

# OPERATING INSTRUCTIONS

**DINO TL/TLB  
105 • 120**

**Manufacturer:**

Dinolift Oy  
Raikkolantie 145 | FI-32210 LOIMAA  
Tel. + 358 20 1772 400 | [info@dinolift.com](mailto:info@dinolift.com) | [www.dinolift.com](http://www.dinolift.com)

---

---

**TRANSLATION OF THE ORIGINAL INSTRUCTIONS**

**Valid from serial number**

**120TL            55001 ->**  
**120TLB         75001 ->**

## CONTENTS

<b>1.</b>	<b>TO THE OPERATOR .....</b>	<b>7</b>
1.1.	OVERVIEW OF THE UNIT.....	8
1.2.	INTENDED USE OF THE WORK PLATFORM.....	8
<b>2.</b>	<b>TECHNICAL SPECIFICATIONS.....</b>	<b>9</b>
2.1.	DIMENSION DRAWING.....	10
2.1.1.	120TL/TLB.....	10
2.2.	REACH DIAGRAM.....	11
2.2.1.	120TL/TLB.....	11
2.3.	EXAMPLE OF THE MACHINE'S NAMEPLATE .....	12
2.4.	EXAMPLE OF EU DECLARATION OF CONFORMITY.....	13
2.5.	SAMPLE OF INSPECTION PROTOCOL FOR THE ACCESS PLATFORM	14
<b>3.</b>	<b>SAFETY .....</b>	<b>16</b>
3.1.	SAFETY INSTRUCTIONS .....	16
3.2.	SAFETY-RELATED NOTIFICATIONS.....	20
3.3.	SAFETY DEVICES .....	22
<b>4.</b>	<b>STRUCTURE AND FUNCTIONS OF THE LIFT.....</b>	<b>25</b>
4.1.	STRUCTURE OF THE ACCESS PLATFORM.....	25
4.1.1.	105TL.....	25
4.1.2.	120TL - 120TLB.....	26
4.2.	FUNCTIONS OF THE WORK PLATFORM.....	27
4.3.	OPERATING CONTROLS FOR THE FUNCTIONS.....	28
4.3.1.	Operating controls in the lower control centre .....	28
4.3.2.	Operating controls for the outriggers .....	29
4.3.3.	Operating controls for driving.....	29
4.3.4.	Operating controls in the platform control centre.....	30
<b>5.</b>	<b>USING THE LIFT .....</b>	<b>31</b>
5.1.	STARTING UP.....	31
5.1.1.	Worksite inspection.....	31
5.1.2.	Positioning the lift.....	32
5.2.	OPERATION.....	33
5.2.1.	Starting up .....	33
5.2.2.	Charging (TLB).....	33
5.2.3.	Supporting the lift.....	34
5.2.4.	Operating the lift from the lower control centre.....	35
5.2.5.	Operating the lift from the platform control centre .....	36
5.2.6.	Special instructions for winter use .....	38
5.2.7.	Ending the work.....	38



---

5.3.	TRANSFERRING THE LIFT .....	39
5.3.1.	Preparing the lift for transport .....	39
5.3.2.	Using the driving device.....	40
5.3.3.	Towing the lift .....	42
5.3.4.	Tying down.....	43
5.3.5.	Lifting the device .....	43
5.4.	LONG-TERM STORAGE.....	44
<b>6.</b>	<b>IN CASE OF EMERGENCY .....</b>	<b>45</b>
6.1.	WHEN AT RISK OF LOSING STABILITY .....	45
6.2.	IN CASE THE OPERATOR IS INCAPACITATED ON THE PLATFORM ....	45
6.3.	IN CASE THE POWER SUPPLY IS INTERRUPTED .....	45
6.4.	IN CASE OF MALFUNCTION, WHEN EVEN THE EMERGENCY DESCENT SYSTEM IS NOT OPERATIONAL .....	46
<b>7.</b>	<b>INSTRUCTIONS FOR FAULT-FINDING .....</b>	<b>47</b>
<b>8.</b>	<b>MAINTENANCE SCHEDULE .....</b>	<b>49</b>
8.1.	SCHEDULE FOR INSPECTIONS REQUIRED BY THE AUTHORITIES ....	53
8.2.	LUBRICATION PLAN .....	54
<b>9.</b>	<b>ROUTINE MAINTENANCE DURING OPERATION .....</b>	<b>55</b>
9.1.	INSTRUCTIONS FOR DAILY MAINTENANCE AND INSPECTIONS .....	56
9.1.1.	Check the condition of chassis, the boom and the work platform.....	56
9.1.2.	Check the tyres and tyre pressure.....	56
9.1.3.	Check the lights .....	56
9.1.4.	Check the hydraulic oil level .....	56
9.1.5.	Check the hydraulic hoses, pipes and connectors .....	56
9.1.6.	Check the operation of the safety limit switches.....	57
9.1.7.	Check the operation of the emergency descent, the emergency stop and the sound signal.....	57
9.1.8.	Decals, plates and instructions .....	57
<b>10.</b>	<b>CHANGE OF OWNER .....</b>	<b>60</b>



**BLANK**



## 1. TO THE OPERATOR

Keep this manual on the work platform of the lift in the box reserved for it. If the instruction manual gets lost, damaged, or for some other reason becomes unreadable, order a new manual from the manufacturer.

This manual is intended to familiarise the user with the structure and functions of the work platform, as well as with its appropriate use. The manual provides guidance on the service measures that are the responsibility of the user of the work platform.

Other maintenance procedures on the work platform require special skills, special tools or accurate knowledge about measurements or adjusted values. Guidance for these measures is provided in a separate service manual. For situations that require service or repair measures, contact the authorised service provider, importer or manufacturer.



### **DANGER**

Read all the instructions in this manual before using the aerial work platform. Make sure that you have understood all the instructions. The instructions must absolutely be followed during operation and maintenance of the aerial work platform.

When handling the unit, in addition to the instructions in this manual, the user must also observe the local legislation, the guidelines stipulated by the employer, and regulations valid at the work site.

### **NOTICE**

Information that only applies to a specific model version, feature or equipment, will have the identification included in the title. Check the applicability of such information to your machine.

Dinolift Oy is constantly developing its products. For this reason, the contents of this manual might not always be in full compliance with the most recent version of the product. Dinolift Oy reserves the right to modify the product without prior notice. Dinolift Oy assumes no liability for any problems caused by changed or missing data or mistakes in this manual.

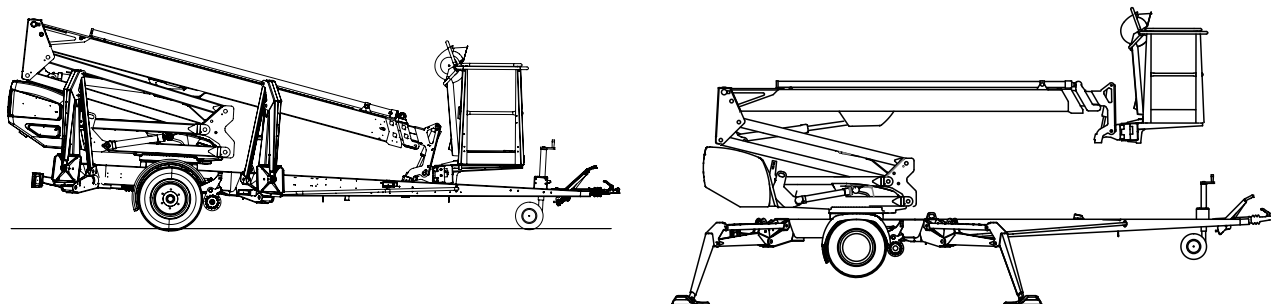
Please consult your dealer or the manufacturer for more information and detailed instructions.

## 1.1. OVERVIEW OF THE UNIT

This unit is a trailer mounted, towable aerial work platform.

This aerial work platform complies with the standard EN280 type 1. Moving the lift by means of the driving device or by towing is possible only when the lift is in the transport position.

For the operation, the tyres of the lift shall be raised off the ground by means of the hydraulic outriggers.



The primary power source of the lift is the electric motor. The outriggers and the boom system are hydraulically powered.

As an option, the lift can be equipped with a hydraulic driving device.

Consult the chapters “Technical data” and “Structure and functions of the work platform” in this manual for more detailed information about the lift.

## 1.2. INTENDED USE OF THE WORK PLATFORM

The aerial work platform is exclusively intended for lifting people and tools to the work position to carry out work from the work platform. It can be used as a work platform within its permissible load-bearing capacity and reach (refer to the “Technical Specifications” table and the “Reach Diagram”) under normal operating conditions. Access to and from the work platform shall only take place in the travel position at ground level.

The intended use also covers:

- Following all the instructions in the Operating Instructions
- Performance of the inspections and maintenance operations.
- Observation of the occupational safety regulations and road traffic regulations.

This aerial work platform is NOT insulated, and does not offer protection against contact with electric current. The aerial work platform must not be used for work on electric systems.

Observe the safety instructions concerning the operating environment, and the restrictions given in them.

### **NOTICE**

**The operator must receive instructions and consent from the manufacturer for all such specific work methods or conditions that the manufacturer has not explicitly defined in the unit's operation and maintenance instructions.**

## 2. TECHNICAL SPECIFICATIONS

### NOTICE

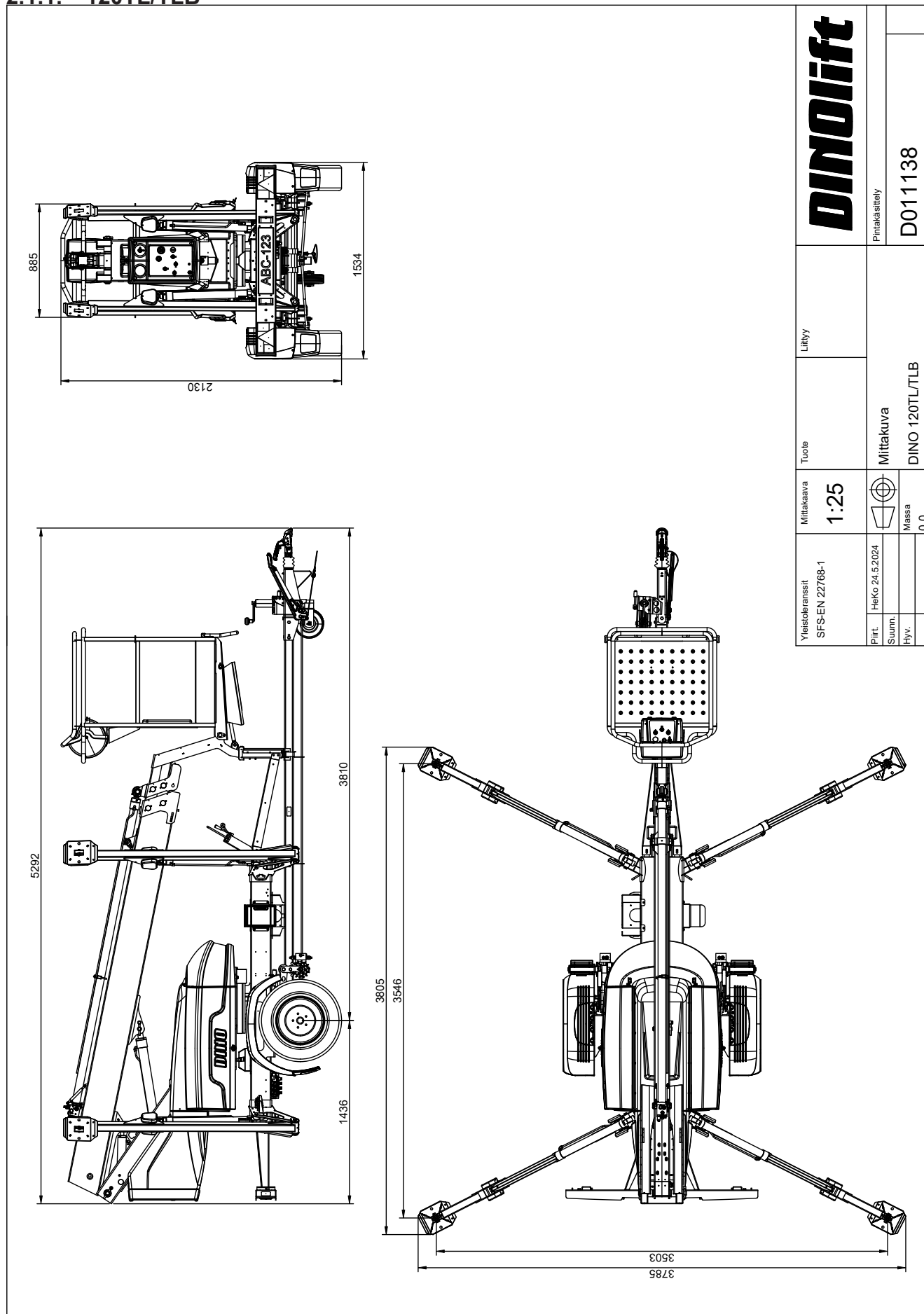
The information is valid for the machine in standard configuration. Different installed equipment or optional accessories may affect the given data! Such changes are marked on the machine and on the fitted equipment.

	105TL	120TL	120TLB
Max. working height	10,5 m	12,0 m	
Max. platform height	8,5 m	10,0 m	
Max. outreach	6,5 m	8,1 m	
Boom rotation	± 355°		
Turn area	refer to the reach diagram		
Support width / Footprint	3,25 / 3,5 m	3,5 / 3,8 m	
Transport width	1,49 m	1,53 m	
Transport length	5,45 m	5,2 m	
Transport height	1,98 m	2,13 m	
Minimum weight	955 kg	1265 kg	
Maximum weight with optional equipment	955 kg	1285 kg	
Max. allowed load on platform	130 kg		
Max. number of persons + additional load	1 person + 50 kg		
Max. allowed sideways load (caused by persons)	200 N		
Max. lateral inclination (chassis)	±0,3°		
Max. allowed gradient of ground to the side		6°	
Max. allowed gradient of ground lengthwise		7,6°	
Max. wind speed during operation	12,5 m/s		
Min. ambient temperature when working	- 20 °C		
Max. support force on the outriggers	7500 N	10700 N	
Max ground pressure on outriggers	2,4 kg/cm <sup>2</sup> (24 N/cm <sup>2</sup> )	3,4 kg/cm <sup>2</sup> (34 N/cm <sup>2</sup> )	
Platform size	0,7 x 0,85 m		
Gradeability	15% (option)		
Socket outlets on the platform	2 x 230V/50Hz/10A*		
Power supply	Mains current		Battery power pack
	230V/50Hz/10A*		24VDC / 2kW Batteries 2 x 12V / 150Ah
Sound pressure level	< 70 dB		
Whole-body vibration	Not detectable		

\*Varies by region.

