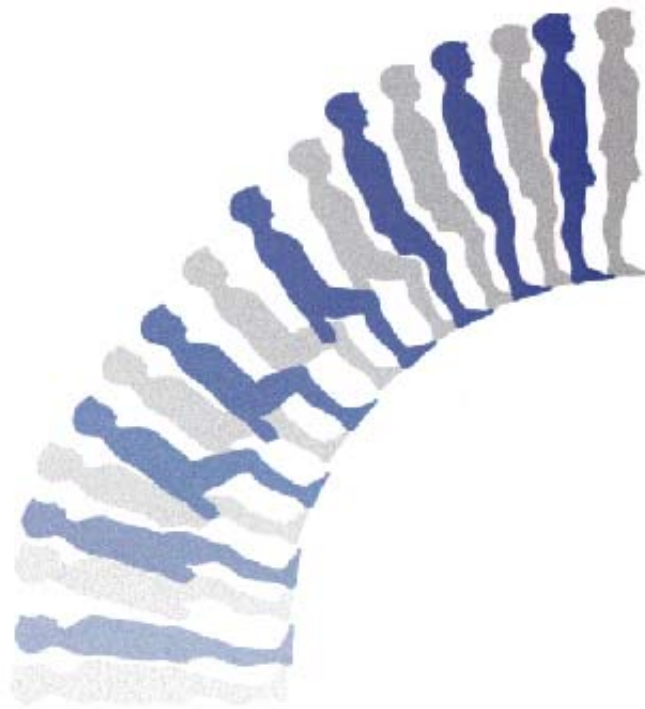


Arnold™

User's Manual



This User's Manual is your guide to transfer patients safely with the Arnold person hoist. It offers practical information on how to use and service the hoist.

BORRINGIA

MAKE EVERY DAY A LITTLE BIT EASIER

General information

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When contacting us with questions regarding spare parts and service, please supply the following information

Client: _____
Lift model: _____
Frame & Batch No.: _____
Year & Month: _____
Max capacity (kg/lbs): _____

Produced in the EU for:

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General information

N.B.! It is important to be familiar with the hoist/lifter and its functions when using it. In order to obtain the best safety it is crucial that **all** users of the hoist read this manual carefully prior to taking the Arnold Person Hoist into use.

Borringia A/S is only responsible for the safety, reliability and performance of the hoist under the following conditions:

- Assembly of the hoist must be carried out according to our instructions.
- The hoist should be used and cleaned as described in this manual
- The hoist should only be used indoors.
- The hoist must have at least one annual service inspections following the procedures in the "Service Manual"

The lift is intended for lifting persons from floor, chair or bed. The special leg-spreading feature also allows lifting from toilet and bathtub. The hand control unit enables operation of the lift from various positions.

N.B.! **UNDER NO CIRCUMSTANCES** use the lift for other than person lifting and do not exceed the maximum load stated on the lifting arm including the sling (300 kg / 660 lbs). In case of incorrect use of the lift and/or exceeding the maximum load, the service, warranty or liability obligation of Borringia A/S shall no longer apply and are **null and void**.

The lift is manufactured according to the directions of the DS / EN ISO 10535 standard „Hoists for the transfer of disabled persons – requirements and test methods“. All electrical components have been tested according to EN 60601-1.

Always make certain that the lifter functions normally, both mechanically and electrically. If you are in doubt or notice indications that something may be wrong, take the hoist out of operation, have it checked and – if necessary – repaired before taking it into use again. Abnormal functioning may be indications of a beginning failure, which can deteriorate and eventually become a potential security risk in critical situations.

Charging will be required on a regular basis to ensure that the lift is ready for use at any time. For instance, charging could be done overnight.

Warning! or **N.B.!** indicates that the following paragraph contains important safety information, which must be read carefully.

User's Instructions

N.B.! It is important to have read this User's Manual carefully prior to using the lifter in order to familiarize oneself with the hoist and all its functions. This is to obtain the best possible safety for all users.

User's Instructions

1. Check that the red emergency stop is released. If not, turn it clockwise until it is released
2. The lift is controlled via the hand control. Has four functions up/down and in/out. By pressing the arrow keys you will obtain the required function. It is not possible to activate two functions at the same time.

