GEDA®
ORIGINAL

Maintenance Manual

GEDA®
MULTILIFT P18

Construction hoist

For transporting material and persons

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1 Information about the machine

1.1 Identification data

The Maintenance Manual is valid for the following machines:

Machine type: Factory number(s):	GEDAMULTILIFT P18 M180...
Year of manufacture:	Refer to name plate
Documentation version:	2019-11

The name plate is located in the car.

1.2 Operating equipment

Return or dispose of excess quantities in accordance with company guidelines and legal requirements.

If using other greases, the mixing capacity must be taken into consideration.

1.3 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 non-approved spare parts releases us from any liability for damage arising as a consequence of any such use.

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

- Hoist type / Year of construction / Serial no.:
- Component name / item no.:
- Order quantity
- Operating voltage (if applicable)

2 Safety information

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

2.1 Depth of instruction from the manual

The depth of instruction depends on the level of knowledge to be expected of the respective target group:

Machine operator/qualified operating personnel

- Visual checks
- Basic function tests
- Refilling operating fluids

Qualified installer/electrician:

- Visual checks
- Function tests
- Refilling operating fluids
- Calibration/wear measurement
- Replacing components

Tasks not described here, such as replacing pinions, gear racks, bearings or rollers, checking cables for edge/abrasion protection etc. are regarded as routine responsibilities for qualified maintenance personnel.

As a rule, only the dismantling of the parts is described. This means that as long as no other in-depth information is required, assembly generally follows the sequence of steps for dismantling in reverse.

2.2 Planning jobs

All maintenance tasks must be planned. The corresponding information and illustrations form the basis for planning the relevant jobs and the corresponding safety measures.

Before starting any such jobs, all relevant information must be obtained.

2.3 Maintenance concept

The service intervals have been specified on the basis of many years of experience and the statistical evaluation of spare-part orders / market observation.

All maintenance intervals represent preventive maintenance to ensure that the safety of the hoist operator and the availability of the machine are always the main focus.

2.3.1 Components without maintenance intervals

It is not possible to define a time-based maintenance interval for certain components as their wear is heavily dependent on the respective set up and the conditions at the respective building site (temperature, sea air, dust/dirt contamination, etc.).

The operating company must determine suitable intervals for these parts according to the actual area of application.

The maintenance schedule must be amended accordingly.

2.4 Maintenance intervals for purchased parts

The maintenance intervals for purchased parts are outlined by GEDA in this manual.

Please refer to the manual from the manufacturer of the purchased part for removal and installation instructions.

2.5 Prohibition of certain activities

The following activities may only be carried out by **GEDA** employees on account of potential sources of faults which cannot be detected (by the owner):

- Repairs to the safety gear.
- Modification of the control programs.
- Changes to/decommissioning of the overload monitoring.

2.6 Conversions/modifications

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

2.7 Sources of danger/residual risks present

As with all complex hoists, GEDA hoists also represent a source of potential hazards. These are:

Moving, rotating, pointed and sharp-edged parts

- Drives
- Chains/ropes/cables

Sources of energy

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

Operating materials

- Oils
- Greases

Emergency

- Defect during assembly/operation of the hoist with persons inside the car.
- Persons trapped in the event of a fire. Do not use the hoist in case of fire.

2.8 Other applicable documents

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

- Relevant customer service information, if applicable.
- Manuals from suppliers of purchased parts.
- Installation drawings/diagrams.

The owner must supplement these documents with the relevant national regulations of the country of use. If the machine is sold or passed on, the documentation must be passed on as well.

2.9 Basic conduct when handling the machine

- The machine must be used with an awareness for hazards, in a technically fault-free condition and according to the instructions in this manual.
- Acquaint yourself with the way the machine works, the operating controls and the safety device.
- The stipulated operating steps and the sequence of steps must be adhered to.
- If there is any lack of clarity regarding the proper condition or correct operation, these points must be clarified. Operation is prohibited until the matter has been clarified.
- The hoist operator is responsible for third parties present in the working area of the machine.
- Unauthorised persons must be kept away from the machine; if necessary, set up warning notices.
- All safety regulations relevant to the respective job/activity must be adhered to.
- Responsibilities for different activities must be clearly identified and adhered to. Lack of clarity greatly compromises safety.
- Safety and emergency equipment may neither be removed, altered nor made ineffective and must be inspected at regular intervals to ensure function and completeness.
- Rectify any faults that fall within your area of responsibility.
- Inform your supervisor immediately if faults occur outside your area of responsibility.
- Smoking, eating, drinking and open flames are prohibited.
- Wear personal protective equipment.
- If there is any soiling, take appropriate measures (e.g. drying and cleaning) on all floors, steps, pedestals, platforms and climbing aids to prevent falling and slipping.
- It is prohibited to attach banners etc. to the machine that would change the wind load.

2.10 Maintenance/repair/service work on electrical components

- All relevant individuals (e.g. operating personnel, supervisors) must be informed about the work being carried out before work commences.
- Before carrying out service/repair work, the machine must be turned off at the main switch and secured against being switched on by unauthorised persons.
- Work on electric/live components may only be carried out by qualified electrical personnel.
- Affected electrical parts must be disconnected from the power supply (disconnect the mains voltage upstream of the main switch).
- Do not touch sockets, cables or electrical components with wet or damp hands.
- All tasks on electrical components may only be carried out using insulated tools.
- Never bypass any fuses. Only ever replace fuses with fuses of the same type.
- Ensure that the electrical system is correctly earthed.
- Dry or cover any wet, slippery or sharp surfaces. There must be no remaining potential hazards.
- Use appropriate measures to ensure that moving/detached parts are disabled during work and that no limbs can become trapped by unintentional movements.
- Use appropriate measures to ensure that dismantled parts do not fall down.
- Loss of balance as a result of handling heavy parts/tools. Only lift heavy parts/tools with a second person or appropriate lifting equipment.
- Only use new parts in accordance with their intended use and within the specifications of their technical data.
- Test the parts to ensure that they are functioning correctly after the work. Ensure that no hazards will arise as a result of the machine being started up.
- Ensure that any surface damage is treated using suitable corrosion prevention measures.
- Welding, burning and grinding work on the machine may only be carried out following consultation with and approval from GEDA.

2.11 Components from other manufacturers

When working on components from other manufacturers, the information in the corresponding manual from the other manufacturer must also be observed.

2.12 Warnings

⚠ DANGER

Electric shock from live parts

- ➢ Components remain live even after activating the **EMERGENCY STOP** or switching off the machine at the main switch.
- ➢ For all work on electrical parts.
- ➢ Disconnect the mains supply upstream of the main switch.

⚠ DANGER

Danger to life from lowering car

- ➢ Never remain inside the cordoned area/base enclosure during operation.
- ➢ Whilst working inside the base enclosure, switch off the main switch and secure it against being switched on.
  If necessary, activate the setting mechanism so the car can't travel downwards.

⚠ DANGER

Fall from the ladder

- ➢ Only one person is allowed on the ladder at a time.
- ➢ Always hold on with at least one hand.
- ➢ Always face the ladder to ascend and descend.
- ➢ Keep the ladder free of dirt.

⚠ DANGER

Risk of fire and explosion as a result of using combustible cleaning materials.

- ➢ Only use suitable, non-combustible cleaning materials.
- ➢ Do not use any steam jet cleaners/high-pressure cleaners to clean electrical components.
- ➢ Do not touch sockets, cables or electrical components with wet or damp hands.

⚠ DANGER

Lethal hazard from falling tools/objects

➢ Secure tools/parts from falling during maintenance/assembly.

⚠ DANGER

Lethal hazard from the machine being switched on during maintenance/repair work or in case of a defect.

➢ Use a padlock to secure the main switch against activation.

⚠ WARNING

Risk of injury

➢ Wear personal protective equipment if required by the local regulations.

⚠ WARNING

Crushing, amputation of limbs

➢ Never reach into the travel path of the machine during operation/maintenance!

⚠ WARNING

Falling and tripping hazard

➢ Be aware of steps and objects on the ground when entering/exiting the car.

⚠ WARNING

Access only for authorised persons

➢ Access prohibited for unauthorised persons.

⚠ WARNING

Impact injuries

➢ Always wear a safety helmet during maintenance/assembly or when carrying out other tasks where there is an impact hazard.

3 Maintenance - Checking – Cleaning

Safe working

The entire instructions and operating manual must be read before all maintenance/repair work.

It is not permitted to carry out tasks if the type and scope of the tasks, the resulting hazards and the actions required to avert these hazards are unclear. All unclear issues must be resolved before starting work. All safety instructions must be complied with.

It is imperative that workshop equipment suitable for the specific task is used for carrying out repair and maintenance tasks. When carrying out maintenance tasks at great heights, a fall protection system must be worn! Keep all handles, railings and the car free from dirt and contamination. When working below the car, this must be secured using suitable equipment (e.g. setting mechanism, bolt, mast clamps etc.)

⚠ DANGER

Risk of death due to car moving downwards

Carrying out tasks/standing below the car is only permitted once the car has been moved up and secured against falling.

3.1 Inspections

Inspections prior to operation, recurring inspections and intermediate inspections must be carried out according to national regulations.

During inspections, the relevant safety features of the hoist are checked by means of appropriate procedures according to the maintenance schedule or after specific incidents. Appropriate procedures are:

- Visual inspections
- Function and efficiency checks
- Checks using measurement and test equipment

The scope, nature and schedule of each check and the persons authorised to carry out the check, must be specified by the operating company.

Type of test	Inspection procedures
Checking by a trained person	Basic visual inspection and function check with few test steps and simple evaluation
Checking by a competent person	Checking due to special events/damage, e.g. • Assembly • Maintenance • Natural phenomena
Checking by an accredited inspection body (specialist)	Recurring check for systems / machines that must be monitored. Checking in accordance with national regulations

3.1.1 Documenting the results

The owner must document the results of the inspections. The documentation must be retained for a reasonable period of time – however at least for the entire lifetime of the machine.

- The results of the recurring inspections can be recorded in writing in chapter 5 of this manual.
- Verification confirming when the last inspection was completed must be attached to the machine.

3.1.2 Checks before initial operation

The following checks have been carried out before delivery:

- Dynamic drop test of safety gear with 125% of the max. payload
- Electrical tests according to EN 60204-1/32:2008.
- Examination of operation

3.1.3 Checks after assembly/daily before starting operation

To ensure safety when handling the hoist, the hoist attendant/person specified by the operating company must carry out a daily check of certain areas of the hoist/parts

Defects detected must be immediately reported to the supervisor and rectified. Defects may only be rectified by trained personnel responsible for maintenance and servicing.

Always carry out visual inspections before function checks. Operation is prohibited until the defects are rectified.

