

Stair Climbing System

escalino 120 kg

Translation of the original user's manual

GB



Ideen bewegen mehr



CE-Declaration of conformity

The company AAT Alber Antriebstechnik GmbH herewith declares that the products of the stair climbing system **escalino** were developed and manufactured in concordance with the current regulations of the European Union, EEC Guidelines 2007/47/EG and 2006/42/EG.

This declaration becomes void if the above mentioned devices have been altered without the consent of AAT Alber Antriebstechnik GmbH.



Signature of the manufacturer:

Markus Alber
Managing shareholder
AAT Alber Antriebstechnik GmbH

The stair climbing system **escalino** has been successfully tested and certified according to the standard design for stair climbing vehicles ISO 7176-23 and DIN EN 12182 at the Technical University of Berlin, Berlin-Cert.



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Table of contents

	CE Declaration of conformity	2
	Table of contents	3
1	General information	5
1.1	How to use this user's manual	5
1.2	Instruction	5
1.3	Care and maintenance	5
1.4	Warranty and liability.	5
2	Description of the product.	6
2.1	Adequate use	6
2.2	Features of the escalino	7
2.3	Technical data	8
2.4	Dimensioned sketch	9
2.5	Standard scope of delivery	10
2.6	Optional accessories	10
3	Assembly.	11
3.1	Unfold the back part	11
3.2	Attach the C-part plus seat to the climbing unit	11
3.3	Arm rests	12
3.4	Functional check.	12
4	Safety instructions	13
4.1	Special information concerning the operation	13
4.2	Instruction	13
4.3	Safety brakes	13
4.4	Lining of the climbing foot	14
4.5	Lifting capacity	14
4.6	Care and maintenance	14
4.7	Condition of paths, walkways etc	14
4.8	Charge of the batteries..	14
4.9	Climbing mechanism.	14
4.10	Transport	14
5	Operation	15
5.1	Maximum lifting capacity	15
5.2	Membrane keypad	15
5.3	Safety brakes	15
5.4	Lining of the climbing foot	15
6	Instructions for operation	16
6.1	Membrane keypad	16
6.2	UP/DOWN switch	16
6.3	Climbers	17
6.4	Safety brakes	18
6.5	Transportation of a person with the escalino	19
6.6	Operation on level ground	20
6.7	Tilting the stair climbing system	20
6.8	Operation on slopes	21
6.9	Climbing upstairs	22
6.10	Climbing downstairs	25
6.11	Laying the escalino on the stairs	27
6.12	Transport	28
6.13	Trouble shooting.	28
7	Accessories.	29
7.1	Voltage converter for your vehicle	29



8	Care, maintenance and recycling.	30
8.1	New user	30
8.2	Charger	30
8.3	Sealed lead acid batteries	31
8.4	Fuses	33
8.5	Check brake lining	34
8.6	Check the lining of the climbing foot	34
8.7	Cleaning.	35
8.8	Recycling	35
9	Warranty and liability	36
9.1	Warranty	36
9.2	Liability	36

1 General information

Congratulations! With the acquisition of this stair climbing system you have a device that will quickly become a reliable and indispensable partner in transporting physically disabled people.

With the **escalino** you are able to transport one person safely and effortlessly up- and downstairs; even winding stairs are no problem for the **escalino**. Driving on slopes is also possible. The safety brakes on both sides of the **escalino** ensure your safety.

Naturally the **escalino** is also suitable to drive on level ground. The device is lightweight, flexible and does not take up much space.

The **escalino** is capable of climbing stairs up to a step height of 21 cm. The minimum depth of step's surface must be 14 cm regardless of the type of stairs (regular straight stairs or winding stairs).

The necessary step width concerning straight stairs is the width of the **escalino** an extra 10 cm for manoeuvring.

The minimum platform size of u-shaped stairs depends on factors such as the attendant's height, etc. Your AAT representatives or your authorized dealer are happy to advise you.

The sticker with the device's serial number is located on the left side of the housing. Read the number here.

1.1 How to use this user's manual

The user's manual is part of the delivery package and instruct you step by step about the safe and adequate use of the **escalino**. Operating the **escalino** takes a certain skill.


Please read this user's manual carefully and particularly take note of the safety instructions before you use the **escalino** for the first time.

After reading, please store this user's manual at an appropriate place for further reference.

1.2 Instruction

In the interest of your safety the **escalino** may only be operated by trained personnel.

Instruction on how to operate the device is part of the delivery package and takes place with your authorized dealer or an AAT representative.

 Please read this user's manual carefully and particularly take note of the safety instructions before you use the **escalino** for the first time.

1.3 Care and maintenance

One of the most important aspect concerning the maintenance of the **escalino** is charging the sealed lead acid batteries. They are integrated into the device and must be charged every time after using the device.

Other than that your **escalino** does not need much care and maintenance. More extensive instructions you find in chapter 8.

1.4 Warranty and Liability

For damage that was caused by inadequate use disregarding this manual we assume no liability whatsoever. (Please read chapter 9 for more detailed information concerning warranty and liability).



2 Description of the product

2.1 Adequate use

Please use the **escalino** exclusively for the transportation of physically disabled persons.

Said persons should be able to sit properly without help, otherwise you should secure them with a safety belt. The latter is an accessory available at AAT Alber Antriebstechnik GmbH.

In addition, the arms of the person to be transported should not protrude over the arm rests during the transportation process.

- ☞ In the interest of your safety you may not use the stair climbing device **escalino** on escalators or moving belts!
- ☞ Transporting other kinds of loads is explicitly prohibited!
- ☞ Only authorized operators may use the **escalino**. Therefore, never leave the **escalino** unattended.
- ☞ Please do not use the **escalino** in rain, slippery and wet conditions, snow or ice due to the following potential safety hazards, e.g. danger of slipping, restricted braking effect etc.
- ☞ Due to safety reasons the **escalino** may only be operated by trained personnel who are physically and intellectually capable to handle the device in all situations of operation.



