

Battery operated PowerLift



Serial number: See last page

Approvals

The PowerLift is CE-marked and constructed and produced in accordance with European standards.
CE-certificate enclosed.

Specifications

Weight (kg)	58
Max load (kg)	80
Ingress protection	IP54
Batteries	24V, 9.0 Ah gas tight and maintenance free
Charger	100V-240V / 50-60 Hz / 2 Amp
Charging time	4-5 hours (Discharged batteries)

Declaration of conformity

MANUFACTURER: H. C. Hovmand A/S
Company
Rustkammervej 10, 4180 Sorø, Denmark

DESCRIPTION OF MACHINE:

ELECTRIC LIFT

Type: Apollo 130

Serial no.: S- _____
Brand, type, serial number etc.

REGULATIONS: 2006/42/ec and 2004/108/ec
Regulations that the machine approves to

STANDARDS: EN121000-1:2005 ; EN12100-2:2005 ; EN14121-1:2007 ;
EN60204-1:2006 ; EN61000-6-2:2005 ; EN61000-6-4:2007
(when applicable) Applicable harmonised standards

SIGNATURE:

SORØ, 13 / 03 - 2009
Place and date of issue

SØREN HOVMAND
Managing Director

Signatures combined with the signatures written in block letters

H. C. HOVMAND A/S
Company

1. Warranty period

The warranty period is 3 years for all parts except 'wear and tear' parts and batteries. This is conditional upon the PowerLift being used in accordance with this manual and in a one-shift operation where it is charged overnight. 'Wear and tear parts: wheels (front and back), tools, handle, padding and other parts being exposed to daily wear and tear. The warranty period on batteries is 3 month if the batteries have been properly charged.

2. General safety precautions for use

A truck certificate or any other training is not necessary for the legal operation of the PowerLift.



The following guidelines must be followed, when operating the PowerLift.

- o The PowerLift is not designed for lifting of people. Lifting of persons is strictly forbidden..
- o People and/or body parts are not allowed to be under the load at any time.
- o Sitting on the PowerLift is not allowed.
- o The centre of gravity should be at least 200mm behind the front wheels of the legs.
- o The PowerLift may, under no circumstances (neither when the lift is stationary nor when it is lifting) be used for loads heavier than 80Kg, measured 400mm in front of the mast.
- o The PowerLift may not be used for any other purpose than its intended use, namely lifting and lowering loads.
- o During the lifting operation, the operator should stand directly behind the PowerLift.
- o When moving the PowerLift, the operator should grip the handles firmly with both hands.
- o During lifting or lowering, the operator must stand behind the PowerLift with one hand firmly on a handle while the other operates the switch.
- o Lifting and lowering may only be undertaken when the PowerLift is stationary.
- o Only one person is allowed to be in contact with the PowerLift during the lifting and lowering operation.
- o No parts of the body are allowed near the sledge of the mast or other lifting equipment during lifting and lowering.
- o Maintain visual contact with the load when lifting or lowering it to avoid collision with people or objects.
- o The PowerLift must stand on a firm and horizontal foundation, when loads are being lifted or transported.
- o When a load is transported, the load must be lowered to a lower position and must be secured in order to prevent sliding.
- o When moving the empty PowerLift, the forks must be lowered to the bottom position.
- o Care should be taken not to injure others when moving the PowerLift.
- o Moving the PowerLift should be undertaken in a controlled manner at moderate speed. Do not run with the PowerLift!
- o When the PowerLift is left or parked, the sledge must be in the bottom position and the PowerLift must be released from any load or burden. Also, the brakes must be activated to avoid unintentional movement of the PowerLift.
- o Depending on regional regulations the PowerLift, like other types of electro-mechanical handling equipment, may need to be checked at intervals by a skilled technician or by the manufacturer.
- o Do not wash the PowerLift! To clean, only wipe the PowerLift with a slightly damp cloth.
- o The PowerLift must not be exposed to water, rain, moisture, acid products or other aggressive or explosive products.

