

CE

MEDICAL DEVICE



YACK wheeled Stair Climber Models
N971 – N972 – N973 - N971H – N972H – N973H -
N971H1 – N972H1 – N973H1
User and Maintenance instructions

Rev. 04 [07-2024]

Class I Medical Device pursuant to MDR Regulation (UE) 2017/745.

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1. Declaration of conformity.....	71
2. Manual	73
3. Intended use	76
4. Safety requisites	78
5. Transport, handling and unpacking.....	82
6. Assembly	86
7. Technical specifications	99
8. Device Usage.....	111
9. Charging the batteries	127
10. Troubleshooting.....	129
11. Maintenance	131
12. Scrapping.....	134
13. Warranty	135
14. Assistance – Home service.....	136
15. Reports – Alerts.....	136

1. Declaration of conformity



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**COMPANY WITH
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= ISO 13485 =**

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Declaration of Conformity

(in accordance with ISO/IEC 17050-1)

1) No. 021/24 - Date 05/02/2024

2) Issuer's name: KSP ITALIA SRL
Issuer's address: VIA DELL'ARTIGIANATO 1, 06031 BEVAGNA (PG), ITALY Tel. 0742.36.19.47
Fax 0742.36.19.46 www.kspitalia.com, e-mail: ksp@kspitalia.com

No. EUDAMED SRN: IT-MF-000009316

3) Object of the declaration: **WHEELED STAIR CLIMBER YACK, MODELS N971 - N971H - N971H1**

4) The Manufacturer KSP Italia declares under his sole responsibility that the medical device above described complies with all applicable requirements of the following legislation and fulfils all applicable provisions thereof (and any other relevant UE legislation providing for the issuance of EU declaration of conformity):

Documents No.	Title	Edition/Date of issue
5) Regulation (EU) 2017/745	Medical Devices Regulation	Emission: 5 April 2017
Regulation 2011/65/EU	Restriction of the use of certain hazardous substances in electrical and electronic equipment	Emission: 8 June 2011

Additional information:

6) Medical devices designed and manufactured with quality management system compliant to ISO 13485.
CE Marked Medical device in accordance with Annex II and III, Regulation (UE) 2017/745.
Class I medical device as for rule 1 and rule 13, Regulation (UE) 2017/745, Annex VIII.
Registered at the Italian Ministry of Health with respective model number:
N971: 2269223; N971H: 2384047. N971H1: 2384055.

BASIC UDI (GMN): 8055773180000YACK-N971T9

Signed for and on behalf of:

KSP Italia Srl
Bevagna, 06/02/2024

7) Claudio Emanuelli,
Legal Representative

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COMPANY WITH
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Declaration of Conformity (in accordance with ISO/IEC 17050-1)

- 1) No. 023/24 - Date 05/02/2024
- 2) Issuer's name: KSP ITALIA SRL
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No. EUDAMED SRN: IT-MF-000009316
- 3) Object of the declaration: **WHEELED STAIR CLIMBER YACK, MODELS N972-N972H-N973-N973H-N972H1-N973H1**
- 4) The Manufacturer KSP Italia declares under his sole responsibility that the medical device above described complies with all applicable requirements of the following legislation and fulfils all applicable provisions thereof (and any other relevant UE legislation providing for the issuance of EU declaration of conformity):

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5) Regulation (EU) 2017/745	Medical Devices Regulation	Emission: 5 April 2017
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CE Marked Medical device in accordance with Annex II and III, Regulation (UE) 2017/745.
Class I medical device as for rule 1 and rule 13, Regulation (UE) 2017/745, Annex VIII.
Registered at the Italian Ministry of Health with respective model number:
N972: 2386614; N972H: 2386617; N973: 2386620; N973H: 2386626; N972H1: 2386618, N973H1: 2386627.

BASIC UDI (GMN): 805577318YACK-N972-973ZC

Signed for and on behalf of:

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Bevagna, 06/02/2024

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2. Manual

The contents of this user and maintenance manual together with the instructions to be found on the label includes all the information provided by the manufacturer in conformity with Annex VIII, Regulation (UE) 2017/745.

This medical device must be accompanied by all information required to ensure its safe use. Such information must take into account the training background and awareness levels of the potential users.

The manual is an integral part of the device and must be kept with care and accompany it at all times, if it is transferred to a third party.

It is intended for operators/users, the owner, the end user and servicing technicians.

This manual provides indications on the technical features of the device, on how it should be properly used, on how to move, store, maintain and dispose of it, as well as relevant safety precautions.

The owners/end users of this product shall be promptly notified through the appropriate channels of any changes to the instructions supplied by the manufacturer which might impact in any way the safety of patients and/or operators/users.

The manufacturer is not held to provide notification of any other type of amended or supplementary information.

If this manual, the labels and/or the markings on the product undergo even partial damage, become faded or partially/wholly illegible, another copy must be immediately requested from the dealer or manufacturer.

This manual covers the following devices: YACK N971 - N972 - N973 - N971H - N972H - N973H - N971H1 - N972H1 - N973H1. Unless otherwise indicated, the general information included herein applies to all models. Information about specific models is indicated as such or given in separate paragraphs.

2.1 Definitions

This manual refers to the following terms, whose meanings are explained below:

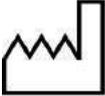
Medical Device: Device intended by the manufacturer to be used for curing, diagnosing or attenuating an illness.

End user: The person using the medical device; in this manual, the subject/patient transported by the YACK.

Operator: The person charged with operating the stair climber.

2.2 Graphic symbols

This manual and the device itself use symbols whose meanings are given below.

Symbol	Meaning	Notes
	Mark attesting conformity with European regulations	CE label on the device
	Scraping symbol as required by Directive 2012/19/EC (RAEE)	CE label on the device
	Date of manufacture	CE label on the device
	Manufacturer	CE label on the device
	Model	CE label on the device
	Serial number	CE label on the device
	User instructions	CE label on the device
	Keep dry	CE label on the device
	Use indoors	CE label on the device
	Applied parts - type B	CE label on the device
	Maximum weight of end user	CE label on the device
	Generic warning symbol	Take care where this symbol is present

	Caution: hazardous voltage	Take care where this symbol is present
	Caution: crushing hazard	Take care where this symbol is present
	Caution: moving parts	Take care where this symbol is present
	Generic prohibition symbol	Prohibition symbol
	No shoes with high heels	Prohibition symbol
	Generic obligatory conduct	Obligatory conduct
	Refer to the user manual	Obligatory conduct
	Alternating current	Other symbols
	Fuse	Other symbols
	Hazardous voltage	Other symbols
	MEDICAL DEVICE	CE label on the device

3. Inteded use

When this manual was drawn up, the characteristics, background knowledge, educational level and training capabilities of the operator/end user were taken into account.

The stair climber operator must satisfy the following conditions:



- Be perfectly acquainted with the product.
- Be over the age of 18;
- Be physically well built and in good mental health (for instance, he/she must not be under the effect of alcohol or drugs and must not be suffering from any mental disease which might give hallucinations or lead to loss of balance, for example). In case of doubt, please contact the manufacturer;
- Be capable of assessing any dangerous situations, maintaining his/her composure and taking appropriate action;
- Have an excellent grasp of written and spoken English so he/she is able to read and understand the manual;
- Be acquainted with the meanings of the symbols and markings;
- Be able to go up the stairs backwards;
- Have no trouble standing up or keeping his/her balance.



The Operator/end user is fully responsible for the suitability/compatibility of the place where the product is to be used.

Upon request, our authorised personnel is available to carry out free demonstrative checks on the suitability of any locations/premises intended for the stair climber in order to vouch for the compatibility of the surrounds with our medical device.



THE STAIR CLIMBER WAS NOT DESIGNED FOR OUTDOORS. IT IS ONLY INTENDED FOR USE INDOORS/AT HOME AND AWAY FROM LIQUIDS IN GENERAL.

The YACK is a medical device, an aid for disabled persons which enables persons with reduced motor capacity to overcome architectonic obstacles assisted by an operator.

It is a class-I medical device as for Annex VIII of Regulation (UE) 2017/745. It has been manufactured in compliance with Italian national and international regulations on medical devices & aids for the disabled and figures on the Register of the Ministry of Health for Medical Devices.

The stair climber is a mobile device which may be transported and used on various types of stairs (see the characteristics of the stairs in the technical specifications), assuring complete freedom of movement, safety and comfort of the passenger and reducing the effort demanded of the assistant to a minimum.

The stair climber is indicated for persons who are unable to walk and who need to move between floors inside buildings with the aid of an assistant.

It is composed of a metal frame driven by a DC motor powered by a rechargeable battery. The device is operated with a tiller which mounts the controls and interface for monitoring parameters such as battery status, tilt, and so on.

The device can handle straight and spiral staircases which satisfy the requirements listed below.

The stair climber is of the wheeled type, available in three main categories:

- Models N971, N971H, N971H1, with integrated seat: the stair climber is equipped with a seat in which the passenger sits while ascending/descending the stairs. It cannot be used with a wheelchair.
- Models N972, N972H, N972H1, equipped with ramps for holding a wheelchair: the wheelchair engages with the top of the tiller and is supported by the two ramps at the bottom.
- Models N973, N973H, N973H1, hold a wheelchair, but without ramps: the wheelchair engages with the top of the tiller and is supported by bar with locking unit at the bottom.



THE STAIRCLIMBER MAY ONLY BE USED FOR TRANSPORTING PERSONS AS EXPLAINED IN THIS DOCUMENT.

It must be used within the limits and according to the methods explicitly set out by the manufacturer in this Manual. Therefore, the manufacturer must be deemed to be exonerated from any liability for damage ensuing from misuse by untrained individuals, from unauthorised changes or unapproved work done to the stair climber, including the use of spare parts which have not been purchased directly from KSP (or not authorised by it), exceptional occurrences or total/partial non-compliance with the instructions laid down in this manual.

4. Safety Requirements

4.1 General warnings

Please use this device for the purposes for which it was intended and in compliance with the instructions and operational methods indicated in the manual; KSP S.r.l. assumes no responsibility for damage to things or people caused by misuse and/or ill-usage of the device, or for any use which differs from that originally intended by the Manufacturer.

Using the stair climber automatically implies that the operator/user has acquainted him/herself with the contents of this Manual and the instructions contained herein. It also implies that he/she is aware of the risks incurred by wrongful use or misuse.

Therefore, any individuals who are not sufficiently acquainted with the device and its working features are barred from using it. Should the operator/user have any doubts and/or uncertainties as to how it works or should be used, he/she must get in touch with the authorised dealer and/or directly contact the Manufacturer who will provide due explanations/clarifications. If necessary and upon express request of the user, specific assistance will be provided in accordance with the terms and conditions outlined in the purchase papers.



PLEASE CAREFULLY READ THROUGH THIS MANUAL AND THE WARNINGS CONTAINED HEREIN BEFORE USING THE DEVICE

With a view to ensuring the continued conformity and/or essential working features of the device, the following must be avoided:

- Incorrect installation
- Misuse
- Usage of component parts and/or accessories without manufacturer approval supplied by third parties
- Repairwork and/or tampering by unauthorised personnel
- Lack of maintenance or poor maintenance



We list below the warnings and precautions to be observed during installation, use and maintenance of the device to ensure satisfaction of the safety requisites applicable to the operator, end user and the operation of the device.

- To prevent improper use by unauthorised persons, remove its key when the device is not in use;
- Any manipulation, replacement and work on the device not done by persons authorised by KSP S.r.l. will void the warranty and relieves the manufacturer of any and all responsibility for direct or indirect damage or injury resulting therefrom;
- Use a regulatory power cable or battery charger. Use only the locally specified and certified power cable and battery charger. Check the condition of the power cable and battery charger from time to time. Fit the mains cable connector fully into the socket on the back of the device;
- The power voltage must be in the range 220-230V AC 50 Hz (or as specified on the battery charger nameplate);
- To prevent hazards for persons and property, observe all ratings and markings on the product. Refer to the manual before hooking the product up;
- Do not allow any exposed circuits. Do not touch any exposed circuits or connections to the power supply;

- Do not use the equipment if it is faulty or its housing is damaged;
- If you suspect that the device is faulty or damaged, have it inspected by the manufacturer or his specified service agent;
- Only clean or service the device after having disconnected the battery charger from the mains and shut the device off;
- Do not allow fluids or powders to contact or enter the device;
- Make sure the wheelchair is properly hooked on to the device
- Do not use the device in a potentially explosive atmosphere or in the presence of flammable mixtures;
- Do not expose to sources of heat. The operating temperature must be -10 to +50 °C;
- Do not use YACK devices outdoors. They are designed and constructed for use indoors and out of the weather;
- Only use the device with the original spare parts supplied by the manufacturer;
- Make sure that the mains rating matches the rating of the battery charger as indicated on its label and in this manual;
- Do not use other devices in combination with the stair climber as they may interfere with each other;
- Do not use the device in areas with strong electromagnetic fields which may cause it to malfunction;
- Maintain the device as indicated by the manufacturer;
- Portable and mobile radio communications equipment may affect the operation of the device;
- Caution – using the controls and adjustments or proceeding other than as instructed in the manual may be hazardous to the operator and end user.
- The product is designed to transport a single person at a time.

The Manufacturer assumes no responsibility whatsoever for damage, accidents or injury ensuing from failure to respect the safety indications/instructions or failure to meet the general requirements outlined in this Manual.

Therefore, KSP cannot take responsibility for any damage that might come about from misuse and/or ill-usage of the stair climber. Likewise, it cannot be held responsible for any damage incurred by wear, negligence, neglect, improper handling, incorrect/faulty installation and/or connection/plugging in of the stair climber, or damage ascribable to an incorrect and/or inappropriate use by the operator/end user or by any unauthorised third parties.

4.2 Counter-indications and side effects

The stair climber may be used only by persons trained in its use, in observance of the following warnings and counter-indications.



WARNING! BRUSH MOVEMENTS OR REPENTINE POSITION CHANGES BY THE USER DURING THE WAY ON STAIRS CAN CAUSE RISK OF FALLING.



- The device may be operated and used only by persons instructed in its use;
- Do not use the device to transport persons who are pregnant or suspect they may be;
- Do not use the device with patients affected by serious cardiological or neurological conditions;
- Do not allow persons under the age of 18 to use the device;
- Never use the stair climber on wet, smooth or slippery surfaces which have been waxed, iced or otherwise treated, and which do not assure the stability of the operator or the effective action of the wheel brake;
- Carpets and rugs may be hazardous;
- Never release your grip on the stair climber for any reason while using it on the stairs;
- Make sure that no-one is below you while you are using the stair climber on the stairs;
- Secure the passenger with the seat's safety belt;
- Make sure the wheelchair is properly hooked on as indicated below;
- Always wear closed shoes, to ensure they cannot interfere with the moving parts, which are tightly laced up and have non-slip soles;
- Never place your hands inside the moving parts when the chairlift is powered on;
- The device has a service life of 8 years.

4.3 Improper use



Operators and users must abstain from any action which, although it may appear non-hazardous, is not expressly indicated in this manual.

Foreseeable incorrect uses may be due to:

- a) Normal negligence rather than the intention to use the device improperly.
- b) Use of the stair climber outdoors; it may only be used indoors in a residential context.
- c) Instinctive reaction to malfunctions, accidents and failures.
- d) If you experience malfunctions or faults while on the stairs, stabilizes the stair climber as instructed in "Emergency situations". Do not attempt to resolve the problem while still on the

stairs, especially if the passenger is still on the device. Ask for assistance and do not leave the passenger unattended if at all possible.

- e) Following the line of least resistance while using the device. The stair climber is intended for transporting persons only. Do not use it for transporting property or animals. Similarly, do not use to transport persons while they are holding property or animals.
- f) Foreseeable conduct of certain categories (minors, disabled persons, etc.). In this case too, it is essential to select the properly trained staff. Do not allow unauthorised persons to operate the device; if no authorised staff are available, extract the key and keep it in a safe place. Only persons fully familiar with the product and the manual may operate the device.

