# Operator's Manual
# UP Lift 5
(Original manual)

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**Foreword**

We would like to inform that the Mobile Elevating Work Platform (MEWP) type UP Lift 5 has successfully passed detailed verification procedures, carried out by the certification body JOAiCW TEST Sp. z o.o. [Ltd], confirming its compliance with the European Standard EN 280:2013 .
The confirmation of the positive result of the verification procedures carried out by JOAiCW TEST Sp. z o.o. is the Declaration of Conformity of the device with the European Standard EN 280:2013.
Lockhard Sp. z o.o. is the only manufacturer of the MEWP UP Lift 5.
This Operator's Manual is considered to be a fundamental part of the Mobile Elevating Work Platform type UP Lift 5. It contains all the necessary information on the assembly, disassembly and operation of the device as well as users' work safety and the information on how to maintain the efficiency of the platform.
A full and legible user's manual must be accessible at all times. "Mobile Elevating Work Platform type UP Lift 5" will be hereinafter abbreviated as **"UP Lift 5".**

**In order to avoid unnecessary damage and risks, the operator's responsibility is to read, understand and obey this Operator's Manual**

In addition to this Operator's Manual, general legal provisions and regulations concerning accident prevention and environmental protection in force in the user's country shall apply.
You should refer to all the national and local laws and regulations for operating the UP Lift 5 on site.

**LOCKHARD is not liable for any damage resulting from failure to comply with this Manual.**
**Any risk in this respect shall be borne by the user.**

# 1. GENERAL INFORMATION

## 1.1. Manufacturer

LOCKHARD Sp. z o.o.
Gorzyce Wielkie ul. Ostrowska 74a
63-410 Ostrów Wielkopolski
Tel. +48 627347129
e-mail: office@lockhard.eu
www.lockhard.eu

## 1.2. Machinery Marking

**UP Lift 5**

| | |
|---|---|
| Lockhard Sp. z o.o.<br>Gorzyce Wielkie ul.Ostrowska 74a<br>63-410 Ostrów Wielkopolski<br>POLAND | |
| Product:<br>Mobile Elevating Work Platform type UP Lift 5 | |
| Year of manufacture: 2015 | Weight: 80 kg – 154 kg |
| Safe working load: 120 kg | Voltage: 12V DC |
| Platform dimensions: 480/690mm | Platform speed: 10 m/min. |
| Lift height: 2.94 m | Serial number: ……. |

### 1.3. Definitions

**Mobile Elevating Work Platform type UP Lift 5 -** is a mobile machine intended to move persons to working positions on which they carry out work from the work platform, on the assumption that these persons enter the platform and exit the platform in its lower access position, and which consists of the work platform with controls, a load-bearing structure and a wheel assembly.

**Work platform** - a part of the mobile platform, a platform with railings, which can be moved under load to a desired working position, and from which you can perform installations, repairs, inspections or similar works.

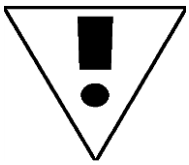
**Operator** - a designated person, suitably trained to operate devices of this type subject to laws and regulations applicable in a particular country. In Poland an operator must have proper qualifications awarded by the Office of Technical Inspection (an operator may also work as a service technician).

**Service technician** is a person who has been sufficiently trained by the manufacturer of the device type UP Lift 5, that is Lockhard Sp. z o.o. Each periodic replacement of parts or ad hoc repairs of the device may be carried out by the manufacturer's service technicians or service units authorized by the manufacturer.

**Safe working load -** the maximum weight carried by the work platform provided for by the manufacturer in the design/specifications of the device. The safe working load comprises the weight of persons, tools and materials placed on the platform.

### 1.4. Safety symbols used in this Manual

In order to draw your attention to the parts of this Manual which contain important information or indicate danger, the following symbols are used. Special attention should be paid to the parts of the Manual marked with these symbols as you study the instructions for use.



**Danger**
This symbol indicates an immediate threat to person's life and health.
Failure to comply may result in a risk to life or a risk of serious injury and a significant property damage.

**Caution**
It is a warning against possible damage to the UP Lift 5 or other things, if the action marked in this way is performed incorrectly.

## 1.5. National requirements

In addition to this Operator's Manual, attention should be given to the need to know and comply with the generally applicable national and local laws and other binding regulations relating to work safety and environmental protection in the country where the machine is used.
In the Republic of Poland the "Mobile Elevating Work Platform type UP Lift 5" serving as a device for the movement of persons and loads is a device qualified to the category of handling equipment and is subject to technical supervision. It is the user's responsibility to report the equipment to **UDT** [*Polish Office of Technical Inspection*].

Legal basis:
Regulation of the Council of Ministers of 7 December 2012 on types of technical devices subject to technical inspection (Official Journal of Laws /Dz.U./ of 2012 No. 0, item 1468), issued pursuant to Article 5, paragraph 2 of the Law on Technical Inspection.

Pursuant to the Regulation of the Minister of Economy, Labour and Social Policy of 29 October 2003 on the technical conditions of technical supervision relating to operating certain types of handling equipment. Pursuant to Article 25.1 item, 6 after changing the location of handling equipment, a device with single-phase power supply does not require interim in-service testing.

## 1.6. Declaration of Conformity

**DECLARATION OF CONFORMITY**
**confirming compliance of the device with the standard EN 280:2013**

Manufacturer: **LOCKHARD Sp. z o.o.**
**Gorzyce Wielkie ul. Ostrowska 74a**
**63-410 Ostrów Wielkopolski**

Product: **"Mobile Elevating Work Platform type UP Lift 5"**

Serial number: **.....**

We hereby declare under our sole responsibility that the product referred to above fulfils the essential health and safety requirements and complies with the harmonized standard PN EN 280:2013.