The following points must be checked daily

- Safety check before starting work (refer to the "Operation" chapter in the instruction manual)
- Keep working area around the hoist clear and clean.
- Clean the cable bin and cable trolley (keep free from snow and ice in winter).

Checks after each assembly

See chapter "Checks after Assembly" in the Assembly Manual.

3.1.4 Recurring checks

Recurring inspections must be carried out in accordance with national regulations.

GEDA recommends that you carry out a recurring check at least once a year. In the event of increased use (e.g. multiple shift operation), carry out inspections at shorter intervals.

3.1.5 Dynamic tests

With empty platform/car

- Drop test after every assembly.
- Drop test in accordance with the maintenance schedule.
- Drop test after replacing the safety gear.

With loaded platform/car

- Drop test before initial operation (refer to Chapter 3.1.2)
- Drop test during recurring checks (refer to national regulations)

During recurring checks, we recommend carrying out the drop test with the rated load (refer to the max. payload) of the loaded car.

The drop test with rated load of the loaded platform/car should only be carried out by competent persons and/or specialists!

⚠ WARNING

Risk of injury

- ➢ Check safety gear for damage.
- ➢ After each drop test, the safety gear must be checked for signs of damage.
- ➢ If any damage is identified on the safety gear, it must be immediately replaced.
- ➢ Operation of the hoist is prohibited until then.

⚠ DANGER

Life hazard from incorrect repair of safety components

- ➢ Repairs to the safety gear should only be carried out by the manufacturer.

- Check the overload detection device (see chapter 3.5.6)
- Function check of the motor brake(s) (see chapter 3.6.4)
- Check the braking distance (see chapter 3.6.4)

3.1.6 Structural testing

Structural tests only have to be conducted if national rules require this!

Eurasian Economic Community and Ukraine

- Move the hoist up approx. 1 m loaded centrally with two times of the rated load.
- Measure the distance between each corner of the hoist and the ground and note the values.
- Repeat the measurement after 15 minutes; no permanent deformities must occur.

3.1.7 Checks after extreme weather conditions

Special check after temperatures of -40°C [-40°F]

If it is unclear if the temperature was less than -40°C [-40°F], when recommissioning, proceed as if the temperature was attained. Before performing the special test, temperatures must be more than -20°C [-4°F] for a minimum of 3 hours

- Clear ice and snow from the hoist.
- Switch on the mains switch.
- Press all stop buttons and unlock them again.
- Check all doors / entrances / footbridges / flaps.
- Check all limit switches are moving freely.

⚠ WARNING

Risk of injury from damaged lift parts

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 ground station. Safety inspection of the hoist by a competent 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 car as far as up 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.

Special check after flooding

Damage to the hoist as a result of running into a flooded pit. Loss of stability of the foundation due to flooding.

- ➢ Check foundation / buffer.
- ➢ Check enclosure.

Special check after sand storm

Damage to the hoist as a result of the switch box filter-pads becoming blocked.

- ➢ Clean the filter pads.
- ➢ Check smooth operation of the safety devices/limit switches.

3.2 Maintenance within the base enclosure

⚠ DANGER

Lethal hazard from working within the base enclosure

Working/remaining inside the base enclosure is permitted only if the car was previously secured against lowering into the lower safety area.

The safety lock must be removed again after completing the work.

When carrying out repair and maintenance tasks within the base enclosure, the car must be prevented from descending to protect maintenance personnel.

Activating the setting mechanism

- ➢ Move the car (at least 2 m) up to above the setting mechanism.
- ➢ Switch off the machine at the main switch and secure it against reactivation.
- ➢ Swing the setting lever on the left base mast upwards and push the setting mechanism towards the car side of the mast.
  - ✓ Work can be carried out within the enclosure.

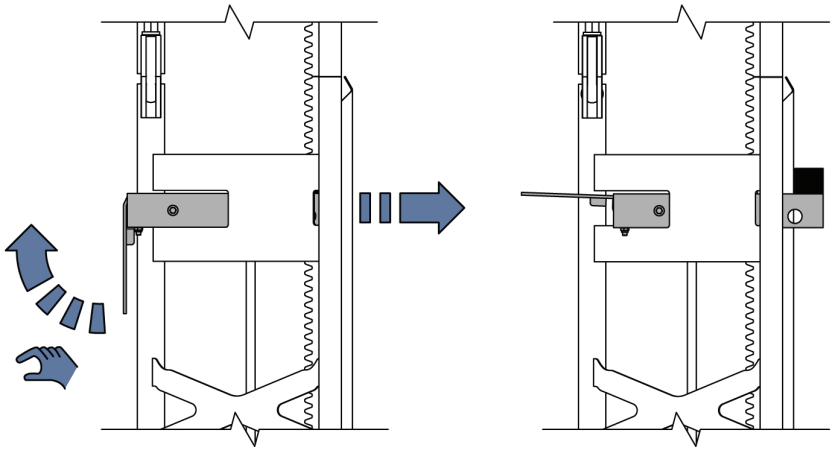


Fig. 1: Activating the setting mechanism

The control function is interrupted when the setting mechanism is activated!

Deactivating the setting mechanism

- ➢ Pull on the setting lever and pull out the setting mechanism.
- ➢ Swivel the setting lever downwards.

- ➢ Remove the padlock from the main switch and switch it on.
- ➢ Move the car downwards to the ground station.
  - ✓ The car is ready for travel again.

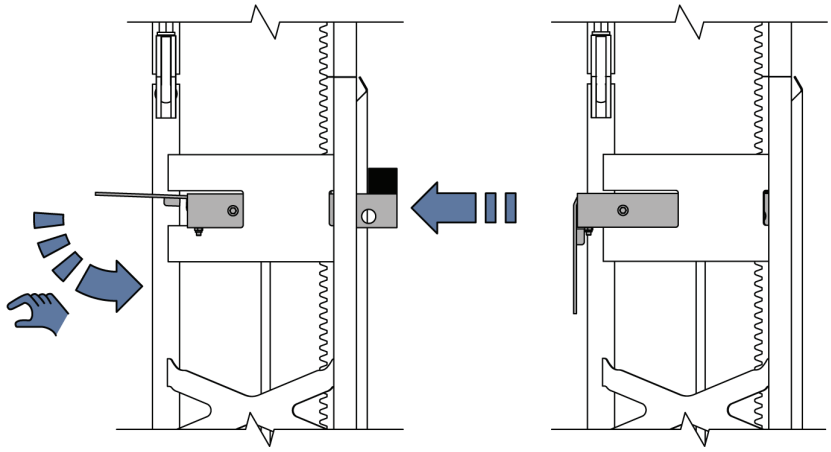


Fig. 2: Deactivating the setting mechanism

3.3 Inspection schedule and replacement intervals

The inspections to be carried out on a daily basis before the start of operation are not included in the maintenance schedule. These are described in the Operation chapter in the instruction manual as these checks are carried out by the operating personnel.

The maintenance intervals given relate to one-shift operation (40 hours/week). The intervals are to be modified according to any deviating operating times. The following inspections always include a check for proper function, wear, completeness and that there is no manipulation present.

The operating hours counter is installed in the car control switch box.

Inspection schedule

Abbreviations used in the inspection plan
W = Week / M = Month / Y = Year / R/N = Remarks/Notice

● = visual check / ■ = check	W	1M	3M	6M	1Y	R/N
Electrical components						
Check the trailing cables and control lines for damage.		●				
Abrasion protection for cables			●			
Check the lubricant for the trailing cable			■			
Cable protection on trailing cable holder				■		
Lighting (car/control/emergency lighting)			■			
Control devices, switching devices, limit switches and sensors				■		
Function test of the control points (car control/ground control/landing levels)			■			
Move hoist to each landing level Stop before the landing level (tolerance ±2 cm)				■		
Strength of the contacts				■		
Control devices, limit switches and sensors				■		
Check the overload detection setting					■	
Safety of electrical equipment in machinery (PE conductor measurement, insulation measurement, ...)					■[1]	

■[1] = The measurement procedures and inspection intervals for the repeat test have to be carried out in accordance with local and national regulations.

Switch boxes	W	1M	3M	6M	1Y	R/N
Switch cabinet filter mats (if fitted)	●					
Dirt, moisture, scorched areas			●			
EMERGENCY power supply (if fitted)					■	

Mechanical components	W	1M	3M	6M	1Y	R/N
Lubricate/check the gear racks and drive pinion	●					
Lubrication device		●				
Check the gear rack and drive pinion for wear	●		■			
Track rollers/guide rollers		■				
Car from below		●				
Cable trolley (rollers/deformation/cracks/freedom of movement/wear)		■				
Cable guides (threaded connections/rubber parts present)			●			
All covers fitted			●			
Motor brake			■			
Motors/gearboxes (oil leak/irregularities)				●		
Mast (threaded connections/deformation/cracks/wear)				■		
Mast brackets (threaded connections/flaking on building)				■		
Check that the gear rack is securely installed					■	

Car access points	W	1M	3M	6M	1Y	R/N
Door latching devices			■			
Interlock cam (option for landing level double doors)			■			
Joints/hinges/springs			●			
Traction ropes/deflection rollers/sliding rails/rollers			■			

Landing level doors	W	1M	3M	6M	1Y	R/N
Function/locking device/opening width			■			

Emergency equipment	W	1M	3M	6M	1Y	R/N
Buffer on the foot section			■			
EMERGENCY release for the car door			■			
EMERGENCY release for the enclosure door			■			
EMERGENCY release for the landing level safety gate (option: double door, VARIO door)			■			
Safety gear			■		■	
Check the rescue equipment (emergency descent)			■			
EMERGENCY CALL device/intercom system if fitted			■			
EMERGENCY LIMIT stop bar top/bottom			■			
EMERGENCY STOP buttons			■			

Foundation/base plate	W	1M	3M	6M	1Y	R/N
Cracks/deformation/flaking/depressions		●				

Replacement intervals	
Replacement of the emergency batteries (if fitted)	every 3 years
Replacement of the impact buffers on the foot section	every 3 years
Changing the gearbox oil	For replacement interval refer to chapter 3.6.4
Replacement of the safety gear	For replacement interval refer to chapter

Supplement the inspection schedule with information regarding maintenance/service/operating equipment/replacement/repair of component parts contained in the instructions provided by suppliers.

3.4 Replenishment and Inspection Tasks

3.4.1 Lubrication of the gear rack/drive pinion

⚠ CAUTION	
	**Increased wear** If **GEDA POWER GREASE** is not used, higher wear can occur on the gear rack and drive pinion. Any warranty cover is therefore excluded.

3.4.1.1 Manual lubrication

For initial lubrication or during extreme conditions, the gear rack has to be lubricated manually.

