Operating Manual

GEDA® 1500 Z/ZP

Construction hoist / transport platform

For persons and loads

GEDA® ORIGINAL

EC Declaration of Conformity

CE

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® 1500 Z/ZP**
Year of manufacture:	see type plate of the machine
Serial No.:	17006

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

Directives:		Applied conformity evaluation procedure:
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

EC type testing procedure:

Type testing certification		EG-MRL 034/2
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.

Asbach-Bäumenheim 2011-31-03

Johann Sailer
(Managing Director)

EC Declaration of Conformity

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.

Textual notations	Meaning
Bold	Emphasises particularly important words/passages
• List 1	Designates lists
o List 2	Designates lists
(brackets)	Item numbers
➢ Practical instructions	Practical instructions for personnel. Always given in chronological order

The masculine form of address is 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 Warnings

Activities with specific hazards (to life and limb or potential damage to the machine) are designated by warnings. You must observe the instructions given in the warnings.

Warning level		Consequence	Probability
⚠	**DANGER**	Death / serious injury	is imminent
⚠	**WARNING**	serious injury	possible
⚠	**CAUTION**	minor injury	possible
	CAUTION	tangible damage	possible

☞ This is found at points where information is given about using the machine economically or instructions are given regarding correct working procedures.

1.3 Overview of warnings in the manual

1.3.1 Electric shock

HAZARD

Electric shock
Parts remain live even after pressing the EMERGENCY STOP or after turning off the machine at the main switch.
This applies to all work on electrical parts.
Disconnect mains supply upstream from the main switch.

1.3.2 Crushing by car

HAZARD

Life-threatening hazard
through crushing.
Never stand underneath the car (platform) / in the hazard area during operation.
Turn the master switch off and secure against being switched back on while working in the hazard area.

1.3.3 Do not use the hoist if there is a fire

HAZARD

Life-threatening hazard
Do not use the hoist if there is a fire.

1.3.4 Reaching into the travel path during operation

HAZARD

Life-threatening hazard
Crushing or amputation of limbs.
Never reach into the travel path of the machine during operation.

1.3.5 Secure machine against being switched on

HAZARD

Life-threatening hazard
Due to the machine being switched on during servicing/repair work or when there is a defect.
Secure the main switch with a padlock to prevent it being switched on.

1.3.6 Falling tools/parts

HAZARD

Life-threatening hazard
Falling tools/parts
Secure tools / parts against falling
Use the platform.

1.3.7 Fall and trip hazard

WARNING

Fall and trip hazard
Look out for steps and objects on the ground when entering/exiting the platform.

1.3.8 Suspended loads

WARNING

Life-threatening hazard
Raised load.
Do not stand under a suspended load.
Do not stand on a suspended load.
Only raise the load at the sling points.
Only use suitable hoisting gear.

1.3.9 Prevent access for unauthorised persons

WARNING

Life-threatening hazard
Access only for authorised persons.
Access prohibited for unauthorised persons.

1.3.10 Wear safety clothing

HAZARD

Life-threatening hazard
Risk of fire and explosion due to the use of combustible cleaning agents.

Only use suitable, non-combustible cleaning agents.

Do not use steam-jet equipment/high-pressure cleaners. Electrical components can be damaged.

Do not touch sockets, cables or electrical components with wet or damp hands.

Cleaning work on live components may only be carried out by qualified electrical personnel.

Wear personal protective gear.




1.4 Abbreviations

The following abbreviations may be used in the manual.

max.	maximum	Nm	Newton metre
min.	minimum	km/h	kilometres per hour
Min.	Minutes	mph	Miles per hour
etc.	et cetera	incl.	including
poss.	possible/possibly	if nec.	if necessary
e.g.	for example	i.e.	id est (that is)
ml	Millilitre	reg.	regarding
mm	Millimetre	r. h.	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
inch	inch	%	percent
etc.	et cetera	‰	Promille parts per thousand
lbs.	pounds		
lbf.-ft	Pounds per feet	dB (A)	Sound pressure level
Kg	Kilogram	LWA	Noise capacity level
L	Litre	>	greater than
gal.	gallons	<	less than
Kip.	kilopound	±	plus/minus

1.5 Imprint

GEDA Dechentreiter GmbH & Co. KG

2 Identification data

2.1 Machine

Machine type	**GEDA 1500 Z/ZP**
Year of manufacture	Refer to rating plate

2.2 Manufacturer

GEDA Dechentreiter GmbH & Co. KG
Mertinger Straße 60
86663 Asbach-Bäumenheim
Tel.: +49 (0)9 06 / 98 09-0
Fax: +49 (0)9 06 / 98 09-50
E-Mail: info@geda.de
Web: www.geda.de

2.3 GEDA representatives

Bergkamen Subsidiary	**Gera Subsidiary**
GEDA Dechentreiter GmbH & Co. KG Northwest branch Marie-Curie-Straße 11 59192 Bergkamen-Rünthe Tel. +49(0)2389 9874-32 Fax. +49(0)2389 9874-33	GEDA Dechentreiter GmbH & Co. KG Subsidiary Eastern Ernst-M.-Jahr Straße 5 07552 Gera Tel. +49(0)365 55280-0 Fax. +49(0)365 55280-29
USA Subsidiary	**Russia Subsidiary**
GEDA USA, LLC 1151 Butler Road USA 77573 League City, Texas Tel. +1(713) 621 7272 Fax. +1(713) 621 7279 Web: www.gedausa.com	GEDA RUS, LLC Yaroslavskoe shosse 42 129337 Moscow Russian Federation Tel. +7(495) 663 24 48 Fax. +7(495) 663 24 49 Web: www.geda-ru.com
Turkey Subsidiary	
GEDA MAJOR IS VE INSAAT MAKINALARI SAN. TIC. LTD. STI. Semsettin Günaltay Cad. No:224 A Blok K:2 D:5 Tüccarbasi/Erenköy TR-34734 Istanbul/Türkiye Tel.: +90 (216) 478 2108 Fax: +90 (216) 467 3564 Web: www.geda.com.tr	

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 with each spare parts' order:

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

3 Technical data

3.1 Speeds

Hoisting speed

Construction hoist (External control)	24 m / min.
Transport platform / Assembly (Platform control)	12 m / min.
In the safety area (0 – 2 m above the ground)	12 m / min.

Safety gear

Trigger speed	40 m / min.

3.2 Drives

400 V

Output	2 x 3 / 6.1 kW	(6.0 / 12.2 KW)
Power consumption	2 x 7.5/13.8 A	(15 / 27.6 A)
Start up current (max.)	95/ 60 A	

3.3 Assembly height

max. 100 m

3.4 Emissions

LWA noise capacity level:

3.5 Dimensions and weight

☞ Due to the attachment of auxiliary equipment (such as e.g. roof, assembly web etc.) the tare weight is increased. Hereby, the payload is accordingly reduced.

3.5.1 Base unit:

Weight (without platform)	970 kg

3.5.2 Platform A

Payload (max.)		
Construction Hoist	2,000 kg	
Transport platform	2,000 kg (max. 7 people)	1,900 kg + 1 🧍 1,800 kg + 2 🧍 1,700 kg + 3 🧍 1,600 kg + 4 🧍 1,500 kg + 5 🧍 1,400 kg + 6 🧍 1,300 kg + 7 🧍
Assembly	1,000 kg	
Dimensions	1.45 x 1.65 x 1.1/1.8 m	
Weight (with base unit)	1,370 kg	
Number of entrances	1 x load; 1x unload	

3.5.3 Platform B

Payload (max.)		
Construction Hoist	1,500 kg	
Transport platform	1,500 kg (max. 7 people)	1,400 kg + 1 🧍 1,300 kg + 2 🧍 1,200 kg + 3 🧍 1,100 kg + 4 🧍 1,000 kg + 5 🧍 900 kg + 6 🧍 800 kg + 7 🧍
Assembly	500 kg	
Dimensions	1.45 x 3.35 x 1.1/1.8 m	
Weight (with base unit)	1,580 kg	
Number of entrances	1 x load; 1x unload	

3.5.4 Platform BL

Payload (max.)		
Construction Hoist	1,200 kg	
Transport platform	1,200 kg (max. 7 people)	1,100 kg + 1 1,000 kg + 2 900 kg + 3 800 kg + 4 700 kg + 5 600 kg + 6 500 kg + 7
Assembly	500 kg	
Dimensions	1.45 x 4.15 x 1.1/1.8 m	
Weight (with base unit)	1,670 kg	
Number of entrances	1 x load; 1x unload	

3.5.5 Platform BS

Payload (max.)		
Construction Hoist	2,000 kg	
Transport platform	2,000 kg (max. 7 people)	1900 kg + 1 1,800 kg + 2 1,700 kg + 3 1,600 kg + 4 1,500 kg + 5 1,400 kg + 6 1,300 kg + 7
Assembly	500 kg	
Dimensions	1.45 x 3.35 x 1.1/1.8 m	
Weight (with base unit)	1,580 kg	
Number of entrances	1 x load; 1x unload	

3.5.6 Platform BLL

Payload (max.)		
Construction Hoist	1,000 kg	
Transport platform	1,000 kg (max. 7 people)	900 kg + 1 800 kg + 2 700 kg + 3 600 kg + 4 500 kg + 5 400 kg + 6 300 kg + 7
Assembly	500 kg	
Dimensions	1.45 x 4.95 x 1.1/1.8 m	
Weight (with base unit)	1,840 kg	
Number of entrances	1 x load; 1x unload	

3.5.7 Platform C

Payload (max.)		
Construction Hoist	2,000 kg	
Transport platform	2,000 kg (max. 7 people)	1,900 kg + 1 person 1,800 kg + 2 persons 1,700 kg + 3 persons 1,600 kg + 4 persons 1,500 kg + 5 persons 1,400 kg + 6 persons 1,300 kg + 7 persons
Assembly	1,000 kg	
Dimensions	2.9 x 1.65 x 1.1/1.8 m	
Weight (with base unit)	1,560 kg	
Number of entrances	2 x load; 1x unload	

3.5.8 Platform D

Payload (max.)		
Construction Hoist	2,000 kg	
Transport platform	2,000 kg (max. 7 people)	1,900 kg + 1 person 1,800 kg + 2 persons 1,700 kg + 3 persons 1,600 kg + 4 persons 1,500 kg + 5 persons 1,400 kg + 6 persons 1,300 kg + 7 persons
Assembly	1,000 kg	
Dimensions	2.9 x 1.65 x 1.1/1.8 m	
Weight (with base unit)	1,560 kg	
Number of entrances	2 x load; 1x unload	

3.5.9 Platform E

Payload (max.)		
Construction Hoist	2,000 kg	
Transport platform	2,000 kg (max. 7 people)	1900 kg + 1 person 1,800 kg + 2 persons 1,700 kg + 3 persons 1,600 kg + 4 persons 1,500 kg + 5 persons 1,400 kg + 6 persons 1,300 kg + 7 persons
Assembly	1,000 kg	
Dimensions	2.9 x 1.65 x 1.1/1.8 m	
Weight (with base unit)	1,635 kg	
Number of entrances	2 x load; 2x unload	

3.5.10 Platform F

Payload (max.)		
Construction Hoist	2,000 kg	
Transport platform	2,000 kg (max. 7 people)	1900 kg + 1 1,800 kg + 2 1,700 kg + 3 1,600 kg + 4 1,500 kg + 5 1,400 kg + 6 1,300 kg + 7
Assembly	1,000 kg	
Dimensions	4.35 x 1.65 x 1.1/1.8 m	
Weight (with base unit)	1,785 kg	
Number of entrances	2 x load; 1x unload	

3.5.11 Platform G

Payload (max.)		
Construction Hoist	2,000 kg	
Transport platform	2,000 kg (max. 7 people)	1900 kg + 1 1,800 kg + 2 1,700 kg + 3 1,600 kg + 4 1,500 kg + 5 1,400 kg + 6 1,300 kg + 7
Assembly	1,000 kg	
Dimensions	4.35 x 1.65 x 1.1/1.8 m	
Weight (with base unit)	1,785 kg	
Number of entrances	2 x load; 1x unload	

3.5.12 Platform H

Payload (max.)		
Construction Hoist	2,000 kg	
Transport platform	2,000 kg (max. 7 people)	1900 kg + 1 1,800 kg + 2 1,700 kg + 3 1,600 kg + 4 1,500 kg + 5 1,400 kg + 6 1,300 kg + 7
Assembly	1,000 kg	
Dimensions	4.35 x 1.65 x 1.1/1.8 m	
Weight (with base unit)	1,840 kg	
Number of entrances	2 x load; 2x unload	

3.5.13 Platform I

Payload (max.)		
Construction Hoist	2,000 kg	
Transport platform	2,000 kg (max. 7 people)	1900 kg + 1  1,800 kg + 2  1,700 kg + 3  1,600 kg + 4  1,500 kg + 5 1,400 kg + 6  1,300 kg + 7
Assembly	1,000 kg	
Dimensions	4.35 x 1.65 x 1.1/1.8 m	
Weight (with base unit)	1,785 kg	
Number of entrances	2 x load; 1x unload	

3.5.14 Mast

Length	1.5 m
Weight	44 kg
Tightening torque, bolts	150 Nm
First mast anchoring	max. 6 m
Vertical distance mast anchorings	max. 10 m
Vertical distance trailing cable guide	max. 6 m
Projecting mast length	max. 6 m (platform A, C-I)
Projecting mast length	max. 2 m (platform B, BS, BL, BLL)

3.5.15 Inclination of mast

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

3.6 Landing level safety gates

The hoist GEDA 1500 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 platform. GEDA lifts with type test certification must also only be used in combination with tested GEDA landing-level gates. For assembly of the landing-level safety gates, refer to the corresponding manual.

3.7 Tightening torques

3.7.1 Mechanical fittings without tightening-torque control

All information refers to bolts in strength class 8.8			
	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

3.7.2 Mechanical screw connections with torque control

Mast elements to one another	
150 Nm	Tightening torque
Mast tubes	
50 Nm	Tightening torque

3.7.3 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	80 Nm
M 10	10 Nm	M 30	150 Nm

3.8 Safety distance to live wires

The table below shows the minimum safety distances between each machine component and live, non-insulated wires. Observe the country specific regulations.

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 Technical information for assembly

3.9.1 Foundation

The foundation must reliably transfer existing loads into the subsoil. Therefore ensure the following points before each assembly job:

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

Since the load 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:

- Permissible maximum ground pressure
- Predicted settlement
- Predicted groundwater levels
- Predicted thawing and frost processes
- Construction activities expected in direct proximity to the installation site

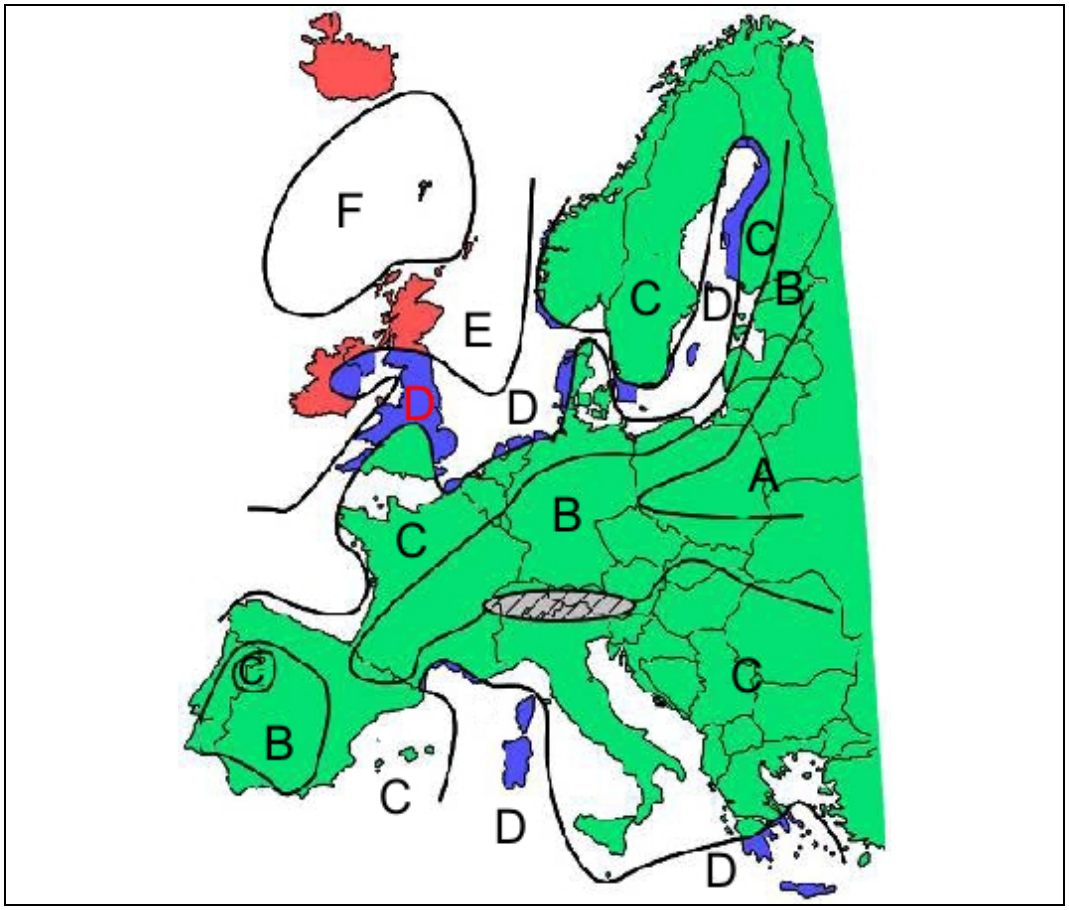
Steel plates and concrete can be used as load distributing base supports. The foundation must be horizontal. The ground pressure data includes no safety factors

