



OPERATION MANUAL
ZW4250
POWERED STAIR CLIMBER

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1. SYMBOLS AND IMPORTANT SAFETY INSTRUCTIONS

1.1 Symbols



Read the user's manual and be sure you understand all warnings and safety instructions before operating this equipment



If you see this sign in the instructions it means one of the following:

WARNING: May cause serious injury or death!

CAUTION: May cause injury to operators or bystanders!

NOTE: May cause machine or premises damage!

1.2 Important Safety Instructions

Before operation:

- Read this user's manual thoroughly
- Heed all warnings and safety instructions
- Store the stair climber in an environment above 0° C for one hour before use
- Note the maximum lifting capacity - do not exceed this figure
- Check
 - The safety brakes and climbing wheel position
 - Battery capacity
 - All electronic functions

Do not use the stair climber in the following conditions:

- The tyres are damaged or leaking
- If any part of the drive mechanism is faulty or stuck
- In rain, snow, ice, or wet conditions
- When the stairs or pathway is slippery or obstructed
- On escalators or moving belts

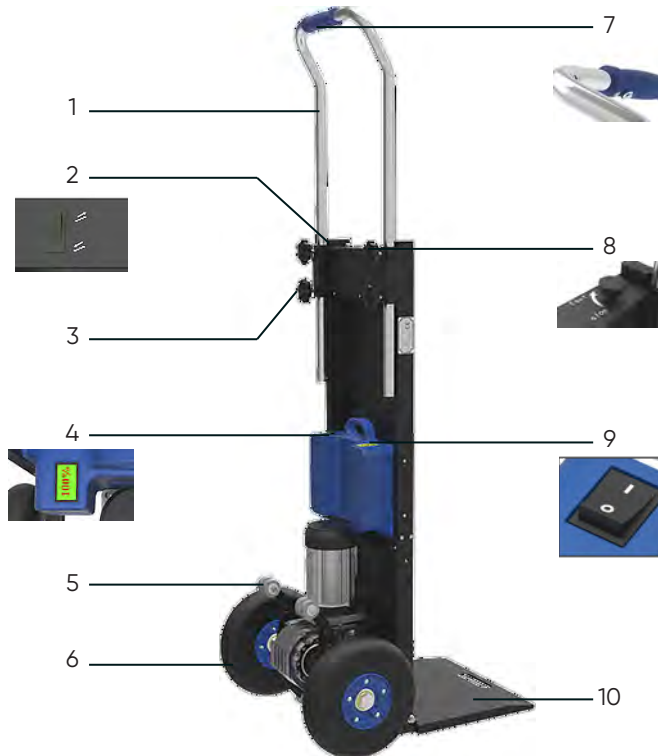
IMPORTANT SAFETY INSTRUCTIONS CONTINUED...

During handling, operation, and storage:

- Only trained operators may use the stair climber
- Never exceed the safe working load
- When climbing or descending, personnel should not stand under the machine
- Always operate the machine with both hands
- Ensure the operator wears suitable non-skid safety footwear
- While training, operate the machine without load and at low speed
- Do not place hands under the toe plate or touch moving parts
- Do not use your stair climber to carry personnel - for cargo use only
- Protect the battery plug, charger, and cabling from water, solvents, and sharp edges
- Turn the power off during transportation
- Always use a safety strap to restrain cargo
- Do not use a pressure cleaner on the stair climber
- Always store in dry conditions
- For repair or maintenance please contact XSTO Australia
- Only use accessories provided by XSTO Australia
- Stair climber operation may interfere with electronic equipment
- Keep out of prolonged, direct sunshine
- Keep away from ignition sources, flammable liquids, and gases
- Do not park the stair climber in lobbies, evacuation stairs, walk ways, or emergency exits

2. EQUIPMENT DESCRIPTION

2.1 Equipment Components ZW4250



ZW4250 Powered Stair Climber

- | | |
|-------------------------|-------------------------|
| 1: Extendable handle | 2: Climb/descend switch |
| 3: Handle locking bolts | 4: Battery status |
| 5: Support wheel | 6: Solid wheel |
| 7: Operating button | 8: Speed switch |
| 9: ON/OFF switch | 10: Loading board |

2.2 TECHNICAL DATA

This user manual applies only to the ZW4250 stair climber.

2.3 EQUIPMENT DESCRIPTION

These innovative stair climber models are designed for transporting heavy goods up and down internal or external stairs in warehouses, factories, offices, or residential buildings. Uses include moving industrial and warehouse equipment, or delivering, removing and storing household furniture and appliances.