N.B.! If the hand control is incorrectly used (e.g. direction command is changed too quickly) the hoist will not react. Let go of the button, wait a few seconds and try again.

3. Check that you have the right type of sling for the lifting job at hand (both size & type of sling). You should only use CE-Labelled slings for 2-point spreader bars.
4. Charging will be required on a regular basis to ensure that the lift is ready for use at any time. For instance, charging could be done overnight.

Safety

Emergency Stop and emergency lowering (electric & mechanical) should only be used for emergencies. If the emergency functions have been used, contact the dealer prior to lifter into use again.

Charging the Batteries

- The Batteries **must** be charged after approx. 20 full lifting cycles – or at approx. 50% of battery capacity, but we recommend recharging every day. When the battery is low you will hear an acoustic signal when operating the lift. It is possible, but not recommendable, to use the lift after the acoustic signal.
- We recommend that the batteries be charged, when the hoist is not being used for a "longer" period, i.e. every night. The batteries cannot be "overcharged" and it's only "healthy" for the batteries to be topped up frequently as it prolongs the battery life span.
- Charging is made by connecting the charger to the wall outlet and inserting the charging plug into the control box (see drawing on page 10). The hoist cannot be used during charging.
- A green light on the control box indicates that the wall outlet is connected. A yellow light on the control box indicates charging is ongoing.
- When charging is completed, the yellow light is switched off
- A full charging cycle lasts 4-5 hours.
- If charging is done on a wall-mounted charging station (optional equipment), you can permanently leave an extra battery in the charger. The batteries can easily be exchanged via the quick-release system.

User's Instructions

Spline!

The lifting motor (or actuator) is equipped with a security spline, which protects accidental squeezing. If the lifting arm meets resistance during lowering, movement of the lifting arm is automatically stopped so that a person cannot accidentally be squeezed between the arm and for instance a bed.

Warning!!

Owing to the safety in the actuator the lifting arm and hanger bar may drop to the height of the spindle. Therefore, before and after use, press down the lifting arm on the lift to ensure that the actuator supports the arm. This is necessary as there will otherwise be a risk of getting hurt when the arm "falls" down.

Emergency Stop

In order to stop the lift in an emergency situation – push on the red emergency button on the control box: All electrical functions are blocked and the battery indicator is shut off.

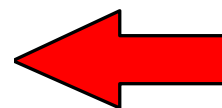
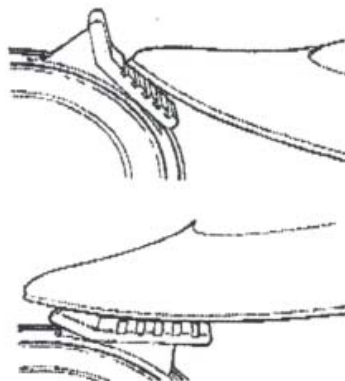
Emergency Lowering

If lowering via the hand control is not possible, there are 2 options:

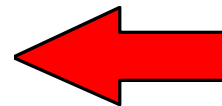
- The electric emergency lowering on the control box (marked "Emergency"), see the drawing on page 10. Push with a pencil or similar. The person will slowly be lowered.
- The mechanical emergency lowering on the lifting motor. Pull the red handle upwards, see the drawing on page 9

Brakes

Each of the two large rear wheels is provided with a brake. To apply the brake, press with your foot on the rear part of the brake lever. To release the brake, press with your foot on the front part of the brake lever.



Braked



Released

N.B! The lift should never be "broken" when performing a lift.

Transferring / Person Hoist

General

- It is important to be familiar with the hoist and to know that it functions properly before beginning a lifting job.
- Check that you have the right type of sling for the lifting job at hand (both size & type of sling). You should only use CE-Labelled slings for 2-point spreader bars.
- When a patient is in the lift always manoeuvre it slowly to avoid swinging the patient.
- The lift should only be used on surfaces with less than 5° gradients.
- Only brake the hoist when it's not being used or when standing on a sloping surface
- Never lift a person higher than necessary.
- Never lift more than the maximum allowed load.

Before lifting a client, try being lifted yourself!!

