an emergency / evacuation plan***

The operating company must prepare an emergency / evacuation plan and train all relevant persons in this plan and provide appropriate instructions.

**5.9      *Training assembly engineers from other companies***

Before undertaking any work, assembly engineers from other companies must be informed by the operating company about obligatory safety regulations, valid accident prevention guidelines as well as the machine's functions and safety equipment. The corresponding instructions / manuals must be made available.

**5.10     *Following the instructions of GEDA assembly engineers***

If the machine is constructed by GEDA assembly engineers, their instructions must be complied with.

**5.11     *Provision of personal protective equipment***

The operating company must provide personal protective equipment appropriate to the respective place of use and purpose.  
Protective equipment must be checked at regular intervals to ensure function and completeness.  
All national and trade association regulations relating to protective equipment must be observed in addition to this information.

## **6 Regarding use by authorised people**

### **6.1 Operator**

A person who, on account of his / her training and experience, is capable of carrying out the functions and activities associated with normal operation.

This also includes avoiding potential risks and hazards that may occur during operation of the machine.

### **6.2 Attendant / platform operator**

A person who, on account of his / her training and experience, is capable of starting a machine and carrying out the functions and activities associated with normal operation. This also includes avoiding potential risks and hazards that may occur during operation of the machine / machine start-up.

When using as a transport platform, the machine must only be operated by the attendant / platform operator from the car.

Furthermore, the attendant / platform operator is responsible for adherence to / implementation of the emergency plan.

### **6.3 Professionals for maintenance / servicing**

A person who, on account of his / her qualified professional education, training and experience, is able to recognise risks and potential hazards during work / assembly / servicing / repair work on the machine and can rectify these by introducing appropriate measures.

## **6.4 Protection of particular groups of people**

### **6.4.1 Young people, pregnant women, disabled persons**

The respective legal occupational restrictions apply.

### **6.4.2 People with pacemakers and metal implants**

Magnetic fields which occur in the vicinity of live conductors and motors can present a hazard for the individuals mentioned above. Should it be necessary to enter these areas, a doctor should be consulted beforehand as adverse health effects cannot in principle be ruled out.

## 7 Obligatory safety instructions

### 7.1 *Basic conduct when working with the machine*

- The machine must be used with an awareness of hazards, in a technically fault-free condition and according to the instructions in this manual.
- Acquaint yourself with the way the machine works, the operating controls and the safety equipment.
- The stipulated operating steps and the sequence of steps must be adhered to.
- If there is any lack of clarity regarding proper condition or correct operation, these points must be clarified. Operation is prohibited until the matter is clarified.
- The operator is responsible for third parties in the working area of the machine.
- Unauthorised persons must be kept away from the machine; if necessary set up warning notices.
- All safety regulations relevant to the respective job / activity must be adhered to.
- Responsibilities for different activities must be clearly identified and adhered to. Lack of clarity greatly compromises safety.
- Safety and emergency equipment may neither be removed, altered nor made ineffective and must be inspected at regular intervals to ensure function and completeness.
- Rectify any faults which fall within your area of responsibility.
- If faults occur outside your area of responsibility, inform your superior immediately.
- In the event of wind speeds > (72 km / h), bring the car down to the ground and cease operation.
- Smoking, eating, drinking and naked flames are prohibited.
- Wear personal protective equipment.
- During all types of work, and if conditions are wet, frosty and / or dirty, keep all floors, steps, pedestals, platforms, and climbing aids fall-proof and slip-resistant using appropriate measures (e.g. dry, clean, de-ice).
- Remove ice, snow or other contamination.
- Do not use in storms (lightnings)
- Storing parts / combustible materials in the hazard area / in close proximity to the machine is prohibited.

- Observe the load-bearing capacity of the machine, pedestals, ladders and steps.
- Look out for steps and objects on the ground when entering / exiting the car.
- A fall-protection device must be worn when working at heights > (2.0 m).
- The machine must not be used as steps or a climbing aid. Only use tested and stable steps / climbing aids. Keep steps / climbing aids free of dirt and soiling.
- At the end of work or if work is interrupted, the machine must be turned off at the master switch and secured against unauthorised switch-on (e.g. with a padlock).
- If there is a risk of parts falling into the car, the GEDA protective roof must be used.

## **7.2 *Transporting the machine / disposing of the machine***

- When transporting by lorry, the load must be secured according to international transport guidelines. Avoid overloading the lorry. Pack parts in such a way to prevent damages.
- No-one is allowed to remain standing in the area under or on the raised machine / parts of the machine.
- Only lift the machine using the necessary parts and at the prescribed suspension points.
- Only use appropriate and tested transport and load bearing devices. Avoid overloading the transport device / load-handling device.
- Avoid tipping or dropping the machine / forklift at all costs.
- The machine must only be transported / set up on foundations with a sufficient load-bearing capacity.
- Ensure that there is a stable equilibrium when transporting with forklift trucks. Use appropriate means to secure the machine against slipping / falling. Transport only at walking speed.
- Secure the load accordingly when transporting over steep inclines / slopes.
- Label dismantled parts to prevent any mix-up when reassembling.

### 7.3 ***Set-up and connection / installation***

- Precautionary measures stipulated by the company for avoiding fires, explosions, dust, gas, steam and smoke (during welding, burning and grinding work) must be observed.
- The stated torques must be adhered to. Use a calibrated torque wrench for this.
- Appropriate lifting gear must be used when working with heavy parts.
- Adhere to the minimum requirements for thoroughfares, paths and emergency exits.
- Provide sufficient space to open doors and covers.
- Welding, burning and grinding work on the machine must only be carried out following consultation with and approval from GEDA.
- Observe the reduced load-bearing capacity of the car during assembly.
- Observe the mast tie distances and trailing cable guide distances.
- Observe the load-bearing capacity of the boom truck.
- Avoid mixing up / incorrect re-assembly of dismantled parts. Label parts.
- In the event of wind speeds > (45 km/h), bring the car down to the ground and cease operation.
- During installation, never do the following from inside the car:
  - reach or lean into the travel path during ascent / descent
  - allow parts to project into the travel path during ascent / descent
  - stand on the load
  - exit the car to climb onto the mast or the building.
- Cordon off / mark the assembly / hazard area.
- No one is allowed to stand under the assembly / hazard area.

- Safety rails on-site may only be removed once the landing-level safety gates have been installed.
- The hoist may only be operated once all landing-level safety devices have been fully installed and checked.



#### **7.4 *First commissioning / daily commissioning***



Make sure that:

- All safety features are present and functioning.
- All connections are properly connected.
- All parts are correctly installed.
- No tools or other parts are inside or on the machine.
- No tools or other parts are in the travel path of the machine.
- All warning and instruction notices on the machine are present in their entirety, are clearly visible and undamaged.
- Illegible or missing warning and instruction notices must be replaced immediately.
- The tests specified in national regulations must be performed prior to commissioning.

## 7.5 *Transporting people*

- All individuals must follow the instructions of the attendant / platform operator. It is prohibited for persons:
  - to stand on the load.
  - to operate the machine.
  - to climb onto the car roof.
  - to lean on access points, ramps, the assembly bridges or the front wall.
  - to lean out into the travel path of the machine.
- If there is a risk of tools / parts falling into the car, the GEDA protective roof must be used.

		DANGER
	<p><b>Danger to life</b>  <b>Crushing or amputation of limbs.</b>                  Never reach into the travel path of the machine during operation.</p>	

		DANGER
	<p><b>Danger to life</b>  <b>Falling tools / parts.</b>                  Secure tools / parts against falling.                  Use the car roof.</p>	

## 7.6 *Transporting material*

- The operator is responsible for correct loading and unloading and for correctly securing the load.
- Use appropriate lifting gear for loading and unloading. Only use lifting gear that is designed for the weight of the load.
- Never drive the lifting gear into the car.
- Secure load with fastenings so that any movement is impossible during transport.
- Distribute the load evenly and centrally in the car.
- Observe the maximum permissible load-bearing capacity.
- Store the load at a safety distance of min. (50 cm) from any of moving parts.
- Never cover doors, control panels, emergency call system, first aid kits or warning notices with the load. They must remain accessible at all times.
- Safety rails to prevent people from falling must be provided at loading points  $\geq 2.0$  m in height.
- Persons may only enter the car after the load has been secured.
- Material must not project into the travel path of the machine.
- When transporting material, this must not lead to a concentration of abrasive / corrosive substances. If this cannot be excluded with certainty, then the corrosion protection and / or the functional reliability of the electrical components must be inspected at regular intervals and if necessary replaced.
- The generation / accumulation of (explosive) fine particulate matter must be prevented / removed immediately.
- When transporting parts that are longer than the platform (e.g. scaffolding tubes, poles, etc), the support frame must be used.



## **7.7 Servicing / repairs / maintenance / work on electrical components**

- All relevant individuals (e.g. operating personnel, superiors) must be informed before work commences about the work being carried out.
- Before carrying out servicing / repair work, the machine must be turned off at the master switch and secured against unauthorised switch-on. If necessary attach an instruction notice to the machine.
- Work on the car may only be carried out when it is at the ground station. If the car needs to be raised, it must be secured by appropriate supports.
- Work on electric / live components must only be carried out by qualified electrical personnel.
- Affected electrical parts must be de-energised (disconnect the mains voltage upstream of the master switch).
- Do not touch sockets, cables or electrical components with wet or damp hands.
- All work on electrical components must only be carried out using insulated tools.
- The machine must only be connected to a building site main cabinet in accordance with IEC 60439-4:2004.
- Fuses must never be bypassed. Only ever replace fuses with fuses of the same type.
- Ensure that the electrical system is correctly earthed.
- Dry or appropriately cover wet, slippery or sharp surfaces. There must be no more potential hazards.
- Use appropriate measures to ensure that moving / loosened parts are disabled during work and that no limbs can become trapped by unintentional movements.
- Use appropriate measures to ensure that dismantled parts do not fall down.
- Loss of balance as a result of handling heavy parts / tools. Only lift heavy parts / tools with a second person or using appropriate lifting equipment.
- Only use new parts according to their intended use and within the specifications of their technical data.

- Test the parts to ensure that they are functioning correctly after the work. Make sure that no hazards will arise as a result of the machine being started up.
- Only carry out welding, burning and grinding work on the machine after consultation and approval from GEDA.

## **7.8      *Cleaning***

- Risk of fire and explosion as a result of using combustible cleaning materials.
- Only use suitable, non-combustible cleaning agents.
- Label damp areas with the appropriate warning signs.
- Wear personal protective equipment.
- Do not use any alkaline or acidic solutions or other aggressive agents for cleaning.
- Do not use steam-jet equipment / high-pressure cleaners. This can damage electrical components.
- Do not touch sockets, cables or electrical components with wet or damp hands.
- Cleaning work on live components must only be carried out by qualified electrical personnel.

## **7.9      *Conduct in an emergency***

- Company instructions relating to conduct in an emergency and the evacuation plan must be observed.
- Never use parts of the machine as a climbing aid.
- Never climb hands-free. Always hold on with at least one hand.
- Keep all climbing aids free of dirt and soiling.

**7.9.1 Hazard area can be left**

- Stay calm.
- Leave the hazard area immediately.
- Help any injured persons / evacuate persons.
- Prevent persons from accessing the area / warn third parties.
- Introduce appropriate measures for stopping / containing the emergency.
- Inform your superior.

**7.9.2 Hazard area cannot be left**

- Stay calm.
- Help anyone who is injured.
- Request help.
- Wait for the rescue services.

**7.10 *Supplementary safety instructions - components from other manufacturers***

When working on components from other manufacturers, observe the information in the respective manual from that other manufacturer as well.

## 8 Brief description of the machine



### WARNING

This brief description only provides a general overview. It does not form the basis for correct and proper operation by uninitiated persons. Operation of the machine and training of personnel is always carried out with reference to the detailed descriptions in the appropriate section of this manual.

### Main components

The machine consists of 3 main components.

The base unit (1), the car (2) and the mast (3) with the anchorage.

