

TAWI

TAWI Lightweight Lifting Trolley



This is the original version of the TAWI High Frequency Lifter user manual.

EC DECLARATION OF CONFORMITY OF THE MACHINERY

Original

Directive 2006/42/EC, Annex II, A

TAWI

Manufacturer:

Business name: TAWI AB
Address: Transportgatan 1, 434 23 Kungsbacka, Sweden

Hereby declares that:

Type of machinery: **Lifting Trolley**

Product name:

Light60

Complies with the requirements of Machinery Directive 2006/42/EC

Complies also with applicable requirements of the following EC directives:

2014/30/EU
2011/65/EU (RoHS)

The following other standards and specifications have been applied:

EN ISO 12100:2010
EN 349+A1:2008
ISO 22915-16:2015
EN ISO 3691-5:2015
EN 12895:2015
EN 1175-1+A1:2010
EN ISO 13849-1:2008
EN 60204-1

Person authorized to compile the technical file:

Name: David Ranfalk
Business name: TAWI AB
Address: Transportgatan 1, 434 23 Kungsbacka, Sweden

This declaration is applicable only if the product(s) has/have been installed according to TAWI's instructions and provided that the product(s) has/have not been modified in any way.

Signature:

Place and date: **Kungsbacka 2021-02-01**



Name: **Thomas Bräutigam**
Position: **President Lifting Automation Division**

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1 Safety & important information

This chapter presents safety information about the TAWI Light Trolley lifter (hereafter referred to as lifters). Some of the information is divided in Warning, Caution and Important. This division is based on the severity of the consequences that may occur if the instructions are not followed. Stickers and labels are explained in this chapter and information is provided about directives that TAWI follows.

This manual and the Declaration of conformity is only valid when using TAWI authorised tools.



WARNING: Risk of personal injuries or major material damages.



Caution: Risk of material damages.



Important: Important information is highlighted.



WARNING

- Before operating a lifter, this manual must be read and understood.
- Always apply brakes to the rear wheels when loading and unloading.
- NEVER exceed the indicated max load capacity on the lifter.
- Make sure to load according to the load diagrams including y-distances. See *Labels on TAWI Light trolley and Loading on page 7-8*.
- Make sure loads are distributed evenly on the platform and always load according to load diagram.
- If any unexpected movement of the lifter occurs, press emergency stop.
- In case of emergency, engage the emergency stop, see *Operating panel on page 15*.
- Make sure to control and solve any potential errors before resetting the emergency stop.
- The operator's position should always be behind the lifter when it is used. From this position the emergency stop is within reach.
- Stay clear of the area underneath a tool at all times.
- Stay clear of moving parts.
- During all service and maintenance, lay the lifter down on the floor (on its back).
- In order to deal with the lifter's cables and wiring, a good knowledge of electricity and TAWI electrical schedules of the lifters is required. Faults can cause damage to people and property.
- NEVER climb on the lifter.
- NEVER stand on the cover or any other part of the lifter.
- It must never be used to lift living humans or animals.



Caution

- The lifters are made for indoor use on a smooth, even floor/surface. Max allowed inclination is 4%.
- The recommended temperature range for the lifters is 10 - 50°C (50 - 122°F). The lifting performance may vary when the temperature deviates from 20°C (68°F).
- Make sure there is good lighting in areas where the lifter is operated.
- Use caution when passing over thresholds, floor drains, hoses or cables.
- Never spray or pour water onto the casing containing the battery, charger and motor. Clean with a damp cloth only.
- Recharge the battery in a designated dry area.
- Any part of this lifter or accessories that show signs of wear or other damage must be replaced immediately. The lifter must not be used before the damaged part is replaced.
- Do not use the lifter while it is plugged into an outlet.
- Only run the lifter when it is completely assembled.
- Wear steel toe shoes with good grip when operating the lifter.
- NEVER adjust the limit switch setting on the limit switch module.



Important

- To prevent damages and injuries caused by improper use and not to compromise the warranty and liability: Follow the instructions in this manual at all times!
- Keep this manual accessible to all staff.
- The lifters are not intended for use by persons (including children) with reduced physical, senses or mental capabilities, or lack of experience or knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the lifters.
- Use only TAWI original spare parts.
- Always follow any local/national recommendations as well as the instructions in this manual.
- The lifter should only be used when they are in perfect working order.
- If the lifter is to be out of use for a longer period, ensure that the battery is connected to an outlet for the charger to maintain the battery.
- Intermittent-duty: 10%.
- Emission sound pressure level: <70 dB (A).
- The lifters max load capacity has been tested with 10% dynamic overload and 25% static overload.