2.1. Safety systems

The PowerLift is equipped with the following safety systems:

- o Slipping clutch to help preventing accidents when lowering.
- o Electronic metering system which disconnects the lifting function if the load is higher than the specified load or if the load is unequally placed .Note: this does not protect against overload when the PowerLift is not lifting. Therefore, placing an excessive load on the stationary PowerLift is hazardous and may also damage the PowerLift.
- o The charger is protected by a fuse.
- o Main stop that disconnects all electrical functions on activation.

3. Operation of the PowerLift

3.1. Controls

Before operating the PowerLift familiarize yourself with the controls and other elements shown in figure 1 below.

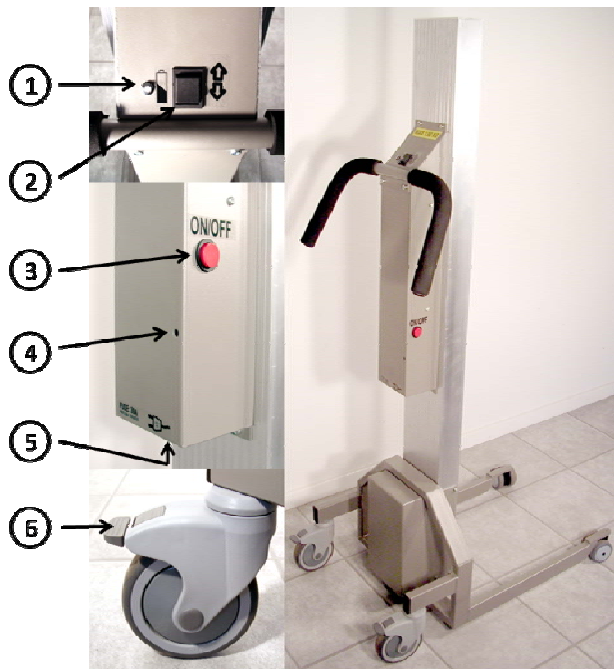


Figure 1 – Controls on the PowerLift.

1. Battery level indicator
2. Up-down switch
3. On-off switch
4. Charger LED
5. Electrical socket for power
6. Wheel brake

3.2. Switching the PowerLift on and off

The lift is switched on and off by pressing the red button on the side of the control box (see Figure 1, item 3). When the switch is in the depressed position, the PowerLift is on; in the raised position the PowerLift is off.

3.3. Applying the brake on the PowerLift

By applying the wheel brakes, the PowerLift is prevented from rolling and unintentional movement of the lift can be avoided. The brake is applied by pressing down the lever located just above the wheel, as seen in Figure 2. To release the brake, press down the lever shown in Figure 3.

To avoid unintentional movement of the PowerLift always make sure that both brakes (one on each rear wheel) are activated. This should be done whenever the PowerLift is left unattended.



Figure 2 – Brake in released position. Press lever down to activate brake.



Figure 3 – Brake in activated position. Press lever down to release brake.

3.4. Lifting and lowering

Lifting and lowering the forks is done by pushing the up-down switch (see Figure 1) placed between the handles:

- ↑ The PowerLift lifts as long as the button is pressed.
- ↓ The PowerLift lowers as long as the button is pressed.

4. Handling paper

4.1. Removing paper from the stacker

To remove paper from the stacker of the printer, first ensure that the paper shelf is fully extended outside of the stacker. Position the forks such that they align with the grooves in the paper shelf as seen in Figure 4.

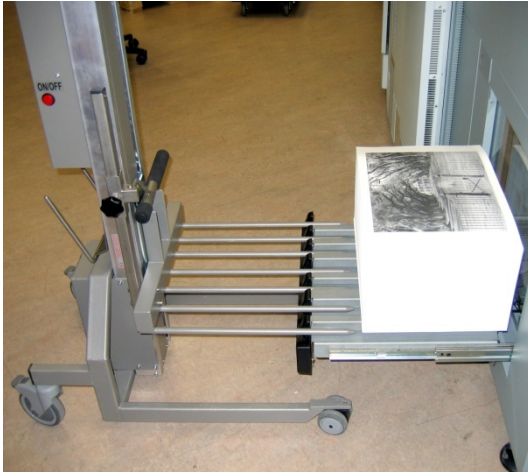


Figure 4 – Forks in front of paper shelf.