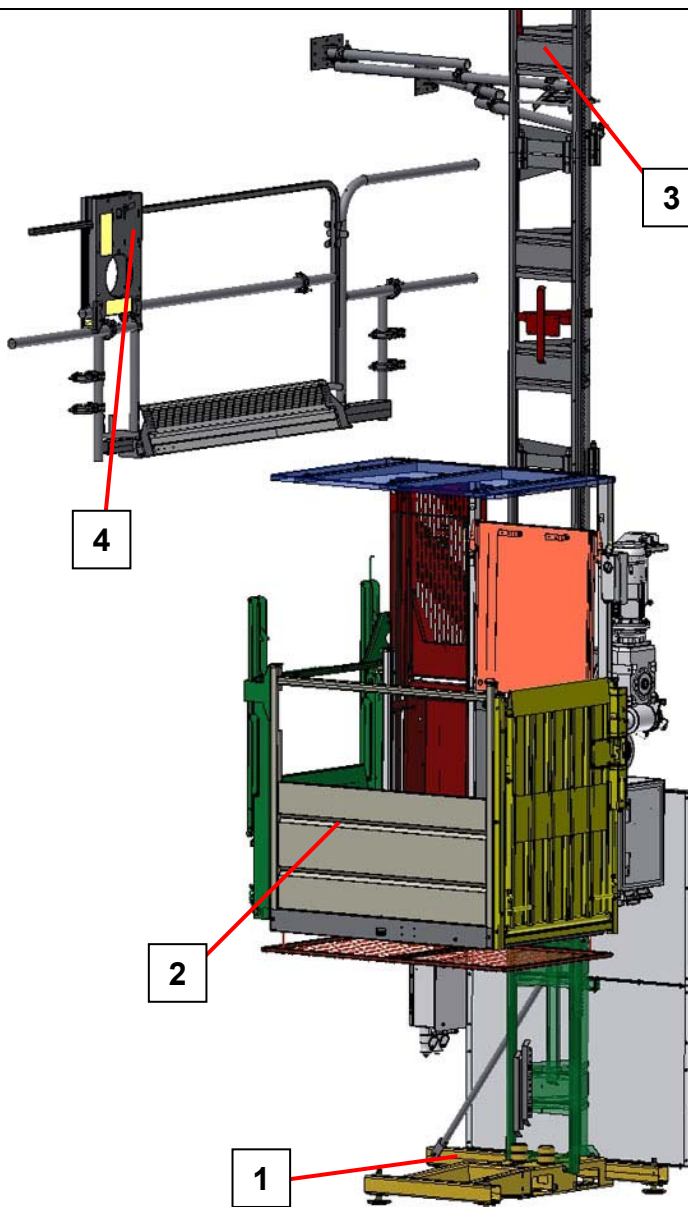
These components are supplemented by the corresponding landing-level equipment (4).

The machine is operated:

- as a transport platform from the car
- as a construction hoist from the base unit.

The machine can be stopped at any point by simply releasing the corresponding button. If landing-level bars have been set, a landing level can be directly approached by pressing the landing-level stop button in the car.

If the car is to be entered or exited at a landing level, the car must be stopped at the same level as the corresponding landing levels. Any offset between car and landing level must be avoided.

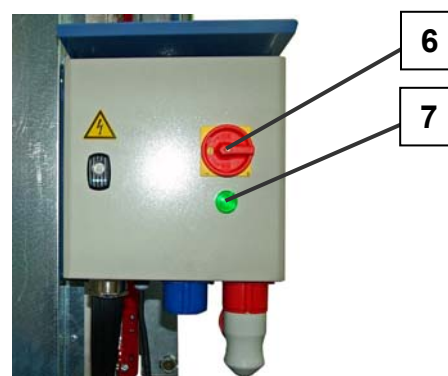
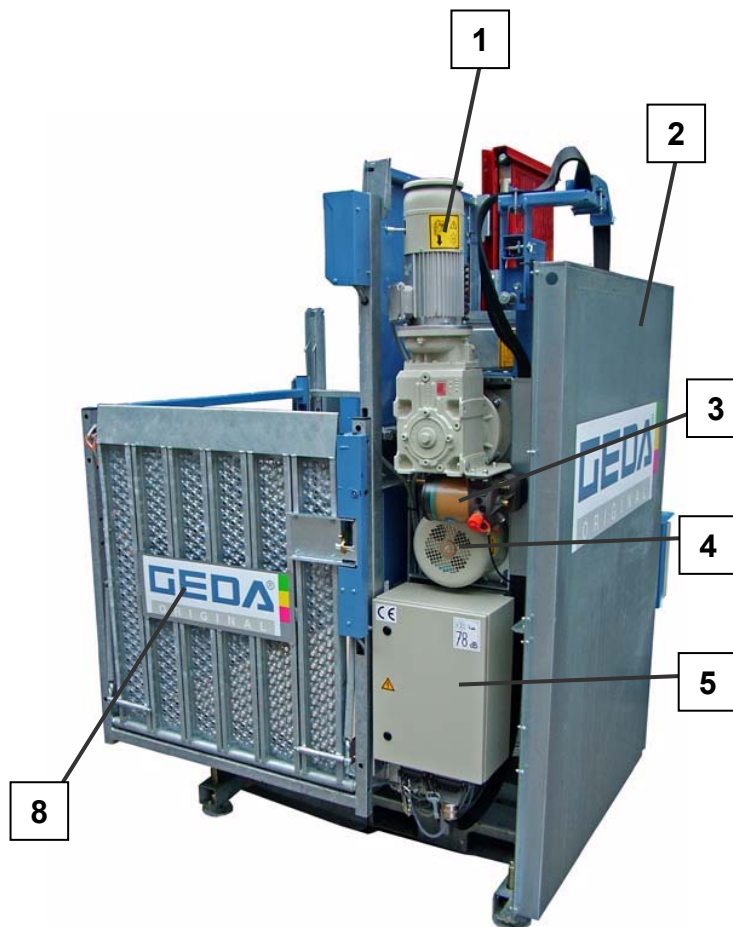


**Securing / designate the bottom hazard area**

If no enclosure is to be used, then the hazard area around the machine must be designated and secured appropriately. National regulations on securing / designating the hazard area must be observed.

**Switch cabinets / drive / control elements**

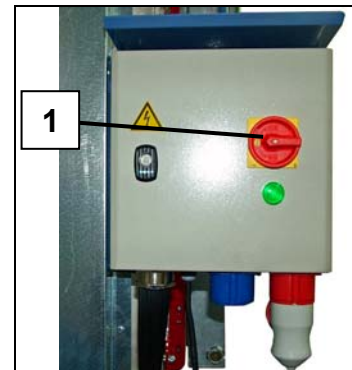
- 1 = Motor
- 2 = Cable box
- 3 = Lubricating device
- 4 = Safety gear
- 5 = Sliding carriage switch cabinet
- 6 = Master switch
- 7 = Mains power control light
- 8 = Ramp



## 9 Operating and control elements

### 9.1 Master switch

Serves the purpose of switching On / Off at the start / end of work. In the event of malfunctions or maintenance / repair work and at the end of work the master switch must be secured with a padlock to prevent it being switched on.



### 9.2 Car control

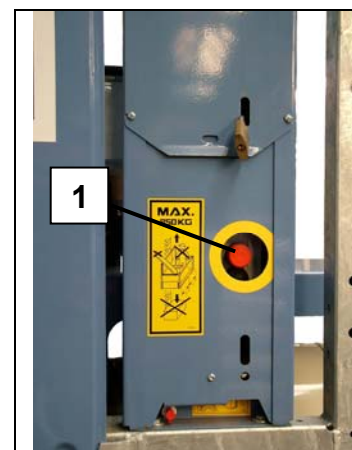
(Use as a transport platform / climbing platform)

Push the cover (1) up and secure it with a lock.

- Turn key switch (4) to position I.

The system is now solely controlled from the car.

The machine can now be used as transport platform / climbing platform.



2 = EMERGENCY-STOP

3 = LANDING-STOP button

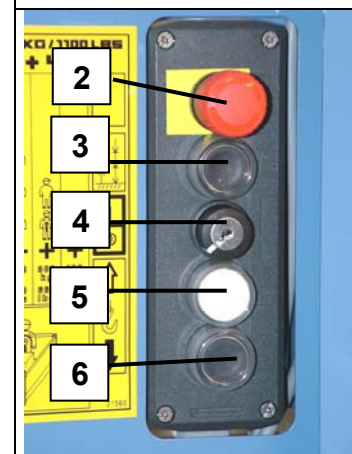
4 = Key switch

Switches the car control on or off.

5 = UP button

6 = DOWN button

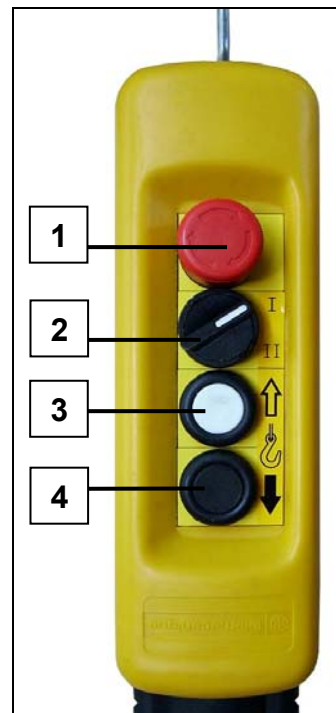
Stopping at any position is possible by simply releasing the button.



### 9.3 *Manual control*

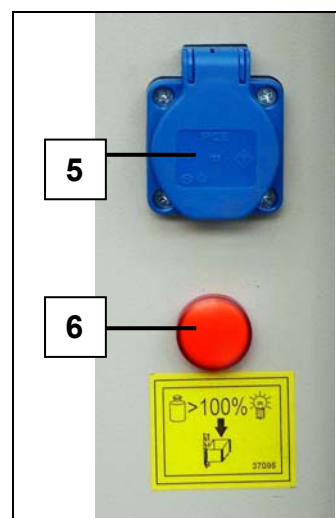
(Use as a construction hoist)

- 1 = EMERGENCY-STOP
- 2 = Selector switch MANUAL (I) - AUTOMATIC (II)
- 3 = UP button
- 4 = DOWN button



### 9.4 *Overload control lamp and socket outlet*

- 5 = Socket 230 V / 16 A.
- 6 = Overload control light



## 9.5 Ground station car access ramp

### Open / close

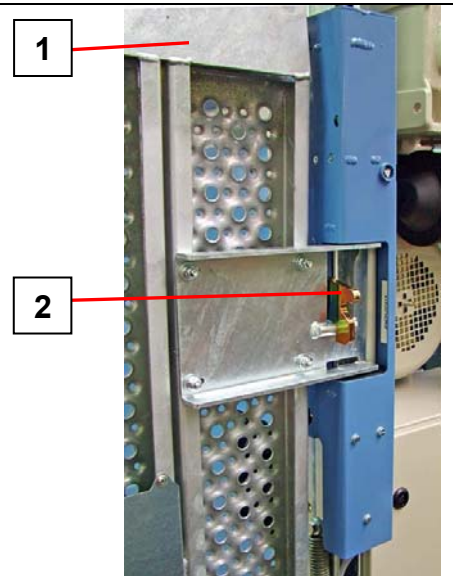
#### NOTE

The ground-station car access ramp can only be opened when the car is actually at the ground station.

- Push / pull ramp (1) inwards with one hand.
- Lift / lower the locking bar (2).
- Carefully lower the ramp (1).

After loading:

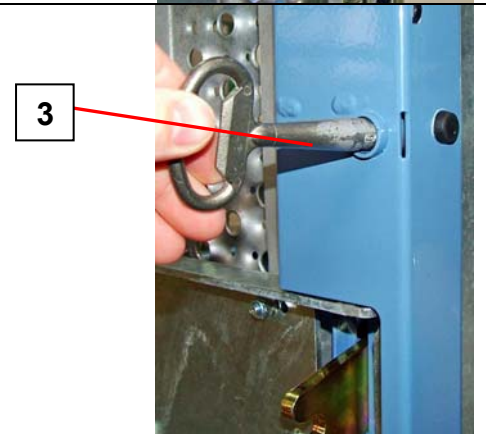
Carefully lift the ramp and push / pull inwards, until the locking bar engages.



#### Emergency release

In case of a power failure the ground-station car access ramp can be unlocked manually.

- Insert the triangular key (3) into the lock.
- Turn the key and lift / lower the locking bar.
- Carefully lower the ramp.
- Remove the key.





## 9.6 Building car access ramp

### Open / close

#### NOTE

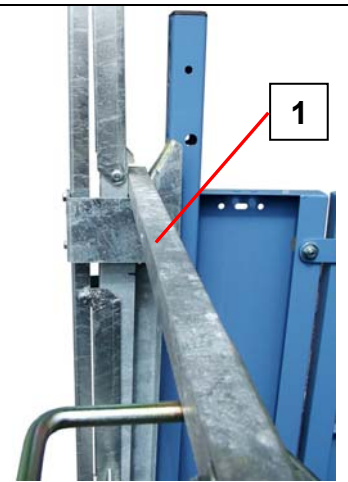
The building car access ramp can only be opened when the car is actually at a landing level.

- Push / pull the latching device (1) towards the car and swing it up.
- The ramp lowers automatically.

After loading / unloading:

- Carefully lower the latching device.

The ramp closes automatically.