3.9.2 Ground pressure

Mast weight per meter (with anchorings and cable guides)	32 kg
Weight Base unit with platform	max. 1,840 kg
Rated load	max. 2,000 kg
Base area without base support (under both masts)	0.5 m²

Assembly height (m)	10	20	30	40	50	60	70	80	90	100
Weight (kg)	4352	4992	5632	6272	6912	7552	8192	8832	9472	10112
Load bearing capacity (kN/ m^2)	85	98	111	123	136	148	160	173	186	198

3.9.3 European wind regions



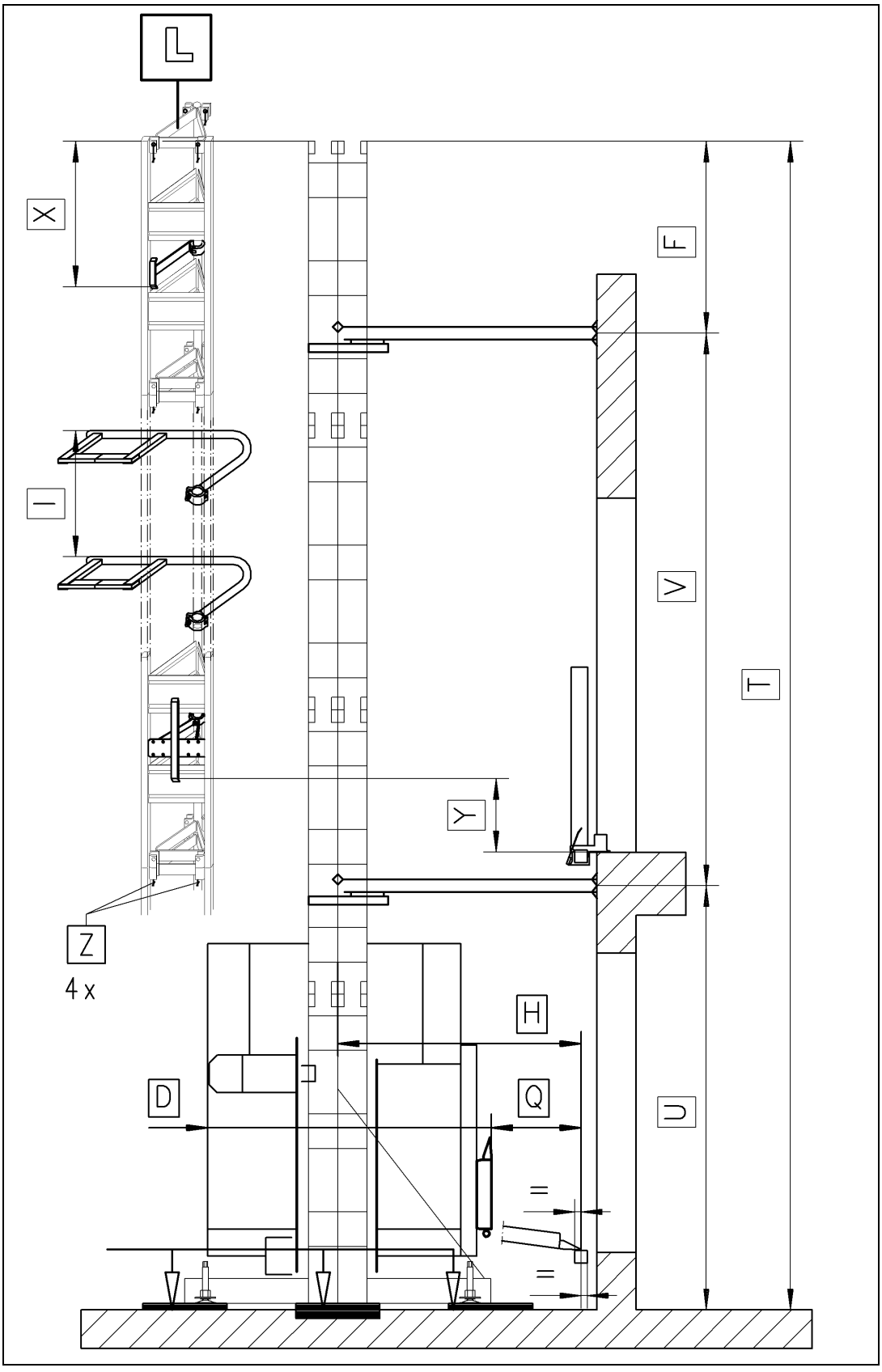
The operating company is responsible for applying the correct wind region. Local conditions such as:

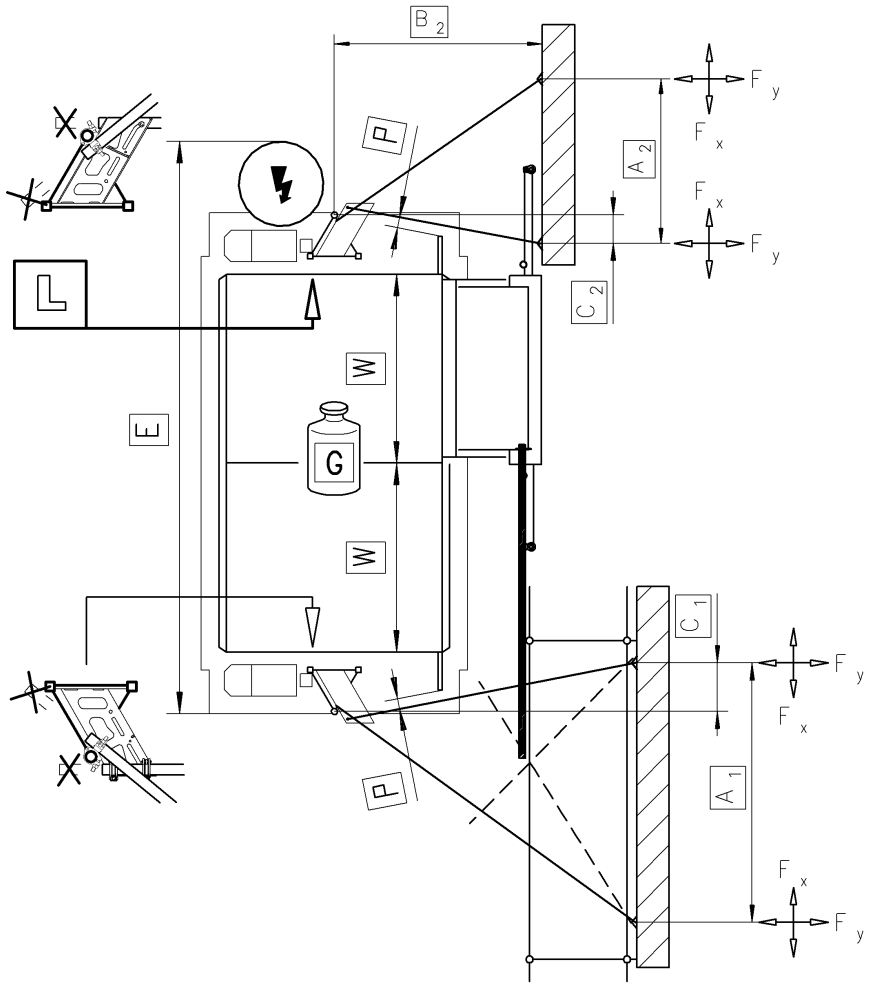
- mountains, bays, valleys,
- house gullies, thoroughfares, buildings, etc.

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

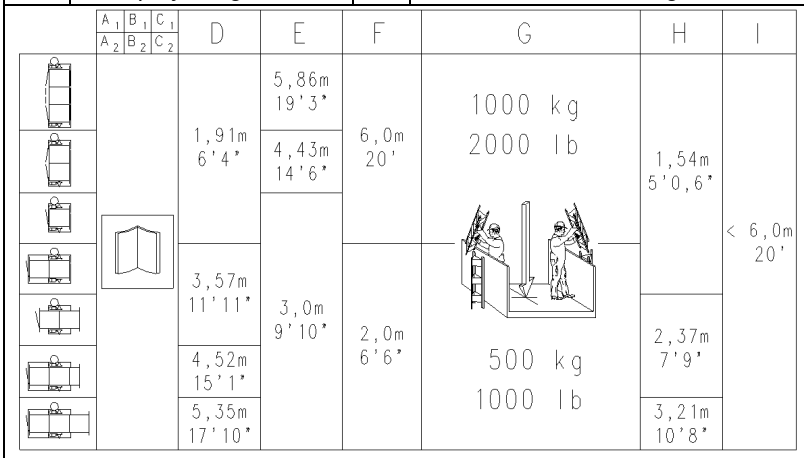
Assembly height metres	Wind pressures according to region (N/m²)			
	A/B	C	D	E
0 – 10	544	741	968	1225
10 – 20	627	853	1114	1410
20 – 50	757	1031	1347	1704
50 – 100	879	1196	1562	1977

3.9.4 Assembly geometry





D	Platform depth	**G**	Load capacity during assembly	**$A_{1/2}$**	Distance between wall fixtures
E	Platform width	**H**	Distance between the centre of the circular mast tube to the centre of the landing level gate crossbar	**$B_{1/2}$**	Distance from the centre of the circular mast tube to the wall
F	Max. projecting mast	**I**	Max. distance of cable guides	**$C_{1/2}$**	Inclined position of attachment tube



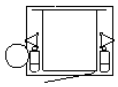
P	Minimum distance between closed assembly bridge and fixing tube	> 0.1m
Q	Unloading hatch to the landing level gate crossbar, centre	0.57m
T	Max. assembly height	≤ 100m
U	Height of 1st mast bracket	< 6m
V	Vertical distance to remaining mast brackets	< 10m
W	Width of platform segment	1.44m
X	Distance from emergency limit switch bar to mast end	> 1.26m
Y	Distance from landing level floor to landing level limit switch bar	0.25m
Z	Tightening torque of the mast connection bolts	150Nm

3.9.5 Anchoring forces

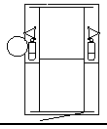
The anchoring loads must be safely absorbed by the building / scaffolding. As necessary, this must be checked by a qualified building engineer. The selection of attachment elements is dependent on the circumstances (dowel / through bolts). For the anchoring loads, refer to the table below. Details are given of the peak loads for the assembly geometry shown; they do not include any safety factors. The appropriate anchoring forces must be requested if the assembly geometry shown is changed.
The anchoring distance for all platforms is V = 10 m.

Assembly in front of wall

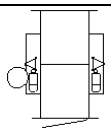
Platform A (A_2 = 1.2 m; B_2 = 1.6 m; C_2=0.28 m)

	Top anchor point Mast projection 6 m		Other anchor points or uppermost anchoring without mast projection)	
Wind region	**F_x**	**F_y**	**F_x**	**F_y**
A/B	3.7 kN	6.4 kN	2.1 kN	3.9 kN
C	3.7 kN	6.4 kN	2.2 kN	4.1 kN
D	3.7 kN	6.4 kN	2.9 kN	5.4 kN
E	3.7 kN	6.4 kN	3.6 kN	6.9 kN

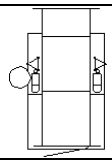
Platform B (A_2 = 1.2 m; B_2 = 1.75 m; C_2=0.28 m)

	Top anchor point Mast projection 2 m		remaining anchorings or uppermost anchoring without mast projection)	
Wind region	**F_x**	**F_y**	**F_x**	**F_y**
A/B	3.7 kN	6.4 kN	2.1 kN	3.9 kN
C	3.7 kN	6.4 kN	2.2 kN	4.1 kN
D	3.7 kN	6.4 kN	2.9 kN	5.4 kN
E	3.7 kN	6.4 kN	3.6 kN	6.9 kN

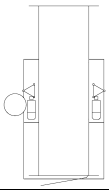
Platform BS (A_2 = 1.2 m; B_2 = 2.58 m; C_2=0.28 m)

	Top anchor point Mast projection 2 m		remaining anchorings or uppermost anchoring without mast projection)	
Wind region	**F_x**	**F_y**	**F_x**	**F_y**
A/B	2.9 kN	9.0 kN	1.8 kN	4.9 kN
C	2.9 kN	9.0 kN	2.2 kN	6.1 kN
D	2.9 kN	9.0 kN	2.9 kN	8.0 kN
E	By request			

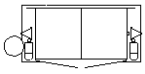
Platform BL (A_2 = 1.2 m; B_2 = 2.58 m; C_2=0.28 m)

	Top anchor point Mast projection 2 m		remaining anchorings or uppermost anchoring without mast projection)	
Wind region	**F_x**	**F_y**	**F_x**	**F_y**
A/B	2.9 kN	8.7 kN	1.8 kN	4.9 kN
C	2.9 kN	9.0 kN	2.2 kN	6.1 kN
D	2.9 kN	9.0 kN	2.9 kN	8.0 kN
E	By request			

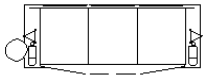
Platform BLL (A_2 = 1.6 m; B_2 = 3.4 m; C_2=0.28 m)

	Top anchor point Mast projection 2 m		remaining anchorings or uppermost anchoring without mast projection)	
Wind region	**F_x**	**F_y**	**F_x**	**F_y**
A/B	2.9 kN	8.7 kN	2.0 kN	4.5 kN
C	2.9 kN	9.0 kN	2.4 kN	6.1 kN
D	2.9 kN	9.0 kN	3.1 kN	7.9 kN
E	By request			

Platform C; D; E (A_2 = 1.2 m; B_2 = 1.6 m; C_2=0.28 m)

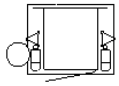
	Top anchor point Mast projection 6 m		remaining anchorings or uppermost anchoring without mast projection)	
Wind region	**F_x**	**F_y**	**F_x**	**F_y**
A/B	2.9 kN	8.7 kN	2.0 kN	4.5 kN
C	2.9 kN	9.0 kN	2.4 kN	6.1 kN
D	3.3 kN	9.0 kN	3.1 kN	7.9 kN
E	4.2 kN	7.3 kN	3.7 kN	6.4 kN

Platform F; G; H; I (A_2 = 1.2 m; B_2 = 1.6 m; C_2=0.28 m)

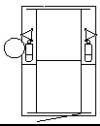
	Top anchor point Mast projection 6 m		remaining anchorings or uppermost anchoring without mast projection)	
Wind region	**F_x**	**F_y**	**F_x**	**F_y**
A/B	2.9 kN	8.7 kN	2.0 kN	4.5 kN
C	2.9 kN	9.0 kN	2.4 kN	6.1 kN
D	3.3 kN	9.0 kN	3.1 kN	7.9 kN
E	4.2 kN	7.3 kN	3.7 kN	6.4 kN

Assembly in front of scaffolding
Anchoring distances for all platforms
(A2 = 1.6 m; B2 = 2.4 m; C2=0.43 m)

Platform A

	Top anchor point Mast projection 6 m		remaining anchorings or uppermost anchoring without mast projection)	
Wind region	**F_x**	**F_y**	**F_x**	**F_y**
A/B	1.9 kN	4.9 kN	1.9 kN	3.8 kN
C	2.5 kN	5.2 kN	2.5 kN	5.2 kN
D	3.3 kN	6.7 kN	3.3 kN	6.7 kN
E	4.2 kN	8.5 kN	4.2 kN	8.5 kN

Platform B

	Top anchor point Mast projection 2 m		remaining anchorings or uppermost anchoring without mast projection)	
Wind region	**F_x**	**F_y**	**F_x**	**F_y**
A/B	1.9 kN	5.9 kN	1.9 kN	4.2 kN
C	2.5 kN	5.9 kN	2.5 kN	5.3 kN
D	3.3 kN	6.7 kN	3.3 kN	6.7 kN
E	4.2 kN	8.5 kN	4.2 kN	8.5 kN

Platform C; D; E; F; G; H; I

	Top anchor point Mast projection 6 m		remaining anchorings or uppermost anchoring without mast projection)	
Wind region	**F_x**	**F_y**	**F_x**	**F_y**
A/B	1.9 kN	5.9 kN	1.9 kN	4.2 kN
C	2.5 kN	5.9 kN	2.5 kN	5.3 kN
D	3.3 kN	6.7 kN	3.3 kN	6.7 kN
E	4.2 kN	8.5 kN	4.2 kN	8.5 kN

Platform BS; BL; BLL
By request

3.9.6 Reinforcing tubes

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

Buckling length	Permissible pressure force	The actual forces in the tube are to be calculated using the anchor forces stated in the tables.
100 cm	52,650 N	
150 cm	38,960 N	
200 cm	26,720 N	If the forces given are exceeded, additional measures must be taken.
250 cm	18,660 N	
300 cm	13,580 N	
350 cm	10,280 N	
400 cm	8,030 N	
450 cm	6,460 N	
500 cm	5,290 N	
550 cm	4,410 N	
600 cm	3,730 N	
650 cm	3,200 N	
700 cm	2,770 N	
750 cm	2,420 N	
800 cm	2,140 N	
850 cm	1,900 N	
The table applies for smooth, one-part steel tubes without joint. ∅ 48.3 x 3.25 – St 37-2 DIN 2448 or DIN 2458		

3.9.7 Operating materials

Grease: 2.64 lbs (1.2 kg)
Class / quality: NLGI 2
The grease quantity is enough for approx. 60 operating hours (5 weeks / 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 unnecessary under normal conditions. If the extent of use is greater, the oil must be changed every 10,000 operating hours.