**Verification procedures confirming its compliance with the European Standard EN 280:2013 were carried out by the notified body JOAiCW Test Sp. z o. o., number NB2057, 41-103 Siemianowice Śl. ul. Wyzwolenia 14,**

The Product carries the mark: CE

The technical documentation is stored at:

**LOCKHARD Sp. z o.o.**
**Gorzyce Wielkie ul. Ostrowska 74a**
**63-410 Ostrów Wielkopolski**

Technical Manager:

Łukasz Leonhard

Gorzyce Wielkie, dated ……

## 2. TECHNICAL DATA

| | **UP Lift 5** |
|---|---|
| Safe working load | 120 kg (1 person, tools and materials) |
| External dimensions of the UP Lift 5 | 680/1100/1900mm |
| Work platform dimensions | 480x690 mm |
| Maximum platform lifting and lowering speed | 10 m/min. (at full battery power) |
| Maximum height | 2.94 m - internal height |
| Maximum UP Lift 5 weight | |
| Supplied voltage | 12 VDC |
| Engine power | 200 W |
| Battery capacity | 33 Ah |
| Battery voltage | 12 V |
| Operating temperature | -15° C up to +40 ° C |
| Set overload protection | adjusted individually. |
| Noise | does not exceed 70 dB |

### 2.1. Use of the UP Lift 5 for its intended purpose

The "Mobile Elevating Work Platform type UP Lift 5" is a mobile machine intended to move persons to working positions on which they carry out work from the work platform, on the assumption that these persons enter the platform and exit the platform in its one lower access position. The "UP Lift 5" consists of the work platform with controls, a load-bearing structure and a wheel assembly.
The "Mobile Elevating Work Platform type UP Lift 5" can be used only indoors.

### 2.2. Failure to use the UP Lift 5 for its intended purpose

- It is prohibited to use the UP Lift 5 as a crane.
- It is prohibited to apply a point load - the load must be equally distributed across the platform. Applying a high load over a small area (a point load) may damage the platform.
- It is prohibited to use the device in outdoor areas of the facility.
- It is prohibited to move the UP Lift 5 using any motor vehicles such as a car, forklift truck, tractor, etc.
- It is prohibited to use lifting devices (hand or mechanical winches) on the UP Lift 5.
- It is prohibited to use handrails as a place to stand.
- It is prohibited to tie rods between the UP Lift 5 and another structure (buildings, other scaffolding, etc.).
- It is prohibited to lean any objects against the UP Lift 5 structure during operation.
- Only 1 person at a time may operate the UP Lift 5 work platform.
- It is prohibited to use the UP Lift 5 that is not properly maintained and inspected or is not in good technical condition.
- It is prohibited to use this device without stabilizers mounted on the frame of the UP Lift 5 in the space designed for that purpose.
- It is prohibited to use this device in explosive atmospheres.

## 3. List of components of the UP Lift 5

**Table 1**

| Item No. | Component marking | Photo of the component | Component description | Weight in kg |
|---|---|---|---|---|
| 1. | UP Lift 5 |  | Work platform with a frame, a boom arm and a drive system | 80 |
| 2. | RC |  | Remote control 433.92 MHz power <5mW | |
| 3. | Bat 33 |  | Gel battery 12V 33Ah | 10 |
| 4. | OB |  | Stabilizer | 16 |
| 5. | B |  | Toe board | 0.2 |
| 6. | WŁ |  | Charging plug | |