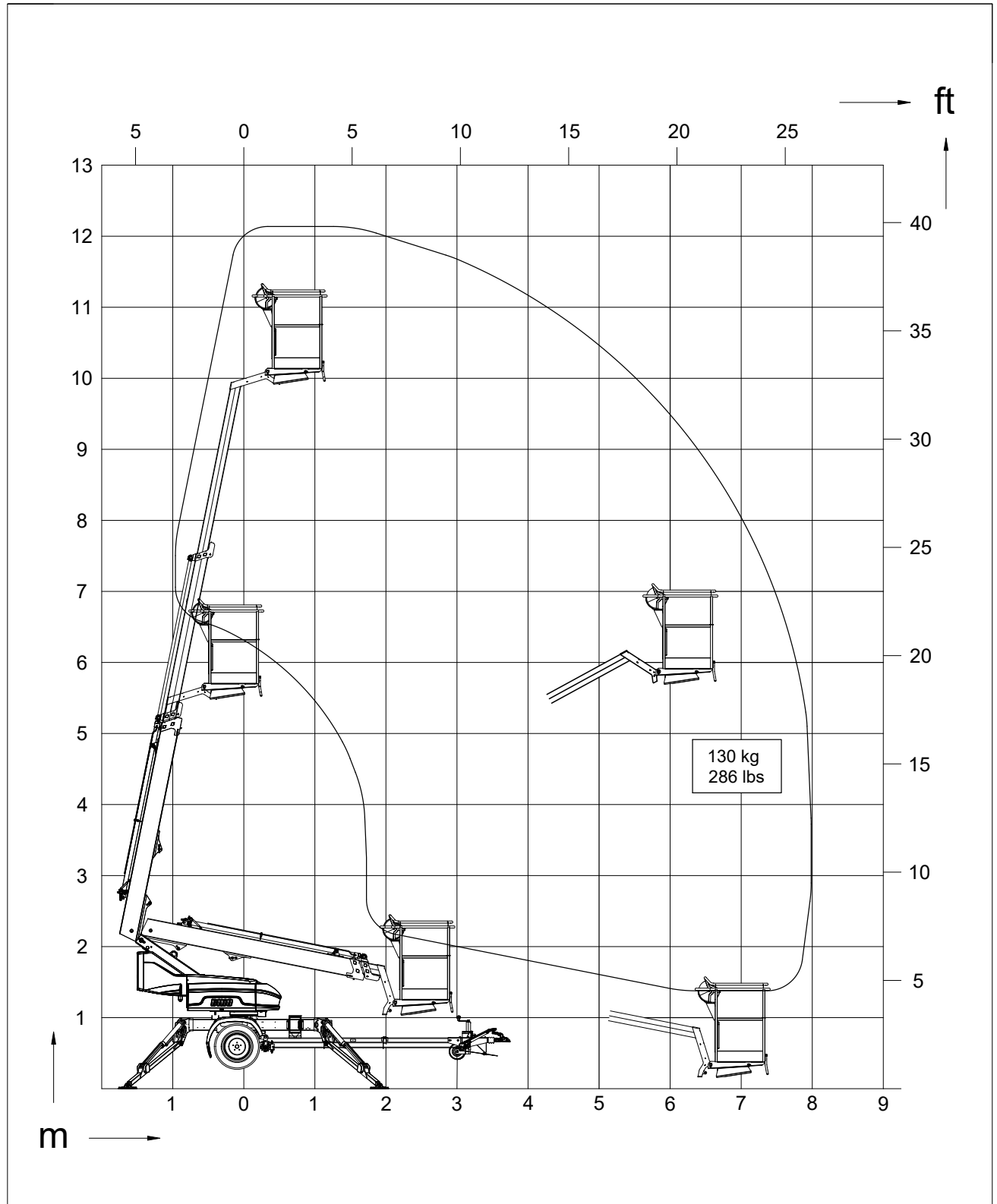
2.1. DIMENSION DRAWING

2.1.1. 120TL/TLB



## 2.2. REACH DIAGRAM

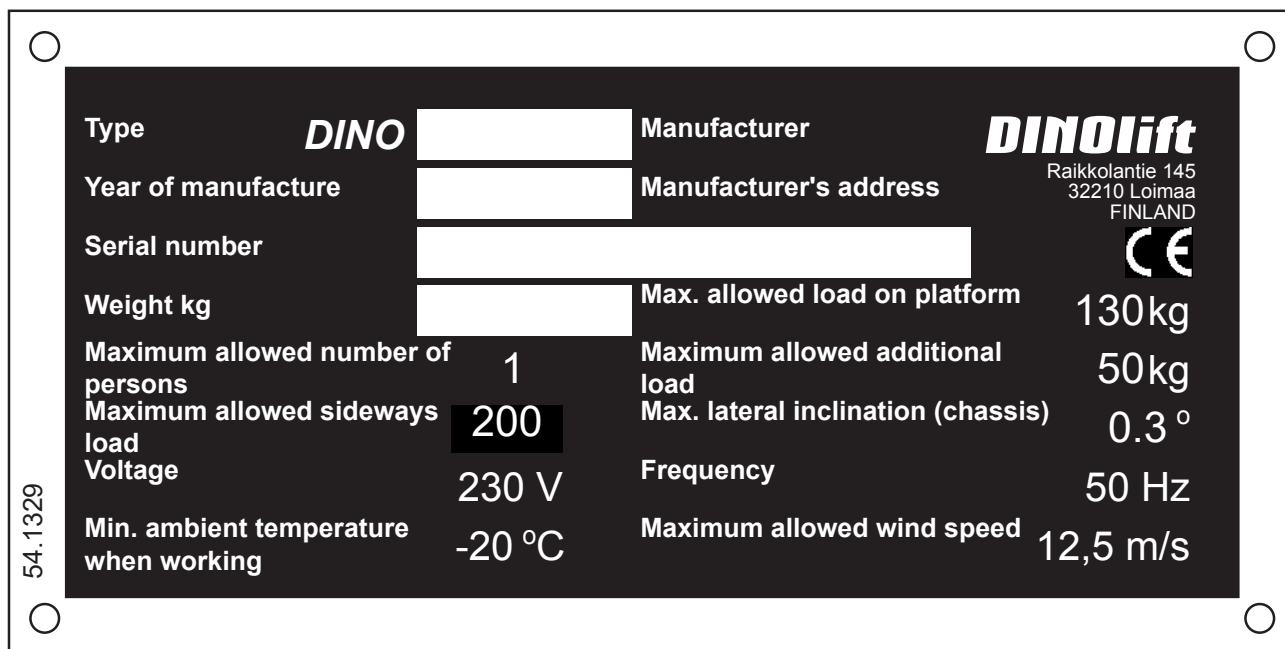
### 2.2.1. 120TL/TLB



Yleistoleranssit SFS-EN 22768-1		Mittakaava	Tuote	Liitty	<b>DINOLift</b>
Piirt.	HeKo 22.5.2024		Uloottumakaavio		
Suunn.			Massa	DINO 120TL/TLB	
Hyv.					

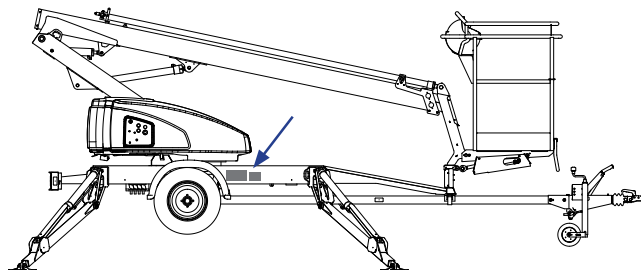
### 2.3. EXAMPLE OF THE MACHINE'S NAMEPLATE

The name of the manufacturer, and the production number and serial number of the machine have been marked on the nameplate as shown in the picture below.



The nameplate of the MEWP is located on the right-hand side of the chassis as shown in the picture.

The serial number is also engraved in the lift's chassis, on the upper surface of the chassis.



The vehicle identification plate of the trailer is located on the chassis next to the nameplate

Following data is written on the plate:

	EU Type Approval Number (if available)	
	Serial number	
	Total weight	kg
0	Maximum allowed weight on the towing hitch	kg
1	Maximum allowed axle weight	kg
2		kg



**2.4. EXAMPLE OF EU DECLARATION OF CONFORMITY****EU declaration of conformity for machine****Manufacturer:**

Dinolift Oy  
Raikkolantie 145  
FI-32210 Loimaa,

declares that

**DINO 105TL Aerial Work Platform no YGCD105TLH0010277**

complies with the provisions of the Machine Directive **2006/42/EC** and its amendments as well as the national decree (**VNA 400/2008**), through which they have been brought into effect.

The inspection in accordance with Annex IX to the directive 2006/42/EC has been carried out by the notified body no. 0537

Eurofins Expert Services Oy  
Kivimiehentie 4,  
FI-02150 ESPOO, FINLANDE

that has granted the certificate no. **EES 182/524/18**

In addition, the aerial work platform also complies with the provisions of the following European Directives:

**2014/30/EU**

---

In designing the machine, the following harmonised standards have been applied:

**SFS-EN 280+A1:2015, SFS-EN ISO 13849-1:2015, SFS-EN 60204-1/A1:2009,**  
**SFS-EN-ISO 12100:2010**

---

The person, who has compiled  
the technical construction file:

Santtu Siivola  
Chief Engineer  
Dinolift Oy, Raikkolantie 145,  
FI-32210 Loimaa, FINLAND

Loimaa            08.06.2017

-----  
Santtu Siivola  
Chief Engineer

## 2.5. SAMPLE OF INSPECTION PROTOCOL FOR THE ACCESS PLATFORM

### TEST CERTIFICATE

DATE: |

#### START-UP TESTS:

Inspection place: Dinolift Oy

Inspector's signature: \_\_\_\_\_ |

#### BASIC INFORMATION

Manufacturer: Dinolift OY Place of manufacture: Finland

Address: Raikkolantie 145  
32210 LOIMAA

Importer: \_\_\_\_\_

Type of lift:  Boom platform  Scissor platform  Mast platform

Chassis:  Car  Self propelled  Trailer mounted  Vehicle mounted (quick coupler)

Boom:  Articulated boom  Telescopic boom  Articulated telescopic boom  Scissor

Fixed mast  Telescopic mast

Load control:  Position control  Limited size of work platform  Moment sensing  Load sensing

Outriggers:  Hydraulic turning  Hydraulic pushing  Mechanical  Stabilized with wheels

#### TECHNICAL SPECIFICATIONS

Machine and type:	<u>DINO 105TL</u>	Max. platform height	<u>8,50 m</u>
Number of manufacture		Max. outreach:	<u>6,50 m</u>
Year of manufacture			
Max. lifting capacity:	<u>130 kg</u>	Boom rotation:	<u>+/- 355°</u>
Max. person number:	<u>1</u>	Support width:	<u>3,25 x 3,3 m</u>
Max. additional load:	<u>50 kg</u>	Transport width:	<u>1,50 m</u>
Power supply:	<u>230 VAC</u>	Transport length:	<u>5,44 m</u>
Lowest temperature:	<u>-20 °C</u>	Transport height:	<u>1,99 m</u>
Weight:	<u>955 kg</u>	Platform size:	<u>0,85 x 0,7 m</u>

INSPECTION POINTS	(Y = meet standards N = do not meet standards)		<input type="checkbox"/> <input type="checkbox"/> not applicable)
	Y	N	
<b>A. GENERAL REQUIREMENTS</b>			
1. Suitability for use	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Certificate of conformity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. User manual and storage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4. Machine plate - inspection plate	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5. Instructional and safety plates	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6. Safety colours	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<b>B. STABILITY</b>			
1. Load plate and reach diagram	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Supports / outriggers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. Indicator for horizontal position	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<b>C. STRUCTURES</b>			
1. Transport position / transp. equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Driving/towing equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. Chassis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4. Turning device	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5. Boom system	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6. Structure and position of work platform	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7. Hydraulic system	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<b>D. ELECTRIC SYSTEM</b>			
1. Electric system	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Electric appliances	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. Lights	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<b>E. SAFETY AND CONTROL DEVICES</b>			
1. Safety sensors and limit switches	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Sound signal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. Emergency descent system	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4. Protection of controls	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5. Symbols / control directions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6. Placement of controls	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7. Emergency stop	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<b>F. SAFETY FEATURES</b>			
1. Prevention of unauthorized use	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Locking device, covers and guards	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. Prevention of lifting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4. Prevention of opening of support	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5. Safety distances	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6. Control of loading	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7. Limiting devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<b>G. TEST LOADING</b>			
1. Overload test (150%)		195 kg	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. Functional test (110%)		145 kg	<input checked="" type="checkbox"/> <input type="checkbox"/>

**COMMENTS**

**DEFICIENCIES**

---



---



---



---

Deficiencies have been repaired

Date: \_\_\_\_\_ Signature: \_\_\_\_\_

The initial inspection and test loading of the Dino aerial work platforms is performed by the manufacturer. A protocol, drawn up during the inspection, will accompany the lift.

The protocols of the start-up and periodic inspections must be kept with the lift or its immediate proximity for at least five years.

### 3. SAFETY

All the essential safety instructions and warnings, relevant to transport, use and maintenance of the lift, are described in this chapter.



#### **DANGER**

Failure to observe these instructions and safety regulations may cause a severe injury or even death. Familiarise yourself with all the safety regulations, operating instructions and signs affixed to the machine, and follow them.

Make sure that you understand all the safety instructions and regulations. Also make sure that others operating the machine or working on the work platform are familiar with these instructions.

#### 3.1. SAFETY INSTRUCTIONS

Only specially trained personnel with authorisation in writing, who are well familiarised with the device, and at least 18-years old, are allowed to operate the unit.

Keep the lift free of any dirt, which may impair safe operation, and impede the inspection of the structures.

The device must be serviced and inspected regularly.

Only skilled persons, familiar with the service and repair instructions, are allowed to carry out servicing and repair work.

**It is strictly prohibited to use a lift which is out of order!**

**Never remove or disable any safety devices of the machine.**



#### **WARNING**

The device must neither be altered without the manufacturer's consent nor be used under conditions, which do not meet the manufacturer's requirements.

The operator must receive instructions and consent from the manufacturer for all such specific work methods or conditions that the manufacturer has not explicitly defined.

Clean up any oil, fuel and chemical spills properly. Absorb oils in absorbent material and dispose of oily waste properly. Neutralize spilled battery acid with baking soda or other suitable material. Find out the cause of the leak and fix it.

If the machine has an internal combustion engine, always turn off the engine while refueling. Do not start the engine if you notice any signs of fuel or oil leakage on the machine.

Do not use the internal combustion engine indoors unless exhaust removal is ensured.

Charging lead-acid batteries emits dangerous chemicals. Make sure that the batteries are always charged in well-ventilated areas. Never charge a damaged batteries.

Keep the machine away from possible sources of ignition. Hot work operations are strictly prohibited in the vicinity of batteries or fuel tanks.

## **WORK AREA AND PREPARATIONS BEFORE LIFTING WORK**

When working in busy areas, the operating range of the lift must be clearly marked by using either warning lights or fencing. Also check local regulations on working on public roads.

Ensure the unobstructed range of movement before operating the outriggers.

The load-bearing capacity and the gradient of the base must be taken into account when supporting the machine. Do not use the machine on a lorry, a railway car, a floating vessel or any other potentially unstable platform.

Ensure that the outriggers cannot slide while on a gradient.

Additional support plates of adequate size must be used under the outriggers, when working on soft ground. Only use such additional support plates, on which the metallic outriggers will not slide.