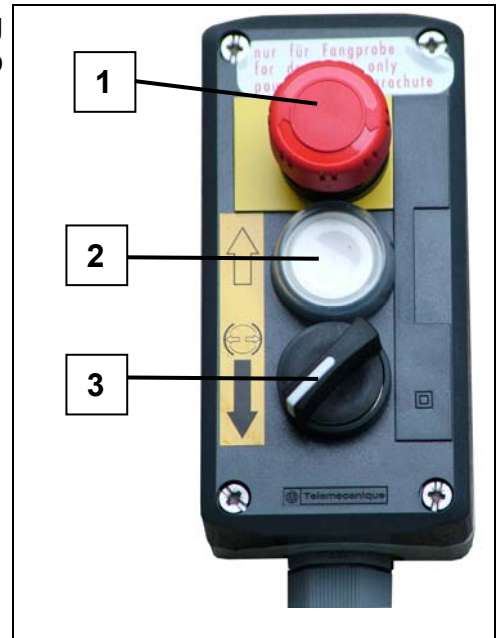


## 9.7 Drop-test control unit

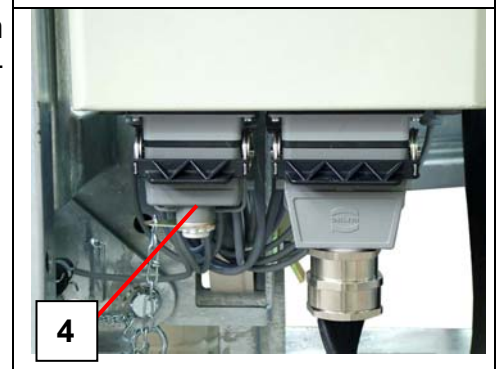
(For use exclusively by authorised personnel).

The droptest control serves the sole purpose of performing a drop test or to travel upwards if the car has travelled too far down.

- 1 = EMERGENCY STOP button
- 2 = UP or “neutral” run button
- 3 = Spring-return button (release brake)



Always plug the dummy plug (4) of the droptest control in again once the drop test has been finished. The unit cannot be operated without the dummy plug.



## 10 Safety and emergency equipment



Extensive safety and emergency equipment guarantee that people are efficiently separated from any hazards. The machine has the following safety and emergency equipment:

Safety and emergency equipment	Included as standard	Optional
EMERGENCY STOP button	X	
Safety gear	X	
Safety stop 2 m above the ground with audible warning signal for 3 seconds and subsequent descent in dead man's mode	X	
Locks to prevent unauthorised use	X	
EMERGENCY lowering (releasing the brake)	X	
Collision grille <sup>#</sup>		X
Roof <sup>#</sup>		X
Enclosure <sup>#</sup>		X
<sup>#</sup> may be stipulated by national provisions.		

### 10.1 **EMERGENCY STOP**

Press EMERGENCY STOP only in an emergency.  
The machine has 3 EMERGENCY STOPs:

- Car control
- Manual control
- Drop-test control unit

	 <b>DANGER</b>
	<p><b>Electric shock</b> Parts remain live even after actuating the EMERGENCY STOP or after switching off the machine at the master switch. Applies to all work on electrical parts. Disconnect mains supply upstream from the master switch.</p>

### 10.2 **Triggering an EMERGENCY STOP / machine shut-down in events of emergency**



Push in the EMERGENCY STOP by hand.

### 10.3 **Ending the EMERGENCY STOP situation**

Pull EMERGENCY STOP out.

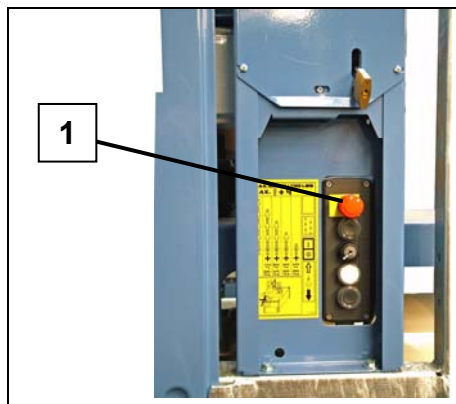
### 10.4 **Defect after an EMERGENCY STOP situation**

If an EMERGENCY STOP situation cannot be cancelled, the machine must be turned off at the master switch and secured against unauthorised switch-on until it is repaired. The superior must be informed.

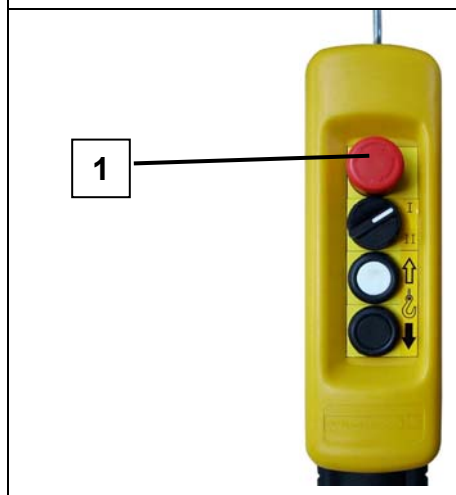
	 <b>DANGER</b>
	<p><b>Danger to life</b> Due to the machine being switched on during servicing / repair work or after a defect. Secure master switch with a padlock to prevent it from being switched on.</p>

### 10.5 Location of the EMERGENCY STOP buttons

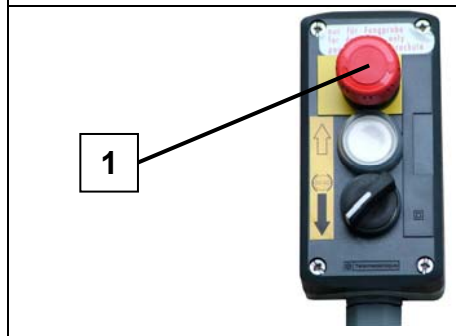
Car control



Manual control



Drop-test control unit



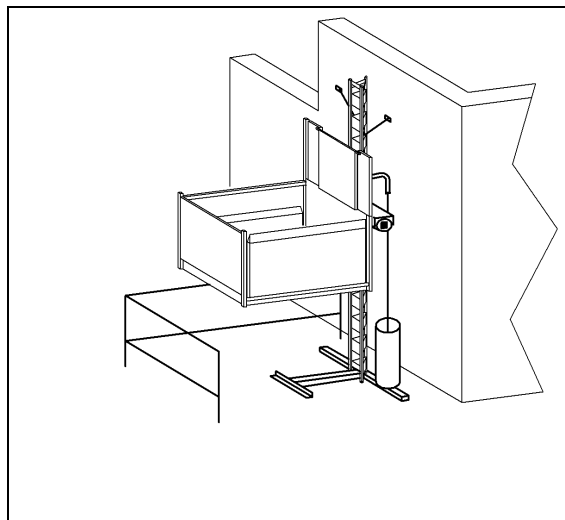
## 10.6 Safety stop

### Safety stop

With the safety stop the car stops approx. 2 m above the ground. A warning signal sounds for approx. 3 seconds. The travel can subsequently be continued down to the ground station by simply pressing the DOWN button.

### WARNING:

Before travelling further it is vital to ensure that nobody remains in the hazard area beneath the car.



	<b>DANGER</b>
	<p><b>Danger to life</b> by crushing. Never stand underneath the car / in the hazard area during operation. Turn the master switch off and secure against being switched back on while working in the hazard area.</p>

## 10.7 Safety gear

Protects the car against an unbraked drop, e.g. in the event of gear damage.

## 10.8 EMERGENCY limit switch

The EMERGENCY limit switch stops the car at the top or bottom end position. This prevents the car from moving past the top end position, for example.

## 10.9 Locks to prevent unauthorised use

Areas with limited access (switch cabinets, etc.) are secured with locks.

### 10.10 **Emergency lowering (brake release lever)**

The brake release lever (1) serves the sole purpose of reaching the next lower landing in an event of emergency. As a result, people trapped inside trapped may be able to evacuate themselves → section Rescuing people from the car.



## 11 Country-specific equipment variants / accessories

### 11.1 Collision grille

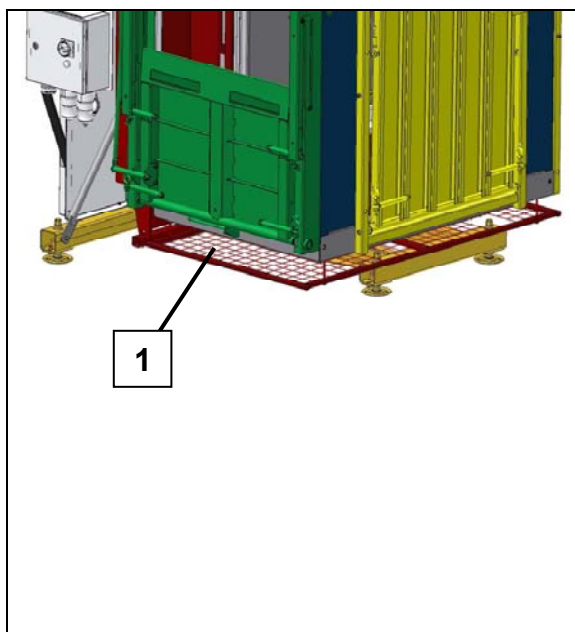
Protects the car when it runs into obstacles. The collision grille flips up on contact with the obstacle, thus switching off the travel movement.

#### NOTE

Collision grilles are prescribed by national regulations in some countries. In machines supplied directly by GEDA in these countries, the collision grilles are already installed.

#### Assembly

Assembly is detailed in a specialist instruction manual supplied with the product.



### 11.2 Roof

If there is a risk of parts falling onto the car, the car must be equipped with a roof (1).

#### Assembly

Assembly is detailed in a specialist instruction manual supplied with the product.





### 11.3 Assembly bridge

The assembly bridge (1) is used to assemble the mast sections from the platform, e.g. in front of a façade if there is no scaffolding.

The assembly bridge must only be used during assembly and dismantling.

Travel is not possible if the assembly bridge is lowered.

#### Assembly

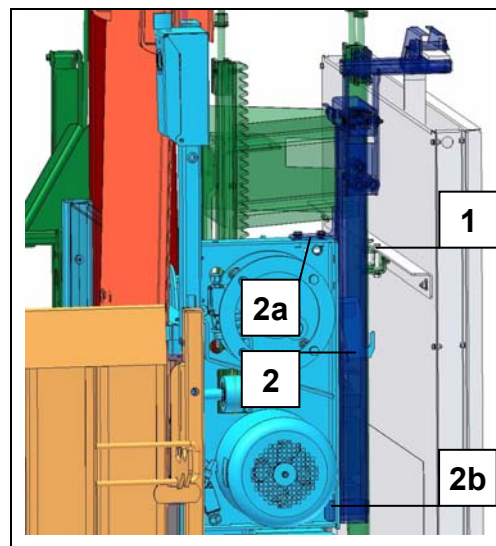
Assembly is detailed in a specialist instruction manual supplied with the product.



### 11.4 Replace the cable box

- Unplug the trailing cable on the switch cabinet of the sliding carriage.
- Remove both bolts (2a) on the trailing cable holder.
- Tip trailing cable holder (2) towards the cable box and unhinge the bottom attachment bracket (2b) on the sliding carriage.
- Loosen bolts (1) on the cable box.
- Raise the cable box and remove it.

Mount cable box with the appropriate cable length as described above.



## 11.5 Converting access to the front end / adding a second access

The standard access (1) to the car can - if the intended purpose of the hoist so requires - be mounted onto position (A).

Alternatively a second access (2) can also be mounted.

### WARNING

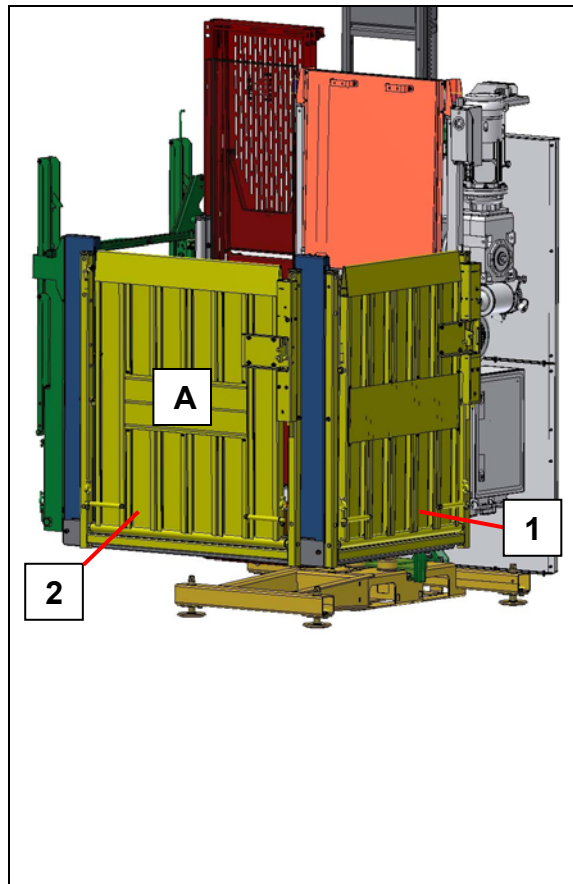
Only one access (1) or (2) can be electrically monitored. The unmonitored ramp may only be opened at the ground station.

