

Assembly and Operating Instructions

GEDA[®]
500 Z

Rack and pinion hoist
for loads

load capacity: max. 500kg

year of construction:

serial number:



Mertinger Straße 60 • D-86663 Asbach-Bäumenheim

Telephone +49 (0) 9 06 / 98 09- 0

Fax +49 (0) 9 06 / 98 09-50

E-mail: info@geda.de

WWW: <http://www.geda.de>

Serial no.	Description	Weight approx. kg
1110	GEDA® 500 Z Rack and pinion hoist with galvanised steel mast - maximum load capacity 500kg, - lifting speed 30m/min - maximum lifting height 100m base unit serial no. 1110 consisting of: - base unit 2 adjusting spindles and 2,3 m base mast - load platform with surveyed loading ramp (1,6 x 1,4 x 1,1/1,8 m) - swivel trolley with 5,5 kW/400 V/ 50 Hz drive unit and overspeed safety device - Safety stop approx. 2 m above the ground + acoustic warning signal - Operating and emergency limit switches at top and bottom - swivel limit switch - assembly control unit (permanently installed), with key-operated switch and 230 V operating circuit power outlet - overload shut down with indicator - Limit switch activator bar (1 x level and 1 x EMERGENCY OFF) - Manual control 5 m	520
1109	GEDA 500 Z 500kg with 230V drive unit - load capacity max. 500kg, - lifting speed 10m/min - maximum lifting height 50m - base unit serial no. 1015 consisting of - trolley like serial no. 1110 but with drive unit 1,8kW/230 V/50 Hz	475
1108	GEDA 500 Z 300kg with 230V drive unit - load capacity max. 300kg, - lifting speed 13m/min - maximum lifting height 50m - base unit serial no. 1015 consisting of - trolley like serial no. 1110 but with drive unit 1,8kW/230 V/50 Hz	475
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1154	Cable bin (400V) with trailing cable 50 m lifting height	65
1155	Cable bin (400V) with trailing cable 75 m lifting height	80
1156	Cable bin (400V) with trailing cable 100 m lifting height	95
	Equipment for the base unit (230V) serial no. 1108/1109	
1142	Cable bin (230V) with trailing cable 25 m lifting height	58
1143	Cable bin (230V) with trailing cable 50 m lifting height	
	Extension of the base unit	
1150	Steel mast 1.5 m (galvanised) with four captive screws (M16) and nuts	40
1134	Mast mount with mount tubes (1 each for base mast as well as 1 per 6 m mast)	30
1191	Set of extension tubes (2m) for mast mounting(to span a scaffold)	16
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	Accessories	
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22270	Manual lever grease gun	0,7
13893	Grease cartridge for tooth rack	0,5
22287	Automatic lubricating arrangement	5
1181	Single-axle trailer 80 km/h (galvanised), automatic unloading without auxiliary equipment	230
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1183	Lorry / truck tow hitch	3
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1 Foreword

Who are these assembly and operating instructions intended for?

- For personnel responsible for assembling and operating the machine
- For personnel responsible for machine service (cleaning/maintenance)

What do the assembly and operating instructions contain?

These assembly and operating instructions provide information on

- Proper use
- Unseen hazards
- Safety
- Assembly
- Operation
- Trouble-shooting
- Customer service

This assembly and operating manual contains important information that is essential for the safe and economical operation of the machine. It has been assumed that the machine is equipped with all available options.

You should do the following immediately!

Read this assembly and operating manual thoroughly before assembly and commissioning, and follow all instructions, particularly the safety instructions.

What is not included in this assembly and operating manual?

The assembly and operating instructions are not a repair manual!

You will not find information on how to carry out repairs in these assembly and operating instructions.

What should you do if you re-sell the machine?

If you sell the machine, be sure to hand over this assembly and operating manual with entries of annual inspections to the purchaser, together with the list of spare parts.

2 Rating

This operating manual applies to the following model: **GEDA 500 Z**



 DECHENTREITER GmbH & Co. KG D-86663 Asbach - Bäumenheim			
GEDA 500 Z	500kg	3-ph. 50Hz	400V <input type="checkbox"/>
GEDA 500 Z	500kg	1-ph. 50Hz	230V <input type="checkbox"/>
GEDA 500 Z	300kg	1-ph. 50Hz	230V <input type="checkbox"/>
Jahr/Year:	F-Nr./S-No.:		
Typ	500Z	500Z	500Z
Spannung / voltage	400 V 3-phase	230 V 1-phase	230 V 1-phase
Tragfähigk./load capacity	500 kg (5 kN)	500 kg (5 kN)	300 kg (3 kN)
Masthöhe/mast height	max. 100 m	max. 50 m	max. 50 m
Hubgeschwindigkeit/speed	30 m/min	8 m/min	13 m/min
max. Gewicht Grundeinheit max. weight of base unit	600 kg	550 kg	550 kg

fig. 1 type plate 500 Z

Manufacturer's address:



Mertinger Straße 60
 D-86663 Asbach-Bäumenheim
 phone + 49 (0)9 06 / 98 09-0
 fax + 49 (0)9 06 / 98 09-50
 Email: info@geda.de
 WWW: <http://www.geda.de>

CE marking

The machine carries the CE mark

Country of origin: Made in Germany

When ordering spare parts, please specify:

- Model
- Year of manufacture
- Serial No.
- Operating voltage
- Quantity required

The nameplate is located on the base unit of the machine.

NOTE

Spare parts must meet the manufacturer's technical requirements! Only genuine GEDA spare parts may be used.

3 Proper use an area of application



The machine is a building hoist that is erected temporarily, and is intended exclusively for the transportation of material during building activities. Any other use, such as, for example, the transportation of people (except for assembly and maintenance purposes), is considered to be an abuse of the equipment. The manufacturer/supplier accepts no liability for damages resulting from such use. **Solely the user carries the risk.**

- The GEDA hoist may be used both as an assembly hoist for the assembly of scaffolds, as well as to transport goods during building activities.
- For the use as a building hoist, one or more landing level safety gates are necessary. The hoist may only be operated as a building material hoist after assembly of the landing level safety gates!
- Without landing level safety gates, the hoist may only be used for scaffold assembly

3.1 Proper use of the hoist involves

- observing the manufacturer's conditions for assembly, operating and maintenance (assembly and operating instructions).
- consideration of foreseeable faulty behaviour of other people.
- following national regulations and prescriptions.

Improper use of the device can cause

- danger to life and limb of the user or to third parties.
- damage to the machine and other property.

Requirements on the assembly personnel

The machine may only be assembled, operated and serviced by skilled personnel (experts) who, through their training or practical knowledge, are in a position to handle the equipment properly, and who are aware of the relevant hazards. The employer must appoint these persons for assembly, dismantling and maintenance work.

Operating personnel

The machine may only be operated by personnel who can ensure, through their training or practical knowledge, that they are in a position to handle the equipment properly. These persons must

- be selected to operate the machine by the employer.
- have received appropriate instruction and be aware of the relevant hazards.
- be familiar with the assembly and operating instructions
- follow national regulations

Unseen hazards



Unseen hazards are potential dangers that are easy to overlook, such as, for example:

- injuries arising from uncoordinated operation.
 - danger due to a malfunction in the control system.
 - danger when working with the electrical equipment.
 - danger caused by damage to the load-carrying device.
 - danger of falling objects caused by an improperly secured load.
 - danger due to high wind speeds (> 72 km/h).
- hazards when entering and leaving the load platform.

4 Safety

4.1 Explanation of symbols and notes

4.1.1 Operational safety symbol



This symbol is found next to every safety instruction where there is a danger of injury to people. Pay attention to these instructions and be careful when handling the machine!

4.1.2 Attention

ATTENTION is found wherever particular instructions, regulations or prohibitions relating to damage prevention are given, in order to prevent damage to the device.

4.1.3 Note

NOTE This symbol is found wherever instructions are given concerning the economical use of the machine, or indicating correct operation.

4.2 General safety

The machine is constructed using state-of-the-art technology and is safe to operate. However, the nature of the operating procedures is such that the machine has areas and parts that cannot be protected without impairing the function and operating capability. Therefore, good personal safety practice is essential to protect the personnel and the device. The device can present dangers if untrained personnel use it incorrectly, or if it is not used in accordance with regulations.

- Please read and carefully observe the assembly and operating instructions for the machine, as well as the safety instructions, before transportation, assembly, commissioning, dismantling or maintenance!

First, read and understand the assembly and operating instructions, it is too late if you are already at work!

- Keep the operating instructions in an easily accessible place close to the machine.

- In addition to the assembly and operating instructions, the valid general conditions and laws also apply concerning accident prevention and environmental protection in the country where the machine is being employed (e.g. the wearing of personal protective clothing such as protective helmets, safety shoes, etc.)
- Observe all instruction and warning signs.
- Only operate the machine wearing close-fitting clothing, safety shoes and a safety helmet. Do not wear jewellery, such as chains and rings. There is the risk of injury due to getting caught or pulled in.
- Immediately consult a doctor in the event of injuries or accidents.



Consequences of non-compliance with the safety instructions

Non-compliance with safety instructions can result in danger to people, the environment and to the machine. Non-compliance can also result in a loss of any compensation claims.

Requirements for the operating personnel

See Chapter on Operation

4.3 Job safety

- The machine must be assembled and dismantled in accordance with these assembly instructions under the direction of a skilled worker appointed by the employer.
- Place the device so that it is in a stable, vertical position and anchor it to the building.
- Observe the load capacity of the device.
- Only use the machine in technically perfect condition, with awareness of safety and dangers, in compliance with the operating instructions.
- Faults that may compromise operational safety should be removed immediately.
- In the event of any changes in the device or its operating behaviour that compromise safety, stop the machine immediately and report the fault to the management or the management representative.
- Do not undertake any changes, additions or modifications to the machine. This also applies for the fitting and adjustment of safety devices, for example, limit switches.
- Do not change, remove, avoid or bypass the protection facilities.
- Replace damaged or removed instruction and warning and safety signs
- If operation is interrupted, switch off the machine at the main switch and use the padlock to protect against restarting.

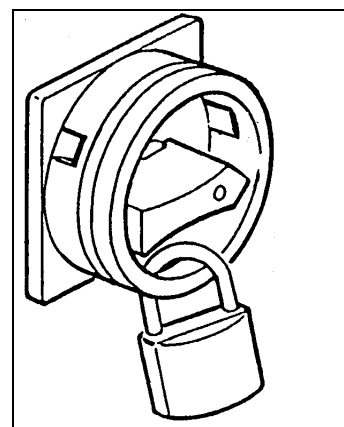


fig. 2 Main switch

- The machine can be stopped by pressing the EMERGENCY OFF button in situations that are dangerous to the operating personnel or to the machine.
- In the event of wind speeds of >72 km/h, stop and lower the machine. (Wind force 7-8, wind moves trees and impedes pedestrians!)

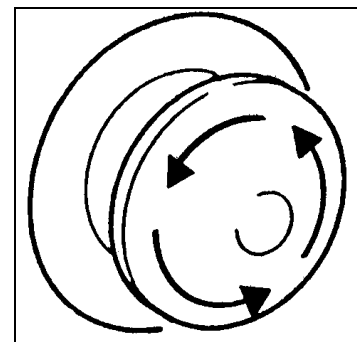


fig. 3 EMERGENCY-OFF button

4.3.1 Inspection

The **GEDA 500 Z** is a machine in compliance with the EC machinery directive 2006/42/EC. A copy of the conformity declaration is reproduced in this operating manual.

Tests after each installation → see section 9.7

The following tests have already been carried out at the factory:

- Dynamic test with 1.1x useful load.
- Electrical tests according to EN 60204
- Function tests.

Regular inspections:

- Have the machine inspected by an expert in accordance with the conditions of use, as required, but at least once a year and in accordance with national prescriptions.

NOTE

GEDA recommends that you carry out a recurring inspection on an annual basis. In the case of increased use and strain (e.g. multi-shift operation), carry out inspections at shorter intervals.

- The results of the annual inspection, carried out by a technician, are to be recorded in the appendix.

4.3.2 Safety instructions for assembly, operation and transport

- Before beginning work, familiarise yourself with the working environment at the place of deployment, e.g. obstacles in the working and transportation areas, the bearing capacity of the ground and protection of the building site with fences to render the area safe for the public.
- Only load and transport the device when it has been carefully dismantled, packed and secured.
- On principle, always protect the machine against unauthorised use (disconnect from power)!
- Loads must be placed securely on the load platform, and materials that tend to slip, that are higher than the load platform, or that could fall over, must be secured (keep sudden winds in mind).
- Do not stand or work below the load platform!
- Do not put any objects beneath the load platform.
- Load the platform centrally, and observe the maximum load capacity.