WEEE, RoHS and REACH



TAWI follows the WEEE (Directive 2012/19/EU), RoHS (2011/65/EU) and REACH (EC 1907/2006) regulations.

A used battery and/or circuit board should either be returned to an authorised TAWI/Lifting Light Trolley representative or handed over to a station for chemical waste. All other parts can be discarded and assorted for recycling.

Do not make modifications

Welding and other mechanical modifications to TAWI Light Trolley or accessories must be carried out by TAWI authorised staff. According to ISO 3691-5, only if TAWI is no longer in business and there is no successor interested in the business, the user may perform a modification/alteration to a TAWI Light Trolley. If this is done, the modification/alteration must be designed, tested and implemented by experts in TAWI Light Trolley and their safety. Also, a permanent record of the design, test(s) and implementation of the modification/alteration must be maintained. Appropriate changes to the capacity stickers, labels and user manual must be made, see *Markings and labels on the TAWI Light Trolley*. A permanent and visible label must be fastened on the lifter that states how the lifter has been modified/ altered together with the date it was performed. The name and address of the organisation that performed the modification must also be included.

Markings and labels on the TAWI Light Trolley

Identification plate


TAWI	
Model:	
Serial no.:	
Production year:	
MRC:	
Net weight:	CE
TAWI AB Transportgatan 1/Box 10205 SE-434 23 Kungsbacka SWEDEN www.tawi.com info@piab.com	

Tool Identification plate


TAWI		CE
Article:	WLL:	
Serial no.:	Net weight:	
Production year:	<i>*See manual for more info about WLL</i>	
TAWI AB Transportgatan 1 Box 10205 SE-434 23 Kungsbacka SWEDEN		www.tawi.com info@piab.com

Labels on TAWI Light Trolley




 Do not use as a passenger lift! Do not stand underneath a raised tool.




 Risk of hands and feet getting caught in machine! Do not put hands or fingers on the mast or close to the sleigh or belt. Risk of crushing/pinching!




 Do not stand on or rest your feet on the legs or battery casing!




 This symbol precedes stated max load capacity. Never exceed the indicated max load capacity! Also see *Loading on page 09* for information on how to load.




 Read manual instructions! The operator must read and understand this manual before using the lifter.




 Take precaution!



 Always transport the lifter with the load **LOWERED**



 Disconnect power supply before servicing.

