Owners Manual

sdl
The freedom
to take control

Lifestyle Electric Wheelchair

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OPI13539b Shark Controller
12.08.08

Motability

ISO9001
FM34483

European Mobility Group

BHTA

CONTENTS

IMPORTANT SAFETY INFORMATION

Please read and understand this Instruction Manual before using the wheelchair for the first time.

The Lifestyle is a Class B (EN12184:1999) electrically powered wheelchair, compact and manoeuvrable for use indoors and outdoors and is particularly suited for use with wheelchair accessible vehicles.

It is capable of negotiating some outdoor obstacles up to 1½" (38mm) high.

It is designed for people who are unable to walk or who have a walking impediment. The wheelchair can either be controlled by the occupant or by an able bodied attendant via an optional control.

The maximum intended user weight is 20stone (130kg).

Use on soft ground such as a wet lawn or deep gravel and use on very slippery surfaces such as ice should be avoided.

It will adequately climb and can be used safely (straight up or down) on slopes up to 10 degrees (approximately 1 in 5). Do not attempt to climb or descend slopes greater than this.

Never attempt to traverse a slope at an angle, this will cause the wheelchair to become unstable and increase the risk of it tipping over causing damage and injury.

The drive motors also act as the wheelchair brakes. These motors (and therefore the brakes) can be manually disengaged to allow a carer to manoeuvre the wheelchair by pushing. Pushing the wheelchair on a slope will be extremely dangerous if the brakes are disengaged.

The operator of the wheelchair has a responsibility to ensure it is kept in good safe operating condition.

The joystick controller could cause the wheelchair to come to a sudden stop. In situations where this might affect the safety of the operator, the fitting and wearing of a seatbelt is required.

The controller should always be switched off before getting in and out of the wheelchair.

Do not operate the wheelchair if it behaves erratically, or shows abnormal response, heating, smoke or arcing. Turn the system off at once and consult your service agent.

Before moving off, ensure the batteries are charged enough to complete the round trip.

Do not carry passengers – operator use only.

Do not drive your wheelchair with its seat elevated or backrest reclined.

When moving, do not turn at full speed, especially while travelling downhill.

In the event of the fault indicator flashing while driving, the operator must ensure the system is behaving normally. If not, the system should be turned off and a service agent contacted.

Negotiating Obstacles and Kerbs

Your wheelchair is capable of climbing an obstacle 1½" (38mm) high. Therefore mount and leave pavements via ramps. Approach an obstacle carefully (head on - never at an angle) until the front wheels make contact. Push the joystick forward until both front and rear wheels have cleared the obstacle. This may require you to set the speed control to a higher value. Never take a 'run up' to try to get over obstacles as the jolt could cause the wheelchair to tip over and potentially damage the front wheels.

Stability & Balance

To ensure stability and safe control of your wheelchair you must at all times maintain proper balance. The wheelchair is designed to remain stable and upright during normal use, so long as you do not move your centre of gravity outside the normal seating position.
Before reaching or bending forward, ensure power is off. Do not lean your body further than the length of the armrest. Attempting to pick up anything from the floor is likely to shift your centre of balance sufficiently to make the wheelchair unstable. Exercise extreme caution or seek assistance.
For the same reason, do not lean backwards, particularly over the top of the backrest. Do not hang heavy loads from the backrest.

The driving performance of the wheelchair can be influenced by strong magnetic fields such as emitted by portable telephones. It is recommended that the joystick controller is switched off when using this type of equipment. Be aware that the wheelchair itself can disturb electromagnetic fields such as those emitted by alarm systems of shops.

CE

Steering Developments is ISO9001.2000 certified which ensures quality at all stages of the development and production of this wheelchair.
This product is manufactured to comply with the Medical Devices Directive 93/42/EEC.

WARRANTY

Steering Developments Ltd warrants your Lifestyle wheelchair for a period of 12 months. This warranty is subject to the following conditions:

- The manufacturer will not accept responsibility for damage caused by misuse or the non-observance of the instructions set out on the Owners Manual.
- During the period of warranty, any parts that have become defective due to faulty workmanship or materials, will be repaired free of charge by Steering Developments.
- The warranty shall be forfeited should any unauthorised alteration be made to the equipment.
- The purchaser's statutory right under the Consumer Protection Act are not affected.

Limitation of Liability

This warranty does not extend to the consequential costs resulting from fault clearance, in particular freight and travel costs, loss of earnings, expenses etc.

Steering Developments shall not be liable for:

- Natural wear and tear.
- Inappropriate or incorrect use.
- Defective assembly or setting up by the purchaser or third parties.
- Defective or neglectful treatment.
- Accidental damage.

REPAIRS

There are no user-serviceable parts in the Lifestyle wheelchair. Please contact Steering Developments if your system develops a fault.

CLEANING, MAINTENANCE & SERVICE

The frame and wheels should be regularly cleaned with a damp cloth. Use a vacuum cleaner from time to time to remove dust and debris from the seat fabric. Any stains should be removed with a proprietary fabric cleaner (automotive type upholstery) – please follow instructions carefully.

Never use a high pressure water hose to clean the wheelchair.

All wheelchair components should be regularly checked for loose, damaged or corroded connectors, terminals or cabling. All cables should be restrained to protect them from damage. Damaged components should be replaced.

All switchable functions on the electronic control system should be regularly tested to ensure they function correctly.

All electronic components should be kept free from dust, dirt and liquids. If necessary, wipe clean with a cloth dampened with warm water. Do not use solvents or abrasive cleaners.

There are no user–serviceable parts in any of the electronic components. Do not attempt to open any case, or undertake any repairs, or the warranty will be voided.

The joystick gaiter should be regularly checked for punctures and wear that might allow ingress of foreign bodies. Damaged gaiters should be replaced. Gaiter replacement should only be performed by an approved service technician.

We strongly recommend that your Lifestyle wheelchair is serviced annually to ensure it remains in good working order. Please contact your dealer for details.

TRANSFERING TO AND FROM THE CHAIR

Transfers should only be undertaken on flat, level ground. Ensure the drive motors are engaged and that the joystick controller is switched off. Swinging one or both armrests vertically and removing the footrests may be helpful.

When entering or leaving your wheelchair, do not stand on the footrests.