Driving on level ground



Mastering stairs



Driving on slopes

2.2 Features of the **escalino**

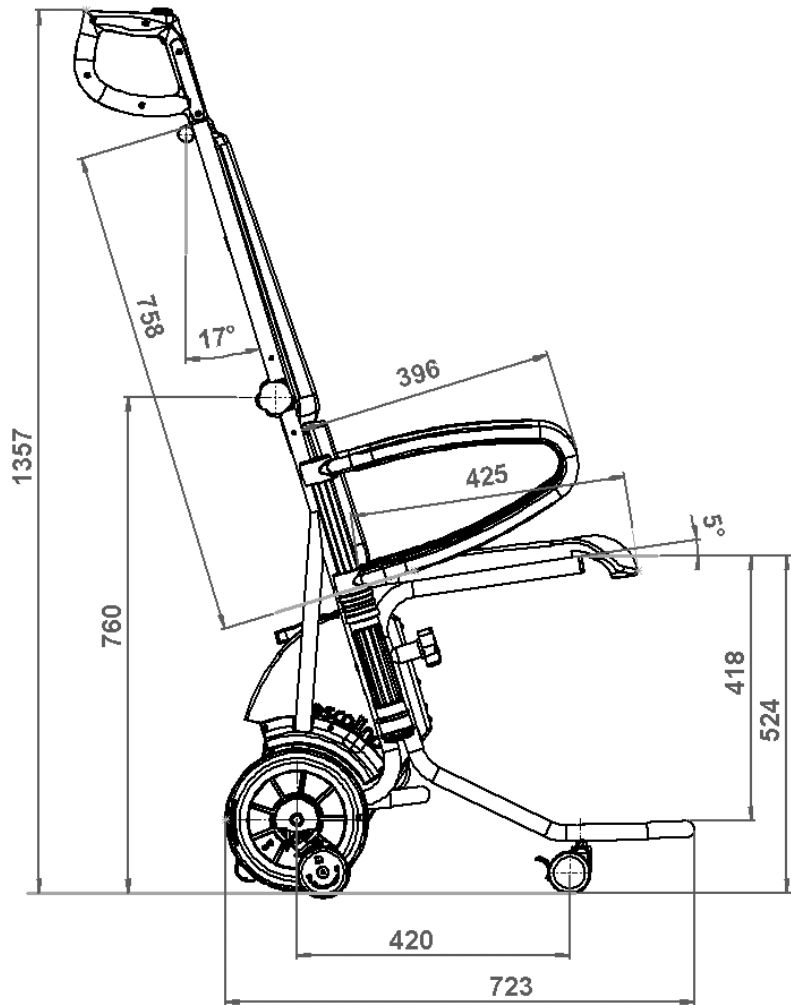
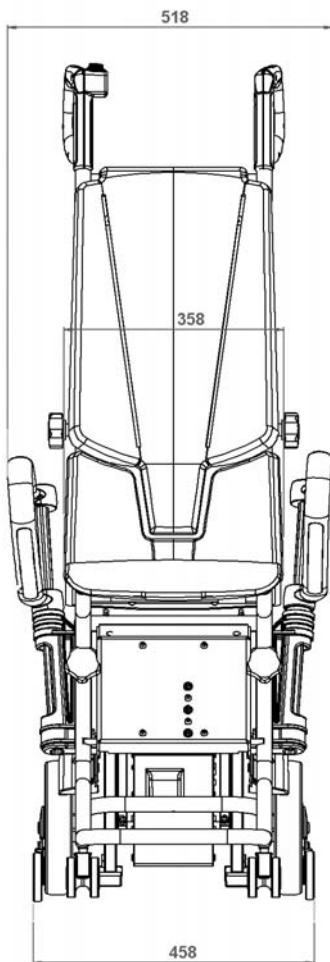
- 1 = handle
- 2 = safety chip for the engine immobiliser
- 3 = up/down switch
- 4 = back rest (foldable)
- 5 = arm rest, swivelling
- 6 = C-part plus seat (removable)
- 7 = main wheel
- 8 = safety brake
- 9 = climber and climbing foot
- 10 = climbing unit
- 11 = membrane keypad



2.3 Technical data

measurements	height = 1357 mm height (folded) = 760 mm width without arm rests = 458 mm width with arm rests attached = 518 mm depth with the foot rest = 723 mm
weight	climbing frame = 28.2 kg, c-part plus seat = 4.0 kg, both arm rests = 1.5 kg, total weight = 33.7 kg
maximum lifting capacity	120 kg
batteries	2 x 12 V / 5 Ah (sealed)
direct current motor	24 V / 200 W
climbing speed	approximately 12 steps / minute
capacity with one battery charge	8 - 12 levels (approximately 120 - 180 steps), depending on the load
maximum height of step	21 cm
storing/operating temperature, device	0° C up to + 60° C / - 30° C up to + 50° C
storing/operating temperature, batteries	0° C up to + 60° C / - 30° C up to + 50° C
degree of protectio	IP 54 (protected against dust and splash water allover)
noise level	the device's A weighted noise level lies typically below 70 dB (A)
vibrations	the weighted RMS value of acceleration the upper body is exposed to lies typically under 2.5m/s ²

2.4 Dimensioned sketch



2.5 Standard scope of delivery

- 1 = charger including instructions
 - 2 = arm rests
 - 3 = climbing unit incl. back rest
 - 4 = C-part
- plus the user's manual



2.6 Optional accessories

- 1 = adjustable foot rest
- 2 = voltage converter
- 3 = hip belt
- 4 = seat belt system incl. hip belt



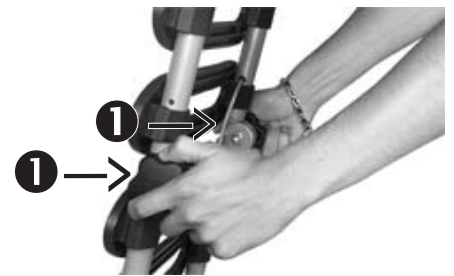
3 Assembly

With a few movements you can assemble the **escalino** by means of several fixtures and tightening knobs. Disassembly is just as easy.

3.1 Unfold the back part

The back part can be unfolded and put in a vertical position by means of toothed wheels. You need to lock it in that position with tightening screws ❶.

☞ Always make sure that the back part is securely fastened.



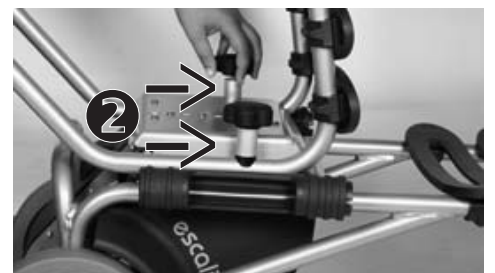
3.2 Attach the C-part plus seat to the climbing unit

Put the C-part plus seat onto the climbing frame; the locating bolts of the C-part fit into the corresponding holes in the frame.



Fix the C-part tightly to the climbing frame with the two tightening knobs ❷.

☞ Always make sure that the C-part plus seat is securely fastened to the climbing frame.



3.3 Arm rests

Insert the arm rests on both sides.


- ☞ Please make sure that the arm rests are completely inserted into their respective holding devices.
- ☞ Depending on the person's size the arm rests may be switched from right to left and vice versa allowing for a wider or narrower seat.



3.4 Functional check


- ☞ Please check the safety brakes each time before using the device (see chapter 6.4 and 8.5)!
- ☞ Please also check the safety brakes' braking effect as described in chapter 6.4.1 and 6.4.1!
- ☞ Please check the device's electronic functions each time before using it (see chapter 6.9 and 6.10)!
- ☞ Regularly check whether the climbing feet's linings are still sufficient (see chapter 8.6)
- ☞ Make sure that the seal lead acid batteries are charged before you use the device!