Filling quantity: 1.8 l per drive (see the manufacturer's instructions)

Oil type: See gear/motor rating plate

Excess quantities must be returned or disposed off according to operational and legal instructions.

3.9.8 Electrics

Operating voltage: 400 V / 50 Hz / 3 Ph
Mains fuse 3 x 32 A
Safety class: IP 54 (NEMA 3)

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

- They meet the connected load of the machine.
- No interference voltages or interference frequencies occur.
- The response behaviour of the safety equipment meets the corresponding 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. Observe the country specific regulations. A rubber hose minimum 5 x 6 mm^2 is required to extend the mains supply line.
Connect the machine only at a building site main cabinet according to IEC 60439-4:2004.
Fuse with min. 32 A / T;
Residual current circuit breaker (RCD) with a rated current of max. 0.03 A

☞ The effectiveness of the residual current breaker (RCD) is to be checked and documented at regular intervals.

3.9.9 Tests

The following tests have been carried out before delivery:

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

3.9.10 Operating and environmental conditions

The machine may only be operated if the following operating and environmental conditions are maintained:

Temperature range
minimum - 20 °C
maximum +40 °C

Wind speed

Operation/maintenance/servicing	maximum	72 km/h
Assembly	maximum	45 km/h

No bad weather with a risk of lightning. Observe the height-specific changes to the wind speed. 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 if a sand/snow storm occurs. The operating company must provide appropriate regulations for these matters.

Atmosphere
The atmospheric composition on-site must be suitable for people to remain in the area for longer periods. In particular, any reduction in the oxygen content due to displacement or consumption must be prevented. The legal limit values for pollutant concentrations/aerosols and dust at the workplace must not be exceeded.

Material transport
Material transport must not lead to a concentration of aggressive/corrosive materials. If this cannot be ruled out 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/collection of (explosive) micro-dust
must be prevented/removed immediately.

Assembly site elevation
Up to max. 1000m above sea level.

4 Safety information

The safety information must be read and observed by anyone entrusted with work on the machine or supervising or instructing those people. Non-compliance with the safety information releases GEDA from any liability.

4.1 Proper use

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

- **Construction hoist:**

  to transport material
- **Transport platform:**

  to transport material and persons in conjunction with a platform operator
- **Mast-guided climbing platform:**

  To carry out construction tasks from the platform
- **Scaffolding assembly hoist:**

  For assembling the scaffolding and mast from the platform.

The dimensions and weight load capacities given in the column corresponding to the platforms used must be adhered to.

Improper use, non-compliance with the manual, the use of insufficiently qualified personnel or 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 people
- and within the defined operating and environmental conditions

.

4.3 Conversions/alterations

Arbitrary conversions/alterations can have an unforeseeable influence on the safety of the machine. For this reason arbitrary conversions/alterations are prohibited. Any arbitrary conversions that are carried out 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 agreement with:

- The information on proper use.
- The information on machine limits
- 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.

It is prohibited to start or operate the machine without having read the manual beforehand. The manual must be kept safe for continued and future use on the machine.
GEDA is not 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
- With an impermissibly large distance to the building / scaffolding.
- without designation of the hazard area.
- In a potentially explosive area.
- as 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 platform.

4.8 Machine hazards

The machine has been designed and manufactured according to the current status of technology. It has been subjected to a safety inspection and acceptance procedure before delivery.
Nevertheless, personal hazards or material damage may arise if operated incorrectly, used improperly, used without due care and attention, insufficiently serviced or if components fail.

4.9 Hazard sources/residual hazards

As with all complex machinery, there are also potential hazard sources on GEDA machines. These are:

4.9.1 Mobile, rotating, pointed and sharp-edged parts

- Drives
- Chains/ropes/cables

4.9.2 Power sources/energy

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

4.9.3 Operating materials

- Oils
- Greases

4.9.4 Emergency

- Inclusion of persons.

4.10 Other applicable documents

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

- Instructions for the landing-level safety gates.
- As necessary, instructions for the electrical modules of the landing-level safety gates.
- As necessary, customer service information.
- Instructions from suppliers of purchased parts

These documents must be supplemented by the operating company with the respectively valid, national regulations of the country of use. 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 system can be subject to export licences depending on the current status of foreign trade law. The customer shall assume responsibility for acquiring the export licence and only proceed in accordance with this licence.

4.12 Warranty

This manual does not contain any warranty agreements. They 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 instructions about the function, operation, maintenance, servicing and troubleshooting. The operating company is recommended to realise these training sessions. Please contact the GEDA GmbH customer service department for information on training.

5 Obligations of the operating company

5.1 Duty to instruct/provide qualifications

The operating company shall clearly define the responsibilities of personnel for operating/assembly/maintenance. The operating company is obliged to instruct all people authorised to use the machine in the correct way to handle the machine based on their respective range of activities and responsibilities using practical exercises, before they use it for the first time.

The instruction shall include at least the following:

- The scope and limits of the range of activities and responsibilities for the specific groups of people.
- Safety conscious conduct.
- Avoidance of hazards during operation.
- Conduct in an emergency.
- Application of the emergency/evacuation plan.
- Correct machine operation.
- Meaning of the warnings, notices and pictograms.
- Use and inspection of the personal protective gear.
- How to handle service materials and cleaning agents.

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

These instructions must be documented and repeated at regular intervals.

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

Servicing 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 particular job available to all people who are commissioned with operation, servicing and maintenance.

The operating company must ensure that these people have read and understood the necessary manuals.

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

Depending on how the company is organised, the manuals may have to be provided to other people/departments.

5.3 Inspecting correct and proper condition and use

At regular intervals, the operating company must take appropriate measures to check that the machine is being used as intended, that the machine has not been manipulated and that no conversions have been undertaken and that all parts are fully functioning.

5.4 Establishing hazards at the place of use

The operating company must establish all hazards at the place where the machine is employed and take the necessary measures for safety and safeguarding health.

5.5 Machines/installations that are subject to registration

The operating company must report machines/installations that are subject to registration to 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 over 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 Instructing assembly engineers from other companies

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

5.10 Follow the instructions of GEDA assembly engineers

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

5.11 Provision of personal protective gear

The operating company must provide personal protective gear appropriate to the respective place of use and purpose.

Protective gear must be inspected at regular intervals to ensure function and completeness.

All national and trade association regulations regarding protective gear must be observed in addition to this information.

6 For use by authorised people

6.1 Operator

A person who, due to 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 machine operation.

6.2 Supervisor

A person who, due to 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 machine operation/machine commissioning. Furthermore, the hoist supervisor is responsible for adherence to/implementation of the emergency plan.

6.3 Specialists for maintenance/servicing

A person who, due to qualified specialist 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

6.4.1 Young people, pregnant women, disabled people

The respective legal occupational restrictions apply.

6.4.2 People with pacemakers and metal implants

Magnetic fields which occur around live conductors and motors/drives can represent a hazard to the people mentioned above. If it is necessary for such people to enter these areas, a doctor should be consulted beforehand as health-related impairments cannot in principle be excluded.

7 Obligatory safety instructions

7.1 Basic conduct while working with the machine

- The machine must be in a technically fault-free condition, be used in a hazard-conscious way and in accordance with the instructions in this manual.
- Acquaint yourself with the machine's mode of operation, the operating controls and safety equipment.
- The stipulated operating steps and their sequence must be adhered to.
- These points must be clarified if there is any lack of clarity regarding proper condition or correct operation. Operation is prohibited until the matter is clarified.
- The operator is responsible for third parties located within the working area of the machine.
- Unauthorised persons must be kept away from the machine, if necessary set up warning notices.
- All safety conditions relevant to the prospective job/activity must be adhered to.
- Responsibilities for different activities must be clearly established and adhered to. Lack of clarity considerably compromises safety.
- Safety and emergency equipment may neither be removed, altered nor made ineffective and must be inspected at regular intervals to ensure correct function and completeness.
- Rectify any faults that occur which fall within the context of your responsibility.
- If faults occur outside of your area of responsibility, inform your superior immediately.
- In the event of wind speeds of > (72 km/h), bring the platform down to the ground and cease operation.
- Smoking, eating, drinking and naked flames are prohibited.
- Wear personal protective gear.
- 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. drying, cleaning, de-icing).
- Remove ice, snow or other contamination.
- Do not use if there is a thunderstorm (lightning).

- Observe the load bearing capacity of pedestals, ladders and steps.
- Look out for steps and objects on the ground when entering / exiting the platform.
- Fall protection must be worn when working at a height > (2.0 m).
- The machine may not be used as a step or 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 main switch and secured against unauthorised switch-on (e.g. with a padlock).
- If there is a risk of parts falling onto the platform, the GEDA protective roof must be used.

7.2 Supplementary safety instructions - transporting the machine/disposing of the machine

- When transporting by lorry, secure the load according to international transport guidelines. Avoid overloading the lorry. Pack parts in such a way to prevent damages.
- No one is allowed to remain in the area under or on the raised machine/parts of the machine.
- Only raise the machine using the necessary parts and at the prescribed sling points.
- The machine may only be transported/assembled on foundations with a sufficient bearing capacity.
- Ensure there is a stable equilibrium when transporting with forklift trucks. Secure the machine with appropriate means to prevent slipping/falling. Only transport at walking pace.
- Secure the load accordingly when transporting over steep inclines/slopes.
- Label dismantled parts to prevent any mix-up when reassembling.

7.3 Supplementary safety instructions - 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.
- Adhere to the stated torques. To do this use a calibrated torque wrench.
- Use appropriate lifting gear when working with heavy parts.
- Adhere to the minimum requirements for thoroughfares, travel paths and emergency exits.
- Provide sufficient space for opening 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 platform during assembly.
- Observe the mast anchor distances and trailing cable guides.
- Observe the load capacity of the assembly crane.
- Avoid mixing up/incorrectly re-assembling dismantled parts. Label the parts.
- In the event of wind speeds of > (45 km/h), bring the platform down to the ground and cease operation.
- During assembly, never do the following from the platform:
    - 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 platform to climb on to the mast or the building.
- Cordon off/mark out 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 Supplementary safety instructions - 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 complete and available, clearly visible and undamaged
- Illegible or missing warning and instruction notices must be replaced immediately
- Before first commissioning, carry out the tests stated in national regulations.

7.5 Supplementary safety instructions – transporting persons

- All persons must comply with the instructions of the supervisor. It is prohibited for people:
  - To stand on the load
  - to operate the machine,
  - to step on the platform.
  - to lean on access points, ramps, the assembly bridges or the front wall.
  - Lean into the travel path of the machine.
- If there is a risk of tools/parts falling onto the platform, the GEDA protective roof must be used.

HAZARD

Life-threatening hazard
Crushing or amputation of limbs.
Never reach into the travel path of the machine during operation.

HAZARD

Life-threatening hazard
Falling tools/parts
Secure tools / parts against falling
Use roof.

7.6 Supplementary safety instructions - transporting materials

- The operator is responsible for correct loading and unloading and for correctly securing the load.
- Use appropriate hoisting gear for loading and unloading. Only use hoisting gear that is designed for the weight of the load.
- Never drive the lifting equipment onto the platform.
- Secure load with fastenings so that any movement during transport is impossible.
- 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 moving parts.
- Never cover doors, control panels, the emergency call system, first aid kits or warning notices with the load. They must remain accessible at all times.
- Protection to prevent persons from falling must be provided at loading points ≥ 2.0 m.
- Persons may only enter the platform once the load has been secured.
- Material must not project into the travel path of the machine.
- Material transport must not lead to a concentration of aggressive/corrosive materials. If this cannot be ruled out 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 Supplementary safety instructions Servicing/repairs/maintenance

- All relevant people (e.g. operating personnel, superiors) must be informed about how to carry out the work before starting work.
- Before carrying out servicing/repair work, the machine must be turned off at the main switch and secured against unauthorised switch-on (e.g. with a padlock).
- Work on the platform may only be carried out when it is at the ground station. If the platform needs to be raised, it must be secured by appropriate supports.
- Work on electric/live components may only be carried out by qualified electrical personnel.
- Affected electrical parts must be de-energised (disconnect the mains voltage upstream from the main switch).
- Do not touch sockets, cables or electrical components with wet or damp hands.
- Dry or appropriately cover wet, slippery or sharp surfaces. There must be no potential for hazards.
- All work on electrical components may only be carried out with insulated tools.
- Connect the machine only at a building site main cabinet according to IEC 60439-4:2004.
- Never bypass fuses. Only ever replace fuses with fuses of the same type.
- Use appropriate measures to ensure that mobile/loosened parts are blocked 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 from handling heavy parts/tools. Only raise heavy parts/tools with another person or appropriate lifting equipment.
- Only use new parts according to their intended use and within the specifications of their technical data.
- Test that the parts are functioning correctly after any work. Make sure that no hazards will arise from the machine being started up.
- Only carry out welding, burning and grinding work on the machine after consultation and approval from GEDA.

7.8 Safety instructions for cleaning

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

7.9 Safe conduct in an emergency

- Operational instructions for conduct in an emergency and/or 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 soiling and dirt.

7.9.1 Hazard area can be left

- Stay calm.
- Immediately leave the hazard area.
- Help any injured people/evacuate people.
- Prevent people 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 any injured people.
- 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 the manufacturer as well.

7.11 Extreme weather conditions

Condition(s)	Hazard / Measure
Temperature	**NOTE:** Hoists with a cold package disable upwards motion at < -20 °C. It is then only possible to travel downwards. **NOTE:** If frost is expected, all limit switches and moving parts should be treated with a lubricant which is suitable for the temperature range expected in order to prevent them from freezing up in the actuated position. This is particularly important in the case of the lower limit switches to prevent them from freezing up overnight, for example, at the end of the working day.
Temperatures of 0 °C to -20 °C.	• Frostbite/hypothermia as a result of inappropriate clothing until passengers are freed in the event of a defect in the hoist. ➢ Wear sufficient clothing to keep warm. As necessary, take a blanket in the hoist.
Temperatures of -20 °C to -40 °C	• Frostbite/hypothermia as a result of inappropriate clothing until passengers are freed in the event of a defect in the hoist. ➢ Wear sufficient clothing to keep warm. As necessary, take a blanket in the hoist. • Reduced effectiveness of the rubber buffer. Increased risk of injury when running into the buffer in the event of a defect in the hoist.
Temperatures below - 40 °C	**Special test at temperatures below -40 °C** **NOTE:** If it is unclear if the temperature fell below -40 °C, follow procedures as if this temperature had been reached when starting up the machine again. Before performing the special test, temperatures must be above -20 °C for a minimum of 3 hours. ➢ Clear ice and snow from the hoist. ➢ Switch on the master switch (green light comes on). ➢ Press all EMERGENCY STOP buttons and then release then again. ➢ Check all doors/entrances/footbridges/flaps. ➢ Check all limit switches are moving freely. **DANGER:** Notify your superior immediately if any cracks or loose parts / loose screws are discernible. Clarify further procedure with your superior. In the test run, do not travel beyond the cracks or loose parts / loose screws. Return to the ground station. Safety inspection of the hoist by a qualified person. The safety inspection which checks for discernible cracks / loose parts / loose screws must also include inspection of the foundation and of the wall anchors. Operation is prohibited until safe conditions have successfully been restored. ➢ Check the ground station / landing level for obvious damage such as loose or deformed parts or parts which have fallen off and cracks in components and weld seams. ➢ Test run with empty platform as far as top limit switch: check that screw connections on the mast / ladder parts / anchors are securely fastened and check for cracks in components and weld seams. ➢ Check the overload protection, if present (see relevant section).