Figure 5 – Forks in the paper shelf.

Move the lift forwards to place the forks under the paper, see Figure 5. Finally, raise the forks on the PowerLift to lift the paper off the paper shelf as shown in Figure 6. Afterwards, ensure that the paper shelf back into the stacker.

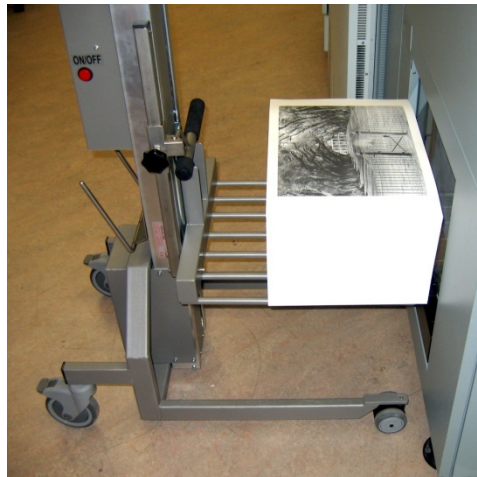


Figure 6 - Lifting paper off the paper shelf.

4.2. Moving paper with the PowerLift

First secure the paper on the forks by applying the paper holder. Turning the locking knob (in Figure 7) anti-clockwise allows the paper holder to be moved freely.

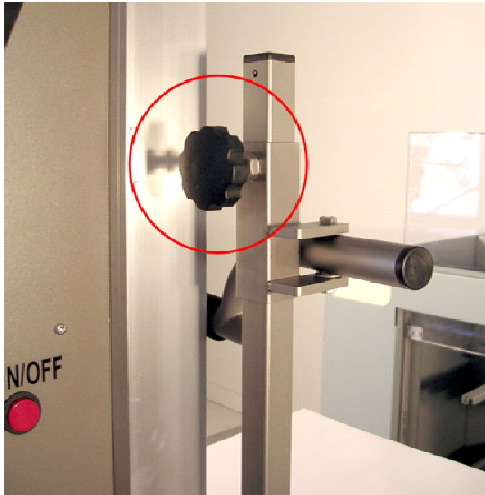


Figure 7 – Knob for paper holder.



Figure 8 – Paper holder on paper.

Place the paper holder firmly on the middle of the paper stack as shown in figure Figure 8. Now tighten the locking knob (in figure Figure 7) by turning it clockwise.

Finally, lower the forks to the lowest position and release the brake. The paper may now be moved with the PowerLift.

4.3. Placing paper on a pallet

Before placing paper on a pallet, one must ensure that the pallet is located on a smooth level surface as seen in Figure 9.

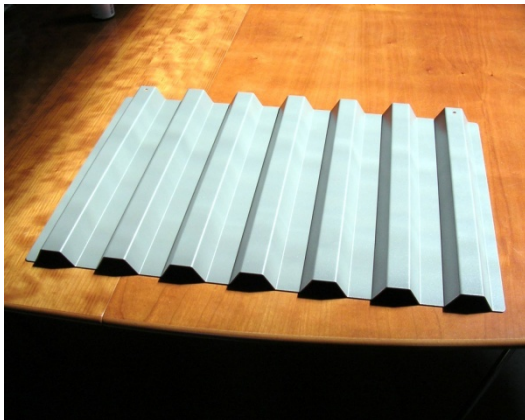


Figure 9 – Pallet placed on smooth level surface.



Figure 10 – Position of forks before lowering of paper onto pallet.