FEATURES OF THE WHEELCHAIR

Standard Features – adjustable

Recaro car seat
Seat height (electrical)
Seat back recline (manual)
Armrest angle (manual)
Joystick position – Right of Left hand via swinging arm
Footrest height and angle (manual)
Seat squab length
Puncture proof tyres
Removable headrest

Optional Features

Attendant Control Joystick
Seat back recline (electrical)
Elevating leg rests (manual and electric)
Automatic tie down (to floor of vehicle)
Choice of seat material and style

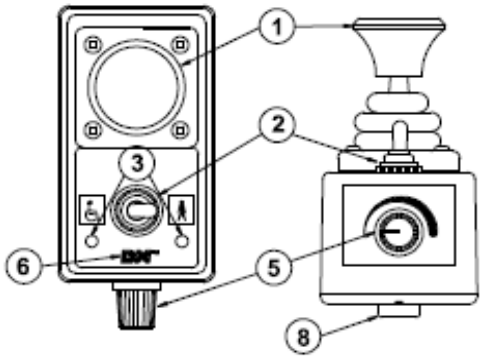
JOYSTICK CONTROLLER

The Shark controller can only control the seat up/down and the backrest recline functions. When a wheelchair has more electrical functions, such as elevating footrests, it is necessary to use a different (Dolphin) control.

Shark DK-REMD Controller

ATTENDANT CONTROL (WHERE FITTED)

The attendant control will only operate when the chair is connected to the **Dolphin** controller. The controller must also be switched on.



1. Joystick Control.
2. User/Attendant Toggle Switch.
3. Mode Status Indicator
5. Speed Control
6. On/Off Status (will flash if a fault is present).
8. DXBUS Cable Socket

The SHARK DK-REMD Control Units

DK-REMD01

DK-REMD11

DK-REMD21

DK-REMD31

1 On/Off
2 Decrease Speed
3 Increase Speed
4 Horn
5 Battery Gauge
6 Speedometer
7 Attendant Control LED
8 Service Indicator LED
9 Joystick
10 Seat Function Button
11 Headlights
12 Right Indicator Light
13 Left Indicator Light
14 Hazard Lights

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Turning SHARK On/Off and the Sleep Feature

Turning the Power ON

	Press the On/Off button. All Battery Gauge indicators will light briefly. Either the current battery charge or Lock Mode will then be indicated.

If SHARK is turned on while the joystick is out of neutral, an OONAPU fault will be displayed. Release the joystick back to neutral and the fault will disappear.

OONAPU (Out Of Neutral At Power Up) is a feature that prevents SHARK from driving if the joystick is out of neutral when SHARK is either turned on or an inhibit condition removed.

This feature prevents sudden and unexpected powerchair movements.

Turning the Power OFF

	Press the Power button. All LED's will turn off.

In case of an emergency, you may use the Power Button to turn SHARK off.

Sleep Mode

Some SHARKs may be supplied factory programmed with a **Sleep** Feature that will automatically turn SHARK off if the joystick has not been moved within a certain period of time (programmable).

After a certain amount of time with no joystick movement SHARK will automatically turn itself off. Sleep mode will not be entered while programming.

When Wakeup style has been set to 'Joystick and Buttons', pressing ANY button or displacing the joystick will bring the system out of Sleep mode.
When Wakeup style has been set to 'Buttons Only', pressing the On/Off button ONLY will bring the system out of Sleep mode.

The Sleep feature may be turned on or off, the method for bringing the system out of Sleep Mode can be changed, and the amount of time before Sleep mode is entered can be modified.

SHARK may enter Sleep Mode while charging. This will not affect the charging of SHARK.

Locking SHARK

SHARK's **Lock** function is disabled (off) as supplied from the factory. However this programmable feature can be enabled and used to prevent unauthorized people from turning SHARK on.

To LOCK SHARK

	While the power is ON, press and hold the Power button for 4 seconds. The display will turn off immediately. After 4 seconds all LED's will flash briefly and the horn will sound a short beep. The powerchair will then turn off.

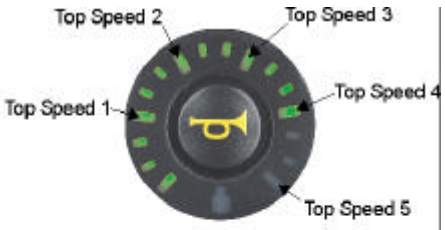
To UNLOCK SHARK

	While SHARK is locked, press the Power button to turn SHARK on. All LED's will flash briefly. The Battery Gauge LED's will then perform a slow right-to-left chase.
	Press the Horn button twice before the countdown is completed (approximately 10 seconds). The current state-of-charge will then be displayed and SHARK may be operated normally.

If the user does not press the Horn button twice before the countdown is complete, the Horn will sound a short beep and SHARK will turn itself off.

The unlock sequence must be completed successfully before SHARK will drive again.

Adjusting the Driving Speed



Top Speed 1
Typically 20% but programmable using the **Lowest Forward Speed** parameter.

Top Speed 5
Typically 100% but programmable using the **Maximum Forward Speed** parameter.

The user can adjust the chair's top speed to suit their preferences and environment. The currently selected top speed is shown on the Speedometer and can be adjusted using the "Increase Speed" (Hare) and "Decrease Speed" (Tortoise) buttons.

Each of the speedometer's 6 large LEDs typically represent 0%, 20%, 40%, 60%, 80% and 100% of the chair's absolute maximum top speed

REMD supports 2 modes of top speed adjustment – "5 Speed" and "VSP" modes.

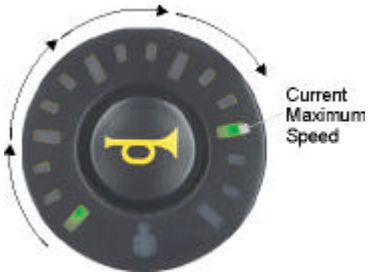
In the "5 Speed" mode pressing the Increase Speed and Decrease Speed buttons steps between one of the 5 top speeds 20% to 100%.

In the "VSP" mode a quick single press of the Increase Speed and Decrease Speed buttons also steps between one of the 5 speeds 20% to 100%. However, pressing and holding the Increase Speed (Decrease Speed) Button ramps the top Speed up (down) in fine steps, allowing practically any top speed to be selected. This can be particularly useful for matching the chair speed to the walking speed of an accompanying pedestrian.

VSP is an extremely powerful feature, allowing both fast stepping between fixed top speeds by using quick presses or finer control using long presses. The VSP feature can be enabled or disabled. Users can toggle between the "VSP" and "5 Speed" Modes by holding down both the Increase Speed and Decrease Speed Buttons for approximately 2 seconds while the unit is powered up. The control unit will beep when the mode has been changed.