4.4 Safety instructions for electromagnetic compatibility (EMC)

The product is suitable for domestic use and on healthcare environments.

Do not use in proximity of HF surgery equipment and rooms with RF shielding of an electro-medical magnetic resonance system, or similar environments where the intensity of electromagnetic disturbances is high.

The essential performances of the device are the movement of subjects with reduced motor skills in their own wheelchair or using the integrated chair on different floors within buildings, and with the assistance of a companion (therefore the transport of the patient). Electromagnetic disturbances can cause the sudden and involuntary activation of the chain lifting system by means of the struts on the ladder or the sudden interruption of the movement itself.

“WARNING: Using this appliance near or resting on other appliances should be avoided, as this may lead to incorrect operation.

In these cases it is necessary that the appliance and other equipment are kept under observation to verify their normal functioning.

WARNING: The use of accessories, transducers and cables other than those specified or supplied by the manufacturer of this equipment could lead to increased electromagnetic emissions or a decrease in the level of electromagnetic immunity of this equipment, resulting in incorrect operation. Supply cables and electrical components exclusively from KSP Italia.

WARNING: Transportable RF communications equipment (including peripherals such as antenna cables and external antennas) should be operated no closer than 30 cm (12 inches) to any part of the DEVICE SUBJECT TO THIS MANUAL, including cables specified by the manufacturer. Failure to do so may result in degradation of the performance of this equipment.”

Follow all the instructions and recommendations in this manual as a result of electromagnetic disturbances, negative effects do not occur for the patient and the operator. The emissions and immunity of the DEVICE SUBJECT TO THIS MANUAL are in compliance with EN 60601-1-2, CISPR group 1 Class B.

5. Carriage, handling and unpacking

5.1 Packaging and carriage

The stair climber comes in a cardboard box with special protective padding which absorbs vibrations during normal transportation. The packaged stair climber must be kept in an upright position and must be handled smoothly and carefully. When it arrives at destination, it must be thoroughly checked to make sure that the packaging is intact. If there is any visible damage to the packaging, the dispatch firm who carried out the shipment must be immediately notified.



Do not try and use the stair climber if the packaging was damaged during transport. The Technical Support Service or KSP Italia's authorised personnel must be called in to check to see if all is in order.

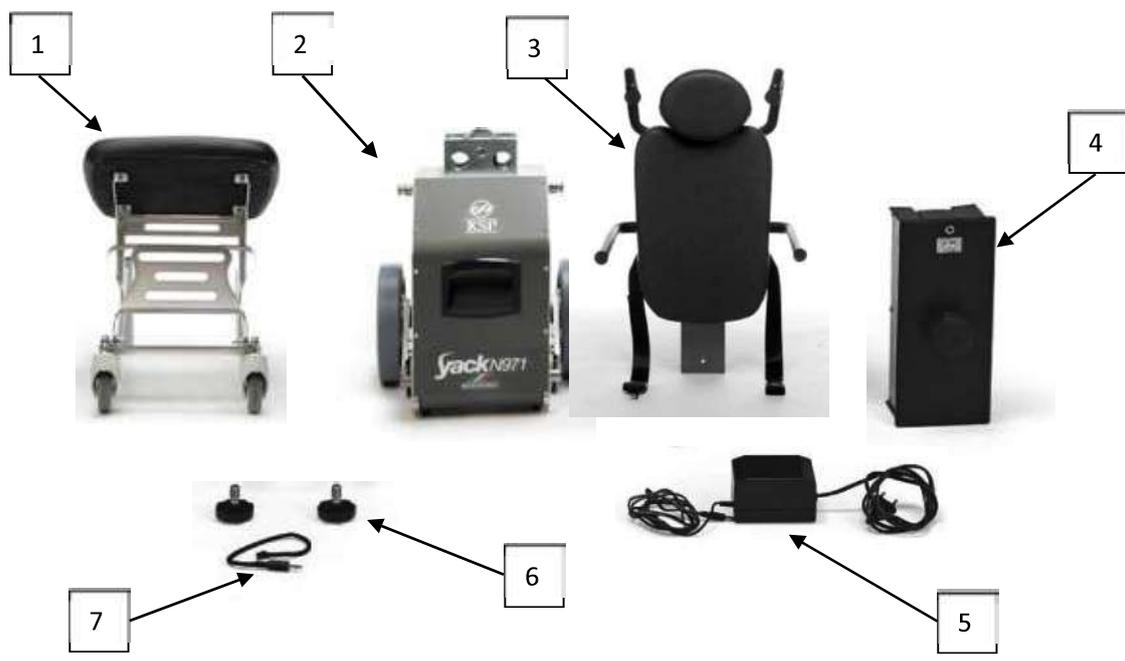
- If there are visible signs of damage due to unsatisfactory transport, the stair climber must not be used when it arrives at destination. The technical support service must be contacted so they go over it and inspect it with due care.
- During training sessions, the driver should use the stair climber without a passenger. He/she should practise going up and down as well as manoeuvring on a flat surface as much as possible in order to gain proficiency.
- The stair climber must be used by a person in good physical condition, who is able to handle and control the load (device and occupant).
- The user must be completely familiar with the contents of the manual and the symbols.
- It is extremely important that the operator first practises manoeuvring on a flat surface, making sure he/she is capable of doing so before going onto to the next step.
- Daily use of the stair climber must only take place after having ensured that all the parts are working properly and that it is safe to use.

5.2 Contents of the package

The package contains the following parts (the images refer to a single model, but apply to all specified models)

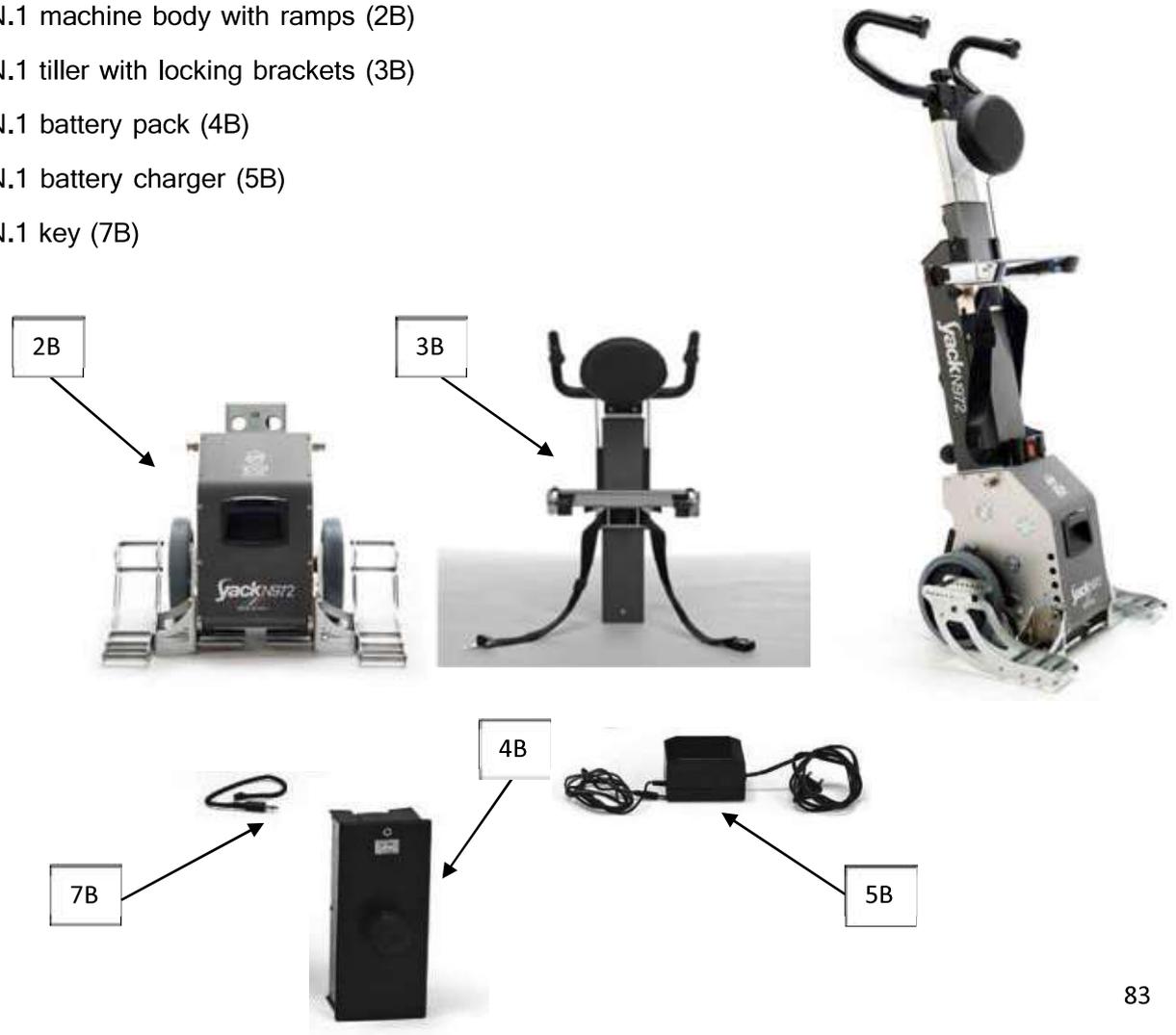
The N971, N971H, N971H1 package must contain:

- N.1 seat (1)
- N.1 machine body (2)
- N.1 tiller with backrest (3)
- N.1 battery pack (4)
- N.1 battery charger (5)
- N.2 seat locking handle (6)
- N.1 key (7)



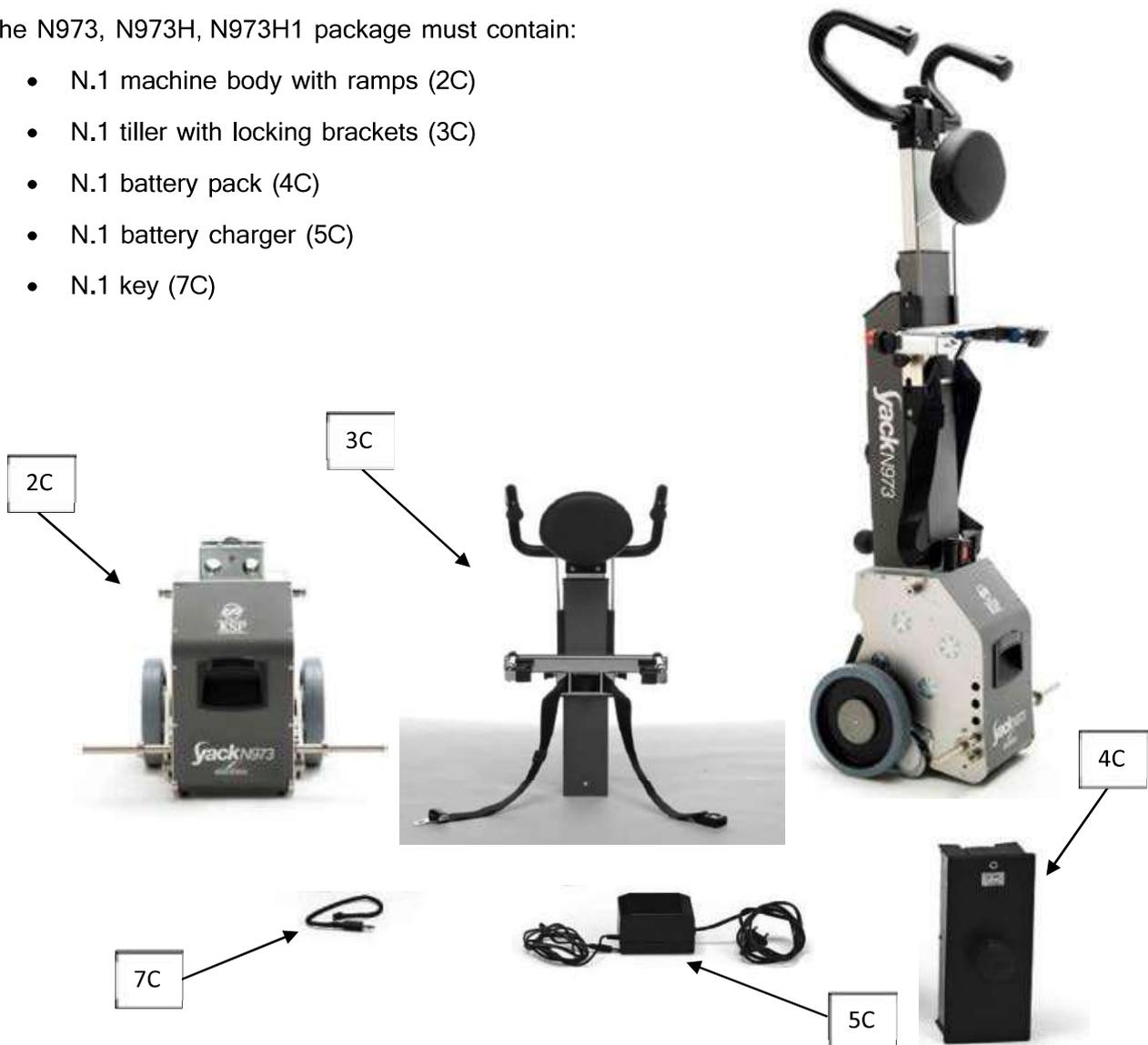
The N972, N972H, N972H1 package must contain:

- N.1 machine body with ramps (2B)
- N.1 tiller with locking brackets (3B)
- N.1 battery pack (4B)
- N.1 battery charger (5B)
- N.1 key (7B)



The N973, N973H, N973H1 package must contain:

- N.1 machine body with ramps (2C)
- N.1 tiller with locking brackets (3C)
- N.1 battery pack (4C)
- N.1 battery charger (5C)
- N.1 key (7C)



As regards the safety of the operator when manually handling the loads, refer to the technical specifications, which give the weight of the individual parts.



The unpacking operator must be informed of the risks attendant on his work.

Note that to lift loads without risking back injury:

- Keep your back straight
- Keep your torso erect
- Keep the load as close as possible to your body



At the time of going to press, the law provides that when handling loads weighing more than 25 kg (15 kg for women), you must be assisted by other people or use special lifting equipment.



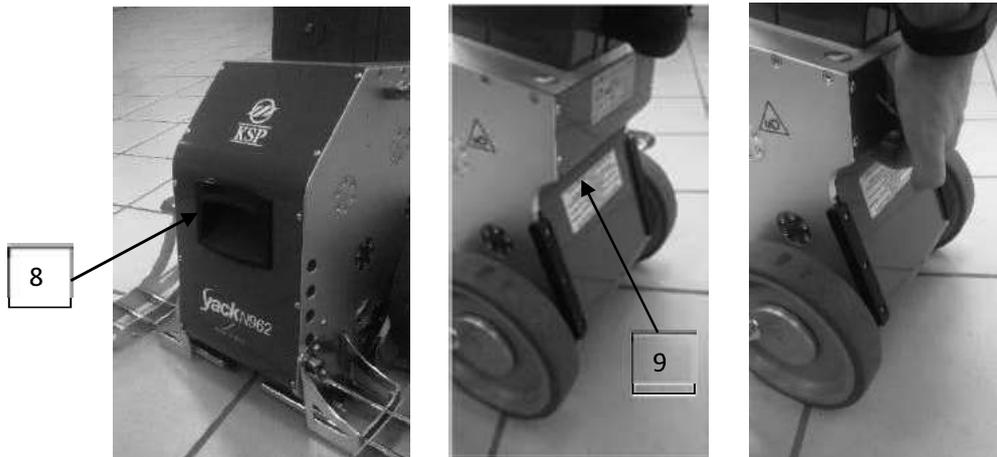
Do not stock the products above shoulder height.

Move the package to a suitable area for unpacking and assembling the parts.

Open the package without using sharp tools as they may damage its contents.

Keep the packaging for use when returning the device (for technical service, transport, etc.); the original packaging ensures safe transport.