Lifting to and from a wheelchair

- Fit the correct sling on the patient.
- Open the legs of the lift and move it close to the chair.
- Position the spreader bar in front of the patient.
- First place the rear back straps and then both leg straps, and fit them correctly in the proper hooks.
- Lift the patient 1 inch (2 cm) above sitting surface - STOP - check all positions and that the straps are not twisted and that no part of the sling is creased.
- When the patient is comfortable, continue lifting until he/she is clear of the chair.
- Move the lift away from the chair - STOP - manoeuvre to the required position.

When placing a patient in a wheelchair, proceed in reverse order.

- Open the legs of the lift and move it to the chair. Make sure that the patient is correctly positioned in relation to the chair and lower the lifting bar slowly.
- Check that the patient is always in correct position when lowering. Lower to a point where the patient just touches the sitting surface. If the chair can be tilted backward it is easier to place the patient correctly in chair. If there are two carers, one can gently press on the patient's knees. Use the straps on the back of the sling as well.

N.B.! The wheelchair should be braked during transfer to and from the chair.

Transferring / Person Hoist

Lifting to and from a bed

- If the bed has an adjustable headrest and the patient is capable of sitting, a raised headrest position facilitates positioning of the sling.
- Position the sling at the back of the patient placing the lower part of the sling at or just below the base of the spine.
- If the patient is being transferred from a wheelchair to a bed a raised headrest will also facilitate the job.
- As an alternative to the raised headrest, roll the patient to a side resting or recovery position. Then roll and tuck the top half of the sling under the body. Now roll the patient on his/her back and to the other side, allowing the rest of the sling to be unfolded.
- Position the spreader bar over the bed and lower to approx. 10 inches (25 cm) above the waist.
- Position the lifting straps and fit them in the spreader bar hooks.
- Lift 1 inch (2 cm) above the bed mattress and make sure that all straps are secured and without twists. Continue to lift until the patient's body and thighs are clear of the bed. Manoeuvre to the required position.

N.B.! Make certain that you check and adjust the sling at a point where the client has only been lifted so much that he/she still has contact with the mattress.

Lifting from the floor

Make sure the patient is in a condition allowing him/her to be lifted.

- Follow the procedure described above (for a bed) and place the sling gently under the client.
- Instead of a raised headrest use a chair in combination with a pillow or similar firm back support to place him/her in a semi-sitting position.
- Dive the hoist towards the client in such a way that he/she is facing the control box and lift his legs over the base of the lift on either side of the lifting arm. **Do not brake the lift.**
- Alternatively, the client's head may be pointing towards the control box.
- Lower the spreader bar and place the straps of the sling in the hooks.
- Lift the client slowly and check all the time that sling is sitting correctly and that the client is comfortable.

N.B! When turning a lift, push it sideways with the grab handles at the same time using the front wheels as a pivot point. In this way it is much easier to manoeuvre the lift.

Warning: Do not place your hands on the actuator, as your fingers may get squeezed.

When you start moving forward, push the handle while pushing with your foot on the undercarriage. This makes overcoming the inertia easier.

It is safer to pull the lift than to push it.

A mobile lift is not a means of transportation, but intended for transfer only.

Assembly

Assembly instructions for Arnold:

1. Place the mast in the mast holder on the undercarriage. Tighten the two screws.
2. Connect the wire from the leg-spreading actuator to the control box (Plug no. 2), see “Technical Information”.

The lifter is now ready for use



Warning: *The top part must be mounted with the arm pointing forward, between the legs. Make sure not to mount the top part pointing the wrong way, as the lift will become unstable and unsuitable for lifting.*

Technical Information

Frame

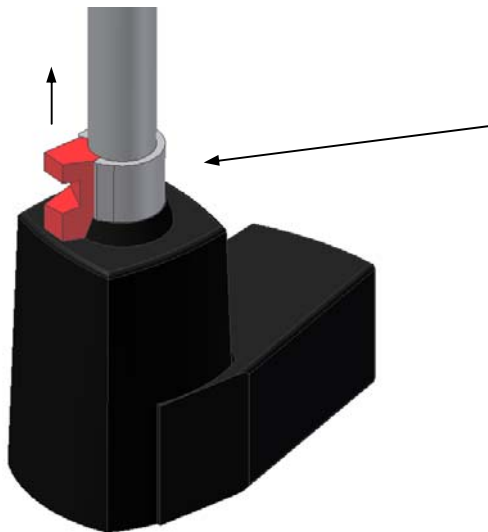
Material: Steel, St.37
Surface: Powder coated in the colours RAL 3005 “Burgundy” and RAL 7016 “Anthracite grey”

Castors

Front: Diameter Ø 75mm double wheels
Back: Diameter Ø 100mm with brakes.