Powerchair driving performance (speed, acceleration, etc.) can be further customized to suit the needs and preferences of each user.

Using the Speedometer



The Speedometer is used to gauge the relative speed of the chair in comparison to the maximum speed possible. The right-most LED indicates current maximum speed, which can be adjusted using the Increase (Decrease) Speed button. Refer to section 2.3 for further details. Using the joystick, as the speed of the chair increases, the LED's will fill in until maximum speed (as displayed) is reached.

If the bottom, left-most GREEN LED is flashing SHARK is in SPEED LIMIT mode, which limits the drive speed to a pre-programmed value, typically when a seat is raised or tilted and driving too fast may be dangerous. Reference your SHARK Power Module Installation Manual for further details.

*A programmable parameter **Speedo Enable** allows the Speedo to be disabled. If disabled, the Speedometer will display the user selected top speed only and will not indicate current chair speed in relation to top speed. Refer to dealer for further information .*

Using the Horn

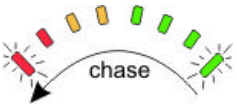
Press the Horn button.

The horn will sound for as long as the button is pressed.

The SHARK Battery Gauge

	The Battery Gauge is used to indicate power on and provides an estimate of the remaining battery capacity. **Any green** LEDs lit indicate well charged batteries. If only **amber and red** LEDs are lit, the batteries are moderately charged. Recharge before undertaking a long trip. If **only red** LEDs are lit, the batteries are running out of charge. Recharge as soon as possible.

The following table indicates what the gauge will display for any given state.

Display	Description	This means…	Notes
	All LEDs OFF	Power is OFF	
	All LEDs ON steady	Power is ON	Less LEDs imply a reduced battery charge.
	Left RED LED is flashing	Battery charge is low	The batteries should be charged as soon as possible.
	Right to left ‘chase’	SHARK is being brought out of Lock mode	To unlock SHARK, press the Horn button twice within 10 seconds.
	Left to right ‘chase’ alternating with steady display	SHARK is in programming, inhibit and/or charging mode	The steady LEDs indicate the current state of battery charge.
	All LEDs flashing slowly	SHARK has detected an Out Of Neutral At Power Up (OONAPU) condition	Release the joystick back to neutral.

Attendant Control LED

	When the Attendant Control Unit is activated, the ACU LED will light up and remain lit until the attendant relinquishes control.

The REMD Service Indicator Light

	The amber Service Indicator LED is dedicated to displaying SHARK Flash Codes. For a list of the Flash Codes and what faults they indicate, Refer P18.

Using the Joystick

	Moving the joystick will cause the powerchair to drive in that direction. The amount of joystick movement will determine the speed that the powerchair will move in that direction.

For safety reasons, joystick movements are ignored when SHARK is first turned on (refer P14). SHARK will slowly flash the Battery Gauge to indicate this.

Simply release the joystick back to the neutral position and the error will disappear.

Using the Seat Function Button

Two seat functions are available for individual adjustment and are accessed via the Seat Function Button.

Press the Seat button once to toggle the control unit from Drive mode to Seat mode. Seat Function 1 will be active as noted by the amber coloured “1” LED.

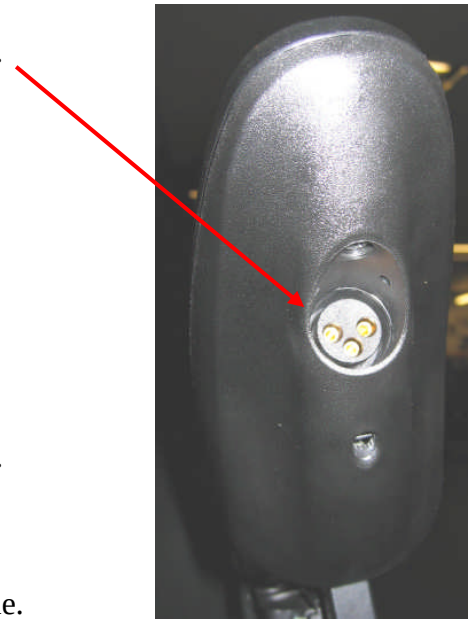
To adjust Seat Function 1, use the joystick Forward/Reverse.

To access Seat Function 2, either press the Seat Function Button again or move the joystick right. The amber coloured “2” LED will light. Use the joystick Forward/Reverse to set the Seat Function 2 adjustments. Moving the joystick left/right while in Seat Mode toggles between Seat Function 1 and Seat Function 2.

Pressing the Seat Function Button again (3 presses are a complete cycle) puts SHARK back in Drive Mode. Use the joystick to control speed and direction as normal.

Battery Charging using the Shark Controller

Plug the battery charger into the charging socket located at the front of the Shark controller.



The battery gauge will indicate the system is being charged by cycling between a left to right chase and displaying the current battery state of charge.

Driving is prevented (inhibited) while the system is being charged.

Once the Battery Charger displays a “full” battery charge, the charger plug may be removed.

Note:
If the Shark controller is turned off, or goes into sleep mode while charging, charging will continue.

Although the Shark Information Gauge will display an approximate battery level, the Battery Charger should be used as the sole judge of charge completion.

See also the Battery Charger instructions on Pages 28 & 29.