2.4 Technical Parameters ZW4250

We recommend all stair climber models are used below an altitude of 1,000 metres, and within a humidity range of 45% to 85%. Do not use when snow has accumulated.

Model	ZW4250
Dimensions - unfolded (mm)	Height: 1,720 Width: 530 Depth: 620
Dimensions - folded (mm)	Height: 1,190 Width: 530 Depth: 320
Weight (kg)	Main unit: 35 Charger: 0.3 Battery: 3.2
Maximum capacity (kg)	Rated: 170 Maximum: 250
Climbing speed (steps/min)	Adjustable speed - maximum 35
Steps per charge	674-1,348 (38-84 floors)
Fold type	Extendable handrail
Brake	No
Tyre size (mm)	254
Step height limit (mm)	210

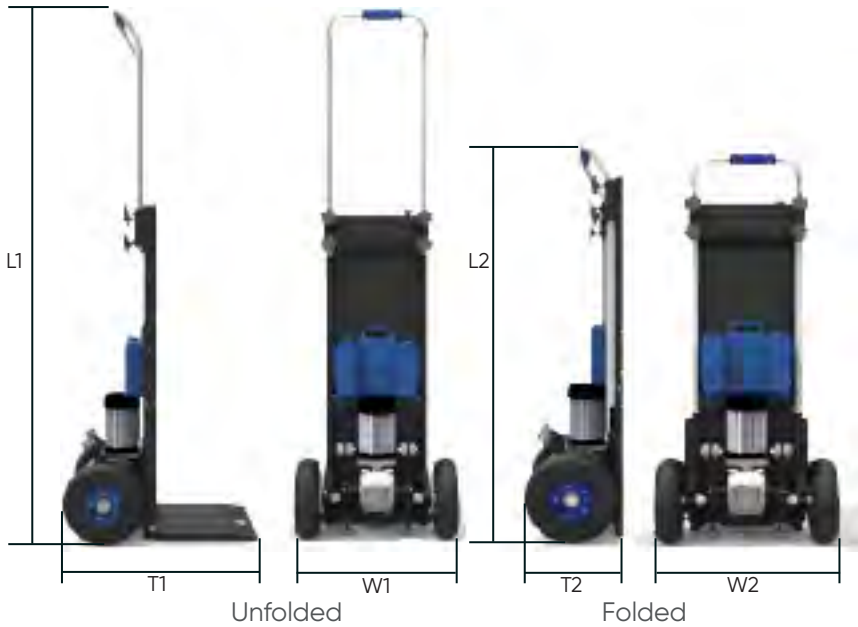
2.4 Technical Parameters ZW4250 continued...

Model	ZW4250
Straight step width required	>100 mm (Machine & cargo)
Battery type	Lithium-ion
Battery specification	48V 10AH
Charging voltage	110-240 VAC
Motor DC current	48V 500W
Noise level (1m from actuator)	<70dB
Device: - Storage temperature - Operating temperature (No icing permitted)	-5° to +35° 0° to +40°
Battery: - Storage temperature - Operating temperature	-5° to +35° 0° to +40°
Serial number location	Body nameplate
Protection level	IP54

Note: When operated on low speed, the step count on one charge will be reduced from that indicated in the technical parameters.

Note: Due to machining and assembly tolerances, quoted sizes will vary by plus or minus 5mm, and the weight by plus or minus 0.5kg.

2.5 DIMENSIONS










Type	L1	W1	T1	L2	W2	T2
ZW4250	1,720	530	620	1,190	530	320

Units: mm

2.6 Standard accessories supplied

			
Main unit	Safety strap	Battery pack	Quick charger

2.7 Optional accessories available

			
<p>Solid wheel</p>	<p>Battery pack</p>	<p>Fast charger</p>	<p>Car charging converter</p>
			
<p>Transfer device</p>	<p>Centre of gravity adjustment frame</p>	<p>Universal wheel</p>	

Note: For the correct use of accessories, refer to the relevant instructions in this operation manual.

Note: Machines and accessories may be changed or upgraded without notice.

3. INITIAL OPERATION

⚠ NOTE: Before initial operation, please ensure the stair climber is being operated in an environment with a temperature above 0°.

⚠ NOTE: The motor has a 50% duty cycle. This is calculated by $[\text{Continuous operating hours} / (\text{Continuous operating hours} + \text{Continuous rest hours})]$ which should be less than or equal to 50%.