4 Safety instructions


 For a safe operation of the **escalino** it is important that you observe and adhere to all warning signs and instructions in this user's manual as well as the warning signs and instructions on the device itself.

4.1 Special information concerning the operation: Due to safety reasons the stair climber **escalino** may not be used on escalators and moving walkways!

4.1.1 Environmental conditions, electro-magnetic compatibility: Electro-magnetic compatibility means that an electric device functions properly in its electro-magnetic environment without influencing other devices in the same environment.

 Nevertheless, always check whether the device's electronic functions work properly before each use. This is particularly important if there is an aerial mast nearby.

 Please note that the **escalino** may interfere with other electronic devices' sensitive electro-magnetic fields (e.g. anti-theft systems in department stores). This may also happen if you connect other devices.


 Also make sure that the **escalino** is not operated in close proximity to medical devices with a high potential for danger and/or life-supporting functions as well as diagnostic devices.


4.1.2 Climate: To ensure proper functioning it is not advisable to expose the **escalino** to freezing conditions. Should this be unavoidable, always put the device in a non-freezing environment for at least one hour before using it.

4.2 Instruction: The **escalino** may only be operated by trained personnel. In addition, the operator should be capable of lifting 1/3 of his or her own weight. Minors are not allowed to use the **escalino**; exempt from the above are adolescents over 16 years of age who have been trained under supervision to operate the **escalino**. While using the **escalino** you should always wear good shoes that do not slip.

4.3 Safety brakes: Please check the safety brakes each time before using the **escalino** (see chapter 6.4 and 8.5). The safety brakes, particularly the knurled surface of the brake drums in the wheel rims, must be cleaned weekly or after contamination with spirit to ensure the optimum braking effect.

 Never smoke during the cleaning of the device as well as keep it away from ignition source.

 Please consider the danger warning of the manufacturer previous cleaning the device with spirit.

 Never use suds or greasy cleaners.

After cleaning the safety brakes must be checked as described in chapter 6.4.

4.4 Lining of the climbing foot: Please check regularly whether the linings of each climbing foot is still sufficient (see chapter 8.6).

4.5 Lifting capacity: The stated maximum lifting capacity of 120 kg may not be exceeded (see chapter 5.1).

You may under no circumstances use the **escalino** to transport goods.

4.6 Care and maintenance: Please make sure that you charge the device after each use of the **escalino**.

If the **escalino** is not in operation, please turn off the device.

If the working elements of the device block, turn the **escalino** off immediately.

☞ Repairs may be done by authorized dealers or the manufacturer only. Please exclusively use AAT Alber parts and accessories.

Please note the extensive care and maintenance instructions in chapter 8.

4.7 Condition of paths, walkways etc.: Please make sure that the paths and walkways you use with the **escalino** are free of obstacles and not slippery. Avoid operation on damaged stair linings, snow, ice, etc.

☞ The **escalino** may not be used in wet and rainy conditions.

4.8.1 Environmental conditions: Although the **escalino** has been tested for its electro-magnetic compatibility, you should still check its electronic functions before each use. This is particularly important if there is an aerial mast nearby.

4.8 Charge of the batteries: You should only use the **escalino** with fully charged batteries. You can check the batteries' capacity on the display of the membrane keypad.

Should the batteries fall into the back-up range (red LED starts blinking) you will hear a signal recurring every 12 seconds. It takes about 8 to 10 times of charging and discharging the batteries before they reach their full capacity again.

4.9 Climbing mechanism: The climbing unit and the climbers are for the most part covered. Nevertheless, please pay attention that neither hands nor feet get into the rotating area during the climbing process. Always keep a safe distance.

4.10 Transport: Please transport the **escalino** as described in chapter 6.12.

☞ Always turn off the **escalino** for transportation!

☞ When you transport the device in vehicles, please secure it according to the relevant legal regulations in your country.

5 Operation

5.1 Maximum lifting capacity

Please make sure that the maximum lifting capacity of 120 kg is not exceeded.

5.2 Membrane keypad

With the membrane keypad **1** you can turn the device on and off. Check the batteries' capacity and turn the single step mode on or off.

5.3 Safety brakes

Before operating the **escalino** check the safety brakes **3** every single time. Extensive instructions you find in chapter 6.4 and 8.5.

5.4 Lining of the climbing foot

Please check regularly whether the lining on each climbing foot **2** is still sufficient.

Further instructions you find in chapter 8.6.



6 Instruction for operation

Before we get to the actual instructions for operation, we would like to introduce the **escalino's** most important components to you.

6.1 Membrane keypad

6.1.1 ON/OFF key

The ON/OFF key ❶ on the membrane keypad is the power key to turn the **escalino** on or off.

- ☞ The **escalino** is equipped with a turn-off feature: if the device is on and has not been used for 5 minutes, the turn off feature switches the **escalino** off automatically. In such case you can only use the **escalino** again by pressing the ON/OFF key.

6.1.2 Capacity of the batteries

On the membrane keypad you can check the batteries' capacity ❷. If the display highlights the green area, your batteries are fully charged. If the yellow area is highlighted your batteries are running low. At this point you should charge your batteries.

If the display highlights the red area (LED is blinking), you hear a signal that recurs every 12 seconds.

- ☞ Once you hear the first signal, the batteries' capacity is sufficient for a maximum of 20 - 35, steps depending on the weight of the transported person.

6.2 UP/DOWN switch

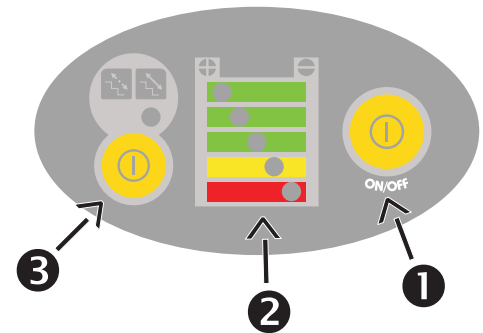
This switch on the right handle activates the climbing mechanism up- or downstairs.

- ☞ Turn on the device as described in chapter 6.1.1 before you activate the UP/DOWN switch.

6.2.1 Safety chip for the engine immobiliser

The UP/DOWN switch only works if you put the safety chip for the engine immobiliser ❶ into its slot. Please make sure that the chip is properly set to ensure safe and continuous operation.

If you do not put in the chip you can turn on the **escalino**, but you cannot drive with it. This feature makes sure that no unauthorized person uses the device.



6.2.2 Control light to indicate malfunction

Potential malfunction is indicated by a light diode.

In case of malfunction, turn the device first off and then on again. If there is still an indication of malfunction, charge the batteries in case of low battery charge. For all other cases of malfunction, please contact your authorized dealer.

- ☞ Please press the UP/DOWN switch only after you turn the device on. Should you have neglected that the LED blinks 4 times. In such case, please turn the device off and then on again.