All components are easy to hold, furthermore the base is fitted with a handle at the front (8) and a slot at the back (9).



5.3 Transport

The product may only be transported in its original packaging. If the product is already assembled, reverse the procedure given in "Assembly", repackage the product and transport it.

6. Assembly

6.1 Assembling the YACK

CAUTION: Before you install the tiller, check that nothing is obstructing its coupling equipment.

Place the contents of the package on a flat surface and check that all parts are present and in good condition.

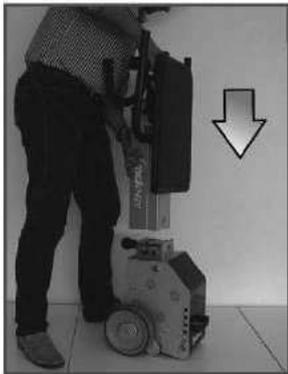
Check that the YACK has not been damaged or dented during transport; contact your reseller or the manufacturer in case of doubt



Extract the key before you couple the tiller to the body of the machine.

6.1.1 Installing the tiller

- a) Insert the tiller into the base and tighten down the knob as shown below



- b) Slacken off the handle's knob



- c) Move the handle up to the working position



d) Tighten the handle down with its locking knob



e) Insert the battery pack and tighten down the knob as shown below



INSTALLING THE SEAT (ONLY FOR N971 MODEL)

f) Hook the seat onto the upper studs as shown below



g) and tighten down the screw knobs as shown



h) Raise the armrest snap and position it as shown:



6.1.2 Checking the assembly

Check the assembly as follows:

- Run all the user checks given in the paragraph on maintenance at first use and every week.
- Ascend and descend the stairs without a passenger
- Ascend and descend the stairs with a passenger who is not disabled
- Check that all controls work as they should
- Check that the emergency button works as it should
- Tilt the machine forwards and back and check that the buzzer sounds in the following cases:
handle tilted forwards with to 10° to the vertical and tilted back to more than 35° to the vertical.



TILTING THE STAIRCLIMBER FORWARDS MORE THAN 10° CAN TIP IT OVER.



TILTING THE STAIRCLIMBER BACK MORE THAN 35° CAN CAUSE THE BRAKE WHEELS TO LOSE CONTACT WITH THE GROUND AND LOCK THE MACHINE OUT.

THIS NOT ONLY CAUSE JERKY MOVEMENTS BUT CAN MAKE IT SEEMS THAT THE DEVICE IS CLOSE TO THE STEP SO THAT THE OPERATOR ACTUATES THE LIFT MECHANISM AND RISKS TIPPING THE MACHINE OVER.

6.2 Configuration of the YACK and hooking on the wheelchair

Series N972 and N973 models are designed to transport persons seated in wheelchairs, by hooking them onto the device's tiller. They have a safety wheelchair locking system.

The mechanism should be adjusted for the wheelchair in question.

Before you purchase a stair climber, make sure it is compatible with your wheelchairs. Conversely, if you have a stair climber, make sure that any wheelchair you purchase is compatible with it.



Only use wheelchairs which are the same (same model or geometry/mechanical assembly) as the one checked at delivery and first use of the stair climber.

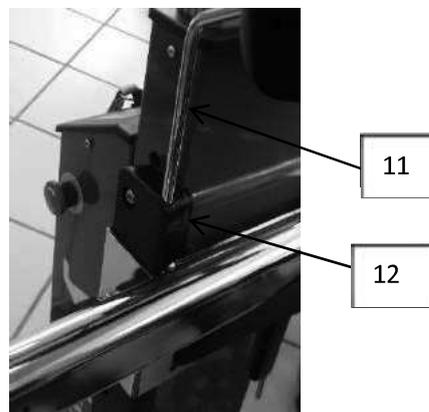
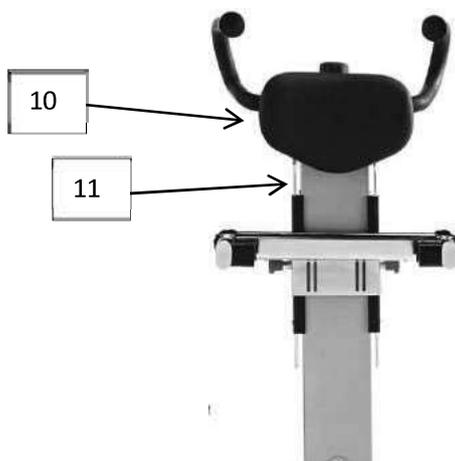


Make any necessary adjustments with the wheelchair unoccupied and before you start transporting passengers.

6.2.1 Adjusting the headrest (models N971, N972, N973 and H-H1-models)

The headrest (10) is fixed to the tiller with two metal rods (11) which slide in two guides (12). You can adjust its position by pulling the headrest up or down.

The headrest should be at the height of the occupant's head once the wheelchair is locked onto the tiller.



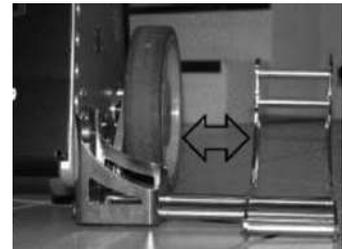
6.2.2 Locking the wheelchair on

6.2.2.1 Models N972, N972H, N972H1

- i) Adjusting the ramps
 1. Position the wheelchair in the centre of the Yack as shown



2. adjust the spacing of the two ramps by hand

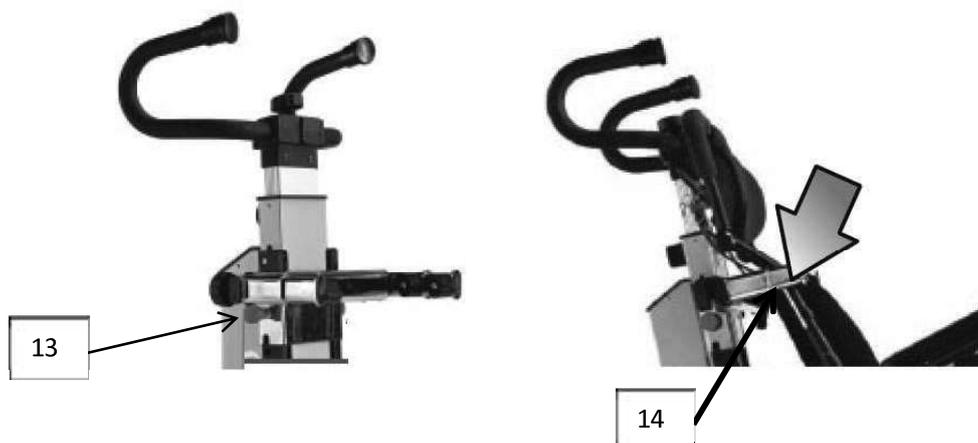


3. so that the wheels can move onto them properly and aligned with their centres



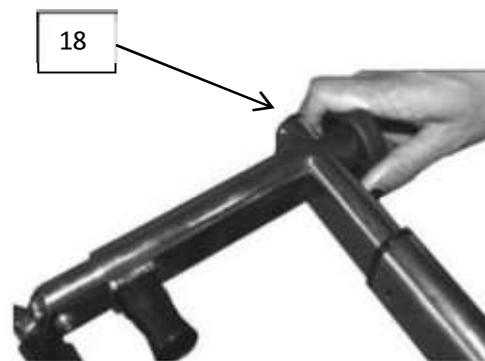
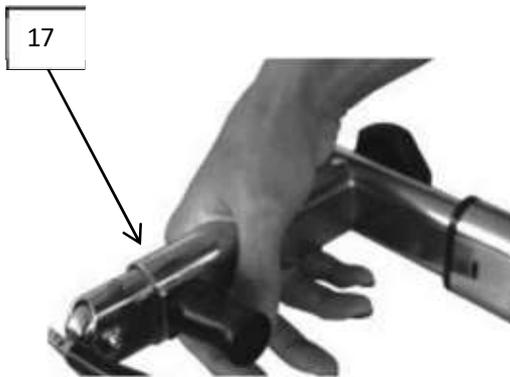
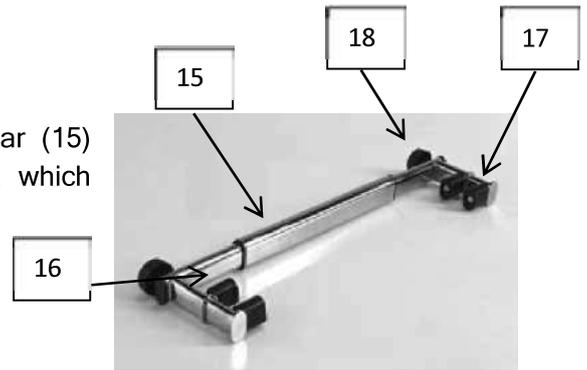
Adjusting the locking mechanism vertically

Two snaps (13) are used to adjust the locking mechanism's vertical position. They should be at a height which locks the wheelchair at the most secure point of its frame (14). Pull the two snaps completely outwards and slide the bracket upwards as shown in the picture.



Adjusting the locking mechanism laterally

The wheelchair locking mechanism is composed of a bar (15) with telescopic extensions (16) fitted with clamps (17), which tighten down with handwheels (18).



Locking the wheelchair into the YACK

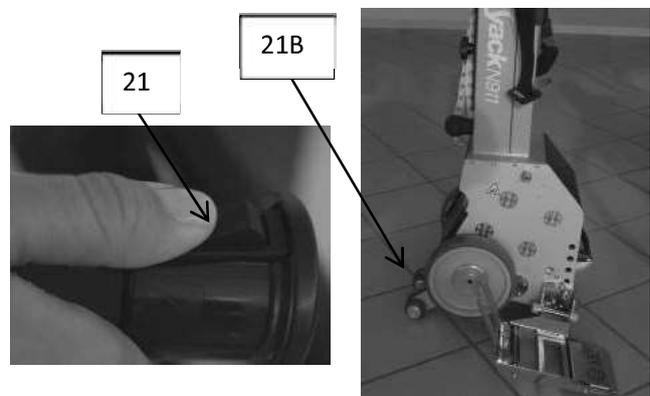
Place the stair climber in the vertical position, roll the wheelchair onto the ramps and brake its wheels.

Fit the key, check the battery charge on the gauge (19), set minimum speed with the speed control (20) and actuate the drive button (21) to ascend (backwards).



This tilts the stair climber slightly forwards (21B) to a position which is ideal for locking the wheelchair in place.

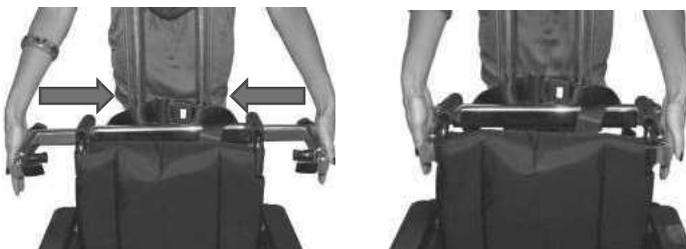
Hold the control down until the clamps fit onto the wheelchair's frame so that it can be locked on without difficulty.



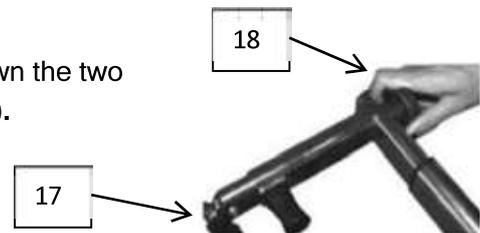
Raise the bar (15).



Slide the telescopic extensions inwards so that the clamp grasps the frame of the wheelchair.



Make sure the wheelchair is centrally located, then tighten down the two handwheels (18) to lock the wheelchair into the clamp (17).



6.2.3.1 Models N973, N973H, N973H1

Yack model N973 - N973H - N973H1 is a wheeled stair climber designed for transport wheelchair occupants, which hooks directly onto the wheelchair with a special custom locking mechanism composed of a shaft (22) on the stair climber's body and hooks (23) at the bottom of the wheelchair's frame.



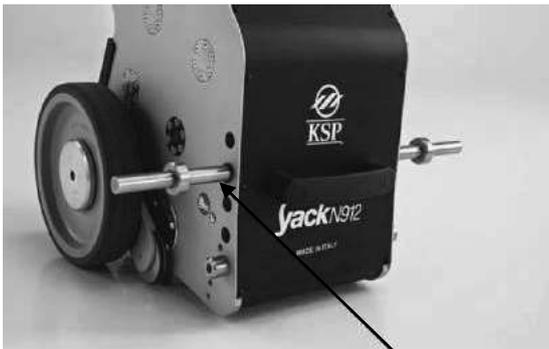
CAUTION! THE LOCKING ASSEMBLY SHAFT INCLUDED WITH THE DEVICE IS DESIGNED TO FIT YOUR SPECIFIED TYPE OF WHEELCHAIRS. IF YOU CHANGE THE TYPE, YOU MAY NEED TO CHANGE NOT ONLY THE LOCKING ASSEMBLY MECHANISM BUT ALSO THE SUPPORT BAR.



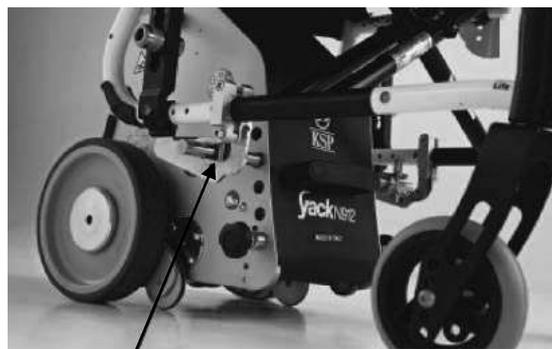
The mechanism should be adjusted for the wheelchair in question.

The adjustments must be made without a passenger in the wheelchair and **ONLY BY THE MANUFACTURER OR A TECHNICIAN TRAINED AND AUTHORISED BY THE SAME.**

Models N973 - N973H - N973H1 are supplied with the machine body already equipped with the locking shaft (22). The shaft locks the stair climber onto the wheelchair by fitting into the hooks (23) on the wheelchair itself (INSTALLED BY A TECHNICIAN TRAINED AND AUTHORISED BY KSP ITALIA)



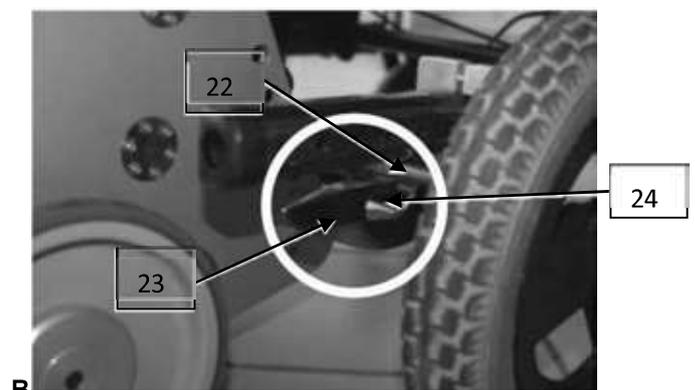
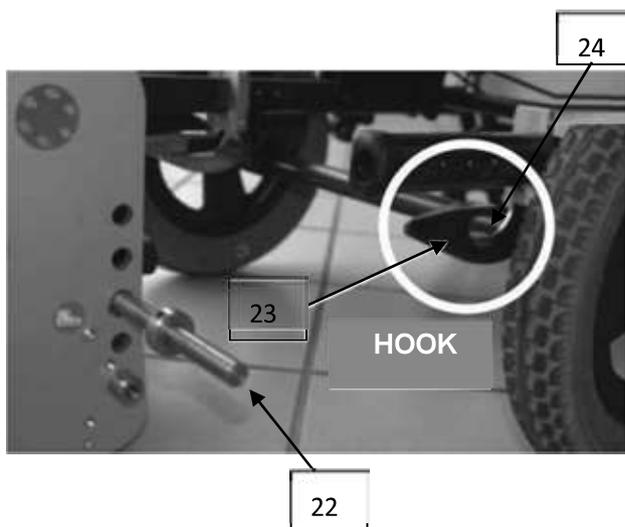
22



23

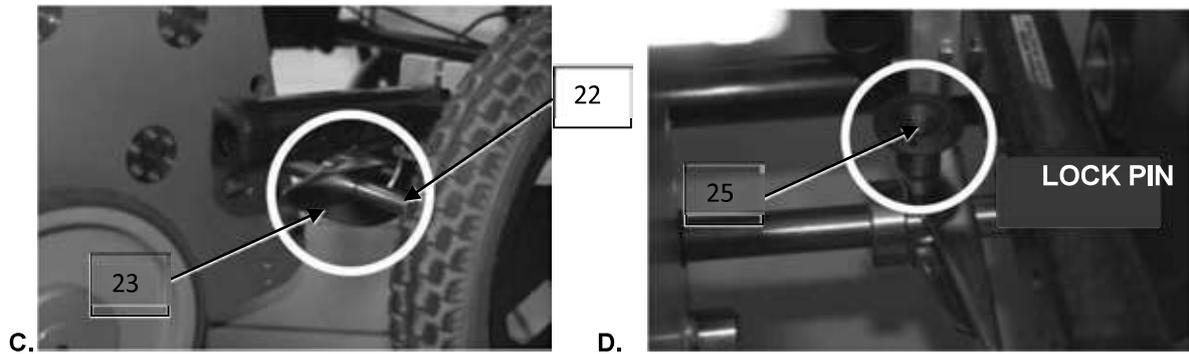
Locking procedure

a, b) Position the wheelchair with its hooks (23) next to the stair climber and brake its wheels.



c) Lock the stair climber to the wheelchair by inserting the lower shaft (22) into the guide (24) of the hook (23) on the wheelchair, until it is fully inserted.

d) Secure the hook with the lock pin (25).