Battery Lifespan

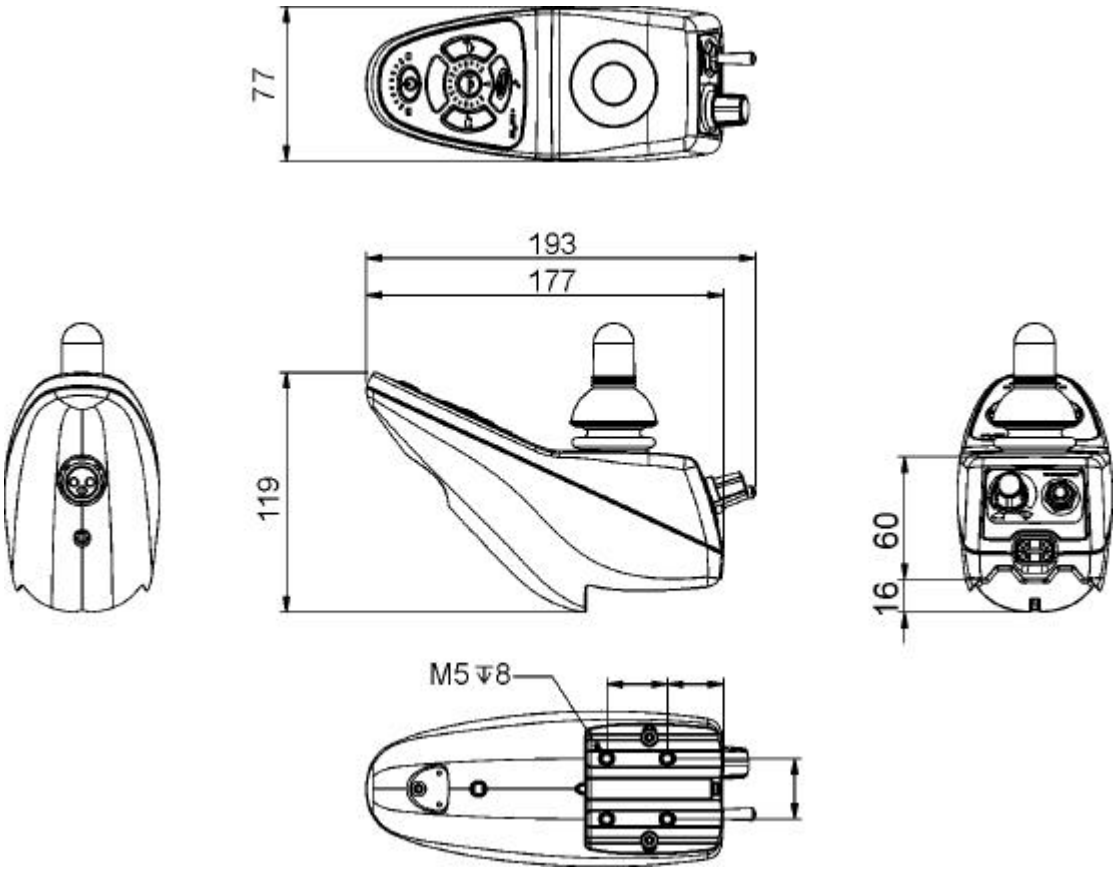
The life of the battery will depend on usage. In light mobility applications the batteries could deliver up to 3 years lifespan whereas, if used more heavily, the lifespan could be 18 months.

Tips

- Daily users – charge after use.
- Occasional users – charge before an outing and always after use (ideally when the battery gauge reaches approximately 50%).
- When storing the wheelchair for more than 2 weeks, it is advisable to fully charge the batteries and disconnect them. Check and re-charge the batteries monthly.
- Try to avoid switching off the charger before the charge complete indicator comes on. If personal circumstances make this impossible, a heavy-duty charger may be required. Please contact the manufacturer for further information.
- Never allow the batteries to run completely flat – this can cause irreparable damage and greatly shorten their lifespan.

Physical Specifications

Parameter	SHARK Control Unit			
Material	Plastic			
Protection Rating	IPx4			
Shipping Weight	400 grams			
	Min	**Nominal**	**Max**	**Units**
Force required to operate joystick			800	grams
Force required to operate buttons	100		300	grams
Operating Temperature Range	-25		50	°C
Operating Temperature Range – SHARK Programming Adapter	0		50	°C
Storage Temperature Range	-40		65	°C
Operating Humidity Range	0		90	%RH



Intended Use and Regulatory Statement

Intended Use

The Shark Control Unit and Power Module are intended to provide speed and direction control for small or medium sized power wheelchair systems utilizing dual DC motors and integrated park-brakes. The controller may also operate up to two actuators (for example, seat lift and tilt) and lighting. The intended power source is a 24V battery. The SHARK controller will respond to user input demand via the joystick input, in terms of speed and direction.

Device Classification

Europe

The SHARK Controller is a component of a Class I medical device as detailed in the Council Directive 93/42/EEC concerning Medical Devices.

USA

The SHARK Controller is a component of a Class II medical device (Powered Wheelchair) as detailed in 21 CFR § 890.3860.

Compliance and Conformance with Standards

In accordance with the device classification, the SHARK wheelchair controller is designed to comply with the requirements of the European Medical Device Directive 93/42/EEC and 21 CFR § 820.30.

The SHARK Controller has been designed such that the combination of the wheelchair and the SHARK Controller, along with accessories as applicable, complies with the requirements of the MDD Harmonized standards EN12184 and EN12182 and the FDA Consensus standard ISO 7176 for performance.

Flash Codes

Flash codes indicate the nature of an abnormal condition directly from the SHARK Information Gauge. Without the use of any servicing tools, the condition can be simply diagnosed.

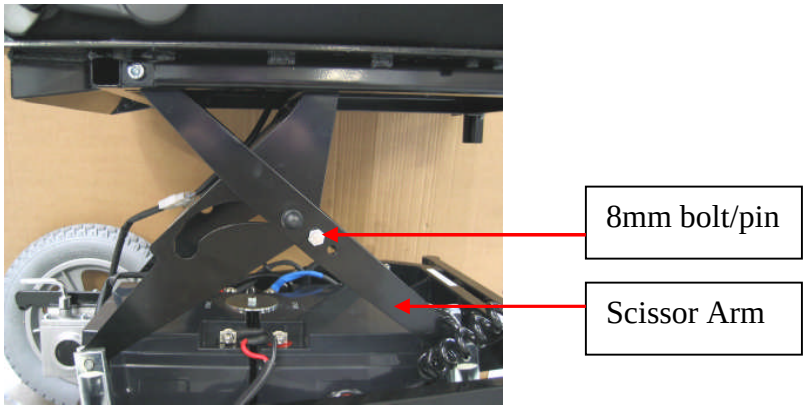
Flash Code	Description	
1	User Fault	Possible stall timeout or user error. Release the joystick to neutral and try again.
2	Battery Fault	Try charging the batteries. Batteries may require replacing. Check the batteries and cabling.
3	Left Motor Fault	Check the left motor, connections and cabling.
4	Right Motor Fault	Check the right motor, connections and cabling.
5	Left Park Brake Fault	Check the left park brake, connections and cabling.
6	Right Park Brake Fault	Check the right park brake, connections and cabling.
7	SHARK Control Unit Fault	Check the SHARK Communications Bus connections and wiring. Replace the Control Unit.
8	SHARK Power Module Fault	Check SHARK connections and wiring. Replace the Power Module.
9	SHARK Communications Fault	Check Battery voltage is greater than 17V. Check SHARK Bus Cable. Replace the SHARK Power Module. Replace the SHARK Control Unit.
10	Unknown Fault	Check all connections and wiring. Consult a service agent.
11	Incompatible Control Unit	The Control Unit is incompatible with the Power Module. Ensure the brand of the Power Module matches that of the Control Unit.