LED is blinking	Identified malfunction
1 x	socket is defective
2 x	error, lifter plate (Fet)
3 x	error, lifter (relay)
4 x	UP/DOWN switch is defective
5 x	malfunction in the motor

6.2.3 Single step mode

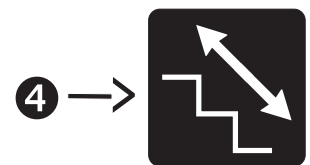
Should you choose to turn off the single step mode manually you can do so by pressing the key ③ on the membrane keypad. The yellow LED above the pictogram with the continuous arrow ④ lights up as soon as you turn off the single step mode.

- ☞ Every time you turn on the **escalino**, the single step mode is automatically activated.

If you activate the ON/OFF key in that mode, the device will climb only one step at a time. The climbing system stops in the correct position.

The climbing mechanism cannot unintentionally be activated. You can take your time to move the main wheels to the next step's edge.

To continue climbing you simply release the UP/DOWN switch and then press it again.



6.3 Climbers

The climbers (see picture) must be pulled in to topmost position by means of the UP/DOWN switch if you want to:

- drive on level ground and on slopes
- check the safety brakes
- begin climbing upstairs or downstairs

However, you need to fold out the climbers by activating the UP/DOWN switch, direction up, whenever a person takes a seat in the **escalino**, so the device is supported by the climbers (please also see chapter 6.5.1).



6.4 Safety brakes

There are safety brakes located on the climbing frame on both sides (see picture to the right).

- ☞ Please check the safety brakes each time before you use the **escalino**.

You may check the brake effect either on top of the stairs or on level ground as described in chapter 6.4.1 and 6.4.2.

6.4.1 Test the required brake effect

Pull in the climbers to their upmost position and tilt the **escalino** backwards until the back rest is in an almost horizontal position. (See picture to the right).

If the **escalino** cannot be pushed forward by the handles in said position, but merely rolls backwards, then the required brake effect for the safe operation of the **escalino** is granted (see picture).

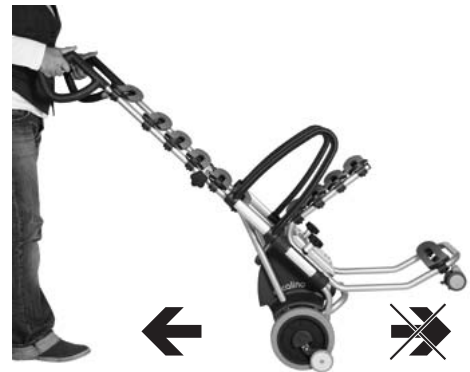
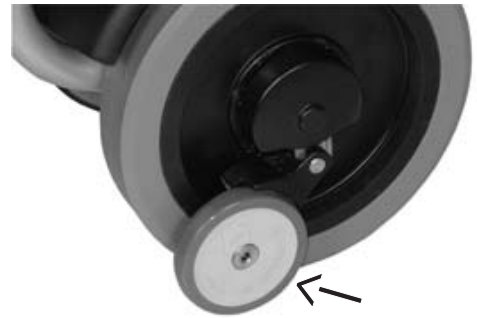
- ☞ **Important:** If the required brake effect is not guaranteed, you may, under no circumstances, use the **escalino** any more. Please contact your authorized AAT Alber dealer or the manufacturer immediately.
- ☞ Should the brake not kick in, you may under no circumstances use the device. Please contact your authorized dealer or an AAT representative immediately.

6.4.2 Test the required brake effect at the top edge of the stairs

- ☞ Please make this test without a person sitting in the chair!

Pull in the climbers to their upmost position and tilt the device backwards until the back rest is in an almost horizontal position. Drive forward to the first step's edge (without person). If you cannot push the device over the edge of the step, the required braking effect for a safe operation of the **escalino** is granted.

- ☞ **Important:** If the required brake effect is not guaranteed, you may, under no circumstances, use the **escalino** any more. Please contact your authorized AAT Alber dealer or the manufacturer immediately.
- ☞ Should the brake not kick in, you may under no circumstances use the device. Please contact your authorized dealer or an AAT representative immediately.



6.5 Transportation of a person with the **escalino**

Please note that the **escalino** was developed to be operated by one person. Always use both hands when using the device.

- ☞ Only one person may be transported with the **escalino**!
- ☞ Please practise driving with the **escalino** on level ground, slopes and climbing up- and downstairs at first without a person sitting in the chair. Also make sure that while you practise using the **escalino** nobody is within close range of the potentially dangerous area underneath the device.

We suggest that you practice climbing up- and downstairs with the single step mode activated (see chapter 6.2.3).

- ☞ Please do not exceed the maximum lifting capacity (see chapter 5).
- ☞ In the interest of your safety please always operate the **escalino** from behind, never sideways.

When a person takes a seat on the **escalino**, please follow these instructions:

6.5.1 Secure stand of the **escalino**

To avoid the **escalino** moving when a person takes a seat, you must fold out the climbers in such a way that they rest on the ground.

Turn on the device and press the UP/DOWN switch direction UP until the climbers touch the floor.



6.5.2 Swivel out or remove the arm rests

Sitting down can be facilitated by folding out the arm rests. If necessary you can remove the arm rests altogether. After the person to be transported has taken a seat you put the arm rests back into their original position.



6.6 Operation on level ground

After the person has been properly seated, you may transport him or her effortlessly on level ground (see picture). Make sure that the climbers are pulled in entirely.

- ☞ You overcome a threshold by pulling the **escalino** backwards over it.



6.7 Tilting the stair climbing system

To drive on slopes or to climb stairs you must tilt the **escalino**, which can be done easily by means of the climbers.

1. Turn on the **escalino** by pressing the ON/OFF key.
2. Press the UP/DOWN switch, direction DOWN until the climbers lift the main wheels at least 1-2 cm off the floor (see picture).
3. Put your foot on the housing and tilt the **escalino** slightly toward you until you feel that the **escalino** is balanced.
4. The **escalino** is balanced if you feel neither pull nor push in the handles.
5. In order to drive on level ground, the climbers must be pulled in entirely.

If you tilt the **escalino** further, or too much, the safety brakes engage and the **escalino** can't be moved forward any more.



6.8 Operation on slopes

Tilt the **escalino** slightly backwards and pull in the climbers entirely.

- ☞ For safety reasons we recommend you to ask another person to assist when driving on a slope.

6.8.1 Downhill

Drive forward to the edge of the slope. In order to slow down you need to tilt the **escalino** a bit more, so that the safety brakes are activated.

6.8.2 Uphill

Please drive backwards up a slope. In order to slow down you need to tilt the **escalino** a bit more, so that the safety brakes are activated.



6.9 Climbing upstairs

- ☞ You may only be permitted to transport a person with the **escalino**, if you have been properly trained in the device's operation.
- ☞ Please always practice climbing stairs without a person and by activating the single step mode.
- ☞ Please always check the safety brakes before each use (see chapter 6.4)

The climbing process can be accomplished quickly and without problems if you adhere closely to the following instructions.