LOCK PIN, detailed view.

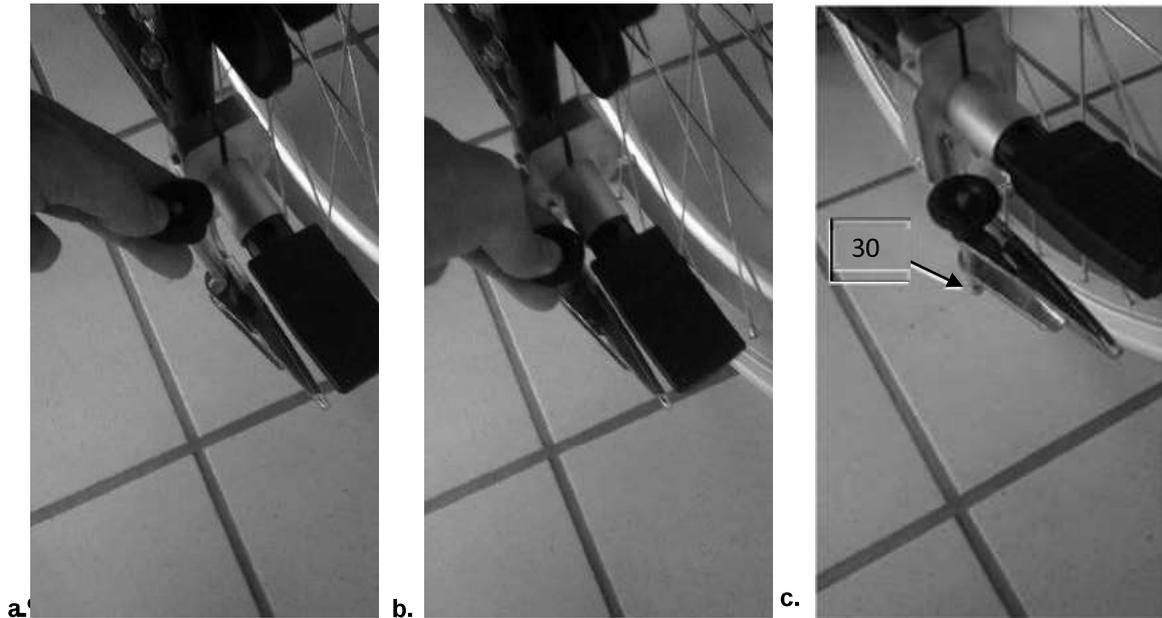
The hook (23) has two through holes (26) and (27).

The pin (25) has a retractable stud at the bottom (28) which remains exposed in normal use, and is retracted by pressing the button (29) on its handle.



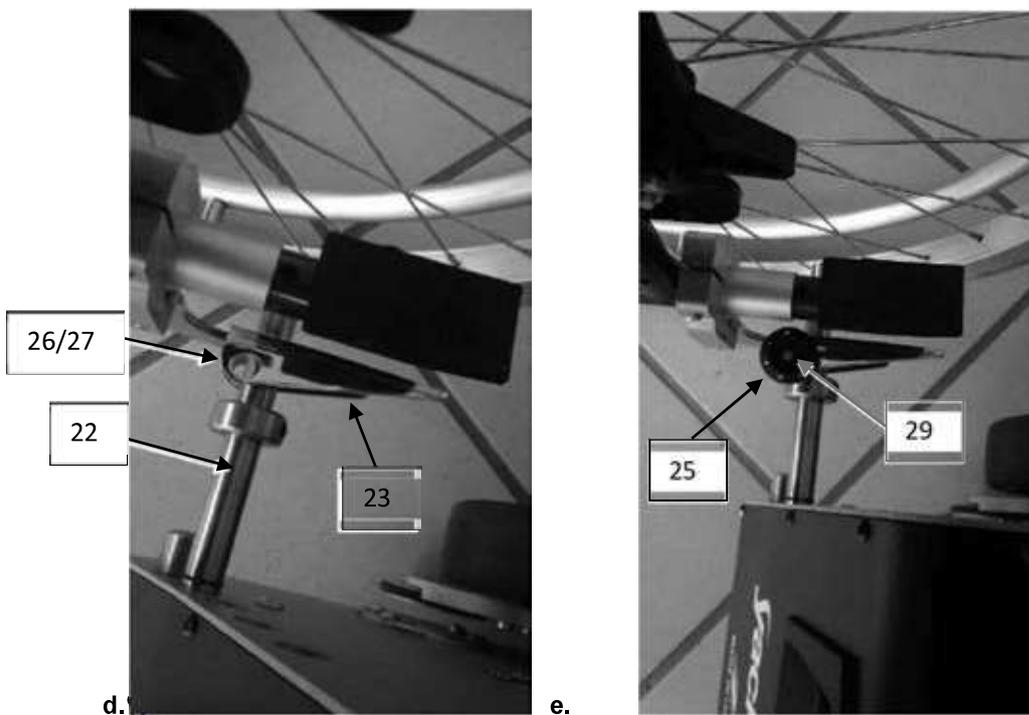
To insert the lock pin:

- a) approach the pin (25) to the hook (23),
- b) press the button (29) and insert the pin fully into the holes (26) and (27),
- c) until the pin (28) comes out of the lower hole (27) as in (30). Release the button (29). To check that it is properly locked in place, try to pull the lock pin out without pressing the button (29); it should not be possible to do so.



d) Once the shaft (22) has been inserted into the hook guide (23) and is protruding fully out of holes (26) and (27),

e) fit the pin (25) as shown below so that the retractable stud protrudes as shown in (30). To check that it is properly locked in place, try to pull the lock pin out without pressing the button (29); it should not be possible to do so.



To extract the lock pin, simply press the button (29) and pull the pin upwards.

Hooking the wheelchair onto the YACK

Once the bottom of the wheelchair has been secured as explained above, hook the upper part on (as indicated for models N972, N972H, N972H1).

- *“Adjusting the locking mechanism vertically”*
- *“Adjusting the locking mechanism laterally”*
- *“Locking the wheelchair into the YACK”*

Once the wheelchair has been properly locked on, it is securely mounted to the stairclimber.



Models N973 – N973H - N973H1 which haven't the ramps, can be left secured to the wheelchair when it is being used normally and is thus always ready for use without the need to hook it on every time.



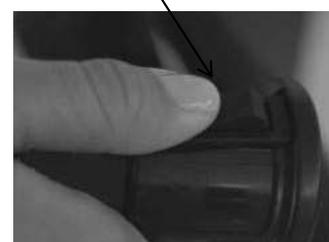
This locking system also allows you to pull the wheelchair's wheels off (if the model permits), to reduce its size and facilitate the use of the machine in very restricted space.



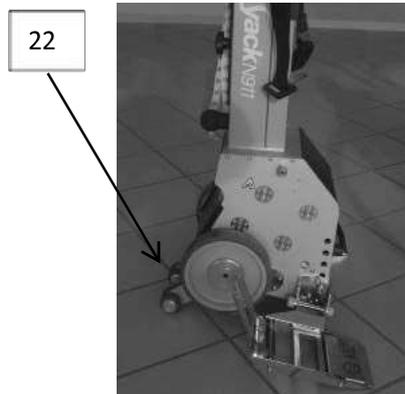
6.2.4 Releasing the wheelchair

On a level surface, select minimum speed with the control (20) and actuate the drive button (21) in ascent (back).

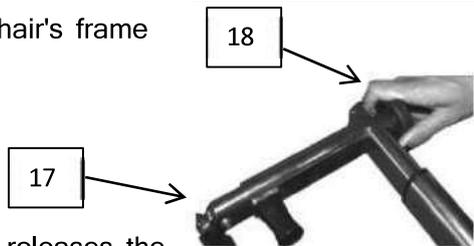
This tilts the stair climber slightly forwards (22) to a position which is ideal for releasing the wheelchair.



For models N972, N972H, N972H1 stop the movement when the ramps are aligned with the surface or the front wheels touch the ground.

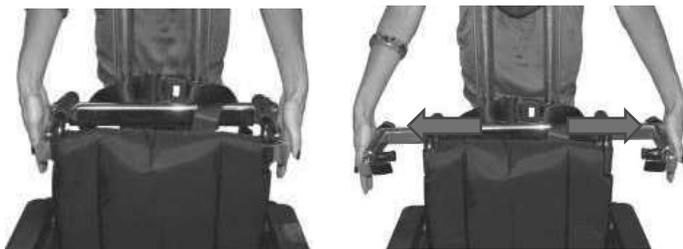


Slacken off the two handwheels (18) to release the wheelchair's frame from the clamp (17).

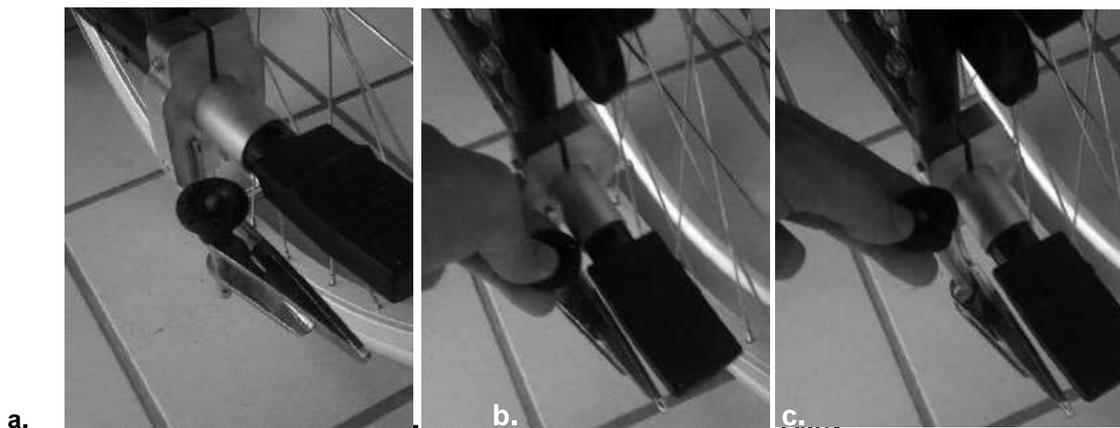


Slide the telescopic extensions outwards so that the clamp releases the frame of the wheelchair.

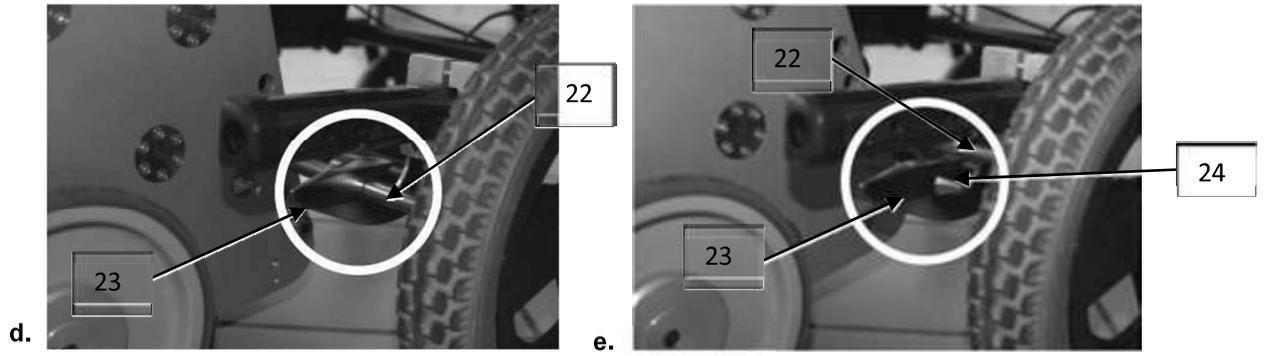
For models N972, N972H, N972H1 simply release the wheelchair brake and roll it off the ramps.