➢ Apply **GEDA POWER GREASE** to the sides of the gear rack with the brush.
→ Check that the sides on the gear rack are sufficiently lubricated.

Recommended lubricant for initial lubrication

- **GEDA POWER GREASE 1000** [set] item no. 66102

Recommended lubricant for extreme conditions

- **GEDA POWER GREASE 7000** [set] item no. 66100

3.4.1.2 Automatic lubrication device

The grease container must be topped up when **CODE 38** shows on the touch display for the car control.

⚠ CAUTION	
	**Increased wear on the gear racks** ➢ Check gear racks for deposits every week. ➢ Remove deposits. ➢ Re-lubricate gear racks.

Recommended lubricant

- **GEDA POWER GREASE 1000** item no. 13457

Topping up through the fill nipple

➢ Place the grease gun on the nipple (1).
➢ Top up the reservoir to the "MAX" mark.

Fig. 3 Lubrication device

Quick filling with a grease gun

➢ Remove the cap from the filling port (2).
➢ Insert the grease gun (3) into the filler neck (2) to the stop.
➢ Top up the reservoir to the "MAX" mark.

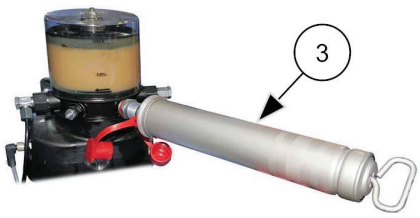


Fig. 4 Grease gun

Function check of the lubrication device

The lubrication device can be switched on manually on the **display panel** of the car control for checking the function.

Switching on of the lubrication device is described in the instructions for the **display panel**.

3.4.2 Coating the trailing cable with lubricant

If round cables are used as trailing cables, these must be heavily coated with talcum powder before initial commissioning and subsequently according to the inspection schedule!

Coating with talcum powder must be carried out at least every three months depending on the driving cycles and weather conditions!

Recommended anti-friction lubricant

- **Talcum powder** item no. B1156

⚠ CAUTION

Increased wear of the trailing cable

To prevent damage to the trailing cable, **GEDA** recommends using only this lubricant!

Assembly

➢ Shake talcum powder vigorously into the cable bin from outside the base enclosure.

Spread the talcum powder in the complete cable bin.

Fig. 5 Adding talcum powder to the cable bin

Moving the car upwards

➢ A second person must use the assembly control from the roof to move the car upwards.

→ Operation of the assembly control is described in the Assembly Manual.

- Apply the loose talcum powder to the cable sheath with a dry cloth or sponge during travel.

Fig. 6 Applying talcum powder

Ideally, the trailing cable is stored inside the cable bin in large loops.

Fig. 7: Trailing cable in the cable bin

3.4.3 Gearboxes

Check gearboxes at least every six months

- ➢ Check for running noises to indicate possible damage to bearings.
- ➢ Visual inspection for leakage from the seals.

Gearbox oil/change intervals

Class/quality	Filling capacity	Change
CLP PG ISO VG 220	4.6 l	approx. 10000 h (every 3 years)
	1.22 gal	

Manufacturer's recommendation:

Reduced change intervals in case of particularly challenging operating conditions, e.g.

- high humidity
- aggressive atmosphere
- large temperature fluctuations

The gearbox oil must also be changed after an extended idle period (more than 1 year).

Changing the gear oil

The drive has to be removed for changing the gearbox oil.

- ➢ The oil is drained and filled on the oil drain opening (1).

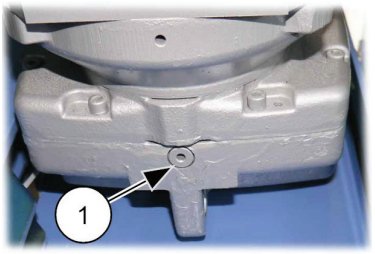


Fig. 8 Gearbox

3.4.4 Checking the threaded connections

➢ Check that the mast connection bolts are securely fastened.

Tightening torque = **150 Nm [110 lbf ft]**
Width across flats (AF) = 24 mm

Mast brackets

➢ Check the mast anchor bolts on the mast and building for secure fit.

Anchoring tube couplings
Tightening torque for 1 1/2" couplings = **50 Nm [37 lbf ft]**
Tightening torque for 2" couplings = **100 Nm [74 lbf ft]**

Check the parts installed on the mast

- Stop bars
- Mast brackets
- Cable guides, etc.

for secure fit.

3.5 Function tests

3.5.1 Lighting

The car lighting and the lighting for the car control are always illuminated while the main switch is switched on.

Car

Lamp: LED
(cannot be replaced)

Fig. 9: Car lighting

Car control

The car control is illuminated with 4 LED spotlights (9).

Lamp: LED
(cannot be replaced)

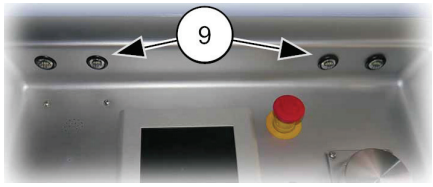


Fig. 10: Car control lighting

3.5.2 Emergency call system

The function of the emergency call system has to be checked.

- Press the **Call** button (8).
  - ✓ You can speak to the call device at the ground station while the **Talk** button (8) is pressed.

Fig. 11: Car emergency call system

- Press the **Call** button (8).
  - ✓ You can speak to the call device at the platform control while the **Talk** button (8) is pressed.

Fig. 12: Ground station emergency call system

3.5.3 Alarm signal

An alarm signal can be sent to the ground station from the car.

Testing the alarm signal

➢ Press the **Alarm** button.

✓ A signal tone has to sound at the ground station.

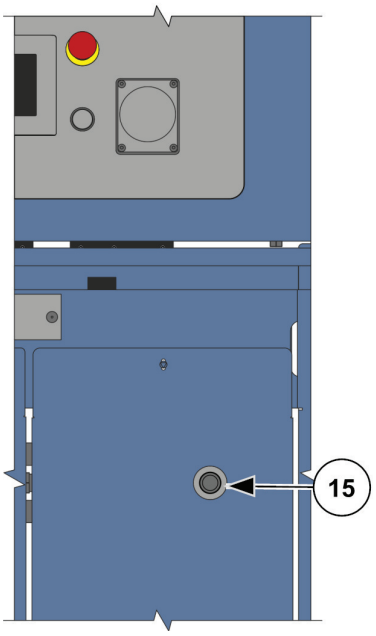


Fig. 13: Alarm button in the car

3.5.4 Operating hours counter

An operating hours counter is installed in the switch box of the car control to record the operating hours (motor operating time).

The switch box must be opened to read and check the counter.

Check:

➢ Move the car **UP** and **DOWN**.

➢ Compare the counter and the travel time.

Fig. 14: Operating hours counter

3.5.5 Temperature sensor (option)

Check:

➢ Adjust the trigger temperature on the setting screw until the temperature sensor (1) is triggered.

→ This setting has to correspond to the current ambient temperature [±2 °C / ±35 °F]

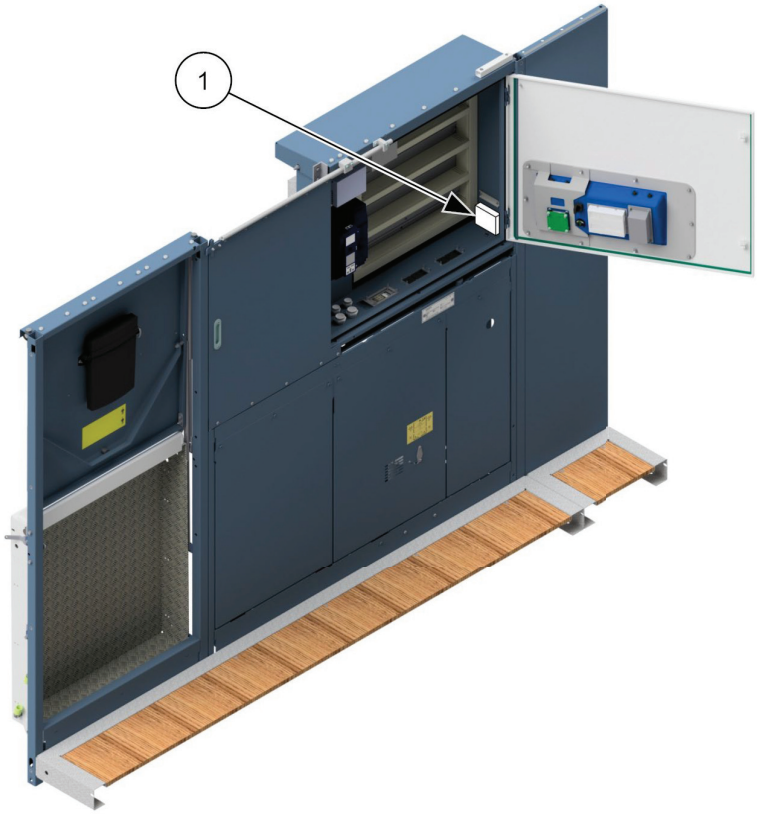


Fig. 15: Temperature sensor

The ambient temperature must be less than -10 °C (-14 °F), otherwise a cooling spray has to be used which is sprayed on the sensor coil.

Once the temperature sensor (1) has been triggered, only downward travel is be possible and upward travel is no longer possible!

After the check

➢ Set the temperature sensor (1) back to -20°C/-4°F.

3.5.6 Overload adjustment

The overload setting for the car must be checked!

➢ Load the car with test weights up to the specified load capacity, distributing the load evenly.

- Load capacity **car D** = 2200 kg [4850 lbs]
- Load capacity **car E** = 2000 kg [4410 lbs]

Checking the overload setting

Loaded with capacity	**Loaded with capacity up to max. +10 %**	**Loaded with capacity +10 %**
Information on the touch display **CODE 52**	Information on the touch display **CODE 53**	Information on the touch display **CODE 30**
Load limit nearly reached (travel possible from the car control)	Load limit reached (travel possible from the car control)	Overload reached (no travel possible)

3.5.7 Controls/sensors/limit switches

Operation of the controls is described in the chapter "Operation" in the operating manual.

3.5.7.1 Controls

Check the **EMERGENCY stop** button, buttons, switches, etc. for safe and proper condition.
(Replace any damaged switching elements or rubber caps/covers.)

Checking the EMERGENCY STOP button

- ➢ Press the **EMERGENCY STOP** button.
  - → The button has to lock.
  - ✓ Travelling with the car must not be possible.

EMERGENCY STOP buttons are located at the control points.

3.5.7.2 Sensors with distance measurement

Overrun protection on the top end of the mast

Check:

- ➢ Remove the limit switch bar for upper limit [**UP-END** and **EMERGENCY LIMIT** stop bar].
- ➢ Move upwards carefully until the sensor is above the gear rack.
  - ✓ As soon as the sensor has left the gear rack, the car has to stop immediately!