Stabilizers are an integral part of the UP Lift 5

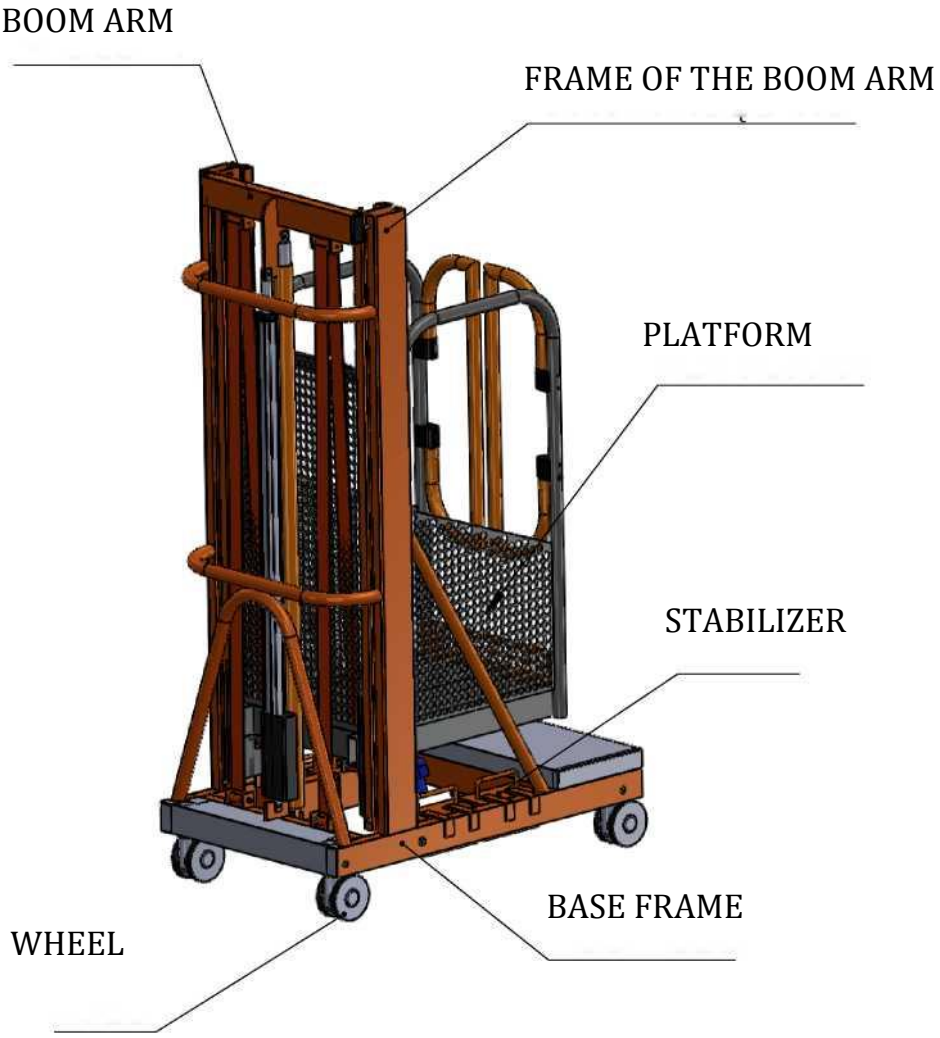



Fig. 1 Main UP Lift 5 components

## 4. DESCRIPTION OF THE DRIVE SYSTEM CONSTRUCTION, OPERATION AND ADJUSTMENT

### 4.1 Drive Unit

The drive system in the UP Lift 5 is the electric actuator LINAK 36EA85S10A20A20, 1700 N. It is permanently attached to the UP Lift 5 load-bearing frame on one side and to the second section of the boom arm of the UP Lift 5 on the other side. The electric linear actuator LA36 is supported by means of a gas spring 1500 N. The drive system exerts a force of 3200N. Two belts are attached to the second segment of the boom arm (one belt lifts the work platform and the other one is required due to safety reasons). The belts are attached to the base of the UP Lift 5 on one side and to the work platform on the other side. When the electric actuator is activated, the second section of the boom arm of the UP Lift 5 starts moving and by means of the belt the work platform starts moving too.

### 4.2 Service brake

**The service brake system**

A trapezoidal thread spindle and a right-and-left nut serve as a service brake. A nominal lifting force of 10,000N is sufficient to hold a work platform with safe working load of 120 kg. Using the electric actuator ensures that the device will stop upon disruption of the control system or the main source of electric power.

The platform will move again when the electric actuator is connected to its voltage supply.

### 4.3 Emergency Brake - Emergency Gripper

**The emergency brake system**

The Mobile Elevating Work Platform type UP Lift 5 is equipped with two independent emergency brake systems:

a) an additional screw compliant with the European standard EN 280:2013 is used with screw drive systems,
b) an additional belt which is able to take up the forces pushing against the lifting system of the work platform (45000N) if the main drive belt has broken.

### 4.4 Control pendant

The Mobile Elevating Work Platform type UP Lift 5 is able to move vertically up and down. In order to start the drive which makes the platform move, the control pendant is used. There are three control buttons on the control pendant. The emergency stop button is a master control button which is used to disconnect the control system. The other two buttons located on the control pendant are used to make the mobile platform move vertically UP and DOWN. These buttons are marked by arrows and arranged by logical operation on the control pendant.

**Figure 1 Control pendant**

### 4.5 Wheel Brakes

Wheel brakes are mechanical devices preventing the UP Lift 5 from uncontrolled movement during operation or stopping.

### 4.6 Safety system to prevent platform overloading

The Mobile Elevating Work Platform type UP Lift 5 is equipped with safety devices to protect the drive from overloading due to platform overloading or blocking during upward movement. The overload protector protects the electric actuator during upward movement, and the redundant protector protects the circuit current of the electric actuator. In the event that the safety system is activated to prevent platform overloading, move downward and reduce the platform load until the system makes it possible to move upward.

### 4.7 Battery charger

The Mobile Elevating Work Platform type UP Lift 5 is powered by a battery. A socket integrated in the UP Lift 5 base frame shall be used for charging the UP Lift 5 drive gel batteries (the charger is integrated in the UP Lift 5 base frame and is its integral part).

To connect the battery to the charger, connect the plug 250VAC of the charger to the socket integrated in the UP Lift 5 base frame.

## 5. ASSEMBLY AND DISASSEMBLY INSTRUCTIONS

Below is the description of the procedure for assembling and disassembling the "Mobile Elevating Work Platform type UP Lift 5" produced by Lockhard Sp. z o.o.

Assembly, disassembly, operation and maintenance of the UP Lift 5 may only be performed by properly trained personnel who must read and fully understand the following procedures and descriptions before attempting to assemble or disassemble.

Only one person is required for assembly and disassembly. The area of the UP Lift 5 assembly and operation must be protected against unauthorized access by third parties.

Pre-assembly works

Before you begin the UP Lift 5 assembly, check all the elements and components listed in Table 1, which are necessary for its proper operation.

For assembly, use only undamaged and original manufacturer's parts.

Before commencing the UP Lift 5 assembly, check the surrounding area for safety, e.g. if there are no electrical installations, ruins, rubble, excavations, mobile cranes, pedestrian traffic, any vehicle or machine traffic, etc. in the area.

If there is a risk that the UP Lift 5 might come into contact with overhead electrical power lines, these lines should be shut off.

Electrical power lines which are in the distance of the level of free-swinging extreme cables from the furthest possible outer edge of the transferred elements at the time of the UP Lift 5 operation, assembly and disassembly operations do not have to be shut off, with the said distance being not closer than:

- 2 m for a low voltage line of 400V
- 5 m for a line of up to 15 kV
- 10 m for a line of up to 30 kV
- 15 m for a line of over 30 kV

You should check the surface on which the UP Lift 5 will be installed. The surface must be horizontal and hardened.

## 5.1. Assembly

The structure of the UP Lift 5 allows for quick assembly without the use of tools.

**Stage 1 - assembly of stabilizers**

The UP Lift 5 platform should be placed at the assembly site.

First, you must install the required stabilizers at the base frame of the Mobile Elevating Work Platform type UP Lift 5.

Figure 1

Figure 2

Figure 3

Figure 4

**There should be 4 stabilizers installed at the base frame of the UP Lift 5 - see Figure 4.**

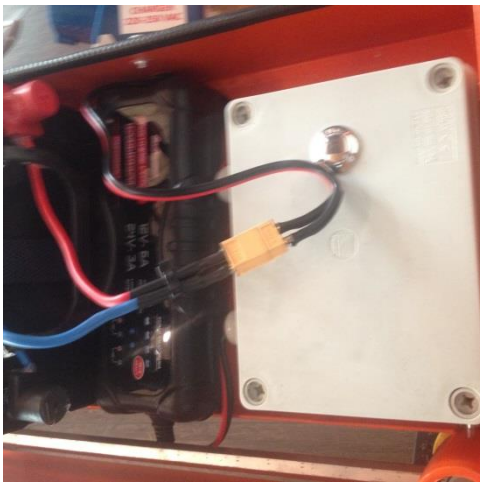
**Stage 2 battery assembly**

Open the battery cover when the platform is at the lowest position.