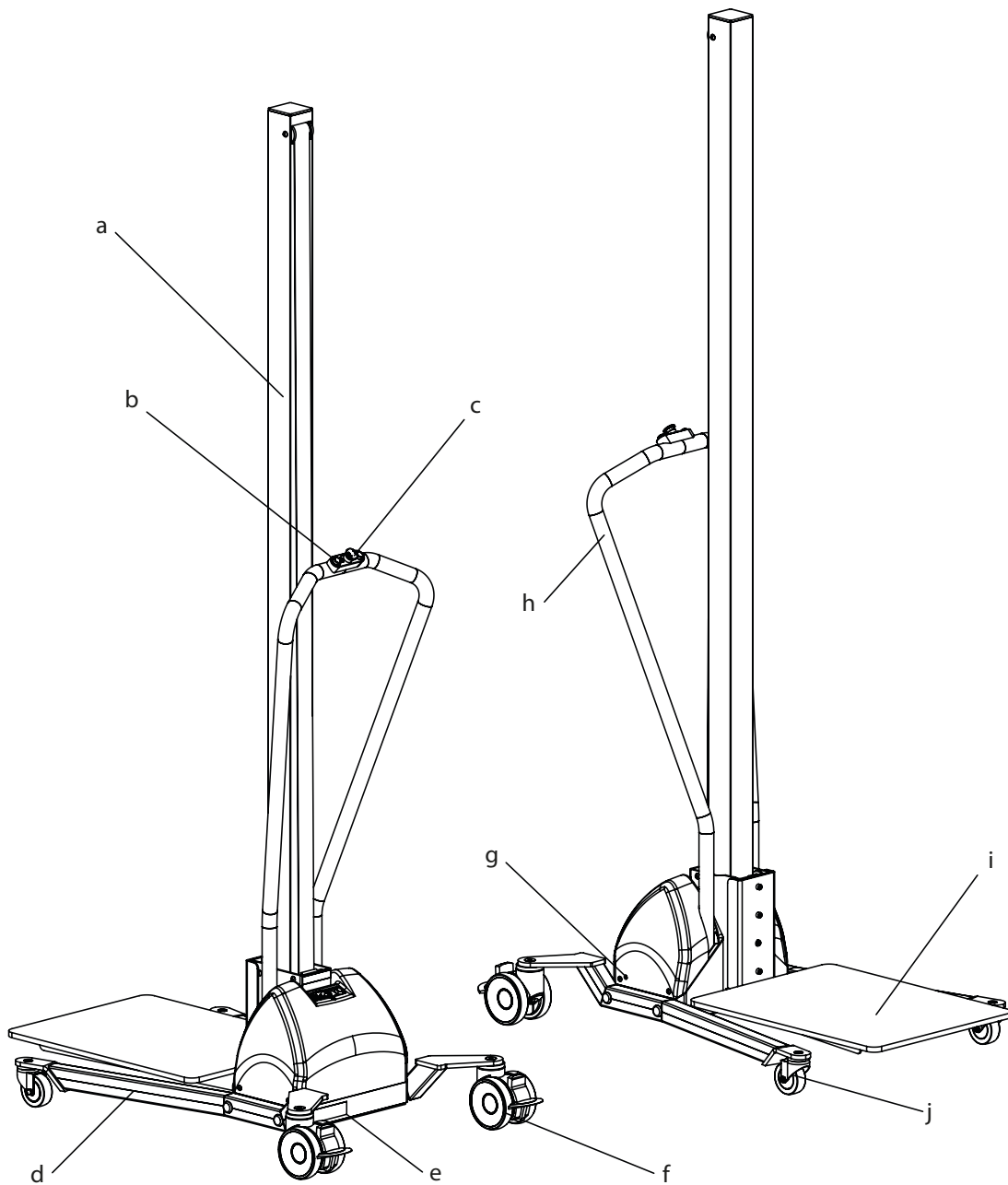
2 Warrant

This chapter presents warranty information about the TAWI Light Trolley .

If a TAWI Light Trolley is used according to all instructions in this manual it will perform well for many years. TAWI offers a one year limited guarantee, excluding transportation charges, provided that the lifter has been used under normal working conditions (one shift and then recharged) and in accordance with the instructions in this manual. Non compliance with rules and instructions in this manual will result in complete exclusion of TAWI's liability.

Please contact your TAWI representative for further information.

3 Overview



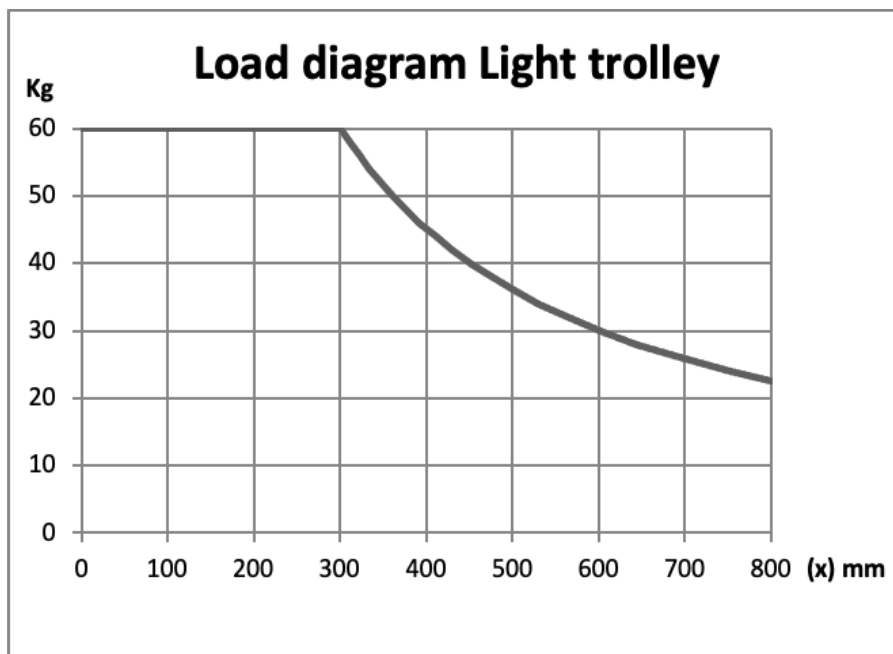
- a. Mast
- b. Control panel
- c. Emergency stop
- d. Leg
- e. Identification plate