Downward travel has to be possible subsequently.

Check:

- → A yellow LED next to the cable entry point must light up during the upward travel.
- → Clearance to the gear rack approx. 3 – 5 mm [0.11 in – 0.2 in]

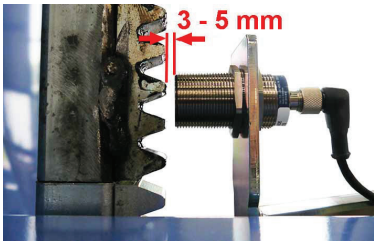


Fig. 16: Overrun protection

3.5.7.3 Checking the UP/DOWN and EMERGENCY LIMIT limit switches

UP limit switch (1)

- ➢ Move the car up.
  - → The car has to be stopped at the **UP-END** stop bar by the actuated **UP** limit switch.

DOWN limit switch (2)

- ➢ Move the car down.
  - → The car has to be stopped at the **DOWN-END** stop bar by the actuated **DOWN** limit switch.

EMERGENCY limit switch (3)

- ➢ Move the car up/down.
- ➢ For testing, actuate the roller level of the limit switch with a tool.
- ➢ Check the **EMERGENCY LIMIT** stop bars.
  - → The car has to be stopped at the **EMERGENCY LIMIT** stop bars by the actuated **EMERGENCY** limit switch before it hits the impact buffers on the foot section on the ground or moves above the top end of the mast.

Quick stop limit switch (4)

This limit switch switches the car from travel speed to crawling speed before the **UP** limit switch, **DOWN** limit switch and **EMERGENCY** limit switch.

- ➢ Move the car with the assembly control.
- ➢ Actuate the roller lever of the limit switch with a tool during upward and downward travel.
  - → The car has to switch to crawling speed.

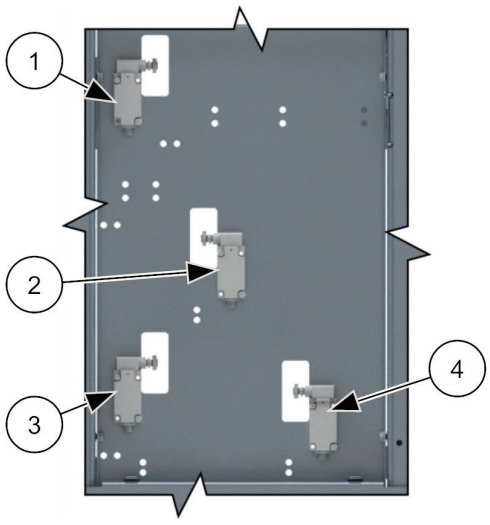


Fig. 17: Operating limit switch in the car

3.5.7.4 Assembly guard

Assembly flap

The assembly flap is located in front of the masts on the car roof.

How to open and close the assembly flap is described in the Assembly Manual.

Check:

➢ Open the assembly flap.

→ The solenoid switch is located in the **EMERGENCY STOP** safety circuit.

✓ The car must no longer start.

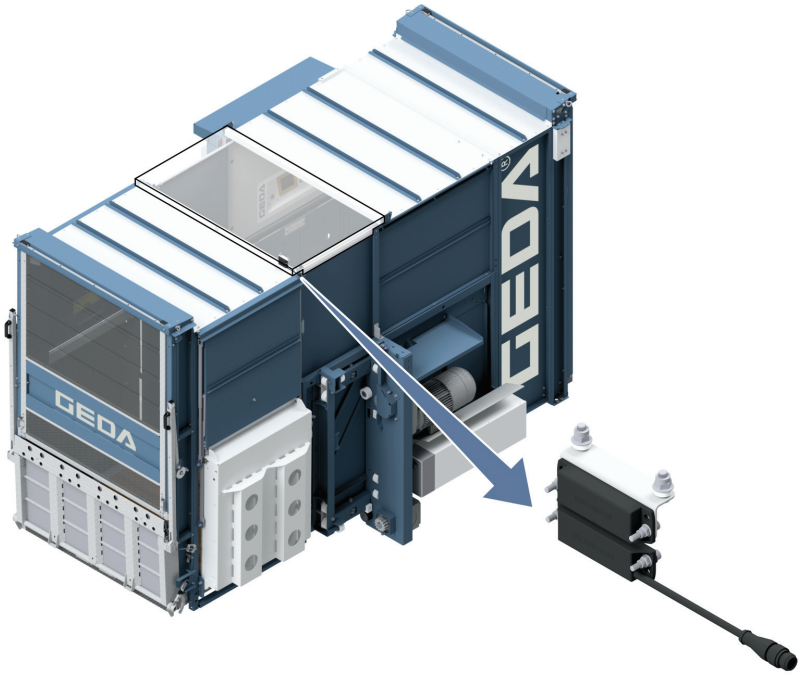


Fig. 18: Solenoid switch on the assembly flap

Assembly guard limit switch

The assembly guard can only be opened when the assembly flap is open.

For checking the limit switch, the assembly flap has to be closed when the assembly guard is open.

The assembly guard has to be checked in front of both masts.

Check:

➢ Open the assembly guard.

→ The limit switch is located in the **EMERGENCY STOP** safety circuit.

✓ The car must no longer start.

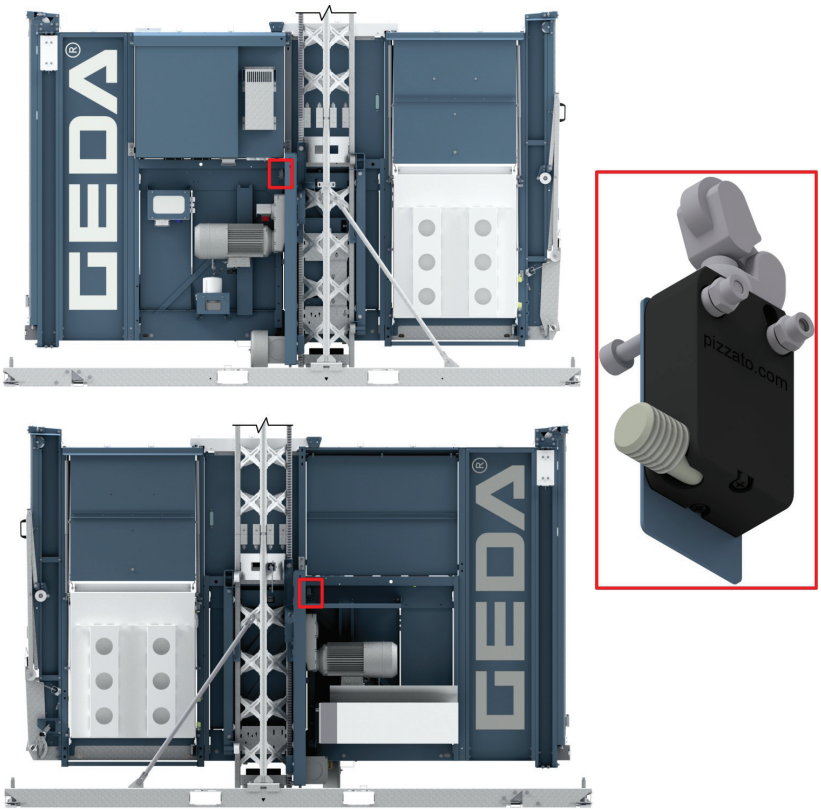


Fig. 19: Assembly guard limit switch

3.5.7.5 Assembly plank

Assembly plank limit switch

Check:

➢ Fold out the assembly plank.
→ The limit switch is located in the **EMERGENCY STOP** safety circuit.
✓ The car must no longer start.

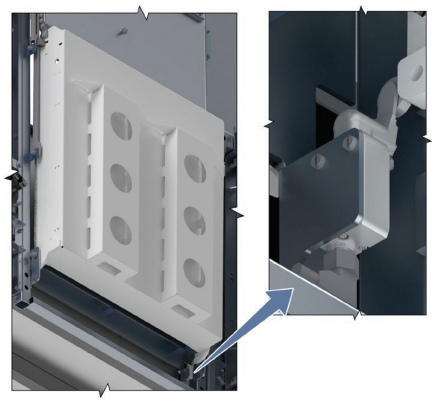


Fig. 20: Assembly plank limit switch

Emergency rescue limit switch

The assembly plank can be unlocked for emergency rescue.

Operation from the car:

➢ Place the triangular wrench on the safety lock (1D) and turn to the right (clockwise).
→ The limit switch is located in the **EMERGENCY STOP** safety circuit.
✓ The car must no longer start.

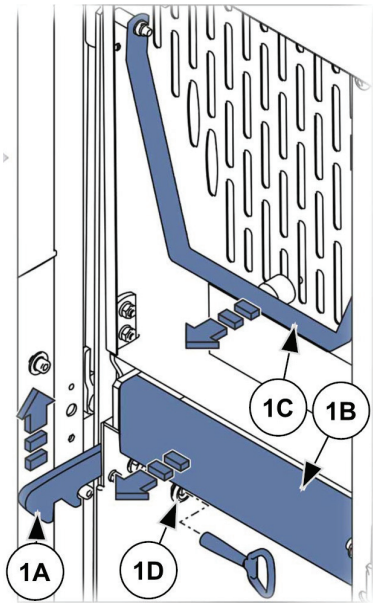


Fig. 21: Opening the emergency release from inside

Check from outside:

- ➢ Turn the safety lock (1D) downwards anticlockwise.
  - → The limit switch is located in the **EMERGENCY STOP** safety circuit.
  - ✓ The car must no longer start.

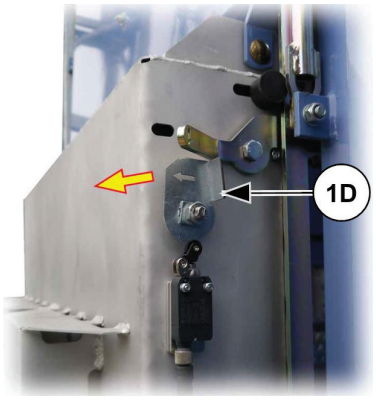


Fig. 22: Opening the emergency release from outside

3.5.7.6 Cable protection on trailing cable holder

If the trailing cable holder is pulled too hard, it will switch off the car.

Check:

- ➢ Pull the trailing cable sharply downwards.
  - → The limit switch is located in the **EMERGENCY STOP** safety circuit.
  - ✓ The car must no longer start.

Fig. 23: Limit switch, cable protection for trailing cable

3.5.7.7 Setting mechanism

For the visual check of the limit switch, the enclosure section in front of the left base mast has to be removed.