A tip before you start:

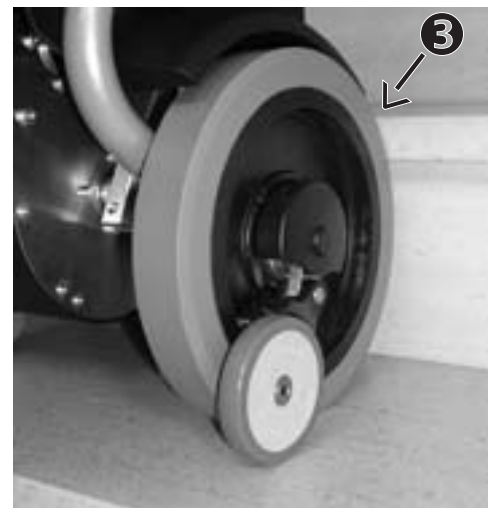
- ☞ Always pull the **escalino** a bit backwards during the entire climbing process, i.e. always keep the device under tension so that the wheels can touch down properly on the next step.

1. Turn the **escalino** on by pressing the ON/OFF key (see chapter 6.1.1).
2. Deactivate the single step mode if necessary (see chapter 6.2.3)
3. Pull in the climbers to their topmost position by pressing the UP/DOWN switch (see chapter 6.2).
4. Tilt the **escalino** slightly toward you (see chapter 6.7).
5. Drive backwards to the stairs **1** and move up 2 - 3 steps **2**.



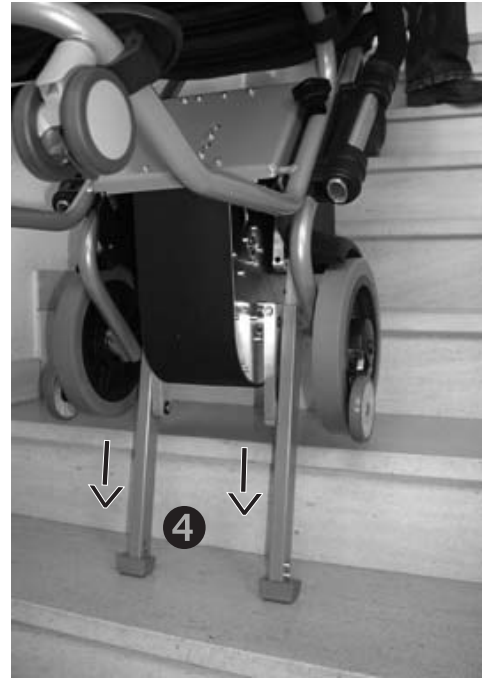
Now the **escalino** is in its initial position for climbing upstairs.

- ☞ Make sure that both main wheels touch the lowest step **3**.

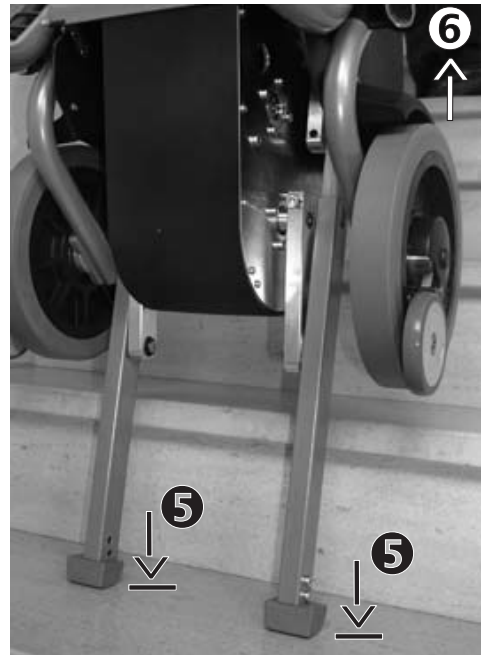


The climbing process takes place in two intervals.

6. Pressing the UP/DOWN switch, direction "UP" to begin the climbing process by moving the climbers downward ④.
- ☞ Always keep the device under tension during the entire climbing process, i.e. always pull it slightly backward toward you.



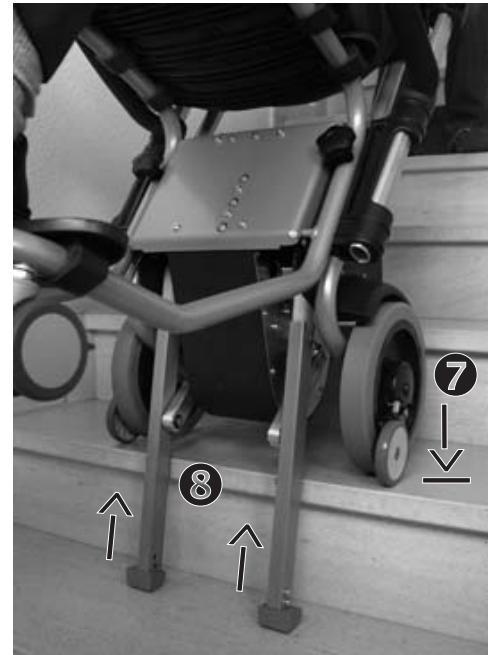
After the climbers reach the floor ⑤, they assume the load of the main wheels, while the main wheels and the frame ⑥ are lifted at the same time.



The first interval is finished when the main wheels touch down on the next higher step ⑦ and resume the load of the climbers.

The second interval begins by pulling in the climbers ⑧. It is finished when the climbers reach their topmost position.

Because the **escalino** is always pulled slightly backward, it rolls automatically to the next step and reaches the initial position again - both main wheels touch the next step.



Since the single step mode is activated each time before you turn on the **escalino**, the climbing process ends here. To resume climbing you need to press the UP/DOWN switch once again, direction "UP".

At this point the climbing process repeats itself as described in point 6.



6.10 Climbing downstairs

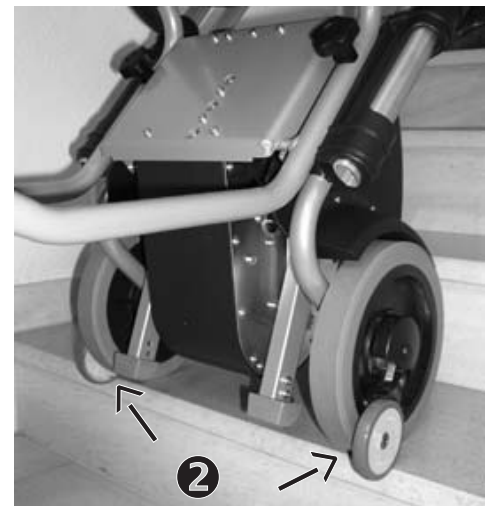
- ☞ You may only be permitted to transport a person with the **escalino**, if you have been properly trained in the device's operation.
- ☞ Please always practice climbing stairs without a person and by activating the single step mode.
- ☞ Please always check the safety brakes before each use (see chapter 6.4 and 8.6)

The climbing process can be accomplished quickly and without problems if you adhere closely to the following instructions.