Materials must be kept at a safety distance of at least 50 cm away from moving parts of the machine.

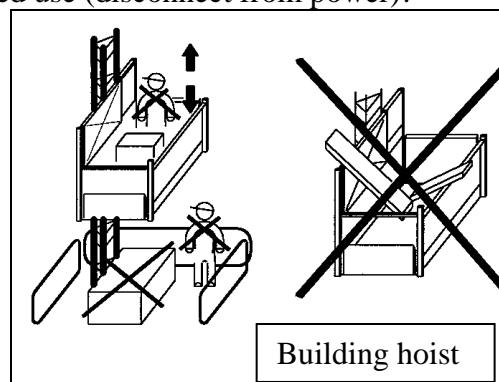


fig. 4 Safety instructions

- Check for visible damages, faults and irregular sounds at least once a day. Report any detected changes or faults to the management or a management representatives immediately. If necessary, stop the machine immediately and secure it.

4.3.3 Safety instructions for maintenance

- Disconnect mains supply plug before carrying out any maintenance work.
- When carrying out work below the platform, the platform has to be secured by appropriate devices (such as bolts, mast clamps, etc.)
- Only allow authorised experts to carry out maintenance and repair work. Be aware of the special danger during such tasks, for example, when working on the electrical systems.
- Upon completion of maintenance tasks, correctly replace all protective devices that have been removed.
- Unauthorised modifications or changes to the machine impair safety and are not permitted.
- Spare parts must meet the manufacturer's technical requirements. Recommendation:
- Use genuine GEDA spare parts only.

4.4 The idea behind job safety instructions

Job safety instructions are rules created by the employer for safe operation. They are binding instructions that the employer issues within the scope of his management role. Employees are obliged to follow these rules by the accident prevention regulations.

The general obligation of the employer to produce and publicise job safety instructions must be derived from the "General regulations" section of the accident prevention regulation.

According to this regulation, the employer must meet certain requirements concerning accident prevention and give instructions to those insured on the potential dangers involved in their line of work, as well as the measures required to prevent them. The employer can fulfil these requirements by providing operating instructions.

The operating instructions provided here should therefore be expanded by national regulations for accident prevention as well as environment protection regulations

EN 60204-1 and EC-Guideline

- 89/655/EWG on minimum prescriptions for safety and health protection when employees are using the materials of work during their working time.
- 92/57/EWG minimum prescriptions to be applied to temporary or location changing construction sites for safety and health protection.
- 90/269/EWG on minimum prescriptions concerning safety.

4.5 Employees must be informed of:

- Dangers that can arise when working with the load platform and the necessary protective measures and rules of conduct, including instructions in the event of danger and with regard to first aid.
- Nature and scope of regular inspections required for safe operating conditions (see chapter 13).
- Maintenance
- Removal of operational faults.
- Environmental protection.
- Safe handling of the electrical equipment.
- The firm using the machine must ensure cleanliness and tidiness, by means of instructions and inspections, at the site where the machine is erected.
- The areas of responsibility for assembly, dismantling, operation and maintenance must be clearly set out by the firm using the equipment and observed by all employees, so that no areas of competence concerning safety are unclear.
- The operator must undertake only to operate the machine in perfect condition. He is obliged to immediately report to his superior any changes to the device that concern safety.
- Observe all instruction and warning signs.
- The operator must also ensure that no unauthorised persons stay on the hoist.

5 Technical data

load capacity of the 500 Z	500kg
Space requirement of the hoist	
- without base enclosure (width x depth x height)	approx. 1,8m x 2,3m x 2,3m
- with base enclosure (width x depth x height)	approx.. 2,8m x 2,95m x 2,3m
- weights	
base unit without base enclosure	520kg
with cable bin 25 m	+ 50kg
25m cable	+ 15kg
- maximum erection height:	100m
- maximum projecting mast length:	4,5m
- anchoring distance:	6m
- anchoring forces:	see chapter 9.3.2
- length of one mast element:	1,5m
- weight of one mast element:	40kg
- screw tightening torque:	150Nm
- power of the drive unit	5,5kW
- current consumption:	13Amp.
- maximum starting current	ca. 70Amp.
- drive torque:	9000 N
- lifting speed:	30m/min.
- trigger speed of the overspeed safety device:	ca. 40m/min.
- maximum dynamic pressure:	
during assembly	q = 100 N/m ² (45 km/h)
during operation	q = 250 N/m ² (72 km/h)
non-operational	prEN12158-1 (platform on the ground)
- interval between cable guides:	max. 6 m
- noise emission values (point of measurement: 1m away from the load platform at a height of 1.6m) <85 dB (A)	

5.1 Special technical data for the 500 Z 500kg with 230V-drive unit

- power of the drive unit	1,8kW
- current consumption	10,5Amp.
- maximum starting current	approx.38Amp.
- lifting speed:	8m/min.
- maximum erection height:	50m

5.2 Special technical data for the 500 Z 300kg with 230V-drive unit

- load capacity	300kg
- power of the drive unit	1,8kW
- current consumption	10,5Amp.
- maximum starting current	Ca. 38Amp.
- lifting speed:	13m/min.
- maximum erection height:	50m

5.3 overview of the sign plates

designation	place	fig. no.
load capacity	on the assembly guard on the platform	no fig.
staying below the platform forbidden	at the base mast	no fig..
direction flash	on the protection of the overspeed safety device	fig. 32
type plate	inside of the trolley profile	fig. 1
attaching points of the platform	next to the loop at the trolley	no fig.
assembly instructions	on the assembly guard on the platform	fig. 23/ fig. 24
service indicator lamp	on the switch box at the cable bin	fig. 9
lubricating the tooth rack	below the control on the platform	fig. 33

6 Description

The GEDA 500 Z is a vertical lift for scaffold and construction workers to transport materials

- During the first 2 m safety height a hooting warning signal is sounding (highering and lowering).
- Travelling the safety height can only be controlled from the assembly control on the platform. The level control is only activated above the first two metres safety height and is stopped during descent respectively.
- Operation is only permissible up to a wind speed of 72 km/h (20m/sec. = wind force 7-8). If the wind force is higher, the load platform has to be brought near the ground and work has to be stopped!
- The hoist is equipped with an overload safety device, which switches off transport movement in both directions when the maximum useful load has been passed. In this case the red overload indicator lamp illuminates.
- respective load capacities:
 - with 400V-drive unit maximum 500 kg at 24m/min.
 - with 230V-drive unit maximum 500 kg at 8m/min.
 - with 230V-drive unit maximum 300 kg at 13m/min.

6.1 Operation as a building material hoist

The safety equipment for loading and unloading points is also part of the complete hoist assembly (see Chapter 9.4).

The Danger zones must be blocked off and marked, with the exception of the access point to the platform

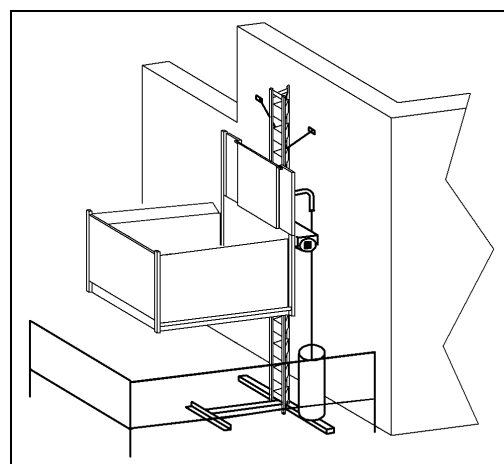


fig. 5 blocking off the danger area

- The hoist is operated via the manual control outside of the danger area – and/or above the 2m safety height via the landing level control.
- And automatic drive above the 2m safety height is possible (see chap. 10.3)

Additional equipment: Landing level safety gate with control

6.2 Operation as scaffold mounting hoist

If the hoist is already being used for assembling a scaffold, then the scaffold and the hoist are assembled alternately (the hoist and the scaffold must both be in assembly status).

- Operation is effected by means of a mobile manual control or, during assembly, only by means of the assembly control on the load platform.
- After completion of these assembly operations, dismantle the hoist or equip and secure for further operation (see chapter 9.4).

NOTE

These assembly and operating instructions describe the 500 Z with 400V-drive unit.

For the **500 Z 500kg** with **230V-Antrieb** the following items change:

- The lifting speed is 8m/min.
- The erection height is limited to a maximum of 50m.

For the **500 Z 300kg** with **230V-drive unit** the following items change:

- The load capacity is maximum 300kg
- The lifting speed is 13m/min.
- The **erection height** is limited to a **maximum of 50m** (when using a longer trailing cable the voltage drop will be too elevated).

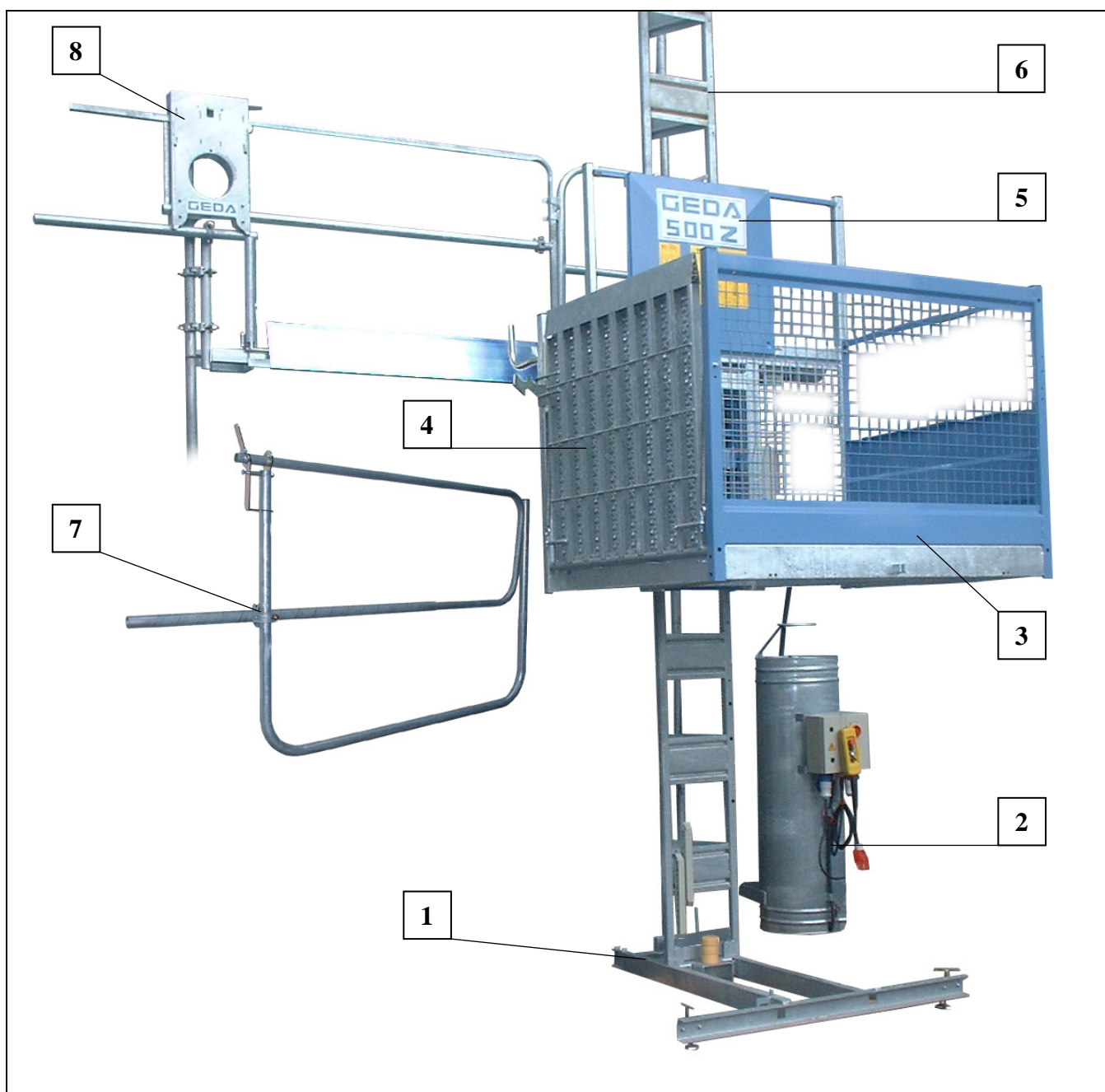


fig. 6 overview

- 1 base section with base mast
- 2 cable bin
- 3 load platform
- 4 loading ramp
- 5 assembly guard
- 6 mast extension
- 7 landing level safety gate „Simple“
- 8 landing level safety gate „Comfort“