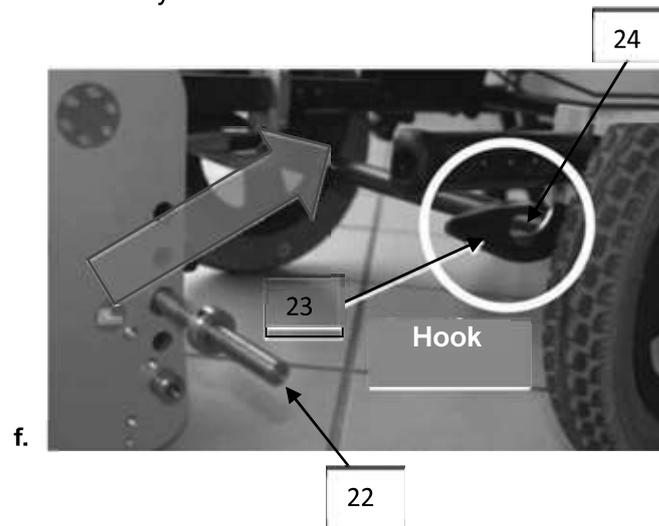
For models N973, N973H, N973H1:



d, e) Release the stair climber from the wheelchair by extracting the lower shaft (22) from the guide (24) of the hook (23) on the wheelchair.



f) move the wheelchair away from the stair climber

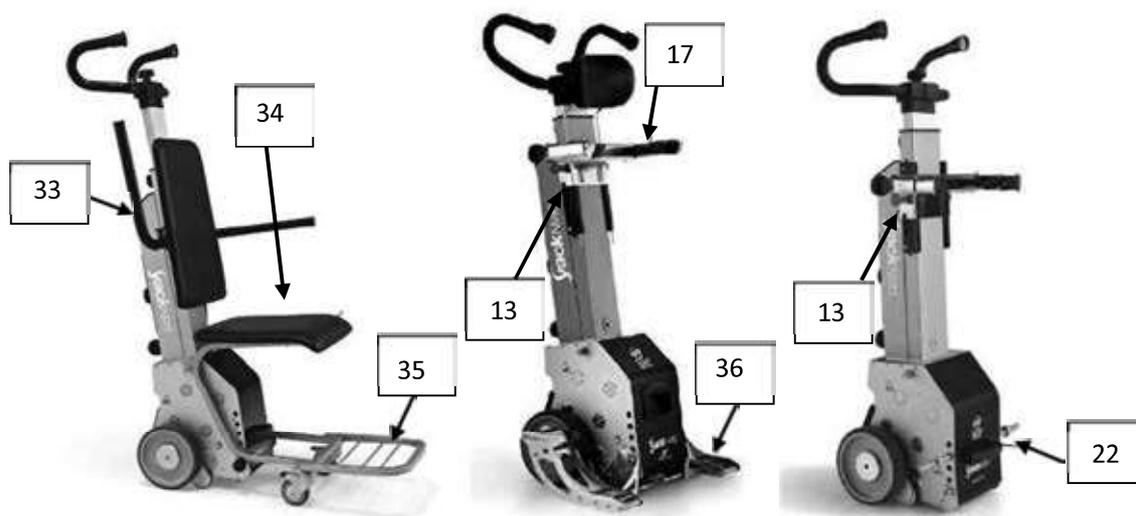
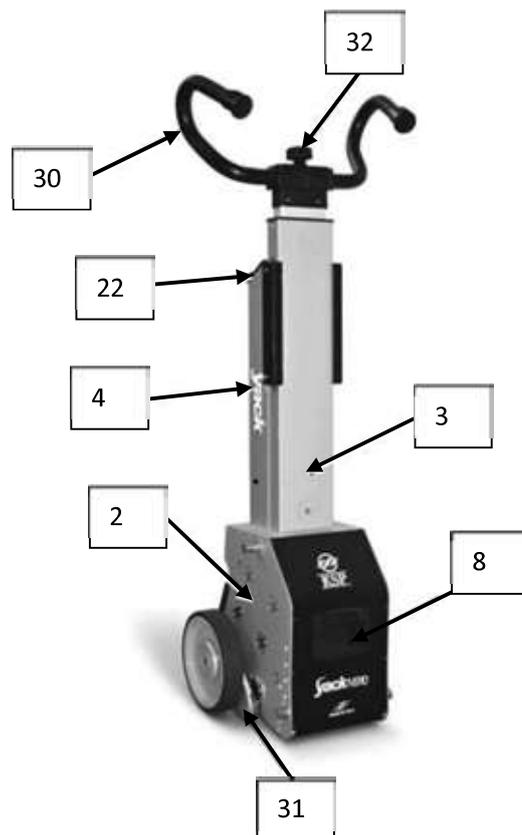


7. Technical specifications

7.1 Models and components

We show below the YACK with its main parts and assemblies. Further details are available in the respective sections of this manual.

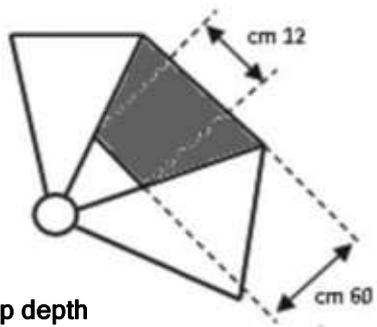
- Machine body (2)
- Tiller (3)
- Handle (30)
- Step brake (31)
- Manual lifting handle (8)
- Handle locking knob (32)
- Removable battery (4)
- Fold-down armrests (33)
- Seat (34)
- Fold-down footrests (35)
- Wheelchair locking mechanism (17)
- Locking mechanism vertical adjustment (13)
- Wheelchair ramp (36)
- Wheelchair locking shaft (22)



Summary table

SPECIFICATIONS	N971	N971H1	N971H	N972	N972H1	N972H	N973	N973H1	N973H
Weight of parts									
Weight of machine body [kg]	22,5	23,5	25	22,5	23,5	25	22,5	23,5	25
Weight of tiller [kg]	7,5	7,5	7,5	7,5	7,5	7,5	7,5	7,5	7,5
Weight of seat with footrest [kg]	5,5	5,7	6	-	-	-	-	-	-
Weight of backrest [kg]	3,5	3,5	3,5	-	-	-	-	-	-
Weight of ramp [kg]	-	-	-	4	4	4	-	-	-
Weight of locking shaft [kg]	-	-	-	-	-	-	0,7	0,7	0,7
Weight of batteries [kg]	4,5	4,5	4,5	4,5	4,5	4,5	4,5	4,5	4,5
Total weight with batteries [kg]	44	45	46	41,5	42,5	43,5	35,2	36,2	37,7
Dimensional specifications									
Depth [cm]	57 (76 with footboard opened)			41			34		
Width [cm]	51			53-70			33		
Minimum height (tiller lowered) [cm]	118	121	124	118	123	124	118	121	124
Maximum height (tiller raised) [cm]	160	163	166	160	165	166	160	163	166
Environmental specifications									
Minimum manoeuvring space [cm]	70 x 70			80 x 80 (*)			80 x 80 (*)		
Minimum width of stairs [cm]	80			90 (*)			90 (*)		
Maximum step height [cm]	21	24	26	21	24	26	21	24	26
Minimum step depth [cm]	12	12	12	12	12	12	12	12	12
Operating temperature [°C]	-10 - +50	-10 - +50	-10 - +50	-10 - +50	-10 - +50	-10 - +50	-10 - +50	-10 - +50	-10 - +50
Limits and electrical specifications									

SPECIFICATIONS	N971	N971H1	N971H	N972	N972H1	N972H	N973	N973H1	N973H
Maximum load [kg]	130	130	120	130 (**)	130 (**)	120 (**)	130 (**)	130 (**)	120 (**)
Speed									
Battery capacity (fully charged) [steps]	500	400	300	500	400	300	500	400	300
Battery capacity (battery in reserve)									
Tiller tilt [°]	20 - 40°								
Emissions									
Noise [dB(A)]	< 80								
Hand/arm vibration [m/s ²]	< 2.5								
Full body vibration [m/s ²]	< 0.5								
Electrical Specifications									
Motor	220 W								
Battery	2 x 12V 5Ah								
Operating voltage	24 VDC								
Fuse	20A								
BATTERY CHARGER									
Input voltage	220 VAC								
Output voltage	24 VDC								
Power draw while recharging	50 W								
(*) (**) the data may vary with the wheelchair being used. In case of doubt, contact the manufacturer									



Available step depth

Transport and storage conditions:

Temperature: -10°C – $+50^{\circ}\text{C}$, 15% - 93%RH

Operating conditions:

Temperature: -10°C - $+50^{\circ}\text{C}$

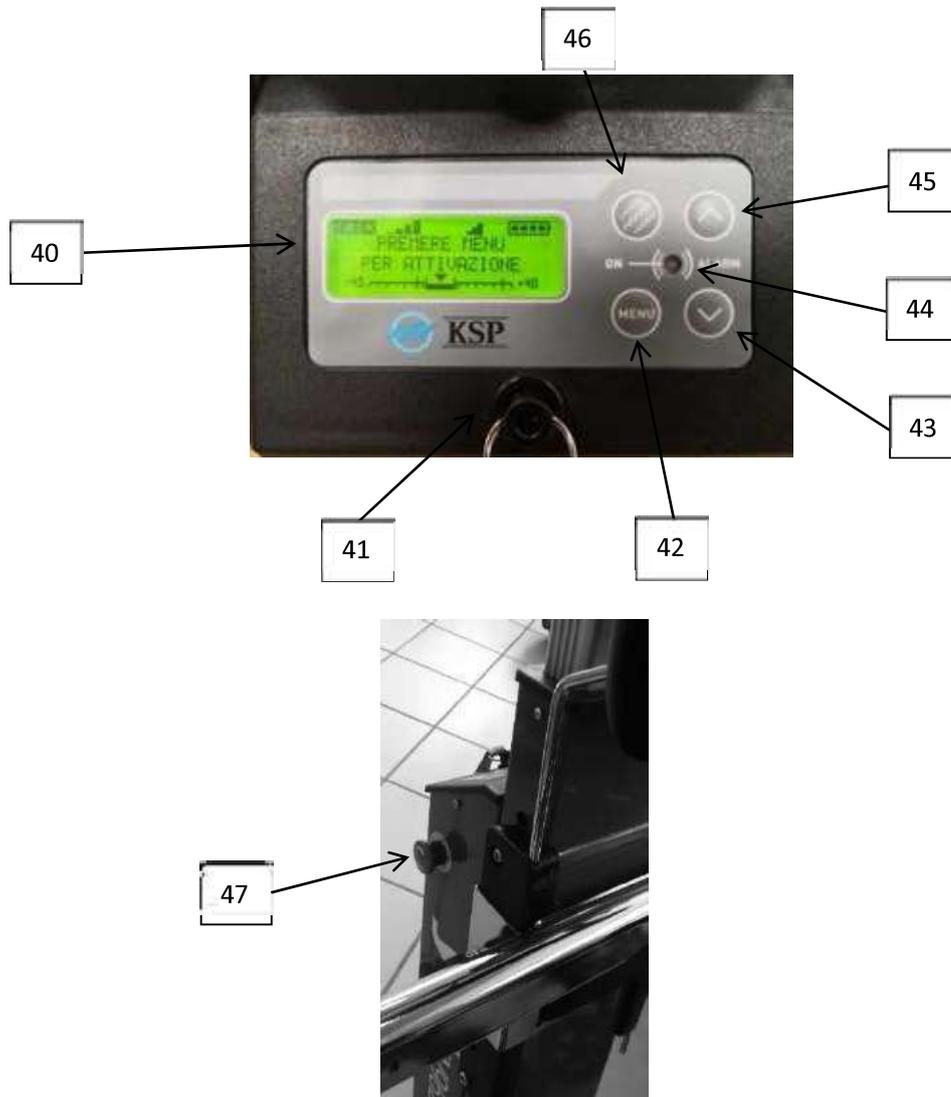
Humidity: 15% - 93%

Atmospheric pressure: 700 - 1060 hPa

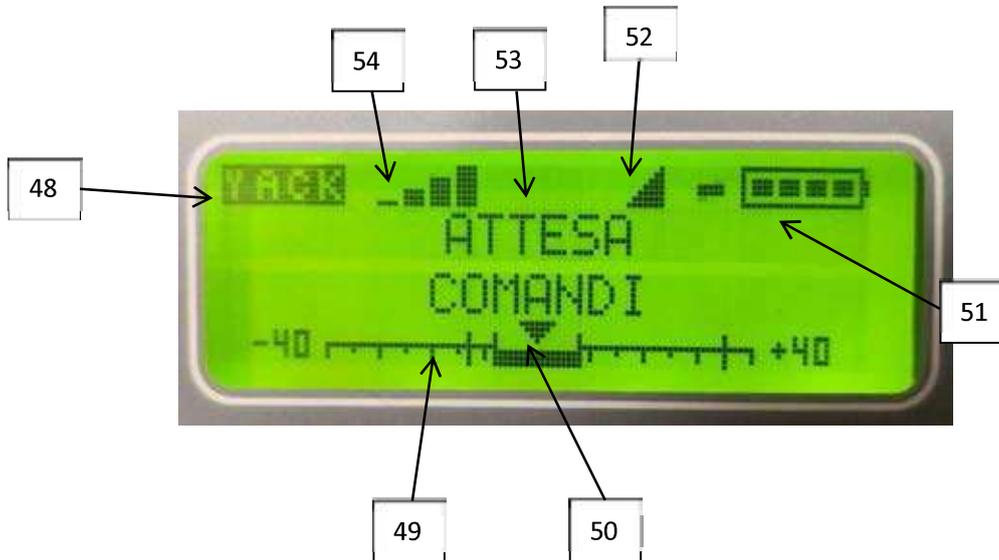
7.2 User interface

The YACK's user interface is composed of a set of indicators and buttons on the handle.

7.2.1 CONTROL PANEL INTERFACE



40	LCD display
41	Starter key slot
42	"Menu" button
43	Stair ascending/descending speed reduction button
44	Power and alarm led
45	Stair ascending/descending speed increase button
46	Button for setting movement to single or continuous cycle
47	Emergency button



Display layout

48	Model icon
49	Graduated scale in ° - tiller tilt
50	Tilt cursor
51	Battery charge
52	Operating mode indicator (continuous or single cycle)
53	Message area
54	Speed setting indicator

51) Battery charge:

- ■□□□ Charge $\leq 25\%$
- ■■□□ $25\% < \text{charge} \leq 50\%$
- ■■■□ $50\% < \text{charge} \leq 75\%$
- ■■■■ $75\% < \text{charge} \leq 100\%$

52) Operating mode indicator:

-  Single cycle
-  Continuous cycle

53) Messages:

- PREMERE MENU PER ATTIVAZIONE (PRESS MENU):

when it has just been turned on, or when the emergency button has been pressed, the stair climber is not active for reasons of safety. To activate it, press the Menu button.



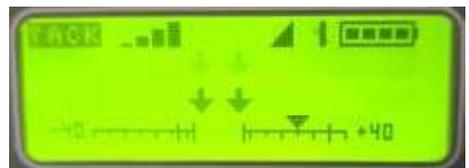
- ATTESA COMANDI (READY): the stair climber is active. It is waiting to be operated or configured.



- MARCIA AVANTI (FORWARDS): the stair climber is receiving the forwards command and is running the motor in that direction.



- MARCIA INDIETRO (BACK): the stair climber is receiving the back command and is running the motor in that direction.

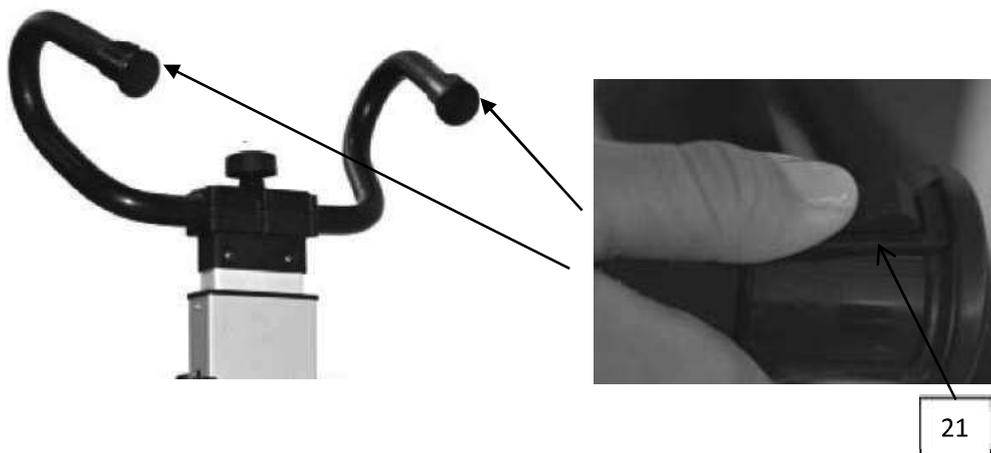


54) Speed:

 Low speed

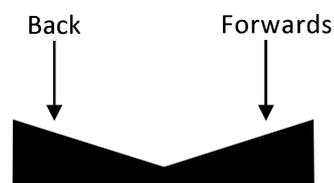
 High speed

7.2.2 TILLER CONTROLS



Rocker drive button (21):

- Ĉ Press back: drive back (ascend)
- Ĉ Press forwards: drive forwards (descend)



7.2.3 POWER ON

When it is powered on with the key inserted, the message "PREMERE MENU" (PRESS MENU) is displayed.



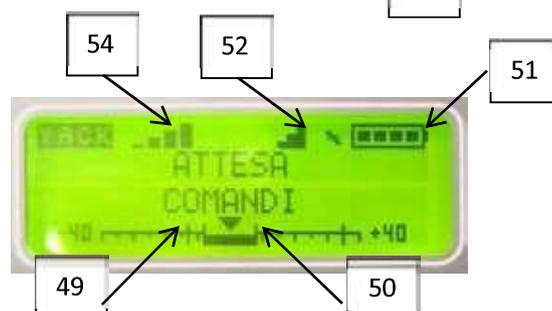
Press button (42) to activate the stair climber so that it is ready to receive commands.

The led (44) turns green and the message "ATTESA COMANDI" (READY) is displayed.