1. Turn the **escalino** on by pressing the ON/OFF key (see chapter 6.1.1).
2. Deactivate the single step mode if necessary (see chapter 6.2.3)
3. Pull in the climbers to their topmost position by pressing the the UP/DOWN switch (see chapter 6.2).
4. Tilt the **escalino** slightly towards you (see chapter 6.7).
5. Drive the **escalino** forward to the edge of the stairs ❶.

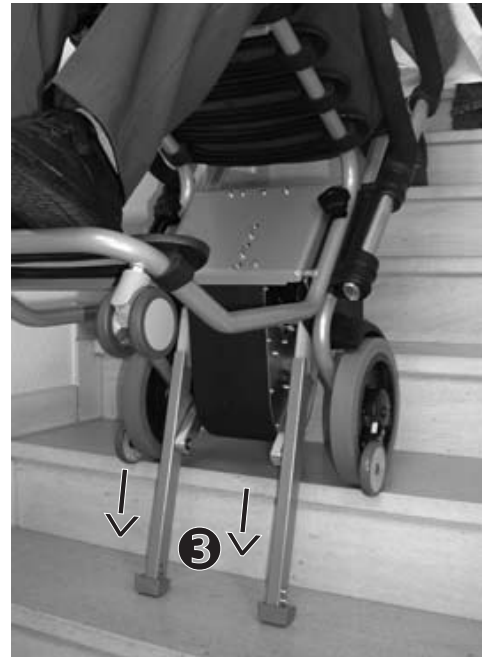


The sensitive rolls ❷ of the safety brakes keep the **escalino** from rolling over the edge.

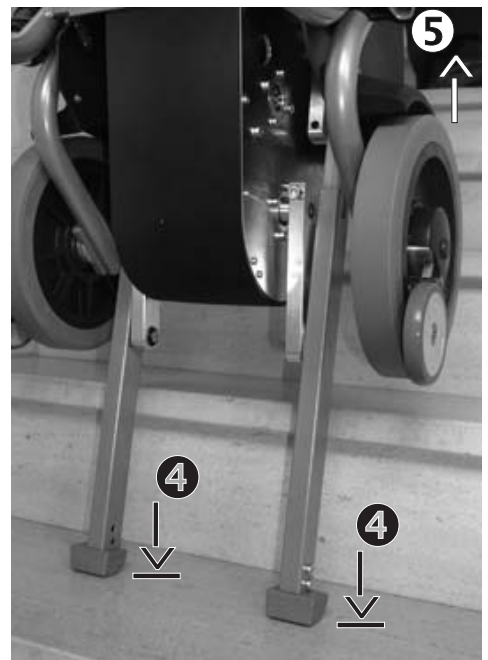


6. Press the UP/DOWN switch, direction "DOWN" and the descending process begins.

The drive retracts the climbers **3** downward and touch down on the next lower step.

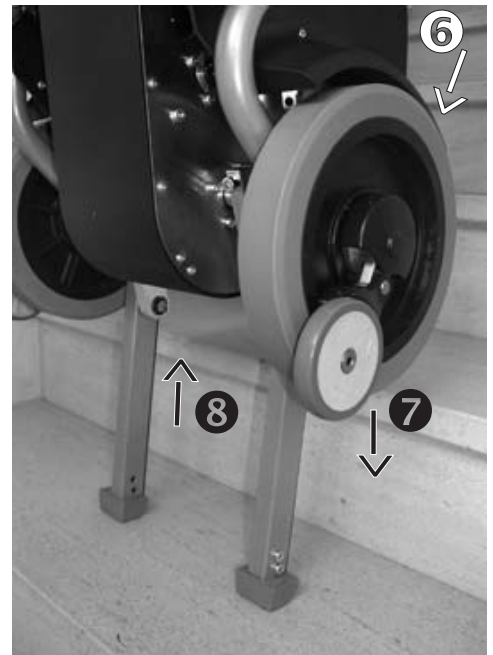


When the climbers reach the next lower step **4** they assume the load of the main wheels, while those plus the climbing frame are lifted off the higher step **5** and then moves downward, away from the operator.



Now the main wheels and the climbing frame are moved forward ⑥ - away from the operator.

Afterwards the main wheels and the frame are lowered ⑦ by retracting the climbers ⑧. This results in a small shift in load distribution, which you will feel at the handle by a slight pull forward.



The main wheels rest now on the next step (see picture) and resume the load from the climbers, which are retracted further.

Since the single step mode is activated every time you turn on the device, the climbers are pulled in entirely and then the descending process ends at this point.



7. Again push the **escalino** all the way to the edge of the step, i.e. until the sensitive rolls of the security brakes stop the **escalino**.

To continue descending you need to press the UP/DOWN switch again, direction DOWN.

At this point the climbing process repeats itself as described in point 6.



6.11 Laying the **escalino** on the stairs

In an emergency the **escalino** may tilt backwards and lay down on the stairs. The safety brakes prevent the **escalino** from rolling down (see picture).



6.12 Transport

To transport the **escalino**, please remove the C-part, and the arm rests as described in chapter 3.2. Then you activate the UP/DOWN switch, direction "DOWN", until the climbers touch the floor. At this point you can fold the **escalino** as described in chapter 3.1.

- ☞ Please make sure that the tightening knobs are always tightened properly.

The easiest way to carry the **escalino** is to stand behind the folded stair climber and lift it by the bars on both sides.

- ☞ Note that the device weighs 28.2 kg!
- ☞ Always turn off the **escalino** for transportation!
- ☞ When transporting the **escalino** in a vehicle, always secure the device according to the legal rules and regulations.
- ☞ The sealed lead acid batteries used in the **escalino** are not considered dangerous according to the IATA special guidelines A67 and GGVS Rn-Nr. 2801 A, section 2, and admitted to air travel by DOT and IATA.



6.13 Trouble shooting

If there are problems using the escalino, please check the following trouble shooting chart and see whether you can fix them yourself.

problem	check and potential solution
escalino cannot be turned on	Is the charger connected to the escalino? If so, disconnect the charging cable.
	Is the battery pack empty? If so, charge the batteries.
	If there is still a problem turning on the escalino, please contact your dealer.
escalino do not drive	Is the safety chip for the engine immobiliser inserted? If so, please contact your dealer
Batteries don't charge	Please contact your dealer

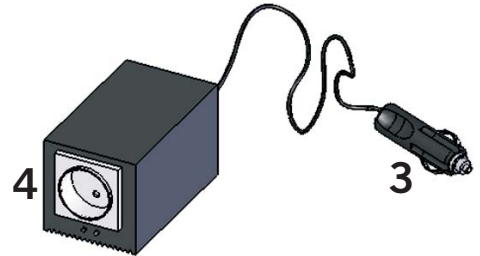
Potential malfunction is indicated by a light diode.