### NOTE

Mounting a second access reduces the payload by approximately 55 kg.

### Assembly

Assembly is detailed in a specialist instruction manual supplied with the product.



## 11.6 Enclosure with barrier

### WARNING

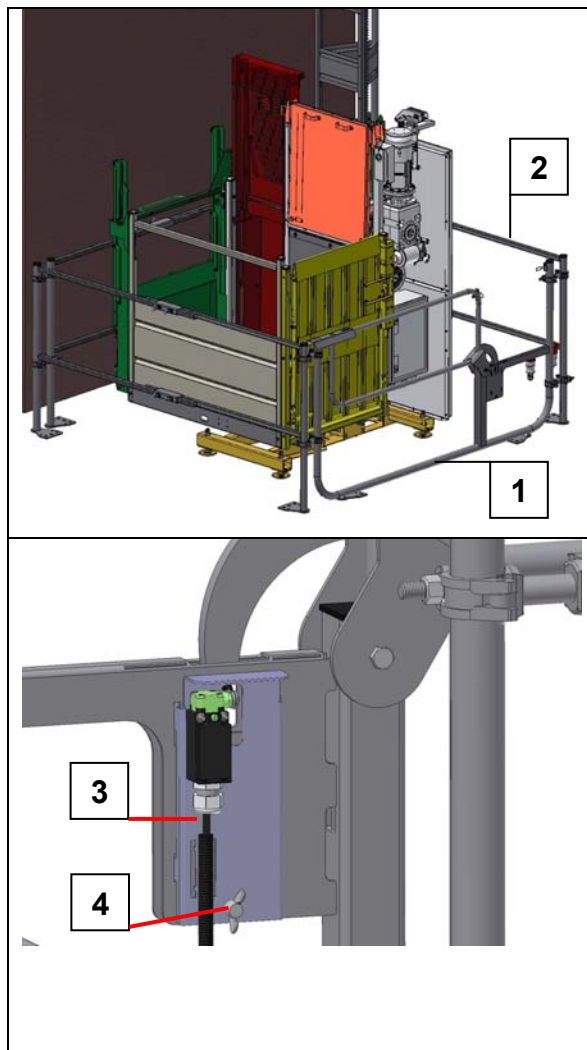
The distance between the enclosure and moving parts must be at least 0.5 m.

### NOTE

The barrier can optionally be hinged on the left or right.

### Assembly

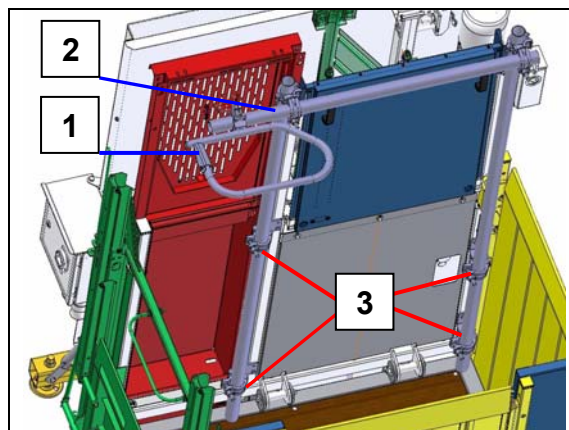
- Place and bolt down the enclosure elements around the base unit.
- Mount barrier (1) to the access side.
- Mount the limit switch (2) and secure with the wing bolt (3).
- Plug in the limit switch 7-pole plug on the cable box switch cabinet.
- The supply cable of the first electrical module for the landing-level gate and / or dummy plug is plugged into the coupling.



### 11.7 *Holder for individual support frames*

Loads that are taller than the platform (e.g. scaffolding tubes) can be transported securely using this holder.

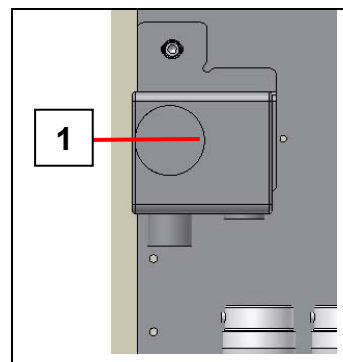
- Bolt the vertical tubes to the platform struts using the special couplings (3).
- Fit a crosspiece (2) at an easily reachable height (approximately 2 m) using scaffold couplers.
- Clamp the scaffold parts holder (1) to the crosspiece.



### 11.8 *Cold package*

**The machine can no longer be operated at temperatures below  $-20\text{ }^{\circ}\text{C}$ .**

The cold package monitors the ambient temperature and disables the upward travel path at lower temperatures, so that it is only possible to travel to the ground station.

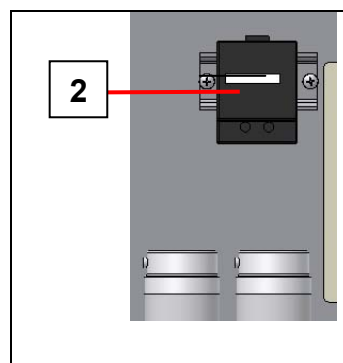


### 11.9 *Operating time indicator*

An operating hours counter (2) can be installed in the sliding carriage switch cabinet to detect the operating hours (motor running time).

#### **WARNING**

The switch cabinet may only be opened by a qualified electrician.



## 12 Daily inspections before starting work

To guarantee safety when working with the machine, the supervisor / platform operator / person appointed by the operating company is obliged to carry out a daily inspection of certain machine areas / parts.

Any defects identified must be reported immediately to a superior and rectified. Defects may only be rectified by professionals responsible for servicing and repairs.

Visual inspections must always be carried out before function tests. Operation is prohibited until the defects are rectified. The following points must be inspected daily.

### 12.1 Visual inspections

#### Entire machine

- Damaged load-bearing elements / deformations.
- Travel path of the machine clear.
- Loose or fallen parts.
- Damage to the car.
- Oil / grease leaks.
- Discolourations and soiling, corrosion, cracks.
- Green control light comes on.
- No objects on collision grille (e.g. quarry etc.)

#### Warning and instruction notices

- All present and legible.

#### Safety equipment

- All present.
- Functional.
- No tampering.

#### Switch cabinets

- Burnt / scorched areas.
- Discolourations.
- Moisture.

## **12.2    Function tests**

### **12.2.1    Test run with an empty car**

- Unusual odours, noises or vibrations.
- Oil / grease leaks.
- Run car to its maximum height.
- Stop the car at the correct position.
- Travel further upwards not possible.
- Run car down to ground station.
- Stop the car at 2 m height, audible warning signal, travelling further towards the ground station only possible in dead man's mode.
- Stop the car at the correct position.
- Travel further downwards not possible.

### **12.2.2    Test run by platform operator / person authorised to carry out tests and inspections**


No one else is allowed to be in the car.

- Move to each stop position.
- Stop the car inside the tolerance range max.  $\pm 2$  cm.
- Door of car and landing-level gate functional.

## 13 Rescuing people trapped inside

Rescue may become necessary if e.g.

- there is no mains voltage.
- the electrical system has malfunctioned.
- the drive has failed.
- the safety gear has triggered.

	<b>WARNING</b>
	If the attendant does not feel confident or qualified to organise and carry out the rescue, please notify the relevant authorities (fire brigade, technical support, factory security office).

### 13.1 *Basic conduct in the event of a rescue / malfunction*

- Remain calm and do not act hastily.
- Get an overview of the situation.
- Keep unauthorised people away.
- Make contact with anyone trapped in the car.
- Try to find out what has caused the malfunction / defect in the system.
  - Power failure
  - Trigger the safety gear
- If necessary inform persons trapped in the car about the planned procedures.
- Inform your superior about the malfunction.
- Inform any rescue services.

**The sequence of measures can / must be varied by the attendant / rescue personnel depending on the specific situation.**

### **13.2     *Rescue measures plan***

#### **People in the car:**

Measure 1: Inspect the key switch.

This might have been actuated accidentally.

Measure 2: Self-rescue using the brake release lever.

Measure 3: Carry out rescue according to the operating company's emergency plan.

#### **No people in the car:**

Measure 1: Carry out rescue according to the operating company's emergency plan.

The individual measures are explained below.

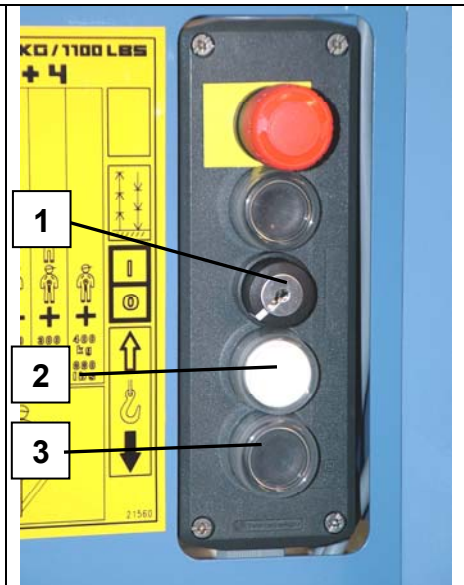


### 13.3 Rescuing people from the car

#### Measure 1: Key switch

- Turn key switch (1) to position I.
- Press the UP (2) or DOWN button (3) to continue the travel.

Car begins to move.



#### Measure 2: Self-rescue with EMERGENCY lowering (brake release lever)

The brake release lever serves the sole purpose of reaching the next lower landing in an event of emergency. People trapped in the car may be able to evacuate themselves using this method.

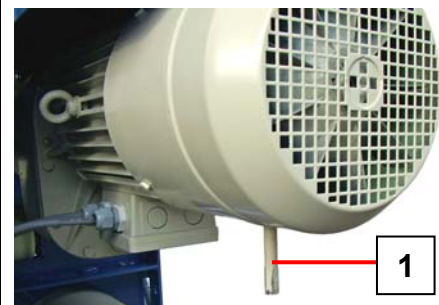
- Release the motor brake by controlled pulling on the brake release lever (1).

Car slides down.

Stop and exit the car at the next landing.








#### CAUTION

Avoid overheating of the brake. Interrupt the lowering process for 2-3 minutes at the latest after 20 meters.



## 14 Cleaning

Execution, necessary safety clothing, cleaning agents and equipment according to the applicable instructions from the operating company.

	 <b>DANGER</b>			
	<p><b>Danger to life</b> Risk of fire and explosion as a result of using combustible cleaning materials.</p> <p>Only use suitable, non-combustible cleaning agents.</p>			
	<p>Do not use steam-jet equipment / high-pressure cleaners. This can damage electrical components.</p> <p>Do not touch sockets, cables or electrical components with wet or damp hands.</p> <p>Cleaning work on live components must only be carried out by qualified electrical personnel.</p> <p>Wear personal protective equipment.</p>			
				

### 14.1 *Cleaning the machine inside and out*



- Clean all surfaces thoroughly.
- Clean switch cabinets and control panels separately.
- Signpost wet areas and secure against access.

### 14.2 *Cleaning the area around the machine*

- Execution, cleaning agents and equipment according to the applicable instructions from the operating company.

## 15 Assembly

### Safety instructions for assembly / transport

		<b>WARNING</b>
	<p><b>Danger to life</b>          Raised load.          Do not stand under suspended loads.          Do not stand on suspended loads.          Only lift loads at the suspension points.          Only use suitable lifting gear.</p>	

- Precautionary measures stipulated by the company for avoiding fires, explosions, dust, gas, steam and smoke (during welding, burning and grinding work) must be observed.
- The stated torques must be adhered to. Use a calibrated torque wrench for this.
- Appropriate lifting gear must be used when working with heavy parts.
- Adhere to the minimum requirements for thoroughfares, paths and emergency exits.
- Provide sufficient space to open doors and covers.
- Only carry out welding, burning and grinding work on the machine after consultation and approval from GEDA.
- Observe the reduced load-bearing capacity of the car during assembly.
- Observe the mast tie distances and trailing cable guide distances.
- Observe the load-bearing capacity of the boom truck.
- Avoid mixing up / incorrect re-assembly of dismantled parts. Label parts.
- In the event of wind speeds > (45 km/h), bring the car down to the ground and cease operation.

- During installation, never do the following from inside the car:
  - reach or lean into the travel path during ascent / descent
  - allow parts to project into the travel path during ascent / descent
  - stand on the load
  - exit the car to climb onto the mast or the building.
- Cordon off / mark out the assembly / hazard area.
- No one is allowed to stand under the assembly / hazard area.