Insert the batteries into the battery slot.

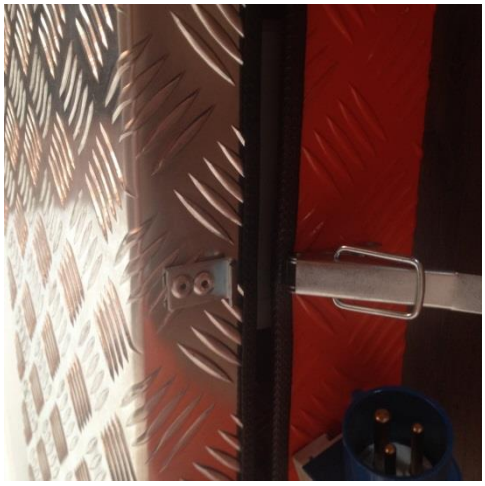
Secure the batteries using a safety belt.

Connect the batteries to the XT60 socket.

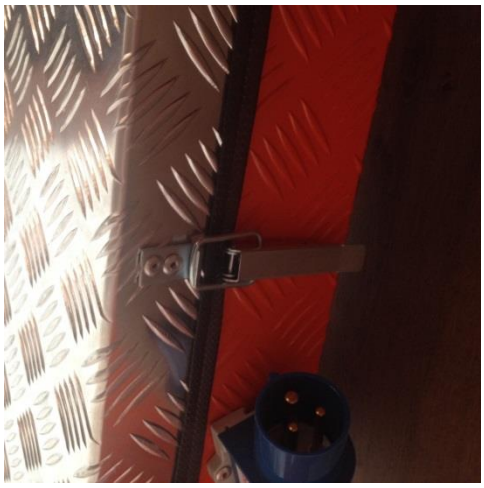


Close the battery cover.

Secure the battery cover against any unintended opening.



The cover is not secured



The cover is secured

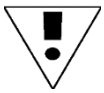
**In order to avoid failure use only batteries provided by the manufacturer of the UP Lift 5.**

### 5.2. Disassembly

**Make sure that the platform is at its lowest position and that there are no people on the platform.**

- To start the disassembly open the battery cover.
- Disconnect the batteries unplugging the XT60 connector.
- Remove the belt securing the batteries.
- Remove the batteries.
- Close the battery cover.
- Secure the battery cover against any unintended opening.
- If the position of the UP Lift 5 is to be changed (transporting the device in a horizontal position, carrying the platform to another location, etc.) the stabilizers must be removed.

## 6. OPERATOR'S MANUAL



**The user is responsible for the safety of use of the UP Lift 5 by establishing safe working instructions each time**

This chapter contains information that is necessary for proper operation of the UP Lift 5 manufactured by Lockhard Sp. z o. o.
Before attempting to use the UP Lift 5, the operator's responsibility is to check that the structure is complete without visible mechanical defects.

- You may enter and exit the platform from the ground level only when it is in the lowered position.
- To enter the platform, use only access holes fitted with handrails with an access gate.
- Before starting work with the UP Lift 5 it is necessary to carry out a detailed inspection of the site in order to identify potential hazards in the work area

**While the platform is moving, it is important to stay within the platform railings and not to protrude beyond their outline.**

### 6.1. The main switch

Before starting work turn the main switch to the ON position.

### 6.2. Control via control pendant

The control pendant is wireless and shall be placed within reach of an operator of the UP Lift 5.
In order to control the UP Lift 5 drive system the following should be done:

- Control the platform movement using the UP/DOWN buttons marked with arrows and colours - blue/ green, respectively
- In the event of any emergency, stop the platform movement with the emergency stop button - when you press the red button, it cuts off the supply of the control circuit.

### 6.3. Operator's working station

The working station is on the work platform. While the work platform is moving, do not protrude beyond its outline.

### 6.4. Operator's qualifications

- In order to ensure proper operation of the UP Lift 5, it is important for the operator to have necessary qualifications to operate the UP Lift 5 (the required qualifications are subject to legal regulations applicable in a particular country) and to follow maintenance and inspection schedule. The operator of the UP Lift 5 in Poland must have proper qualifications awarded by the Office of Technical Inspection.
- Only trained personnel may be authorized to operate the UP Lift 5. Trained personnel are persons who have the necessary qualifications as specified by legal regulations applicable in the country where the platform will be used. The operator of the UP Lift 5 in Poland must have proper qualifications awarded by the Office of Technical Inspection .
- Safe UP Lift 5 operation requires the operator to understand restrictions, warnings and operating procedures. The operator must read and understand the complete Operator's Manual as well as warnings and guidelines contained herein.
- The operator must be familiar with the safety regulations.

### 6.5. Moving the Mobile Elevating Work Platform type UP Lift 5

- The UP Lift 5 can be moved when assembled, sliding is permitted only on horizontal, even and hardened surface of adequate load bearing capacity.
- When moving the UP Lift 5, it is prohibited to allow persons, materials or tools to remain on the platform.
- The UP Lift 5 can only be moved by hand and in longitudinal or lateral direction on the surface free from obstacles
- When moving, extreme care and slow pace must be maintained not exceeding pedestrian pace.
- After moving the UP Lift 5 the wheels must be locked by applying a stopping brake (no additional action is needed, the wheels are locked automatically when the device moves upwards.
- In order to unlock the wheels after the operator leaves the platform press the DOWN button and a red button on the access step (see the Figure below).

! After work is complete, the UP Lift 5 should be secured against unauthorised use by third parties by securing the control pendant.

### 6.6. Troubleshooting

In the event of an emergency situation, in which the working platform will be blocked, e.g. in the event of a drive failure, do not take any action to restart the platform. Supervisors should determine how the staff remaining on the platform should safely leave the work platform, depending on the situation and conditions.