CHANGING THE BATTERIES

1. Elevate the seat to its maximum height.

2. With the aid of a second person, support the weight of the seat and carefully remove the bolt securing the rise/fall actuator to the top plate (17m spanners required).

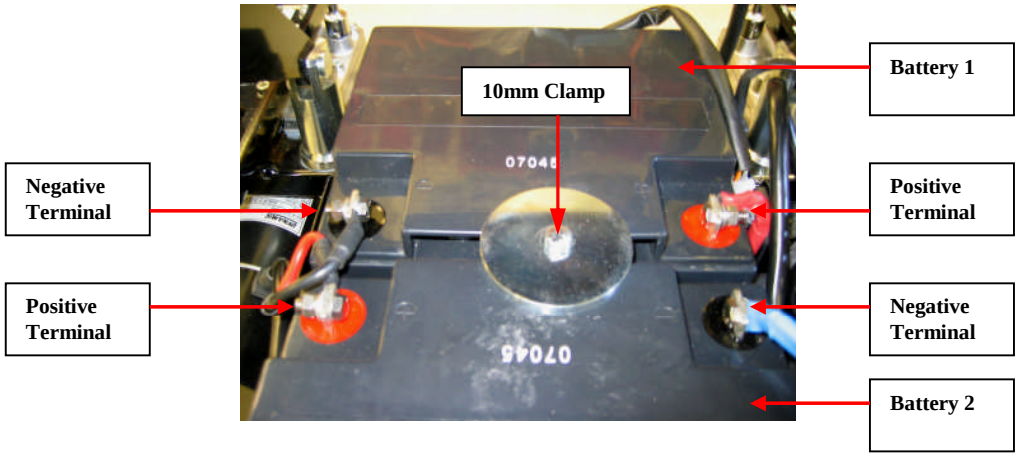
3. Insert a 8mm bolt (or similarly sized pin) into one of the scissor arms (see picture). This will maintain the seat in its maximum height position.



4. Remove the battery cover (secured with press studs) and remove the battery cable plug from the main power unit.

5. Disconnect the battery terminal leads taking care not to short the connections (10mm spanner required).

6. Loosen and remove the 10mm clamp (see picture).



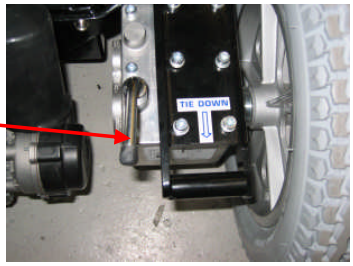
7. Carefully lift each battery from the box ensuring not to short the terminals on the wheelchair frame.

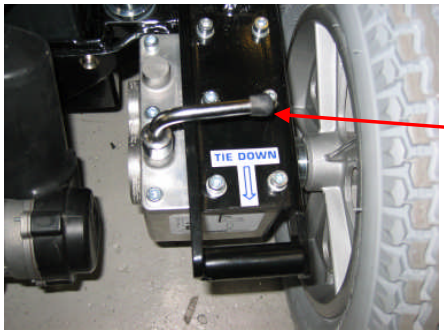
8. Re-assembly is a reversal of this process. Do not forget to remove the 8mm bolt/pin from the scissor arm before reconnecting the actuator.

9. Ensure battery cables are reconnected as shown.

ENGAGING / DISENGAGING MOTOR DRIVE

With the lever in this position, the motor drive is **engaged.**





Moving the operating lever to this position **disengages** the motor drive so the chair can be pushed manually. Take extreme care when on a slope to avoid chair running away!

USING THE LIFESTYLE AS A SEAT IN A VEHICLE

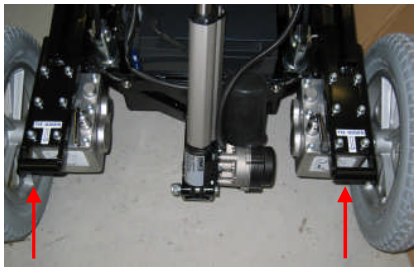
We recommend that, wherever and whenever possible, wheelchair users transfer to the seats installed in the motor vehicle and use the corresponding vehicle restraint systems, because this is the only way to ensure optimum protection of the user in case of an accident.

The Lifestyle is crash-tested, and has satisfied the requirements of ISO 7176-19. It is possible to use your Lifestyle as a seat in a vehicle, provided that the following is adhered to:

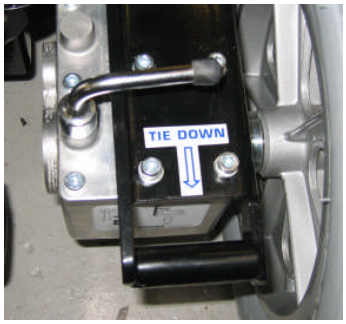
1. The wheelchair is facing forward, the joystick controller is switched off and the motors are engaged.
2. A 4-part tie down restraint system secures the wheelchair (one that conforms to ISO10542 part 2 and is suitable for a 100kg wheelchair). See below for the location of tie down points.
3. The occupant must be restrained independently of the wheelchair by a lap and diagonal safety belt, conforming to ISO 10542 part 3. Lifestyle lap belts are postural supports only and are not suitable as restraints during transportation.
4. Any detachable accessories or components of the wheelchair must be removed and stored securely in the vehicle luggage compartment during transportation.

The tie down points are clearly marked on the wheelchair frame (see photos). Follow the instructions (provided with the restraint straps) carefully to ensure a safe installation.

Location of front tie down points – one on each side



Location of rear tie down points



WHEELCHAIR TIE DOWN – ELECTRIC

An automatic tie down facility has been integrated into the design of the wheelchair frame. The kit is available as an optional extra. Refer to EZ Lock instructions supplied with the automatic tie down.