Motors

	Lifting	Leg spreading
Type	LA34.3F	LA12.1
Consumption, max.	10A	3.2A
Power	10000 N	750 N
Speed	unloaded 11 mm/s loaded 7 mm/s	14 mm/s 6 mm/s
IP Rating	IP66	IP65



The lifting motor is equipped with a manual emergency lowering. In order to activate it, pull the red handle upwards.

Hand Control

Type HB52

The hand control has 2 functions.
The two upper buttons control lifting & lowering.
The two lower buttons control the leg spreading mechanism.



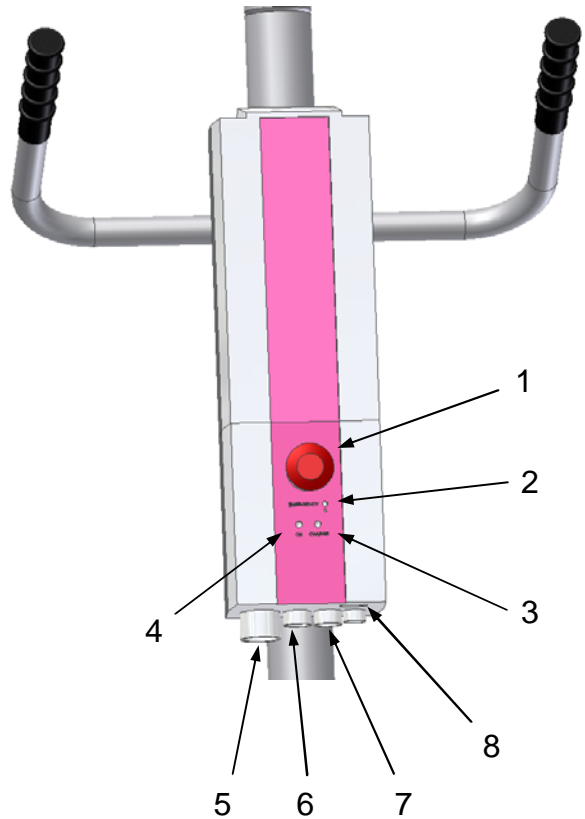
Technical Information

Control box

Type	CHJ2
Mains voltage	100-240V
Output voltage	24V DC
Max output current	11,5A
IP Rating	IP65

The electric system is designed for periodic use
With an intermittence of max. 10%,
1 min. use/ 9 min. pause.

1. Emergency Stop
2. Emergency Lowering
3. Charging indicator
4. Mains connected
5. Plug for hand control
6. Plug for lifting motor, plug no.1
7. Plug for leg spreading motor, plug no.2
8. Plug for mains connection



The control box is equipped with:

- Motor protection against over loading of motors for lifting and leg spreading
- Safety against short circuiting
- Acoustic signal when charging of the batteries is required
- Electric emergency lowering in case of hand control malfunctioning
- Built-in charger

Battery

Type	BAJ1
Output	24V DC, 2,7 Amph.
IP Rating	IP65

The Battery is placed directly on the control box. When 50% discharged, the system beeps, when activated. The battery must then be charged. Charging time: Approx 4-5 hours

N.B! The hoist cannot be operated during charging

Technical Information

Dimensions:

	Arnold Person lift	
Maximum load	300 kg	660 lbs
Min height of hooks on yoke	57 cm	23 ”
Max height of hooks on yoke	175 cm	71,3”
Lifting range	118 cm	48,1”
Length of base	130 cm	53”
Length of the legs	98 cm	39,9”
Min. internal distance betw. the legs	55 cm	22,4”
Max. internal distance betw. the legs	120 cm	48,9”
Min. external distance betw. the legs	67 cm	27,3
Max. external distance betw. the legs	136 cm	55,4”
Height of the base	11,5 cm	4,7”
Clearance under the legs	6,5 cm	2,7”
Wheel diameter	100/75 mm	4”/3”
Turning diameter	140 cm	57,1”
Weight of battery	3,0 kg	6,6 lbs.
Total weight	61,0 kg	134 lbs.
Lifting cycles on charged battery	20	20