The maximum continuous running time is 10 minutes when carrying loads above 70% of maximum loading.

The maximum continuous running time is 30 minutes when carrying loads below 70% of maximum loading.

3.1 Folding loading board



The loading board can be folded or extended. The extended position is used when carrying cargo. The toe-plate can hover at any position between folded and extended.

3.2 Adjustable handrail



Loosen the locking bolts to adjust the length of the handrail. After adjusting the handrail to the desired length, tighten the locking bolts.

3.3 Insert the supplied fuse



The battery fuse was removed for transport. Before operating for the first time, insert the supplied fuse into the battery pack in the position shown.

Fuse position

3.4 Battery pack



Install the battery pack by sliding downwards onto the battery connection. After inserting the battery, the machine can be powered on.

⚠ NOTE: Always keep the battery connection dry

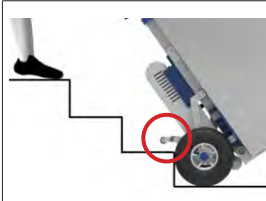
3.5 Turning on the stair climber



Press the switch to turn on the stair climber. 0 means OFF, and 1 means ON.

The screen on the battery box will display the amount of battery charge.

3.6 Initial climbing position



Adjust the climbing/support wheels with one wheel above the stair as shown.

The wheel on the other side of the arm must not touch the ground.

3.7 Speed control mode



Rotating the speed control clockwise increases the climb/descent speed.

Rotating it anti-clockwise decreases the climb/descent speed. Movement will cease when the control is wound fully anti-clockwise.

3.8 Climb/descent mode



The graphic next to the climb/descent switch indicates the position to place the switch to climb or descend stairs.

3.9 Check the battery capacity



Some models display the battery capacity in percentage. When the percentage is showing 100%, the battery is fully charged.

3.9 Check the battery capacity continued...



Some models display the battery capacity by using an 8-grid graphic. When all 8 grids are lit, the battery is fully charged.



When the power display is less than 20%, or the graphic displays only 3 grids, the battery power is low and the battery should be recharged or replaced.




When the power display is 10% or only one grid is displayed on the graphic, there is sufficient power remaining for the machine to complete another 40-55 steps.

4. NORMAL OPERATION

 **WARNING:** Only trained operators can use this machine!

 **WARNING:** Practice driving without a load, and at low speed.



 **WARNING:** Always use both hands to operate this machine.

4.1 Picking up a load



Lower the toe-plate and insert the plate under the cargo. Be sure to secure the load with the safety strap.

4.2 Operating on flat ground

	Tilt the stair climber back until you reach the point of balance.
	Use the stair climber like a trolley, moving forward while keeping the load in balance.


Note: Turn off the power switch when using the stair climber on flat ground, to avoid inadvertent activation of the climb motor.


4.3 Operating on a slope

	Adjust the climbing arm to avoid it touching the ground during use. Tilt the stair climber and find its point of balance.
	Pushing a load downhill, the operator should position themselves above the stair climber. For heavy cargo or steep slopes, gain assistance from colleagues to maintain safe operation.
	Manoeuvring up a slope, the operator should position themselves above the stair climber. For heavy cargo or steep slopes, gain assistance from colleagues to maintain safe operation.

Note: Turn off the power switch when using the stair climber on a slope to avoid inadvertent activation of the climb motor.

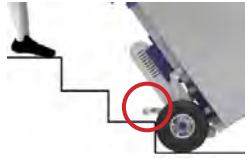



4.4 Ascending stairs

 **WARNING:** When ascending the operator will feel an initial tilting force. Counteract the force to maintain balance while climbing.

 **WARNING:** Do not allow people to stand below the machine while ascending. Be sure to maintain balance at all times to prevent the machine tipping and endangering the operator.


	<p>Turn on the power switch. The LCD screen will display the available battery capacity.</p>
	<p>Set the mode switch to UP mode.</p>
	<p>Rotate the speed control mode knob to set the desired climb speed.</p>
	<p>Tilt the stair climber to the point of balance.</p> <p> WARNING: Adjust the support wheels to prevent the climb motor casing colliding with the step.</p>
	<p>Pull the stair climber backwards, letting both tyres touch the step riser. The operator should position themselves 2 or 3 steps above the tyres, holding the handrail.</p>