6.3 Components and operating elements

Assembly control

- 1 = EMERGENCY OFF button
- 2 = UP button
- 3 = DOWN button
- 4 = indicator lamp for overload (illuminates in case of overload)
- 5 = key-operated switch
 - left position (ground control activated)
 - central position (assembly control activated)
 - right position (releasing the overspeed safety device see chapter 12.1.3)

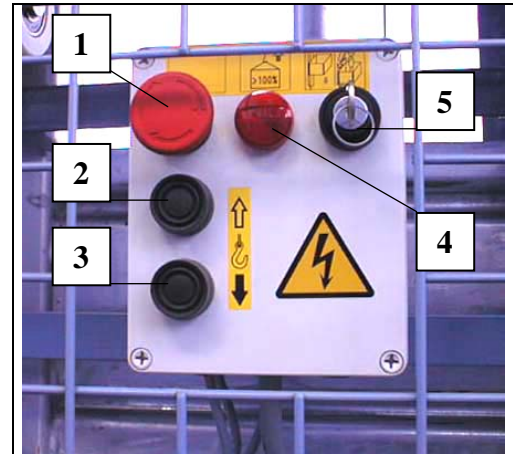


fig. 7 assembly control

manual control

- 1 = EMERGENCY-OFF button
- 2 = selector switch MANUAL AUTOMATIC
- 3 = UP button
- 4 = DOWN button
- 5 = hold button

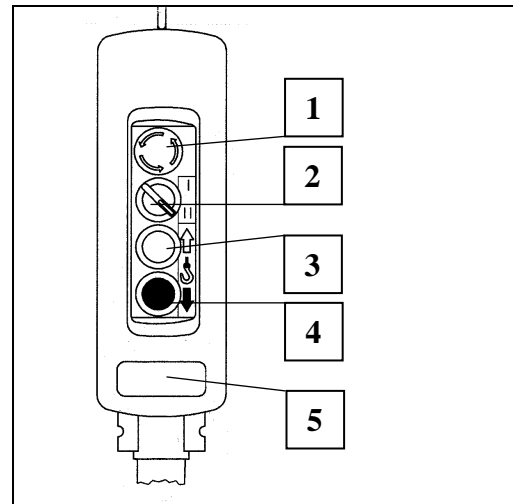


fig. 8 manual control

control at the landing level safety gate (see assembly and operating instructions (BL 83) for the landing level safety gate)

Electronic

- 1 = drive motor
- 2 = overspeed safety device
- 3 = main switch
- 4 = power indicator lamp
- 5 = socket (red) for level control (or dummy plug)
- 6 = socket (blue) for the control at the enclosure or for the manual control (without enclosure)
- 7 = switch box at the cable bin
- 8 = mains cable
- 9 = plug of the trailing cable
- 10 = manual control (ground control)
- 11 = switch box at the trolley

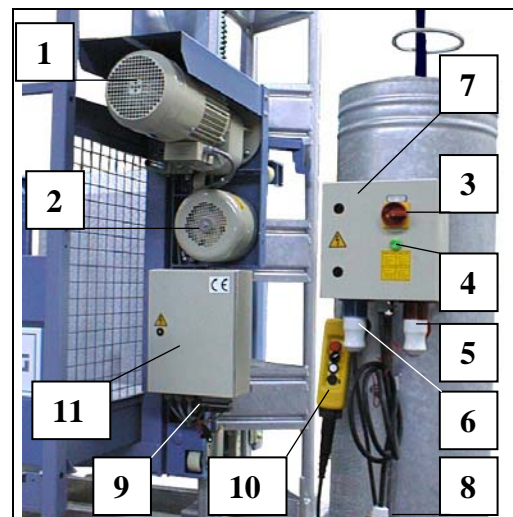


fig. 9 electricity of the base unit

socket

- 1 = socket (Schuko) 230V/16Amp.
2 = switch box on the platform

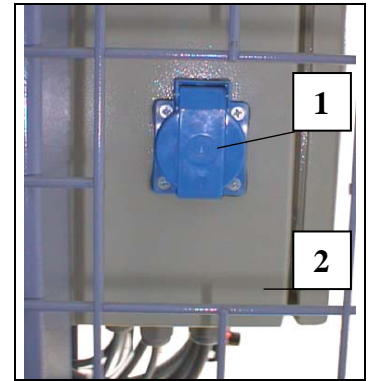


fig. 10 socket (Schuko)

limit switches

- 1 = limit switch for overload
(EMERGENCY-OFF circuit)
2 = swivel limit switch
(EMERGENCY-OFF circuit)
3 = EMERGENCY limit switch
(limits the course within the EMERGENCY-OFF circuit)
4 = limit switch UP
(limits the course during highering)
5 = limit switch DOWN
(limits the course during lowering)
6 = level limit switch
(stop at the levels during automatic upward drive)
7 = delay limit switch
(stops at 2m height during highering and activates the warning signal within the 2m safety height)
8 = limit switch overspeed safety device
(EMERGENCY-OFF circuit)
9 = flap limit switch
(EMERGENCY-OFF circuit)
10 = overrun protection UP
(prevents exceeding the mast during assembly)

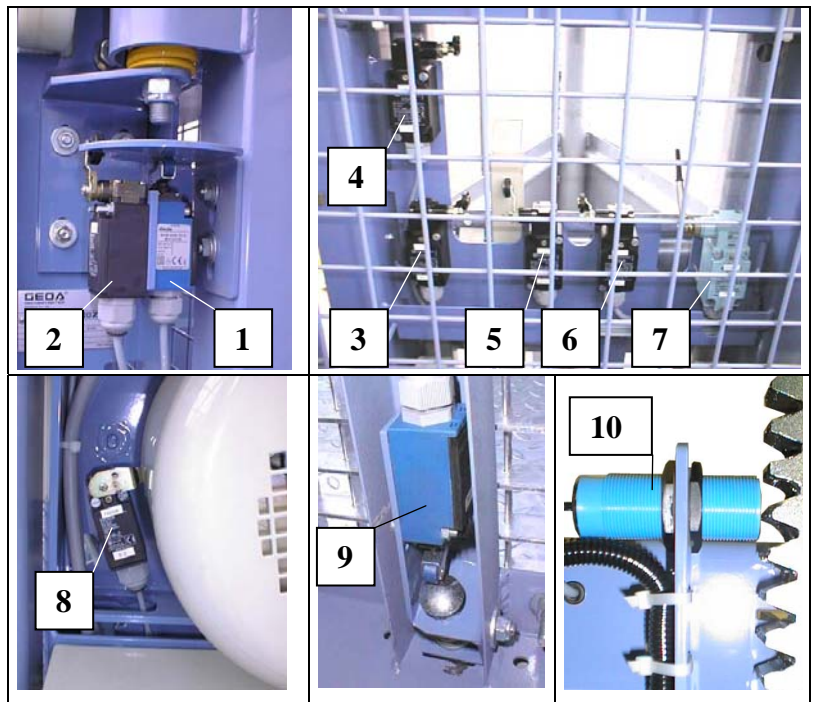


fig. 11 limit switches

6.4 Accessory components**single-axle trailer**

- 1 = single-axle trailer for automatic loading without additional equipment
2 = lorry/ truck tow hitch
3 = automobile tow hitch

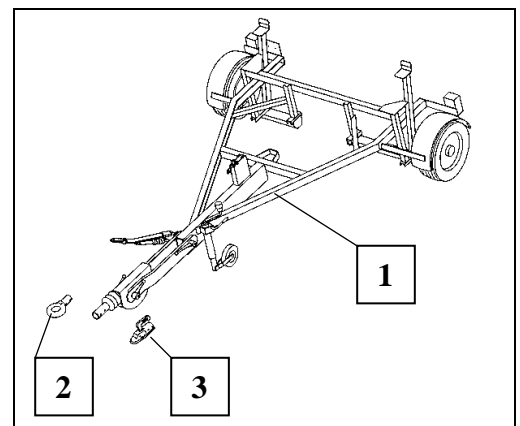


fig. 12 single-axle trailer

attachable standard frame

necessary tools:

2 ring or fork wrenches SW 13/17

1 screw driver

- remove the plastic flaps on the corner rail (2/ 3)
- remove the screw from the corner post (2) on the face.
- Insert the attachable frame (1) into the corner tube on the face and screw with the screw (M10 x 65) contained in the delivery (with a large disc on the outside)
- Screw the attachable frame to the right corner tube (3 in the picture above) with the screw (M8x25), contained in the delivery), a disc and a nut (the nut is in the rectangular tube).
- Attach the chain (5) to the left corner tube at the provided perforation ϕ 9 (the large disc holds the chain)

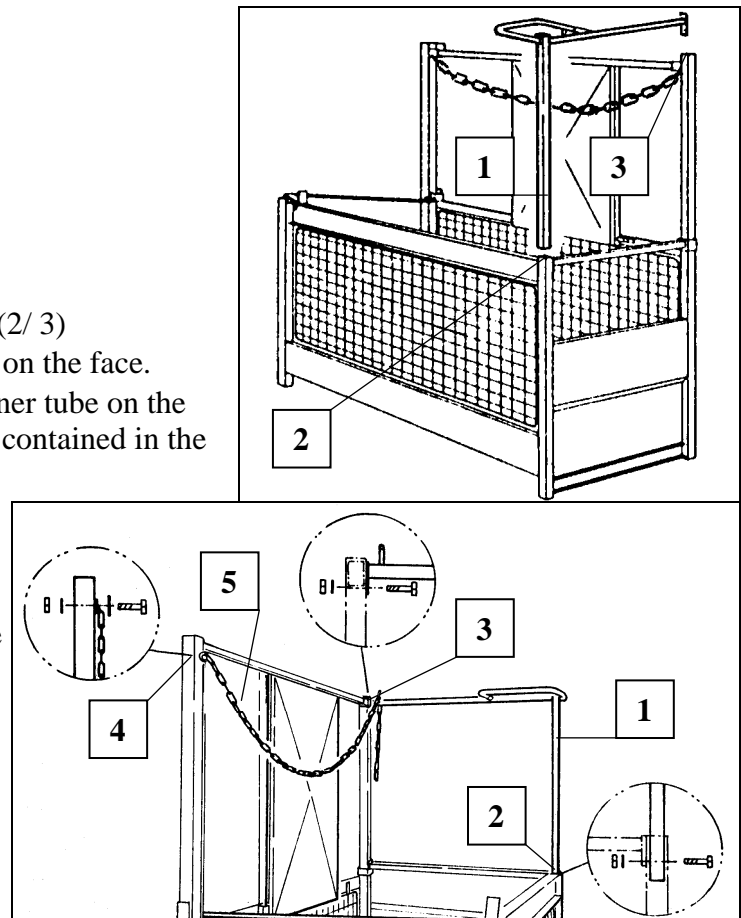


fig. 13 attachable standard frame

base enclosure

In order to block off the danger area on the ground the hoist can be equipped with a base enclosure (1), which only has to be added to the base section.

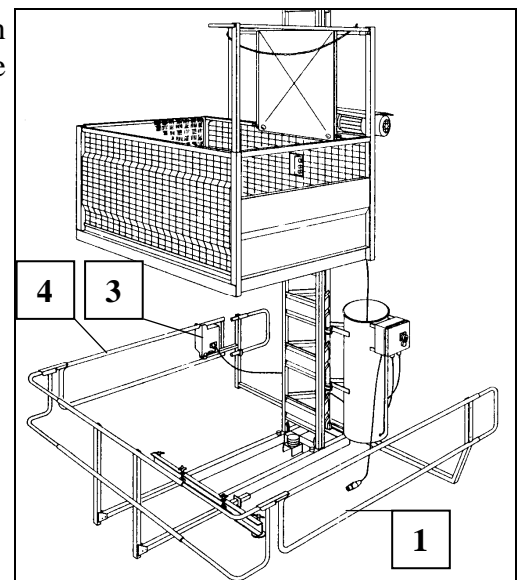


fig. 14 base enclosure

- extend the enclosure on three sides and clamp with straining screws.

NOTE

distance between the enclosure and the load platform all around 50 cm.