- f. Rear wheels with brakes
- g. Battery charging indicator
- h. Handle
- i. Platform
- j. Front wheels

Description	Specifications
Lifting capacity	60kg
Min/max lifting height	120mm - 1705mm
Weight of unit	35kg
Total height of unit	1980mm
Battery charger	100-240V, 40W, 50-60Hz
Battery	2×12V 7Ah
Lifts per charge	60kg x 1m x 100 times
Up and down motions	Push buttons
Front wheels	Swiveling
Brake system	Individually brake rear wheels
Overload protection	Individually in circuit board
Lifting speed	125mm/s

Loading

The max lifting capacity of the lifters depends on where the mass centre of the load is located in terms of x. The graphs in the load diagram display allowed x-distances.

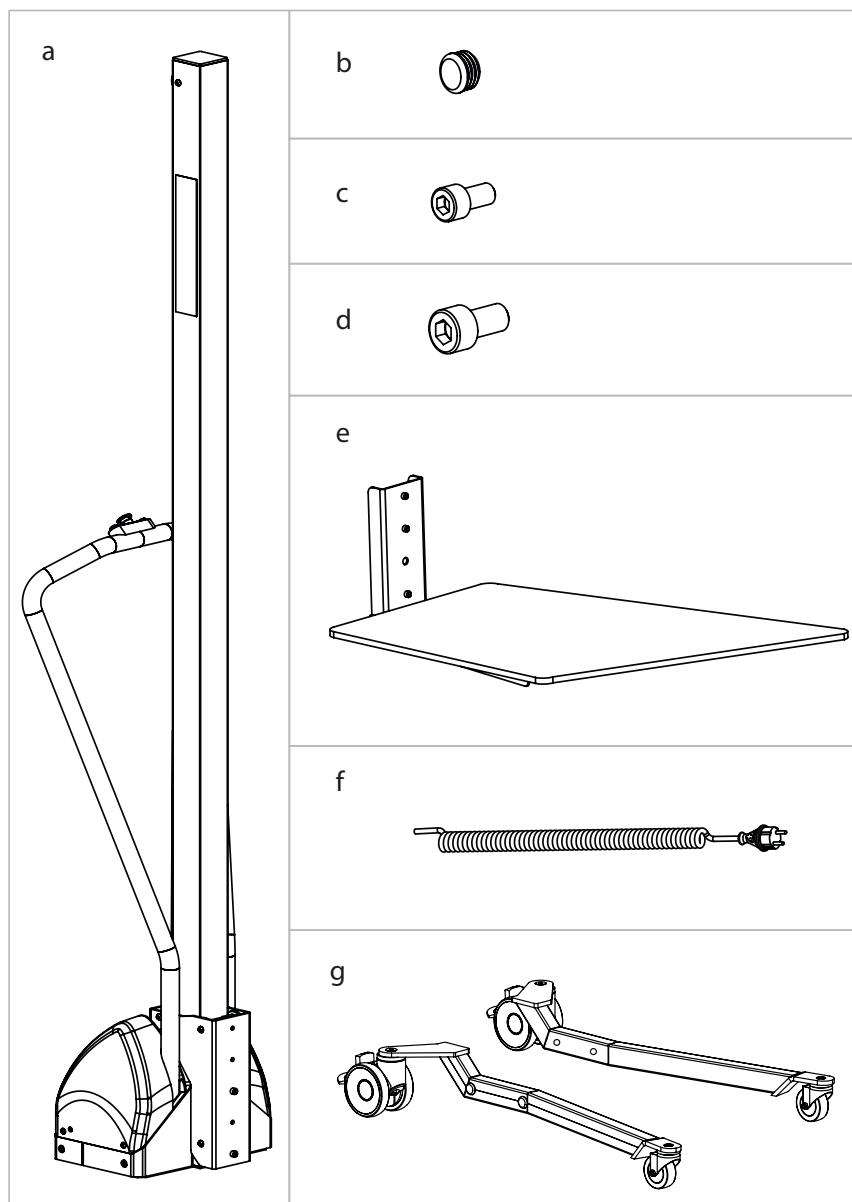


4 Assembly

This chapter presents what comes in the package and how to assemble the trolley and fasten the tool. The following images shows how to fasten the legs and the platform to the base unit.