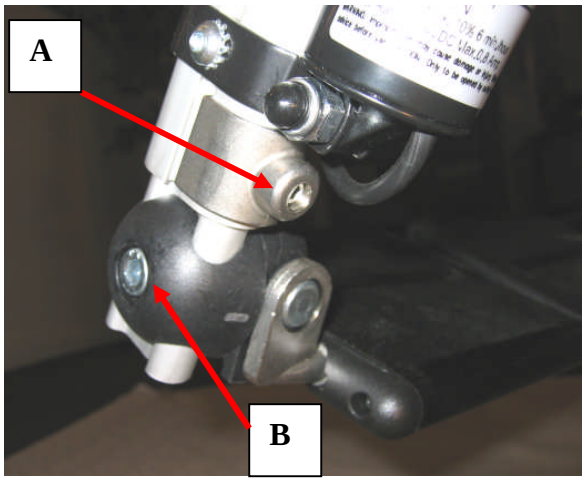
TRANSPORT OF WHEELCHAIRS IN A VEHICLE

When vehicles are in motion, unoccupied wheelchairs should be secured with a 4-point restraint system, suitable for a 100kg wheelchair. An unrestrained wheelchair is a serious risk to vehicle occupants in the event of an accident.
Any detachable accessories or components of the wheelchair must be removed and stored securely in the vehicle luggage compartment during transportation.
When transporting the Lifestyle in a vehicle, ensure the joystick controller is switched off and the motors and that the motors are engaged.

ADJUSTING THE FOOTRESTS & ARMRESTS

Adjusting the Footplate Length (height)

To adjust the length of each footrest, loosen the clamp screw **A** (4mm Hex Wrench) and slide the inner tube in or out of the housing tube. Tighten the clamp screw making sure the inner tube is securely locked.

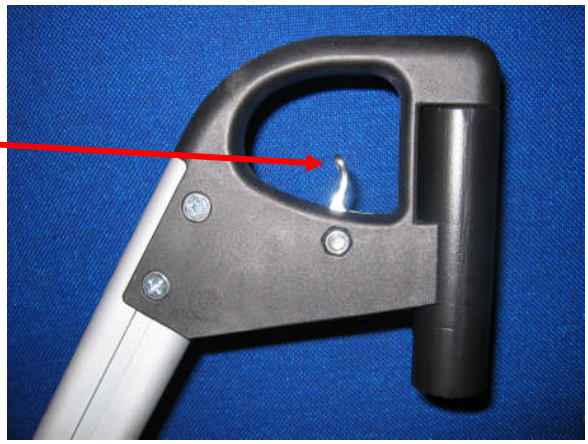


Adjusting the Footplate Angle

Loosen clamp screw **B** (6mm Hex Wrench).
The footplate can now be rotated to the desired angle. Tighten the screw.
The footplate can also be folded up to help getting in and out of the wheelchair.

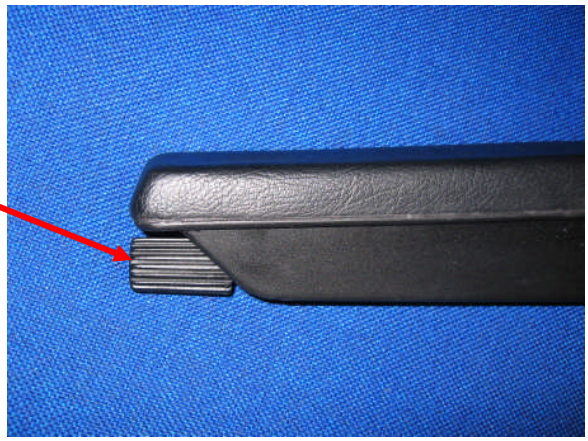
Folding/Removing the Legrest

To fold or remove the legrest, release the latch lever by pushing it backwards and at the same time rotating the legrest outwards. The legrest can now be lifted out of its socket. To replace, fit the legrest back in its socket and rotate back into position.

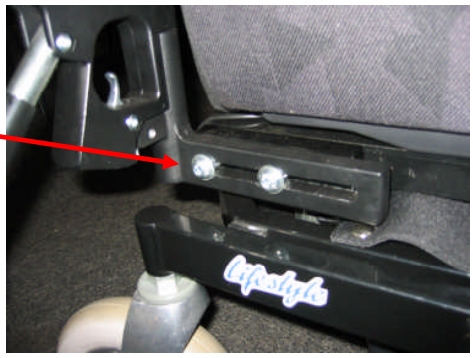


Armrest Angle Adjustment

To adjust the armrest angle, rotate the knob either way to attain the desired angle.



Sideways Adjustment of the Footrests



Loosen the 2 clamping screws (5mm Hexagon wrench).

Slide the footrest mounting bracket to the desired position.

Tighten the clamping screws.

<u>Joystick Controller – Swing-away Mounting Bracket</u>

The joystick can be swung to the side in order to allow the user to move closer to a desk or table.

Rotating the catch (located underneath the controller) releases the mechanism.

Make sure the catch is re-engaged before driving to avoid accidental movement of the joystick that could cause the user to lose control.

Release Catch

Manual Elevating Legrests

Elevating legrests enable the user to vary the leg angle from vertical to horizontal. Each legrest is fitted with a padded calf support to comfortably locate the leg.

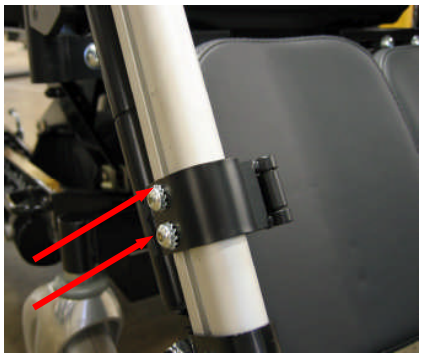
Users should be aware that the stability/balance of the wheelchair will be affected when the legrests are in an elevated position. Take extra care.

It is recommended that the legrests are returned to the non elevated position when encountering obstacles, ramps or any changes in slope.

Angle Adjustment

Push the release lever forward to activate the gas strut. This allows the legrest to rise against its own weight. Some assistance will be required to raise the weight of the users leg. Pushing the lever back will lock the legrest in position.
To lower the legrest, push the release lever forward again and press down on the legrest. Return the lever to the locked position.

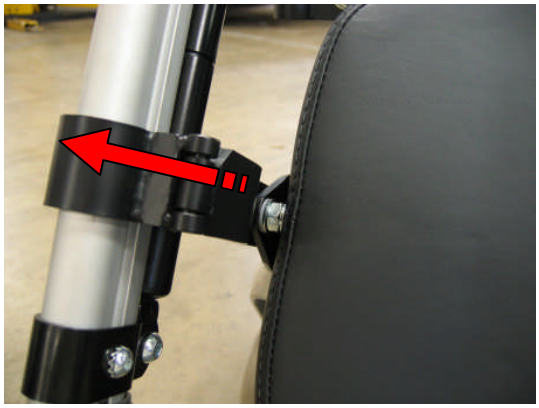
Calf Support Height Adjustment



Loosen the two socket head screws (4mm Allen Key), slide the calf support up or down to the desired position and tighten the screws.