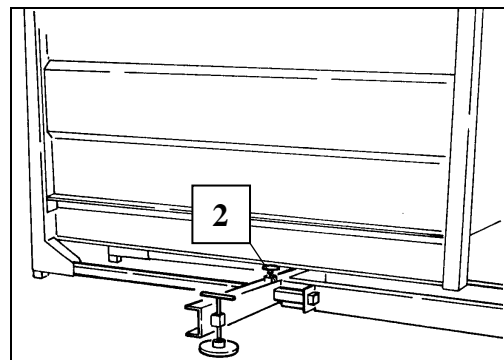


fig. 15 installing the base enclosure

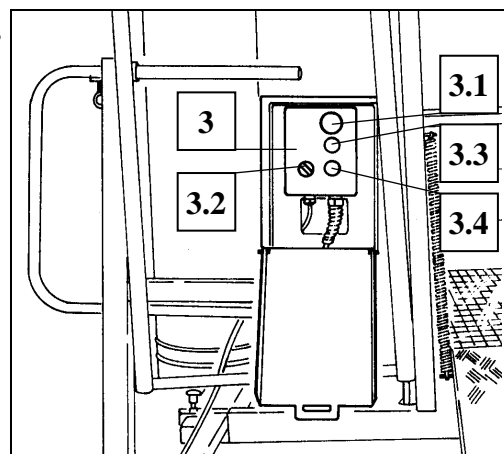
You can also equip the base enclosure with a control (3). This one is plugged in at the switch box at the cable bin (see fig. 9).

3.1 = EMERGENCY-OFF button

3.2 = selector switch MANUAL AUTOMATIC

3.3 = UP button

3.4 = DOWN button



The control also surveys the access barrier (4) so that the load platform cannot be operated if the barrier is open.

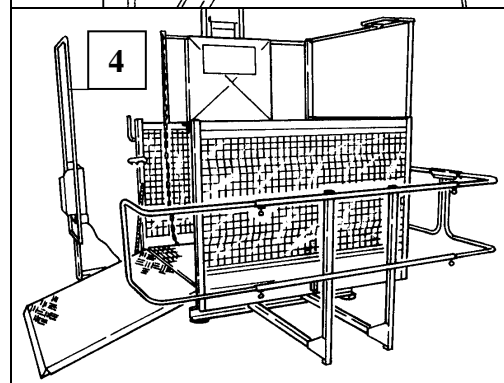


fig. 16 control at the base enclosure

7 Requirements for the assembly site

7.1 Ground / foundation pressure

- Horizontal, load-bearing foundation.
If this is not the case, use load-distributing bases (the total weight for the planned assembly height is to be observed).
- Weight of the hoist (without pay load)
Base unit (2.3 m high) max. approx. 615 kg
Mast weight per meter approx. 32 kg (complete with anchors and cable guides)

weight per mast (completely assembled)	48 kg	Useful load of the hoist	500 kg
length of the mast	1,5 m		
height of the base unit	2,3 m		
maximum empty weight of the unit (complete,)	615 kg		
ground floor without bases (0,5m x 0,5m)	0,25 m ²		

assembly height in m	10	20	30	40	50	60	70	80	90	100
total weight (kg)	1589	1906	2290	2660	2977	3361	3731	4063	4432	4802
ground pressure (kN/m²)	64	77	92	107	120	135	150	163	178	193

7.2 Electrical power supply (on site)

A building site main cabinet with 400 V, 50 Hz and a minimum passive protection of 3 x 16 Amp at the feed point respectively for the **500 Z with 230V-drive unit** a feed point with 230 V 50 Hz and a minimum passive protection of 1x16 A must be provided.

- Connect the mains supply line (3 m) of the hoist to the building site main cabinet (CEE plug 5x16 A, 6h, red, with **phase inverter**) for the 400 V equipment.
- A rubber sheathed flexible cable of at least **5 x 2.5 mm²** is required respectively **3x2.5mm²** (for the 230 V drive unit)(see accessories) to extend the mains supply line, in order to avoid voltage drop and consequent loss of power to the motor.

8 Transport



Only experienced skilled personnel should transport the hoist. (For the weight of the base unit see chapter 5)

Inspection upon receipt of the hoist

- Check whether the consignment has suffered damages during transportation and that it complies fully with your order.
- In the event of transportation damages, inform the carrier (forwarding agent) and the dealer immediately.

8.1 Transportation to the assembly site

A special single-axle trailer is available for road transport (accessories).



Do not forget to do this after the first time you commission the unit or after changing a wheel!

You must re-tighten the wheel nuts after travelling at least 20 km and at the most 100 km!

The trailer load for trailers with and without brakes specified in the vehicle registration may not be exceeded.

- The maximum speed complies with the road traffic act (max. 80 km/h) and depends on the towing vehicle and the road conditions.
- The maximum support load of the trailer is 100 kg.
- The minimum support load of the trailer is 4 % of the trailed load, however, not more than 25 kg are necessary.
- Permissible total weight of the braked trailer: **1300 kg**
- The **maximum transition height** of the loaded trailer is at least **2.8m**
- The socket on the towing vehicle must be 7-pin.
- Please comply with the maximum trailer load of the towing vehicle.

8.2 Loading the hoist

- Set up the electrical connection to the hoist.
- Turn the main switch to ON.
- Rotate the key in the key-operated switch at the platform control system downwards (position 0).
- Insert the manual control into the switch box of the cable bin and set to position I (manual control).
- Press the UP button carefully and raise the platform (1).
- Move the trailer (3) backwards below the platform (1) and align it so that when the platform descends, it fits exactly into the trailer guides (1). The trailer must be positioned horizontally. The safety latch (6) must be opened.
- Lower the platform. As soon as the platform (1) is positioned on the trailer (3), fold up the eyebolt (2) and tighten it. - The platform is now fixed onto the trailer. Close the safety latch (6).

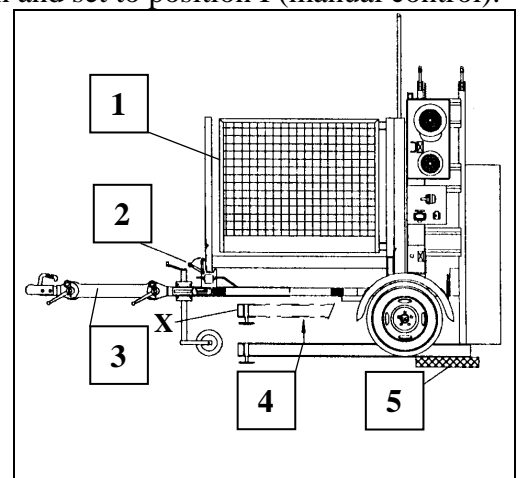


fig. 17 loading the transport trailer

X = Transport position

- Raise the base section and the base mast (4) by carefully tapping on the DOWN button until the base section is at the same height like the two buffers (7) on the bottom side of the trailer.

**Attention: No automatic switch off!
Make sure not to damage the
brake cables of the trailer!**

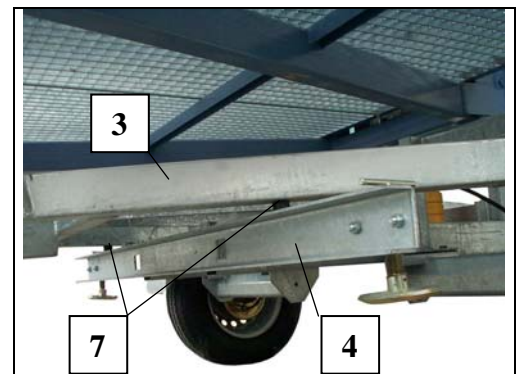


fig. 18 raising the base section

- Remove the mains supply line before moving the trailer.
- Couple the trailer to the towing vehicle and secure.

8.3 Unloading the hoist

- Position the trailer at the specified assembly point and align in accordance with the assembly plan (see Chapter on assembly).
- Place load distributing bases on the ground below the base section below the base mast (see fig. No. 5).
- Set up the electrical connection on the load platform.
- Turn the main switch to ON.
- Insert the manual control to the switch box of the cable bin and set to position I (manual control).
- The key-operated switch at the assembly control (on the platform) has to be turned to the left (position **service**).
- Carefully press the UP button; the base section and the base mast move down until the base section touches the ground.
- Release the transport platform from the trailer by unscrewing the eyebolt (see fig. 17 no. 2) and swinging it away. Open the safety latch (6).
- Carefully tap the UP button. The load platform lifts away from the trailer and the single-axle trailer can be removed.

9 Assembly



The hoist must be assembled in accordance with the assembly and operating manual, under the direction of a skilled person appointed by the employer!

Assembly personnel

The **GEDA 500 Z** hoist must only be assembled, dismantled and maintained by skilled personnel (experts), whose training or knowledge and practical experience ensure correct handling, and who are aware of the relevant dangers. The employer must appoint these people to the tasks of assembly, dismantling and maintenance.

9.1 Safety instructions

- Familiarise yourself with the working environment at the place of erection, e.g. obstacles in the working and transportation areas, the bearing capacity of the ground and the necessary protection of the building site from public transport.
- Block off the danger zones.
- Please take care that the danger zone of the lower loading point, with the exception of the access to the platform, is blocked off.
- No one may stay below the load platform.
- The wind speed during assembly must not exceed 45 km/h (= wind force 5-6).
- Comply with the national accident prevention regulations of the health and safety authorities and all valid laws and guidelines.
- Safety gates must be installed at loading points of 2.0 m and higher with falling hazards to prevent people from falling (only use genuine GEDA landing level safety gates).
- Comply with the load capacity of the hoist.

- If the red control lamp in the switch box (trolley) illuminates the hoist is overloaded. -Reduce the load weight immediately! In this case the control is interrupted until the red control lamp goes out.
- When erecting the mast, the projecting mast may be travelled up a maximum of **5.5 m (loaded with max. 250 kg up to the second anchoring and only after the second anchoring with full load capacity (max. 500 kg))** beyond the last mast mount! (Upper edge of trolley to mast anchor).
- Make sure that the masonry can bear the anchor stress. A building expert must check that the wall of the building is suitable for the required anchor stress. This will also dictate whether dowels or bolts must be used.
- Transport of persons is strictly forbidden. Travelling on the load platform is only permitted in order to perform assembly and maintenance tasks.

9.2 Erecting the base unit

- The machine must only be vertically erected! The base unit must be aligned right angled to the building or the scaffold.
- Place the base unit on the support points (support plates for the spindles and, in particular, at the base section supports below the mast) on a load-distributing and even base and align in accordance with fig. 23 and fig. 24 (Comply with foundation load bearing capacity.)
- The first mast anchor has to be set at a height of approximately 3 metres.
- The base section must be secured against movement at a minimum of 2 of the supporting discs of the spindles. If the base section cannot be fastened with screws, then the first mast anchor must be mounted at a height of approximately 1 metre (see assembly plan).

ATTENTION

The base section must be supported by the supporting surfaces below the mast over an area of $0.5\text{m} \times 0.5\text{m} = 0.25\text{m}^2$; the spindles are only used for adjustment, not to transfer load from the mast sections.

- The base masts must be aligned vertically from the start using a water level. This must also be checked when positioning each mast anchor.
- Keep a safety distance of at least 50 cm away from moving parts of the machine.
- Depending on the assembly height, use a cable bin with a 25 m, 50 m, 75 m or 100 m trailing cable.
- Secure the cable holder (4) to the trolley with 4 M8 mounting screws, mount the cable clip for strain relief (M 5), insert the plug (5) into the socket on the switch box of the trolley and secure with clips (only if not installed for transport reasons).
- Fit the cable bin (3) onto the base section and screw to the round tube of the mast with the two scaffold couplings. Rotate the cable bin until it hits the stop pins of the base section.
- Having correctly installed it, the trailing cable travels through the middle of the guide ring.

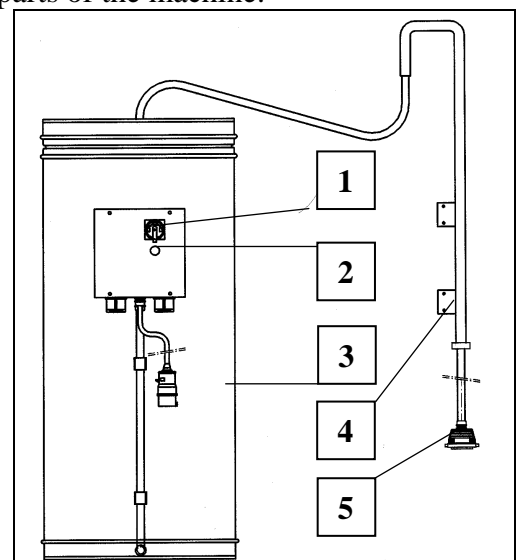


fig. 19 cable bin

- When the main switch (1) has been switched on, a green control lamp (2) must illuminate on the cable bin, which indicates that the equipment is ready for operation.