**Instructions for action to be taken by the operator if the emergency device is triggered.**

**6.6.1 In the event that the belt has broken, the operator should**

- stop the platform movement using the red emergency button, which cuts-off power supply from the control circuit,
- contact the individuals who are near the UP Lift 5 and
- inform supervisors of the device failure.

**6.6.2 Control system failure**

Control system failure may include:

- battery failure (discharged battery is not a failure, if the batteries are discharged you can always move downward standing on the platform)
- control pendant failure
- a short circuit in the wiring
- switching off a fuse (the most common cause of switching off a fuse is exceeding the maximum authorised weight)
- any other situations which make it impossible to restart the platform.

In the event that any of the situations specified above occurs, use emergency lowering device to lower the platform.

**6.6.3 Emergency lowering device**

Emergency lowering device is a system used to lower the platform to a position that enables the operator to leave the platform safely. It is prohibited to use the emergency lowering device in the events of:

- mechanical failures
- using it at the same time when the main control system is used.

The UP Lift 5 features two emergency lowering systems

a) electrically powered lowering system - it can be used when the control pendant is damaged.

It is a button which enables the operator to move the platform downward only, the button is situated under the battery cover,

b) mechanically powered lowering system - can be used in every case of failure (does not require power supply

- there is a hole in the bottom part of the housing of the electric actuator, the devise is lowered by means of a hex key size 6 mm)

### 6.7. The main switch

After finishing work turn the main switch to the OFF position.

## 7. HAZARDS IDENTIFICATION AND RESIDUAL RISK INFORMATION

**Table 2**

| Hazards | Residual risk |
|---|---|
| Crushing hazards due to lack of space | There is a risk of crushing if the third parties are under the platform at the time of its downward movement. The risk arises in the event of a breach of a ban to access under the platform. |
| Shearing hazard | Risk of injury when protruding a limb from the work platform and leaning out during platform vertical movement. |
| Friction or abrasion hazard | The risk exists when the user of the device is not equipped with protective clothing. |
| Failure to use personal protection equipment | In the case of non-application of personal protective equipment, personal injury may occur, such as, among others, abrasions, cuts. |
| Human errors | Human errors may occur in the event of failure to comply with instructions for use and installation, which can result in loss of life or health, damage to the machine and incorrect operation. |
| Assembly errors | Assembly errors may occur in the event of failure to comply with instructions for installation, which can result in loss of life or health, damage to the machine and incorrect operation. |
| Falling or dropping objects | In the event of working on the platform, the operator is required to secure materials located on it. |
| Loss of stability/machine overturning | In cases of non-compliance with the operation manual of the device stability may be impaired and the machine may overturn, which may lead to loss of life, health or damage to the equipment. |
| People slipping, tripping or falling hazards | Slipping hazard may occur in the event of incorrect maintenance of the work platform, which can cause contamination on the platform and loss of its non-slip properties. Tripping hazard may occur in the case of incorrect material placement on the platform |
| Inadequate position of controls | In the event of incorrect positioning of the controls, wrong usage may be caused (swap directions of driving) |
| Caused by a third party to third parties | Risk arising out of use or reside on the platform or in its immediate vicinity unauthorized not and not trained persons. |
| Exceeded overturning moments | In the event of platform overloading there is a risk of loss of stability |

| | |
|---|---|
| Secure access to the work platform | Risk arises as a result of not securing safe access road to the platform, such as pledging roads through materials that would restrict access to the platform. |
| Caused by an abnormal assembly/use/maintenance conditions Using inadequate items. | In the event of difficult conditions for assembly, disassembly, operation and maintenance, human errors may occur, e.g. wrong installation, poor assessment of components, poor maintenance, urgency of the works performed |

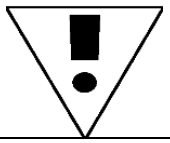
**Instructions on identifying faults and their location, removing them and re-starting after intervention operations.**

**Table 3**

| Fault | Presumed cause | Countermeasures |
|---|---|---|
| The platform stopping when it is in motion | Overloaded platform (switching off a fuse) | Checking the platform load, reducing the platform load<br>Replacing a fuse |
| The platform stopping when it is in motion | Empty batteries | Lowering the platform, replacing or recharging batteries |
| The platform stopping when it is in motion | Damage of the cable of the electric actuator | Replace the cable |
| The platform stopping when it is in motion | Switching on the emergency button by accident | Pressing the emergency button again |
| The platform stopping when it is in motion | Activating overload protection | Checking the platform load, reducing the platform load |

## 8. SAFETY GUIDELINES.

**Most accidents are caused by the operator's failure to obey the basic safety rules.**
**The best guarantee against accidents is a careful**
**and responsible operator.**



**IT IS PROHIBITED TO USE THE UP Lift 5 IN EXPLOSIVE ATMOSPHERES**

- Use protective clothing when operating the UP Lift 5. Protect your eyes, ears, hands, feet and body.
- Welding works can be performed using the UP Lift 5 only with special precautions associated with it.
- In case of leaving the UP Lift 5 unattended secure the control pendant, lock the emergency stop button and turn the device off using the main switch.
- Do not wear loose clothing, scarves, jewellery when operating the UP Lift 5.
- It is prohibited to mount side guards on the UP Lift 5 (for example advertising banners).
- Beware of overhead obstacles or other hazards around the mobile platform when it is in motion.
- Do not lift the mobile platform when the machine is on a truck, forklift truck or any other device or vehicle except for special systems from Lockhard Sp. z o.o. which are intended for this purpose.
- Be aware of the danger of crushing. All parts of the body must be kept within the limits of the mobile platform guardrails when it is in motion.
- Do not lower the platform if there are staff, third parties or any other obstacles in the area below it.
- Make sure that there are no staff, third parties or obstacles on the route of the machine. Take into account any blind spots.
- Dangerous driving and fun are strictly prohibited.
- Do not modify or alter stops or any other safety devices.
- Do not attempt to relieve the wedged platform using controls until the staff remains the platform.
- Before starting work with the UP Lift 5, it is necessary to carry out a detailed inspection of the site in order to identify potential hazards in the work area.
- Works on the UP Lift 5 platform are only permitted when using all parts of the side panel, handrails, knee protection and toe-boards.
- It is prohibited to use the UP Lift 5 platform by the operator who is under the influence of alcohol.
- It is prohibited to use the pendant control station and the emergency lowering device at the same time.