Check:

- ➢ For activating the setting mechanism see section 3.2
  - → The limit switch is located in the **EMERGENCY STOP** safety circuit.
  - ✓ The car must no longer start.

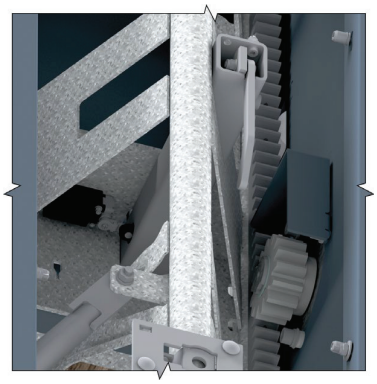


Fig. 24: Setting mechanism limit switch

3.5.8 Interlock cam

The interlock cam is mounted only on sliding car doors without ramp where a landing level double door is installed in front.

The interlock cam unlocks the landing level double door when the car stops at a stop position.

Check:

- ➢ The extended actuation bar of the interlock cam unlocks the landing level double door.
  - → The limit switch of the interlock cam is located in the **EMERGENCY STOP** safety circuit.
  - ✓ The car must no longer start.

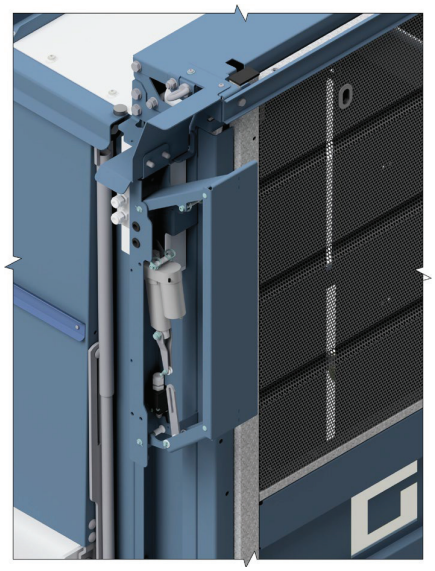


Fig. 25: Interlock cam

Maintenance:

- ➢ Keep all interlock cams free of dirt.
- ➢ Lightly lubricate the cylinder and links of the interlock cam.

3.5.9 Checking the car access points

Check:

- The car control is only activated when all car access points are closed and locked.
- A sliding car door can only be opened when the car is stopped at the ground station or at a stop position in front of the landing level safety gate.
- Open/close the sliding doors and check function and freedom of movement.

Opening/closing and emergency release of the sliding car doors is described in the Operating Manual.

Check:

Ramp of the sliding door (option)

- ➢ The ramp must close fully.
- ➢ Check the collapsible handrail for excessive play.
- ➢ Check the tension spring for wear.

Rope pulleys

- ➢ Check the bearing play of the cable pulleys (1+4).
- ➢ Check the rope pulleys (1+4) (visual check).

Counterweights

- ➢ Check the counterweights (2) for ease of movement.
- ➢ Check the limit switch (3).

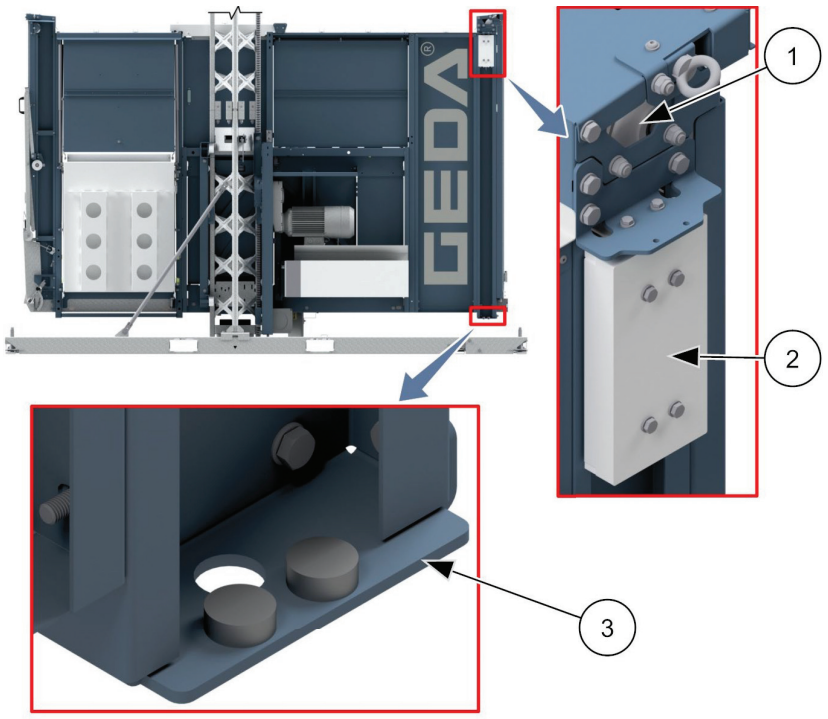


Fig. 26: Sliding door without ramp

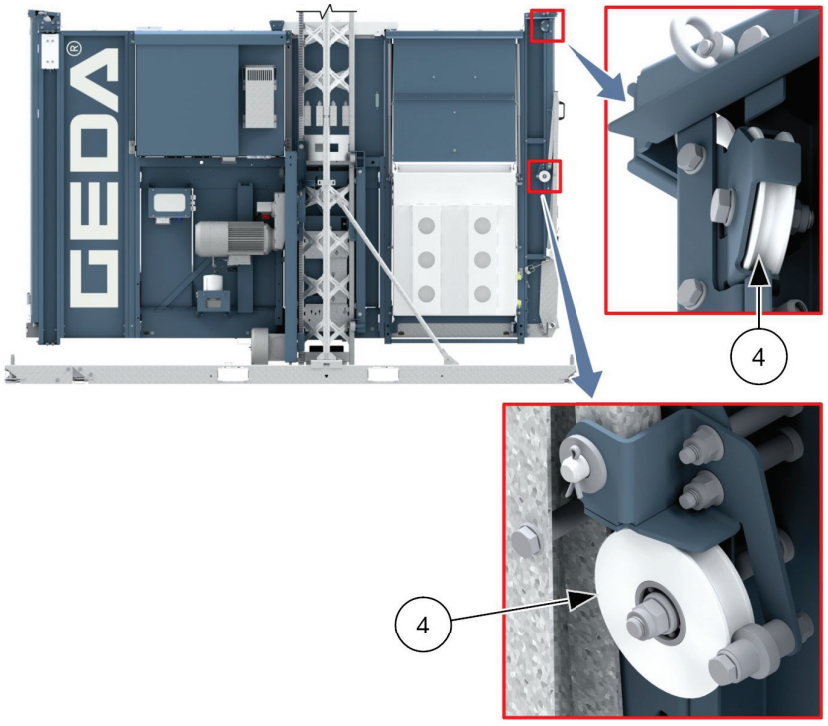


Fig. 27: Sliding door with ramp

Wire rope

➢ Check the wire ropes for damage.

⚠ WARNING

Risk of injury when handling ropes/cables

➢ Always wear protective gloves when handling ropes.

When evaluating the damage (state of wear), the criteria listed in standard DIN ISO 4309 can be used as an aid.

Furthermore, the reason for the damage must be determined and any necessary corrective measures taken.

In extreme cases, a competent person can be called upon to inspect the wire ropes.

3.5.10 Inspecting the safety gear

⚠ DANGER

Risk of death from inexpert maintenance

- ➢ The drop test should always be carried out by a qualified person specifically appointed by the operating company who, on account of their training, knowledge and practical experience, is capable of evaluating the risks and assessing the safe condition of the safety gear.
- ➢ The drop test should always be carried out from the ground.
- ➢ After each drop test/after actuating the safety gear, check the gear rack in this area and the pinion of the safety gear for wear/damage and reset the safety gear.

ATTENTION

Control bypasses safety device

- ➢ The drop test control bypasses
  - the limit switch of the safety gear
  - the load monitoring
  - the **EMERGENCY** limit switch

The drop test can only be carried out when the emergency route is enabled, that means:

- all doors (car, landing doors) are closed,
- no STOP button is pressed,
- the car has moved neither too low nor too high.

The drop test is permitted only

- When there are no persons in or below the car.
- When there are no objects in the travel path.
- Initiation is carried out at a safe distance.

Carrying out the drop test

How to remove the cladding panel and insert the drop test control is described in the Operating Manual in chapter "Control for special operation".

The main switch on the ground station switch box must be switched on (Position "**1**" [ON]).

- From outside the hazard area, press the **UP** button (3).
- Move the car to a height of approx. 6 m.
- Press and hold the two **brake release** buttons (2) simultaneously.
  - → The brake opens, the car drops down.
  - ✓ The safety gear has to stop the car after approx. 2 – 3 m.

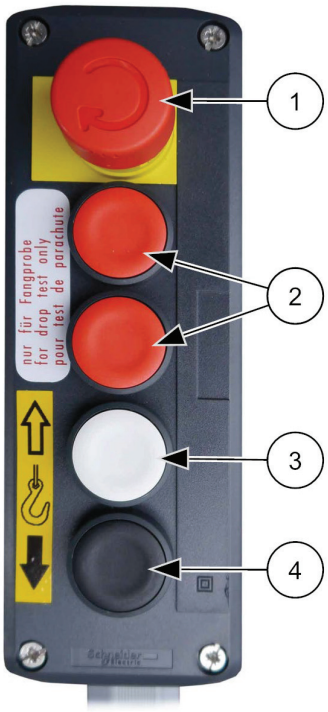


Fig. 28: Drop test control

If the car does not stop:

- Release the **brake release** (2) immediately.

Drop test was successful

- ➢ Press the **UP** button (3) and ascend for at least 3 seconds.
  → Car moves out of the catch position.
- ➢ Press the **DOWN** button (4) and move the car to the ground station.
- ➢ Disconnect the drop test control unit.
- ➢ Plug in the dummy plug (7).

Check the safety gear for damage and reset (see chapter 3.5.11).

Drop test not unsuccessful

⚠ DANGER	
	**Risk of death** Operation of the machine is prohibited until the safety gear has been replaced! ➢ Immediately replace the safety gear.

- ➢ Press the **DOWN** button (4) and move the car to the bottom stop position.
- ➢ Disconnect the drop test control.
- ➢ Connect the dummy plug at the plug-in connection.
- ➢ Switch off the machine at the main switch and secure it against reactivation.
- ➢ Inform the owner, clarify what further action needs to be taken.

3.5.11 Check the safety gear for damage and reset it

⚠ WARNING

Risk of injury

- ➢ Check safety gear for damage.
- ➢ After each drop test, the safety gear must be checked for signs of damage.
- ➢ If any damage is identified on the safety gear, it must be immediately replaced.
- ➢ Operation of the hoist is prohibited until then.