A battery icon (51) at the top right shows the battery charge.

At the bottom of the display is a graduated scale (49) and cursor (50) to indicate the slope of the route.



Setting the movement

Selecting the cycle.

Icon (52) shows the operating mode.

-  single cycle: when the forwards/back button is held down, the stair climber executes a single cycle to travel by a single step.
-  continuous cycle: when the forwards/back button is held down, the stair climber repeats the cycle without stopping until the button is released. This enables you to travel several steps with a single hold-to-run command.

Select the mode with button (46).

Selecting the speed

The stair climber can ascend/descend stairs at **two** speeds, which differ from each other by 10% of the maximum speed of 5 seconds/step (12 steps/minute). When the machine is powered on, it is set to 100% speed.

Icon (54) shows the speed.

-  Low speed 70% of max speed
-  High speed 100% of max speed

Use button (43) to reduce the speed and button (45) to increase it.

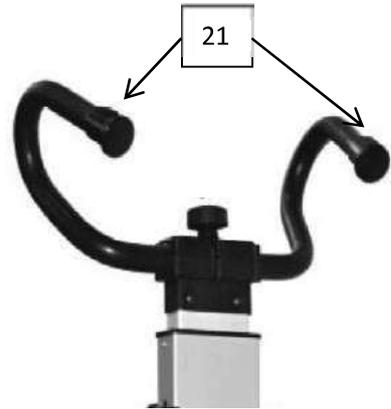


CAUTION!!!

Only operate the unit at more than minimum speed or in continuous cycle mode when you are very experienced in its operation.

7.2.4 OPERATION

The hold-to-run buttons (21) on the handle are genuine actuators; both have the same function, and they are located on the two handles to better suit the user's requirements. However, only press one at a time; pressing both together disables the stair climber. The buttons have a rocker motion and can thus be pressed either forwards or back. Pressing a button forwards sets the stair climber to descend the stairs (move forwards). Pressing a button back sets the stair climber to ascend the stairs (move back).



The display will read “MARCIA AVANTI” (FORWARDS) or “MARCIA INDIETRO” (BACK) respectively, as shown in the figure.



7.2.5 TRAVELLING ON WHEELS

To travel on the wheels, tilt the stair climber back as shown, pushing with your foot against the base if necessary. Make sure you can handle the weight of the patient.



7.3 Labelling

		PER LE CARATTERISTICHE DELLA SCALA, CONSULTARE IL MANUALE		=130 Kg		UTILIZZARE AL RIPARO DA AGENTI ATMOSFERICI		CE		☔		
REF	N971	KSP Italia Srl Via dell'Artigianato 1, Bevagna (PG) 06031 - ITALY - www.kspitalia.com		MONTASCALE A RUOTE YACK		LEGGERE ISTRUZIONI D'USO		24V --- 220W		20A		
UDI	08055773184701		DISPOSITIVO MEDICO		MD		PESO BASE: 23 kg		PESO TIMONE: 7,1 kg		PESO TOTALE: 43 kg	
SN											MADE IN ITALY	

		PER LE CARATTERISTICHE DELLA SCALA, CONSULTARE IL MANUALE		=120 Kg		UTILIZZARE AL RIPARO DA AGENTI ATMOSFERICI		CE		☔		
REF	N971H	KSP Italia Srl Via dell'Artigianato 1, Bevagna (PG) 06031 - ITALY - www.kspitalia.com		MONTASCALE A RUOTE YACK		LEGGERE ISTRUZIONI D'USO		24V --- 220W		20A		
UDI	08055773184718		DISPOSITIVO MEDICO		MD		PESO BASE: 24,5 kg		PESO TIMONE: 7,1 kg		PESO TOTALE: 44,5 kg	
SN											MADE IN ITALY	

		PER LE CARATTERISTICHE DELLA SCALA, CONSULTARE IL MANUALE		=130 Kg		UTILIZZARE AL RIPARO DA AGENTI ATMOSFERICI		CE		☔		
REF	N972	KSP Italia Srl Via dell'Artigianato 1, Bevagna (PG) 06031 - ITALY - www.kspitalia.com		MONTASCALE A RUOTE YACK		LEGGERE ISTRUZIONI D'USO		24V --- 220W		20A		
UDI	08055773184732		DISPOSITIVO MEDICO		MD		PESO BASE: 23 kg		PESO TIMONE: 7,1 kg		PESO TOTALE: 41 kg	
SN											MADE IN ITALY	

		PER LE CARATTERISTICHE DELLA SCALA, CONSULTARE IL MANUALE		=120 Kg		UTILIZZARE AL RIPARO DA AGENTI ATMOSFERICI		CE		☔		
REF	N972H	KSP Italia Srl Via dell'Artigianato 1, Bevagna (PG) 06031 - ITALY - www.kspitalia.com		MONTASCALE A RUOTE YACK		LEGGERE ISTRUZIONI D'USO		24V --- 220W		20A		
UDI	08055773184749		DISPOSITIVO MEDICO		MD		PESO BASE: 24,5 kg		PESO TIMONE: 7,1 kg		PESO TOTALE: 42,5 kg	
SN											MADE IN ITALY	

		PER LE CARATTERISTICHE DELLA SCALA, CONSULTARE IL MANUALE		=130 Kg		UTILIZZARE AL RIPARO DA AGENTI ATMOSFERICI		CE		☔		
REF	N973	KSP Italia Srl Via dell'Artigianato 1, Bevagna (PG) 06031 - ITALY - www.kspitalia.com		MONTASCALE A RUOTE YACK		LEGGERE ISTRUZIONI D'USO		24V --- 220W		20A		
UDI	08055773184763		DISPOSITIVO MEDICO		MD		PESO BASE: 23 kg		PESO TIMONE: 7,1 kg		PESO TOTALE: 37,2 kg	
SN											MADE IN ITALY	

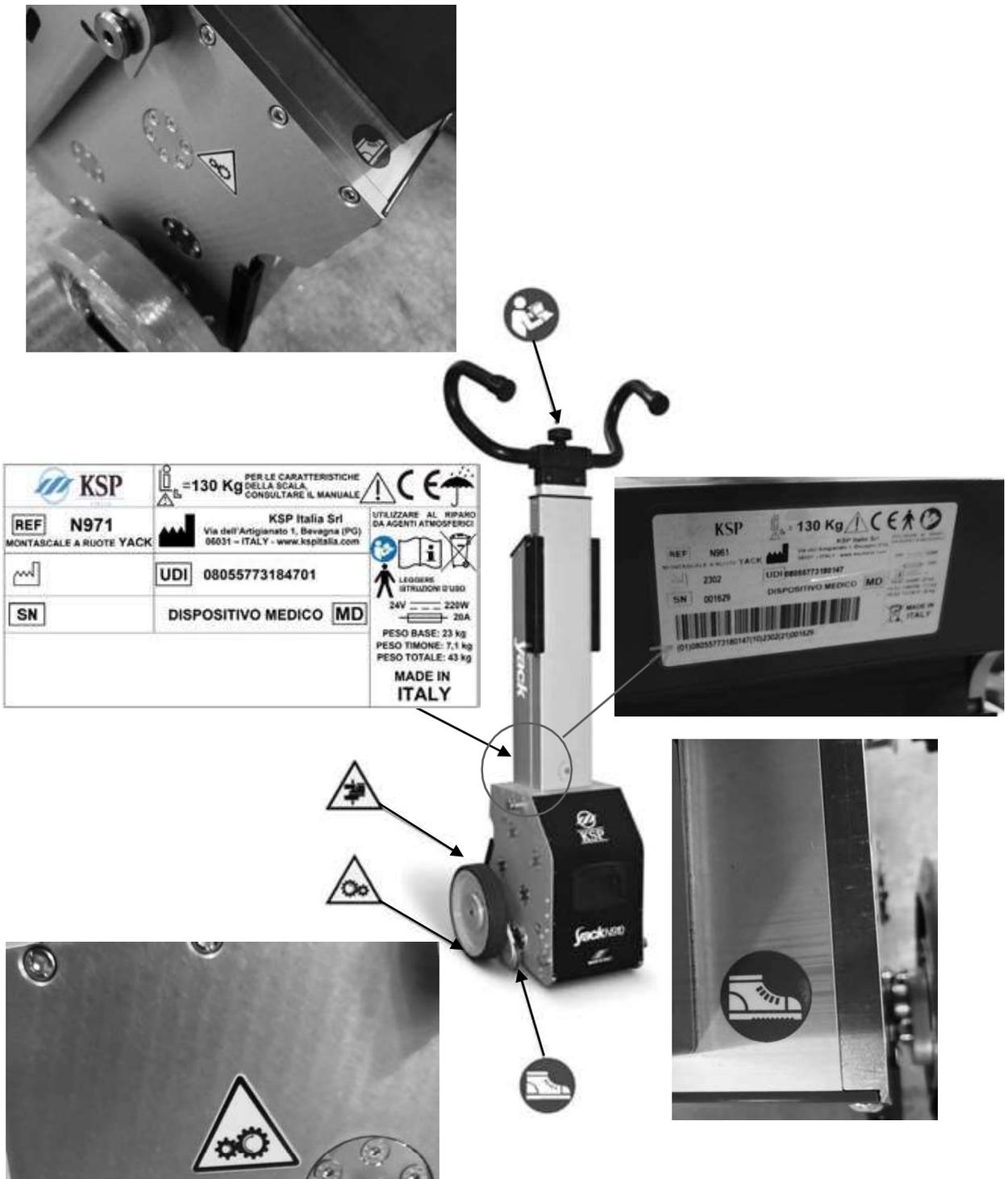
		PER LE CARATTERISTICHE DELLA SCALA, CONSULTARE IL MANUALE		=120 Kg		UTILIZZARE AL RIPARO DA AGENTI ATMOSFERICI		CE		☔		
REF	N973H	KSP Italia Srl Via dell'Artigianato 1, Bevagna (PG) 06031 - ITALY - www.kspitalia.com		MONTASCALE A RUOTE YACK		LEGGERE ISTRUZIONI D'USO		24V --- 220W		20A		
UDI	08055773184770		DISPOSITIVO MEDICO		MD		PESO BASE: 24,5 kg		PESO TIMONE: 7,1 kg		PESO TOTALE: 36,7 kg	
SN											MADE IN ITALY	

		PER LE CARATTERISTICHE DELLA SCALA, CONSULTARE IL MANUALE		=130 Kg		UTILIZZARE AL RIPARO DA AGENTI ATMOSFERICI		CE		☔		
REF	N971H1	KSP Italia Srl Via dell'Artigianato 1, Bevagna (PG) 06031 - ITALY - www.kspitalia.com		MONTASCALE A RUOTE YACK		LEGGERE ISTRUZIONI D'USO		24V --- 220W		20A		
UDI	08055773184725		DISPOSITIVO MEDICO		MD		PESO BASE: 24 kg		PESO TIMONE: 7,1 kg		PESO TOTALE: 44 kg	
SN											MADE IN ITALY	

		PER LE CARATTERISTICHE DELLA SCALA, CONSULTARE IL MANUALE		=130 Kg		UTILIZZARE AL RIPARO DA AGENTI ATMOSFERICI		CE		☔		
REF	N972H1	KSP Italia Srl Via dell'Artigianato 1, Bevagna (PG) 06031 - ITALY - www.kspitalia.com		MONTASCALE A RUOTE YACK		LEGGERE ISTRUZIONI D'USO		24V --- 220W		20A		
UDI	08055773184756		DISPOSITIVO MEDICO		MD		PESO BASE: 24 kg		PESO TIMONE: 7,1 kg		PESO TOTALE: 42 kg	
SN											MADE IN ITALY	

		PER LE CARATTERISTICHE DELLA SCALA, CONSULTARE IL MANUALE		=130 Kg		UTILIZZARE AL RIPARO DA AGENTI ATMOSFERICI		CE		☔		
REF	N973H1	KSP Italia Srl Via dell'Artigianato 1, Bevagna (PG) 06031 - ITALY - www.kspitalia.com		MONTASCALE A RUOTE YACK		LEGGERE ISTRUZIONI D'USO		24V --- 220W		20A		
UDI	08055773184787		DISPOSITIVO MEDICO		MD		PESO BASE: 24 kg		PESO TIMONE: 7,1 kg		PESO TOTALE: 38,2 kg	
SN											MADE IN ITALY	

- Device labeling scheme and positions:



8. Device Usage

- General warnings

- Wear closed shoes with low heels when using the stair climber.



Caution!! Store the product indoors in the home when it is not in use. Do not leave it outdoors (on the balcony, for instance), and keep it out of the weather (rain, humidity, direct sunlight are potentially harmful to the device). The storage conditions must be hygienic (for instance, no mould, insects, rats, excrement of pets, etc.).

8.1 First start up



Check that the stair climber is correctly assembled with reference to the assembly section.



The stair climber must always ascend and descend stairs with the operator behind it and with the stair to his back (see figure).



51



Check that the batteries are fully charged before powering the unit on. The battery charge is indicated by the icon (51) as explained previously.



Insert the start key and check the battery charge.



If the batteries are in reserve charge (1 or 2 squares on the left), charge them immediately as specified in the battery charging section.



Operations to do at first start up (setting some personal parameters of functioning):

- 1) Press "Menù" and **then** insert the start key (not before). (see figure below)
- 2) In the "Parameter setting" it is possible to set, in addition to the language, also the patient weight and the height of the step in order to optimize the movement of the device on the ladder during operation, increasing comfort for the patient.



WARNING:

Incorrect settings do not compromise the user's safety anyway.

- 3) Once you have finished setting the parameters, press the two keys 46 and 42 simultaneously until the writing "PARAMETERS UPDATED" appears;
- 4) Then extract the magnetic key to turn off the device;
- 5) If you intend to use it immediately, reinsert the magnetic key and proceed.



DO NOT START USING THE STAIR CLIMBER IF THE BATTERIES ARE NOT AT LEAST THREE QUARTERS CHARGED. IF THE BATTERY CHARGE ICON IS SHOWING THREE SQUARES, BUT THE STAIR CLIMBER HAS NOT BEEN USED FOR A LONG TIME, RECHARGE THE BATTERIES FIRST.



After every use:

- a. Check the condition of the mechanical assemblies;
- b. Check the battery charge - make sure that the batteries have not be drained excessively;
- c. Check for the smell of overheated electrical equipment;



The safety and wellbeing of the passenger are the absolute priority in using the stair climber. Follow the safety instructions given at the beginning of this manual and all recommendations included in the description of the machine.



If the passenger has back problems, take special care; the passenger must always be calm and relaxed when seated on the stair climber.



Make sure the passenger does not make any sudden movements.



The user should keep his head up and body against the seat and backrest; he should not be carrying any property or weights. Also make sure that the user's clothes and limbs do not interfere with the stair climber.

Ascending/descending must be done as explained in the respective sections and with attention to the passenger's sensibility.



The total weight of the stair climber is increased by the weight of the passenger.



Always grip the handle with both hands when ascending/descending the stairs.

N.B.: the controls are hold-to-run.

8.2 Use on the level

To move the stair climber on the level, push it on its back wheels. Do not attempt to move it with its drive mechanism.

Tilt the stair climber back as shown, pushing with your foot against the base if necessary. Make sure you can handle the weight of the patient.