Move the PowerLift to ensure that the paper is situated directly above the pallet and that the forks will fit in the pallet grooves as shown in Figure 10. Carefully lower the forks until the paper makes contact with the pallet as seen in Figure 11. Release the paper holder as described in section 4.2.



Figure 11 – Lowering paper onto pallet.



Figure 12 – Paper on pallet with forks retracted.

Finally, withdraw the forks by moving the PowerLift backwards. The paper is now positioned on the pallet as seen in Figure 12.

Before moving the PowerLift further, lower the forks to the lowest position.

4.4. Lifting a pallet with paper

Move the PowerLift such that it is located in front of the pallet of paper. Now carefully lift the forks such that they align with the pallet grooves. Move the PowerLift forward so that the forks slide in **under** the pallet as seen in Figure 13.



Figure 13 – Position of forks before lifting pallet and paper.



Figure 14 – Lifting paper on pallet.

Now lift the pallet and paper with the forks as shown in Figure 14. Move the lift backwards to allow the forks to clear the surface on which the pallet was located. Finally, lower the forks to the lowest position before moving the PowerLift further.

4.5. Placing pallet with paper on surface

Make sure that the surface on which the pallet is to be placed is smooth and level. Now move the PowerLift directly in front of the surface. Raise the pallet with paper such that it is located above the surface. Move the PowerLift forwards and ensure that the pallet and paper are directly above where they are to be situated on the surface as seen in Figure 14. Carefully lower the lift until the pallet is free of the forks as seen in Figure 13.

Move the lift backwards to allow the forks to clear the surface on which the pallet is located. Finally, lower the forks to the lowest position before moving the PowerLift further.

4.6. Lifting paper off the pallet

Move the PowerLift such that it is located in front of the pallet of paper. Now carefully lift the forks such that they align with the pallet grooves. Move the PowerLift forward such that the forks slide in just **above** the pallet as seen in Figure 11. Engage the paper holder as described in section 4.2. Now lift the paper with the forks as shown in Figure 10.

Move the lift backwards to allow the forks to clear the surface on which the pallet is located. Finally, lower the forks to the lowest position before moving the PowerLift further.

4.7. Stacking paper with pallets as spacers

By using pallets as spacers, paper may be stacked and organized as shown in Figure 15 below. Using the methods mentioned above for paper handling, the stacks of paper may be reorganized and moved as required.

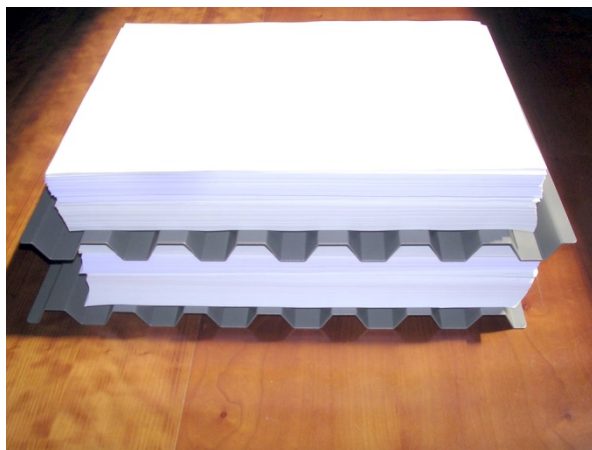


Figure 15 – Using pallet as spacer.

5. Batteries

The battery unit consists of two 12 volt batteries forming a 24 V DC system. The batteries are gas-tight and maintenance free. The full power of the batteries decreases after 400-600 chargings.

The PowerLift is equipped with a battery level indicator, located to the left of the up-down button (see figure 1, item 1).. During lifting, the battery level indicator turns on and indicates battery level as follows:

-  Green light: The batteries have at least 20% capacity left.
-  Yellow or red light: The batteries have less than 20% capacity left. The PowerLift can still be used but needs charging soon.