Calf Support Hinge

The calf support bracket is hinged so that the support can be swung away to aid getting into the wheelchair.



FAULT MODES

Limp Mode

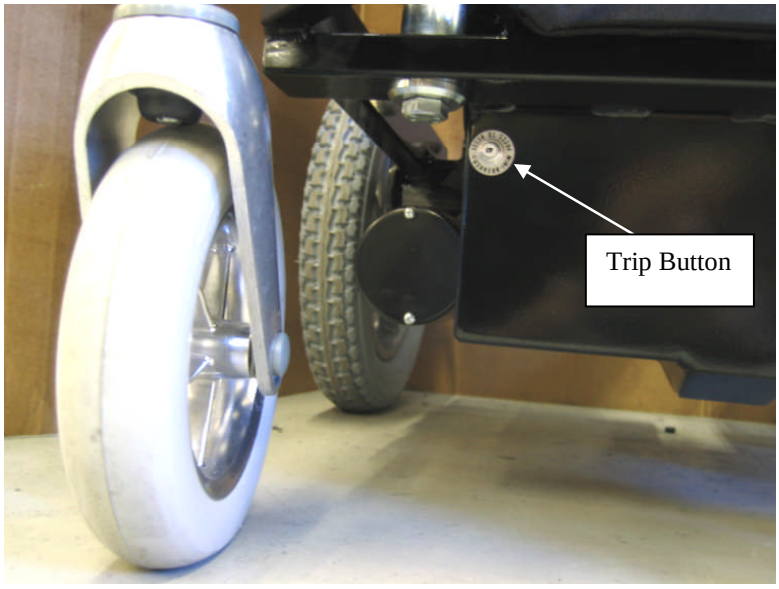
If the DK system detects some faults, it will revert to Limp Mode. This is a reduced speed mode that recognises problems, but allows the wheelchair user to limp home, where the problem can be assessed.

Circuit Breaker

If the electrical power fails, it may be that the Overload Protection device (circuit breaker) has operated. Press in the trip button to reinstate power.

The trip button is located in the battery box (see picture).

If the circuit breaker is continually tripping out, contact your dealer to rectify the fault.



Pro-Lite Battery Charger

The desk top charger is designed to provide fast automatic charging of your wheelchair lead/acid batteries.

Features
Short circuit protection.
Reverse polarity protection.
LED state of charge indication.
Power On connection.
3-stage charger – Constant current, Constant voltage & Float.

Please read these instructions before using the charger for the first time.

We recommend that you charge the batteries every night to maximise their life.

Instructions For Use

Make sure the charger is disconnected from the mains supply.

Connect the output plug to the socket at the front of the joystick controller.

Plug the charger into the mains (230v AC) and switch on.

Two red LEDs will illuminate, one to indicate the power is on and the second to indicate the initial bulk charge is taking place.

The yellow LED will be illuminated to indicate that the batteries are now being charged at a constant voltage, and that it is about 80% charged.

The green LED shows when the charger has switched over to float charge and the batteries are ready for use. The batteries should be left connected with the green LED illuminated until they are required for use.

When you are ready to use the wheelchair, disconnect or turn off the mains **first**, then disconnect the charger from the joystick controller.

Troubleshooting

If the charger is not correctly connected to the batteries the red power on LED will stay illuminated, no other LED will illuminate. The batteries are not being charged at this point.
Turn off mains supply and ensure charger is correctly connected and the electrical connections are sound. Reconnect the mains supply. The batteries should now charge.
Never allow the batteries to become **completely** flat as this can cause them to be damaged beyond further use.

Warnings

Batteries may emit explosive gas mixture during charging. Charge only in a well ventilated area. Avoid creating sparks or flames.

For indoor use only – do not expose to rain or moisture.

This charger is set for lead acid batteries only.

There are no user serviceable parts in this equipment. Do not attempt to open or tamper in ant way.

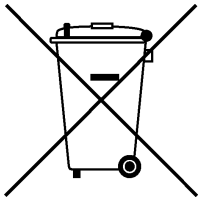
Check the charger and cables before use. Do not use if damage is discovered.

If the fuse fails in the mains plug, it must be replaced with a fuse of the same value (check rating on label).