While in the support position, ensure that the wheels are off the ground.

Always ensure the level position of the machine before starting the operation.

Always ensure that the work area is clear of outsiders. Danger of getting squeezed between rotating and fixed structures.

**While operating the boom from the control centre on the turning device, beware of getting pressed against the outriggers or other structures that do not turn with the boom.**

## **TRANSFERS**

Observe the maximum allowed gradient when transferring the lift. During transfer in rough terrain, always try to position yourself higher than the machine.

Beware of fixed or moving obstacles in the terrain or near the lift while driving. Make sure that you have a clear view of the driving path.

Do not use the machine for towing.

## LIFTING AND WORKING ON THE PLATFORM

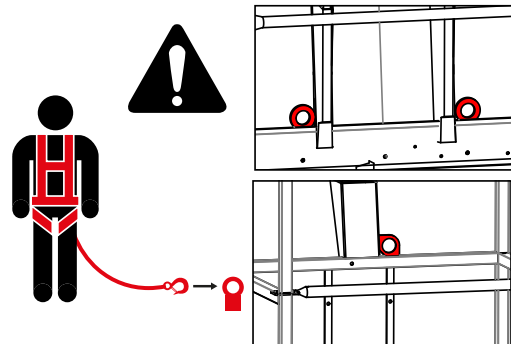
Never exceed the maximum number of persons, maximal loading or hand force, allowed for the lift. Never add load onto the platform while in the upper position.

Before operating, always ensure that the safety devices and the emergency descent system are in working order.

**Use the safety harness!** Fix the safety harness to the fixing points, intended for the purpose.

Note! The platform is fitted with a fixing point for the safety harness of each user. Only one harness per fixing point.

Do not use ladders, steps or other similar equipment on the platform.



Ensure that the gates are properly closed before starting the operation. If the work platform is equipped with ladder, these must be locked in the upper position.

Never throw or drop any objects from the platform. All the tools must be transported on the inside of the platform. Never leave the tools hanging outside the work platform, supported only by their power cord.

Do not lift the tools, accessories or other material on the railing of the platform or attached to the railing.

The aerial work platform must not be used for lifting.

The work platform must not be used for transferring goods or persons between different floors or working levels. Stepping on or off the platform in motion or elevated is prohibited.

When the boom is in its lowest positions, make sure it cannot clash during rotation with structures that do not turn with the boom.

Always make sure, before lowering the platform, that the area under it is clear.

Avoid damaging the platform by lowering it on the ground, or bringing it in contact with any structures.

Never use a lift alone. Make sure that there is always someone on the ground, who can call for help in case of an emergency.

## OPERATING CONDITIONS

The weather conditions, such as wind, visibility and rain, must always be taken into account so that these will not adversely affect the safe performance of the lifting operations.



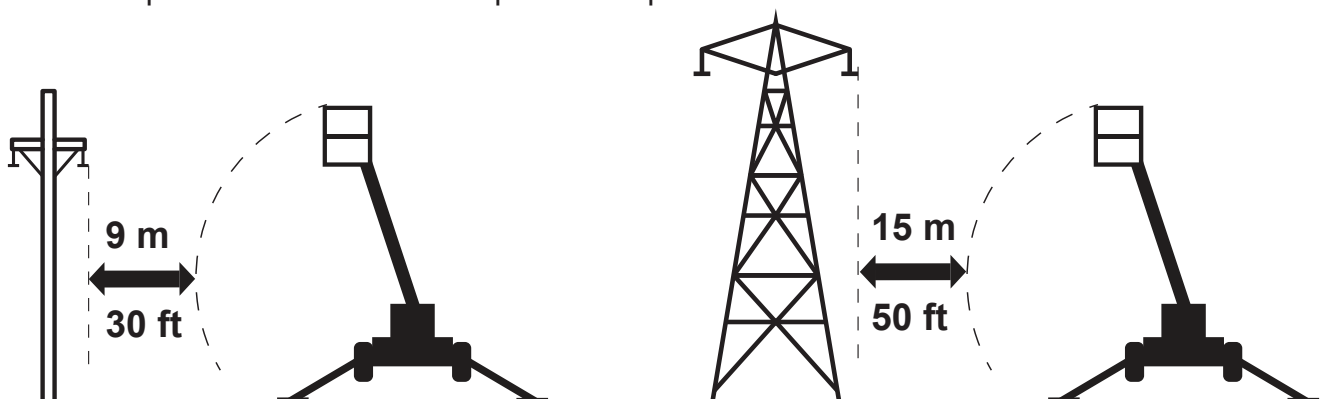
**The use of the lift is prohibited, if the temperature drops under -20 °C or the wind speed exceeds 12.5 m/s**

Wind speed ( m/s)	Conditions on land
0	Calm Smoke rises vertically
1-3	Light breeze Smoke moves with the wind and the wind feels on exposed skin. Leaves rustle.
4-7	Gentle breeze Leaves and small branches of trees are moving. Flag is flying. Wind lifts dust and loose pieces of paper from the ground.
8-13	Strong breeze Small broad-leaved trees and large branches sway. Wind whistles as it hits houses or other fixed objects. Umbrella is difficult to use.
14-17	Strong All the trees are swaying. It is difficult. to walk against the wind.

NOTE! The wind speed can be much higher at a higher altitude than on the ground level.

Do not take tools/material of large surface area onto the platform. The increase in wind load may jeopardize the stability of the device.

**Beware of the live aerial power lines in the area!** Keep a safe distance from live overhead power lines and other exposed live parts.



Follow these distances if more detailed local instructions and information about the voltage level are not available. Always check local instructions and safe distances with an expert on a site-specific basis. The safe working distance depends on the voltage level of live parts.

This aerial work platform is NOT insulated, and does not offer protection against contact with electric current. The aerial work platform must not be used for work on electric systems.

### 3.2. SAFETY-RELATED NOTIFICATIONS

The following safety alert symbols and safety signal words are used in this manual.

Observe all the safety instructions that follow these symbols, in order to avoid dangerous situations and personal injuries.



This is a general safety alert symbol and it is used to alert you about a potential hazard. Observe the additional instructions given in form of text or symbols that follow this symbol.



#### **DANGER**

Red DANGER-message warns for an imminent or potential hazardous situation which, if not avoided, may result in death or serious injury.



#### **WARNING**

Orange WARNING -message is used in connection with potential risk factors, which if not avoided, under certain conditions, may result in death or serious injury.



#### **CAUTION**

Yellow CAUTION -message is used to warn about a hazardous situation which, if not avoided, could result in minor or moderate injury.

#### **NOTICE**

Blue notice-message is used to draw your attention to special notifications or instructions that are related to the operation or maintenance. Such messages include, for example, instructions that are related to reliability of the machine or aim to avoid material losses.





Risk of getting crushed  
- moving parts



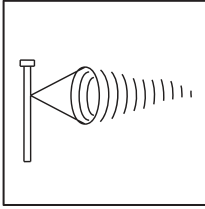
Risk of getting crushed  
- moving parts



Risk of getting crushed  
- falling objects



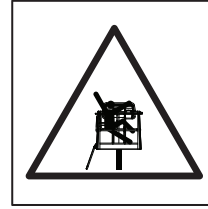
Harmful exhaust gas  
emissions



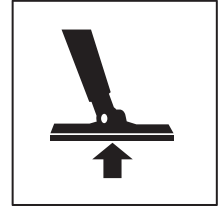
Wind speed



Risk of turning over



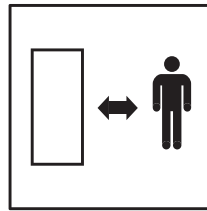
Risk of falling



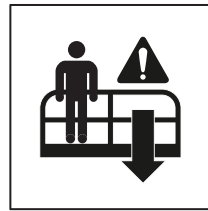
Support force



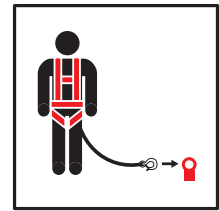
Smoking prohibited



Keep safe distance



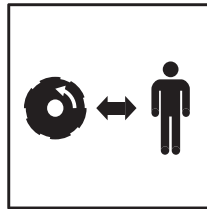
Emergency descent



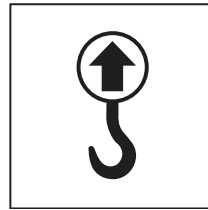
Fixing point for the  
falling guard



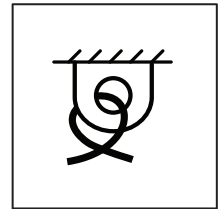
Open flame prohibited



Keep safe distance



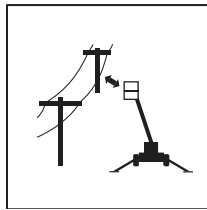
Lifting point



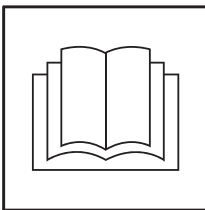
Fixing point



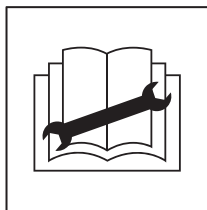
Running the engine  
indoors prohibited



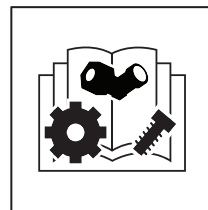
Keep safe distance to  
the power lines



Operating instructions



Maintenance  
instructions

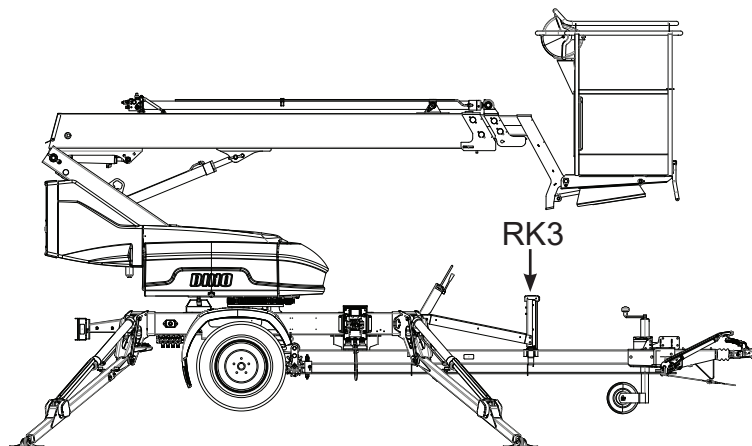


Spare parts catalog

### 3.3. SAFETY DEVICES

#### 1. Supervision of transport position of the boom

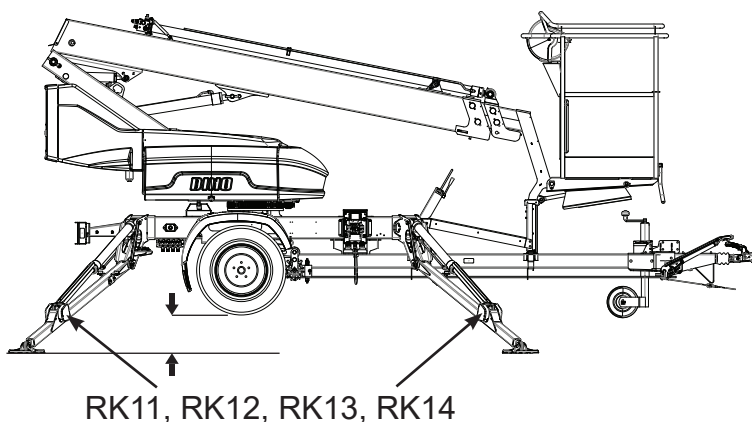
The safety limit switch RK3 prevents the operation of the outriggers and the driving device when the boom is not resting on the transport support. The switch is located on the drawbar at the transport support.



#### 2. Supervision of supporting

The lift's all support outriggers must be in the support position before the boom is lifted. Make sure that the wheels are off the ground.

The safety limit switches RK11, RK12, RK13 and RK14 are located on the support outriggers.

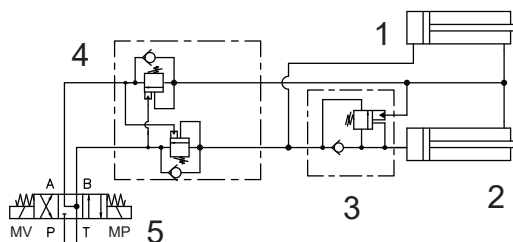


#### 3. Preventing the inclination of the platform

The platform is levelled hydraulically by means of a so-called slave cylinder system, where the master cylinder controls the slave cylinder that inclines the work platform.

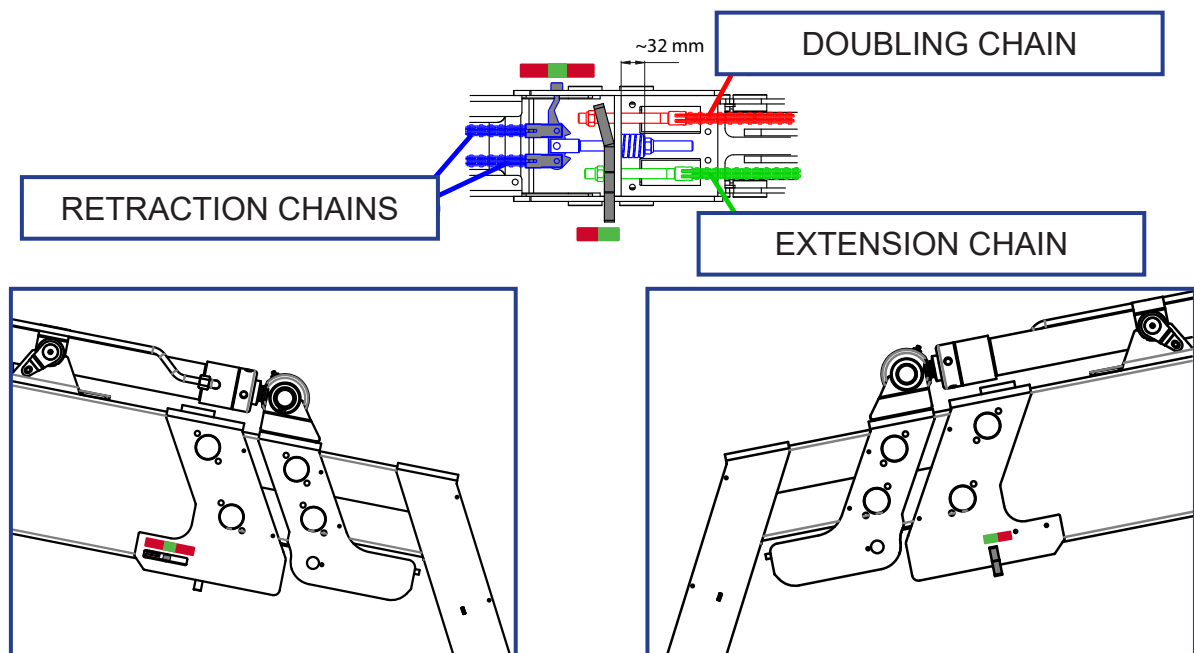
The levelling system comprises the following parts:

1. Master cylinder
2. Slave cylinder
3. Load regulation valve
4. Double load regulation valve
5. Electric directional valve



## 4. Indicator for the telescope chains (120TL-TLB)

The extension and retraction chains for the telescope are doubled. If the load-bearing chain slackens or breaks, the doubling chain prevents the movements of the telescope.