⚠ DANGER

Life hazard from incorrect repair of safety components

- ➢ Repairs to the safety gear should only be carried out by the manufacturer.

- ➢ Switch off the main switch (**OFF** position) and secure it against reactivation.
- ➢ Remove the enclosure section for the safety gear.

Remove the protective cover

- ➢ Release and remove the lock nut (1A).
- ➢ Remove the protective cover (1).

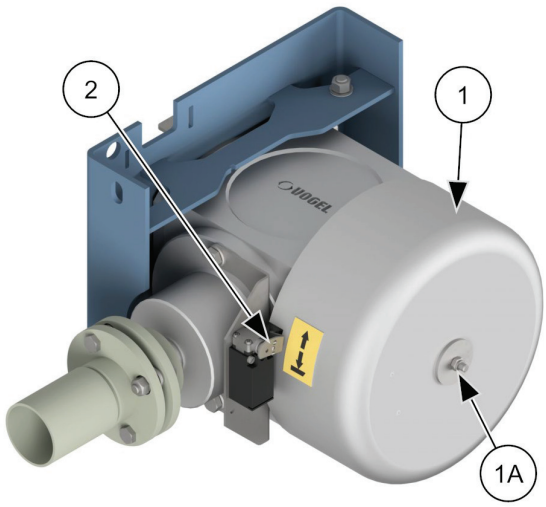


Fig. 29: Opening the safety gear

Check:

- Check the flyweights for ease of movement.
- Condition of the welded seams.
- Condition of the springs.
- Corrosion/deformation.
- Check the brake pad (1B) for cracks and breaks.

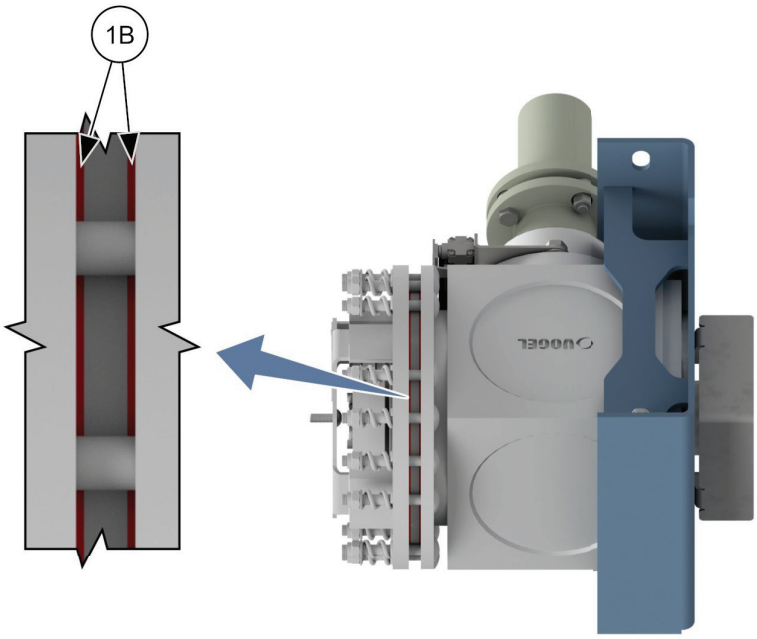


Fig. 30: Checking the safety gear

Installing the protective cover

- Install the protective cover (1) so that the switch tag on the limit switch (2) faces into the slot on the protective cover.
- Attach the protective cover (1) with the lock nut (1A).

Resetting the safety gear without removing the protective cover

- Release the lock nut (1A).
- Turn the protective cover (1) counter-clockwise so that the switch tag on the limit switch (2) engages in the slot on the protective cover (1).
- Fully tighten the locking screw (1A).

3.5.12 Safety gear replacement

GEDA safety gear must be replaced with new **GEDA** safety gear in accordance with the defined time intervals (safety gear exchange units).

The time intervals, commissioning report, labelling, identification, replacement versions and installation of the safety gear are described in the supplied Assembly and Operating Manual for the safety gear.

3.5.13 Check emergency lowering (release motor brakes)

The correct function of the EMERGENCY lowering device (releasing the motor brakes) has to be checked.

How to check the EMERGENCY lowering device is described in the Operating Manual.

Release the motor brake only briefly to check smooth movement of the car.

⚠ CAUTION

The car will fall freely (until the safety gear is activated) when the motor brake is fully opened. Only persons authorised by the owner are permitted to check the **EMERGENCY** lowering device.

ATTENTION

Descending too quickly will trigger the safety gear

This disables the car which will then initially need to be raised.

➢ Only lower the car very slowly!

3.6 Checking for wear

⚠ WARNING

Risk of injury from components failing

- ➢ Parts must be replaced immediately if the specified wear limits are exceeded.
- ➢ Hoist operation is prohibited until the parts have been replaced. All parts also have to be inspected for damage (deformation, cracks, cavities, etc.).

3.6.1 Mast sections/gear racks

Mast section

- ➢ Visually check the mast sections for kinks, shrinkage, faulty welding seams.
- ➢ Check the running surfaces on the mast for signs of cracks and damage.
- ➢ Visually inspect the connecting bolts for damage. The nuts must be installed and easy to turn.

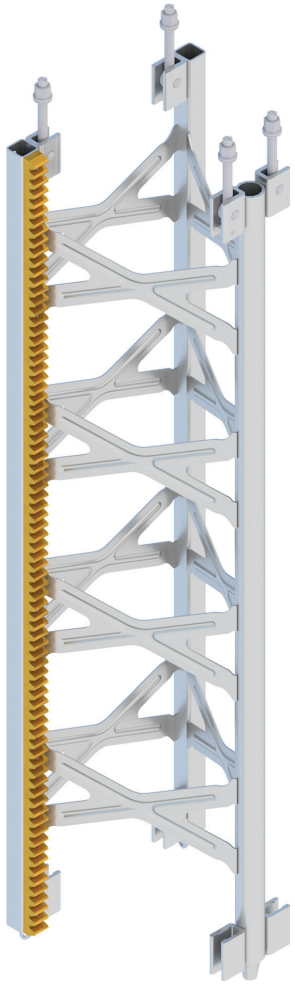


Fig. 31: Mast section

⚠ DANGER

Risk of death when using defective mast sections

➢ Defective mast sections must be replaced immediately. Operation is not permitted until the defective section has been replaced.

Gear rack

Calculating wear

Wear is calculated using a calibrated vernier calliper at the upper and lower end of the rack at 3 teeth respectively with the corresponding measuring pin. When checking the rack for wear, always carry out a visual inspection for cavities, flaking, groove formation/scoring and deformations.

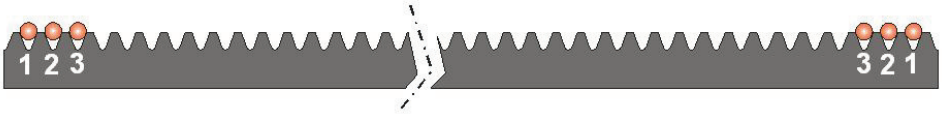


Fig. 32: Wear limit rack

Change to the contour through pronounced wear gives smooth operation, increased vibration.

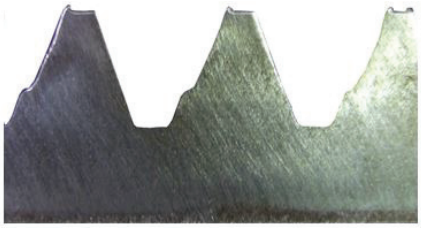


Fig. 33: Change to the contour due to wear

Material abrasion due to wear can lead to possible component failure due to tooth breakage.

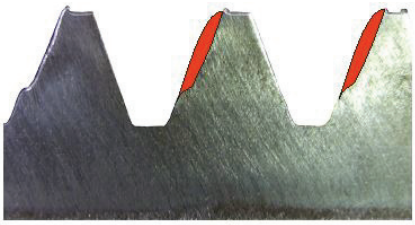
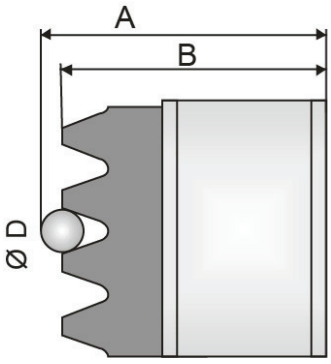


Fig. 34: Material abrasion due to wear

Rack and pinion module m:	6 mm	 *Fig. 35: Drive pinion*
Wear limit		
Dimension A new	69.6 mm [2.74"]	
Dimension A min.	68.5mm [2.67"]	
Auxiliary dimension (B):	65.2 mm [2.58"]	

Gauging pin: (D) = 0.47" (12 mm)
(+0.0/-0.11 mm [0.0043"])

- Check that all gear racks are securely fitted. If necessary, tighten gear racks with 70 Nm [52 lbf ft] (Allen key/width across flats WAF 8 mm).

3.6.2 Gearwheels

Calculating wear

Only use a calibrated vernier calliper to measure at three different locations within the visible wear area (1)

(area of the gear wheel in contact with the gear rack).

Fig. 36: Determining wear 1

When measuring wear, always consider

- Burr formation
- Cracks/deformation
- Asymmetric wear (2)

IMPORTANT

- Always measure from the point of the least pitch diameter in the event of asymmetric wear.
- In the event of ridge formation, remove these from the measurement
- Remove lubricants or dirt from the measurement area.

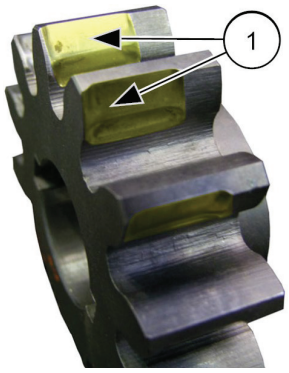


Fig. 37: Determining wear 2

Fig. 38: Determining wear 3

Replacing the gearwheels

An experienced fitter in the assembly/dismantling of gears/shafts should replace the gearwheels. The new gearwheel can be heated up to approx. 150 °C during assembly. The feather key and circlip must also be replaced every time a gearwheel is replaced.

Drive pinion/safety gear pinion

Item no.:	1038323
Outer diameter:	138.42 mm [5.45"]
Number of teeth:	21
Module m:	6 mm
Wear limit	
Dimension X new	30.0 mm [1.18"]
Dimension X min.	29.0 mm [1.14"]

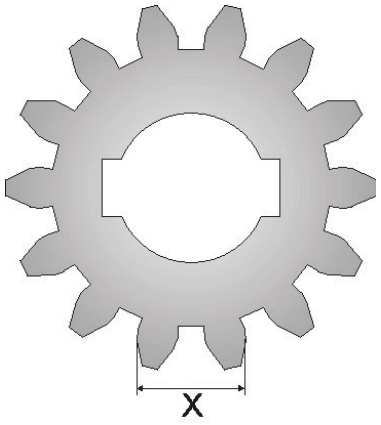


Fig. 39: Drive pinion

Measure the dimension X across two teeth (at a minimum of three different positions), in the area in which wear is visible.