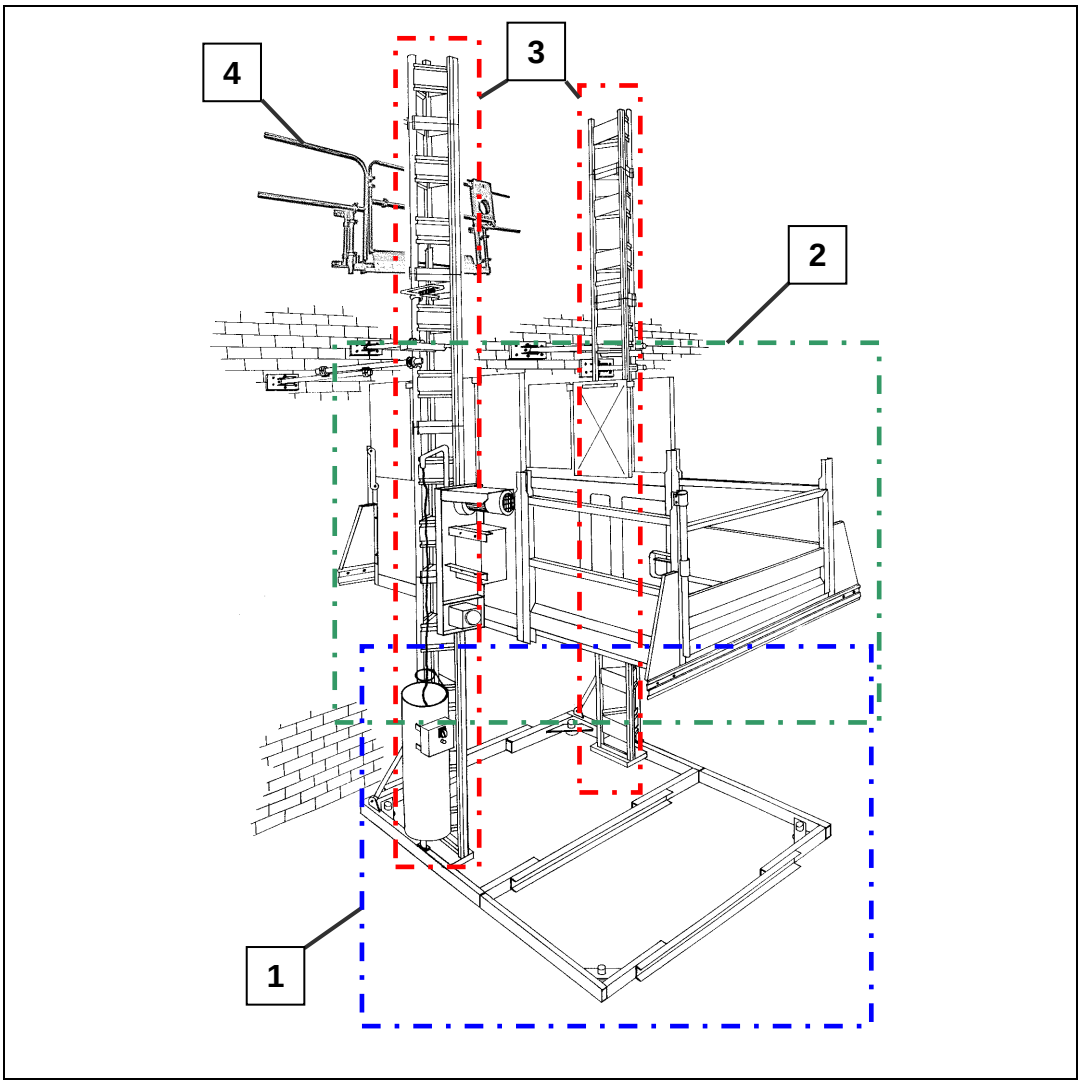
Condition(s)	Hazard / Measure
High temperatures	• Circulatory collapse of passengers in the event of a defect in the hoist until passengers are freed ➔. Take sufficient fluids along in the hoist. In the case of open platform, wear/take sunscreen.
Ice/snow	• Injury to passengers/people at the ground station/landing levels as a result of snow breakage or icicles. • Falling on snow or ice. ➢ Remove ice/snow from the platform, the roof of the platform, from all access points, mast anchors / gear racks / cables/cable pot. Do not use saline substances for this purpose. ➢ Ensure that no roof avalanches / icicles can fall from the building onto/into the platform or the access points. Remove hazards before start-up. Wear a helmet. ➢ Do not use open platform where there is a danger of roof avalanches / icicles. ➢ Ensure that all gates, hatches etc. are functional. ➢ At the end of the working day, move the platform 20 cm upwards in order to prevent the limit switches from freezing up. ➢ In the case of large amounts/depths of snow: prevent car from travelling as far as the layer of snow. Hoist could be damaged:
Storms/lightening/hail	• Injury to people as a result of lightening or hail • Damage to the hoist as a result of strong gusts of wind/bolts of lightening. ➢ Do not transport people. ➢ Bring the platform down to ground level.
Flooding	• Damage to the hoist as a result of running into a flooded pit. Loss of stability of the foundation due to flooding. ➢ Turn off electricity. ➢ Pump pit dry. ➢ Check foundation/buffer. ➢ Check enclosure.
Sandstorm	• Difficulty breathing / risk of suffocation in the event of long-term exposure, e.g. in the event of a defect in the hoist. Carry a dust mask. • Damage to the hoist as a result of switch cabinets / filter pads becoming blocked. ➢ Clean switch cabinets / filter pads.
Fog	• Injury to people as a result of parts projecting into the travel path. Transportation of parts through the travel path of the hoist using a crane. ➢ Use organisational measures to ensure that no parts project into the travel path / that parts are not transported through the travel path of the hoist.

8 Brief description of the machine

	**WARNING** The brief description only represents a general overview. It does not form the basis for correct and proper operation by uninformed persons. Machine operation and personnel training is always carried out using the detailed descriptions in the appropriate section of this manual.

Main components

The machine consists of 3 main components.
The base unit (1), platform (2) and mast (3) with the anchorings.
These components are supplemented by corresponding landing-level doors (4).



Operation is from:

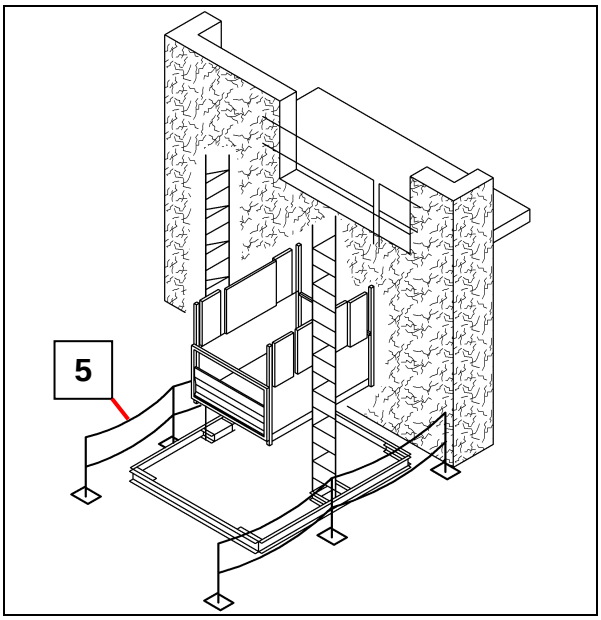
- the platform, as a transport platform
- as a construction hoist from the ground station and landing levels.

The machine can be stopped at any desired position by releasing the respective button. If landing-level switch bars are set, a landing-level can be directly moved to by again pressing the landing-level stop button.

If entrance to or exit from the platform is required at a landing-level, the platform must be stopped so that it is at the same level as the landing level. There must be no ledge between the platform and landing level.

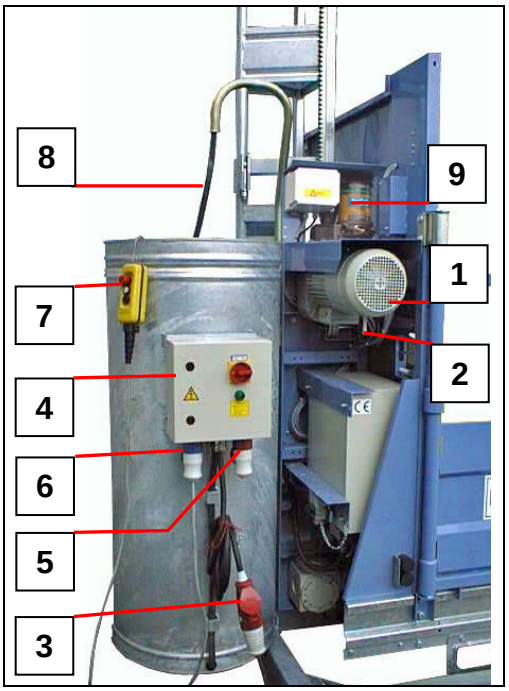
Securing/designate the bottom hazard area

If no enclosure is to be used, then the hazard area around the machine must be designated and secured appropriately (5). National regulations on securing/designating the hazard area must be observed.



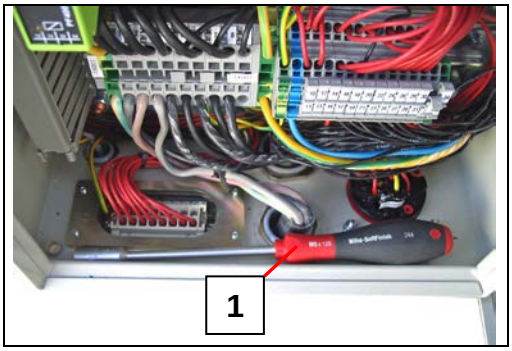
Switch boxes / Drive

1 = Drive motor
2 = Brake release lever
3 = Mains plug
4 = Switch box Ground station
5 = Socket (red) for electric module for the landing level doors (or dummy plug during assembly)
6 = Electric socket (blue) for manual control
7 = manual control
8 = Trailing cable
9 = Automatic lubrication device



Triangular wrench (1) for emergency interlock release of the loading door and unloading hatch. This wrench can also be used for opening the switch cabinet.

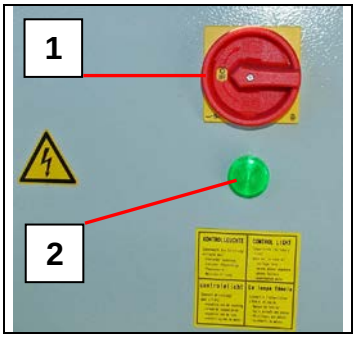
The triangular wrench is in the switch cabinet of the ground station.



9 Operating and control elements

9.1 Main switch

Is used for turning the machine on/off at the start/end of work.
In the event of malfunctions or servicing/repair work and at the end of work, the main switch must be secured against switch-on with a lock.



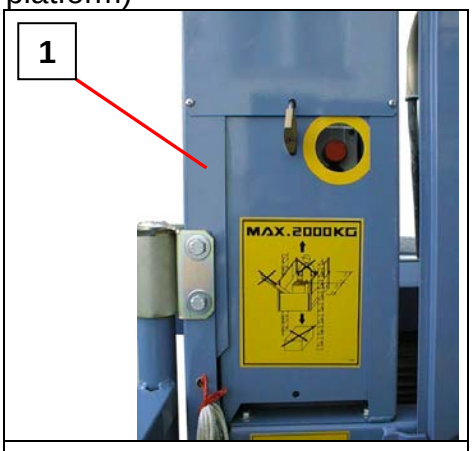
1 = Main switch
2 = Mains power control light

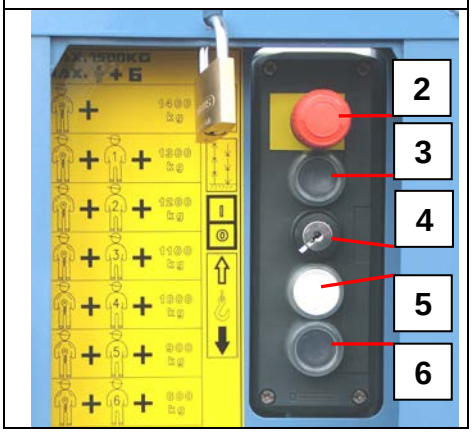
9.2 Platform control

(Use as a transport platform / climbing platform)

- ➢ Push up the cover (1) and secure with the lock.
- ➢ Turn key switch (4) to position I.
- ➢

Control is now exclusively through the platform.
The machine can now be used as a transport platform / climbing platform.





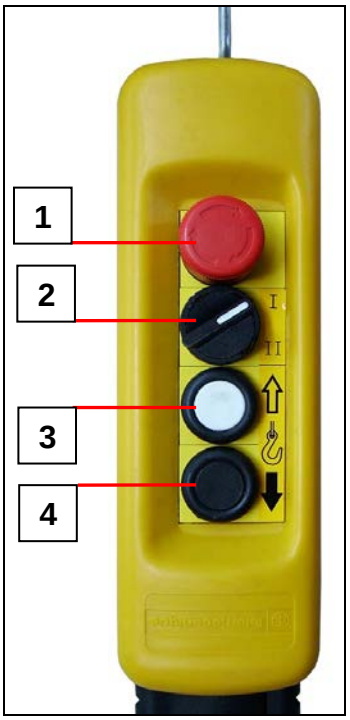
2 = EMERGENCY STOP
3 = LANDING LEVEL STOP button
4 = Key switch
Switches the platform control on/off.
5 = UP button
6 = DOWN button

By releasing the button, it can be stopped in any position.

9.3 Manual control

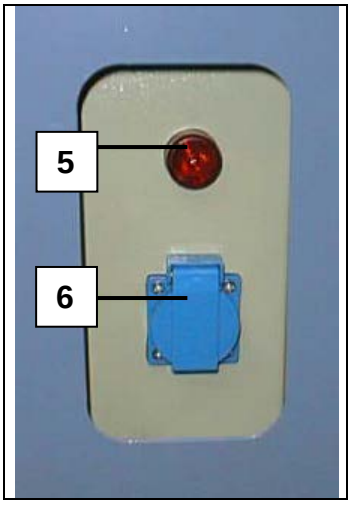
(Use as construction hoist)

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



9.4 Control light, overload and electric socket

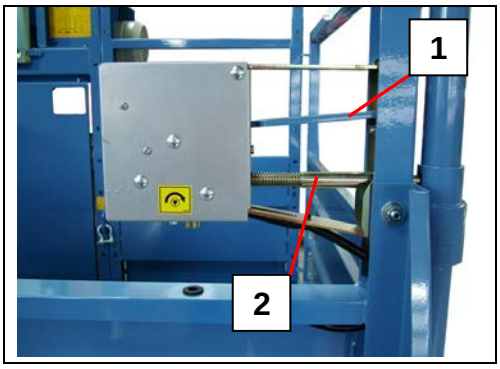
5 = overload control light
6 = Earthing contact socket outlet 230 V/16 Amp.



9.5 Platform access Ground station

The access can only be opened if the platform is stationary on the ground (stopped by the down limit switch).

1 = Unlocking lever for opening the door
2 = Locking pins

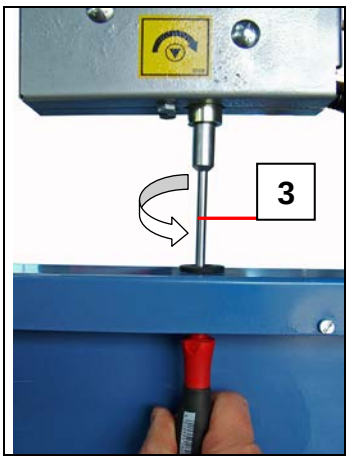


Emergency interlock release

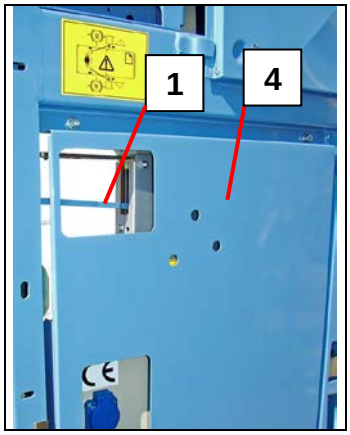
In case of apower cut the magnet lock can be manually released.