Maintenance

Always make certain that the lifter functions normally, both mechanically and electrically. If you are in doubt or notice indications that something may be wrong, take the hoist out of operation, have it checked and – if necessary – repaired before taking it into use again. Abnormal functioning may be indications of a beginning failure, which can deteriorate and eventually become a potential security risk in critical situations. Therefore, always check the hoist according to the instructions below:

Daily check

Slings 1. Check that the slings are clean, if not wash them

2. Check for wear. Sownings must be intact. Frayed slings must be changed

Lift 3. Check that the hand control is ok, that all functions work and that the lift is correctly assembled.

4. Check that all cables are correctly inserted in the control box

5. Check visually that axels and bolts are intact. Everything should move easily without noise

6. Keep the lift clean. A clean lift is safer and lasts longer

Cleaning

The lift should be cleaned with a damp/wrung cloth with water and a mild detergent. Electric components can be cleaned with a firmly wrung cloth, **do not** spray water onto these. **Never** use solvents, acids or the like for cleaning of the hoist.

Monthly Maintenance

Slings 1. A thorough check: Any frayed or damaged slings should be replaced

Lift 2. Check hand control, control box and battery have no visual signs of damage

3. Check that cables are correctly mounted and undamaged

4. Check that the lifting motor is not bent, visually damaged or sounds strained when activated

5. Check that all axels, bolts, joints and weldings are intact and that screws/bolts are securely tightened. Worn parts should be replaced.

6. Check that the castors run freely. They should be cleaned once a month.

Annual Inspection:

As a preventative measure an Annual Service Inspection **must** be carried out at least once every 12 months following strictly the procedures in the “Service Manual”. **Boringia cannot be held responsible for damage to persons caused by failure to carry out the Annual Service Inspection.**

Trouble Shooting

If the hoist does not work, please try the following prior to contacting the dealer.

1. has the battery been charged?
2. has the emergency stop been released?
3. are all plugs correctly connected?
4. is the hand control ok and correctly connected?
5. have you tried with another hand control and/or charger?
6. if the lifting arm does not come down use either the mechanical or electric emergency lowering.

<u>Symptom</u>	<u>Possible cause</u>	<u>Action</u>
Power indicator does not light up during recharging	- No connection	- Establish connection
The motors do not move. A click is heard from the relay in the control box	- Control box defective - The wire from the motor is not properly connected to control box - Motor defective - Control box defective	- Send control box for repair - Connect the wire properly - Replace the motor - Replace the control box
The motors do not move. A click is <u>NOT</u> heard from the relay in the control box	- Motor defective - Hand control defective	- Send control box for repair - Send hand control for repair
Control box is completely dead. A click is <u>NOT</u> heard from the relay in the control box	- Battery discharged - Battery defective	- Charge battery - Replace battery
The control box is OK except for one direction in one channel	- Hand control defective - Control box defective	- Send control box for repair - Send control box for repair

Warranty / Service

Warranty

The hoist is warranted for 12 months against production failures. Warranty repairs must be carried out by Boringia approved company.

The warranty for this product shall not apply, if you do not carry out at least one service check per year according to the specifications in the "Service Manual".

Service

Always make certain that the lifter functions normally, both mechanically and electrically. If you are in doubt or notice indications that something may be wrong, take the hoist out of operation, have it checked and – if necessary – repaired before taking it into use again. Abnormal functioning may be indications of a beginning failure, which can deteriorate and eventually become a potential security risk in critical situations..

As a preventative measure an Annual Service Inspection **must** be carried out at least once every 12 months following strictly the procedures in the "Service Manual".

Service Inspection and repair can only be carried out by trained and competent personnel.

We recommend that a service logbook be kept for every person lifter. Such a logbook can be used as documentation in case of warranty issues.

Only original extra equipment and spare parts can be used in connection with the Arnold person hoist.

Modification to the lift may only carried out by Boringia Personnel..

When buying an Arnold person lifter, the client will be offered a service contract..



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