6. Charger

The PowerLift has an incorporated charger. The charger must be connected to a power source between 100 volts and 240 volts AC, 50-60 Hz . (See Figure 1, item 5).

To protect the charger and the batteries, first connect the charger cable to the lift and then connect the cable to the mains.

The charger automatically charges the batteries and disconnects when the batteries are fully charged.

The charger should be connected frequently (after daily use) as total discharge reduces the life of the batteries. The batteries might discharge over time when the lift is not in use for a long period (like a car).

If the lift is left unused for more than a week, always connect the lift to the mains for constant charging. Constant charging extends the life of the batteries.

If the batteries have become totally flat (if the lift has not been charged for a very long time) it might be necessary to step-charge the batteries as described below:

- Charge the lift for 15 minutes
- Pull out the plug for 30 minutes
- Charge for 30 minutes
- Pull out the plug for 30 minutes
- Charge for 30 minutes
- Pull out the plug for 30 minutes
- Charge for 2 hours

This might recharge the batteries, if the batteries have not been damaged by excessive discharging or prolonged periods of being left in discharged state.

Warning the battery totally down, will reduce the batteries lifetime, and might damage them, so a recharge is not possible, this cannot be recommended.

The charger is equipped with indicator LED (see figure 1, item 4):

-  Red light: The batteries are being charged.
-  Green light: The batteries are fully charged.

7. Main stop switch

The lift is equipped with a red main stop button on the right side of the lift (see figure 1, item 3). Pressing the button stops the lift immediately. Press the button again and the lift moves once more.

8. Construction

The mast is aluminium (AlMg3)
Sledge, handles and legs are made of steel.

9. Maintenance

The PowerLift does not require any daily maintenance. Motor, gear, sledge with cam belt and wheels are maintenance free.

The cam belt should frequently be inspected for wear and tear (quarterly). The reinforcement of the cam belt prevents breakage, but wear and tear of the plastic part may cause unstable lifting.

The lift should be checked daily to ensure that all screws are securely tightened.

Depending on regional regulations, the PowerLift, like other types of electro-mechanical handling equipment, need to be checked at intervals by a skilled technician or by the manufacturer.

10. Fault finding

Type of failure	Action	Solution
The PowerLift does not react.	Check if the main stop is activated.	Release the main stop.
	Check whether the item being lifted is too heavy.	Remove the item.
	Check if the main fuse is blown.	Change the main fuse
	Check if the batteries are charged.	Connect the charger.
The PowerLift lifts very slowly.	Check the power of the battery.	The battery must be charged.
	Check the charger. Is the charger lamp changing quickly (within 2-3 seconds) from red to green when connected?	If the charger lamp changes colour quickly it is normally an indication that the batteries are worn out. Change batteries.

Maintenance for Standard PowerLift

Date	Initials	Remark

Delivery Control for Standard PowerLift

Type: PowerLift

Serial No: _____

Delivery form

☐ Assembled.

Packaging

☐ Packed in boxes

The following has been controlled:

- ☐ The PowerLift is in accordance with the specifications on the order list.
- ☐ A function test has been made incl.:
 - ☐ The capacity and speed is in accordance to the specifications.
 - ☐ The overload switch off has been tested and approved.
 - ☐ Cam belt
 - ☐ Sledge
 - ☐ The upper and lower position
 - ☐ Brakes and alignment of wheels
 - ☐ Top stop
 - ☐ The push-buttons is tested (up-down and on/off)
 - ☐ The battery and charger indicator lights had been checked.
- ☐ The control unit has been tested and the documents had been filed.
- ☐ All relevant labels and stickers are on the PowerLift.
- ☐ Visual test for surface and correct assembling

Lifting equipment

- ☐ The PowerLift is delivered with the following lifting equipment
- ☐ Forks for lifting paper and stacks.
- ☐ Special tool _____
- ☐ The lifting equipment is tested and has shown the correct function:

Special equipment

- ☐ Wheels _____
- ☐ Others _____

Date: _____

Tested by: _____