Emergency unlock for platform type "B" - "I"

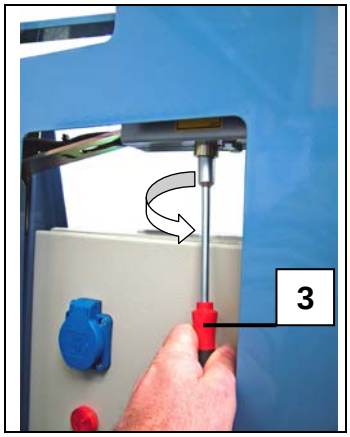
- Insert the triangular wrench (3) through the hole of the side part into the lock.
- Turn the key (3) slightly to the right and simultaneously push the door locking lever (1).
- Turn the key back to the left and remove it
- Open the access point.



Emergency lock for platform type "A"



- Disassemble the cover panel (4) in front of the switch box carriage.

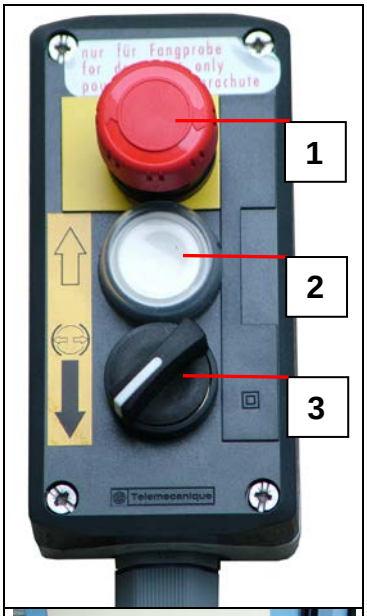


- Insert the triangular key (3) into the lock from below.
- Turn the key (3) slightly to the right and simultaneously push the door locking lever (1).
- Turn the key back to the left and remove it
- Open the access point.

9.6 Drop test control

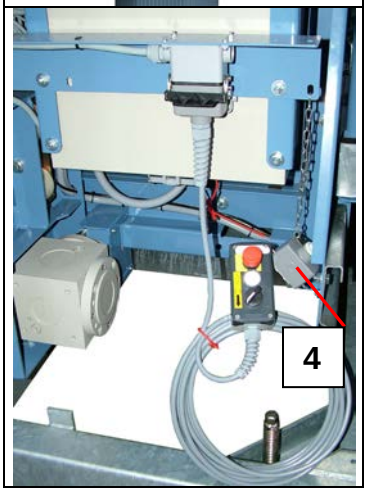
(Used exclusively by authorised personnel).

The drop test control is used exclusively to carry out a drop test or to raise, if the platform has moved too far down.



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

After the drop test, it is imperative to install the dummy plug (4) for the drop test control. If the dummy plug is not installed, the system cannot be operated.



10 Safety and emergency equipment

Extensive safety and emergency equipment guarantees 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[#]		**X**
Roof[#]		**X**
Enclosure[#]		**X**
[#] may be stipulated by national provisions.		

10.1 EMERGENCY STOP

Only operate the EMERGENCY STOP in an emergency.
The machine has 3 EMERGENCY STOPs:

- Platform control
- Manual control
- Drop test control

HAZARD

Electric shock
Parts remain live even after pressing the EMERGENCY STOP or after turning off the machine at the main switch.
This applies to all work on electrical parts.
Disconnect the mains supply upstream from the main switch.

10.2 Triggering an EMERGENCY STOP/shutting down the machine in an emergency

Press the EMERGENCY STOP by hand.

10.3 Finishing the EMERGENCY STOP situation

Pull the EMERGENCY STOP out.

10.4 Defect after an EMERGENCY STOP situation

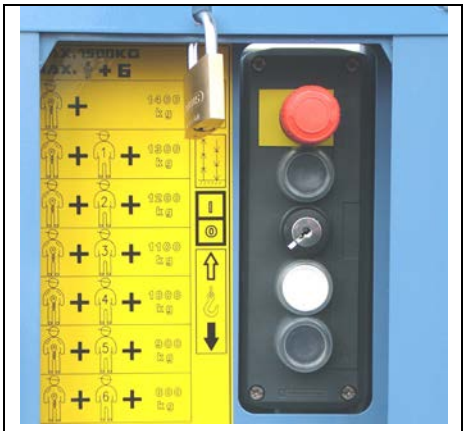
If an EMERGENCY STOP situation cannot be rectified, the machine must be turned off at the mains switch and secured against unauthorised switch-on. The superior must be informed.

HAZARD

Life-threatening hazard
Due to the machine being switched on during servicing/repair work or after a defect.
Secure the main switch with a padlock to prevent it being switched on.

10.5 Location of the EMERGENCY STOP buttons

Platform control



Manual control

Drop test control

10.6 Safety stop

When the safety stop is activated, the platform stops approx.. 2 m above the ground. A warning tone sounds for approx. 3 seconds. Subsequently, the movement can be continued to the ground station by pressing the button AB.

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

HAZARD

Life-threatening hazard
through crushing.
Never stand underneath the platform/in the hazard area during operation.
Turn the master switch off and secure against being switched back on while working in the hazard area.

10.7 Safety gear

Protects the platform against an un-braked fall, e.g. in the event of gear damage.

10.8 EMERGENCY limit switches

The emergency limit switch stops the platform at the top or bottom end position. This prevents, for example, the platform moving past the top end position.

10.9 Locks to prevent unauthorised use

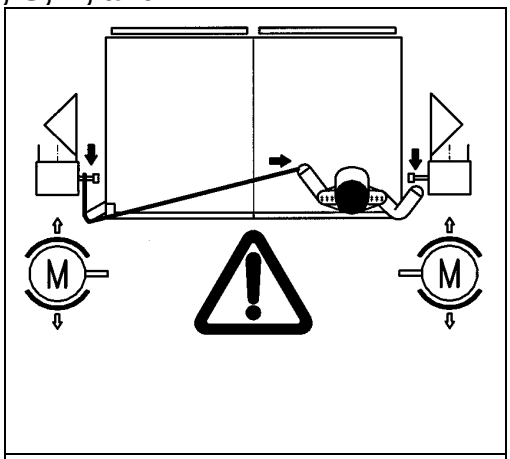
Areas with limited access (switch cabinets etc.) are secured using locks.

10.10 EMERGENCY lower

CAUTION
Avoid overheating of the brake. Interrupt the lowering process for 2 minutes at the latest after every 1-2 meters. The length of a mast section can be used for orientation.

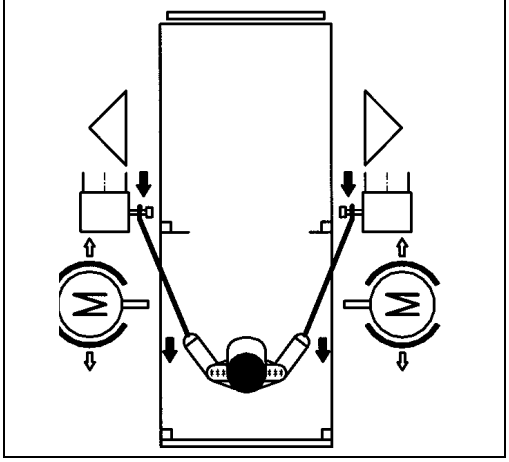
Emergency lower, platform A, C, D, E, F, G, H, and I

- Attach the provided cable with the loop to the left brake release lever and (as depicted in the adjacent Fig.) guide it over the turning vane to the right side.
- Lightly pull on the cable and the right brake release-lever to release the motor brakes. The platform slides downwards.



EMERGENCY lower platform B, BS, BL and BLL

- Attach the two provided cables with the loops to the brake release lever and (as depicted in the adjacent Fig.) join them together in the centre.
- Lightly pull on the cables and release the motor brakes. The platform slides downwards.



11 Country-specific equipment variants/accessories

11.1 Collision grille

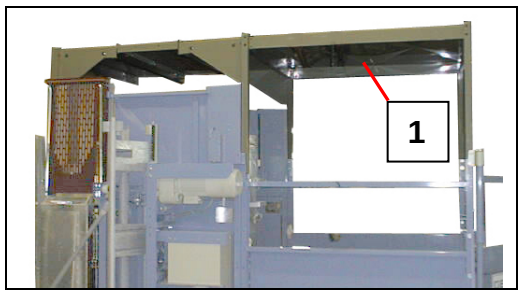
Function:
To protect the hoist against damage resulting from driving into obstacles.

To protect people anomalously standing beneath the platform from crushing when the platform moves downwards.

☞ If the collision grille is activated, the control function is interrupted and travel is no longer possible.

11.2 Roof

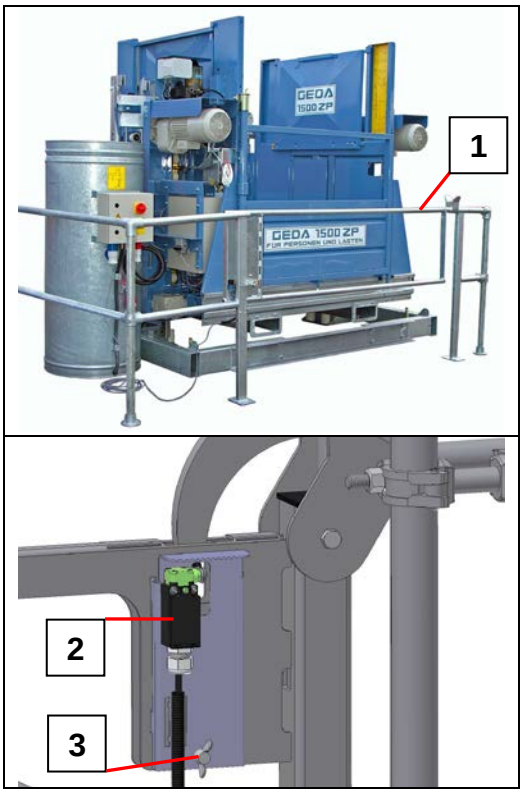
If there is a risk of parts falling onto the platform, it must be equipped with a roof (1).



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

11.3 Enclosure with barrier

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



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

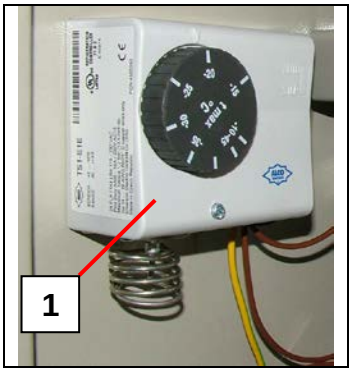
Assembly

- Place and bolt down the enclosure elements around the base unit.
- Mount the barrier (1) on 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.

11.4 Cold package

At temperatures of under – 20 °C the machine can no longer be operated.

The cold package (1) 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.



11.5 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 can only be opened by a qualified electrician.

12 Operation

12.1 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. Faults may only be rectified by professionals responsible for servicing and repairs.

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

12.1.1 Visual inspections

Entire machine

- Damaged load-bearing elements/deformation.
- Travel path of the machine unobstructed.
- Loose or fallen parts
- Damage to the platform.
- Oil/grease leaks.
- Discolouration and contamination, corrosion, cracks.
- Green control light goes on.
- No objects on collision grille (e.g. quarry etc.)

Warning and instruction notices

- All present and legible.

Safety equipment

- All present.
- Functioning.
- Not manipulated.

Switch cabinets

- Burnt/scorched areas.
- Discolouration.
- Moisture.

12.1.2 Function tests

Test run with empty platform

- Unusual odours, noises and vibrations.
- Oil/grease leaks.
- Move the platform to the maximum height.
  - Stop the platform at the correct position.
  - Further upwards movement is not possible.
- Move the platform to the ground station.
  - Stop the platform at a height of 2m, an acoustic warning signal is emitted, further movement to the ground station is only possible in deadman mode.
  - Stop the platform at the correct position.
  - Further downwards movement is no longer possible.

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

No one else is allowed to be in the platform.

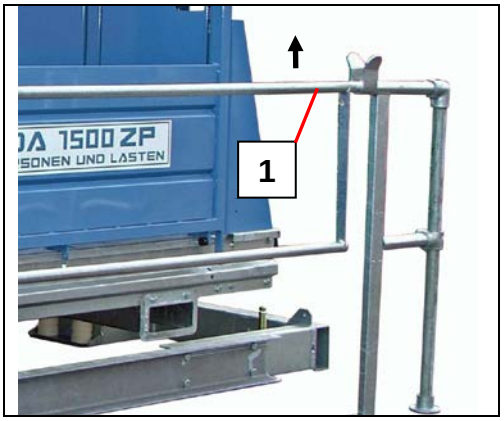
- Move to each stop position.
- Stop the platform inside the tolerance range max. ± 2 cm
- Platform access and landing level safety doors are functioning properly.

12.2 Operation of the platform access points and the landing level safety doors

12.2.1 Base enclosure barrier (optional)

Open
- Raise the barrier (1) up.

Close
- Lower the barrier (1) until it lies on the enclosure posts.

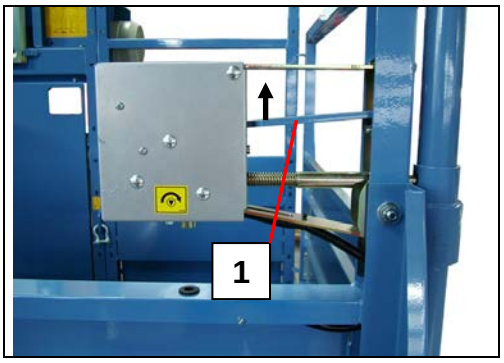


12.2.2 Platform access Ground station

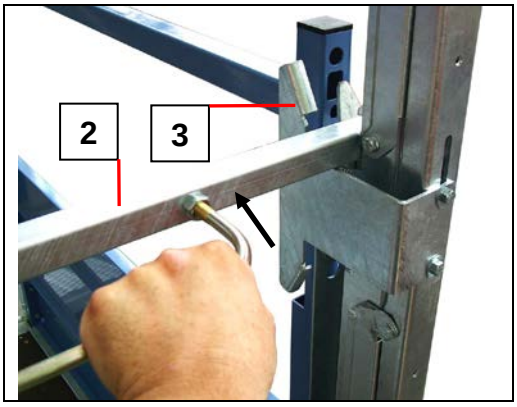
☞ This access point to the platform can only be opened if the platform is stopped by the down limit switch at the ground station.

Open
- Pull the unlocking lever (1) and open the door.

Close
- Close the door and push downwards until the lock engages.



12.2.3 Barrier with unloading ramp



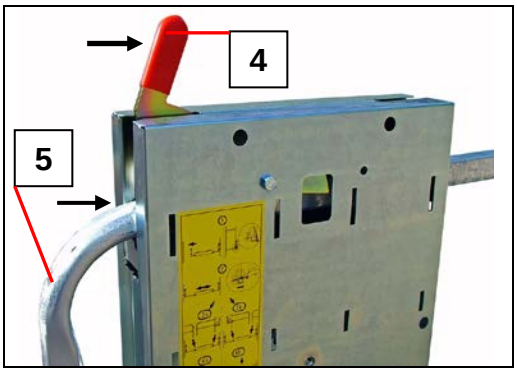
Open

- Press the barrier (2) towards the platform and swing it upwards; the loading ramp opens automatically and presses the toe board of the landing level safety gate down.

Close

- Move the barrier (2) down and let it engage in the lock (3).

12.2.4 Landing gate



Open

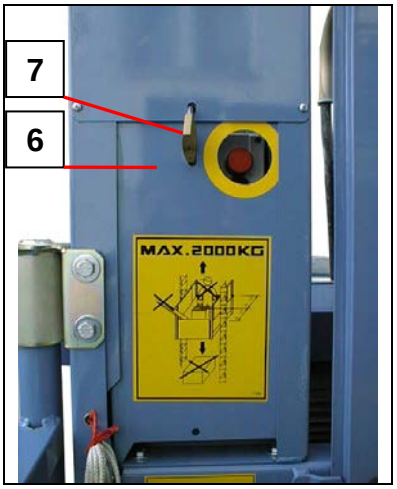
- Press the lever (4) in the direction of the arrow and push open the sliding door (5).

Close

- Close the sliding door (5), until the lever (4) engages below.

12.2.5 Operating as a material hoist

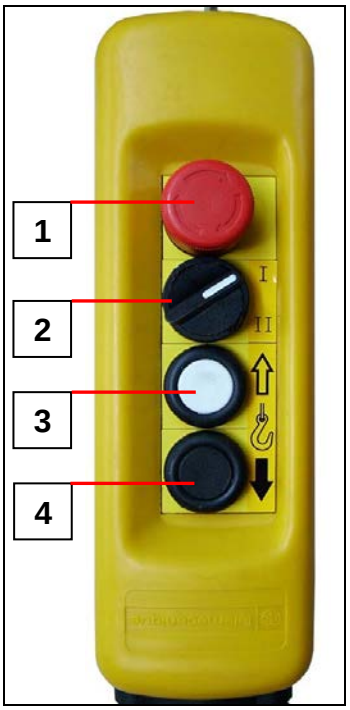
- The platform access points for the ground station, barriers with unloading ramp and assembly bridge must be closed and engaged. The assembly guard must be properly hung up.
- Activate the main switch on the switchbox of the ground station (position "**I**" (ON).
- Turn the key in the key switch on the platform control to the left (position **0**) and remove the key.
- Push the sliding cover (6) (cover for the platform control) down and latch it with the lock (7).