### 15.1 Transport to the assembly location

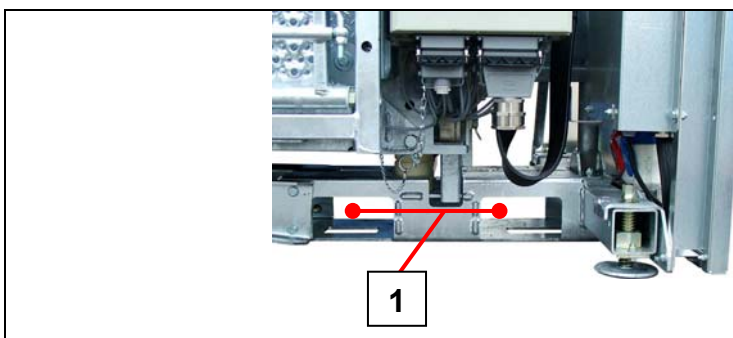
- Check the delivery for completeness and transport damage.

Report any transport damage immediately.

- Dispose of packaging / protective coverings according to legal requirements or keep them for later transport.

#### Unloading / loading the base unit using a forklift truck

Use a forklift truck for loading or unloading. The forklift take-up point (1) is under the supporting beam of the platform. Forklift tines must be at least 0.8 m long.



#### Unloading / loading the base unit using a crane

- Mount crane hook onto the crane lugs (2) on the sliding carriage using an appropriate, tested round sling.



#### CAUTION

Damage to the base mast. Never fasten load carrying devices directly to the base mast.  
 Always use the GEDA crane lug.  
 When transporting through narrow passages make sure not to bump the base mast.



## 15.2 *Assembly plan*

The assembly is generally carried out in accordance with the following schematic.


<b>Assembly schematic</b>
<b>1. Erecting the base unit</b>
<ul style="list-style-type: none"><li>1. Align</li><li>2. Bolt support plates to the foundation</li><li>3. Connect to the mains electricity supply of the operating company</li></ul>
<b>2. Assembling the mast</b>
<ul style="list-style-type: none"><li>1. Bolt the mast elements together</li><li>2. Set the anchoring points</li><li>3. Align the mast</li></ul>
<b>3. Set the EMERGENCY limit switch bar</b>
<b>4. Secure the loading points using landing-level equipment</b>
<b>5. Check the machine for initial operation</b>
<b>6. Train authorized personnel</b>

### 15.3 Assembling the base unit

The base unit must be aligned horizontally and at right-angles to the building / scaffolding.


The introduction of forces into the foundation solely takes place via load-distributing supports (area min. = 0.25 m<sup>2</sup>).

- Stand the base unit on load-distributing supports and align it with the support plates.

	<b>WARNING</b>
	<p>Danger to life caused by breakage or dislocation of the support plates.</p> <p>The support plates must not carry any load, they serve the sole purpose of adjusting the base unit.</p> <p>Secure at least two support plates with screws against dislocating. Should this not be possible, the first mast tie must be mounted at a height of one meter.</p> <p>Once the base unit has been assembled you should check whether it stands securely and can be used by personnel to assemble the mast. For this purpose perform a test run with an empty car.</p>

### 15.4 Mounting the first mast tie

- Mount the first mast tie at a height of approx. 4 m. Ensure at least 50 cm safety distance to the car.
- After assembling the mast tie check the alignment of the base mast with a spirit level.

	<b>WARNING</b>
	<p>Danger to life caused by mast breakage and dropping of the car.</p> <p>The load capacity has been reduced to max. 300 kg:</p> <ul style="list-style-type: none"> <li>- as long as no second mast tie has been mounted or</li> <li>- by travelling along the cantilevered mast section (max. 5.5 m upper edge of trolley to mast fastening).</li> </ul>

### 15.5 *Transport through narrow spaces*

For transport through narrow spaces (e.g. through doors etc.), the base assembly of the car can be folded up.

#### **Dimensions with base assembly folded up**

Width	= 0.87 m
Height (without assembly bridge)	= 2.05 m
Height with protective buffers dismantled (without assembly bridge)	= 1.97 m
Height (with assembly bridge)	= 2.30 m



### 15.5.1 Dismantling the accesses

- Loosen plug-in connections (1) of the accesses (A-C) on the base assembly.
- If necessary label plug-in connections (1) to prevent any mix-up.
- Loosen the bolts (2) of the frame at the access (A-C) and C and unscrew approx. 10 mm (● = 8 mm).

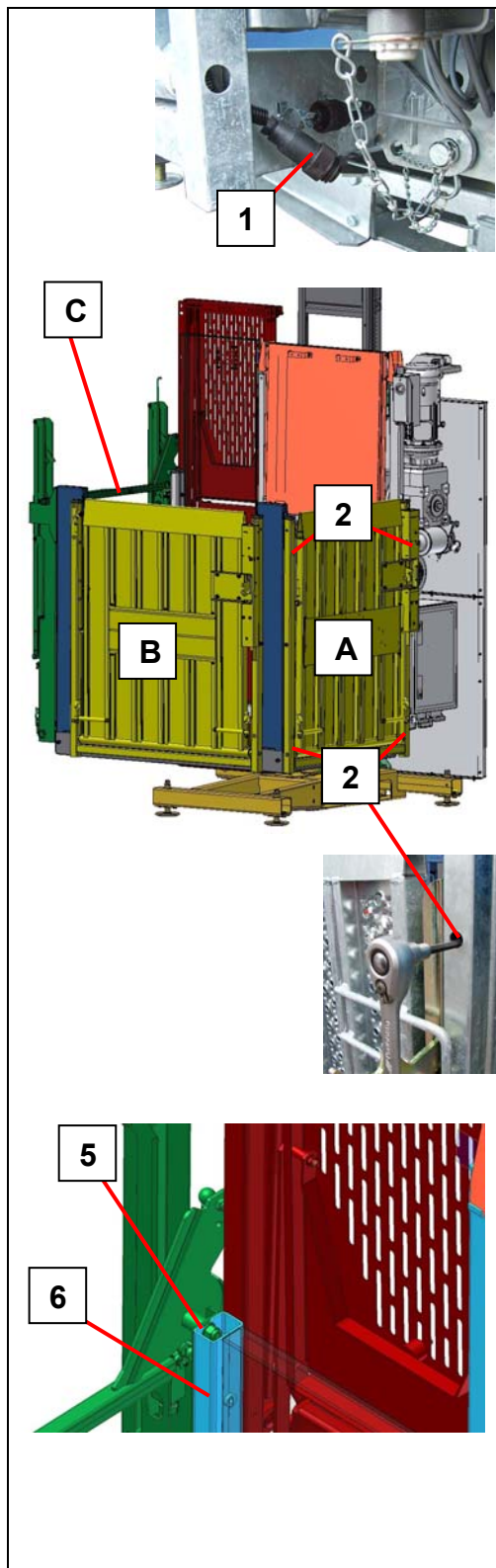
**IMPORTANT**

For access C also loosen the bolt (5) from the platform post (6).

- Release and remove accesses.

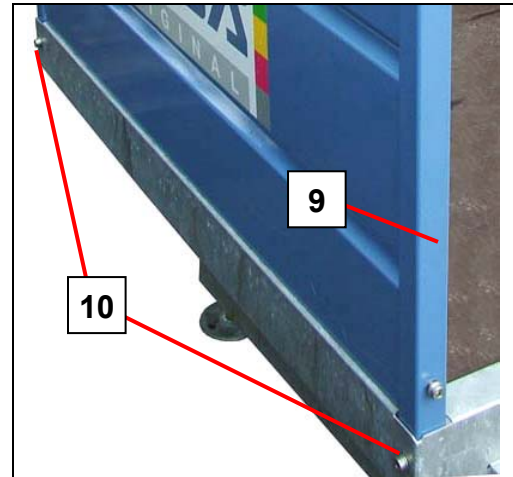
**WARNING:**

Unfastening the frame inhibits the protective function of the accesses. Check the access bolts after each installation.



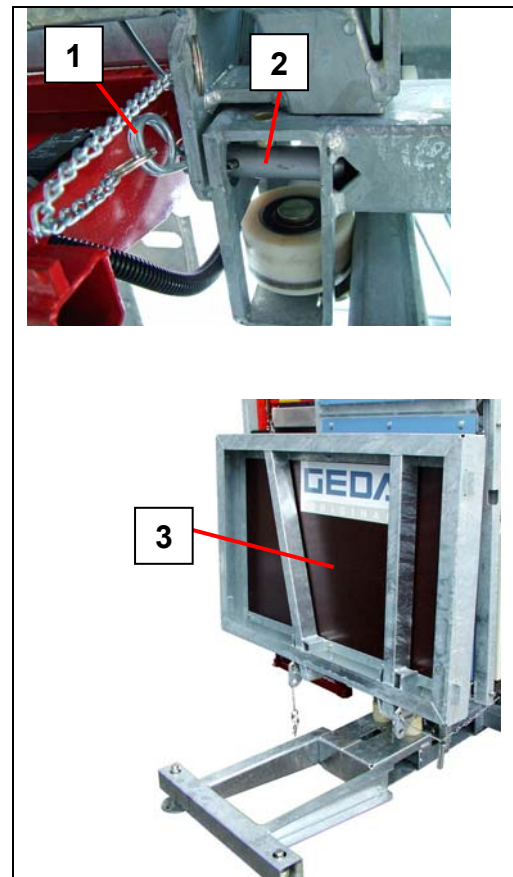
### 15.5.2 Dismantling the front wall

- Loosen both bolts (10) on the front wall (9).
- Raise and remove the front wall from the base assembly.



### 15.5.3 Folding up the car

- Remove sprint cotter pin (1).
- Remove locking pin (2).
- Fold up base assembly (3) and secure (rope, belt, etc.).

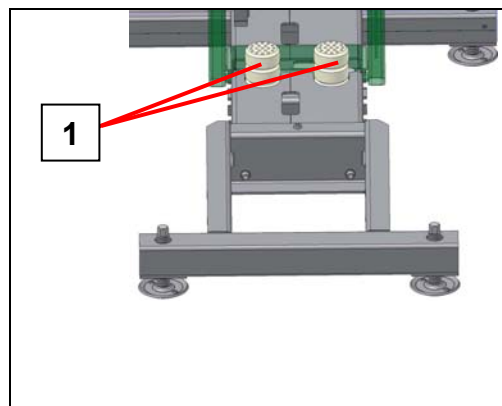


#### 15.5.4 Remove protective buffers

##### NOTE

If the height needs to be further reduced, the protective buffers can be removed and subsequently the base unit can be carefully lowered onto the frame.

- Loosen the buffer bolt. Remove buffers.
- Slowly lower the base unit onto the frame.

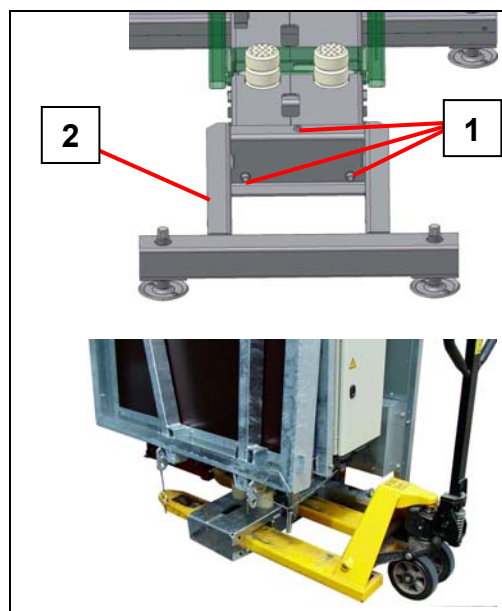


#### 15.5.5 Unscrew foot section

- Loosen the three bolts (1) on the front-side foot section (2).
- Remove foot section.
- Use pallet truck to transport base unit to the assembly location.

##### WARNING

Only use a pallet truck with adequate stability and brake. Carry out transportation over inclines with the utmost care.



#### 15.5.6 Installation at the assembly location


Installation at the assembly location is always carried out in reverse order to the dismantling.