4.4 Ascending stairs continued...




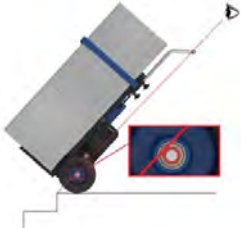


	<p>Adjust the climbing arm with its wheels just above the step, ensuring the wheels on the opposite end of the climbing arm do not touch the ground, as shown in the graphic.</p>
	<p>Maintaining the point of balance of the machine, press and hold the operating switch to begin climbing the stairs. The stair climber will cease climbing when the button is released.</p> <p>⚠ WARNING: Release the button as the tyres touch the next stair tread. The motor will run on for a short time. Failure to account for this slight run-on may result in the support wheels contacting the next step, creating instability.</p>
	<p>The support arms will lift the machine, climbing one step. Do not pull on the stair climber, simply maintain balance throughout the lifting action, resisting any tipping reaction.</p>
	<p>Pull the stair climber to the risers of the next step and repeat the climbing operation. Always hold the machine's handrail during the climbing process.</p>

4.5 Descending stairs


- ⚠ WARNING:** When descending the operator will feel an initial tilting force. Counteract the force to maintain balance while climbing.
- ⚠ WARNING:** Do not allow people to stand below the machine while descending. Be sure to maintain balance at all times to prevent the machine tipping and endangering the operator.


	<p>Turn on the power switch. The LCD screen will display the available battery capacity.</p>
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4.5 Descending stairs continued...



	<p>Set the mode switch to DOWN mode.</p>
	<p>Rotate the speed control mode knob to set the desired descent speed.</p>
	<p>Tilt the stair climber to the point of balance.</p> <p>⚠ WARNING: Do not over tilt to prevent the motor cover colliding with the steps.</p>
	<p>For the first step, slowly approach the step edge with the machine until an axis running parallel to the stair climber passes through the wheel as shown in the diagram, and intersects the lip of the first step.</p> <p>For subsequent steps, pull the stair climber backward until the tyres touch the stair riser.</p>
	<p>Maintaining the point of balance of the machine, press and hold the operating switch to begin descending the stairs. The stair climber will cease descending when the button is released.</p> <p>⚠ WARNING: Release the button as the tyres touch the next stair tread. The motor will run on for a short time. Failure to account for this slight run-on may result in the support wheels contacting the next step, creating instability.</p>
	<p>Repeat the descent action at each step. The operator should always hold the handrails during the descent process.</p>

4.6 Transport

 **WARNING:** Make yourself aware of the stair climbers weight, and transport instructions.

 **WARNING:** Always ensure the stair climber is securely fastened in accordance with local road laws.

 **WARNING:** Always turn the stair climber off before transporting.

	Fold up the loading board.
	Retract the extendable handrail.

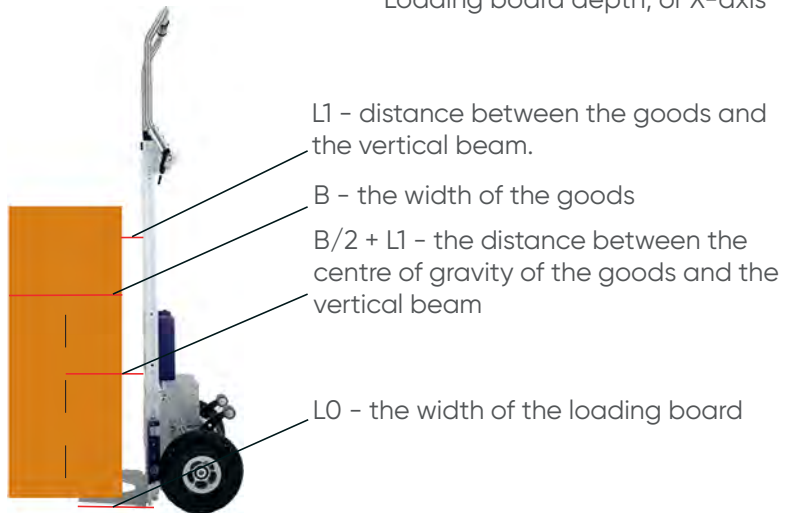
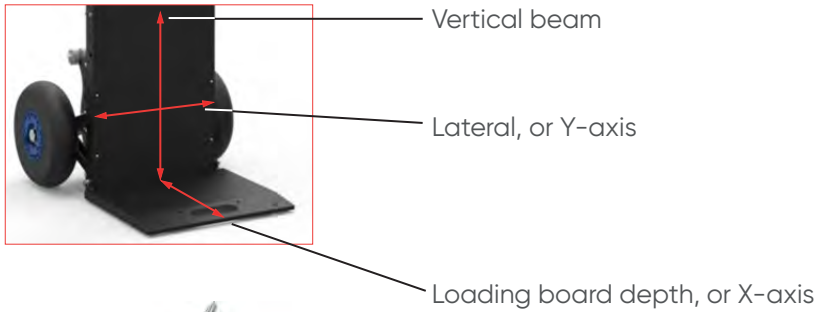
4.7 Cargo loading method and carrier curve