If the control lamp does not illuminate, check the following:

- Is there a phase failure?
- Is the phase sequence incorrect?
- If the phase sequence is incorrect, correct it at the phase inverter (mains supply plug) by turning two plug pins by 180° with a screwdriver.
- Is the trailing cable plugged into the trolley?
- Are the fuses in the cable switch box in order (F1, F3, F4)



Remove the mains plug before opening the switch box!

9.3 Extending the mast sections and anchoring them to the building

When the equipment is erected next to a scaffold it must be anchored to the building.

NOTE

Anchoring can also be directly to the scaffold if it can carry the additional load (see anchoring forces).

9.3.1 Assembly of the mast sections up to a height of approximately 3.5 metres

ATTENTION

The mast sections must be aligned vertically from the start with a water level. This must also be checked when fitting each mast mount.



The following should be noted:

- **The installation engineers ascend on the load platform; the hoist is operated from the platform control**
- **The max. load capacity at the beginning of assembly is 250 kg, as long as the second mast mount has not been installed (at a height of approximately 9 metres)**

The equipment is erected from the platform and the scaffold

At the beginning, the platform is on the ground:

- Release and open the safety catch of the high loading ramp.
- Load platform with mast sections, parts for mast anchoring and tools (**maximum 250 kg**)
- Close the loading ramp from the inside and make sure that the safety catch is fully locked.
- Turn the key for the assembly of the hoist at the switch of the assembly control to “ASSEMBLY“ to the right (**vertical** position).

NOTE Close the loading ramp, or control will be interrupted.



Make sure that the base unit is secure before driving up the load platform. Do not lean out over the lateral walls while the loading platform is moving.

- Press the UP button (at the platform control) and raise the hoist until the proximity switch on the end of the mast engages and stops the movement.
- Raise the assembly guard slightly, pull it forward and lower it.
- Place the 1.5 m mast section (1) on the base mast (2) with the eyebolts pointing to the top.

NOTE

The guide sections of the rectangular tubes of the mast are designed so that the mast being mounted can be hung into the sections and tilted up by both installation engineers until it slips into the guides.

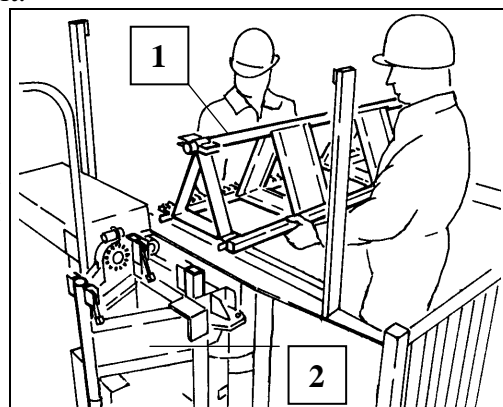


fig. 20 adding mast sections

- Fold up the four eyebolts (1) and tighten, 150 Nm torque.

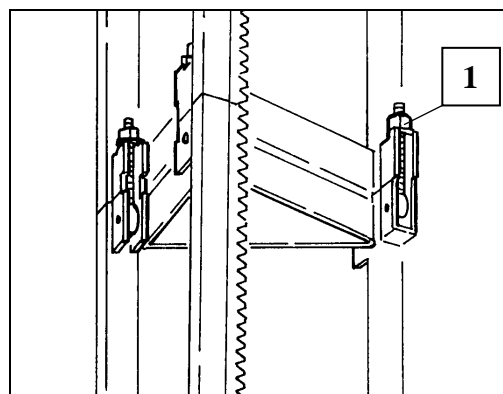


Fig. 21 fixing the mast sections

- Push the assembly guard upwards and latch.
- Travel upward until you can comfortably install the mast anchoring at a height of approximately 3 metres.
- Insert the mast mounting (1) into the mast (2) from the front and fasten the scaffold coupling (3) onto the round mast tube. (torque **50 Nm**).
- Open the scaffold clamps (5) and insert the telescope tube (4). Close the clamps and tighten screws to a point that still allows the pipe to move.
- For setting angles, loosen the nuts below the pipe clamps (5) and slide one pipe clamp along the oblong hole.
- Retighten all 4 nuts.

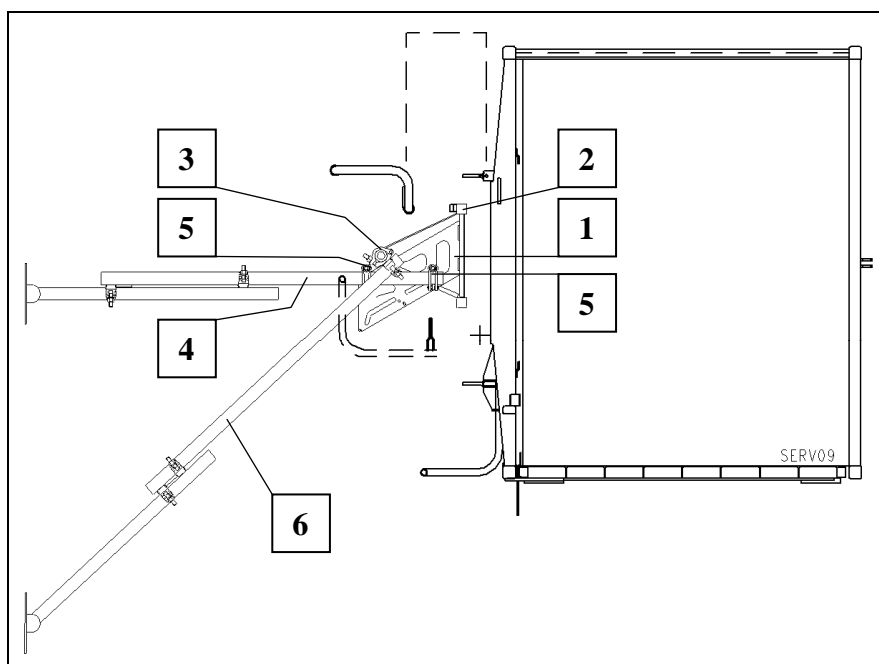


fig. 22 mast mounting

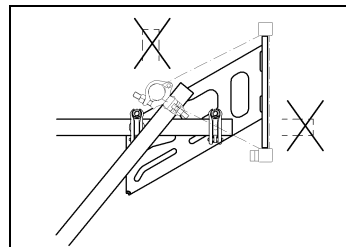
- Dowel the mounting plate to the wall or anchor it to the wall with crab bolts. (Also see the anchoring forces table.)

NOTE

Extension pipes are to be used for larger distances from the building (e.g.: preinstalled scaffold) (see fig. 24).



The open tube ends of the mast anchoring tubes must not protrude over the mast cross section! Risk of collision!



- Fix the telescope tube (6) with a rigid scaffold coupling on the inner side of the round mast tube (torque **50 Nm**), extend them to meet the wall and anchor there as well. The horizontal distance between the two anchoring tubes on the wall should be as wide as possible. (The minimum distance between the two mount plates depends on the distance between the mast and the building. Use extension tubes if the distance is larger.)

NOTE

The vertical and right angle alignment of the mast must be checked and corrected if necessary.

- Vertical alignment of the mast is achieved by moving the anchoring tubes in the mast mount or scaffold coupling.
- Right angle alignment of the mast is achieved by using the two scaffold couplings (see fig. 22 pos.5)

9.3.2 Anchoring forces and space requirement

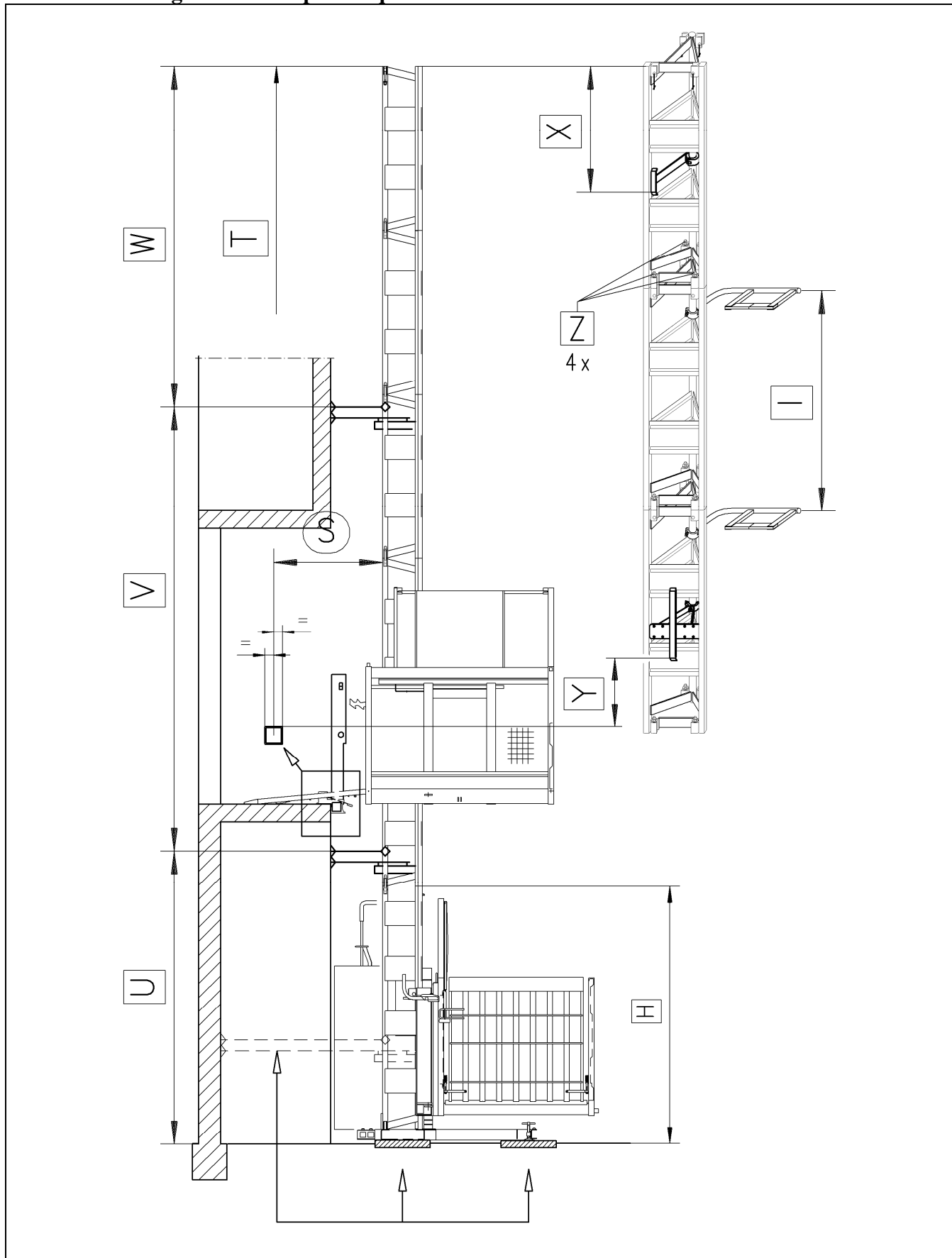
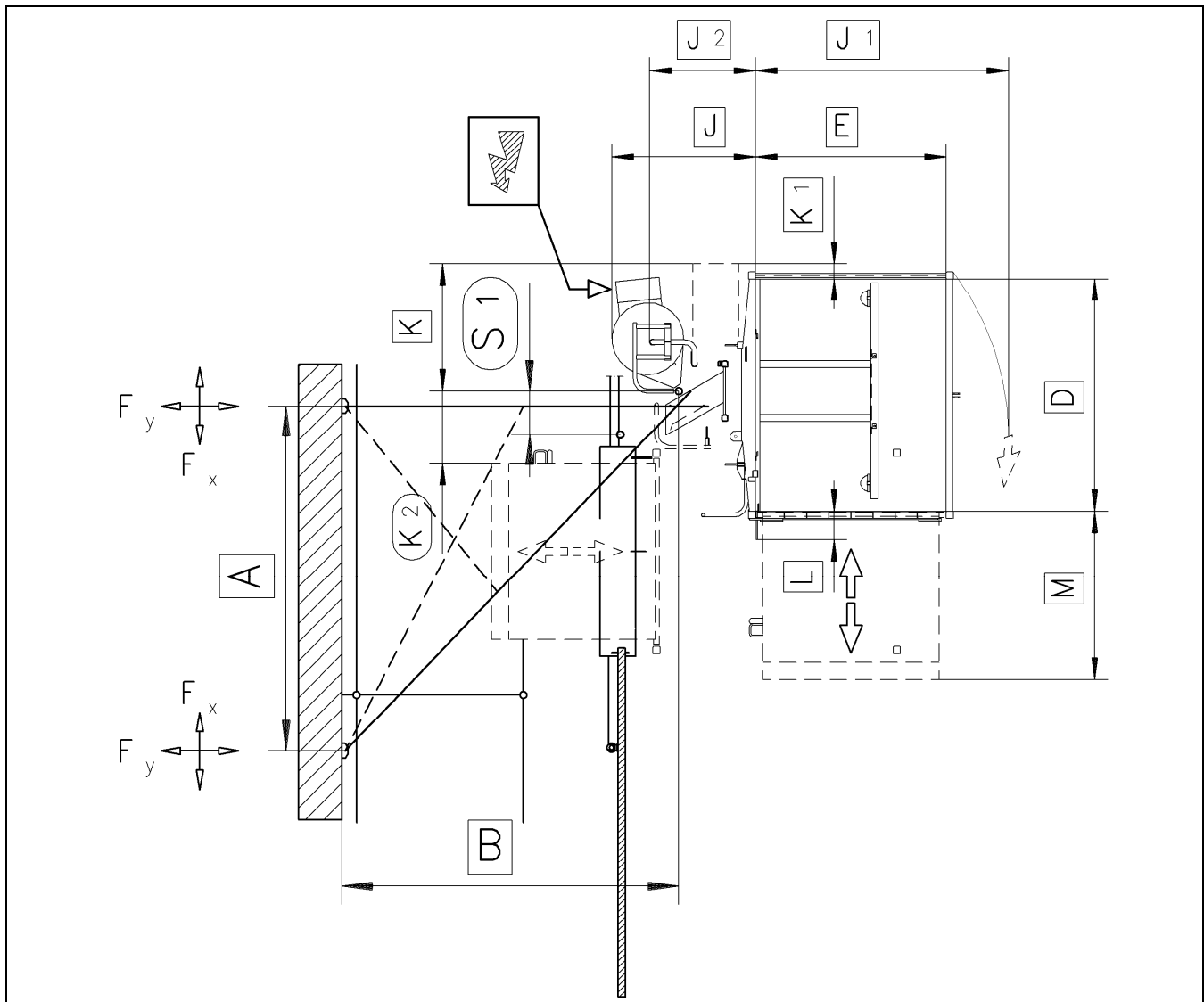