#### 15.5.7 Inspection after assembly

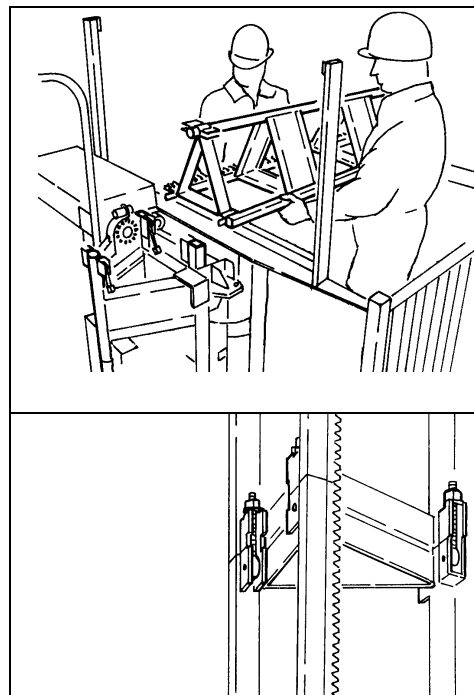
- Check locking pins. It is not possible to fold up the base assembly.
- Check all plug-in connections are connected properly.
- Open and close all access points.
- Make sure there is no problem with the functioning and interlocking.
- When access ramp is opened, no travel command is possible.


## 15.6 Assembly / anchoring of the mast

Assembly and anchoring of the mast is generally performed from the car and the scaffolding. When assembling without scaffolding, a mast bracket is used for anchoring the mast to the building from the assembly bridge.

	<b>WARNING</b>
	<p><b>Danger to life</b></p> <p>Mast fixtures must be planned at the following distances.</p> <p style="padding-left: 40px;">First mast fixture at a height of 4 m.</p> <p style="padding-left: 40px;">Subsequent mast fixtures every 6 meters.</p> <p>After assembling a mast fixture the mast must be correctly aligned by using a spirit level.</p>


- Load the car.
  - ➔ Observe the max. payload.
  - Close the loading ramp.
  - Press the UP button.
- The platform stops automatically at the top end.
- Lower the assembly guard.
  - Attach the mast section, tilt it up and tighten it.
  - Reattach the assembly guard.
- 
- Press the UP button and assemble further mast sections.
  - Press the DOWN button and fetch further mast parts from the ground.



	<b>DANGER</b>
	<p><b>Danger to life</b></p> <p><b>Crushing or amputation of limbs.</b></p> <p>Never reach into the travel path of the machine during operation.</p>

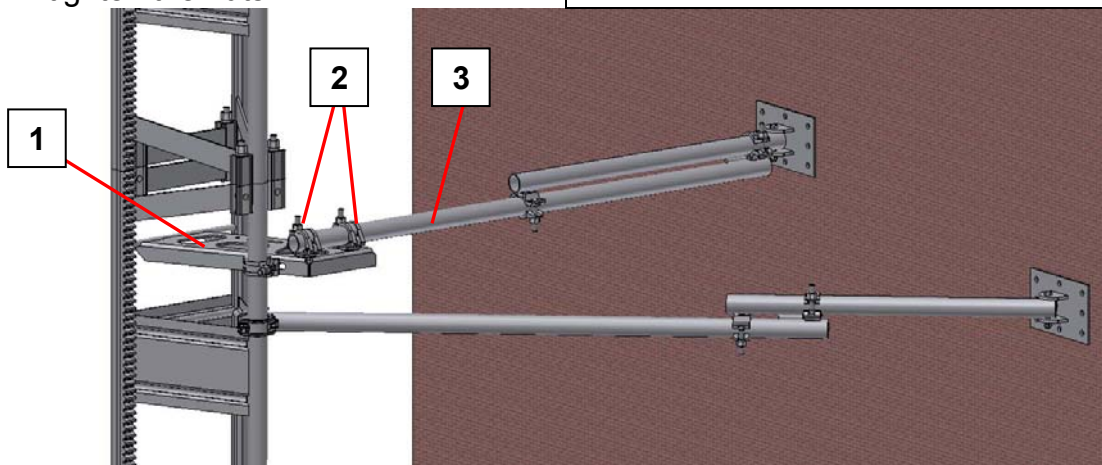
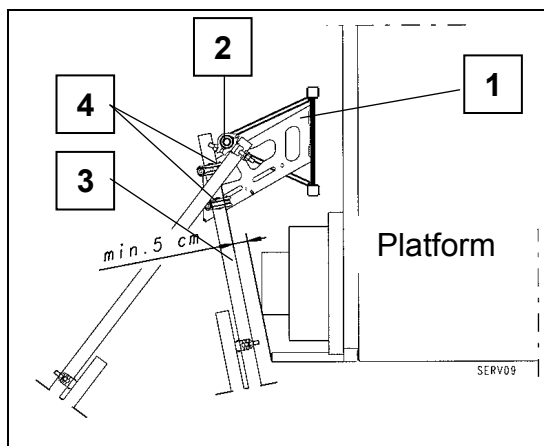
### 15.6.1 Assembling the mast fixture

To assemble the mast fixtures travel up to a point where these can easily mounted. The minimum distance to the assembly bridge is 5 cm.

	<b>WARNING</b>
	<p><b>Danger of collision</b></p> <p>The free tube ends must not project beyond the mast cross-section / the travel path of the car.</p>

Use extension tubes to increase the distance to the building. Choose the horizontal distance from the wall as big as possible.

- Fasten the mast fixture (1) from the front on the circular mast tube using a scaffolding coupling (2). (Tightening torque 50 Nm).
- Insert the telescopic tube (3). Close the scaffolding clamps (4), screw them together so that the tube can still be moved.
- For adjusting the angle loosen the nuts below the scaffolding clamps (4) and move the clamps. Re-tighten the nuts.



In order to minimize wear on the gear racks, we recommend lubricating the gear racks each time a mast bracket is fitted.

### 15.6.2 Trailing cable guide

Trailing cable guides must be installed to ensure that the trailing cable runs freely into the cable box. The more sensitive the hoist location is to wind forces, the shorter the distances should be between trailing cable guides.

#### ATTENTION

Attach the first trailing cable guide (1) at a distance of approx. 1 m from the upper edge of the cable box.

#### Assembly

- Mount trailing cable guide (1) at right-angles on the circular mast tube and align centrally relative to the cable holder (2).

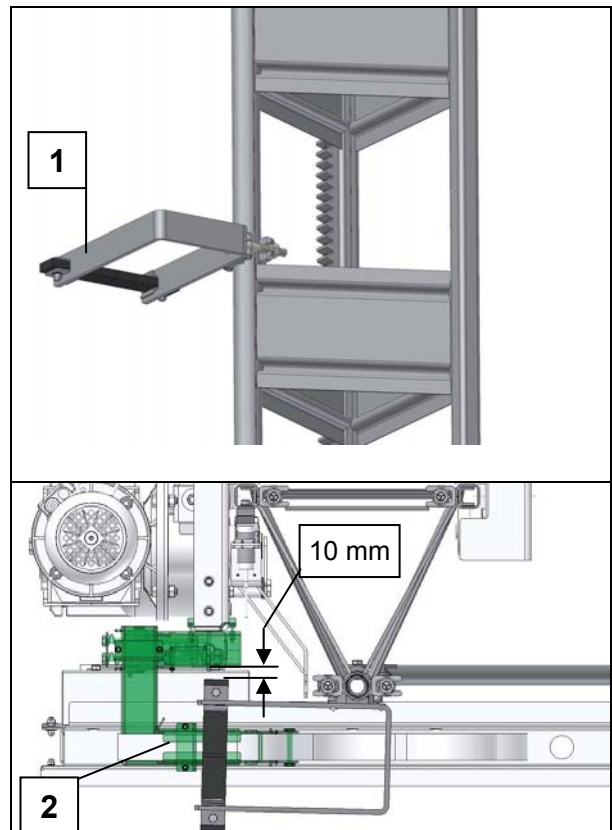
#### NOTE

Rubber lug must point to the drive.

#### ATTENTION

Collision hazard with the sliding carriage.

- Distance to the vertical cable holder rectangular tube at least 10 mm.



### 15.6.3 Using the assembly bridge

The assembly bridge is solely intended for assembling the mast from the car. Prior to using the car you must make sure that the assembly bridge safety latch has fully engaged (second tooth).

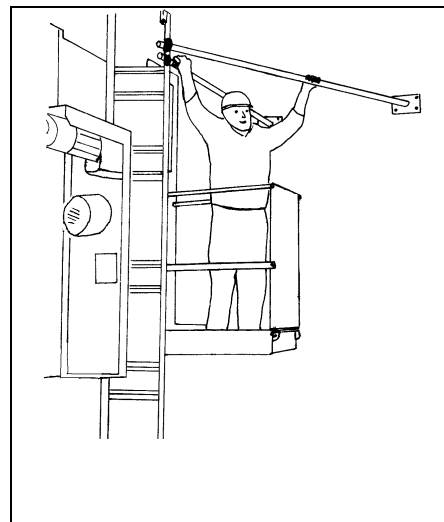
With the assembly bridge unfolded the car can no longer be moved. Before assembling a mast fixture you should therefore position the car so that the assembly bridge can still be closed after assembly (1.6 m distance between mast fixture and car floor).

#### Opening the assembly bridge

- Loosen the safety latch, if necessary pull the assembly bridge slightly inwards by the grip bar (2).
- Unfold the assembly bridge completely using the bracket (2).
- Push the front wall outwards.

#### Closing the assembly bridge

Pull the front wall inwards by the bracket (2). Close the assembly bridge completely with the grip bar (the safety latch engages in the second tooth).

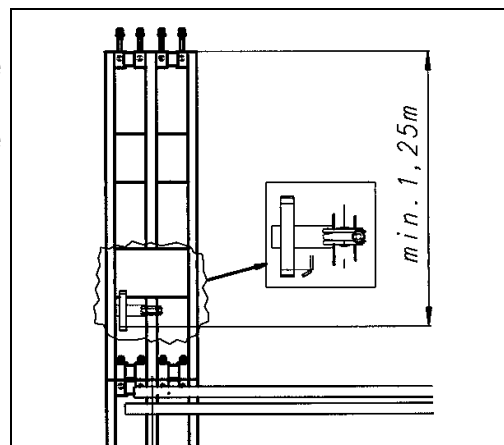


### 15.6.4 Assembling the EMERGENCY limit switch bar

The EMERGENCY limit switch bar stops the car in case of a malfunction before it can exit the rack.

Assemble the EMERGENCY limit switch bar so that the last mast fixture can be overtravelled by max. 3 m during operation.

The minimum distance of the EMERGENCY limit switch bar to the top mast end must be at least 1.25 m.

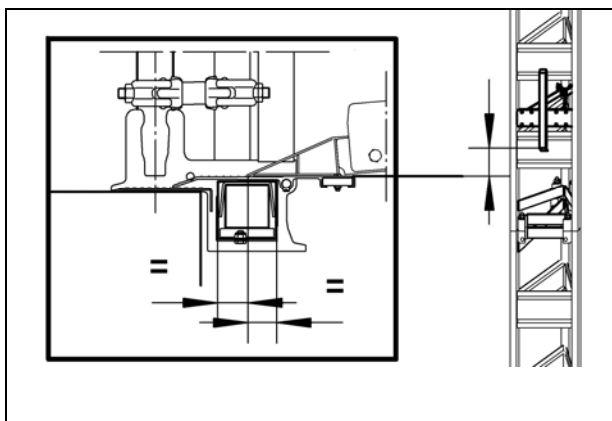


### 1.1 LANDING-LEVEL limit switch bar

The landing-level limit switch bar stops the car at the same level as the landing-level safety equipment. As a result, transfer between car and landing level is possible with no offset.

Mount the landing-level limit switch bar so that the lower end of the landing-level limit switch bar is situated 33 cm above the level of the landing level.

Mount the landing-level limit switch bar between both rectangular tubes of the mast and secure to the circular mast tube with the welded coupling.



### 15.6.5 Securing loading and unloading points

Fall protection systems must be provided at all loading and unloading points with heights above 2 m. Only fall protection systems allowing danger-free crossing may be used. GEDA lifts with type test certification must also only be used in combination with tested GEDA landing-level safety gates. For assembly of landing-level safety gates see corresponding instruction manual.



**15.6.6 Checks after assembly / checks prior to initial commissioning**

Perform checks as specified in the section Checks.

**16 Disassembly**

Disassembly normally takes place in reverse order.

**17 Disposing of the machine**


Dismantle the equipment properly at the end of its service life and dispose of in an environmentally friendly way according to national provisions.

It is prohibited to recycle parts from a machine that is being disposed of for use in other machines, or to assemble such parts to produce a new machine.



**Recommendation:**



Contact the manufacturer or commission a specialist company to handle disposal requirements in accordance with regulations.