☞ The hand control and electronic module of the landing level equipment are active.

The machine can now be used as a material hoist.

Manual control



Dead man's control

- **Selector switch** (2) to position "**I**"

Ascent

➢ Press the **UP** (3) button.
The platform only moves as long as the **UP** (3) button is pressed.

The platform **overruns** the landing level limit switch approach bar and is stopped by the **UP** limit switch.

Descent

➢ Press the **DOWN** (4) button.
The platform only moves as long as the **DOWN** (4) button is pressed.

The platform descend and stops automatically approx. 2 m above the ground. It triggers a warning tone for approx. 3 seconds. During this time the control function is interrupted.

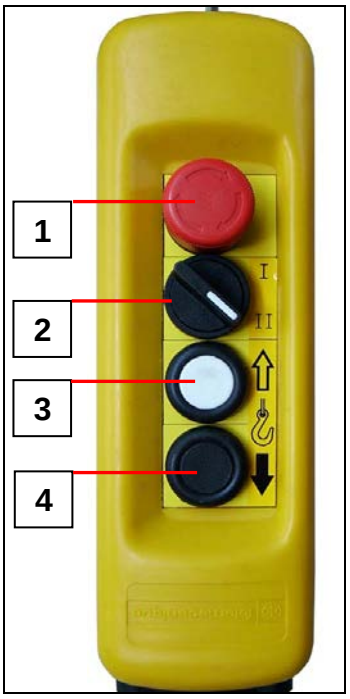
WARNING
The operator may only continue the descent after he has ensured that the travel path to the ground station is free.

➢ Press the **DOWN** (3) button again or hold it; after the warning tone the platform moves down to the ground and is stopped by the limit switch.

➢ In an emergency the platform is stopped by pressing the **EMERGENCY STOP** button (1).

➢

Automatic travel to a landing level



- **Selector switch** (2) to position "**II**"

Ascent

➢ Press and release the UP (3) button.
The platform only ascends above the area 2.0 m above the ground (safety area), if the **UP** (3) button is pressed.
Once this safety area has been exceeded the **UP** (3) button must be released, and the platform travels automatically to the next level and stops there.

➢ For continuous through-travel to the "second landing level", hold the **UP** button (3) pressed until the limit switch approach bar for the first landing level is overrun.

Descent

➢ Press and release the **DOWN** (4) button.
The platform travels down and stops before the 2.0 m safety area.

WARNING

The operator may only continue the descent after he has ensured that the travel path to the ground station is free.

➢ Press and hold the **Down** button (4) again, this will release a warning tone, after 3 seconds the platform will move and stops at the **DOWN** limit switch.

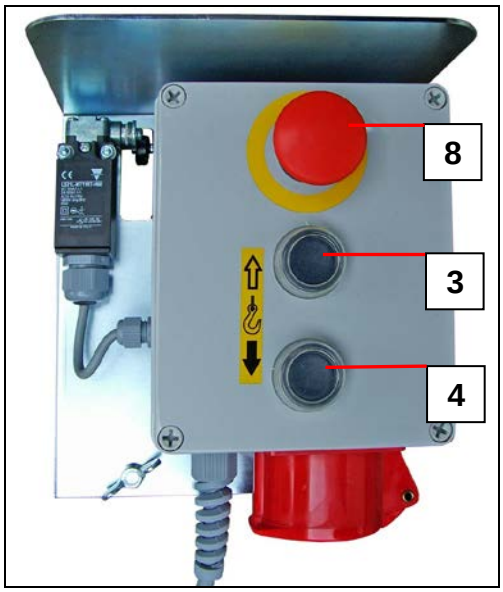
➢ In an emergency the platform is stopped by pressing the **EMERGENCY STOP** button (1).

Control units at the landing levels (optional)

☞ With the control units at the landing levels the platform can only be controlled above the 2 m safety height.
Below this safety level the platform can only be moved by hand.

Depending on the position of the switch (2) on the hand control unit the operation of the **UP** or **DOWN** button (3/4) of the electric module is identical to the hand control unit.

- The platform is stopped by pressing the **STOP** button (8). (The **STOP** button does not lock into place)



12.2.6 Operating as transport platform

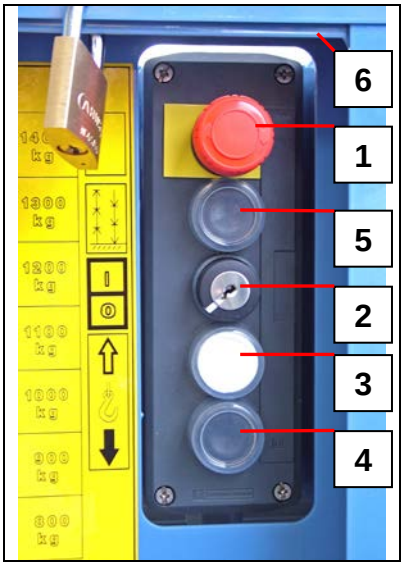
- The transport platform can be operated from the platform only in dead man's control. The platform only operates for as long as the operating button is pushed.
- The platform may be accessed and exited only at the installed landing level safety gates above 2m.
- The barriers for the ground fencing (where present), platform access point of the ground station and the barrier with unloading ramp have to be closed, locked in place and secured. The assembly guard must be properly hung up.
- The the main switch (on the switchbox of the ground station) has to be switched on [position "**I**" (ON)].
- The pusher plate (6) in front of the platform control has to be pushed up.
- Insert the key (2) into the key switch and turn it right (position **1**) to activate the control console.

Ascent

➢ Press and hold the **UP** button (3) to move the platform up.

Stopping the platform in its ascent:

➢ Release **UP** button (3).
➢ Platform reaches the upper limit switch approach bar and stops automatically (the **UP** limit switch switches off).
➢ In an emergency press the **EMERGENCY STOP** button (1).



If the platform is to be exited at a transfer point (landing level safety gate) for loading and unloading, then the platform must be stopped in such a manner that it is level with the landing level gate.

➢ Stop the platform with the **LANDING LEVEL STOP** button (5), which is also pressed along with the **UP** button before the landing level safety gate is reached.
First release the directional button (3) and then the **LANDING LEVEL STOP** button (or both at the same time).

☞ Always approach landing levels from below.

Descent

- Press and hold the **DOWN** button (4) to move the platform down.

Stopping the platform in its descent:

- Release **DOWN** button (4).
- The platform descend and stops automatically approx. 2 m above the ground.

WARNING

The platform operator may continue the descent only after it has been ensured that the travel path below is clear.

- Press and hold the **Down** button (4) again, this will release a warning tone, after 3 seconds the platform will move and stops at the **DOWN** limit switch.
- In an emergency press the **EMERGENCY STOP** button (1).

13 Recovery of people locked inside

Rescue can become necessary if, e.g.

- There is no mains voltage.
- The electrical system has malfunctioned.
- The drive has failed.
- The safety gear has been triggered.

	**WARNING** If the supervisor does not feel confident or qualified to organise and carry out the rescue, 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.
- Contact anyone trapped in the car.
- Try to find out what has caused the malfunction/defect in the unit, e.g.
  - Failure of the power supply
  - Trigger the safety gear
- Inform any persons trapped in the car about what will happen next.
- Inform superiors 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 on the platform:

Measure 1: Inspect the key switch.
This might have been operated accidentally.

Measure 2: Self-rescue using the release lever.

Measure 3: Rescue according to the operating company's emergency plan.

No people on the platform:

Measure 1: Rescue according to the operating company's emergency plan.

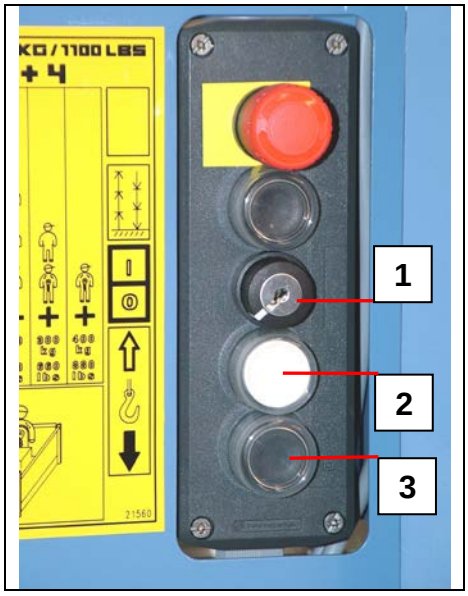
The individual measures are explained as follows.

13.3 Rescuing people from the platform

Measure 1: Key switch

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

The platform moves.



Measure 2: Self-rescue using EMERGENCY lower

See chapter 10.10

14 Cleaning

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

HAZARD

Life-threatening hazard
Risk of fire and explosion due to the use of combustible cleaning agents.

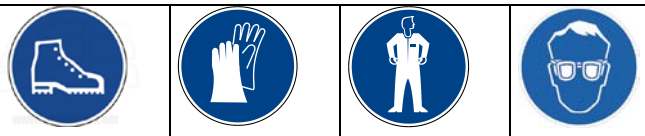
Only use suitable, non-combustible cleaning agents.

Do not use steam-jet equipment/high-pressure cleaners. Electrical components can be damaged.

Do not touch sockets, cables or electrical components with wet or damp hands.

Cleaning work on live components may only be carried out by qualified electrical personnel.

Wear personal protective gear.



14.1 Internal/external cleaning of the machine

- Clean all surfaces thoroughly.
- Clean switch cabinets and operating consoles separately.
- Signpost wet areas and secure them against access.

14.2 Cleaning the area around the machine

- The work methods, cleaning agents and equipment comply with the applicable instructions of the operating company.

15 Assembly

Safety instructions, assembly / transport

WARNING

Life-threatening hazard
Raised load.
Do not stand under a suspended load.
Do not stand on a suspended load.
Only raise the load at the sling points.
Only use suitable hoisting gear.

- Precautionary measures stipulated by the company for avoiding fires, explosions, dust, gas, steam and smoke (during welding, burning and grinding work) must be observed.
- Adhere to the stated torques. To do this use a calibrated torque wrench.
- Use appropriate lifting gear when working with heavy parts.
- Adhere to the minimum requirements for thoroughfares, travel paths and emergency exits.
- Provide sufficient space for opening 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 platform during assembly.
- Observe the mast anchor distances and trailing cable guides.
- Observe the load capacity of the assembly crane.
- Avoid mixing up/incorrectly re-assembling dismantled parts. Label the parts.
- In the event of wind speeds of > (45 km/h), bring the platform down to the ground and cease operation.

- During assembly, never do the following from the platform:
  - 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 platform to climb on to 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 assembly site

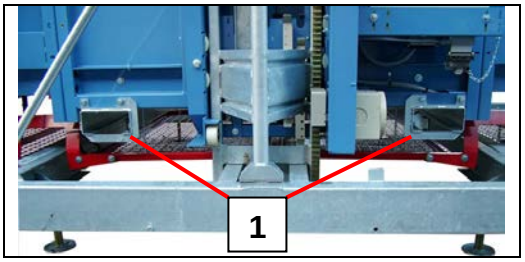
➢ Check the delivery for completeness and signs of transport damage.

Immediately report any transport damage.

➢ Correctly dispose of packaging / protective covers or keep for transport later.

15.1.1 Unloading / loading the base unit using a forklift

The lifting point (1) for the forklift is located under the bearing profile of the platform.

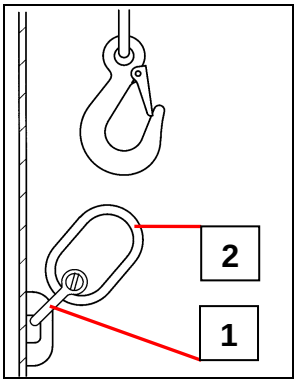


The forks of the forklift must be long enough to ensure safe acceptance of the base unit. Make sure that the base unit cannot fall, because the forks of the forklift are too short. Do not damage the machine when placing the forks of the forklift.

15.1.2 Unloading / loading the base unit using a crane

CAUTION	
Damage to the base mast. Never attach load-carrying equipment directly to the base mast. Always use the GEDA lifting eye.	

➢ Attach the shackle (2) of the chain sling to the slinging lug (1) and secure.



15.2 Assembly plan

Fundamentally, assembly is according to the diagram as follows.

Assembly diagram
1. Position base unit
1. Align 2. Attach feet 3. Attach cable bin 4. Connect to operating company's electric power supply
2. Assemble mast
1. Connect mast elements 2. Place anchors 3. Align mast 4. Set the trailing cable guides.
3. Place EMERGENCY limit switch bar
4. Secure loading positions using landing level safety gates 1. Set the limit switch approach bar to the landing level.
5. Check machine for initial commissioning
6. Instruct authorised persons to use.

15.3 Assembling the base unit

The base unit must be horizontal and aligned at a right-angle to the building / scaffolding.
Application of force to the foundation must only be through load-distributing supports (area min. = 0.25m^2).

- ➢ Position the base unit on the load-distributing supports and align to the support plates.

WARNING

Life-threatening hazard through fracture or slipping of the support plate.

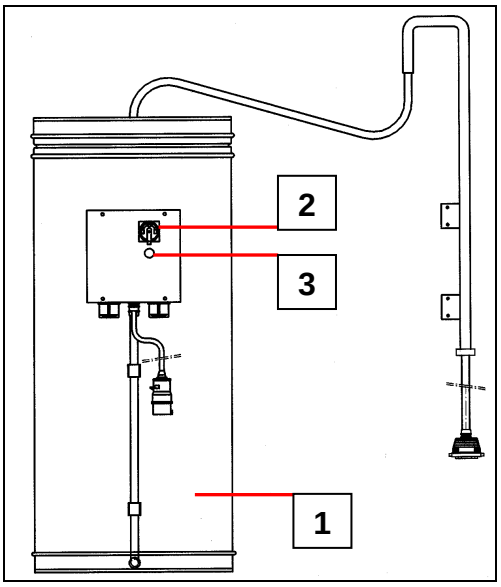
The support plate must not carry any load, it is exclusively for adjustment of the base unit.

A minimum of two support plates must be secured against displacement. If this is not possible, the first mast anchor must be located at a height of one metre.

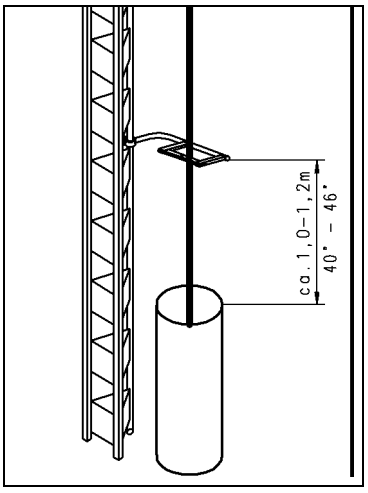
After installation of the base unit, check to make sure that this is secure and can be used by persons to assemble the mast. For this, carry out a test run with an empty platform.

15.4 Assemble cable bin and trailing cable bracket

- Attach trailing cable bracket to the sliding carriage.
- Assemble the cable clamp to the tension release.
- Put the plug into the socket on the sliding-carriage switch cabinet and secure with a mounting clip.
- Place the cable bin on the foot section and bolt onto the round mast tubes with both scaffold couplings.



- Align the cable bin so that the trailing cable is centred as it moves through the trailing cable guide.
- Mount the first cable guide approx. 1 m above the cable bin, to ensure the cable spools in correctly.



- After switching on the main switch (2), the green control light (3) indicates that the system is ready for operation.

☞ If the green control light does not illuminate ➔ refer to the Fault Table.

	**WARNING** **Life-threatening hazard** After installation of the base unit, check to make sure that this is secure and can be used by persons to assemble the mast. For this, carry out a test run with an empty platform.