Unpacking

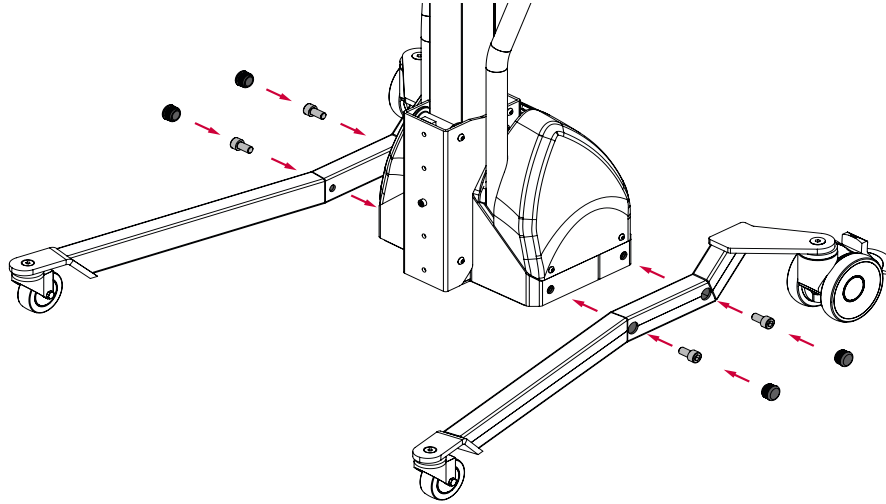
- a. 1 x Base unit
- b. 4 x Screw covers
- c. 3 x M6 screws (platform)
- d. 4 x M10 screws (legs)
- e. 1 x Platform
- f. 3 x Power cables, US/EU/UK socket
- g. 2 x Legs with wheels mounted



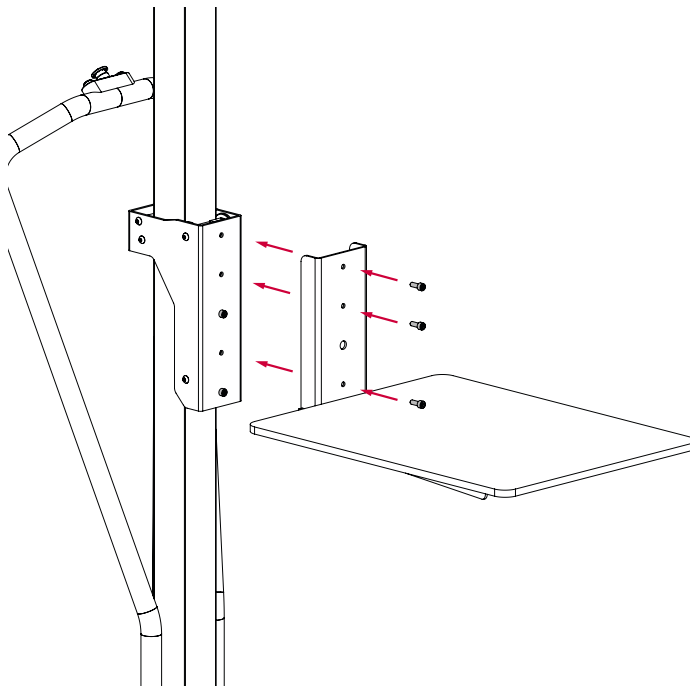
Mounting

Following is images of how to fasten the legs and the platform. The following images shows how to fasten the legs and the platform to the base unit.vthe legs and the platform to the base unit.

1. Fasten the legs



2. Fasten the platform



- Make sure the screws are fastened correctly and that the correct torque is applied on each screw.