## 18 MAINTENANCE


	<b>WARNING</b>
	<p>The entire manual must be read for all service / repair work. Work is prohibited if the nature and scope of the work to be carried out is unclear or the resulting hazards and measures which must be introduced to avert said hazards are unclear. All unclear issues must be resolved before starting work. All safety instructions must be complied with. The service intervals specified must be adhered to.</p>




### 18.1 *Warnings and safety instructions to be complied with during maintenance / servicing*



	 <b>DANGER</b>
	<p><b>Danger to life</b> Crushing or amputation of limbs. Never reach into the travel path of the machine during operation.</p>



	 <b>DANGER</b>
	<p><b>Danger to life</b> <b>Falling tools / parts.</b> Secure tools / parts against falling. Use the car roof.</p>

	 <b>DANGER</b>
	<p><b>Danger to life</b> Due to the machine being switched on during servicing / repair work or when there is a defect. Secure master switch with a padlock to prevent it from being switched on.</p>

	<b>WARNING</b>
	<p><b>Fall and trip hazard</b> Look out for steps and objects on the ground when entering / exiting the car.</p>

 	 <b>DANGER</b>
	<p><b>Electric shock</b>                  Parts remain live even after actuating the EMERGENCY STOP or after switching off the machine at the master switch.                  Applies to all work on electrical parts.                  Disconnect mains supply upstream from the master switch.</p>

	 <b>WARNING</b>
	<p><b>Danger to life</b>                  Raised load.                  Do not stand under a suspended load.                  Do not stand on a suspended load.                  Only lift loads at the suspension points.                  Only use suitable hoisting gear.</p>

	 <b>WARNING</b>
	<p><b>Danger to life</b>                  Access only for authorised individuals.                  No access for unauthorised individuals.</p>

## 18.2 Maintenance plan

Tasks to be carried out	Quarterly	Every year
Function test of the car control	X	
Function test of the car control		X
Check notices are present	X	
Check the gear rack and drive pinion for wear	X	
Check / refill the lubrication facility	X	
Check the trailing cable for damage	X	
Check collision grille and roof	X	
Check the gear rack is positioned securely		X
Check attachment bolts on the access to the car (mounting frame) and tighten if necessary.	X	
Check motor brakes (air gap and pad thickness)		X
Test / adjust the rescue equipment (release motor brakes)		X
Test the safety gear		X
Check track rollers on the sliding carriage		X
Protective earth testing in accordance with EN 60204, part 1		X
Insulation test in accordance with EN 60204, part 1		X
Visual check of all control devices, limit switches and lines		X

### 18.3 Inspections

During the inspections, all safety-related characteristics of the machine are checked by means of appropriate procedures for condition, presence and function. Appropriate procedures are:

- Visual inspections
- Function and efficacy testing
- Inspections using measuring and testing equipment

The scope, type and schedule of each inspection, and the persons authorised to carry out the inspection should be specified by the operating company.

<b>Inspections plan</b>		
↓	↓	↓
Inspection by a trained person	Inspection by a qualified person	Inspection by an accredited inspection body (recurring inspection)
Simple visual and functional checks with just a few inspection steps and simple evaluation	↓	For systems that are subject to scheduled monitoring Inspection according to national regulations
<b>Inspection by a qualified person</b>		
↓		↓
Inspection due to specific incidents / damaging influences, such as		Inspections according to maintenance plan
<b>Natural phenomena:</b> <ul style="list-style-type: none"> <li>• Lightning</li> <li>• Storm</li> <li>• Flooding</li> <li>• Cold &gt; -20 °C</li> </ul>		See relevant section
<b>Accidents:</b> <ul style="list-style-type: none"> <li>• Collision</li> <li>• Overturning</li> <li>• Crash</li> </ul>		
<b>Changes / modifications:</b> <ul style="list-style-type: none"> <li>• Drive replacement</li> <li>• Safety gear replacement</li> <li>• Changes to the control electronics</li> <li>• Replacement of control and protection equipment</li> <li>• Replacement of electrical power cables</li> </ul>		
<b>Installation:</b> <ul style="list-style-type: none"> <li>• For first start-up</li> <li>• At a new location</li> </ul>		
<b>Exposure to harmful substances</b> <ul style="list-style-type: none"> <li>• Corrosive media</li> <li>• Contaminations of unknown origin</li> </ul>		

Visual inspections must always be carried out before function tests. Any defects identified must be reported immediately to a superior and rectified. Operation is prohibited until the defects are rectified. Defects must only be rectified by qualified specialists who are authorised to do so.

### **Documenting the results**

The operating company must document the results of inspections. The documentation must be kept for a reasonable period of time – however at least for the entire lifetime of the machine. Proof of performance of the last inspection must be attached to the machine.

## **18.4 Visual inspections**

### **Entire machine**

- Damaged load-bearing elements / deformations.
- Travel path of the machine clear.
- Loose or fallen parts.
- Damage to the car.
- Oil / grease leaks.
- Discolourations and soiling, corrosion, cracks.
- Operation control light is on.

### **Warning and instruction notices**

- All present and legible.

### **Safety equipment**

- All present.
- Functional.
- No tampering.

### **Switch cabinets**

- Burnt / scorched areas.
- Discolourations.
- Moisture.

#### 18.4.1 Test run with an empty car

- Unusual odours, noises or vibrations.
- Oil / grease leaks.
- Run car to its maximum height.
- Stop the car at the correct position.
- Travel further upwards not possible.
- Run car down to ground station.
- Stop the car at 2 m height, audible warning signal, travelling further towards the ground station only possible in dead man's mode.
- Stop the car at the correct position.
- Travel further downwards not possible.

#### 18.4.2 Test run by platform operator / person authorised to carry out tests and inspections

##### **ATTENTION**

No one else is allowed to be in the car.

- Move to each stop position.
- Stop the car inside the tolerance range max.  $\pm 2$  cm.
- Door of car and landing-level gate functional.

## 18.5 Refilling and inspection jobs

### 18.5.1 Lubrication device

#### CAUTION

Do not use any grease with solid lubricants. The lubrication device may become damaged.

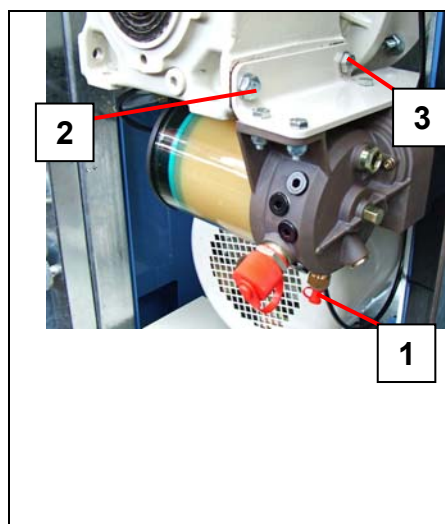
#### Fill up using the nipple

- Place the grease gun onto the nipple (1).  
(Underside of the reservoir)
- Fill reservoir to the "MAX" mark.

#### NOTE

It may be useful to fold up the lubrication device in order to carry out maintenance on the safety gear.

- Loosen bolt (2). Fully loosen and remove bolt (3).
- Fold up the lubrication device using the holder.



#### Quick-filling with a filling gun

- Remove the cap from the filling port (2).
- Insert the grease gun up to the stop point inside the filling port.
- Fill reservoir to the "MAX" mark.




#### Bleed the lubrication device

If the limit switch is defective, the lubrication device will run completely empty and must be bled after the limit switch has been repaired / replaced.

- Place the grease gun onto the nipple (1).
- Fill up to 4 cm above the "MIN" mark.
- Remove the lubrication hose from the pump housing.
- Remove the pump element or locking screw (M20x1.5) and keep open until bubble-free grease is discharged.
- Re-screw the pump element or locking screw.
- Trigger the lubricating pulse until lubricant runs out without air bubbles.
- Reconnect the lubricating hose.

## 18.6 Checking for wear

	<b>WARNING</b>
	<p><b>Danger of injury from components failing</b>                  Parts must be replaced immediately if the specified wear limits are exceeded. Machine operation is prohibited until the parts have been replaced. All parts must also be checked for damage (deformation, cracks, cavities, etc.).</p>

### 18.6.1 Drive pinion

Number of teeth = 14

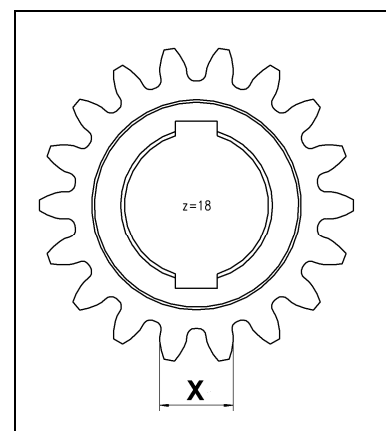
Module  $m = 6$

Wear limit

Dimension X min.	Dimension X normal
28,15 mm	28,85 mm

28,15 mm	28,85 mm
----------	----------

Measure dimension X on each pair of teeth



### 18.6.2 Gear rack

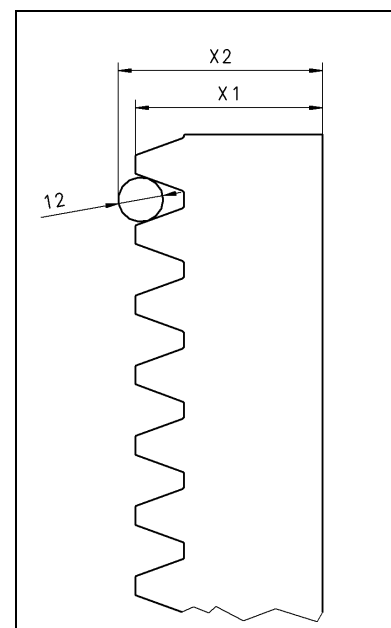
Gear rack dimension  $X1 = 50$  mm

Wear limit

X 2 min.	X2 new
53,50 mm	54,60 mm

53,50 mm	54,60 mm
----------	----------

Gauging pin: 12 mm (+0.0 / -0.11 mm)



Check that all gear racks are positioned securely. If necessary tighten gear racks with 178 Nm.



### 18.6.3 Tracks rollers

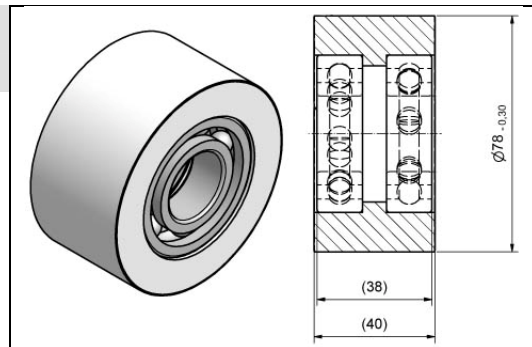
Track roller (white) Item-No. 13060

Wear limit (diameter)

**Ø min.**                      **Ø normal**

77 mm                          78<sub>-0.30</sub> mm

Also check the play and condition of the bearing.  
There must be a circlip.



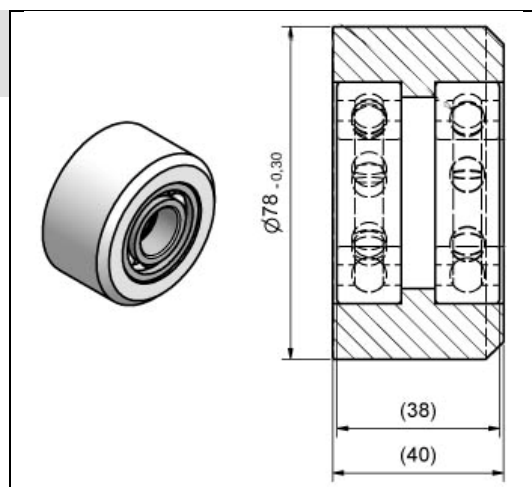
Track roller with chamfer (white) Item-No. 18013

Wear limit (diameter)

**Ø min.**                      **Ø normal**

77 mm                          78<sub>-0.30</sub> mm

Also check the play and condition of the bearing.  
There must be a circlip.



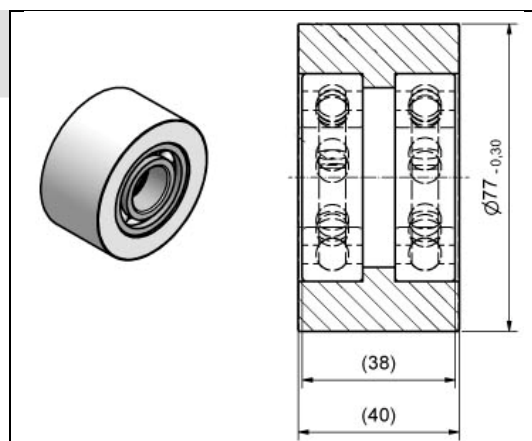
Track roller (black) Item-No. 19983

Wear limit (diameter)



**Ø min.**                      **Ø normal**

76 mm                          77<sub>-0.30</sub> mm

Also check the play and condition of the bearing.  
There must be a circlip.