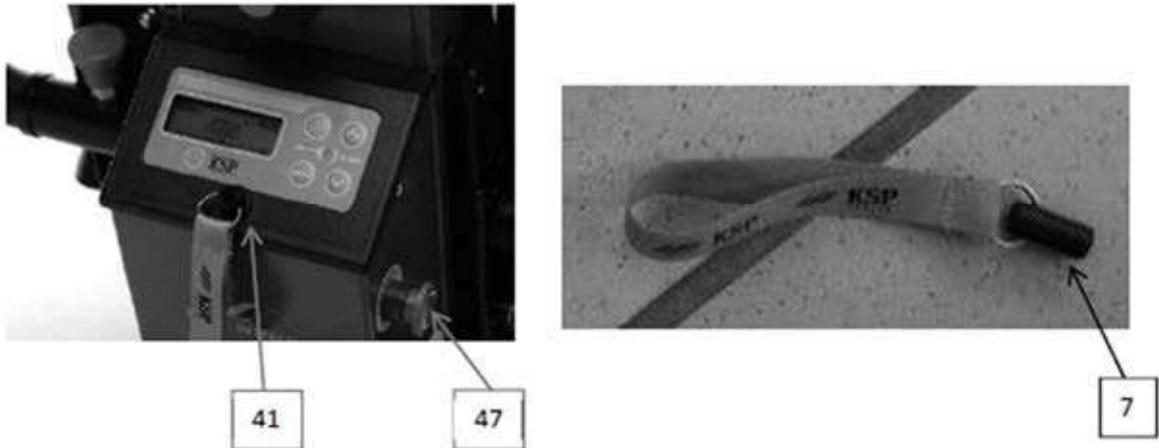


8.3 Operating mode

8.3.1 Use with the tiller

To move the device, certain conditions must be satisfied; failure to do so disables it. In detail:

- the emergency button must be released (47)
- the start key must be inserted (7) in its slot (41)



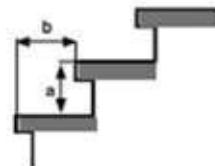
In this way, the unit can be controlled completely with the controls on the tiller handle.

8.4 Operation with the end user

-  Operation with a passenger on board is delicate and potentially risky and demands the operator's full attention. Make sure you have understood all the functions of the YACK in all its uses (ascent, descent, etc.) and repeat the procedures without a passenger in case of doubt. If you still have doubts about how to use the stair climber, contact KSP staff.

-  CAUTION!!! Dimensions of the stairs.

-  Caution! When ascending stairs for the first time, make sure the height of each step is no greater than the limits given in the technical specifications.



-  The stair climber is equipped with a buzzer which sounds when the tilt of the tiller exceeds 35° back or 10° forwards relative to the vertical. The buzzer will sound and the led will flash red and green.



TILTING THE STAIR CLIMBER FORWARDS MORE THAN 10° CAN TIP IT OVER.



TILTING THE STAIR CLIMBER BACK MORE THAN 35° CAN CAUSE THE BRAKE WHEELS TO LOSE CONTACT WITH THE GROUND AND LOCK THE MACHINE OUT. THIS NOT ONLY CAUSES JERKY MOVEMENTS, BUT CAN MAKE IT SEEM THAT THE DEVICE IS CLOSE TO THE STEP SO THAT THE OPERATOR ACTUATES THE LIFT MECHANISM AND RISKS TIPPING THE MACHINE OVER.

The tilt is shown on the display on a graduated scale with a range of -40 - +40°. On the flat, the cursor (50) is at the centre, on the longest mark.

The scale is marked in 10° steps.

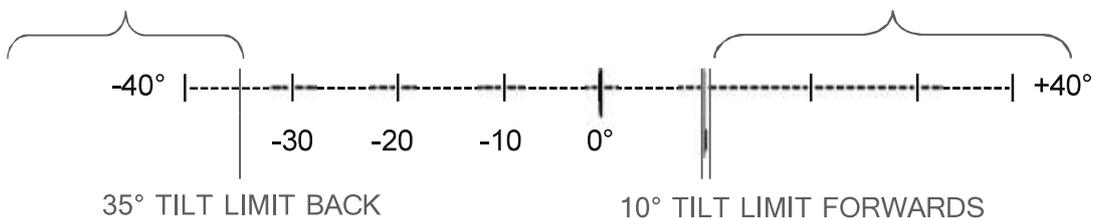


50

If the cursor (50) exceeds the limits shown below, the tiller is tilting beyond its safety limits.

BRAKE FALLURE, DANGER ZONE

TIPPING OVER, DANGER ZONE



DO NOT ASCEND STAIRS WITH THE TILLER AT THE BOTTOM; ALWAYS CLIMB THE STAIRS WITH THE TILLER UPPERMOST.



WHEN MOVING FORWARDS, IF THE TILT OF THE TILLER EXCEEDS 10°, THE WARNING BUZZER SOUNDS ONCE A SECOND.



Make sure the wheelchair is properly centred and locked onto the stair climber as explained in the respective section of this manual.



Secure the passenger on the wheelchair/seat to the YACK with its safety belts.

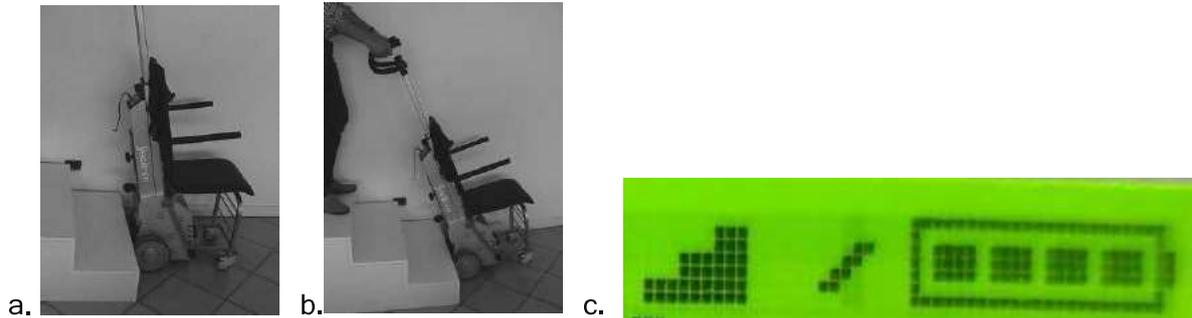
- The stair climber has been checked for electromagnetic emissions (electromagnetic compatibility). Make sure, for greater safety, that there is no interference with any medical equipment used by the passenger.

- The stair climber may only be used indoors and out of the weather.
- The passenger must keep an upright position with the shoulders and head against the backrest.
- Do not use the stair climber to transport any other objects.
- Do not use the stair climber on slippery, wet, damaged, carpeted or waxed stairs.
- Do not use the stair climber on uneven surfaces.

8.4.1 Climbing stairs-sequence without passenger

Ascending the stairs

- Move the stair climber up to the stairs with its wheels against the first step
- Tilt the stair climber back towards you to an amount suited to the steepness of the stairs, your build, and the weight of the passenger
- Make sure the batteries are fully charged and that you have selected single cycle mode with the icons shown in figure



- Rock the drive button back and support the stair climber to keep it balanced with your own body until it has completed the first step.



e. We recommend, if the size of the stairs enables you to do so, to increase the stability of the stair climber by keeping it against your leg when you ascend or descend the stairs. This increases its stability and safety, as well as improving passenger comfort.

f. Move the stair climber up against the next step and repeat steps b-c-d until you reach the top.

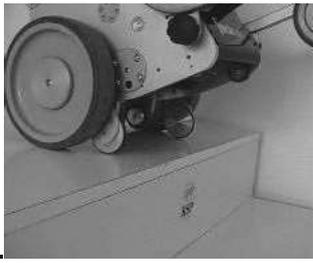


Descending the stairs

a. Move the stair climber up to the stairs.

b. Make sure the single cycle icon is displaying and that the batteries are charged

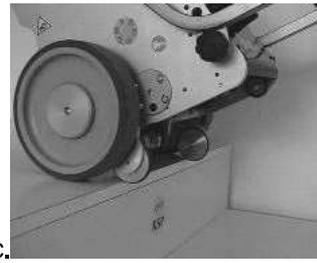
c. Tilt the stair climber back towards you to an amount suited to the steepness of the stairs, your build, and the weight of the passenger



a.

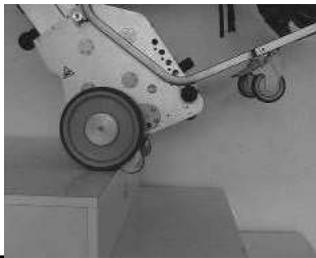


b.

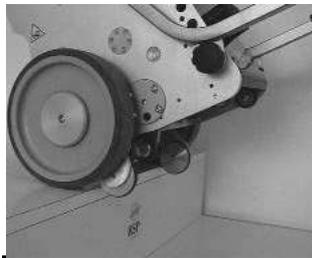


c.

d. Slowly approach the stair climber to the edge of the first step until the automatic end of stair brake engages and you can move it no further.

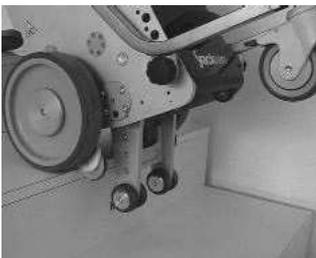
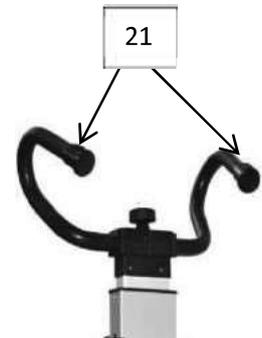


d1.

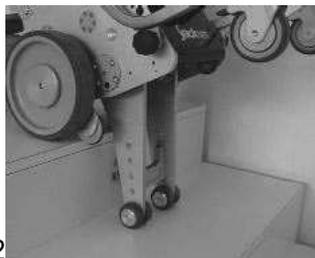


d2.

e. Rock the drive button (21) forwards and support the stair climber to keep it balanced with your own body until it has descended the first step.



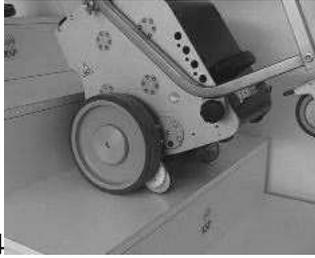
e.1



e.2

e.3





e.4

f. Repeat steps d-e until you reach the bottom.



f.

8.4.2 Ascending stairs with a passenger

Check that the stairs are of the right size, then lock on the wheelchair (or assist the passenger onto the seat) and ascend/descend the stairs.

While ascending/descending the stairs, the passenger should maintain an upright position with his shoulders and head against the backrest and should not be carrying objects.

- **Check that the passenger keeps his arms and clothes inside the wheelchair**
- Before starting, make sure that the passenger's seat belts are secured and that there is nothing blocking the movement of the stair climber (clothes, belts, scarves or other objects).
- Grasp the tiller firmly and press the drive button to ascend the stairs.
- **To stop the stairclimber, release the drive button or press the emergency button.**

Ascending stairs with a passenger

- a. Move the stair climber up to the stairs.
- b. Make sure the stair climber's wheels are firmly against the first step.
- c. Adjust the height of the tiller (ideally it should be at chest height).



c.1



c.2

d. Tilt the stair climber towards you and make sure single cycle mode is selected



d.

e. Rock the drive button in the ascend direction (back) and support the stair climber until it is on the next step.

f. Repeat until you reach the top.



e.1



e.2



f.

Descending stairs with a passenger

a. Move the stair climber up to the stairs.

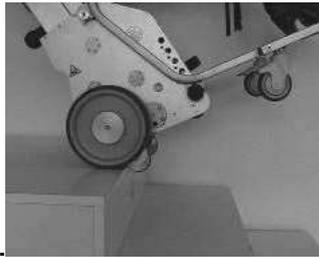
b. Tilt the stair climber towards you as indicated in the section on descending stairs without a passenger. If necessary, use your foot, keep the wheel blocked as shown in the figure.



b.1

b.2

c. Slowly approach the stair climber to the edge of the first step until the end of stair brake engages and you can move it no further.



c.

d. Rock the drive button in the descend direction (forwards) and support the stair climber until it is on the next step.



d.1

d.2

d.3

Ascending stairs in continuous cycle mode

a. Configure the unit as explained above, but select continuous cycle mode with the button (46). Make sure the continuous cycle mode icon displays (52).



b. Move the stair climber up to the stairs.

c. Make sure the stair climber's wheels are firmly against the first step.

- d. Tilt the stair climber towards you.
- e. Rock the drive button into the ascend position and hold it down.
- f. As soon as the lift shaft has retracted into the machine's body, pull the stair climber up against the next step, so that the lift shaft cannot start its cycle prematurely relative to the position of the step itself.
- g. Support the stair climber to keep it balanced until you have reached the top.
- h. The continuous cycle is hold-to-run; to stop simply release the button.

Descending stairs in continuous cycle mode

- a. Configure the device as explained previously, but select continuous cycle mode (as explained in the paragraph on ascending the stairs in continuous cycle mode) with the button (46), and check the icon (52) shown below displays.

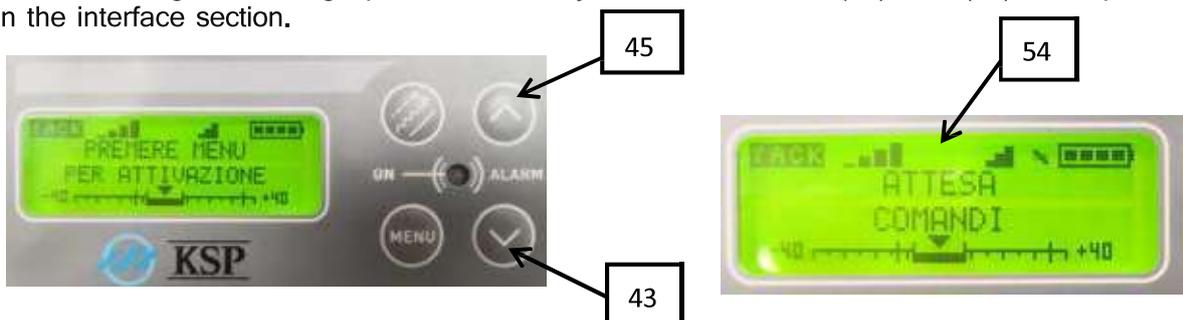


- b. Move the stair climber up to the stairs.
- c. Slowly approach the stair climber to the edge of the first step until the automatic end of stair brake engages and you can move it no further.
- d. Tilt the stair climber towards you.
- e. Rock the drive button into the descend position and hold it down.
- f. As soon as the lift shaft has retracted into the machine's body, pull the stair climber up against the next step, so that the lift shaft cannot start its cycle prematurely relative to the position of the step itself.
- g. Support the stair climber until you reach the bottom of the stairs
- h. The continuous cycle is hold-to-run; to stop simply release the button.



CONTINUOUS CYCLE MODE IS TO BE USED BY AN EXPERT OPERATOR ONLY. USE ONLY SINGLE CYCLE MODE AT THE SLOWEST SPEED FOR THE FIRST THREE MONTHS OPERATION.

The ascending/descending speed can be adjusted with buttons (43) and (45), as explained in the interface section.



Operation with an able-bodied passenger

On first start up, ascend and descend the stairs three times with an able-bodied passenger.

- a. Have the passenger sit on the seat and secure him with the safety belts
- b. Adjust the height of the tiller to enable you to balance the weight properly
- c. Run the single and continuous cycle ascend and descend procedures with the passenger on board and at a variety of speed settings to ensure that everything works as it should and that you are completely familiar with the operation of the unit.

Check-up

When you have finished, check the following:

- a. Check the condition of the mechanical assemblies
- b. Check the battery charge - make sure that the batteries have not be drained excessively
- c. Check that there is no smell of overheated electrical equipment
- d. Check that the battery has not overheated.



FOR LESS EXPERT USERS, AND FOR THE FIRST THREE MONTHS OF USE IN ANY CASE, ALWAYS OPERATE THE MACHINE IN CONTINUOUS CYCLE MODE AND AT ITS LOWEST SPEED.

Other operational warnings and instructions



When you start the machine with the tiller controls, it may happen that it responds with a jerk but without actually moving. Just release the button and actuate it again to start normally. This response is perfectly normal, due to the mechanical inertia contributed by the passenger, is known to occur and is not hazardous for the operator or passenger.



Always grip the handle with both hands when ascending/descending the stairs.