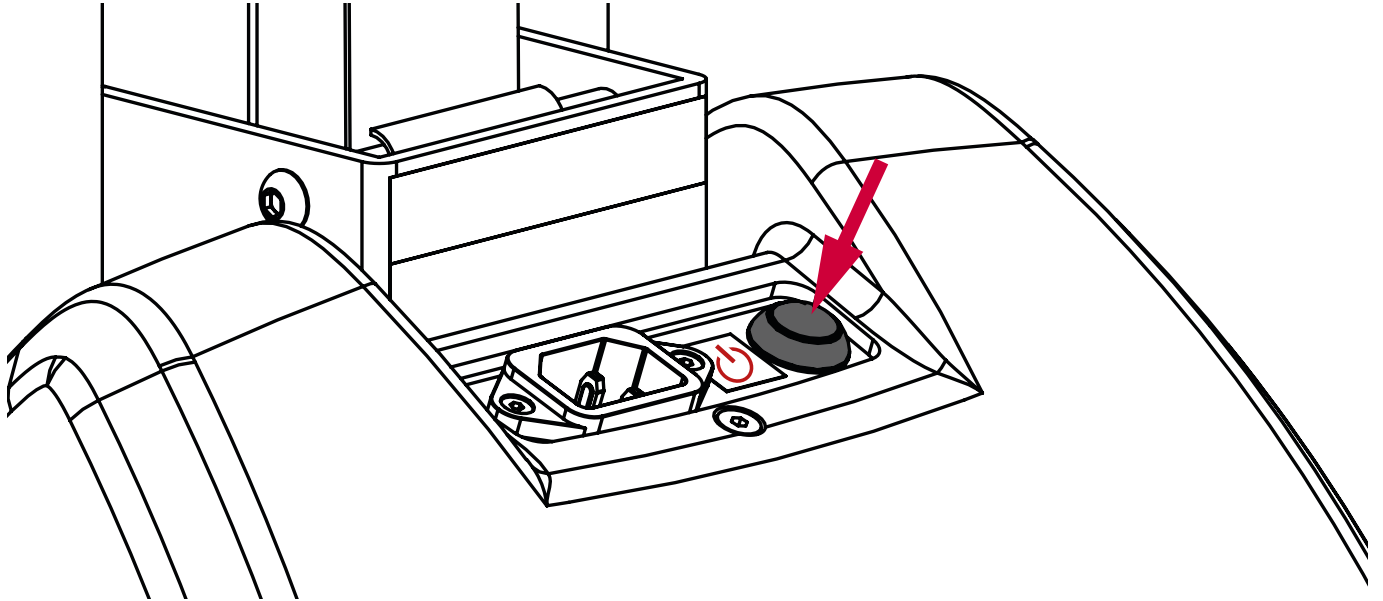


- See the torque table on *page 17*.

5 User instructions

This chapter describes how to operate the TAWI Light Lifting Trolley.

Start the lifter



- The lifter can be stopped at any time by pressing the emergency stop on the control panel.
- Only run the lifter when it is completely assembled.



- Check the lifter for safe functionality prior to each use, for instructions.
- The lifter has overload protection which will prevent tools from being raised when the specified max load is exceeded. If the overload protection is activated, reduce the load and try again.

Charge the battery

The battery can not be charged too often. It is recommended to charge the battery as soon as it is not in use. full charging cycle takes 8h.



- Never use a damaged powercord, it can lead to electrical shock! Replace it immediately!
- Never touch any parts inside the battery pack when charging. Touching electrical parts can cause an electric shock.



- The lifter can be switched on or off when charging the battery. It is recommended that the lifter is switched off when not in use.
- To make sure not to damage the cord when pulling it out of the electrical outlet - grab, and apply the force to the plug. To prevent damage to the cord, never pull the cord itself always pull on the plug.
- It is recommended to charge the battery in a full cycle.
- Never operate the lifter when the battery is charging (plugged in).
- Charge the battery in a designated dry area.
- Normal charging of the battery creates very small amounts of hydrogen. However, the casing is ventilated, and thereby the risk of hydrogen collection is minimal.

Battery charging indicator

The color of the battery charging indicator communicates the following information:

Red	Chargin
Green	Ready/Standby

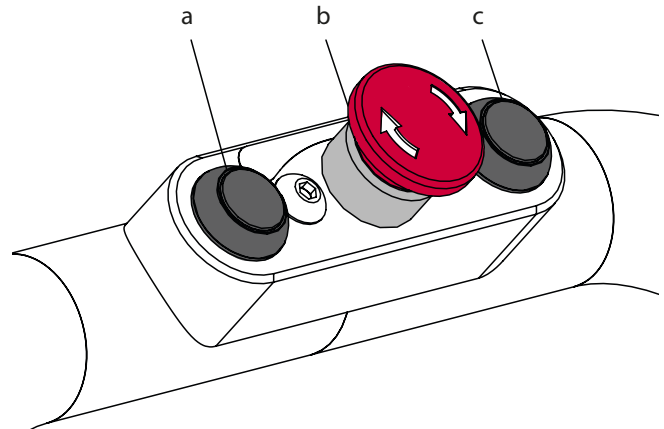
Operating panel

Grab the handles and push the lifter to move it forward.