The levers at the top end of the outer boom indicates possible rupture of one of the load bearing chains for the telescope.

If the levers are inside the green area, the chains are intact.

**If the lever is inside the red area, one of the chains has ruptured and the telescope must not be used!** The chains have to be replaced and the required adjustments carried out before continuing operation.

## 5. Safety devices for hose rupture

All the load-bearing cylinders are equipped with valves for rupture or leak in the hydraulic system, which prevent the load from falling.

Outrigger cylinders	Lock valves	Prevent the inching of the outriggers in either direction.
Lifting cylinder of the boom	Load regulation valve	Prevents the load from falling
Telescope cylinder	Load regulation valve	Prevents the inching of the telescope in either direction.
Levelling system	Load-holding valves	Prevents the inclination of the platform in either direction.

## 6. Emergency stop buttons

Pressing the emergency stop button turns off the power unit and prevents normal operation. Emergency stop buttons are located at each control station. Once the button has been pressed, only the emergency descent functions remain operational.

The emergency stop button locks in the lower position, and it must be released before starting the power unit.

### **NOTICE**

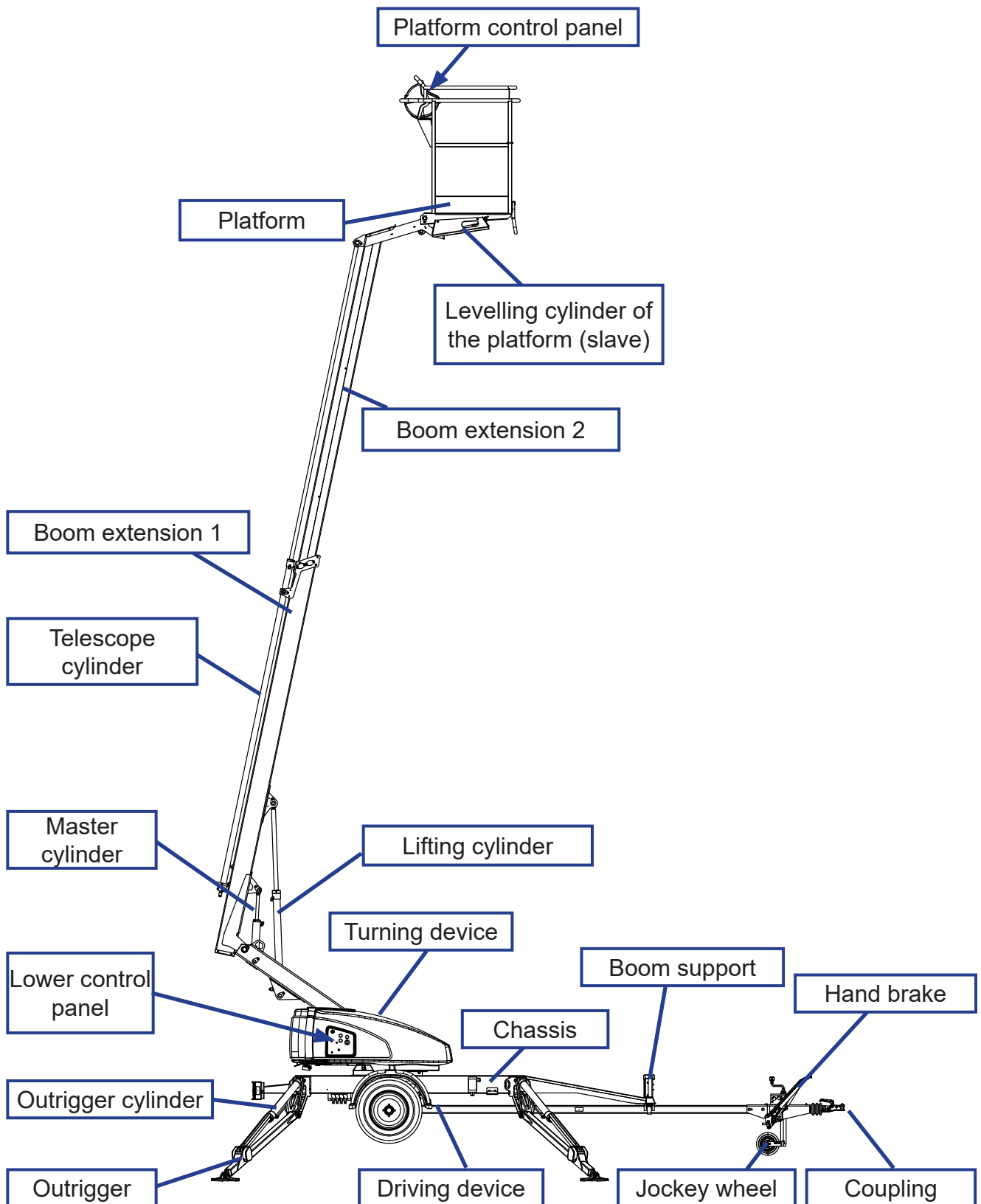
If the unit does not start, make sure that the emergency descent button is not pressed down at any of the control stations.

## 4. STRUCTURE AND FUNCTIONS OF THE LIFT

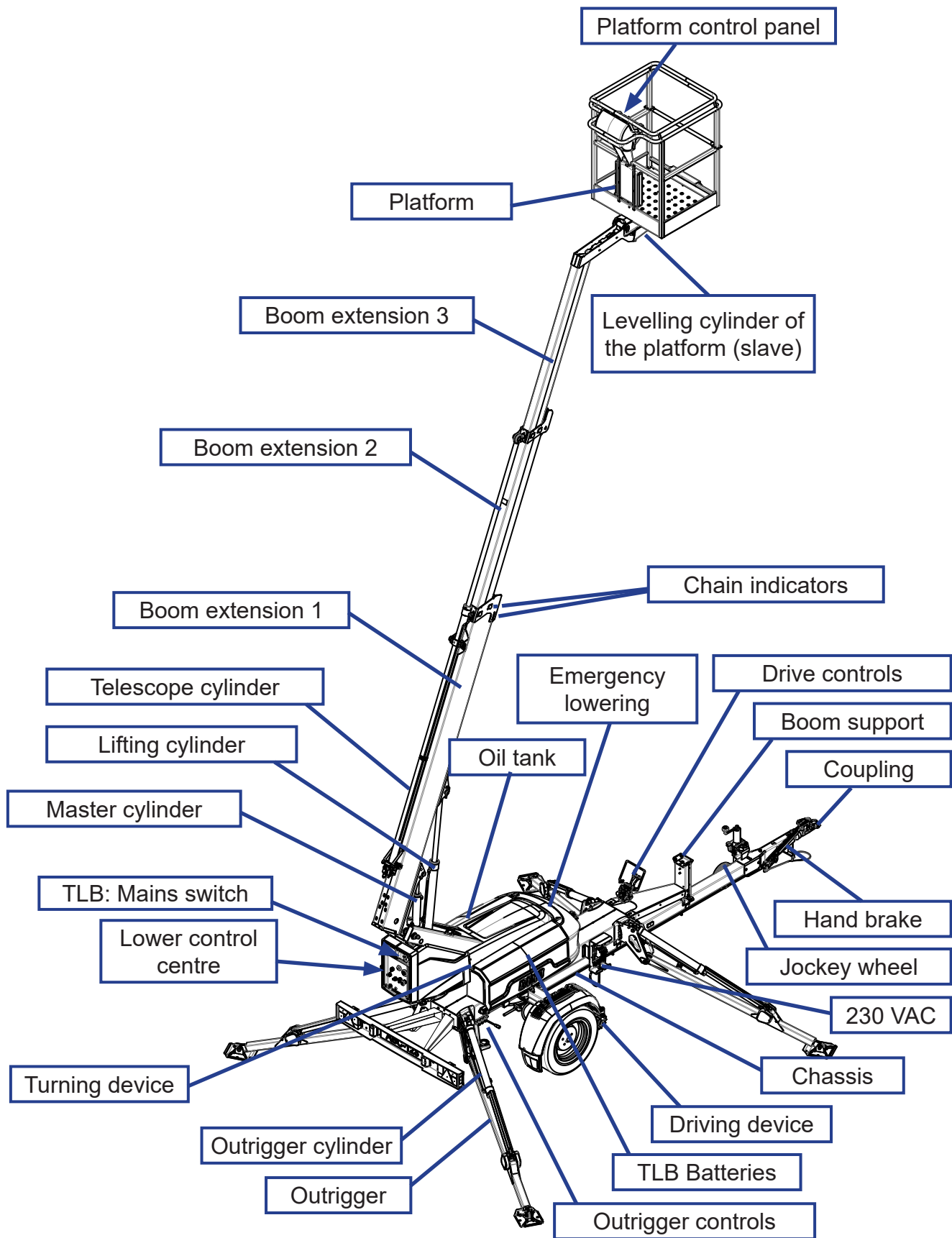
The denominations of the machine's essential parts and concepts, which are used later in these instructions, are described on the following pages.