3.6.3 Track rollers

Calculating wear

Wear is calculated using a calibrated vernier calliper. Also check for scoring, cavity formation and flaking.

Check play and condition of the bearing.

A circlip must be installed.

The roller must be replaced once it reaches/exceeds the wear dimensions.

Track roller (white)

Item no.:	13060/1041491
Wear limit	
Ø new	78$_{-0.30}$ mm [3.07" $_{-0.012}$"]
Ø min.	77 mm [3.03"]

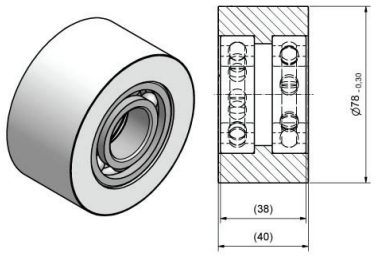


Fig. 40: Track roller 13060

Track roller with bezel (white)

Item no.:	18013
Wear limit	
Ø new	78$_{-0.30}$ mm [3.07" $_{-0.012}$"]
Ø min.	77mm [3.03"]

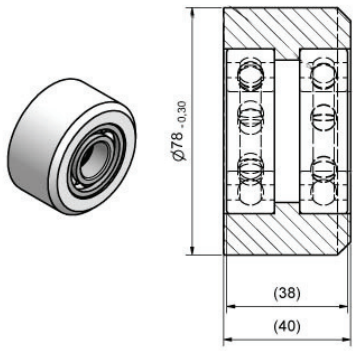


Fig. 41: Track roller 18013

Track roller (black)

Item no.:	19983
Wear limit	
Ø new	77$_{-0.30}$ mm [3.03" $_{-0.012}$"]
Ø min.	76mm [2.99"]

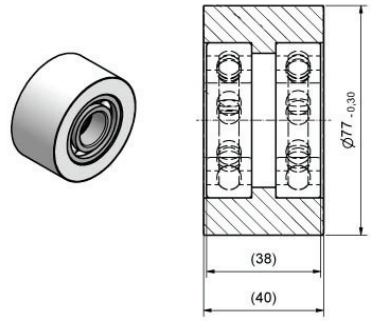


Fig. 42: Track roller 19983

Replacing the track rollers

⚠ DANGER

Lethal hazard from falling tools/objects

➢ Secure tools/parts from falling during maintenance/assembly.

Roller installed on bolts

➢ Remove the circlip (2) and pull off the track roller (1).

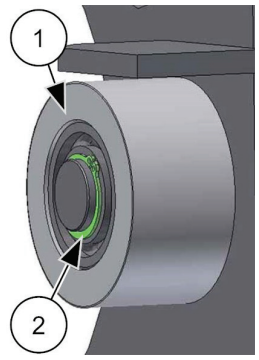


Fig. 43: Track roller on bolt

To replace or adjust the upper counter track rollers, these have to be relieved of the pressure exerted by the car.

Roller installed with an eccentric shaft

- Remove the bolt (3).
- Push the eccentric shaft (4) into the bore on the trolley, tilt outwards and remove.
- Remove the circlip (2) and the track roller (1) from the eccentric shaft (4).

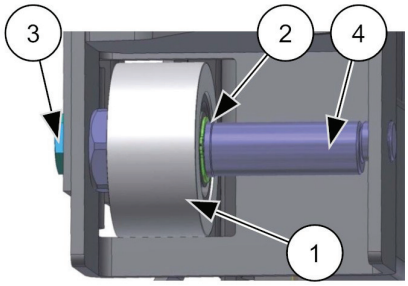


Fig. 44: Track roller with eccentric shaft

Tightening torque = 210 Nm [155 lbs ft]

Double roller, installed

Remove the rollers from the mount.

- Release the nut (6) and remove the bolt (7).
- Remove the roller (1) from the mount (5).

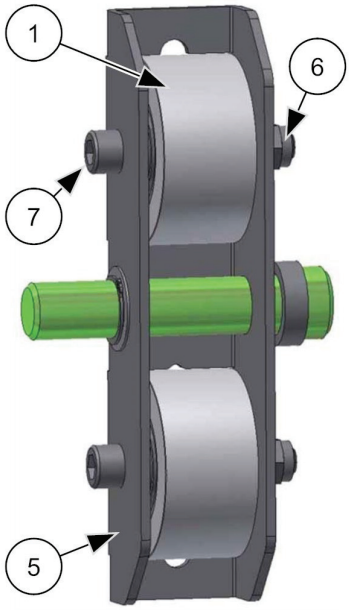


Fig. 45: Double roller

To replace the lower double rollers, these must be relieved of the pressure exerted by the car.

Relieving the pressure on the track rollers

To replace certain track rollers, these must be relieved of the pressure exerted by the car.

For this, e.g. wedges can be driven between the trolley and the mast.

It is also possible to slightly raise the car and support it.

➢ Then release the motor brake (see chapter "Self-rescue using the emergency descent function" in the Operating Manual).

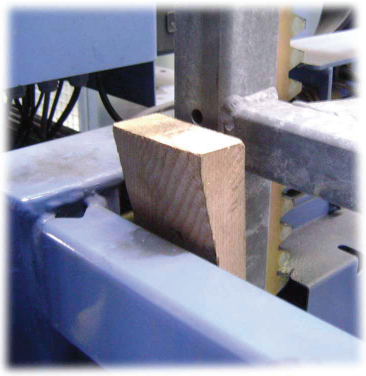


Fig. 46: Relieving the track rollers

Assembly of the rollers is carried out in the reverse sequence.

Adjusting the track rollers

ATTENTION

Increased wear

Incorrect adjustment of the rollers can result in increased wear.

The side guide rollers are arranged so that the rollers are adjusted central to the vertical square tubes of the mast.

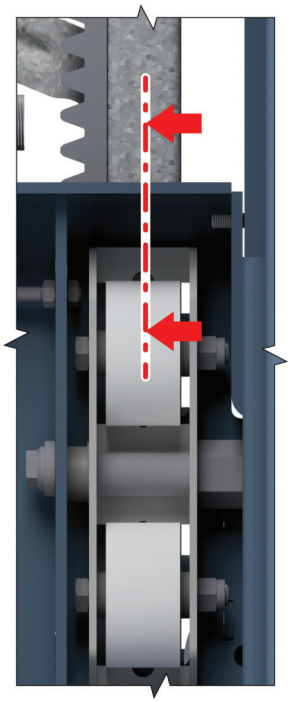


Fig. 47: Adjusting the guide rollers

Adjustment to the mast is carried out using the hexagon of the eccentric shaft.

The rollers with eccentric shaft are adjusted so that these touch the mast, but are easy to rotate by hand.

Sample image of individual roller with eccentric shaft

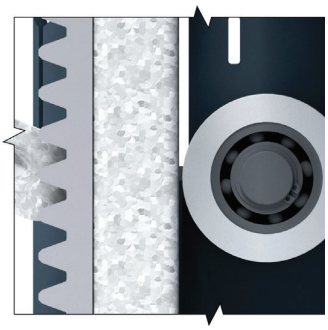


Fig. 48: Adjusting the rollers with eccentric shaft

Checking after a test run

The adjustments to all the rollers described above must be checked with a test run and repeated as necessary. Furthermore, it has to be checked whether the rollers are parallel to the mast tube after the test run. If they are not, the rollers must be realigned.

3.6.4 Motor/motor brake

Carry out the following maintenance tasks in accordance with the manufacturer's instructions.

Motor:

- Cleaning
- If oil escapes, change the shaft seal if necessary.
- Clean the cooling air passages

Function check of the brake:

- ➢ Load the car centrally with 115 % of the permissible load capacity.
- ➢ Move up approx. 4 m [13 ft], then move down.
- ➢ Stop the car at high speed (**EMERGENCY STOP** button).
  - ✓ The car must stop safely.

Check the braking distance:

- Stop the car loaded with the rated load (refer to load capacity) in the down direction (e.g. DOWN limit switch).
  → Overrun of the motor brake must not exceed 40 mm. (Travel on the DOWN stop bar [2])
  The emergency limit switch (stop bar [1]) must not be activated.

Operation with cable bin Entry height 450 mm	Operation with cable trolley Entry height 750 mm	Operation USA Entry height 1200 mm [47.24 in]

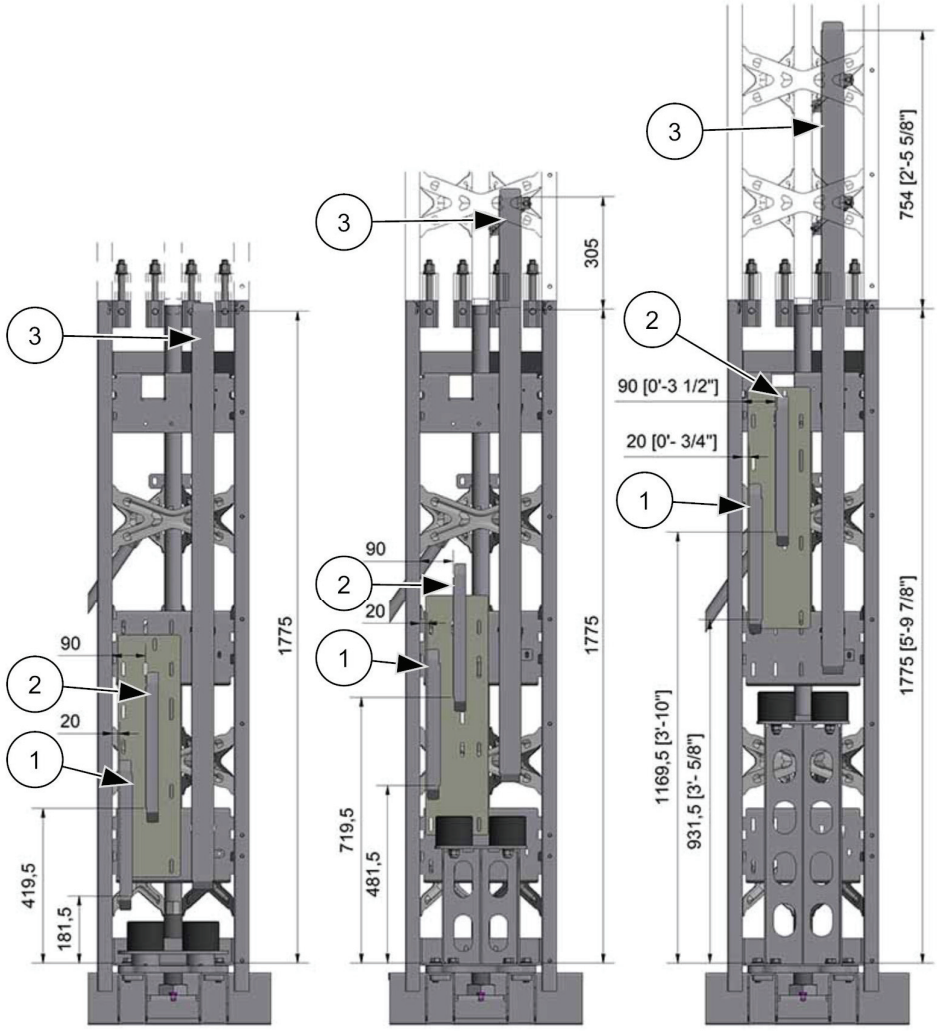


Fig. 49: Base mast stop bars

1 **EMERGENCY LIMIT** stop bar

2 **DOWN-END** stop bar

3 Crawling speed limit switch bar

⚠ WARNING

Motor brake check not successful

- If the braking force decreases or the braking distance increases, the thickness of the brake disc or the working air gap has to be measured and adjusted if necessary.
- If the brake discs are glazed or if the thickness of the brake disc falls below the minimum, it must be replaced immediately.