15.5 Assembly / anchoring the mast

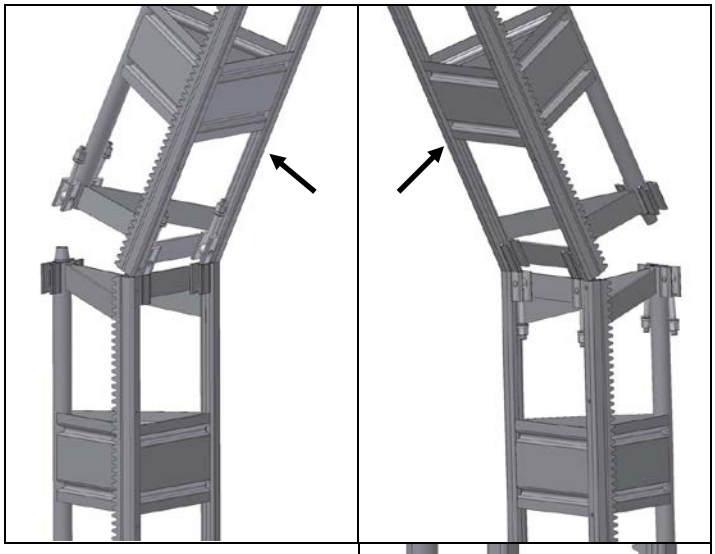
Assembly and anchoring of the mast is fundamentally carried out from the platform and scaffolding. If assembling without scaffolding, anchoring to the building using a mast bracket is carried out from the assembly bridge.

	**WARNING** **Life-threatening hazard** Mast brackets must be installed at the following distances. First mast bracket at a height of 6 m. Subsequent mast brackets every 10 metres. After assembly of a mast bracket, the mast must be correctly aligned using a spirit level.

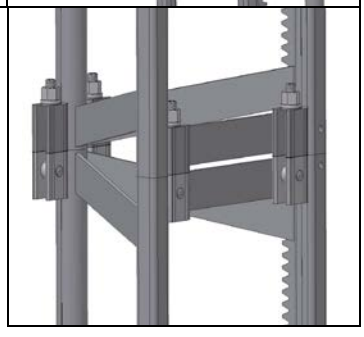
- ➢ Load the platform.

Observe the max. payload.

- ➢ Close the platform.
- ➢ Press the UP button (platform control).
  The platform stops automatically at the top end.
- ➢ Lower the assembly guard.
- ➢ Apply the mast elements by hand.



- ➢ Close and tighten the four eyebolts.
  (Always extend masts in pairs).



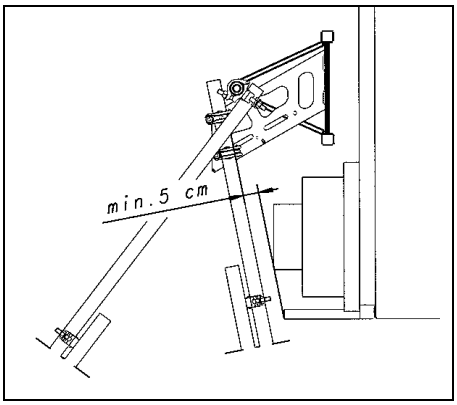
- Connect the assembly guard again.
- Press the button UP to assemble another section of mast.
- Press button DOWN to collect another section of mast from the ground.

HAZARD

Life-threatening hazard
Crushing or amputation of limbs.
Never reach into the travel path of the machine during operation.

15.5.1 Assemble mast bracket

In order to mount the mast bracket, ascend as far as necessary for these to be mounted easily.
The minimum distance to the assembly bridge is 5 cm.



WARNING

Danger of collision
The free end of the tubes must not protrude over the cross-section of the mast / travel path of the platform.

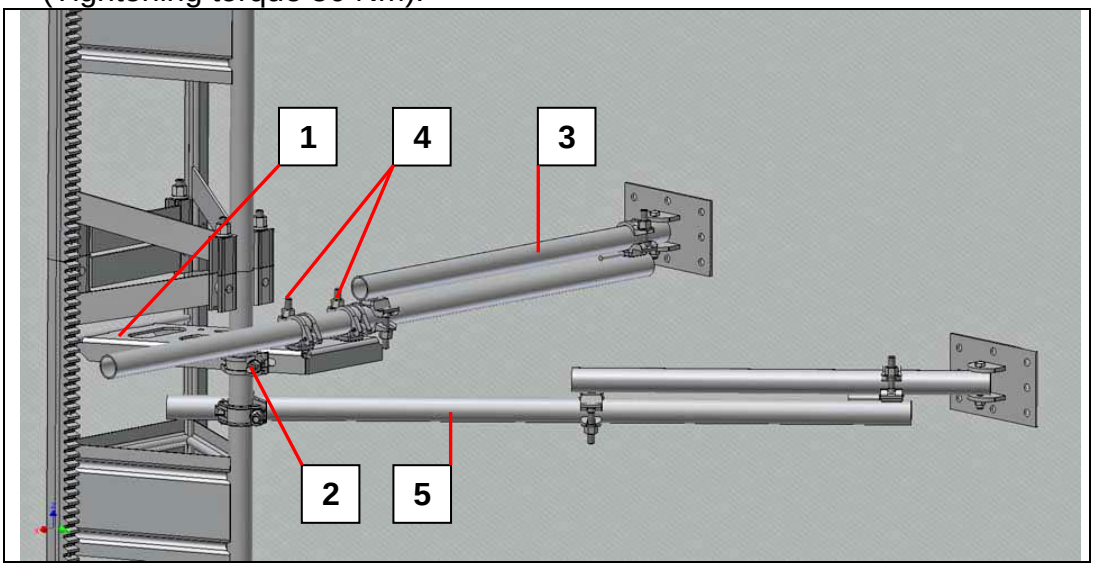
For greater building clearance distances, use telescopic tubes. Select the greatest horizontal distance as possible to the wall.

- Install the first two mast anchors at a height of approx. 6 m.
- After assembly of the mast anchoring, use a spirit level to check the alignment of the base mast.
- Further mast anchors are set at intervals of max. 10 m.

	WARNING
	Life-threatening hazard through fracture of the mast and falling platform. - until 2 mast anchors are in position or - by negotiating the overhanging part of the mast During assembly, observe the load-carrying capacity and maximum overhanging length of mast for the individual types of platform ➔ Rubric dimensions and weights.

- Attach the mast bracket (1) from the front to the round mast tube using scaffold coupling (2).

(Tightening torque 50 Nm).



- Engage telescopic tube (3). Close the clamps (4) and screw them together so that the tube can still be adjusted.
- To adjust the angle, release the nuts below the clamps (4) and move. Re-tighten the nuts.
- Re-tighten all 4 nuts.
- The attachment plate should be bolted to the wall with anchor fittings or through bolts. (See also the anchoring forces table.)

- Secure the telescopic tube (5) to the inside of the circular mast tube with a rigid scaffold coupling, pulling it towards the wall and anchoring it there. Select the furthest possible horizontal distance between the two anchoring tubes against the wall. (The minimum distance between the two fastening plates is dependent upon the distance between the mast and building, and extension tubes should be used with greater distances).

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

- The mast is vertically aligned by shifting the anchoring tubes in the mast bracket or scaffold coupling.
- Right-angled alignment of the mast is by using both scaffold couplings (4).

The anchoring for the left mast will be attached at the same height, inversely to the right mast anchoring described above.

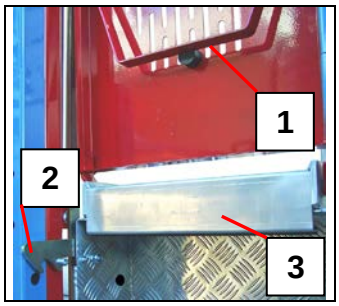
☞ In order to keep wear of the gear racks as low as possible, we recommend to lubricate the gear racks each time a mast bracket is assembled.

15.5.2 Use of the assembly bridge

The assembly bridge is exclusively intended for the assembly of the mast from the platform. Each time before using the platform, make sure that the safety ratchet of the assembly bridge is fully engaged.

When the assembly bridge is open, the platform cannot be moved. Therefore, before assembly of a mast bracket the platform must be positioned so that the assembly bridge can be closed after assembly (1.6 m distance, mast anchor to floor of the platform.)

Open assembly bridge



- Release the safety ratchet (2), if necessary, lightly pull the assembly bridge inwards using the handle bar (3).
- Push the handle bar (3) slowly out and pull the bar (1).
- Release the handle grip (3) and completely lower the bridge using the bar (1).
- Push outwards the front wall.

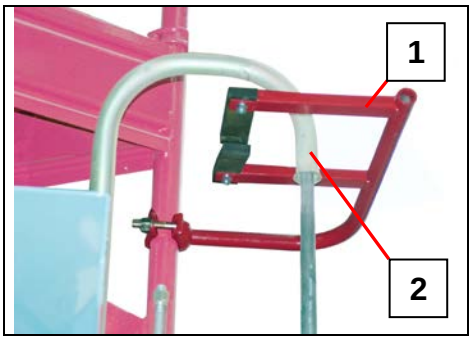
Close assembly bridge

- Use the switch bar (1) and pull in the front wall.
- Use the handle bar (3) to fully close the assembly bridge (the safety ratchet (2) engages in the second sprocket).

15.5.3 Assemble trailing cable guide

The trailing cable guides ensure trouble-free transport of the cable to the cable bin. Trailing cable guides must be mounted depending on the expected wind pressure.
We recommend a distance of 6 m.

- Assemble the trailing cable guide (1) on the mast tube so that the guide tube (2) is located central in the trailing cable guide.

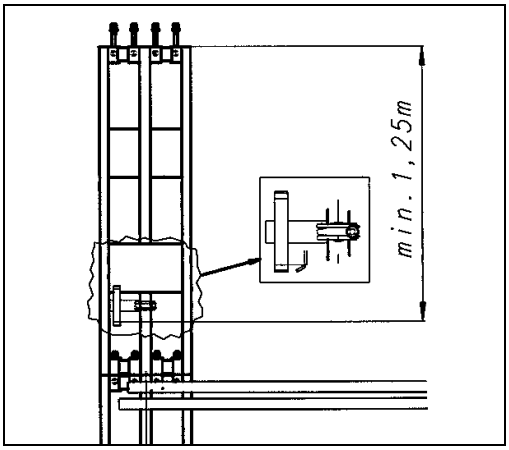


15.5.4 Assemble EMERGENCY limit switch bar

	**WARNING** **Danger of injury** Operation without a correctly installed EMERGENCY limit switch bar is prohibited. EMERGENCY limit switch bars must be installed before commissioning according to the following information.

An emergency limit switch bar (1) must be installed as top stop point before the drive pinions leave the gear rack.
The hoist is stopped at this bar by the **UP** operating limit switch or the emergency limit switch in case of an error.

- ➢ Screw in the limit switch bar (1) with the scaffolding clamp onto the circular mast tube of the left (control side of mast).



Mount the EMERGENCY limit switch bar so that during operation the last mast anchor can be exceeded by
- max. 6 m (platform A, C-I)
- maximum 2 m (platform B, BS, BL, BLL).

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

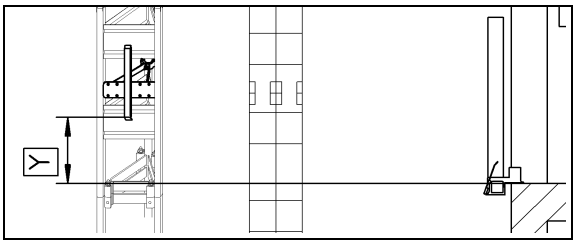
15.5.5 Safeguarding loading and unloading points

Protection to prevent falling is to be provided at all loading and unloading points at a height of more than 2 m. Only guard rails can be used that enable transfer without danger. Type approved GEDA hoists may only be used with correspondingly approved landing level safety doors. For assembly of the landing level safety gates, refer to the corresponding manual.

15.5.6 Assembly of landing level, limit switch bar

The landing level limit switch bars are positioned in the left section of the mast (control side) from the platform.

- Position the landing level, limit switch bars between both square tubes and attach to the round mast tube using the scaffold coupling welded on.



Distance to landing level floor Y = 0.25 m

15.5.7 Tests after assembly / tests before initial commissioning

Carry out tests in accordance with the information given in the chapter “Tests”.

16 Dismantling

The same regulations and safety instructions as described for assembly apply for dismantling.
Disassembly is generally carried out in reverse order to assembly, in addition please note the following:

- First dismantle the landing level safety equipment (fit 3-part protection first).
- Then check whether all mast connection bolts are in engaged.
- The platform must be stopped in such a way that the mast joint of the mast being removed is located over the upper edge of the sliding carriage.
- Only loosen the mast anchors if there are no longer any mast sections above the anchor point.
- Always unload the platform in the interim time (the hoist cannot be moved if overloaded).

17 Disposal 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 and use them in other machines, or to assemble such parts into a new machine.

18 MAINTENANCE

	**WARNING** The entire manual must be read for all service/repair work. Work is prohibited if the type and scope of work to be carried out is unclear or if the hazards and measures to avert said hazards are unclear. All unclear issues must be resolved before starting work. All safety instructions must be complied with.

18.1 Warnings and safety instructions to be complied with during servicing/repairs

	**HAZARD** **Life-threatening hazard** Crushing or amputation of limbs. Never reach into the travel path of the machine during operation.

	**HAZARD** **Life-threatening hazard** Falling tools/parts Secure tools / parts against falling

	**HAZARD** **Life-threatening hazard** Due to the machine being switched on during servicing/repair work or when there is a defect. Secure the main switch with a padlock to prevent it being switched on.

	**WARNING** **Fall and trip hazard** Look out for steps and objects on the ground when entering/exiting the platform.

HAZARD

Electric shock
Parts remain live even after pressing the EMERGENCY STOP or after turning off the machine at the main switch.
This applies to all work on electrical parts.
Disconnect the mains supply upstream from the main switch.

WARNING

Life-threatening hazard
Raised load
Do not stand under a suspended load
Do not stand on a suspended load
Only raise load at the sling points.
Only use suitable hoisting gear

WARNING

Life-threatening hazard
Access only for authorised people.
Access prohibited for unauthorised people.

18.2 Maintenance schedule

Tasks to be carried out	Every week	Every month	Quarterly	Every year
Check the braking distance	X[1]			
Check the gear rack and drive pinion for lubrication and wear.	X[1]			
Check the trailing cable, mains supply cable and control cables for damage.	X[1]			
Visual inspection of all defect devices and limit switches	X			
Check the gear rack and drive pinion for wear		X		
Check that the mast connecting bolts, EMERGENCY limit switch approach bar and mast anchors/bolts are secured to the mast and the building, tighten if necessary.		X		
Rub the trailing cable with lubricant.		X		
Check the grease quantity of the lubrication device and refill if necessary		X[1]		
Notices present and easily legible			X	
Functional check of the control points [manual control, electric module (where present), platform control]				X
Functional test of the collision grille (optional)				X
Check the gear oil on the drives				X
Check the gear rack is positioned securely				X
Check motor brakes (air gap and pad thickness)				X
Check the rescue equipment				X
Check the overload position				X
Function check of the drop test control				X
Test the safety gear				X
Check the track rollers on the sliding carriage				X
Earth conductor test in accordance with EN 60204, Part 1				X²
Insulation test in accordance with EN 60204, Part 1				X²

[1] Correspondingly more often in the case of frequent use or multi-shift operation.
² Maximum test intervals, which could be much shorted depending on the place of installation and national regulations.

18.3 Tests

During the tests, the relevant safety-related characteristics of the machine are checked for condition, availability and function using appropriate procedures. Appropriate procedures are:

- Visual inspections
- Functional and efficiency tests
- Tests using measuring and testing equipment

The scope, type and schedule of each test must be defined by the operating company and persons authorised to carry out the test.

Test schedules		
↓	↓	↓
Tested by a trained person	Inspection by a competent person	Inspection by an accredited supervisory body (recurring test)
Simple visual and functional checks with a few test steps and simple evaluation	↓	For systems subject to monitoring. Testing according to national regulations

Inspection by a competent person		
↓		↓
Testing due to particular events / damage-inducing influences, e.g.		Tests according to a maintenance schedule
Natural phenomena: • Lightning • Storm • Flooding • Cold > -20 °C		See there
Accidents: • Collision • Tip-over • Crash		
Changes/modifications: • Drive replacement • Safety gear replacement • Changes to the control electronics • Replacement of control and protection equipment • Replacement of electrical power cables		
Assembly: • For initial commissioning • At a new location		
Exposure to harmful substances • Corrosive media • Contamination of an unknown origin		

Visual inspections must always be carried out before function checks. Any defects identified must be reported immediately to a superior and rectified. Operation is prohibited until the defects are rectified. Faults may only be rectified by competent specialists who are authorised to implement them.

Visual inspections and functional tests - see “Operation”

Documentation of the results
The operator must document the results of tests. The documentation must be kept for a reasonable period of time – although at least for the entire lifespan of the machine. Proof of the performance of the last test must be attached to the machine.

18.4 Replenishment and inspection tasks

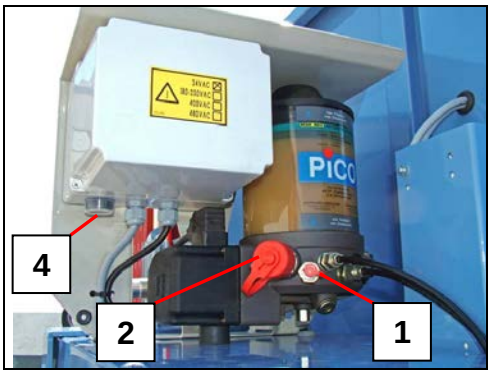
18.4.1 Lubrication device

CAUTION

Do not use grease with solid lubricants. This could damage the lubrication device.