### 8.1. Lighting

The UP Lift 5 is not equipped with its own lighting so the user should provide appropriate lighting devices on the site.

## 9. MAINTENANCE INSTRUCTIONS

### 9.1. Maintenance Operator

**UP Lift 5 Maintenance Operator** is the operator who operates a given device and therefore such a person must be properly qualified in accordance with current legal provisions in the country of use. In Poland the operator of the UP Lift 5 should have proper qualifications to operate this type of device (hoisting and hauling equipment) awarded by the Office of Technical Inspection.

### 9.2. Maintenance and Inspection Schedule

Points which are subject to periodic maintenance or inspection and time periods in which they should be carried out are given in table 4.

The actual environment of the UP Lift 5 operation may affect the maintenance schedule.

**Table 4 Time limits for maintenance and inspection**

| Components | Before assembly (pre-assembly review) | Every 3 months (maintenance) |
|---|---|---|
| Mechanical damage to the structure | 1 | 1 |
| Parking brakes on the wheels | 2 | 2 |
| Wheels | 1,2 | 1,2,4 |
| Belts | 1 | 1 |
| Handrails/the access handrail | 1,2 | 1,2 |
| Bolts and spacers | | 3 |
| Battery chamber locking (bolts) | 1,3 | 1,3 |
| Service brake | | 2 |
| Electrical wiring | | 1,8 |
| Battery | | 9 |
| Labels and Manual | | 1,5,6 |

1. Visual check
2. Check the operation
3. Check whether they are not loose.
4. Lubricate as required
5. Replace the missing or illegible label or Manual
6. The appropriate Manual should be available at the device
7. Check the wear
8. Check the insulation
9. Check the voltage at the battery terminals
10. Check the battery level

### 9.3. Pre-assembly reviews

Pre-assembly reviews should be carried out by persons who assemble the UP Lift 5. The review should consist of checking whether there was no damage or deformation during transport, in particular checking the components listed in table 1.

### 9.4. Maintenance Reviews.

Maintenance reviews should be carried out every 90 days (by an authorized operator). The aim of the review is to check:

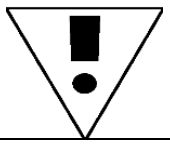
- The condition of the drive mechanisms, brake systems and load-bearing structure, in particular welded connections,
- The operation of safety components and motion stops,
- The operation of the controls.

The maintenance operator (operator) is obliged to:

- record the maintenance review in the UP Lift 5 maintenance book, stating the date and sign confirmation of the review results and the operations carried out
- immediately notify the UP Lift 5's operator of irregularities which caused the necessity of decommissioning the UP Lift 5

### 9.5. Ad hoc and Service Reviews.

Ad hoc reviews should always be carried out after a break in the UP Lift 5 operation of longer than 2 weeks (when the device has been assembled but is not used).
The ad hoc review shall be carried out by the UP Lift 5 operator.
An authorized user's employee is responsible for carrying out ad hoc reviews. The results of ad hoc reviews should be recorded in the UP Lift 5 maintenance book by the reviewing persons.



**Any noticed defects should be removed immediately after each review before starting to operate.**

The service review shall be carried out by a service unit authorized by the manufacturer, it is required once a year.

## 10. CRITERIA FOR COMPONENTS REPLACEMENT

After the set operating time has elapsed, the following parts should be replaced.

**Table 5 Parts to be replaced**

| Component | Operating Time |
|---|---|
| LA36 electric actuator | 500 operating hours |
| Belts | 1 year |
| Wheels | 2 years |

## 11. STORAGE AND TRANSPORT

The UP Lift 5 should be stored in enclosed spaces with solid ground. Such storage is best to protect against rainfall and snow accumulation. Avoid dirt, dust or other contamination. Batteries should be stored at positive temperature, according to DTR [*English: OMD - Operation and Maintenance Documentation*].

**12. AN INFORMATION BOARD PLACED ON THE PRODUCT**


**13.**

## 14. Guarantee and warranty

The Mobile Elevating Work Platform UP Lift 5 is covered by a 2-year guarantee.
"General conditions of sale and delivery in LOCKHARD" shall apply.
Pursuing rights under the guarantee and warranty is excluded in the event of personal and material damage, where they are due to the following:

- Using the Mobile Elevating Work Platform UP Lift 5 contrary to the Operator's Manual.
- Incorrect assembly, start-up, use, operation or servicing of the UP Lift 5.
- Using the UP Lift 5 with defective, unable to work or poorly assembled safety devices.
- Failure to comply with the guidelines included in the Operator's Manual regarding the UP Lift 5 transporting, assembly, start-up, operation, servicing, equipping and storage.
- Making changes to the structure of the UP Lift 5 on your own.
- Carrying out repairs of the device by the unauthorised manufacturer's service technicians.
- Damage resulting from weather conditions.
- Damage resulting from large external forces.
- Carrying out any modifications to the UP Lift 5.