To move the platform up and down push the buttons a and c.

The emergency button is found in the middle of the control panel, b.

- a. Down
- b. Emergency stop
- c. Up



- Always move the lifter with the load in a lowered position.
- If platform is lowered onto an object and is prevented from being lowered further down, will belt still run. If belt hasn't fully tension there is a risk of platform falling down if object is removed.



- Make sure that the load is stable and secured on the platform.
- Make sure the platform is loaded according to the load diagram at *page 14*.



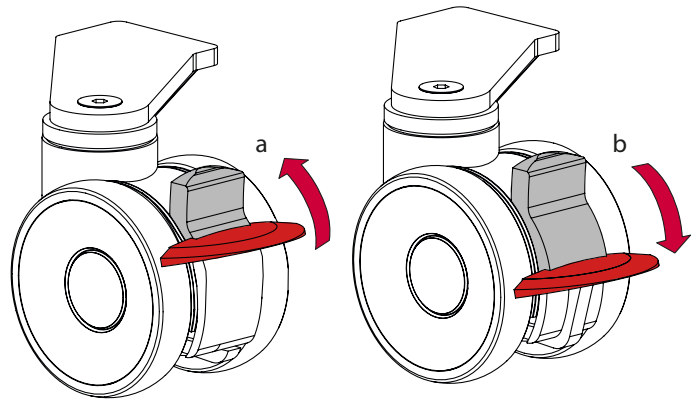
If a tool hits an object or surface during lowering, a safety mechanism will stop the downwards movement. This is to prevent accidents.

Brakes

Rear wheels separately braked

Engage or disengage the brakes on both rear wheels.

- a. Neutral
- b. Brake



- Always apply brakes when loading and unloading.

6 Service & maintenance

This chapter provides information about service and maintenance of the lifters. The chapter is divided into three sections based on who is to perform the inspections and how often the inspections are to be carried out. Daily by the operator, quarterly by inhouse maintenance and yearly by PIAB authorised service technician. For technical service, maintenance or repairs contact your PIAB representative or la.info@piab.com. PIAB must authorise all modifications to this product. PIAB assumes no responsibility for unauthorised modifications and guarantees will automatically become invalid if unauthorised modifications have been made.



- Service must be carried out on a yearly basis.
- If any damage/wear is detected on the lifter, this must immediately be reported to TAWI or authorised TAWI representative. The lifter must be taken out of commission and not be used until the damage has been repaired.
- All service must be carried out with the battery disconnected.
- In order to deal with the lifter's cables and wiring, a good knowledge of electricity and TAWI electrical schedules of the lifters is required.



- If the battery needs to be replaced, make sure that an original battery is used. If assistance is needed, contact TAWI.
- Keep the lifter clean, use a damp cloth. Do not use chemical cleaners.

Torque table

Type	M5	M6	M8	M10
Torque (Nm, class 8.8) (ft/lb)	6 Nm (4.4 ft/lb)	10 Nm (7.3 ft/lb)	24 Nm (17.7 ft/lb)	47 Nm (34.6 ft/lb)

Inspections

The following inspections are to be carried out.

Daily inspections by Operator

1. Check that the yearly maintenance sticker is valid, and that yearly inspection is performed.
2. Check that the max lifting capacity signs and warning/operating labels are visible.
3. Make sure wheels/brakes are functioning correctly and check for signs of damage.

Quarterly inspections by inhouse maintenance

1. Double check (carry out) all daily inspections mentioned in Daily inspections by operator.
2. Check all screws and nuts for damage/wear.