Adjusting the motor brake

[Excerpt from the manufacturer's documentation]

The working air gap "S_A" is measured in the braking position of the anchor plate (3) and the magnetic body (2). It increases due to wear. If the wear of the brake pad has advanced to the point where the maximum possible air gap "$S_{A\ max}$ is attained, the brake must be adjusted because safe brake release can no longer be ensured. The same applies if an existing lifting limit is effective. This is indicated by reducing brake power or an increased stopping distance.

Information about the motor brake ZFB 152

Working air gap (S_A)	Max. air gap ($S_{A\ max}$)	Minimum thickness of brake disc (S_{min})
0.4 mm [0.015 in]	1.1 mm [0.043 in]	14.5 mm [0.57 in]

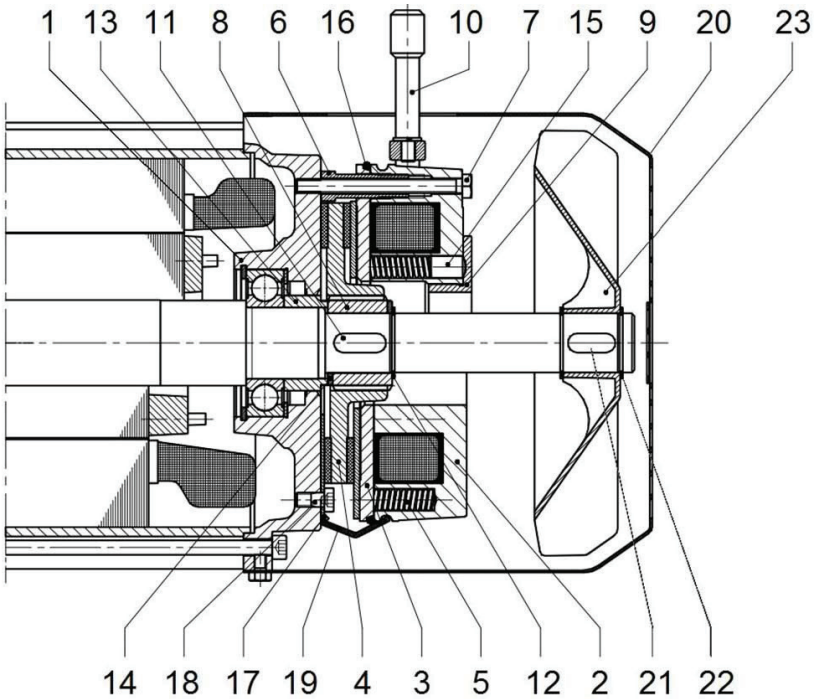


Fig. 50: Adjusting the motor brake

1 Brake bearing plate
2 Magnetic body
3 Anchor plate
4 Brake rotor with brake pads
5 Pressure spring
6 Banjo bolt
7 Fixing screw/brake
8 Brake hub
9 Adjusting ring
10 Manual release (lever and bar)
11 Feather
12 Circlip
13 Spacer sleeve
14 Shims/support washers
15 Thrust washers
16 O-ring
17 Friction disc
18 Fixing screw/friction disc
19 Dust protection ring
20 Fan cover
21 Feather
22 Circlip
23 Fan

Carry out the adjustment as follows:

- Disconnect the drive from the power supply and secure it against reactivation.
- Remove the bolt on the manual release (10).
- After releasing the fixing screws, lift off the fan cover (20).
- Pull the dust protection ring (19) out of the slot in the magnetic body (2) and place it over the bearing plate.
- Remove the wear dust using compressed air.
- Check the minimum thickness of the brake disc "S_{min}".

If the thickness is less than the specified minimum, the brake disc must be replaced.

- Release the fixing screws (7) by half a turn.
- Turn the banjo bolts (6) approx.1 mm into the magnetic body (2).
- Tighten the fixing screws (7) until the working air gap "S_A" between the anchor plate and the magnetic body can be measured using feeler gauges.
- Screw the banjo bolt (6) out of the magnetic body (2) until firm contact on the bearing plate or friction disc (17) is achieved.
- Tighten the fixing screws (7) evenly.
- Use the feeler gauge to check the size and uniformity of the working air gap "S_A". The working air gap must be the same size at every point, therefore it must be checked at several points.
- Correct the air gap setting if necessary.
- Tighten the fixing screws (7) with a torque wrench. (Tightening torque = 25 Nm [18.4 lbs ft])
- Install the O-ring (16) in the slot between the anchor plate (3) and the magnetic body (2).
- Attach the connecting cable on the flat connector.
- Screw the fan cover (20) on the bearing plate.
- Screw in the bolt on the manual release (10).
- Connect the drive.
- Check the function of the brake, i.e. the brake must have vented when the nominal voltage is applied to the brake.

Max. run-in of 0.25mm for the banjo bolts permitted on each side. Enlarging the holes in the anchor discs for the banjo bolts by a max. 0.5mm is permitted! If these permitted values are exceeded, the parts must be replaced!

3.6.5 Checking the support elements

Check the following for corrosion, cracks and damage:

- Load-bearing elements below the car
- Trolley
- Car frame
- Side panels
- Car doors and ramps

4 Summary of instruction signs

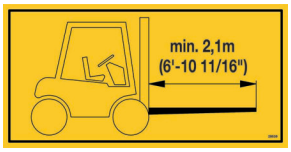


Fig. 51: Item no.: 28659 (foot section)

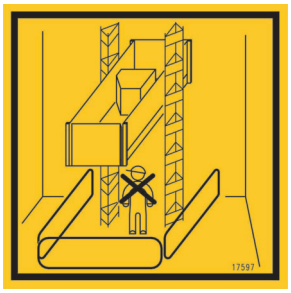


Fig. 52: Item no.: 17597 (base mast)

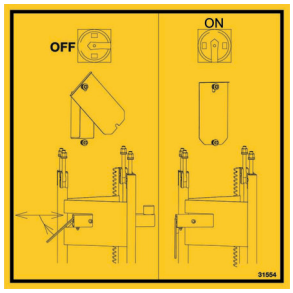


Fig. 53: Item no.: 31554 (base enclosure)

Fig. 54: Item no.: 1156195 (ground station switch box)

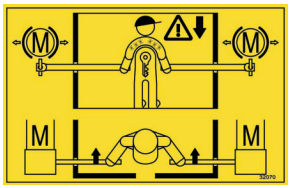


Fig. 55: Item no.: 32070 (car)

Fig. 56: Item no.: 05242 (switch boxes)

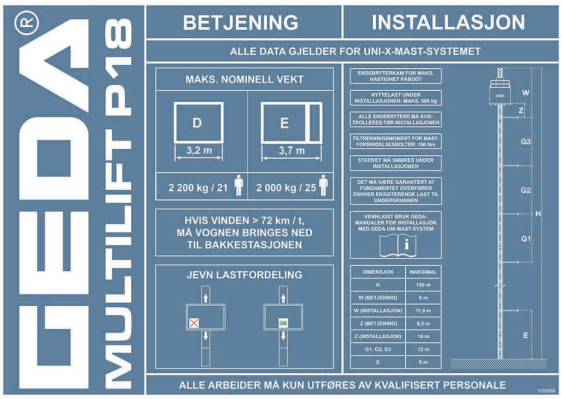


Fig. 57: (car)
Item no.: 1172273 [DE]
Item no.: 1136123 [GB]
Item no.: 1155956 [NO]
Item no.: 1179129 [FI]

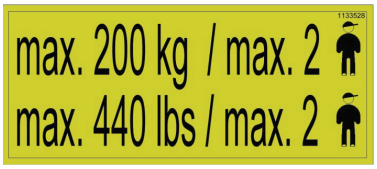


Fig. 58: Item no.: 1133528 (assembly plank)

5 Documenting the checks

Documentation for
☐ regular checks in accordance with the maintenance schedule
☐ recurring check in accordance with national rules
☐ unplanned check after specific events

Name: Year of construction:	Serial number:

The hoist was checked on_____ .

As a result
☐ none of
☐ the following
defects determined:

Scope of inspection:

Outstanding part checks:

Continued operation is:	Follow-up inspection is
☐ forbidden	☐ required
☐ permitted	☐ not required

Place, date:

Signature (Specialist/competent person*)

*Name of competent person

Stamp

Address Operating company:

Operating company Defects acknowledged:	
Defects rectified:	

Documentation for
☐ regular checks in accordance with the maintenance schedule
☐ recurring check in accordance with national rules
☐ unplanned check after specific events

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☐ the following

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Outstanding part checks:

Continued operation is: ☐ forbidden ☐ permitted	Follow-up inspection is ☐ required ☐ not required

Place, date:

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Address Operating company:

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Defects rectified:	

Documentation for
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☐ recurring check in accordance with national rules
☐ unplanned check after specific events

Name: Year of construction:	Serial number:

The hoist was checked on_____ .

As a result
☐ none of
☐ the following
defects determined:

Scope of inspection:

Outstanding part checks:

Continued operation is:	Follow-up inspection is
☐ forbidden	☐ required
☐ permitted	☐ not required

Place, date:

Signature (Specialist/competent person*)

*Name of competent person

Stamp

Address Operating company:

Operating company Defects acknowledged:	
Defects rectified:	

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WH022 GB 2019-11