7 Accessories

7.1 Voltage converter for your vehicle

We recommend the voltage converter for your vehicle, if you transport the stairclimber **escalino** in your vehicle. The AAT voltage converter is designed for a 12 V electrical system. This voltage converter transforms 12 V / 24 V direct current (D.C.) into 230 V alternating current (A.C.)

The plug of the voltage converter **3** is plugged into the cigarette lighter in your car or into the socket of the supply system. The automatic charger's 230 V connector **4** is plugged into the socket of the converter.



8 Care, maintenance and recycling

To insure the **escalino** safe and proper functioning we recommend a safety check done on the device every two years, even though there might not be any outer damage or malfunction evident.

- ☞ In the interest of your safety repairs of any kind may only be done by personnel authorized by AAT Alber Antriebstechnik GmbH.

The device itself does not need any particular maintenance and except for an occasional cleaning.

8.1 New user

If the device goes to a new user, we recommend a safety check.

8.2 Charger

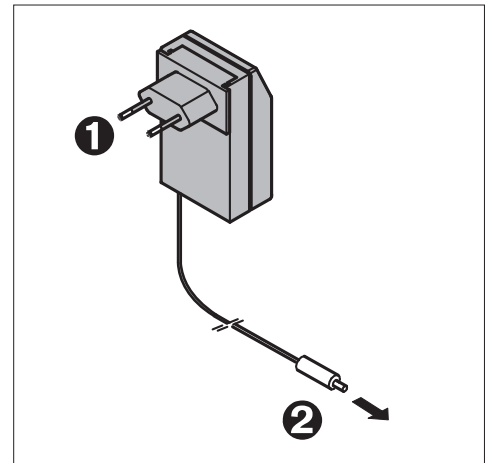
Please use exclusively AAT Alber Antriebstechnik GmbH charger to charge your batteries.

8.2.1 Automatic charger

The charger does not need any particular maintenance. The scope of delivery includes the AAT Alber Antriebstechnik GmbH charger. Plug ❶ is inserted into the wall outlet and plug ❷ into the socket on the device or the battery pack.

This automatic charger recharges your batteries 100%. As soon as the charging process is completed, it switches to a retaining mode, thus overcharging is impossible.

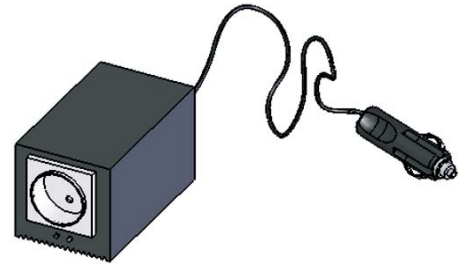
- ☞ Before using the charger, please read and follow all instructions and warning notes included with the charger.
- ☞ Exclusively use the AAT charger to charge the batteries.
- ☞ Check the charger regularly and protect it from oils, grease, aggressive cleaning agents, thinners and/or damage by sharp edges, etc.
- ☞ Repairs and service check-ups may only be performed by AAT Alber Antriebstechnik GmbH or their authorized personnel.
- ☞ Please do not disassemble or modify the charger!
- ☞ Please make sure that the charger is not exposed to dampness or humidity while charging the batteries.
- ☞ Never touch the plug with moist hands!



8.2.2 Voltage converter for your vehicle

The voltage converter does not need particular care or maintenance. Nevertheless, check your voltage converter regularly and protect it from oil, grease, aggressive cleaners, diluting agents and/or damage due to sharp edges, etc.

- ☞ Before using the voltage converter, please read and follow all instructions and warning notes included with the voltage converter.
- ☞ Exclusively use the AAT Alber Antriebstechnik GmbH voltage converter!
- ☞ Check the voltage converter regularly and protect it from oil, grease, aggressive cleaning agents, thinners and/or damage by sharp edges, etc.
- ☞ Repairs and service check-ups may only be performed by AAT Alber Antriebstechnik GmbH or their authorized personnel.



8.3 Sealed lead batteries


The sealed lead 12 V / 5 Ah batteries are located within the device's housing should be recharged after each use.

The batteries are subjects to a so-called self-discharge. Therefore, you should connect them to the charger whenever possible. Due to the fact that they automatically goes into charge retention as soon as they are fully charged, an overcharge is impossible.

If your batteries does not possess their full capacity yet, the reason may be that new batteries reaches their full capacity only after several charging/discharging cycles.


If fully charged batteries discharge more quickly as before, they are probably used up. In such case, please have your authorized dealer check and replace them, if necessary.


These batteries are sealed, maintenance free, rechargeable and of top quality. They are considered as safe as dry cells and admitted for air travel according to DOT and IATA.

 If the **escalino** is at a standstill for some time, please connect it to the charger to retain the charge. This does not damage the sealed lead acid batteries, on the contrary, it increases their durability.

Please avoid a total discharge: The durability of sealed lead acid batteries depends primarily on the charge/discharge cycle. For instance, you may discharge them partially more than 750 times and use up the entire capacity more than 200 times, if you avoid a total discharge entirely.

A total discharge does not only lead to a loss of the batteries' capacity, but also shortens their durability. Thus, do avoid a total discharge, by recharging the batteries whenever possible!

 Charging your batteries is taking good care of them.

 Always charge your batteries with the AAT Alber Antriebstechnik GmbH charger delivered with your **escalino**. This particular charger automatically turns off when the batteries are fully charged keeping them from being overcharged.

If fully charged batteries run empty faster as usual, then they are probably used up. In such case please have them checked and, if necessary, replaced by AAT Alber Antriebstechnik or its representative.

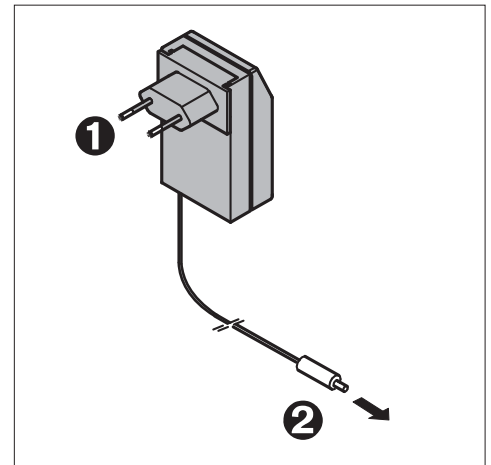
Damaged batteries you can turn in at designated places for proper recycling. You may also return them to you authorized AAT representative.

8.3.1 Charging the sealed lead batteries

- ☞ Before charging, please read and follow all instructions and warning notes included with the charger.
- ☞ Please always turn off the **escalino** before you charge the batteries!
- ☞ Exclusively use the AAT Alber Antriebstechnik GmbH charger!
- ☞ Never touch the plug with moist hands!