Yearly inspections by TAWI authorised service technician

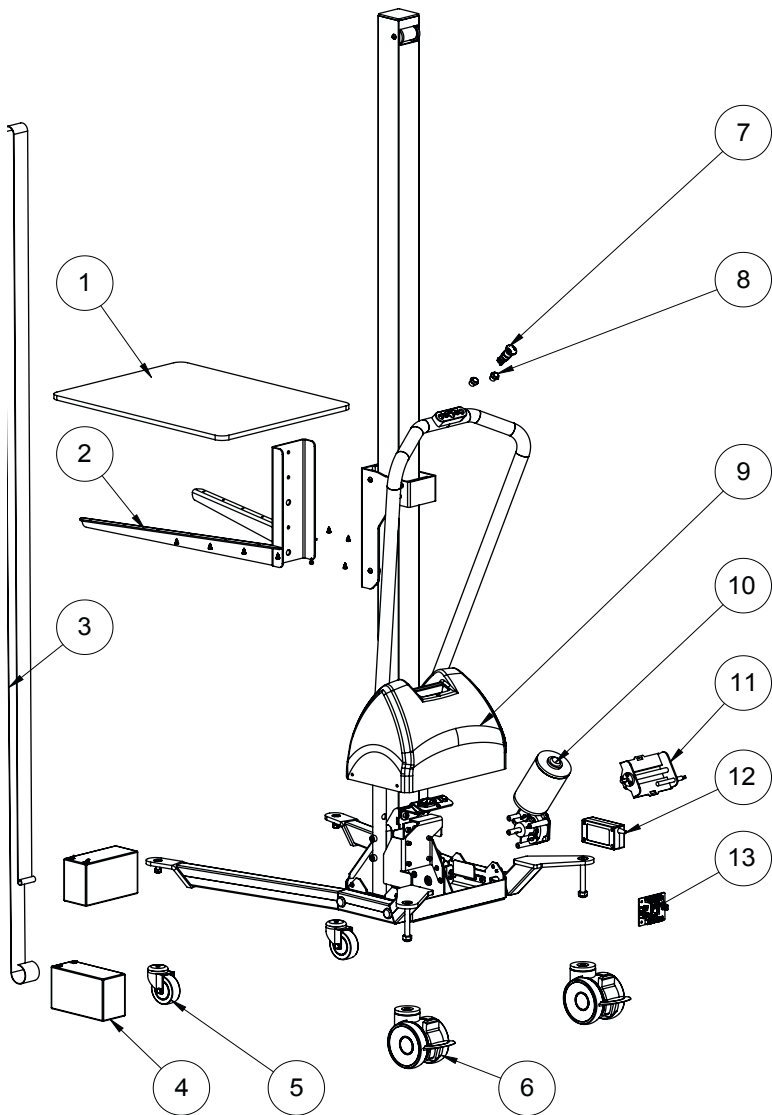
1. Check that CE mark and serial number on the identification plate are visible.
2. Make sure all screws and nuts are tightened according to Torques to apply on page 17 (Pay extra attention to screws and nuts on mast, legs and tool attachments).
3. Check belt wheels for signs of damage/wear.
4. Check the belt for wear and tear and make sure that it is properly secured.
5. Check belt wheels for signs of damage/wear.
6. Check the belt for wear and tear and make sure that it is properly secured.
7. Make sure that upper and lower switches are functioning correctly.
8. Control that the battery voltage level is sufficient.
9. Control that the charger is supplying correct voltage.
10. Check all wiring for signs of damage/wear and make sure all connections are correct.
11. Control screws and safety functions on tool.
12. Control welds for damage/wear on legs and tools caused by misuse, overload etc.

7 Troubleshoot

This chapter provides information on how to investigate or rectify problems that may occur. Actions marked with (*) must be carried out by PIAB or a TAWI authorised service technician.

Problem	Likely caused by	Action required
Tool does not move up or down	Main switch is turned off.	→ Turn main switch on.
	Emergency stop is engaged.	→ Disengage the emergency stop.
	Batteries need charging.	→ Charge batteries according to manual. See (A) on page 16.
	Batteries are drained.	→ Change batteries.*
	Charger is damaged.	→ Check if charger supplies correct voltage, if not replace charger.*
	Limit switches are broken/damaged.	→ Check functions of limit switches, replace if needed.*
	No signal from operating panel.	→ Check signal from the control panel to circuit board.*
	Wires or connections are loose on battery.	→ Check wire connection on batteries. Connect if necessary.
	Fuse has tripped.	→ Check fuse, replace if broken.
	Circuit board damaged.	→ Replace circuit board.*
Tool moves slowly up/down	Batteries are weak.	→ Charge batteries according to manual.
Brake does not work	Brake has been misused.	→ Replace rear wheels.
Charge indicator	Charger is broken.	→ Replace battery charger.*

*Must be carried out by authorized TAWI service technician.



1. Platform surface	4305349
2. Platform frame	4305348
3. Lifting belt	4305344
4. Battery	4305296
5. Front wheel	4305308
6. Rear wheel	4305235
7. Emergency stop	4305294
8. Up/down button	4305297
9. Top cover	4305360
10. Motor	4305301
11. Limit switch module	4305320
12. Battery charger	4305373
13. Electric control board	4305372



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