fig. 23 overall view with vertical distances



A	Interval between the wall fixings		M	Projection of the opened loading ramp	1,16m / 3'9"
B	Distance from the centre of the circular tube of the mast to the wall		S	Distance centre circular tube to centre tube of landing level safety	0,42m / 1'5"
D	Useable platform width	1,6m / 5'4"	S₁	Distance centre circular tube of the mast to centre of the tie bar of landing level safety gate	*0,3m / 1'
E	Useable platform width	1,4m / 4'8"	*Attention! only valuable for the landing level safety gate "Comfort" serial number 1212		
H	Height of the base unit	2,3m / 7'8"	T	Max. assembly height	≤ 100m / 330'
I	Max. interval between cable guides	6m / 20'	U	Height of the first mast clamp	≤ 3m / 10'
J	distance from the back of the platform to the back of the cable bin	0,99m / 3'4"	V	Vertical distance of the other mast clamps	≤ 6m / 20'
J₁	space requirement from platform back to maximum swivelling range	1,75m / 5'10"	W	maximum projection of the mast	4,5m / 15'
J₂	distance from the back of the platform to the trailing cable	0,73m / 2'5"	X	Distance emergency limit switch activating device to end of mast	> 1,26m / 4'2"
K	distance from the centre circular tube to motor protection hood	0,88m / 2'11"	Y	Distance level floor to level limit switch activating device	0,4m / 1'4"
K₁	distance from the platform to the motor protection hood	0,11m / 4"	Z	Tightening torque of the mast connecting screws	150Nm / 110lbf.ft
K₂	Distance centre circular tube of mast to corner tube of the loading ramp	0,5m / 1'8"			
L	Projection of the lock hook	0,2m / 8"			

fig. 24 anchoring and space requirement

The anchoring forces depending on the respective location (see wind map), the assembly height and assembly situation, are to be looked up in the following tables.

The indications given are top forces that do not yet contain safety factors.

If the type of assembly presented in fig. 24 is changed the respective anchoring forces will have to be demanded.

9.3.2.1 Anchoring forces when assembling in front of a wall

A = 1,2m; B = 0,7; anchoring distance V = 6m

The indications in the table are valuable for each anchoring tube.

load capacity = maximum 300kg (500 Z with 230V-drive unit at 13m/min.)

	Highest mast clamp Mast projection 3m		Other mast clamps reps. Highest mast clamp without mast projection	
wind region	F_x	F_y	F_x	F_y
A / B	4,3kN	4,9kN	2,7kN	3,0kN
C	4,7kN	5,2kN	2,9kN	3,2kN
D	6,1kN	6,8kN	3,8kN	4,2kN
E	7,8kN	8,6kN	4,8kN	5,3kN

load capacity = maximum 500kg

	Highest mast clamp Mast projection 3m		Other mast clamps reps. highest mast clamp without mast projection	
wind region	F_x	F_y	F_x	F_y
A / B	5,2kN	5,6kN	3,2kN	3,4kN
C	5,2kN	5,6kN	3,2kN	3,4kN
D	6,1kN	6,8kN	3,8kN	4,2kN
E	7,8kN	8,6kN	4,8kN	5,3kN

9.3.2.2 Anchoring forces for assembly in front of a scaffold

A = 2,5m; B = 1,9m; anchoring distance V = 6m

The indications in the charts are valuable for each anchoring tube.

Load capacity = max. 300kg (exclusively for the 500 Z with 230V-Antrieb at 13m/min.)

	Highest mast clamp Mast projection 3m		Other mast clamps reps. highest mast clamp without mast projection	
wind region	F_x	F_y	F_x	F_y
A / B	4,3kN	4,6kN	2,7kN	2,9kN
C	4,7kN	5,2kN	2,9kN	3,2kN
D	6,1kN	6,8kN	3,8kN	4,2kN
E	7,8kN	8,6kN	4,8kN	5,3kN

load capacity = max. 500kg

	Highest mast clamp Mast projection 3m		Other mast clamps reps. highest mast clamp without mast projection	
wind region	F_x	F_y	F_x	F_y
A / B	5,2kN	5,3kN	3,2kN	3,3kN
C	5,2kN	5,3kN	3,2kN	3,3kN
D	6,1kN	6,8kN	3,8kN	4,2kN
E	7,8kN	8,6kN	4,8kN	5,3kN



Assembly height H [m]	Wind pressures for geographical regions [N/m ²]			
	A/B	C	D	E
0<H≤10	544	741	968	1225
10<H≤20	627	853	1114	1410
20<H≤50	757	1031	1347	1704
50<H≤100	879	1196	1562	1977
100<H≤150	960	1306	1706	2159

fig. 25 European wind chart

9.3.2.3 Stiffener tubes

It can become necessary during particular assembly situations (big distances to the anchoring points) to protect the anchor tubes from folding with additional stiffener tubes.

The table applies to smooth single section steel tubes without connections.

Ø 48,3 x 3,25 – St 37-2 DIN 2448 or DIN 2458

The table is to be adjusted accordingly to suite other types of materials and tube diameters.

Fold length	allowed force pressure
100 cm	52640 N
150 cm	38960 N
200 cm	26720 N
250 cm	18660 N
300 cm	13580 N
350 cm	10280 N
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 actual forces in the bracing tubes have to be calculated by the anchoring forces mentioned in the table

If the indicated pressure forces for the indicated buckling length are exceeded additional action will have to be taken.

9.3.3 Assembly of mast sections of a height between 3,5 and 9,5 metres

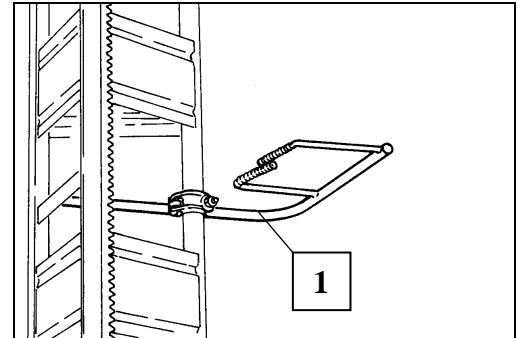
- Press the UP button and travel up to the end of the mast section that has been added.
- Put on another mast section and screw.
- Add two further mast sections the way it has been previously described.



When erecting the mast, the projecting mast may be travelled up a maximum of 5.5 m (with max. 250 kg weight) beyond the last mast mounting! (Upper edge of trolley to mast mounting).

Trailing cable guide

- Position the first trailing cable guide (1) at a distance of approx. 6 m from the upper ring of the cable bin.
- Cable guides must be fitted in order to ensure that the trailing cable feeds without interference into the cable bin. The more susceptible to wind the location of the transport platform, the shorter the intervals between the cable guides must be. **Recommended interval: 6 m.**



- Screw the trailing cable guides (1) with the rubber latches to the circular tube of the mast and align it centrally to the cable guide tube at the trolley.

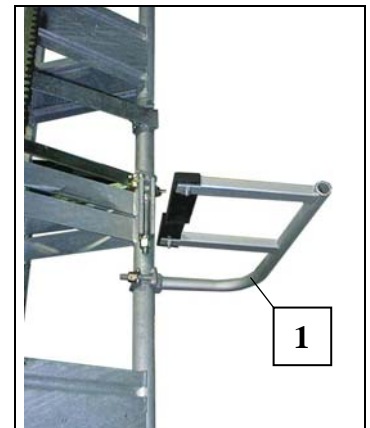


Fig. 26 trailing cable guide

- Go up and install another mast section see also fig. 20/Fig. 21.
- Add further mast sections as it has been described in chapter 9.3.1.

9.3.4 Erecting the mast above a height of 9,5 metres

The mast is now held by at least two mast anchors, this allows the platform to be loaded with **500 kg** for further assembly.



From the second mast mounting on (in a height of approximately 10m) the maximum load capacity is 500kg.

- Add further mast sections as it has been previously described.
- Install further mast anchors as it has been previously described.
- Raise the platform to a height where you can comfortably install the mast anchors. Doing this, you have to pay attention that the upper edge of the trolley may only be moved 5.50 metres above the last installed mast anchor (with a weight of 500 kg).

- install further trailing cable guide in intervals of 6m (see chapter 9.3.3).

Check the length of the trailing cable!

- Assemble the hoist this way until the required height has been reached (up to a maximum height of 100 metres).



Keep vertical distances for:

- mast mountings maximum 6,0 m.
- trailing cable guides approximately 6,0 m.

EMERGENCY limit switch activating element

- An emergency limit switch-operating element (1) must be fitted as the uppermost stopping point before the drive pinion leaves the rack. A minimum distance of 1.25 m must be kept to the top of the mast end (the hoist is stopped at this bar by the UP operating limit switch, or the emergency limit switch during malfunction).

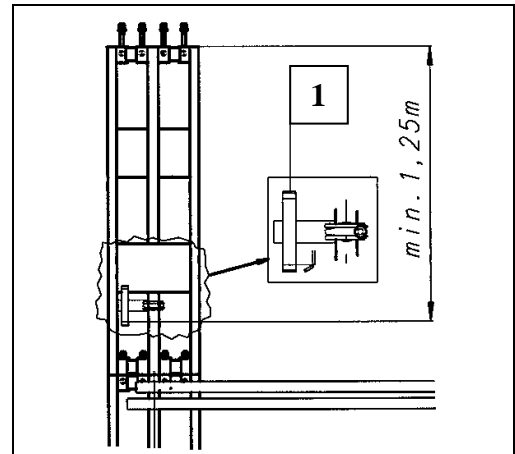


fig. 27 EMERGENCY limit switch activating element



During operation, the mast must not be travelled up more than 3 m beyond the last mast anchor (mast mounting to upper edge of trolley). The emergency limit switch activating element must be positioned at a level deep enough to meet this requirement.

9.4 Protection of loading and unloading points

In order to prevent people from falling, safety gates must be installed at **all** loading and unloading points at a height of more than 2 metres where there is the danger of falling. Only GEDA landing level safety gates may be fitted. These safety gates are tested and, in conjunction with the hoist loading ramp, provide safe transition.