**Warranty Card No.....**

**Product name:** Mobile Elevating Work Platform type UP Lift 5

**Type:**……

**Serial No.** ……

**Date of manufacture:**……

**Date of sale:**……

**Seller's signature and stamp** **Manufacturer's stamp**

**Sample complaint form**

**Mr**……

**Address**……

**Warranty Card No**……

**Product Type and Serial No.** ……

**Date of purchase**……

**Date of start-up** ……

**Brief description of the fault**……

**Date and place** …… **Signature** ……

**Appendix No. 1**

**Tips for reviews**

In order to evaluate the device check:

- Device completeness
  - Platform
  - Vertical frames of the boom arm
  - Handrails and guardrails
  - Toe-boards
  - Wheels
- Technical Condition of individual parts - you must pay attention to the following:
  - Cracks
  - Crushing
  - Breaking
- Control pendant:
  - Emergency stop switch
  - The up-down buttons
- Drive system with service brake - description of the inspection
  Static test:
  - Apply the safe working load over the platform - 120 kg
  - Lift the platform up to the height of approx. 1m
  - measure the distance between the ground and the lower edge of the shorter platform edge
  - leave the platform in this position for approx. 15 minutes
  - after the required time has lapsed, re-measure the distance - allowable lowering - 5 mm

Dynamic test: to be carried once a year

- Apply the safe working load over the platform - 120 kg
- Make the platform move vertically -
  correctly working braking system should smoothly stop the motion after pressing the up - down button. The platform should be stopped within 5 cm.
- Belts - excessive wear of the belts is unacceptable (immediate replacement required)
- Device marking

**Appendix No. 2**

**OPERATOR'S MANUAL Version 01 2011**

**TE4-0227 Smart automatic lead-acid battery charger**
**For 12V and 24V lead-acid batteries**

**SAVE THESE INSTRUCTIONS FOR FUTURE USE**

This manual contains important safety and operating instructions. To reduce the risk of injury, please read all instructions and follow them with each use of this product.

**IMPORTANT SAFETY GUIDELINES.**

**WARNING - EXPLOSION HAZARD**

Do not use this unit for charging dry-cell (alkaline) batteries that are commonly used with home appliances. These batteries may burst, causing personal injury and damage to property. Use the unit for charging/boosting a LEAD-ACID battery only.

**WARNING - SHOCK HAZARD**

- Do not use the unit with a damaged cable or plug or if it has received a sharp blow, has been dropped, or has been otherwise damaged in any way. Do not disassemble the device. Incorrect reassembly may present the risk of an electric shock or fire.
- NEVER submerge this unit in water; do not expose it to rain, snow or use when wet.
- To reduce risk of electric shock, disconnect the unit from any power source before attempting maintenance or cleaning.

**WARNING - RISK OF EXPLOSIVE GASES**

- Working in the vicinity of a lead acid battery is dangerous. Batteries generate explosive gases during normal battery operation. For this reason, it is of utmost importance that prior to each use of the charger you read this manual and strictly follow the instructions.
- To reduce the risk of battery explosion, follow these instructions and those published by the battery manufacturer and manufacturer of any equipment you intend to use in the vicinity of the battery.
- The unit employs parts which may produce arcs or sparks. Therefore, if used in a garage or enclosed area, the unit MUST be placed not less than 18 inches above the floor.
- **THIS UNIT IS NOT FOR USE BY CHILDREN AND SHOULD ONLY BE OPERATED BY ADULTS.**

**CAUTION -TO REDUCE THE RISK OF INJURY OR PROPERTY DAMAGE:**

- Pull cord by plug rather than cord when disconnecting the unit from the power source.
- NEVER ATTEMPT TO JUMP-START OR CHARGE A FROZEN BATTERY.
- When working with lead acid batteries, always make sure immediate assistance is available in case of accident or emergency.
- Always have protective eyewear when using this product: contact with battery acid may cause blindness and/or severe burns. Be aware of first aid procedures in case of accidental

contact with battery acid.

- Have plenty of fresh water and soap nearby in case battery acid contacts skin.
- If battery acid contacts skin or clothing, wash immediately with soap and water for at least 10 minutes and get medical attention immediately.
- Never smoke or allow a spark or flame in vicinity of vehicle battery, engine or battery charger.
- Remove personal metal items such as rings, bracelets, necklaces and watches when working with a lead acid battery. A lead-acid battery can produce a short-circuit current high enough to weld a ring or the like to metal, causing a severe burn.
- Never allow battery acid to come in contact with this unit.
- Do not operate this unit in a closed area or restrict ventilation in any way.

**FIRST AID – SKIN:**

If battery acid comes in contact with skin, rinse immediately with water, and then wash thoroughly with soap and water. If redness, pain, or irritation occurs, seek immediate medical attention.

**FIRST AID – EYES:**

If battery acid comes in contact with eyes, flush eyes immediately, for at least 15 minutes and seek immediate medical attention.

**FEATURES**

- Using state-of-the-art technology, the TE4-0227 Battery Charger with 6 steps enables the re-charging of batteries to almost 100% of their original capacity.
- The device may automatically diagnose, recover, charge and maintain batteries for months, it ensures fully automatic operation from charge to float modes.
- Six output options are available enabling battery charge up to 28.8V, 29.4V, 14.4V, 14.7V, 13.6V and enabling 16V float charge.
- It features a 9-stage charging strategy, i.e. Pulse Charge, 6A, 4A, 3A, 2.5A, 1.5A, Boost Charge, Float Charge & Power Supply mode.
- The device is supplied with two detachable and interchangeable colour coded lead sets,one with clamps for bench charging and one with eyelet terminals,for permanent attachment to the battery posts to allow quick connection/disconnection through connector.
- No risk of overcharging
- Electronically secured against a user's faults.
- Spark proof
- Overheat protection
- Short-circuit protection and mis-wiring protection.
- Operates as a power generator (3.6V/5A)
- Boosts deeply discharged batteries (4.5V)

**OPERATOR'S MANUAL**

1. **Connect clamping rings/clips directly to the correct posts of the battery.**

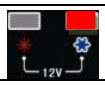
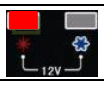
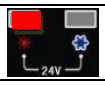
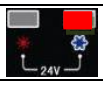
**Remark:**

Ensure correct polarity connection before plugging in the AC power.