#### Change the track roller.

		DANGER
	<p><b>Danger to life</b>  <b>Falling tools / parts.</b>                  Secure tools / parts against falling.                  Use the car roof.</p>	

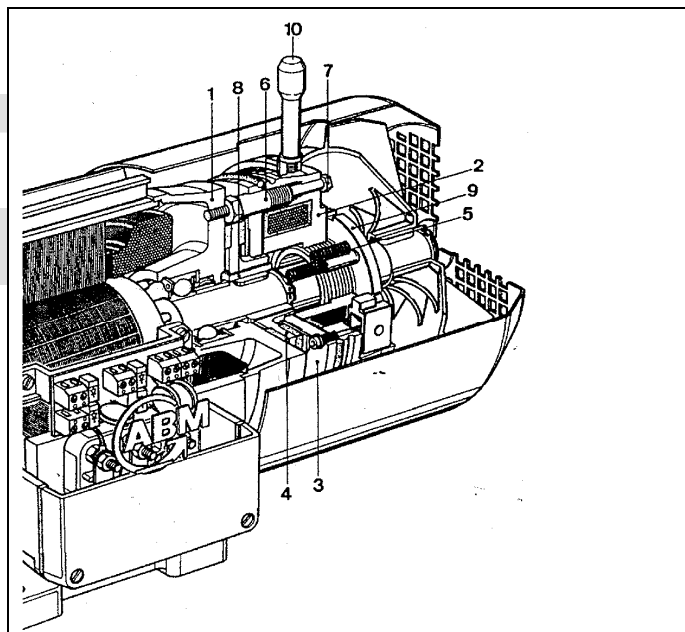
### 18.6.4 Motor brake

Brake pad wear limits

min. 11.5 mm

Air-gap wear limit

max.	nominal
0,8 mm	0,3 mm



1 = Motor bearing plate, 2 = Solenoid, 3 = Anchor plate, 4 = Brake disc,  
5 = Compression springs, 6 = Banjo bolts, 7 = Hexagon screws, 8 = Drivers,  
9 = adjusting ring, 10 = manual release


Air gap must be the same at each position. Always check the air gap at several positions.

**In addition to this information, you must observe the information in the manufacturer's manual. Non-compliance releases GEDA from any liability.**

- Switch off motor power supply.
- Unscrew manual release bolts.
- Loosen the bolt and remove the fan cover.
- Remove the cable.
- Pull dust protection ring out of the SLOT in the magnetic body and put over the bearing plate.
- Remove dust with compressed air.
- Loosen bolts and replace with new bolts.
- Screw banjo bolts into the magnetic body to achieve the specified distance.
- Tighten bolts with a torque of 25 Nm.
- Check the air gap with a caliper.
- Check banjo bolts for secure seating.
- Assemble in reverse order.
- Carry out function test.

## 18.7 Function tests

### 18.7.1 Safety gear

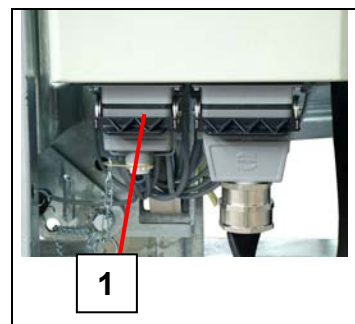
	<b>WARNING</b>
	<b>Risk of injury</b> The drop test may only be carried out by a qualified person, specifically appointed by the operating company who, based on his or her training, knowledge and practical experience, can evaluate the risks and assess the safe condition of the safety gear.

#### The drop test is only permitted

- When no one is in the car or in the travel section.
- When the car is not loaded.
- When there are no objects in the travel path.
- When the drop test is activated from a safe distance.

#### Execution

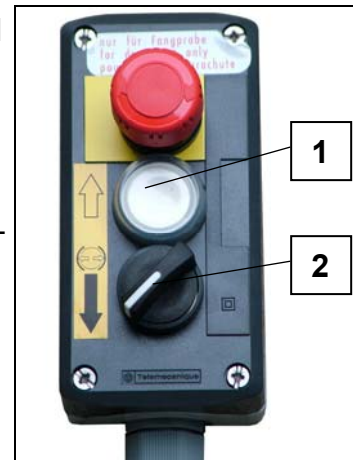
- Remove dummy plug (1).
- Insert the safety gear control (2).



- Press the UP-button (1) until the car has reached a height of approx. 6 m.
- Turn the rotary button (2).

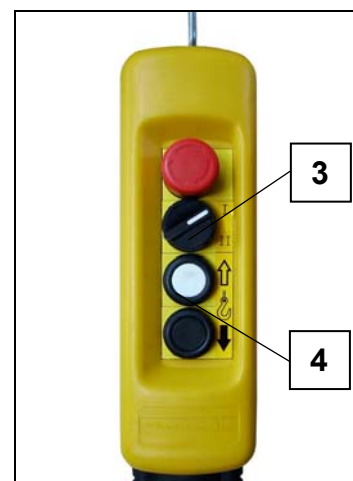
The brake opens, the car drops down.  
The safety gear must stop the car after approx. 2-3 m. If the car does not stop:

- Release the rotary button (2).




### 18.7.2 Drop test passed

- Press UP button (3).
- Car moves out of the catch position.
- Press the DOWN button (4) and lower the car.
- Unplug the drop-test control unit.
- Insert the dummy plug.
- Check safety gear for damage.




### 18.7.3 Drop test not passed

	<b>WARNING</b>
	<p><b>Risk of injury</b> Immediately replace the safety gear. Operation of the machine is prohibited until then.</p>

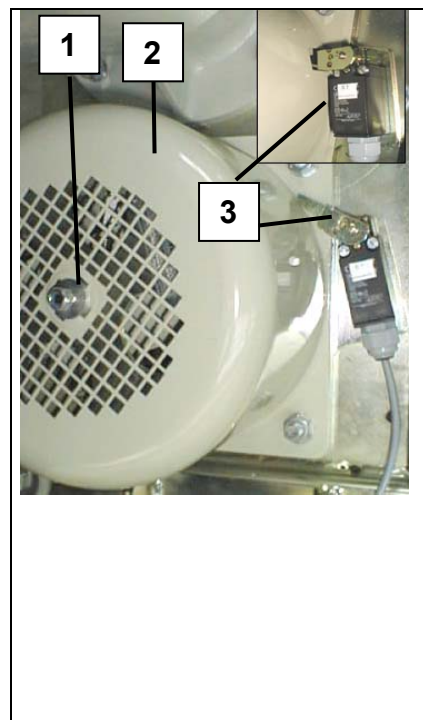
- Press the DOWN button (4) and lower the car.
- Switch the machine off at the master switch and secure against being switched back on.

### 18.7.4 Check safety gear for damage

If any damage is identified on the safety gear, the safety gear must be replaced immediately. Machine operation is prohibited until it is repaired.

	<b>WARNING</b>
	<p><b>Risk of injury</b> The safety gear must be inspected every 5 years by the manufacturer. Repairs must only be carried out by the manufacturer.</p>

- Turn the master switch to the OFF position.
- Secure against being switched on.
- Loosen nut (1).
- Remove protective cover (2).
- Test brake pads for damage.
- Test flyweights for ease of movement.
- Condition of welded seams.
- Condition of springs.
- Corrosion / deformation.
- Put back protective cover.
- Mount protective cover (2) in such a way that switch tag (3) engages in the slot on the protective cover. (Alternatively, turn the protective cover anti-clockwise until the switch tag (3) engages in the slot on the protective cover.)
- Tighten nut (1).



### 18.7.5 Safety gear replacement

GEDA safety gear must be replaced with new GEDA safety gear (safety gear exchange units) **after 5 years** at the latest.

The obligation to replace safety gear applies to both material hoists and personnel hoists.

**18.8 Fault table**



**WARNING**

Only have troubleshooting and fault elimination carried out by authorised personnel trained especially for this kind of work. In the following table you will find potential faults and the appropriate remedial action.

Fault	Cause	Remedial action
Green control light off	Master switch off	Turn on master switch
	Lamp bulb defective	Change bulb
	Phase failure	Measure the phases
	Incorrect phase sequence	Correct the phase sequence on the phase sequence monitor
	Travelling cable plugged in	Plug in the travelling cable
	Fuses OK	Control / correction
	Key switch for car control to OFF	Turn key switch to "ON"
	Safety gear triggered	Test and if necessary replace
Red control light on	Distance of the proximity switch to monitor the racks too big	Check the distance and correct it if necessary (correct = 5-7 mm)
	Overload protection has triggered	Reduce the load
Motors do not generate full power	Voltage drop of more than 10%	Select supply cable with larger cross section
Car travels too high	Top landing-level limit switch defective	Test / replace top landing-level limit switch
	Fault in the electrical system	Test system
Car travels too low	Fault in the electrical system	Test system
	Brake's air gap is too large	Adjust air gap

## 19 Documenting the checks

Documentation for a <input type="checkbox"/> regular check according to the service schedule <input type="checkbox"/> extraordinary check after unusual events						
Name:	Serial number:					
Year of manufacture:	Fabrication number:					
The machine underwent a check on _____. As a result <input type="checkbox"/> no <input type="checkbox"/> the following defects were recorded:						
Scope of inspection:						
Outstanding part checks:						
Continued operation is: <input type="checkbox"/> prohibited <input type="checkbox"/> permitted	Follow up inspection is <input type="checkbox"/> necessary <input type="checkbox"/> not necessary					
Place, date	Signature (Technical expert / qualified person*)					
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>*Name of qualified person</td></tr> <tr><td>Operating company: Address:</td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> </table>	*Name of qualified person	Operating company: Address:			
*Name of qualified person						
Operating company: Address:						
Operating company:						
Faults acknowledged:						
Defects rectified:						

Documentation for a <input type="checkbox"/> regular check according to the service schedule <input type="checkbox"/> extraordinary check after unusual events						
Name:	Serial number:					
Year of manufacture:	Fabrication number:					
The machine underwent a check on _____. As a result <input type="checkbox"/> no <input type="checkbox"/> the following defects were recorded:						
Scope of inspection:						
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Place, date	Signature (Technical expert / qualified person*)					
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 5px;">*Name of qualified person</td></tr> <tr><td style="padding: 5px;">Operating company: Address:</td></tr> <tr><td style="height: 20px;"> </td></tr> <tr><td style="height: 20px;"> </td></tr> <tr><td style="height: 20px;"> </td></tr> </table>	*Name of qualified person	Operating company: Address:			
*Name of qualified person						
Operating company: Address:						
Operating company:						
Defects acknowledged:						
Defects rectified:						



Documentation for a <input type="checkbox"/> regular check according to the service schedule <input type="checkbox"/> extraordinary check after unusual events	
Name:	Serial number:
Year of manufacture:	Fabrication number:
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Scope of inspection:	
Outstanding part checks:	
Continued operation is: <input type="checkbox"/> prohibited <input type="checkbox"/> permitted	Follow up inspection is <input type="checkbox"/> necessary <input type="checkbox"/> not necessary
Place, date	Signature (Technical expert / qualified person*)
	*Name of qualified person <hr/> Operating company: Address: <hr/> <hr/> <hr/>
Operating company:	
Defects acknowledged:	
Defects rectified:	

Documentation for a <input type="checkbox"/> regular check according to the service schedule <input type="checkbox"/> extraordinary check after unusual events	
Name:	Serial number:
Year of manufacture:	Fabrication number:
The machine underwent a check on _____. As a result <input type="checkbox"/> no <input type="checkbox"/> the following defects were recorded:	
Scope of inspection:	
Outstanding part checks:	
Continued operation is: <input type="checkbox"/> prohibited <input type="checkbox"/> permitted	Follow up inspection is <input type="checkbox"/> necessary <input type="checkbox"/> not necessary
Place, date	Signature (Technical expert / qualified person*)
	*Name of qualified person <hr/> Operating company: Address: <hr/> <hr/> <hr/>
Operating company:	
Defects acknowledged:	
Defects rectified:	

Documentation for a <input type="checkbox"/> regular check according to the service schedule <input type="checkbox"/> extraordinary check after unusual events					
Name:	Serial number:				
Year of manufacture:	Fabrication number:				
The machine underwent a check on _____. As a result <input type="checkbox"/> no <input type="checkbox"/> the following defects were recorded:					
Scope of inspection:					
Outstanding part checks:					
Continued operation is: <input type="checkbox"/> prohibited <input type="checkbox"/> permitted	Follow up inspection is <input type="checkbox"/> necessary <input type="checkbox"/> not necessary				
Place, date	Signature (Technical expert / qualified person*)				
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 5px;">*Name of qualified person</td></tr> <tr><td style="padding: 5px;">Operating company: Address:</td></tr> <tr><td style="height: 20px;"> </td></tr> <tr><td style="height: 20px;"> </td></tr> </table>	*Name of qualified person	Operating company: Address:		
*Name of qualified person					
Operating company: Address:					
Operating company:					
Defects acknowledged:					
Defects rectified:					