### 4.1. STRUCTURE OF THE ACCESS PLATFORM

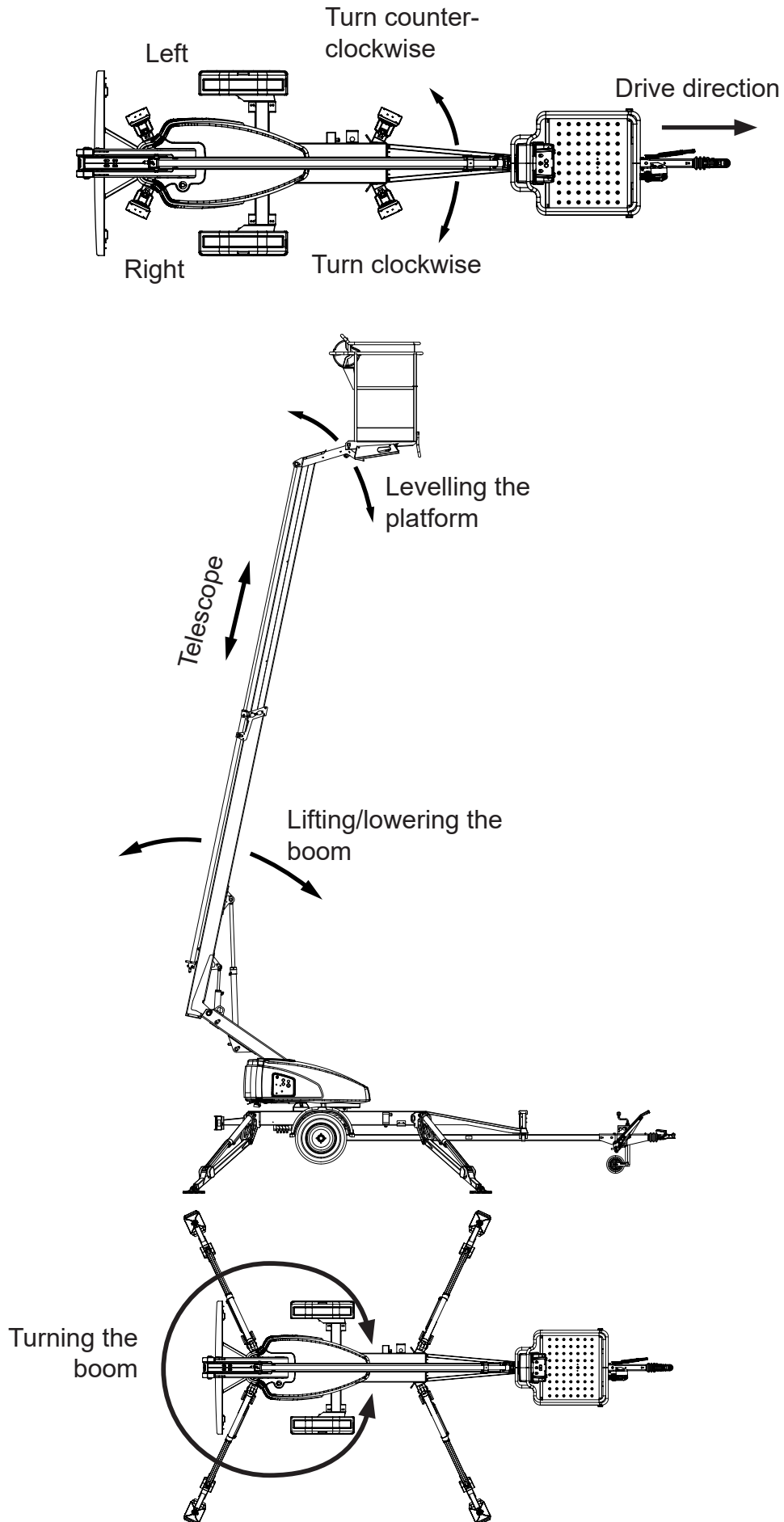
#### 4.1.1. 105TL



4.1.2. 120TL - 120TLB





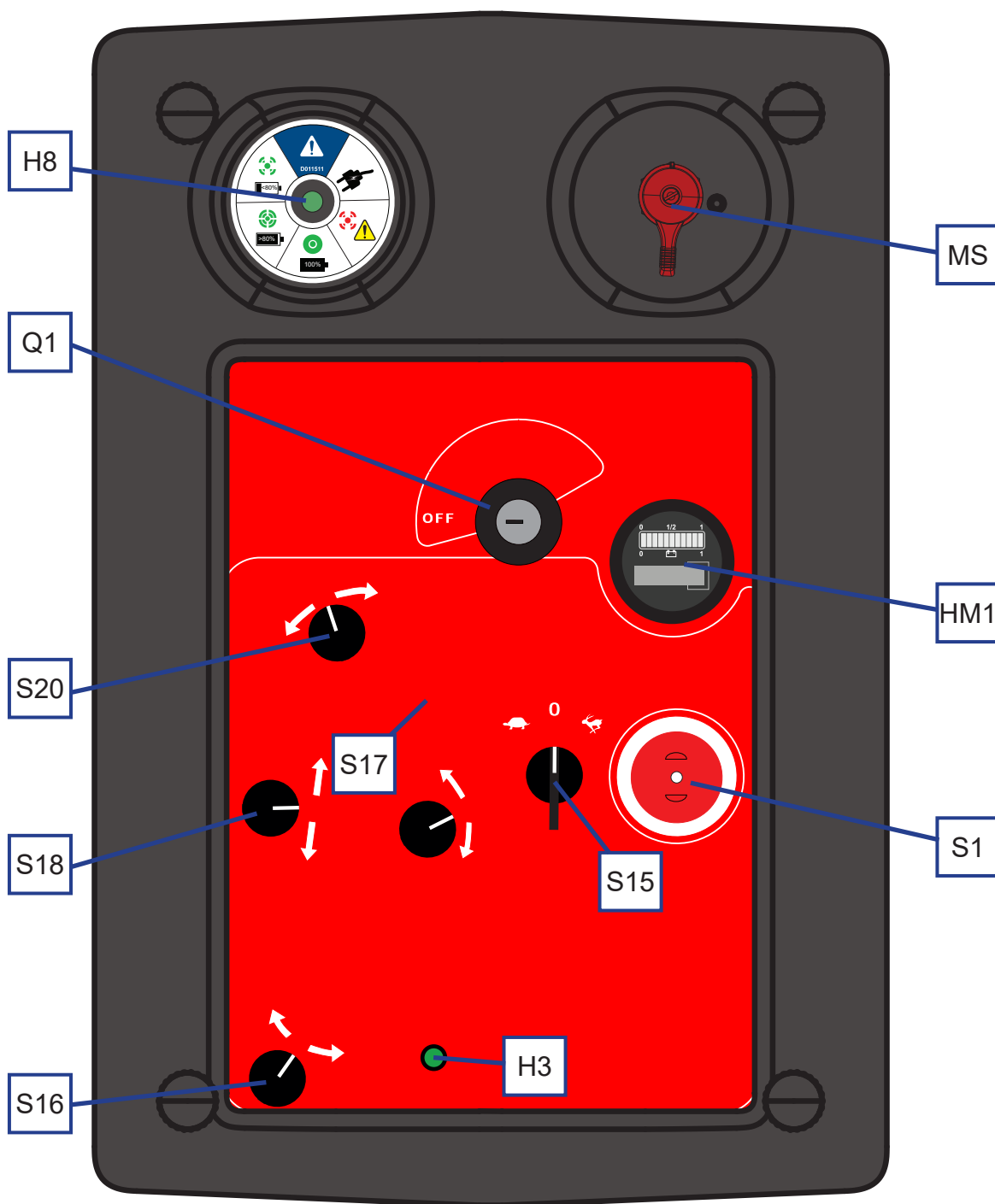
## 4.2. FUNCTIONS OF THE WORK PLATFORM



### 4.3. OPERATING CONTROLS FOR THE FUNCTIONS

#### 4.3.1. Operating controls in the lower control centre

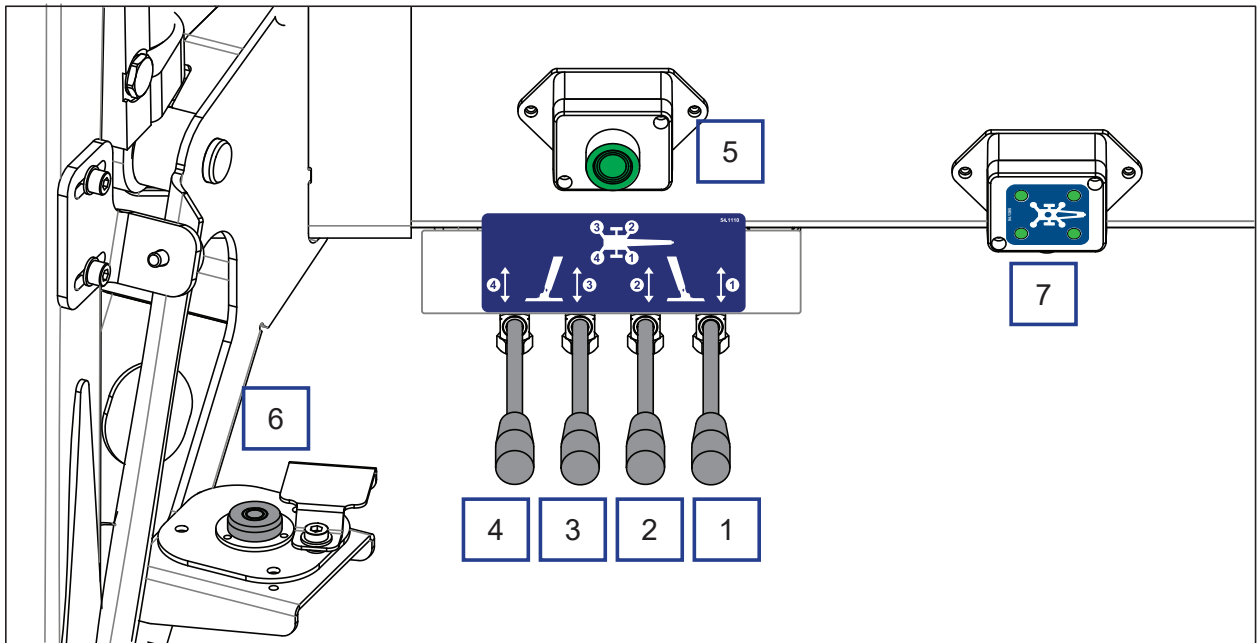
MS	Mains switch (120TLB)	S15	Speed selector / activation switch for the movements
Q1	Selector switch	S16	Switch for turning of the boom system
OFF	Ignition off	S17	Switch for lifting of the boom system
	Operating controls in the lower control centre LCB.	S18	Switch for telescope
	Operating the lift from the platform control centre UCB	S20	Switch for levelling the platform
S1	Emergency stop + signal light	H3	Signal light for the outrigger limit switches
HM1	Battery voltage (120TLB) / Hour meter	H8	LED signal light for charging





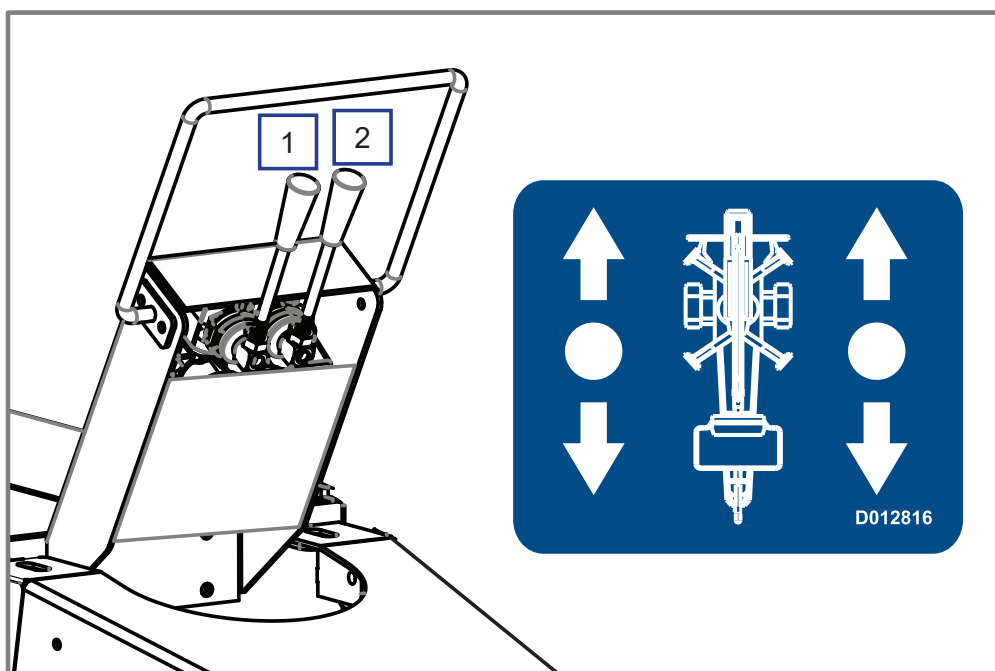
## 4.3.2. Operating controls for the outriggers

1	Front outrigger, right
2	Front outrigger, left
3	Rear outrigger, left
4	Rear outrigger, right
5	Activation button for outrigger operation / motor start
6	Spirit level
7	Signal lights for the outrigger limit switches (optional)



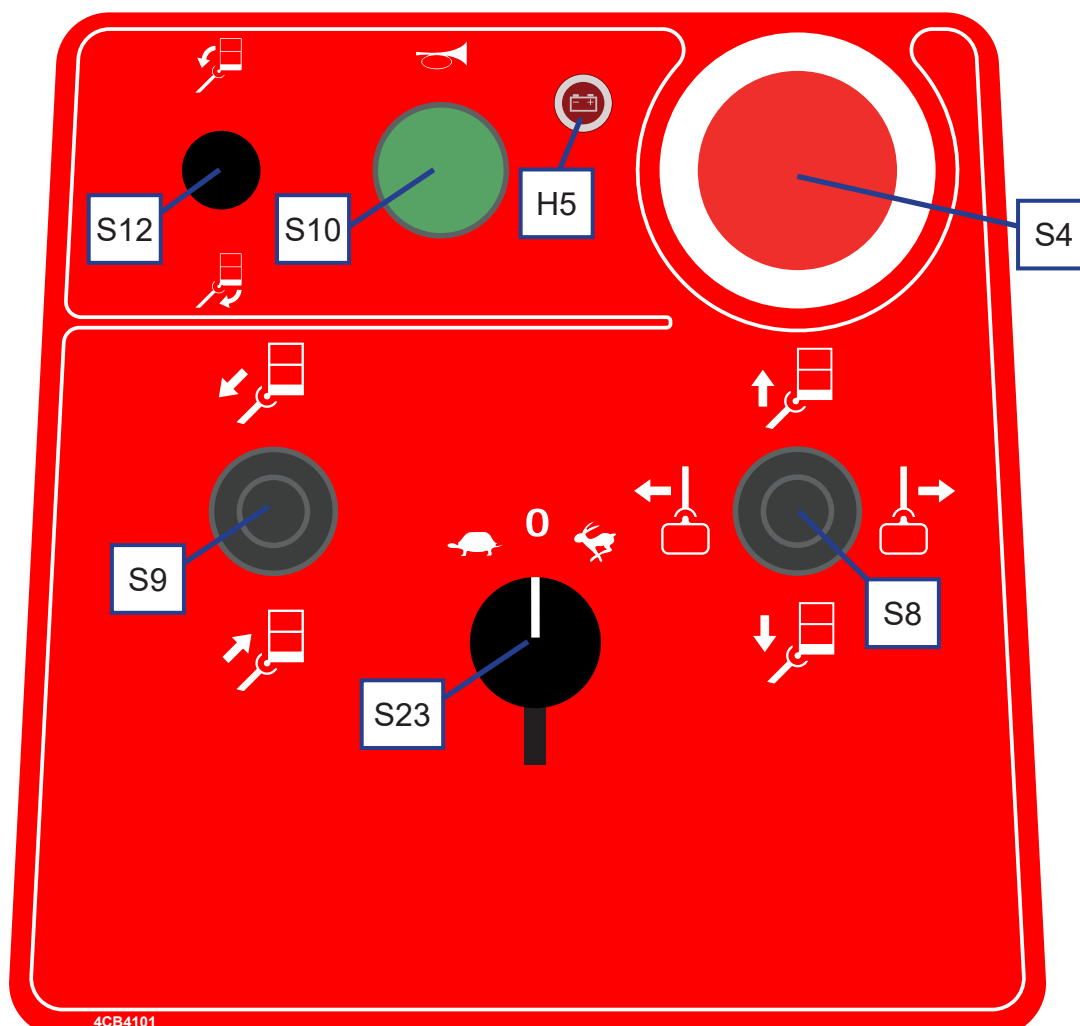
## 4.3.3. Operating controls for driving

1	Operating the right driving device roller
2	Operating the left driving device roller



4.3.4. Operating controls in the platform control centre

S4	Emergency stop	S23	Speed selector / activation switch for the movements
S10	Sound signal button	H5	TLB: Warning light for low battery charge
S12	Lever switch for levelling the platform		
<b>S9</b>	<b>Control lever for telescope movement</b>	<b>S8</b>	<b>Control lever for the boom</b>
↑	Retracting the telescope	↑	Boom up
↓	Extending the telescope	↓	Boom down
		→	Turning the boom to the right
		←	Turning the boom to the left



---

## **5. USING THE LIFT**

### **5.1. STARTING UP**

The operator must inspect the worksite and carry out the daily start-up routines always:

- at the beginning of each workday
- before operating the lift at a new worksite
- when the operator changes in the middle of a workday

#### **5.1.1. Worksite inspection**

##### **1. General information**

- Is the lift suited for the intended job?
- Is the performance of the lift sufficient for the job? (reach, loadability etc.)
- Is the position of the lift safe?
- Is the lighting on the worksite sufficient?

##### **2. Documents**

- Are the Operation and Service Instructions for this lift present?
- Are inspections and servicing carried out in accordance with the instructions and have the defects affecting the safety been checked as repaired?  
(Inspection protocols)

##### **3. Operator**

- Is the operator of the lift old enough?
- Has the operator received the required training?
- Is the operator in suitable condition for operating the machine? The machine must not be operated under the influence of alcohol or any other intoxicant, or if the operator's physical or mental capacity in some other respect has been impaired from normal.

##### **4. Special issues on the worksite**

- Are there any additional regulations relevant to the worksite or the work?
- Are there any other potential hazards (gantry cranes, shafts, ATEX areas, closed spaces) present at the work site, which should be observed during the operation?
- Does the work area have to be marked or fenced off to prevent outsiders from moving inside the danger zone under the boom or the work platform?

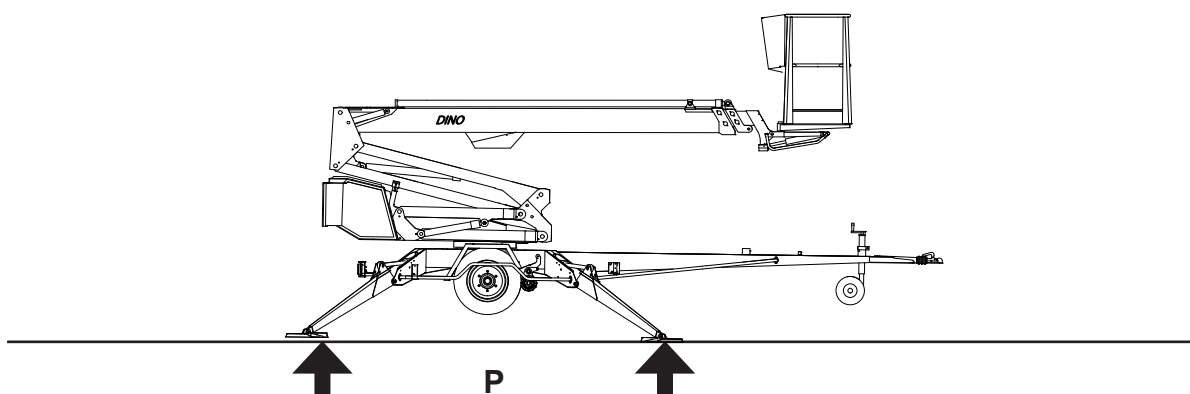
##### **5. Condition of the lift**

- Carry out all the daily service measures in accordance with the instructions
- Never operate the machine, if it is out of order.

### 5.1.2. Positioning the lift

1. make sure that the ground is even and hard enough to support the lift in a steady, level position

Soil material	Density	Max. ground pressure
		P kg/cm <sup>2</sup> (N/cm <sup>2</sup> )
Gravel	High density	6 (59)
	Medium density	4 (39)
	Loose	2 (20)
Sand	High density	5 (49)
	Medium density	3 (29)
	Loose	1.5 (15)
Fine sand	High density	4 (39)
	Medium density	2 (20)
	Loose	1 (10)
Sand/ mud	High density (very hard to work)	1.00 (10)
	Medium density (hard to work)	0.50 (5)
	Loose (easily worked)	0.25 (3)



2. Check that the standing surface is free from potholes, pits or too inclined areas.
3. Check that the movement area of the outriggers and the boom, as well as the area under the outriggers, are free from obstacles, which could cause collision or turn the machine over.