- Position the RED terminal on the positive post connector
- Position the BLACK terminal on the negative post connector

2. **Connect the AC power cord with the AC power outlet.**

- When the battery is connected to power supply the battery  nnected LED indicator will illuminate.
- The charger will automatically select the right voltage according to the battery type and the corresponding LED indicator will turn on.

| 14.4V / 6A | 14.7V / 6A | 28.8V / 3A | 29.4V / 3A |
|---|---|---|---|
|  |  |  |  |

**(Press MODE button to select a charging mode suitable for cold conditions and AGM batteries)**

- The Error LED indicator will turn on for incorrect polarity/Fault.

| | | |
|---|---|---|
| Incorrect polarity. |  | ON |
| Unsuitable battery - cannot be recharged |  | Flashing for 12V batteries |
| |  | Flashing for 24V batteries |

- Rated maximum 6A charging current for 12V batteries;
- Rated maximum 3A charging current for 24V batteries;
- LED indicators show the battery level.

3. Disconnect the power cord from the power outlet after the battery is fully charged. Then disconnect the power cord from the battery.

**Remark:**

- ALWAYS disconnect the power cord from the power outlet before connecting (or disconnecting) the charger to (or from) the battery.

**CHARGING STAGES**

**1. Diagnosis & Recovery**

The unit automatically checks the battery level after connecting, a unique function - the unit automatically checks the battery level (detects voltage) If a deeply discharged battery's voltage is over 4.5V ± 0.5V (for 12V batteries)16V ± 0.25V (for 24V batteries) the charger begins charging with 1.5A low current to recover it, which terminates when voltage reaches 10.5V ± 0.25V (for 12V batteries) or 21V ± 0.25V (for 24V batteries) at the beginning of the process, the charger skips low current charging and it switches over to charging mode.

**2. Bulk charge stage**

80% of energy is returned in this stage of charging. Here the charger performs in multi-stages:

- **For 24V batteries**

a) High Rate Charging:

The charger delivers constant current of 3.0 A until the voltage reaches 25.6 V

b) Medium Rate Charging:

The charger delivers constant current of 2.5A until the voltage reaches 28.2 V at which point the charger switches to absorption phase.

- **For 12V batteries**

a) High Rate Charging:

The charger delivers constant current of 6.0A until the voltage reaches 12.8V

b) Medium Rate Charging:

The charger delivers constant current of 4.0A until the voltage reaches 13.9V, at this level constant current is 3.0A until the voltage reaches 14.1V.

Finally the charger delivers 2.5A current until the voltage reaches 14.1V, at which point the charger switches to absorption phase.

Since current is not delivered at highest constant level, the charger will minimize the heating up of the battery, and hence will eliminate the build up of gases.

This will ensure more efficient and safer performance.

**3. Absorption charge stage**

Constant-voltage charging poses a risk of battery gassing and therefore the battery shall be charged with 1.5 A constant current to increase voltage from 28.2V to 28.8 V (for 24V batteries) and from 14.1V to 14.4V (for 12V batteries). During this stage the battery is almost 100% charged. After the battery is completely charged the charger switches over to float charging.

**Float charge stage**


As charger continuously monitors the terminal voltage in order to determine if a float charging should be initiated, if the battery is loaded and/or terminal voltage falls below 25.6V (for 24V batteries) or 12.8V (for 12V batteries), the charger starts float charging with constant current impulse until voltage reaches 28.8V (for 24V batteries) or 14.4V (for 12V batteries). At that time float charging is discontinued. The cycle of trickle charging and float charging is repeated indefinitely to keep the battery in good condition when it is not in use and enables the charger to be left connected indefinitely.

**5. "Power supply" 13.6V**

a) **Float charge stage for 12V SLA batteries:**

This mode is suitable for float charge of 12V batteries with capacity range from 14-230Ah. The charger delivers a constant voltage of 13.6V. This is a float charge mode for applications where maximum capacity from the battery is required, such as golf carts, floor sweepers, etc.

**b) "Power source" mode:**

TE4-0226 battery charger is also used as a power supply, without attaching a battery in this mode. "Power source" mode 13.6V/4A. Please note that in this mode spark free function is inactivated. However, reverse polarity protection function still works. To enter the 13.6V supply mode, follow the steps:

a) Disconnect the battery;
b) Connect to the electric power supply;
c) Press and hold the MODE button for 3~5 seconds to activate the function;

When this mode is activated, the charger maximum output current will be 13.6Volt / 4Amp.

In this mode, we can use the charger as a Power Supply to provide constant power to 12V DC appliances with maximum 4A output current.

**6. Boost charge 16V/1.5A** 


This stage is aimed at recovering severely discharged 12V batteries. High voltage (17V max.) at 1.5A is applied to the battery for a maximum period of 2 hours. At the end of this stage it would switch to a normal charge procedure (14.4V).

**CAUTION:** High voltage may cause some water loss, hence this mode should be handled carefully.

**SPECIFICATIONS**:

| | |
|---|---|
| **Input voltage:** | 200-260VAC, 50Hz |
| **Output voltage:** | 12V & 24V (auto-select) |
| **Capacity:** | >75% |
| **Charging voltage:** | 28.8V+-0.25V or 29.4V+-0.25V or 14.4V+-0.25V or 13.6V+-0.25V or 16.5V+-0.25V |
| **Charging Current:** | 6.0A+-10% or 4.0A+-10% or 3.0A+-10% or 2.5A+10% or 1.5A+10% |
| **Back drain current:** | <5mA |
| **Ripple:** | Max. 150mV, 0.3A |
| **Ambient air temperature:** | -20degC to +40degC/-4degF to 104degF, Reduced output power at a higher temperature |
| **Battery TYPES:** | 12V & 24V lead-acid batteries (WET, MF, AGM and GEL) |
| **Housing protection:** | IP65 (Dust and Splash proof) |

# Maintenance booklet
# Mobile Elevating Work Platform type UP Lift 5

## Details of the device:

Type:……

Serial no. .....

Year of manufacture: .....

Load capacity:……

Voltage:……

Engine power: ……

## Details of the owner:

Name:……

Address……

……

……

Operator (maintenance operator):

.....

| Date | A list of operations performed | Technical condition of the device | Date of the next periodic inspection of the unit | Maintenance operator's signature and stamp | Notes |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| Date | A list of operations performed | Technical condition of the device | Date of the next periodic inspection of the unit | Maintenance operator's signature and stamp | Notes |
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