Replenishing through the nipple

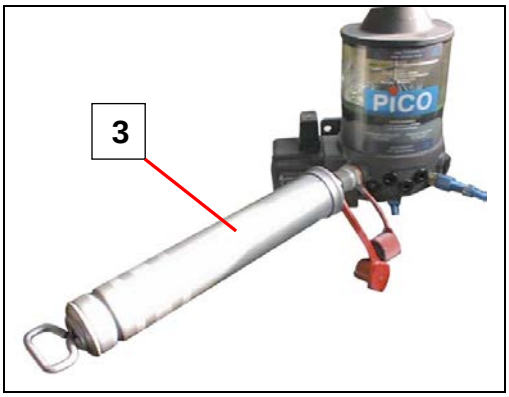
- Place the grease gun to the nipple (1) (Underside of the container).
- Fill reservoir to the “MAX” mark.



Quick-filling with a filling gun

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

- The function of the lubrication device can be checked using the button (4).



Bleeding 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 on 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.
- Install the pump element or locking screw.
- Activate a lubrication pulse until bubble-free lubricant discharges.
- Reconnect the lubricating hose.

18.5 Checking for wear

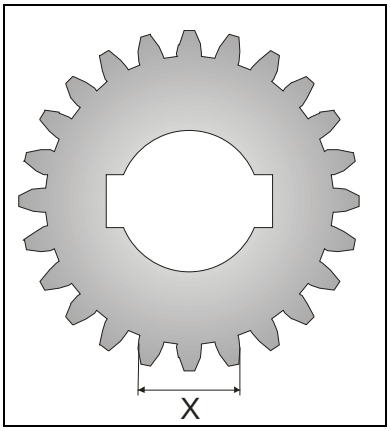
	**WARNING** **Danger of injury from components failing** Parts must be replaced immediately if the specified wear limits are exceeded. Machine operation is prohibited until the parts have been replaced. All parts must also be checked for damage (deformation, cracks, cavities, etc.).

18.5.1 Drive pinion

Number of teeth = 21
Module m = 6

Wear limit	
Dimension X min.	**Dimension X normal**
27,6 mm	28,3 mm

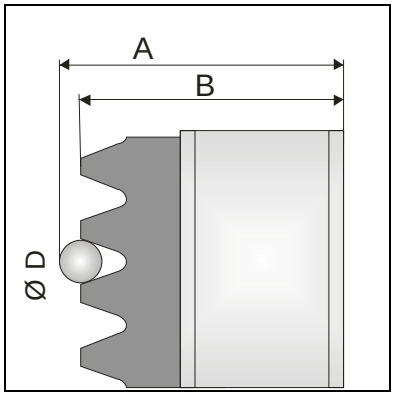
Measure dimension X on each tooth



18.5.2 Gear rack

Wear limit	
(A) min.	**(A) new**
68,5 mm	69,6 mm

Gauging pin: (**D**) = 12 mm (+0.0 / -0.11 mm)
(**B**) = 65,2



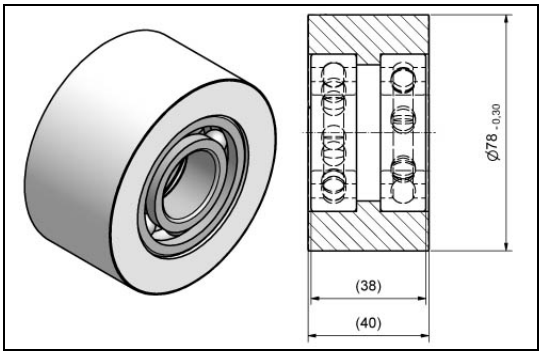
Check that all gear racks are positioned securely. If necessary tighten gear racks with 60 Nm. (8 mm Allen key)

18.5.3 Tracks rollers

Track roller (white) Item No. 13060

Wear limit (diameter)	
Ø min.	**Ø normal**
77 mm	$78_{-0,30}$ mm

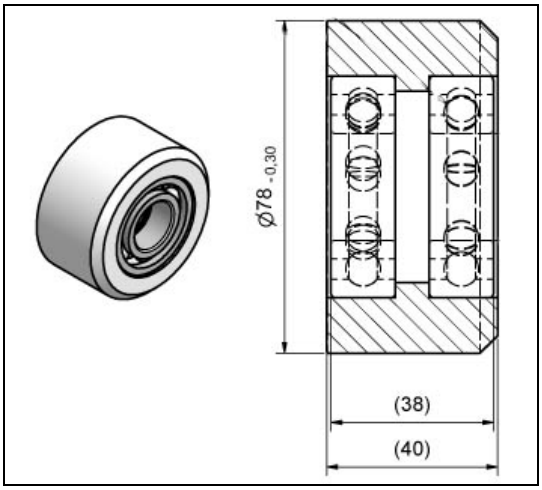
Also check the play and condition of the bearing. There must be a circlip.



Track roller with chamfer (white) item no. 18013

Wear limit (diameter)	
Ø min.	**Ø normal**
77 mm	$78_{-0,30}$ mm

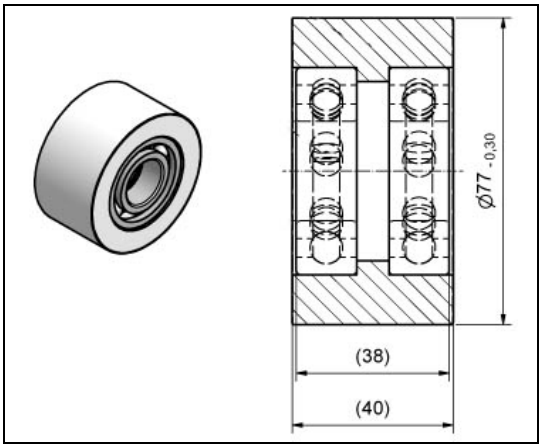
Also check the play and condition of the bearing. There must be a circlip.



Track roller (black) Item No. 19983

Wear limit (diameter)	
Ø min.	**Ø normal**
76 mm	$77_{-0,30}$ mm

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



Changing the track roller

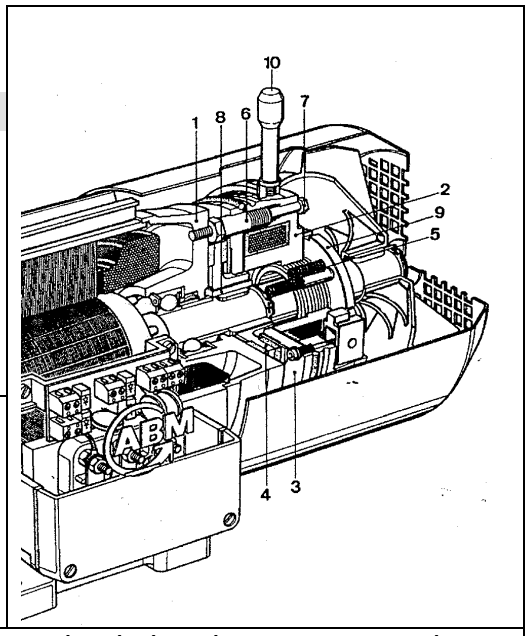
HAZARD

Life-threatening hazard
Falling tools/parts
Secure tools / parts against falling

18.5.4 Drive 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	6 = Banjo bolts
2 = Magnetic body	7 = Hexagonal screws
3 = Anchor plate	8 = Carrier
4 = Brake pad	9 = Adjusting ring
5 = Compression springs	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 the motor power supply.
- Unscrew the manual release bolts.
- Loosen the attachment bolt and remove the fan cover.
- Remove the cable.
- Pull the dust protection ring out of the SLOT in the magnetic body and put it over the bearing plate.
- Remove dust with compressed air.
- Loosen bolts and replace them 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 that the banjo bolts are secure.
- Assemble in reverse order.
- Carry out a function test.

18.6 Function checks

18.6.1 Safety gear

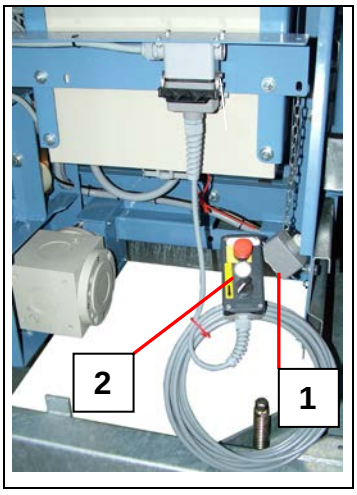
	**WARNING** **Danger of injury** The drop test may only be carried out by a qualified person, specifically appointed by the operating company who, based on their training, knowledge and practical experience, can evaluate the risks and assess the safe condition of the safety gear.

The drop test is only permitted

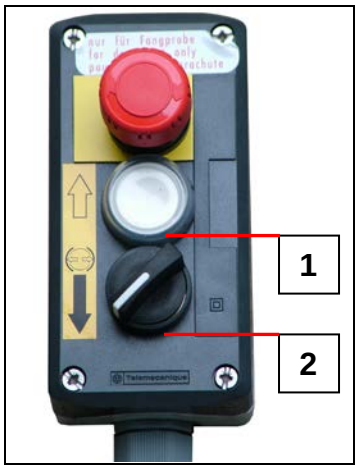
- When no other persons are on the platform or in the travel path.
- The platform is unloaded.
- If there are no objects in the travel path
- If the drop test is activated from a safe distance

Execution

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



- Press the **UP** button (1) until the platform is approx. 6 m high.
- Turn the **turnkey** (2) to the right.



The brake opens and the platform moves downwards.
The safety gear must stop the platform after approx. 2–3 m
If the platform does not stop:

- Release the turnkey (2).

18.6.2 Drop test successful

- Press the **UP** (1) button.
  The platform moves out of the drop position.
- Turn the **turn**key (2) shortly (max. 1 sec).
- The platform descends.
- Repeat the process until the platform has descended.
- Disconnect the drop test control.
- Insert the dummy plug.

- Check the ➔safety gear for damage.

18.6.3 Drop test not successful

WARNING

Danger of injury
Immediately replace the safety gear. Until then machine operation is prohibited.

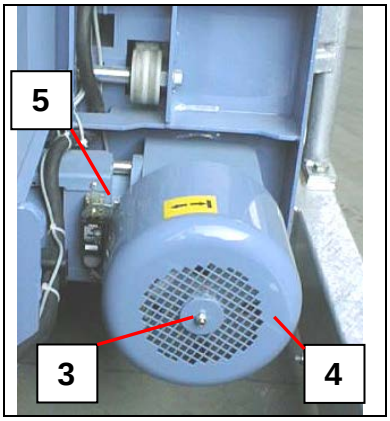
- Turn the **turn**key (2) shortly (max. 1 sec).
- The platform descends.
- Repeat the process until the platform has descended.
- Switch the machine off at the main switch and secure is from being switched back on.

18.6.4 Check the safety gear for damage

If any damage is identified on the safety gear replace it immediately.
Machine operation is prohibited until it is repaired.

	**WARNING** **Danger of injury** The safety gear must be inspected every 6 years by the manufacturer. Repairs maay only be carried out by the manufacturer.

- Turn the main switch to OFF.
- Secure it against being switched on.
- Loosen nut (3).
- Remove protective cover (4).
- Check brake pads for damage.
- Check flyweights for ease of movement.
- Condition of welded seams.
- Condition of springs.
- Corrosion / deformation.
- Replace protective cover.



- Replace the protective cover (4) so that the switch tag (5) engages in the slot in the protective cover. (Alternatively, turn the protective cover anti-clockwise until the switch tag (5) engages in the slot in the protective cover.)
- Tighten nut (4).

18.6.5 Safety gear replacement

GEDA safety gear must be replaced with new GEDA safety gear (safety gear exchange units) **after 6 years** at the latest.
The obligation to replace safety gear applies to both material hoists and personnel hoists.

18.7 Fault table

WARNING

Only have troubleshooting and fault resolution carried out by authorised personnel trained especially for these tasks. Below you will find potential faults and the appropriate remedial action.

Fault	Cause	Remedial action
Green control light off	Main switch off	Turn on main switch
	Illuminant defective	Replace illuminant
	Phase failure	Measure phases
	Incorrect phase sequence	Correction of phase sequence at phase changer
	Trailing cable connected	Connect trailing cable
	Fuses OK	Check / correction
Red control light on	Overload protection has been triggered	Reduce the load
Motor does not produce full output	Voltage drop of more than 10 %	Select a supply cable with a greater cross section
Platform runs too high	Top landing-level limit switch defective	Test/replace the top landing-level limit switch
	Fault in the electrical system	Check system
Platform runs too low	Fault in the electrical system	Check system
	Excessive brake air gap	Adjust air gap
The platform access door does not open.	The platform is not stopped by the **DOWN** limit switch	Move the platform to the **DOWN**limit switch
	Door lock defective	Emergency interlock release door Replace defective lock
	No voltage	Connect power supply

Fault	Cause	Remedial action
The platform does not move	Main switch off	Main switch on
	The platform access door is not correctly closed and locked	Close the access door Check and, if necessary, replace the lock
	The barrier with the unloading ramp is not correctly closed	Close the barrier Check/exchange the limit switch
	The landing level door of the safety gates is not closed correctly (only for the electric module option)	Close landing gate Check/exchange the limit switch
	The key switch position does not suit the operating mode	Move the key switch to suit the operating mode I = Platform control 0 = External control
	Mains connection phase failure Mains connection fuses	Check the fuses
	Fuses in the switch cabinet of the ground station activated	Check and, if necessary, replace fuses (primary fuse 2x630 mA, control fuse 2 A)
	Emergency limit switch actuated	Correct the distance
	Safety gear triggered	Check and, if necessary, replace
	Distance of the proximity switch to the gear rack switch too large	Check the distance and is necessary correct (correct = 5-7 mm)
	Actuating controls for the up and down limit switches functioning correctly	Check and, if necessary, replace

19 Documenting the tests

Documentation for a ❒ regular check according to the maintenance schedule ❒ unscheduled check after unusual events
Name: Serial number: Year of manufacture: Factory number:
The machine was checked on_____. Thereby ❒ no ❒ the following defects were determined:

Scope of inspection:

Outstanding part checks:

Continued operation is: ❒ prohibited ❒ permitted	Another check is ❒ necessary ❒ not necessary

Place, date

Signature
(Technical specialist/qualified person*)

STAMP
INSPECTOR

*Name of qualified person
Operating company: Address:

Operating company:
Faults acknowledged:

Defects rectified:

Documentation for a ❒ regular check according to the maintenance schedule ❒ unscheduled check after unusual events	
Name: Year of manufacture:	Serial number: Factory number:
The machine was checked on_____. Thereby ❒ no ❒ the following defects were determined:	

Scope of inspection:

Outstanding part checks:

Continued operation is:	Another check is
❒ prohibited ❒ permitted	❒ necessary ❒ not necessary

Place, date

Signature
(Technical specialist/qualified person*)

Stamp
Inspector

*Name of qualified person
Operating company: Address:

Operating company:
Faults acknowledged:

Defects rectified:

Documentation for a ❒ regular check according to the maintenance schedule ❒ unscheduled check after unusual events	
Name: Year of manufacture:	Serial number: Factory number:
The machine was checked on_____. Thereby ❒ no ❒ the following defects were determined:	

Scope of inspection:

Outstanding part checks:

Continued operation is:	Another check is
❒ prohibited ❒ permitted	❒ necessary ❒ not necessary

Place, date

Signature
(Technical specialist/qualified person*)

Stamp
Inspector

*Name of qualified person
Operating company: Address:

Operating company:
Faults acknowledged:

Defects rectified:

Documentation for a ❒ regular check according to the maintenance schedule ❒ unscheduled check after unusual events
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Scope of inspection:

Outstanding part checks:

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Place, date

Signature
(Technical specialist/qualified person*)

Stamp
Inspector

*Name of qualified person
Operating company: Address:

Operating company:
Faults acknowledged:

Defects rectified:

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Operating company: Address:

Operating company:
Faults acknowledged:

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Name: Year of manufacture:	Serial number: Factory number:
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Scope of inspection:

Outstanding part checks:

Continued operation is: ❒ prohibited ❒ permitted	Another check is ❒ necessary ❒ not necessary

Place, date

Signature
(Technical specialist/qualified person*)

Stamp
Inspector

*Name of qualified person
Operating company: Address:

Operating company:
Faults acknowledged:

Defects rectified:

Space for notices

Notice entered
Name: / Date
Position

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Notice entered
Name: / Date
Position