DANGER

**Tip over hazard!** If the ground is soft, use sufficiently large and sturdy additional plates under the support outriggers.

4. Drive or push the lift to the inspected lifting site
5. Engage the parking brake
6. Disconnect the lift from the towing vehicle

## 5.2. OPERATION

### 5.2.1. Starting up

**TL:** Connect the mains cable to the power supply. The default power supply is 230 VAC (-10%/ +6%), the frequency 50 Hz, and rating of the fuse 10A (the length of the connecting cable has some effect). Check the correct voltage and frequency from the name plate of the lift.

Maximum extensions cable length in 230 VAC mains electricity: 10 m (1.5 mm<sup>2</sup>) or 25 m (2.5 mm<sup>2</sup>). For 110 VAC, use half the length or double the cross-sectional area.

**TLB:** Switch on the main switch.

#### ALL MODELS:

1. Turn the selector switch Q1 away from the OFF position
2. Start the electric motor with the speed selector or with a movement selector

With ground controls selected, the electric motor will stay on after movements are stopped if the boom is on the transport support. The motor can be stopped by turning the selector switch Q1 to OFF or UCB position.

With platform controls selected, the electric motor starts with activation of a movement and stops after the movement is stopped.

### 5.2.2. Charging (TLB)

When the system is active the meter shows batteries' state of charge (120TLB) and operating hours of the motor.

The state of charge of the batteries can be checked from the battery meter before charging and from the signal light for charging (H8) while charging. If the batteries are not charged to full the lift needs to be used before the battery meter calibrates to the right state of charge initially appearing as a rapidly decreasing state of charge.



Charging starts automatically after connecting the mains cable to the power supply. However, after fully charging, the lift must be disconnected momentarily from the mains before the charger starts to charge again.

Capacity of the batteries is affected by the operating temperature.

100 % is reached at the temperature of 30 °C, at 0 °C the capacity is 80 % of normal, at -20 °C the capacity is 50 % of normal.

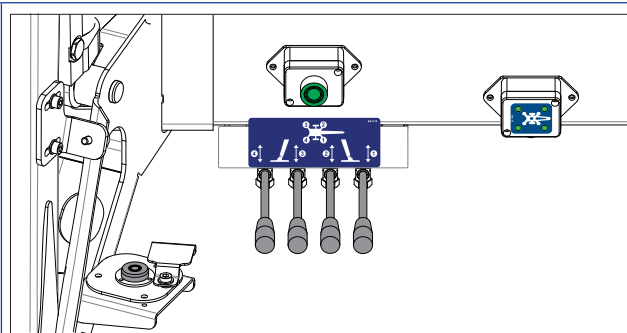
## NOTICE

When the charger is connected to mains, the display immediately shows 100 % even if the batteries are not fully charged. You can check the state of charge of the batteries before charging.

Always keep the charger connected for a sufficiently long time irrespective of the readout on the display! The recharger is equipped with overcharge protection.

### 5.2.3. Supporting the lift

3. Press the activation button for the outrigger operation.
4. Lower the front support outriggers (on the drawbar side).
5. Lower the support outriggers in the rear.



Do not damage the drawbar or jockey wheel! Make sure the wheel stays off the ground during levelling!

6. Level the chassis with the outriggers with the help of the spirit level (6). The air bubble must be located inside the inner ring.
7. Check that the green signal light (H3) in the lower control centre LCB is illuminated. It lights up when all the outriggers are in the support position and the limit switch circuit of the outriggers is closed.

#### Before operation, check that:

- the chassis is level, using the spirit level
- the wheels are off the ground
- the outriggers are firmly supported on the ground, and the green LED in the lower control centre is illuminated.



## DANGER

The operation is prohibited, if the lift is not properly supported and on a level position.

Observe the effect of ice, possible rain and inclination of the surface on the support (the support outriggers must not slip on the surface).



## WARNING

Carry out all the daily maintenance routines and inspections in accordance with the maintenance instructions before operating the lift. **Failure to check the safety devices may cause a serious injury or make the consequences of an accident worse.**

**All faults in safety devices or emergency lowering system must be repaired before operating the lift.**

### 5.2.4. Operating the lift from the lower control centre

1. Turn the selector switch Q1 to the position LCB – lower control centre.

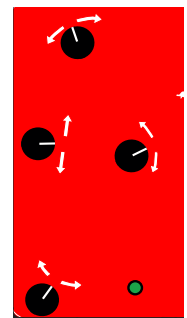


2. Select the movement speed using the speed selector switch. Selecting the movement speed starts the electric motor.



3. Drive the boom using the controls in the lower control centre:

- extending and retracting the telescope
- lifting and lowering the boom
- turning the boom



The movement will stop as soon as the speed selector switch or the selector switch for the movement is released.

4. Before starting the operation, lift the platform from the drawbar and turn it to the side. Extend the telescope and lower the boom closer to the ground for easy entry.



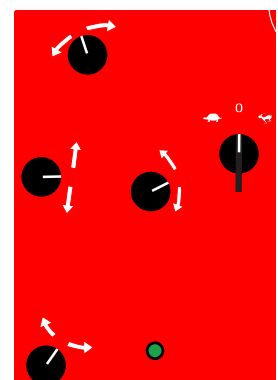
Do not damage the drawbar or jockey wheel! Make sure the boom doesn't collide with the boom support, drawbar jockey wheel or the hand brake lever.

### Adjusting the levelling of the platform from the lower control centre:

The levelling system of the platform will automatically keep the platform level during the movements. The position can be corrected if necessary.

The position of the platform may be adjusted from the lower control panel:

5. Turn the speed selector switch.
6. Select the direction of the correction movement using the control lever (S20).



### 5.2.5. Operating the lift from the platform control centre

1. Turn the selector switch to the position "Platform control centre UCB", and remove the key. The motor stops when UCB controls are selected.
2. Step onto the platform and fix the safety harness to the attachment point.
3. Operate the movements of the boom and the platform as follows:



	Select the movement speed using the speed selector switch. Selecting the movement speed will start the motor automatically.
	Operate the boom using the right control lever. Whenever possible, keep the boom short while lifting and lowering the platform.
	Operate the telescope using the left control lever.
	If necessary, correct the position of the work platform using the switch S12.

Note! The movements of the boom and the platform will stop as soon as the speed selector switch or the selector switch for the movement is released. Once the speed selector switch is released, the electric motor will stop after a delay of 3 seconds. Selecting the movement speed will start the motor automatically.

4. With the boom slightly lifted and the telescope extended, make sure that the platform does not lower by itself while the operating controls are not being used.
5. Drive the platform to the work location.

## WARNING

**Crushing hazard!** Keep a safe distance to the moving parts of the lift and to buildings and other obstructions around the lift. Hands and legs must be kept inside the work platform while the platform is moving. Beware of any obstacles above the platform.

**IF THE SAFETY DEVICES OR THE EMERGENCY DESCENT SYSTEM ARE NOT WORKING, HAVE THEM REPAIRED BEFORE OPERATING THE LIFT.**

If several control levers are operated simultaneously, only the movement with the least resistance will operate.

#### Working in the same position for a long time

- Check the stability and condition of the base regularly during the operation, taking into account the weather and ground conditions.



## When moving the platform, remember the following

- beware of high voltage power lines
- do not touch open electric wires
- do not throw objects from the platform
- do not damage the lift
- do not damage other devices



## DANGER

**It is strictly prohibited to take additional load in the upper position.**

Do not exceed the lateral force (200N), or load the platform in the vertical direction more than allowed.

Lowering the platform to transport position:

Always retract the telescope completely before lowering the boom onto the transport support.

## NOTICE

Do not damage the drawbar jockey wheel while lowering the platform to the transport position!

## When leaving the lift

- drive the lift to a safe position, preferably to the transport position
- switch off the power unit

### 5.2.6. Special instructions for winter use

**The lowest allowed operating temperature of the lift is -20 °C**

In cold conditions, carry out the following special actions in addition to the normal start-up procedure:

1. Let the power pack run for a few minutes before starting the movements.
2. To ensure the proper operation of the valves, do first a few warm-up movements to change warm oil in the cylinders.
3. Check that the limit switches and the emergency descent devices are operational and clean (from dirt, snow, ice, etc.).
4. Repeat the warm-up movements regularly during working in the same position for a long time
5. Protect the control centre and the platform from snow and ice when the lift is not in use.
6. TLB: Take care of the battery charge. Cold weather weakens the battery capacity significantly and exposes partially charged battery to the risk of failure due to freezing.



**Always keep the lift free from dirt, snow etc.**

### 5.2.7. Ending the work

At the end of the workday:

1. Retract the telescopic boom fully.
2. Lower the boom/platform onto the support on the drawbar. The limit switch on the transport support prevents the operation of the support outriggers if the platform is not down.
3. Close the control centre cover on the work platform.
4. Turn the selector switch to position OFF, and turn off the main switch.
5. If you want to recharge the battery (TLB), leave the mains cable connected; otherwise disconnect the lift from the mains supply
6. Make sure that the covers are locked.

## **NOTICE**

To ensure proper operation and long service life of the batteries, it is recommended to always recharge them at the end of each workday, even though there was still plenty of charge left. Storing the batteries flat shortens their service life, and flat batteries also freeze easily.

### 5.3. TRANSFERRING THE LIFT

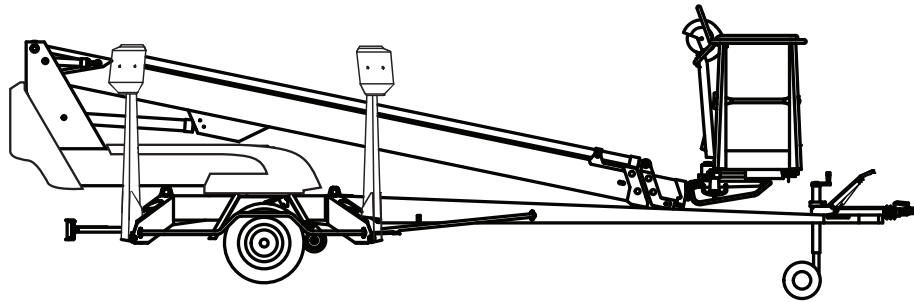
The lift can be transferred by towing or using its own driving device.



**The lift may only be moved in the transport position. No persons or load are allowed on the platform during the transportation.**

#### 5.3.1. Preparing the lift for transport

During transfer, the lift must always be in the transport position.



Prepare the lift for the transfer as follows:

1. Retract the telescopic boom fully.
2. Lower the boom/platform onto the support on the drawbar. The limit switch on the transport support prevents the operation of the support outriggers if the platform is not down.
3. Close the control centre cover on the work platform.
4. Lift the support outriggers.  
Lift the rear support outriggers first (do not damage the rear lights), and then the front support outriggers (do not damage the jockey wheel).
5. Make sure that the covers are locked and all tools and materials are removed from the platform.



## WARNING

**Rollaway risk!** Before lifting the outriggers, make sure the machine can not roll away. Prevent movement using the handbrake and wheel chocks.

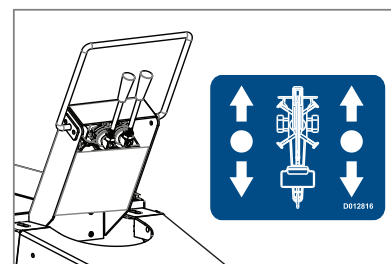
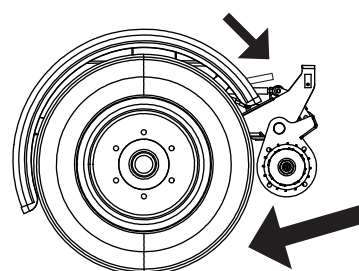
### 5.3.2. Using the driving device

The hydraulic driving device is intended for moving the lift within the work area if the towing vehicle cannot be used.



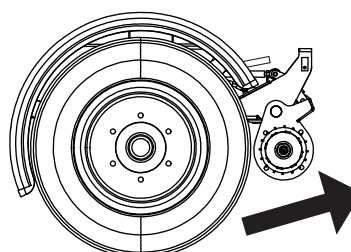
**During transfer in rough terrain, always try to position yourself higher than the machine.**

1. Turn the selector switch Q1 to position “LCB”.
2. Start the electric motor by turning the speed selector
3. Make sure that the platform is in the transport position and the outriggers are lifted in the upper position
4. Make sure that the mains cable is long enough to cover the whole travel distance – or that the cable has been disconnected (TLB).
5. Turn the driving device to the drive position on both sides.
6. Release the parking brake
7. Use the control levers on the chassis to drive the machine. Each drive roller can be controlled separately with the levers.



## WARNING

**Risk of sudden movements!** Do not drive the jockey wheel into obstacles or potholes. If one of the wheels bumps into an obstacle, the lift may turn abruptly.



After the driving:

- Apply the parking brake.
- Disconnect the driving device from the tyres.

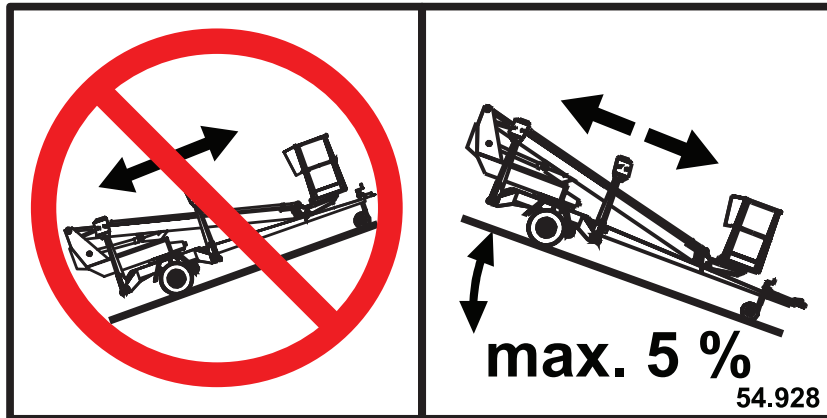
## NOTICE

**Be careful not to damage the jockey wheel tube by extending it too much.**

When moving the lift using the driving device, a suitable length for the jockey wheel's stem is when the gap between the lower surface of the drawbar/brake rod and the wheel is 1-3 cm. Then the wheel can turn freely.

### On a slope:

1. When driving on a slope, the drawbar must always point towards the descent. Never drive with the driving device with the drawbar pointing towards the ascent.
2. Always place chocks under the wheels before disconnecting the device from the towing vehicle.
3. Always apply the handbrake before disconnecting the lift from the towing vehicle.
4. Only use the handbrake as a parking brake or for emergency stopping.
5. When transferring the lift using the driving device:
  - take care not to allow the wheel to roll over your foot
  - look out for sudden sideways movements of the drawbar
  - be careful not to cause danger to other people and the environment
6. Do not move the device on a slope using only hand-power. You may lose control over it and cause an injury.
7. Never park a vehicle combination on a slope.  
Never leave the lift on a slope being supported only by the self-braking action of the driving device.