NOTE Installing the landing level safety gate “Comfort“ opening to the right or to the left (starting with production 11/2001) is described in a separate assembly and operating manual for this landing level safety gate (no. BL083) contained in the delivery.

Installing the landing level safety gate „Simple“ is described in a separate assembly and operating manual for this landing level safety gate (no. BL085).

9.5 Landing level limit switch bar

- Fit the landing level bar (1) onto the mast section.
- Insert the limit switch element from the direction of the load platform between the two rectangular tubes of the mast and fasten with the welded scaffold coupling to the rear, round mast end.
- Set height for the activator bar contact to 0.25 m above the landing level floor.

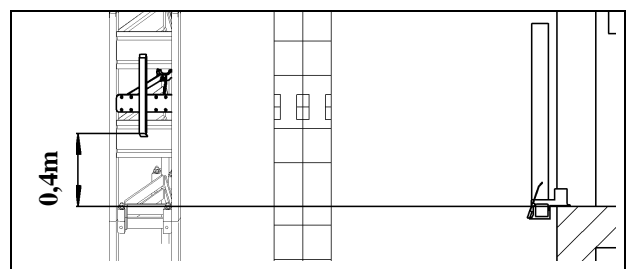


fig. 28 Positioning the landing level bar

9.6 Landing level system for building hoist

Landing level safety gate with control

- Remove the dummy plug from the switch box at the cable bin (see fig. 9).
- Lower the cable with the plug of the electronic module and insert it into the switch box of the cable bin.
- Plug in the dummy plug at the electronic module. (If there are several landing level safety gates, the dummy plug is always on the top level).

Landing level safety gate without control (**Attention!** Observe national rules and regulations)

- Dummy plug remains in the red plug connector at the switch box of the cable bin.
- Operating the machine is only possible from the manual control at the switch box of the cable bin.

9.7 Check after assembly and before commissioning

- Make sure that
 - the rack is adequately lubricated
 - the prescribed maintenance operations and inspections have been performed
 - the gear motor is not leaking any oil
 - the supply cable is of adequate cross section
 - the rotation direction of the motor corresponds with the UP/DOWN button movements
 - the length of the trailing cable of the cable bin is sufficient for the assembly height.
 - the danger zone at the lower loading point with the exception of the access to the platform is blocked off.
 - Sign plates are existing and legible (see charts technical data)
- Carry out a test run with a **loaded** platform and check that the brakes are functioning properly.
- Test if the platform control, ground control (manual control) and (when existent) landing level control systems are functioning correctly.
- The trailing cable, power supply cable and control cables must not show any signs of damage.
- Test the function of the overspeed safety device through a drop test with half the load capacity. (see chapter 13.7)
- Rotate the key in the key-operated switch (assembly control) to the left, remove it and keep it safely. In that position (in service) the platform can only be controlled via the ground control or the level control.

10 Operation

10.1 Safety indications



Only a skilled worker appointed by the concerned firm is allowed to operate the hoist. This skilled worker must be familiar with the assembly and operating instructions, possess adequate experience and be aware of the dangers involved in handling the equipment.

Building hoists are temporarily erected hoist systems that are intended exclusively for transporting goods during building activities.

- The transport of people is strictly forbidden!
- Block off the danger area of the equipment.
- People must not stay below the hoist.
- You must not store any objects within the restricted area and beneath the hoist.
- Operating personnel (see chapter 3.1)

- The hoist must be operated from outside the danger area.
- The platform operator must always have a clear and unobstructed view on the platform
- Pay particularly attention near the ground..
- The hoist must always be protected against unauthorised use! - After finishing work or during a pause, securely block the manual control system or turn the main switch off and secure it with a padlock.
- If the loaded platform is stopped due to a fault during operation the operating personnel are obliged to remove the load. - Never leave a loaded platform unsupervised!
- Operation of the hoist must be stopped in the case of:
 - Wind speeds over 72 km/h (= wind force 7-8; stormy wind).
 - Damage or other faults.
 - If the annual expert inspection (see chapter 4.3.1) has not taken place on time.

10.1.1 Rules for the ground personnel

- People must not stay below the hoist. Take care to suitably block off the danger zone at the building site.
- Store materials at a distance of min. 50 cm away from moving parts of the load platform.
- No objects may be stored in the blocked off areas or below the platform.

10.1.2 Rules for loading and unloading the platform

- Safety gates must be installed at loading points 2.0 m high or more in order to prevent people from falling. (Install the landing level safety gate).
- Landing level safety gates may only opened when there is no danger of falling. (Platform turned in)
- The load platform must always be loaded the way that loading and unloading access points remain free.
- The load must be evenly distributed on the load platform.
- Bulky parts may not laterally project the platform.
- The load must be positioned securely. Material that tends to slip, or is higher than the platform, or could fall over must be secured. Also bear in mind the possibility of sudden winds.

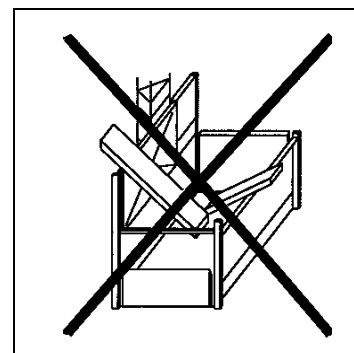


fig. 29 correctly loading the platform

ATTENTION

The manual brake release handle must never, under no circumstances, be used to lower the platform during operation - it is only intended for emergencies (see chapter 12.1)

- The safety instructions in chapter 4 must also be followed.

10.2 Safety check

Before beginning to work

Perform a test run with an **empty** load platform and make sure that the entire path of the load platform is unobstructed.

The load platform must stop immediately if

- an EMERGENCY OFF button is pressed
- a landing level safety gate is opened (only when using an electronic module (accessories).
- the DOWN limit switch is activated
- the top EMERGENCY OFF limit switch activator has been reached or the trolley has reached the end of the mast.

The hoist must not start if

- the hoist is overloaded (control lamp illuminates).
- the loading (or unloading) ramp is open.
- the load platform has been swung inwards for loading or unloading.
- the overspeed safety device has triggered.

The hoist may not automatically continue travelling if

- the selection switch is set to "MANUAL" (Manual control position **I**)
- the load platform is near the ground (approximately 2 m) not depending on the position of the selection switch.

It must not be possible to operate the hoist from the landing level safety gate near the ground (approximately 2 m.).

10.3 Operating the hoist

- The loading ramps must be closed and engaged. The assembly guard must be secured at the top.
- Turn the main switch (at the switch box of the cable bin) to ON.
- Rotate the key in the key-operated switch on the platform to the left and remove the key.
- Within the 2 metres safety height during highering and lowering a warning signal is hooting.

1 = EMERGENCY-OFF button

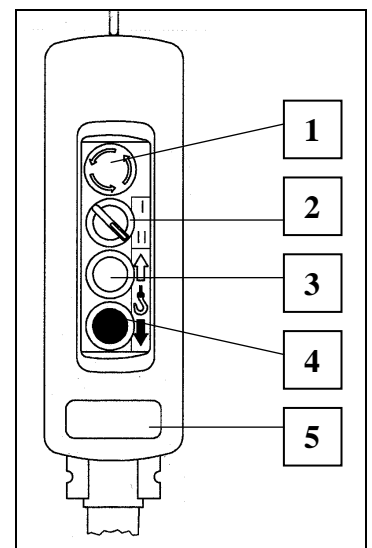
2 = MANUAL AUTOMATIC selector switch

3 = UP button

4 = DOWN button

5 = hold button

- Selector switch (2) set to position I (MANUAL):
 - The hoist will only move if the UP (3) or DOWN (4) buttons are pressed.
 - The hoist **overruns** the limit switch operating element(s) at the landing level safety gate and only stops at the top level or at the top of the mast end by reaching the EMERGENCY OFF element.



Manual control

- Selector switch (2) to position II (AUTOMATIC):

Ascent

- The hoist only moves within the first 2.0 m from the ground if the UP button (3) is kept pressed. Having exceeded the 2.0 m safety height, the UP button (3) must be released, and the hoist automatically travels on to the next level and stops there.
- In the case of continuous travel to the "second level", keep the UP button (3) pressed until the hoist has passed the first level limit switch element.

Descent

- Press the DOWN button (4) and release. - The hoist descends until reaching the 2.0 m safety height.
- The remaining 2.0 m can only be travelled using the control on the ground and keeping the DOWN button (4) pressed (dead man's control).

10.3.1 Stopping at landing levels and loading and unloading the platform

- Press the UP button (3) and release.
- The hoist will travel to the next landing level operating element (selector switch (2) set to position II)
- In order to unload the load platform (1) swing the load platform inwards by 90°.
- To do so pull the pivot lever (2) down and swing the load platform (1) inwards until the blocking element (3) engages and locks in place.
- Unlock the safety lever of the landing level safety gate (see operating and assembly instructions of the landing level safety gate) and open the sliding gate.
- Open the safety locking hook (4) and lower the loading ramp.

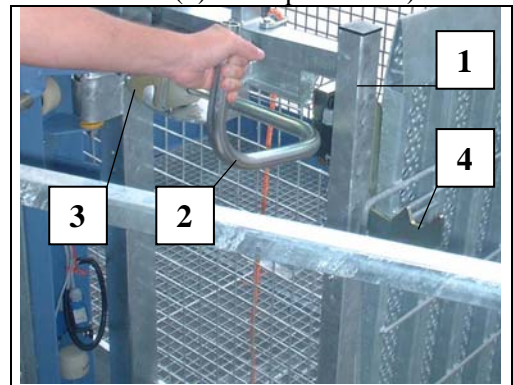


fig. 30 swinging the platform

- Load or unload the platform.

NOTE

The landing gate may only be opened after the platform is turned in and there is no longer a danger of falling!

- Close the sliding gate at the landing level safety gate again until the safety lever has engaged again.
- Close the loading ramp.
- Press the DOWN button (manual control of the ground station, the electronic module of the landing level safety gate respectively).
 - The empty load platform moves down to the 2.0 metres safety stop.

10.4 EMERGENCY shut-down

- In situations that entail danger to the operating personnel or to the hoist, one can stop the load platform by pressing an EMERGENCY OFF button (1).
- An EMERGENCY OFF button (1) is located at each control point.

NOTE

EMERGENCY OFF push buttons are equipped with a catch mechanism and remain activated until they are manually released again (turn the red button to the right and pull back).

10.5 Suspending/finishing work

- Lower the load platform to the lowest position with the DOWN button (4) and unload.
- Rotate the key in the key-operated switch (assembly control) to the left and remove the key.
- Turn the main switch to OFF and secure with a padlock.
- Remove the mains plug.

11 Dismantling

For dismantling, the same rules and safety instructions apply as described in Chapter 9.

Dismantling generally occurs in the reverse order to assembly, but please note in addition:

- Dismantle the landing level safety gates first (provide 3-part protection before)
- Make sure that all mast-connecting bolts are engaged.
- The load platform must be stopped so that the mast end of the mast section to be removed is located above the upper edge of the trolley.
- Only loosen the mast anchors after there are no more mast sections above the anchor.
- Always unload the load platform in between (the hoist cannot move if it is overloaded).

NOTE: For loading the hoist onto a trailer, please see chapter 11)

12 Faults - Causes and Elimination



Only professionals may eliminate faults! Before looking for faults, always lower the load platform and unload if possible!

Before working on the electrical system of the hoist, turn off the main switch and remove the mains plug. If faults occur that jeopardise the operational safety, stop operation immediately!

If faults occur check the following:

- Is the mains supply line connected?
- Is the main switch at the cable bin switched on?
- Fuses in building site main cabinet (16 A, passive)?
- Correct extension cord (5 x 2,5 mm²)?
- Is the green control lamp on the cable bin illuminated? - If not, please see chapter 7.2 Electrical power supply.
- Are the EMERGENCY-OFF push buttons at the control points unlocked?
- Is the loading ramp closed and secured?
- Is the load platform in drive position (not swung in)?
- Does the red control lamp illuminate (load platform overloaded)?
- Emergency limit switch activated?
- Has the hoist travelled too low or too high (see chapter 12.1.2/ 12.1.3)
- Does the proximity switch have the proper distance from the metal to monitor the rack (5-7 mm)?
- Are the activation elements of the UP and DOWN limit switches functioning?
- Has the overspeed safety device engaged (to release it, see chapter 12.2) ?
- Check the fine-wire fuses in the switch box on the cable bin (primary 2x400 mA, secondary 1.6 A).
- Is the key-operated switch in the correct position, i.e. according to the operation mode ?
- Are all level gates securely attached (if installed with an electronic module) and locked?
- Is the dummy plug (red, 7-pole) connected (for operation at the cable bin or on the highest level) ?