When loading cargo onto the loading board, adjust the position of the load to keep the cargo in balance laterally, shown as the Y-axis in the following diagram. Always strap the load to the vertical beam of the stair climber. Ensure the load's centre of gravity is within the depth of the loading board, represented as the X axis in the following diagram.

Loads of irregular shape may change the distance from the centre of gravity to the stair climber's vertical beam, requiring the load to be adjusted to avoid machine damage and safety hazards caused by improper loading.








For the relationship between the weight of the cargo and its distance from its centre of gravity to the vertical beam, refer to the diagram over the page.





4.7 Cargo loading method and carrier curve continued...



5. MAINTENANCE

5.1 Battery pack

-  **CAUTION:** Never handle the battery with wet or moist hands.
-  **NOTE:** Ensure the climber is protected against excess humidity.
-  **NOTE:** Charge the battery pack after each use.
-  **NOTE:** Protect the charger and it's cables for oil, grease, aggressive cleaning agents, thinners, or damage.
-  **NOTE:** Always follow the charger operating instructions.
-  **NOTE:** Always keep the plugs and electrical contacts dry.
-  **NOTE:** A new battery will only reach full capacity after several charges.

	Turn off the main switch.
	Pull out the battery pack.
 <p>Charger hole</p>	Connect to the charger.
	Be sure to follow the charging instructions.

5.1 Battery pack continued...

Storage:

- For long-term battery storage, charge the battery to 50% charge and store in a dry, well ventilated space. Charge every 3 months.
- The battery and charger should be stored in a clean, dry, well-ventilated space, away from fire or heat, and avoiding contact with corrosive materials.
- The optimum charging temperature is 0-40°C. Temperatures outside this range will reduce battery performance and life.

Transportation:

- The battery and charger should be well packaged for transport to prevent excessive vibration, shock, or crushing. They should be well protected against weather.

Maintenance:

- Store the battery at between 40-60% charged capacity.
- For batteries that will not be used for extended periods, deep-cycle the battery by completely charging and discharging every three months. Then recharge to 50% charge using the correct charger.
- Do not disassemble the battery pack during maintenance as it's performance will reduce.
- Unauthorised battery disassembly or cell removal will invalidate your warranty.

Troubleshooting:

Symptom	Possible Cause	Rectification
No battery output	Battery cable not connected	Connect the cable as shown in these instructions
	Battery discharged	Charge the battery
	The fuse is blown	Replace the fuse
Charger power light is off	Input charger plug is incorrectly inserted	Connect the mains supply plug per these instructions
Battery cannot be charged	Charger output plug loose	Reseat the output plug
	Battery pack is fully charged	Use battery pack normally

5.1 Battery pack continued...

Battery warranty period:

- The warranty period of this battery is 12 months from date of delivery, 500 cycles, and less than or equal to 80% capacity (whichever occurs first).


Battery handling precautions:

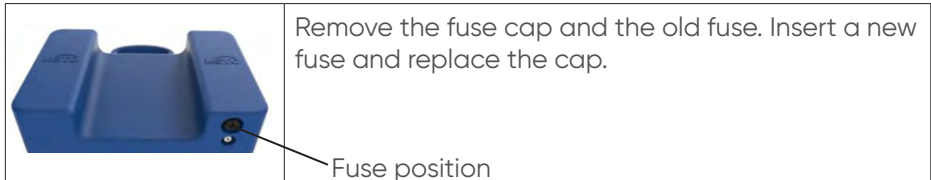
- Do not immerse the battery in liquid; avoid getting it wet.
- Do not charge, use or store the battery near a fire or heat source. Keep away from flammable or explosive materials. If the battery leaks or releases a strange odour, move it away from all flammable materials.
- Fully charge the battery before use. Do not reverse the battery polarity. Do not short-circuit the battery with wire or metal objects .
- Do not heat or try to burn the battery. Do not nail, knock, or crush the battery. Do not place in a pressure vessel or microwave.
- Do not charge in corridors, fire escape routes, or exits. Do not charge in an enclosed space. Avoid exposure to sun, high temperature, or rain when charging.
- Do not continue to charge once fully charged. Do not connect the battery into series or parallel with other batteries.
- Stop using the battery if during charging it deforms, discolours, gets hot, or gives off odours. Disconnect it and do not use it further.
- Charge, use, and store the battery away from static electricity.
- Always charge under supervision. Do not charge overnight while unattended.
- In case of electrolyte leakage, avoid contact with skin. In case of contact with skin or eyes, rinse the affected area with water immediately and seek medical assistance.
- Do not use the battery on any appliances other than the stair climber for which it is designed.
- Do not attempt to disassemble the battery.
- Using the battery in hot environments, or in direct sunlight on a hot day may cause the battery to overheat, reducing battery performance and shorten its life.