**Do not drive downhill with the driving device, if the inclination of the surface is more than 5 per cent, (corresponding to a descent of 0.5 m over a distance of 10 m). If the gradient of the surface is greater than this, you may lose control of the device.**

### 5.3.3. Towing the lift

#### Always ensure before towing:

- transport position of the outriggers
- condition and pressure of the tyres The correct pressure ratings are marked on the tyres.
- that there is no load on the platform and all covers are closed and locked.

#### Connecting to the towing vehicle

1. Lift up and push forward (in the driving direction) the handle of the ball-coupling. Now the ball-coupling is released.
2. Press the ball-coupling onto the towball using only a little force. The connection locks automatically.



**Always make sure after connecting that the ball-coupling is properly locked.**

3. Connect the emergency brake cables and light plug to the vehicle. Check the light cable for chafing and proper operation of the brake cables.
4. Check the operation of the lights.
5. Carefully release the parking brake and make sure that its locking is in order and that its handle stays in the lower position.
6. Disconnect the driving device on both sides
7. Lift up the jockey wheel to the transport position. Tighten carefully.



**Clean and lubricate the ball-coupling and adjust the brakes regularly according to the service instructions.**

## NOTICE

Observe the national traffic regulations, the local and worksite-specific instructions, as well as the instructions concerning the towing vehicle.



## WARNING

**Risk of tipping over!** Drive at an appropriate speed in turns, considering the lift's high center of gravity.

#### After towing

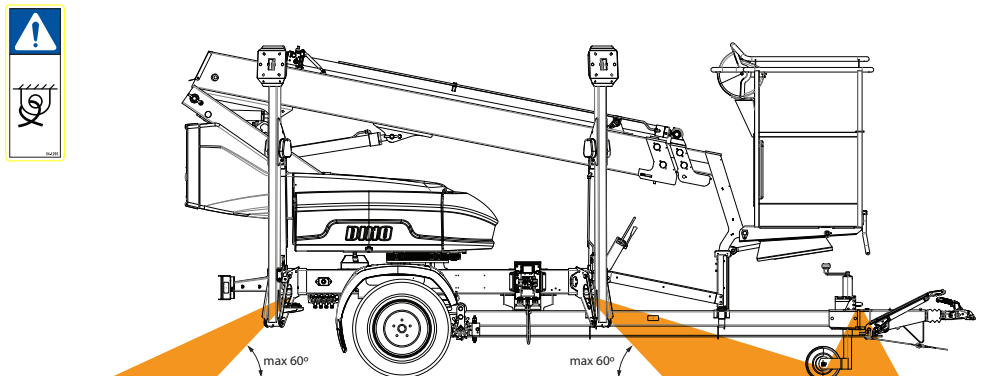
1. Apply the parking brake as firmly as possible
2. Lower the jockey wheel. Tighten carefully.
3. Disconnect the ball-coupling, light plug and brake cable from the vehicle
4. Place chocks under the wheels as an additional precaution.



**Always check locking of the brakes after transportation. Use chocks under the wheels when disconnecting the lift from the car.**

## 5.3.4. Tying down

If the lift is transported by other means than towing, it must be tied down at the marked points for the transport. The tying points are symmetrically located on either side of the lift.

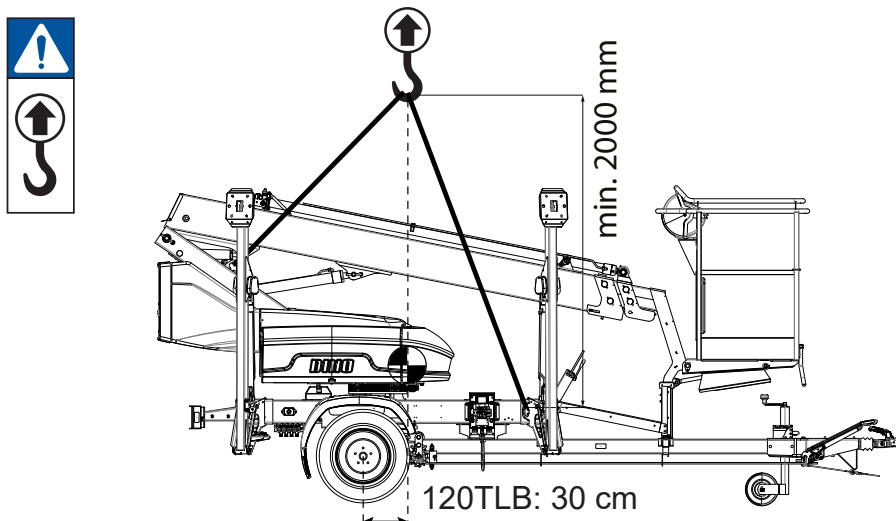


## CAUTION

**Risk of falling!** Tie down the lift to the vehicle for the transport. The chassis of the lift is fitted with specific, marked lugs for tying. To avoid structural damage, use only the marked tying points.

## 5.3.5. Lifting the device

The device can be lifted using the lugs shown in the picture. The lifting lugs are located symmetrically on both sides of the lift.



During lifting the aerial work platform must be in the transport position. Remove all loose material from the top of the frame structures and the work platform before lifting. Use for lifting a suitable crane with sufficient capacity and relevant accessories. Check the weight of the lift in the technical specifications.



**Be careful not to damage the device during the lifting operation.**

#### 5.4. LONG-TERM STORAGE

Clean the machine carefully, lubricate it and apply protective grease to it before putting it into storage for a longer period of time (see point “Lubrication plan”). Repeat the cleaning and lubrication procedures when you resume the operation.

TLB: Make sure to maintain the charge of the batteries during storage to minimize degradation and prevent battery failure. Maintaining the charge is especially important during cold storage to prevent battery failure due to freezing.

### **NOTICE**

If you leave the lift standing for a longer period of time, for example over the winter, we recommend propping it up to release any load from the wheels.

The periodic inspections must be executed following the steps described in the instructions.



## 6. IN CASE OF EMERGENCY

### 6.1. WHEN AT RISK OF LOSING STABILITY

Reduced stability can be caused by a fault in the lift, the wind or other lateral force, collapse of the standing base or negligence in providing sufficient support. In most cases one sign of reduced stability is the inclination of the lift.



1. If there is time, try to find out the reason for the reduced stability and the direction of its effect. Warn other people on the worksite using the alarm signal.



2. If possible, reduce the load from the platform in a safe manner.

3. Reduce the outreach to the side by retracting the telescope. Avoid abrupt movements.

4. Turn the boom away from the danger zone, i.e. to a position where the stability of the lift is normal.

5. Lower the boom.

If the stability has been lost as a result of a fault in the lift, repair such a fault immediately.



**Do not use the lift until the fault has been repaired and the condition of the lift has been verified.**

### 6.2. IN CASE THE OPERATOR IS INCAPACITATED ON THE PLATFORM

If the emergency stop haven't been activated on the platform and the key for the selector switch is available then the lift can be operated from the lower control centre (LCB).

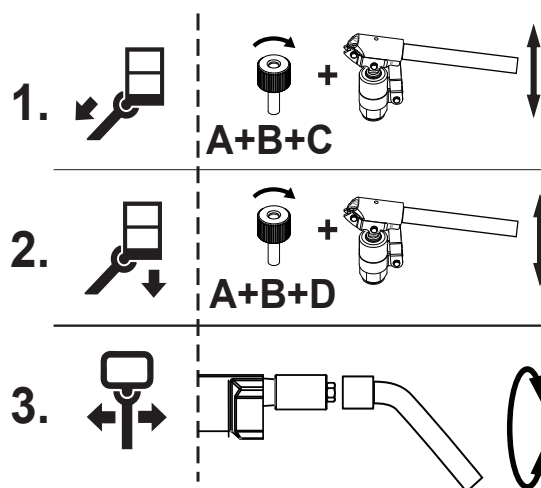
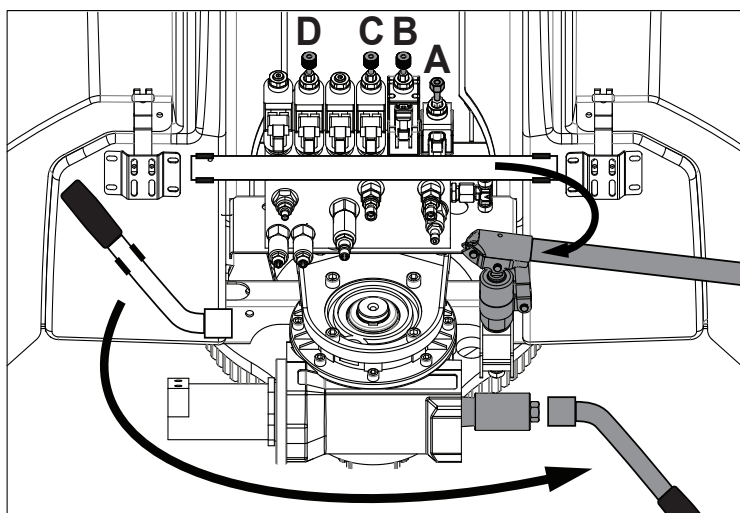
Otherwise refer to "6.3. In case the power supply is interrupted".

### 6.3. IN CASE THE POWER SUPPLY IS INTERRUPTED

As a precaution against power failure or other malfunction of energy supply, the lift is equipped with a manually operated emergency descent system.

The emergency descent system is located under the front and top covers of the turning device. The front cover is opened by releasing the locking mechanism at the bottom on both sides. The top cover is removed by opening its fastening at the rear end and sliding the cover forward.

Always check the condition of the emergency descent system before starting to use the lift.



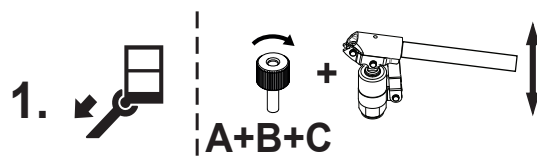
The emergency descent system can only be operated from the ground. If you are on the platform, call for help to operate the system.

**NOTE** Start by retracting the telescope completely, after that, lower the boom and turn the boom system.

**Operation:**

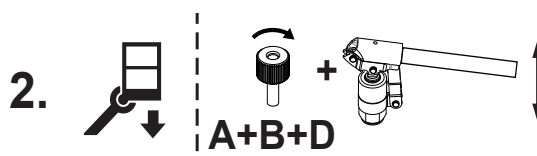
1. Retracting the telescope

- Turn the finger screws A, B and C all the way down clockwise.
- Using the hand pump, retract the telescope completely.
- Turn the screws fully open counter-clockwise after the pumping.



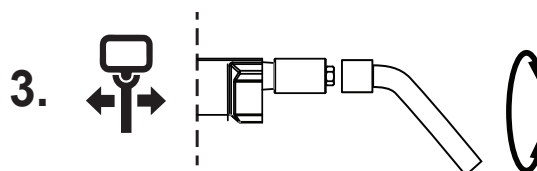
2. Lowering the boom

- Turn the finger screws A, B and D all the way down clockwise.
- Using the hand pump, retract the telescope completely.
- Turn the screws fully open counter-clockwise after the pumping.



4. Turning of the boom

To turn the boom, place the crank on the worm gear shaft. Turn the crank gently in the desired direction.



**6.4. IN CASE OF MALFUNCTION, WHEN EVEN THE EMERGENCY DESCENT SYSTEM IS NOT OPERATIONAL**

If not even the emergency system is working, try to warn other personnel present on the site or call for more help. When help arrives, try to

- restore the power supply required for normal operation of the lift
- resume the lift's normal operation by other means
- rescue the person on the platform by other means

## 7. INSTRUCTIONS FOR FAULT-FINDING

FAULT	REMEDY
-------	--------

### 1. The electric motor does not start if any of the movements is activated.

Main switch has been turned off.	Switch on the main switch located in LCB control centre.
The correct operating location has not been selected.	Select the correct operating location using the key switch Q1.
Emergency stop button in one control centre is pressed down.	<p>Check that the buttons are pulled up and check that the light in LCB control emergency stop button illuminates.</p> <p>Re-start the motor using the speed selector switch.</p>

### 2. Boom movements do not work, although the electric motor is running and the selector switch is in the correct position.

Green signal light for the outriggers is not illuminated.	Make sure that the outriggers are firmly placed on the ground, and the tyres are off the ground.
120TLB: Boom up and telescope out -movements are prevented when battery is low.	Charge the batteries.

### 3. Outriggers do not move.

The boom is not resting on the transport support.	Drive the boom onto the transport support.
Activation button for outrigger movements has not been pressed.	Press the activation button and try again.

### 4. Driving device is not operational, although the selector switch is in the correct position.

Boom is not resting on the transport support.	Drive the boom onto the support.
Electric motor is not running.	The electric motor needs to be started by using the selector switch in the LCB controls.

**5. Wheel brakes overheat.**

Parking brake is not completely released.	Release the parking brake completely.
---	---------------------------------------

**6. Ball-coupling is not locked.**

Inner parts of the ball-coupling are dirty.	Clean and lubricate.
Tow-ball of the towing vehicle too large.	Make sure that the towing ball of the towing vehicle is the right size for the lift's tow hitch.  According to DIN74058, the diameter of the ball must be max. 50 mm and min. 49.5 mm.

**In all other fault conditions, the lift must be submitted to a qualified DINO service provider.**

**To avoid malfunctions**

- Follow the operating instructions
- Beware of dangerous situations, which can damage the lift
- Keep the lift clean and protect it against moisture

## 8. MAINTENANCE SCHEDULE

Maint.	Schedule	Person responsible	Reference
A	Daily	Operator	Operating instructions
B	1 month / 100 hours*	Competent person who is familiar with the lift	Maintenance instructions
C	6 months / 400 hours*	Competent person who is familiar with the lift	Maintenance instructions
D	Annually / 800 hours*	Skilled technician who is well familiar with the structure and operation of the lift	Maintenance instructions
E	As needed	Skilled technician who is well familiar with the structure and operation of the lift	Maintenance instructions

\* Service must be performed every indicated month or operating hour interval, whichever comes first.

### NOTICE

In addition to the daily maintenance routines according to the maintenance schedule, every operator is obliged to perform a site-specific worksite inspection.

○ = Check (general/visual checking of condition).

● = Thorough Inspection. To be performed following the procedure, described in the separate maintenance instructions.

▲ = Carry out lubrication, services, replacement of parts and repairs in accordance with this point.

Always lubricate the lift and apply a protective grease film immediately after the washing.

The lift must be subjected to an extraordinary inspection always after an exceptional event. An event is exceptional, for example, if the lift has been damaged so severely, that its strength or operational safety may have been endangered. Consult the maintenance manual for more detailed instructions.

### NOTICE

Under demanding conditions where moist, corrosive substances or corrosive climate may speed up the deterioration of the structures and induce malfunctions, the maintenance intervals must be shortened, or the influence of corrosion and malfunctions must be reduced by using appropriate protective agents.