NOTE (only valuable for the 500Z with 400V- drive unit)

The green indicator lamp does not illuminate in case of:

- The wrong phase sequence
- Insufficient voltage
- Overheated motor
- burnt-out fine-wire fuse
- unplugged connections

The motor is not working with full power:

- Voltage drops of more than 10% of the rated voltage.
- Select a supply line with higher conductor cross-section.
- In case of overload, the built-in thermal switch cuts off the control current. Work can be continued after a short cooling down period (reduce load if necessary).

ATTENTION Avoid repeated overheating / overloading – this shortens the life expectancy of the motor / brakes.

12.1 Potential faults during operation

12.1.1 Power failure or defective motor

In this case the platform has to be lowered to the ground by releasing the motor brake.

- Take the manual brake release handle (1) out of the mounting (2) and screw into the brake.
- Release the motor brake by carefully pulling on the manual brake release handle. – The platform will slowly move downward.
- Put the manual brake release handle (1) back into the mounting (2).

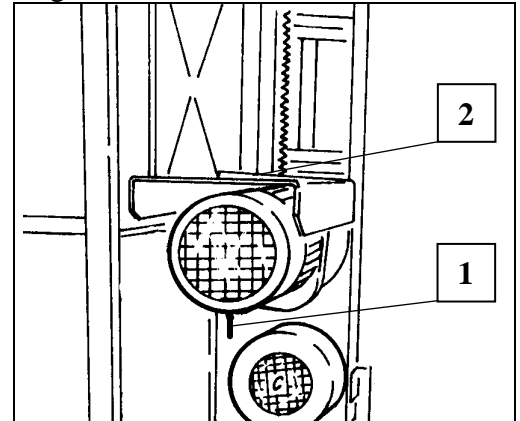


fig. 31 activating the manual brake release handle



In order to avoid engaging of the overspeed safety device the manual brake release handle must be activated with extreme care. Lower the platform only very slowly! If the overspeed safety device has engaged, it is not possible to continue without raising the platform.

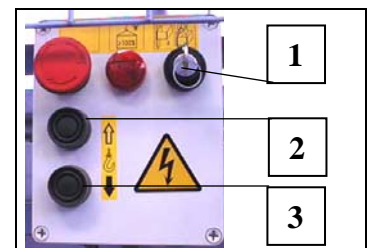
12.1.2 Load platform travelled too high

The EMERGENCY limit switch of the load platform may reach the upper EMERGENCY limit switch activating element if

- the UP limit switch is defective,
- there is a fault in the electrical system.

Action to take:

- Rotate the key-operated switch at the assembly control to the right and keep it in that position. Afterwards press the DOWN button (3). – Now the load platform moves down out of the EMERGENCY-OFF position.
- Release the key-operated switch (1).



12.1.3 Load platform travelled too low

The emergency limit switch of the platform may reach the lower EMERGENCY limit switch element if

- the air gap of the brake is too large,
- the DOWN limit switch is defective,
- there is a fault within the electrical system,
- the load platform is overloaded.

Action to take:

- Rotate the key-operated-switch (1) at the assembly control to the right and keep it in that position. Press the UP button (2) afterwards. – Now the load platform leaves the EMERGENCY-OFF position.



You must press the “UP”- button (white), because the emergency limit switch is bridged by this control system. The DOWN- button releases the motor brake and the motor can be moved downwards "in block".

- Release the key-operated switch (1).

ATTENTION If this defect occurs frequently, even if the load platform is not overloaded, have the brake checked and adjusted by a skilled technician.

12.1.4 The overload warning device has triggered

The hoist is equipped with an overload warning device, which prevents the platform from starting if it is overloaded. If the platform is overloaded, the red indicator lamp illuminates on the trolley switch box.

If the red indicator lamp illuminates

- Reduce the weight on the platform until the red indicator lamp goes out. – The trolley will not move before.

12.2 The overspeed safety device has triggered

The hoist is equipped with an overspeed safety device that brakes the platform after it has reached overspeed (excessive speed). After the overspeed safety device has triggered, continuing the course is no longer possible.



Establish the reason for the overspeed safety device's activating, secure the load platform and repair the damage before releasing the overspeed safety device!

Releasing the overspeed safety device

- Loosen the lock nut (1) at the overspeed safety device.
- Turn the protective cap (2) of the overspeed safety device to the left until the limit switch lug (3) engages in the groove of the protective cap.
- Tighten the lock nut (1) again.

4 = sign plate

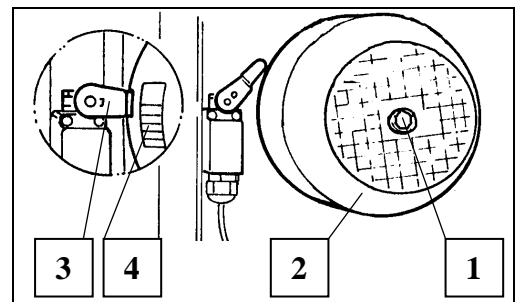


fig. 32 overspeed safety device

- Press the UP button outside the load platform (manual control or level control) and higher the platform approximately 10cm. – The overspeed safety device will release and the hoist is ready for operation again.



The overspeed safety device mechanically blocks descent and the button may only be pressed again after the platform has been raised slightly!

- The hoist is ready for operation again.
- Check the overspeed safety device for damage, establish the cause of activation and eliminate
 - A professional must check the overspeed safety device.
 - Loosen the lock nut (1) at the overspeed safety device, remove the protective cap (2) and examine the overspeed safety device for potential damage.
 - Replace the protective cap (2), so that the limit switch lug (3) engages in the groove of the protective cap.
 - Tighten the lock nut (1) again.

13 Maintenance



**Only professionals may carry out maintenance work.
Please dispose of lubricants and replacement parts environmentally**

Changes or faults that are detected must be reported to the management or management representatives immediately. Stop and secure the hoist if necessary.

13.1 Daily cleaning

- Clean the hoist from any dirt.
- Keep the working area around the hoist clean and tidy.

13.2 Daily inspection

- Check visually if the entire travel path of the load platform is unobstructed
- Perform a test run with the empty load platform and make sure that
 - the operational limit switches at the top and bottom are functioning.
 - the gate locks are functioning: it must not be possible to move the trolley when a loading ramp is open.
 - The swivel limit switch is functioning (if the load platform is swung inward lifting must not be possible).
 - the EMERGENCY OFF buttons function, up- and down movement of the hoist must not be possible if the buttons are pressed!
 - The delay limit switch is functioning
- Automatic descent of the load platform must be switched off at a height of approximately 2 metres; operation from the landing level must not be possible in this lower area.
- The load platform stops if the landing level safety gate is opened.
-

13.3 Weekly inspection/ service

- Check the length of the brake path:
 - The after-running with a completely loaded platform during descent must not exceed 10cm.
- Examine the rack and driving pinions for wear and apply lubricant.
 - recommended lubricant → GEDA special spray Article No. 2524
 - grease cartridge article No. 13893 for grease gun

NOTE

If the hoist is being used more frequently or if operation is not interrupted during several shifts the tooth rack will have to be lubricated more often according to that more intensive use.



fig. 33 lubricating the tooth rack

- Examine the trailing cable, mains supply line and control lines for damage.
- Check the overload indicator lamp in the platform control by manually pressing the overload limit switch.

- Check the overload indicator lamp at the assembly control (platform) by manually pressing the limit switch for overload.



13.4 Monthly inspection/ service

- Make sure that the mast connecting bolts, EMERGENCY limit switch operating elements and mast anchors/bolts on the mast and building are firmly mounted; tighten if necessary.
- Rub the trailing cable with a lubricant.
 - Recommended lubricants:

Continental:	Talcum powder
Tip-Top:	Tire fitting paste
- Check the driving pinions and the rack for wear; replace if necessary.

13.5 Quarterly inspection/ service

- Are the information signs present and easy to read? (see chapter 5.3).

13.6 Annual service

- Check the gear oil and refill as necessary. Comply with third party instruction manuals in the appendix.
 - Recommended gear oil
 - Aral Degol BG 220
 - ESSO Spartan EP 220
 - BP Energol GR-XP 100
 - Quantity approximately 0.8 litres
- Make sure that the tooth rack is firmly mounted.
- 60 Nm tightening torque (8mm Allen key).

13.7 Check the overspeed safety device by means of a drop test

(see chapter 4.3.1)

The drop test must be performed by a professional who is appointed by the employer and whose training or knowledge and practical experience enable him to evaluate the dangers and assess the safe condition of the overspeed safety device.

- Turn the main switch to ON.
- Turn the key at the assembly control to the left and remove it.
- Press the UP button (manual control).
- Raise the platform to a height of approximately 6 metres.

- Fasten the towline with loop to the brake release lever and allow s hanging to the ground.
- Pull the towline from outside the danger area. – The brake will be released and the platform will reach overspeed (excessive speed). After a fall of 2-3 metres, the overspeed safety device should trigger and stop the load platform. If this is not the case release the towline or the brake release lever immediately.

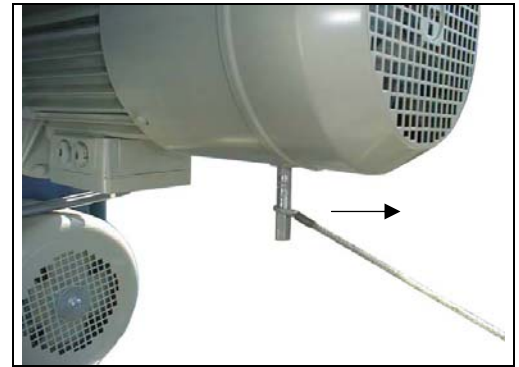


fig. 34 towline for the drop test

ATTENTION

After the overspeed safety device has triggered, ascent and descent of the load platform are mechanically and electrically blocked. Release the overspeed safety device as described in chapter 12.2).

14 Repairs

Only trained skilled personnel may perform repairs, as such work requires specialised knowledge and particular capabilities. These cannot be found in and learnt from this operating manual.

Contact our customer service department for any service or repair jobs:

Sales and customer service address:

GEDA®
ORIGINAL

Mertinger Straße 60
D-86663 Asbach-Bäumenheim
phone + 49 (0)9 06 / 98 09-0
fax + 49 (0)9 06 / 98 09-50
Email: info@geda.de
WWW: <http://www.geda.de>

15 Disposal of the machine

At the end of its service life, the device should be professionally dismantled and disposed of according to the appropriate national regulations.

- Observe the following when disposing device components:
 - discharge oil/grease and dispose environmentally
 - return metal parts for recycling
 - return plastic parts for recycling
 - give electrical components to a special refuse plant.

Recommended: Contact the manufacturer of the machine or engage a professional firm to carry out the disposal in the proper way.

16 Guarantee

The terms of guarantee are available in the General Terms and Conditions (see invoice or delivery note). The guarantee does not cover any damage or defects caused by electrical connections that are not in accordance with regulations, improper handling, or non-compliance with assembly or operating instructions. Wiring and parts, which are subject to normal wear and tear, are not covered either. We reserve the right to determine how and by whom the defects are remedied.

Copy of the EC Conformity Declaration

EC Declaration of Conformity



The manufacturer

GEDA-Dechentreiter GmbH & Co. KG

Mertinger Str. 60

DE-86663 Asbach-Bäumenheim

hereby declares that the machine

Designation: **Construction hoists for material transport**
(for temporary, non-public use by authorised persons)

Typ: **GEDA® 500 Z**

Year of manufacture: see type plate of the machine

Serial No.: 14830; 21900; 21901

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</u>	<u>Conformity assessment</u>
2006/42/EC Machinery Directive	Annex VIII	
2006/95/EC Low Voltage Directive	Annex IV	
2004/108/EC EMC Directive	Annex II	
2000/14/EC Noise Emission Regulations	Annex V	

Applied (harmonised) norms:

EN ISO 12100-1/-2	EN 12158:2001
DIN EN ISO 14121-1	pr EN 81-7
EN 60204-1/32	EN ISO 3744:2009
EN 50081-1/2	EN 81-1:1998

Measured sound power level (L_{WA}) 75 dB (A)
Guaranteed sound power level (L_{WA}) 78 dB (A)

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.

Asbach-Bäumenheim 01.10.2010


Johann Sailer
(Managing Director)

17 Appendix for the entry of the annual inspection

results of the inspection

Date and signature of inspector

results of the inspection

date and signature of inspector

results of the inspection

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