5.2 Changing the fuse


 **CAUTION:** Disconnect the charger before attempting to change fuses.

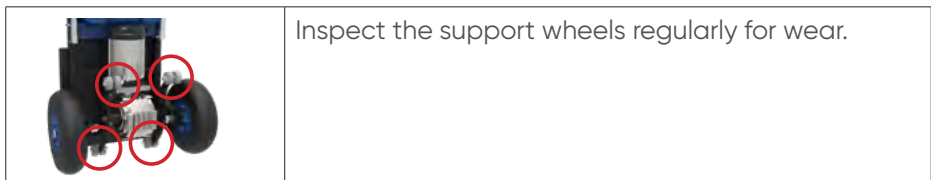
 **NOTE:** Never try to mend or bridge defective fuses.

 **NOTE:** Replace fuses with the same amperage rating.



5.3 Inspecting the support wheels

 **NOTE:** Regularly check the wear on the support wheels. If they are damaged or badly worn, contact XSTO Australia immediately.



5.4 Recycling



Your stair climber has a long service life. However, if your machine is nearing the end of its life, you can return the parts to XSTO Australia for recycling.

6. MALFUNCTION AND TROUBLESHOOTING

6.1 Potential problems and solutions

Symptom	Possible Cause
The stair climber will not operate.	<p>Check the battery's charge. If less than 20%, recharge the battery.</p> <p>Test the fuse. If blown, replace with a serviceable fuse.</p> <p>If the problem persists, contact XSTO Australia</p>
Battery cannot be charged	<p>Check the battery capacity and voltage.</p> <p>Check that the charge indicator light is functioning normally.</p> <p>If the problem persists, contact XSTO Australia</p>
Speed switching failure	<p>Disconnect power before removing and testing the speed switch function. Replace the switch if faulty.</p> <p>If the problem persists, contact XSTO Australia</p>
Descent function unavailable - can only climb	<p>Disconnect power before removing and testing the climb/descend switch function. Replace the switch if faulty.</p> <p>If the problem persists, contact XSTO Australia</p>

7.0 WARRANTY AND RESPONSIBILITY

7.1 Warranty

The warranty period of the motor, gearbox, and control panel is 12 months under normal use. The switches have a 3 month warranty period. Any damage caused by the following is specifically excluded from the warranty:

- Damage caused by overload
- Damage from rough handling
- Inappropriate maintenance
- Unauthorized structural changes
- Improper use of equipment and accessories
- Damage from incorrect operation
- Natural wear of castors, straps etc.
- Inadequate maintenance
- Battery is not correctly charged

Any of the following conditions identified during the warranty period will incur the cost of materials and service charges:

- Damage from improper use, maintenance, or storage
- Dismantling damage caused by third-parties

The following parts are not covered by the warranty:

Name	Figure	Code
Operating button		B-1-00030
Climb/descend switch		C-2-00487

Despite some products not being covered by warranty, we emphasise our commitment to support you in sourcing and supplying components.

7.2 Responsibility

The manufacturer is not responsible for any cases of damage caused to the stair climber from the following cases:

- Inappropriate equipment operation
- Not following the operation manual
- Unauthorised repair, or dismantling
- The installation of special accessories not specifically for these models
- Deliberate modifications to the machine
- Operation in an overload condition
- Operation at low battery capacity

We will not notify you if the contents of this specification are changed due to improved product quality or upgraded technical parameters. For the latest product information, please contact XSTO Australia.

8.0 ACCESSORIES AND METHODS OF USE

8.1 Quick charger



The quick charger can cut charging times in half. Details and instructions are shown in the quick charger manual.


8.2 Vehicle charging converter



You can use this charger to charge the stair climber battery from your vehicle.



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