	Maintenance item	A	B	C	D	E	Notes
1	Chassis						
	Structure	○	○	○	●		
	Drawbar	○	○	○	●		
	Transport support				○		
2	Outriggers						
	Structure	○	○	○	●		
	Foot plates				○		
	Joints		○/▲	○/▲	○/▲		Mobilgrease XHP 222
	Limit switch mechanism				○		
3	Boom						
	Structure	○	○	○	●		
	Sliding surfaces		▲	▲	▲		PRF Teflube
	Slide pads		○/▲	○/▲	○/▲		
	Joints		▲	▲	○/▲		Mobilgrease XHP 222
4	Flyer-chain system (120TL/TLB)						
	Lubricate chains			▲	▲		Würth HHS Grease
	Lubricate chain rollers		▲	▲	▲		Mobilgrease XHP 222
	Tightness of chains				●/▲		
	Attachment of backup chain				○		
5	Work platform						
	Structure	○	○	○	●		
	Gate	○	○	○	●		
	Platform carrier	○	○	○	●		
	Platform pin				○		
	Anchor points				○		
6	Cylinders						
	Load holding			●	●		
	Joints		○/▲	○/▲	○/▲		Mobilgrease XHP 222
	Telescope cylinder joints			○/▲	○/▲		Mobilgrease XHP 222
	Piston rod and wiper ring				●		
	Fittings				●		
	Platform levelling		○	○	○		
7	Turning device						
	Structure			●	●		
	Attachment of turning bearing			○	●		Testing Tightening M12: 80 Nm 115 Nm
	Lubricate nipples (1-1,5 g x 2 pcs.)			▲	▲		Mobilgrease XHP 222
	Attachment of angular gear				○		
	Play of angular gear				○		
	Lubricate gear rings			▲	▲		Ceplattyn 300
	Axial play of turning bearing				●		Max 1 mm
	Turning motor				○		

8	Swing limiter				○	
	Tow ball coupling and overrun brake					
	Ball coupling				○/▲	Würth HHS Grease
	Locking mechanism				○	
	Attachment				○	
	Overrun				○/▲	Mobilgrease XHP 222
	Clearance				○	
	Operation				●	
	Operation of brakes			○	○	
	Brake rod and cables			○/▲	○/▲	Würth HHS Grease
9	Brake adjustment at every 5 000 km		●/▲	●/▲	●/▲	3-4 mm, 135 mm, M10: 24 Nm, M12: 40 Nm
	Driving device					
	Operation		○	○	●	
	Attachment to chassis				○	
	Load holding		○	○	○	
10	Lubricate			▲	▲	Mobilgrease XHP 222
	Axle and wheels					
	Condition of axle				●	
	Attachmet of axle				●	62 Nm
	Tyres	○	○	●	●	Use max inflation pressure marked on the tyre
	Rims				○	
	Wheel bolts			○	●	90 Nm
	Play of wheel bearings				○	
	Grease jockey wheel				▲	
	11	Hydraulic system				
Oil filter cartridge					▲	
Oil		○	○	○	▲	ISO VG 22, 10 litres
Lines and fittings		○	○	○	●	
Pressures					●	
12	Electrical system					
	Control boxes				○	
	Connections				○	
	Limit switches and sensors				○	
	Wiring		○	○	○	
	Cable chain				○	
	Mains plug and socket				○	
	Fault corrent switch				○	
	Batteries and their electrolyte level (TLB)		○	○	○	
	Road lights and reflectors				○	
13	Control system					
	Operation	○	○	○	○	
	Operation of safety limit switches	○	○	○	●	
	Emergency stop	○	○	○	○	
	Emergency descent	○	○	○	○	
	Horn	○	○	○	○	
14	Signs, labels and machine plates	○	○	○	○	

<b>15</b>	Instruction manuals	○	○	○	○		
<b>16</b>	Test loading						
	Loading				▲		
	Check structures				●		
<b>17</b>	Corrosion protection				○	▲	
<b>18</b>	Movement speed adjustment					▲	
<b>19</b>	Special inspection					▲	



## 8.1. SCHEDULE FOR INSPECTIONS REQUIRED BY THE AUTHORITIES

**Inspections must be performed in accordance with local, state or federal regulations, legislation, directives, standards.** The manufacturer recommends following inspections, as required by local authorities in platforms country of origin.

A pre-use inspection must be done before taking the platform to use for the first time and before first start-up after major repairs and alterations.

A thorough inspection and a test loading of the lift must be carried out at least once every twelve (12) months.

The platform should undergo a major inspection within ten (10) years after having been originally put into service. A major inspection includes non-destructive testing and inspection while dis-assembled.

A special inspection should be done if the platform has been exposed to exceptional circumstances which may have affected the structural integrity of critical components.

The inspections should be carried out on regular basis throughout the service life of the lift. If the lift is used under extreme conditions, intervals between the inspections shall be reduced.

The overall operating condition of the lift as well as the condition of the safety-related control devices shall be established in the regular inspections. Particular attention shall be paid to changes which affect the operational safety.

During inspections the notifications given in previous inspections, practical experience from use and information on performed repairs should be taken into account and can be implemented for better safety.

Major and special inspections shall be carried out by a competent person or competent body, who is familiar with the operation and structure of the lift. The competent person should periodically update their knowledge and be able to demonstrate their competency if so required.

A report should be made of the inspections and the reports should be kept with the unit stored in the space reserved for it.

The report should include

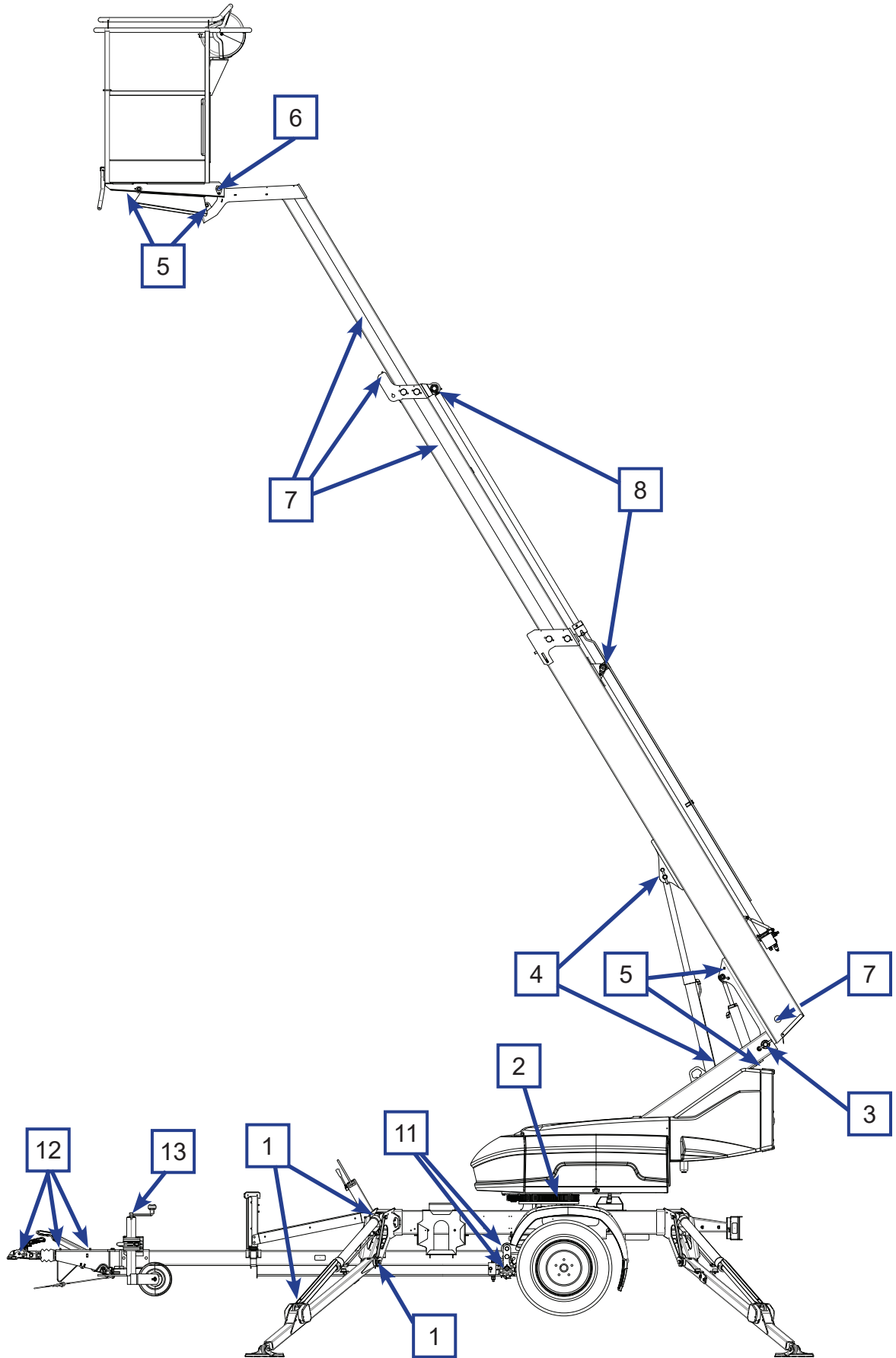
- information about the inspection
- data of repair welds (date, what was repaired and repaired by whom)

When the lift is ready for operation after annual inspection, the date of inspection shall be marked on the inspection plate affixed to the lift.

### **NOTICE**

**Check the regulations for the inspections and the competence of the inspector with the local authorities.**

## 8.2. LUBRICATION PLAN



## 9. ROUTINE MAINTENANCE DURING OPERATION

The maintenance operations, that are the responsibility of the operator, are described in this chapter.

The more demanding maintenance operations that require special skills, special tools or specific measurements and adjustment values are instructed in the separate Maintenance Instructions. In such maintenance and repair cases, the operator shall contact an authorized service provider, the distributor or the manufacturer.

Make sure that all the service and maintenance procedures of the lift are performed in time and according to the given instructions.



### **WARNING**

Any such faults, observed during operation or periodic service, which affect the operational safety of the unit, must be repaired before the lift is used next time.

Keep the lift clean. Clean the lift especially carefully before services and inspections. Impurities may cause serious problems, for example, in the hydraulic system.

Use original spare parts and consumables. Consult the spare parts list for more detailed information about the parts.

#### **The first service after 20 hours of operation**

- change the pressure filter element
- adjust the brakes according to the instructions (see point “Wheel brakes and bearings”)
- check the wheel bolts for tightness after about 100 km of driving

**If the lift is operated under demanding conditions (in exceptionally humid or dusty environment, corrosive climate, etc.) the intervals between the oil changes and the other inspections shall be shortened to meet the prevailing conditions in order to maintain the operational safety and reliability of the lift.**

**The timely performance of the periodic servicing and the inspections is absolutely mandatory, because neglecting them may impair the operational safety of the lift.**

**The guarantee will not remain valid, if the servicing and the periodic inspections are not performed.**

## 9.1. INSTRUCTIONS FOR DAILY MAINTENANCE AND INSPECTIONS

### 9.1.1. Check the condition of chassis, the boom and the work platform

Check visually the condition of the access routes, the work platform, the platform gate and the handrails.

Check visually the condition of the boom and the frame structures.

### 9.1.2. Check the tyres and tyre pressure

Check visually that the tyres are duly inflated, and do not show any damage.

### 9.1.3. Check the lights

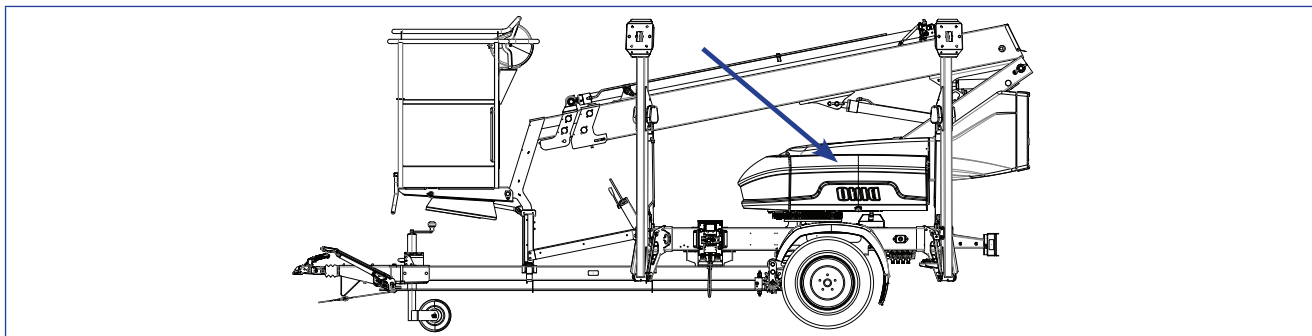
Check the condition of all the warning and signal lights as well as the road traffic lights of the trailer.

### 9.1.4. Check the hydraulic oil level

Check the hydraulic oil level with the platform in the transport position.

As required, top up hydraulic oil to the upper mark on the dipstick.

The hydraulic oil tank is located under a cover of the turning device, as shown in the picture.



### 9.1.5. Check the hydraulic hoses, pipes and connectors

Check visually the hydraulic hoses, pipes and connections.

Make sure that there are no visible oil leaks.

Replace any externally damaged hoses and clashed pipes or fittings.

### **9.1.6. Check the operation of the safety limit switches**

Test the operation of the safety limit switches that prevent the movements of the boom and the outriggers as follows:

1. The lift is in the transport position with the outriggers in the upper position, and the driving device connected.
2. Lift the boom via the controls in the lower control centre.  
**The boom must not operate in any position of the selector switch.**
3. Lower the outriggers to the operating position of the lift
4. Using the controls in the lower control centre, lift the boom so much that it raises from the support
5. Drive the outriggers.

**The outriggers must not operate in any position of the selector switch.**

### **9.1.7. Check the operation of the emergency descent, the emergency stop and the sound signal**

Test the operation of the emergency stop and the emergency descent system from the lower control centre LCB:

- lift the boom and extend the telescope about 0,5m. While driving, press the emergency stop button – the movement should stop
- using the emergency descent, retract first completely the telescope, then lower the boom
- pull up the emergency stop button

Test the operation of the emergency stop and the sound signal from the platform control centre.

### **9.1.8. Decals, plates and instructions**

Check that all the signs, warning decals and pictorials are in place, intact and clean.

If the labels have started to come off or tear apart, or if the symbols or texts are illegible, then the decals must be replaced.

Product numbers of the decals are visible on the decals or the product numbers of new decal sets can be found in the spare part list.

Check that the user manuals accompanying the lift are legible.



**BLANK**





**BLANK**



## 10. CHANGE OF OWNER

For the owner of the lift:

If you have purchased a used DINO lift from some other than the manufacturer, please post your details to the manufacturer using the form on this page, and send it to:

info@dinolift.com

This information makes it possible for us to provide you with the safety bulletins and other campaigns relevant to your machine.

Note! It is not necessary to inform about a rented machine.

Machine model: DINO \_\_\_\_\_

Serial number: \_\_\_\_\_

Previous owner: \_\_\_\_\_

Country: \_\_\_\_\_

Date of purchase: \_\_\_\_\_

Current owner: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Country: \_\_\_\_\_

Contact person

Name and position in the company: \_\_\_\_\_

Telephone: \_\_\_\_\_

E-mail: \_\_\_\_\_



**NOTES**

**NOTES**