8.3.2 Charging with the automatic charger

1. Plug in the connector of the automatic charger **2** to the socket on the **escalino**.
2. Plug in the connector **1** to the the wall outlet and the batteries are being charged.

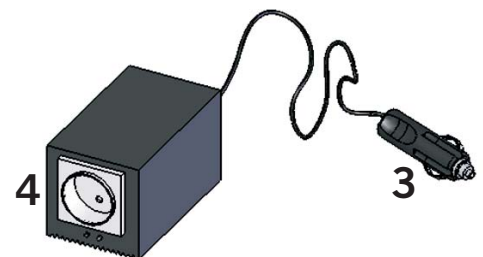


Signals of the charger

charger	LED orange	batteries are being charged
charger	LED green	batteries are fully charged, maintenance mode

8.3.3 Charging in a vehicle

1. Put the charger's plug **2** into the socket on the **escalino** (see chapter 8.3.2).
2. Then put the plug **1** of the automatic charger into the 230 V socket **4** of the voltage converter.
3. Put the 12 V connector **3** into the cigarette lighter.
4. Turn on the voltage converter by pushing the switch and the batteries are being charged.



A control light (LED) on the charger and a beeper in the voltage converter allow the charging process to be monitored.

Signals of the charger and the voltage converter

charger	LED orange	batteries are being charged
charger	LED green	batteries are charged, retaining of the charge
voltage converter	beeping	12 V supply is low

8.4 Fuses

Within the housing there is a 30 A fuse. If this fuse must be exchanged please contact your authorized dealer.

- ☞ Should your fuses burn out frequently, please contact AAT Alber Antriebstechnik GmbH or you authorized dealer.

8.5 Check brake lining

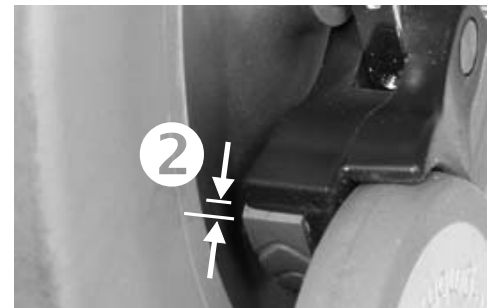
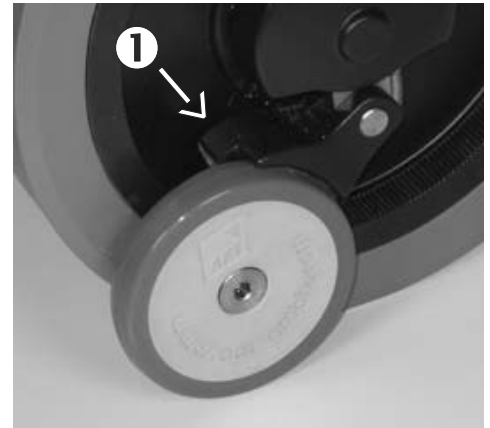
Please check the thickness of the safety brakes' lining regularly. The minimum thickness ❶ is 1 mm. In case the lining is thinner than 1 mm, the lining must be exchanged on both sides. Please contact AAT Alber Antriebstechnik GmbH or your authorized dealer.

- ☞ Please check the safety brakes before each use of the **escalino** (see also chapter 4.3 and 6.4).

The safety brakes, particularly the knurled surface of the brake drums in the wheel rims, must be cleaned weekly or after contamination with spirit to ensure the optimum braking effect.

- ☞ Never smoke during the cleaning of the device as well as keep it away from ignition source.
- ☞ Please consider the danger warning of the manufacturer previous cleaning the device with spirit.
- ☞ Never use suds or greasy cleaners.

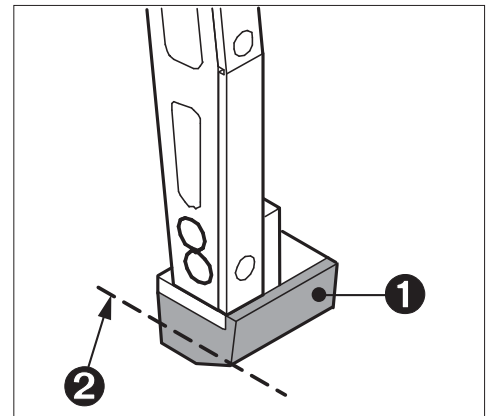
After cleaning the safety brakes must be checked as described in chapter 6.4.



8.6 Check the lining of the climbing foot

Please also check each climbing foot's lining on a regular basis.

- ☞ If the lining ❶ is worn down to the indicated line ❷ or broken, again, exchange both climbing feet.



8.7 Cleaning

To clean the seat, the back rest and the arm rests, please use light suds.

All parts of the **escalino** - except the safety brakes (see chapter 8.5) and the knurled brake drums - can be cleaned with a moist cloth; please use regular, mild household cleaners.

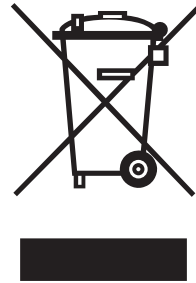
- ☞ For safety reasons, please do not use a high-pressure cleaning device!
- ☞ Please use regular mild household cleaners and make sure that no water can get into the **escalino**!

8.8 Recycling

Your **escalino** and its battery pack are long-lasting products. However, once they are old, you can return the components to AAT Alber Antriebstechnik GmbH or your authorized dealer for recycling.

The law concerning electronic devices (ElektroG) and their recycling has been issued on March 24, 2005.

According to the National Ministry of the Environment (BMU) concerning said law, the **escalino** is considered a means of transportation thus the ElektroG does not apply (see the guidelines of the European Parliament 2002/96/EG).



9 Warranty and liability

9.1 Warranty

AAT Alber Antriebstechnik GmbH grants a warranty of two years for all its products of type **escalino** including all its accessory parts (with the exception of the sealed lead acid batteries). The warranty begins at the date of purchase and covers failure of material and errors in manufacturing.

For the sealed lead acid batteries, always assuming correct maintenance, AAT Alber Antriebstechnik GmbH grants a warranty of one year from the date of purchase.

The warranty becomes void concerning defects or damage which are the result of the following:

- damage due to excessive strain
- damage due to improper handling
- violent damage
- natural wear and tear such as brake linings, gliding strip, climbers
- improper and insufficient maintenance
- unauthorized constructional changes or inappropriate use of the device or its accessories
- using the **escalino** exceeding its maximum lifting capacity
- improper charging of the sealed lead acid batteries

9.2 Liability

The manufacturer AAT Alber Antriebstechnik GmbH, is neither liable nor responsible for potential damage of the **escalino** in case of:

- improper handling of the device.
- repair, assembly or other work performed on the **escalino** by unauthorized persons.
- operation not in accordance with this user's manual.
- extraneous parts added or connected to the **escalino**.
- parts removed from the **escalino**.
- operation exceeding the maximum lifting capacity.
- operation of the **escalino** with insufficiently charged batteries.



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escalino



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