When ascending the stairs, the stair climber will move forwards slightly at each step as it moves over the lip of the step itself. Once it has moved above the step, it will move back and come gently to rest with its wheels resting against the next step. Hold the button pressed until the single cycle completes by automatically stopping the retraction of the lifting mechanism with the wheels.



During the up or down cycle, if the direction of travel is reversed with the machine cycle still incomplete, the stairclimber could perform a further complete cycle before reversing the direction of travel in order to realign itself with the internal sensor.

It is recommended to avoid U-turns if the machine cycle has not been completed.

N.B.: all controls are hold-to-run.

If you have selected single cycle mode, holding the button down executes a single cycle of a single step (up or down).

If you have selected continuous cycle mode, holding down the button continuously repeats the stepping cycle (up or down).

Use on the level ground

To move the stair climber on the level, with or without a passenger, tilt it back and push or pull it on its wheels.

N971 series models may also be moved without tilting them with the front wheels mounted to the seat.

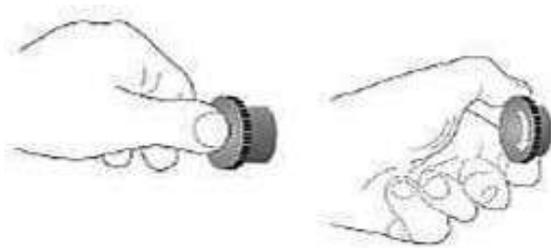
Make sure that the retractable lifting shaft is fully retracted into the base when moving the stair climber on the level.



Periodically check the wheels for looseness and damage

8.4.3 Emergency situations

- In the presence of an imminent risk or danger, press the emergency button (47): this disables the unit.
- To restore operation, turn the head of the emergency button as indicated by the arrow on the button itself.



47

- Once the emergency button has been released, the message "PREMERE MENU" (PRESS MENU) is displayed; press the MENU button (42). The machine is now ready to accept commands and the message "ATTESA COMANDI" (READY) is displayed.



If you encounter problems on the stairs, you may need to place the unit into the safety position!

The safety position is as follows:

- tilt the stair climber so that the end of step brake locks the wheels,
- remove the start key,
- rest the stair climber carefully on the stairs.

The stair climber is now immobilised and stable.



Contact KSP Italia or an authorised service centre for instructions, and remove the passenger with the aid of an assistant. Leave the wheelchair attached to the stair climber.



The passenger must be calm and relaxed while he is sitting on the stair climber. Make sure the passenger does not make any sudden movements.



The stair climber contains electronic equipment; use only CO2 extinguishers in case of fire.

POSSIBLE EMERGENCY SITUATIONS	ACTION IN RESPONSE
Batteries drained when on the stairs	<ul style="list-style-type: none"> - Assume the safety/emergency position - Change the batteries - If no batteries are available nearby, request aid
Generic malfunction when on the stairs, unable to proceed	<ul style="list-style-type: none"> - Assume the safety/emergency position - Request aid
The passenger feels ill or sick	<ul style="list-style-type: none"> - Stop immediately and provide assistance - If necessary, assume the safety/emergency position - If necessary, request aid

DISABLING CONDITION

STATUS	DISABLED PARTS	ACTION IN RESPONSE
While recharging the batteries	Operation of the machine	Disconnect the battery charger and extract/insert the key.
Battery charge below 5%	Operation of the machine	Charge the battery or replace with a charged pack
Actuation of the tiller controls in opposing directions, e.g. RH button forwards and LH button backwards	Operation of the machine	Release both controls and actuate just one of them.

9. Charging the batteries

 The batteries must be charged without a passenger on board, using only the provided battery charger.

 The batteries may be charged even when they are not fitted into the machine. You can remove the batteries and connect them to the provided charger.

 The mains power supply must be grounded and protected in a regulatory fashion. Do not use extensions, adapters or other such devices.

The battery charge is shown by the icon (51) on the display when the key is inserted.



The colour of the led indicates the charge as follows:

- 4 squares: 75 to 100%
- 3 squares: 50 to 75%
- 2 squares: 10 to 50%
- 1 square: 10 to 50%

 THE BATTERIES MUST BE CHARGED AT LEAST ONCE EVERY 30 DAYS EVEN IF THE MACHINE IS NOT IN USE.

 BATTERIES LEFT DISCHARGED FOR MORE THAN 30 DAYS MAY BE IRREPARABLY DAMAGED.

 CAUTION!!! DO NOT USE THE STAIR CLIMBER WHILE THE BATTERIES ARE BEING CHARGED

Battery charging instructions

Proceed as follows:

- a) Fit the charger connector (5) into the socket (55) in the back of the stair climber's base
- b) Connect the charger to the mains.



The machine is completely disabled while the batteries are charging, even if the tiller is on.

If you insert the key while the batteries are charging, the display will turn on and show the message "BATTERIA IN RICARICA" (BATTERY CHARGING). The display led will also turn red and the buzzer will sound intermittently.

The progress of charging is monitored by the leds on the charger itself. Refer to the instructions on the charger itself and the booklet included with it.

Keep the batteries (and hence the stair climber itself) in a cool place away from sources of heat. It takes about 6 hours for the batteries to charge from reserve/no charge to full charge.

10. Troubleshooting

10.1 Troubleshooting

PROBLEM	CAUSE	SOLUTION
The stair climber does not respond to the ascend/descend commands	The key is not inserted properly	Extract and reinsert the key
	The tiller is not properly installed	Repeat the tiller installation procedure
	The tiller or cable contacts are corroded or soiled	Check and clean the contacts
	The stair climber is overloaded: led steady on and "OVERCURRENT ALARM" message displaying	Reduce the load or check that the stair climber is not impeded by an obstacle it cannot pass over Remove the obstacle or choose an alternative route
The display does not turn on when the key is inserted	Batteries completely discharged	Recharge or replace the batteries
	Fuse burnt out	Call technical service to have the fuse replaced
The batteries do not charge as they should	Battery or charger malfunction	Contact technical service
Limited travel range	Battery malfunction	Contact technical service
The stair climber moves in an intermittent fashion	Signal transfer contacts soiled or corroded	Remove the key, remove the tiller and clean the contacts with the dry cloth and a small amount of alcohol
Oil stains on the floor	Oil leak from the motor's gear unit	Contact technical service
The seat belt does not lock as it should	The seat belt is damaged	Contact technical service
Unusual noises can be heard while using the unit	Problems with the transmission	Contact technical service
	Foreign bodies are being dragged along with the unit	Stop and remove the foreign bodies

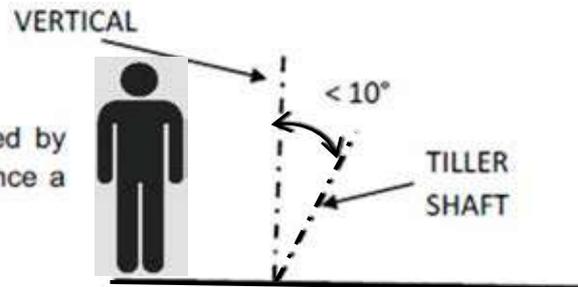


If, after running the above checks, the unit still does not work properly (even in part), the operator and user must immediately notify the authorised technical service, reseller or manufacturer. Do not use the stair climber until the problem has been resolved by the manufacturer.

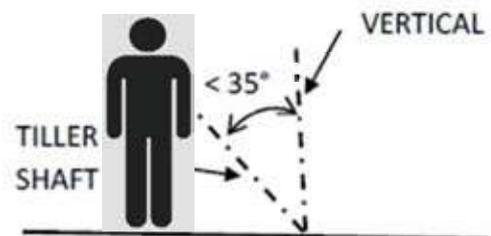


10.2 Alarm signals

- The front of the stair climber is tilted by more than 10° : the buzzer beeps once a second and the led flashes red



- The back of the stair climber is tilted by more than 35° : the buzzer beeps once a second and the led flashes red



- Excessive power draw (overloaded, obstacles or damage): the buzzer beeps once a second, the led is steady red and the display reads "ALLARME SOVRACORRENTE" (OVERCURRENT ALARM)
- The stair climber is not used for more than 3 consecutive minutes (risk of draining the batteries): the buzzer beeps for 2 seconds and the led flashes red once a minute.

11. Maintenance

The operator may not do any maintenance other than the jobs indicated in this chapter.

All maintenance must be done with the cable disconnected from the mains and the key removed from the stair climber.



Before you sell the product on or purchase a used one, make sure that all necessary maintenance has been done and that the product has been reconditioned by the manufacturer.

11.1 Cleaning

Clean the painted parts of the stair climber with a soft, damp cloth. You may use a commercial spray to clean the chromed parts. Do not spray the cleaning product directly on the machine, but rather onto the cloth you are using to clean it.

Do not use water or other spray/substances onto the machine; doing so will damage its parts.

11.2 Cleaning the wheels

Remove any metal or sticky residue on the wheels.

11.3 Checking the wear of the wheels (to be done before each use)

Check the condition of the wheels regularly. If they are damaged or worn, contact technical service.

11.4 Batteries

The batteries also require regular maintenance and must be kept charged. Discharging lead acid batteries completely will reduce their service life.

Lead acid batteries will work for a long time if they are charged regularly and immediately after use.

However, if the stair climber is stored or left unused for a long time, the batteries should be charged at least once every 30 days.

Failure to do so will allow them to drain completely below the minimum charge level, after which they will no longer be usable.

Replacing the batteries

- a. Remove the key from the control panel
- b. Undo the battery pack locking knob (60)
- c. Extract the battery pack
- d. Fit a new battery pack

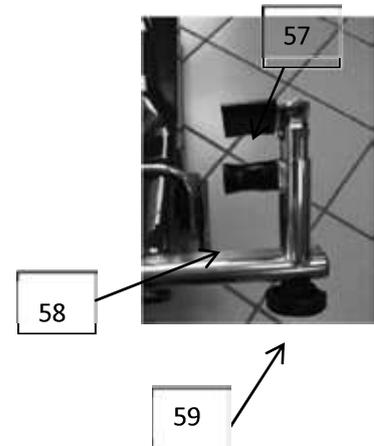


- e. Tighten down the battery pack locking knob (60)
- f. Make sure the battery pack is secure by attempting to move it; it should remain in place without moving

11.5 Checking the seat belts and the wheelchair/ramp locking system (to be done before each use)

Before you use the stair climber, always check the condition of the seat belts and that they lock as they should.

Check the operation of the wheelchair locking system: tightening knob (59) should move the lower stop (57) up against the fixed stop (58)



11.6 Checking the safety systems (to be done before each use)

Before each use, with the stair climber unoccupied and turned on, tilt it back onto its rear wheels to check that the tilt cursor moves as it should.

With the key inserted, start the stair climber without an occupant, then move it and press the emergency button (47).

The unit should power off and refuse to respond to the controls. Reset the button by rotating it, and check that you now have to press the MENU button (42).

Check that the end of step brake is working; to do so, tilt the stair climber towards yourself until the end of step wheels are no longer touching the ground, then attempt to push the stair climber forwards and backwards: the wheels should be locked by the brake.

11.7 Tightness of the knobs (to be done before each use)



Check that the screw and knobs are all tight before using the unit.

11.8 Visual inspection (once a week)

At least once a week, check that the stair climber is in good condition, that the tiller and metal components are not bent, cracked or failing, and that the moving parts are not loose.

In particular, check the condition of the locking equipment, ramps and pins used to secure the wheelchair.

11.9 Replacing the fuses (as needed)

The fuses may only be replaced by an authorised technician. Contact KSP Italia or your reseller to have this done.

11.10 Routine Maintenance

To keep the stairclimber in good working order, observe the annual routine maintenance schedule, to be done by the KSP Italia or its qualified and authorized technicians.

To find your local service centre, contact your agent/reseller or the manufacturer at:

Ksp Italia Srl
Via Dell'Artigianato, 1
06031 Bevagna (PG) Italy
Tel. +39 0742 361947 - Fax +39 0742 361946
ksp@kspitalia.com - www.kspitalia.com

Routine maintenance covers the following:

- electrical equipment
- control buttons
- motor
- wheel drive system
- condition of wheels/shaft
- safety equipment and battery charger
- condition of the batteries
- condition of the frame and tiller
- drive system
- mechanical transmission
- seat belts
- electronic system diagnostics
- tilt meter calibration
- wheelchair and patient support and locking/safety systems.

CAUTION!!! ACCIDENTS, FALLS, COLLISIONS AND SHOCKS OF ANY KIND MAY COMPROMISE THE OPERATION AND SAFETY OF THE UNIT. SHOULD THIS HAPPEN, THE STAIR CLIMBER MUST BE CHECKED OVER BY THE MANUFACTURER OR AN AUTHORISED SERVICE CENTRE TO ENSURE THAT IT IS IN GOOD WORKING ORDER. CONTINUING TO USE THE UNIT WITHOUT FIRST HAVING IT CHECKED OVER BY THE MANUFACTURER/SERVICE CENTRE, OR HAVING IT SERVICED BY AN UNAUTHORISED THIRD PARTY, RELIEVES THE MANUFACTURER OF ANY AND ALL LIABILITY FOR MALFUNCTIONS AND DEFECTS, AS WELL AS VOIDING THE WARRANTY.

12. Scrapping

Sorted scrapping for recycling, treatment and environmentally compatible disposal reduces potential negative effects on the environment and promotes the reuse of the unit's materials.

The barred wheeled bin symbol on the unit indicates that the product must be scrapped separately from other waste at the end of its service life.

The stair climber is an electrically powered medical device, as a consequence it will be scrapped by KSP Italia without costs for the owner.

When the unit reaches the end of its service life, the owner must contact KSP Italia or the Obligatory Consortium APIRAEE (www.apirae.it), of which the former is a member.

Scrapping the product without following regulations is subject to sanctions according to current legislation in the state where the user lives.

The batteries must be scrapped separately as required by the corresponding laws and subsequent amendments enacting the European Directive governing batteries and accumulators.

The law may change over time and from country to country. Always follow local regulations when scrapping the unit.

13. Warranty

The warranty runs for 24 months (new product) or 12 months (used product or previously in professional use); in any case, the warranty runs from the date of delivery marked on the invoice and shipping bill.

The batteries are guaranteed for 6 months.

The purchaser/end user (or person stipulating the contract of sale) must report evident defects within two months of delivery, and any non-evident defects within two months of their discovery, and in any case within the warranty period itself.

Claims and applications for service and repairs must be submitted in writing (registered letter with return receipt, email or telegram) to KSP Italia, its authorised reseller or agent. All repairs will be done by the authorised reseller's technical service or KSP Italia S.r.l. itself; any work done on the product by unauthorised persons immediately voids the warranty.

The warranty provides for the replacement or repair free of charge, within the stated term, of parts of the unit which, **at the manufacturer's sole discretion**, have manufacturing defects.

The warranty does not cover damage due to incorrect maintenance or use,

or failure to observe the warnings and instructions given in this manual, nor damage incurred during transport (scratches, dents, etc.), damage due to falls, negligence, tampering, inability to use the product or work done by unauthorised persons; damage resulting from incorrect installation of the product when done directly by the user or unauthorised persons, or due to dirt, stains, fluids and abrasions of the covering materials, current peaks and power failures, or changes resulting from environmental and climatic conditions, as well as any damage caused by phenomena which do not fall under normal use. The warranty does not in any case cover normal wear and tear, nor negligent, improper or incorrect use, as indicated in this manual.

The replacement of components under warranty does not extend the period of the warranty for the product as a whole nor for the parts in question.

14. Assistance – Home service

KSP ITALIA provides home service which may be requested from its authorised reseller or directly from KSP Italia.

15. Reports - Alerts

Any accidents, malfunctions and failures to operate properly or changes in the characteristics and performance of the device which cause or may potentially cause injury to the operator or user, must be reported immediately to the reseller at the contact address given in the contract of sale, or directly to the manufacturer, to enable the latter to take appropriate action, including recalls, when necessary.

The Operator, the purchaser or patients must report any serious accidents occurring in relation to the Device to KSP Italia and to the competent authority of the member state in which the user is established.

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