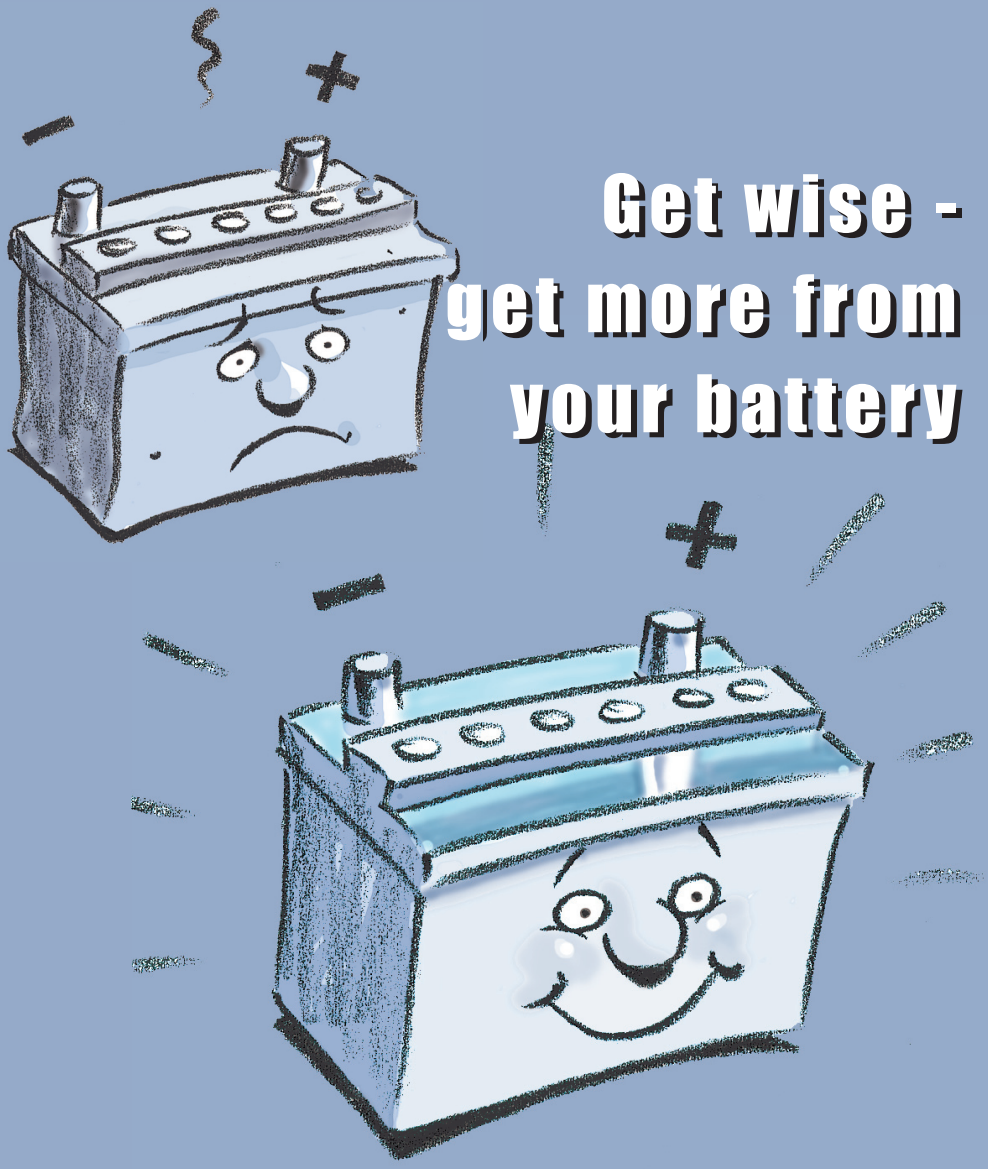
TECHNICAL SPECIFICATION

Height Ranges (floor to seat base) Or available as an option	380 to 480mm 430 to 585mm	(15" to 19") (17" to 23")
Overall width	620mm	(24½")
Overall length with out footrests	810mm	(32")
Overall length with footrests	1180mm	(46½")
Weight	100kg	(15½ stone)
Lifting capacity	130kg	(20 stone)
Batteries	2 x 12volt 44ah fully sealed lead acid type	
Range on full charge	Up to 15 miles	
Circuit breaker	60amp	
Drive motors	24v 200watt with park brake and clutch release for manual manoeuvring.	
Front wheel – Colson	190mm x 40mm wide profile, solid	
Rear wheel – Dynamic	12½" x 2¼" puncture proof	
Joystick controller	Dynamic Shark or Dolphin controller, fully programmable for individual control parameters. Attendant and dual controls available as optional extras.	
Intended use	Indoor & outdoor	
Maximum safe slope	10°	
Obstacle climbing	38mm maximum	(1½")
Speed - variable	6km/hr (3.7mph) max	

Recycle the batteries, charger, electronic components and wheelchair at the end of their useful lives. Check with your local authority for details of nearest recycling facility.



British Healthcare Trades Association



Get wise - get more from your battery

A guide to maximising the performance and lifespan of batteries for powered mobility equipment

No vehicle performs to its full potential without an efficient fuel system. Electrically powered wheelchairs and scooters are no exception. The batteries fitted to powered wheelchairs and scooters act as their fuel tanks and should be topped up and well maintained accordingly, for users to enjoy the full freedom and mobility they expect.

COMMON QUESTIONS & ANSWERS

Q. What is the best way to commission / prepare mobility batteries in order to get the most out of them?

A. Even though your mobility supplier should have fully charged the batteries on your equipment prior to delivery, it is always a good idea to charge the batteries before first use. Once you have finished for the day put the batteries on charge and LEAVE them on charge until you next need to use them. The cost of overnight charging is minimal and as long as a suitable automatic charger is being used there is no reason to disconnect the charger until the equipment is next needed for use.

IMPORTANT NOTE

Because mobility batteries are 'Traction' or 'Deep Cycle' type batteries, they start with a very low capacity and over a period of time the capacity (available power) builds up and eventually peaks at its maximum level. This will affect the range of your powered vehicle, from 60% to 100% of the stated range, depending on the number of charge cycles. Therefore in its early life it will appear to have low power (approximately 50% capacity available). After using the batteries between 10 and 15 times (charge / discharge) the battery should achieve approximately 100% of its capacity.

Q. What lifespan can I expect from my batteries?

A. Although BHTA member manufacturers normally offer a 12-month warranty against manufacturing defects on batteries, mobility batteries should deliver an average lifespan of up to 18 months depending on usage. In a light mobility application the battery could deliver up to three years lifespan, in a much heavier application such as powered wheelchairs, the lifespan could be between 12–18 months.

Q. What are the factors that can affect range on powered mobility equipment?

A. Weight of the vehicle or user, ambient temperature, state of battery charge, tyre pressures and terrain can all affect the range of a battery. If the temperature ranges outside of our yearly averages i.e. above 35 degrees Celsius and below freezing, this will affect the range of the battery. If the battery's 'state of charge' is low, then consequently the battery capacity will be low.

Q. Can my batteries be transported by air?

A. Most sealed mobility batteries can be transported by aeroplane, your battery or wheelchair supplier can provide an IATA Certificate to prove this. Alternatively the battery may be marked on top with a sticker explaining it is IATA Approved.

This document has been produced with the cooperation of leading battery manufacturers and leading mobility vehicle manufacturers, to give advice about the best practices that should be employed to achieve the full range and potential from mobility vehicles.

More Battery Tips

- Never run your batteries completely flat, take care not to leave lights or any other auxiliary equipment on after use.

- Daily users – Charge after use – For equipment used for mobility outside the home daily.

- Occasional users – Charge your equipment before an outing and always after use (ideally when the 'fuel gauge' is at approximately 50%).

- When storing a powered wheelchair or scooter for more than 2 weeks, it is advisable to fully charge the batteries and disconnect them. Check and recharge the batteries monthly.

- Never switch off the charger before the charge complete indicator comes on.

- Always unplug the charger from the equipment, as well as at the mains, after charging. (Some chargers can drain batteries if left plugged in while switched off or unplugged from the mains).

- Always dispose of old batteries through an approved source to prevent improper disposal. Please contact your supplier to find out an appropriate agent.

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