

drive

 **DeVilbiss®**
HEALTHCARE

 **ASTROLITE**

Lightweight Aluminum Powerchair

Instructions for use



N.B. Images contained in this document are for illustration and parts identification purposes only, and may not reflect final product outlook appearance.

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1. INTRODUCTION

Thank you for purchasing this product. These instructions for use should be read carefully and understood before operating the powerchair. Improper use or unfamiliarity with the powerchair may result in harm, injury or traffic accidents. Keep this manual with the powerchair, or in a safe place.

Contact Drive DeVilbiss Healthcare Ltd. or check our website for the latest version of this document. Users with visual, reading or cognitive disabilities should seek advice from a professional care provider for an appropriate format. If this is not viable, users should contact Drive DeVilbiss Healthcare Ltd. If you have any questions concerning the operation or maintenance of the powerchair, contact Drive DeVilbiss Healthcare Ltd.

2. CONTACT INFORMATION

For assistance in setting up, using, maintaining your powerchair, to report unexpected operation or for any service, warranty, sales or customer service information regarding this product, please contact Drive DeVilbiss Healthcare Ltd.



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Any serious incident that has occurred in relation to the device should be reported to the manufacturer and the MHRA or competent authority of your Member State. Please quote the product serial number on all correspondence, which can be found on the product label.

For Service & Support outside the United Kingdom, please contact the local distribution company from where this equipment was purchased. Failure to do so may result in the product warranty becoming void.

3. PRODUCT DESCRIPTION

3.1 Environment

The Astrolite Powerchair can be used in both indoor and outdoor environments where appropriate. The Astrolite Powerchair can be used on flat, even path surfaces, however the user should avoid grass, gravel, gradients greater than 6° and roads. Additional care should be taken to avoid inclement weather and wet surfaces.

3.2 Intended User Group

The Astrolite Powerchair is intended for a single user of weight up to 120kg (18.9st). The intended user group for this device is any mobility restricted individual that requires assistance with transport. The patient / occupant is the only intended operator. (Except where an attendant control has been fitted to allow the attendant to operate the powerchair, instead of the occupant). Users must be both mentally and physically capable of operating the device with minimal risk of injury to themselves and others.

3.3 Intended Use

The intended use of the powerchair is to transport an end user with restricted mobility, as defined in section 3.2.

The powerchair is intended to support a single occupant. A risk assessment must always be performed on the suitability of the user to the powerchair.

3.4 Indications

To provide transport mobility to an end user with restricted mobility.

3.5 Product Overview

The Astrolite Powerchair is lightweight and has been designed to provide a comfortable and secure solution for users who have mobility restrictions. The product is a class A powerchair (under EN 12184:2022), class I medical device and class 2 invalid carriage (under The Use of Invalid Carriages on Highways Regulations 1988).

The Astrolite Powerchair is designed to be suitable for extended indoor use, but with outdoor use capabilities. For specific guidance with outdoor use, see section 9.7.

This manual is composed from the product design and specifications at the time of publication. As designs change, some illustrations and pictures in the manual may not correspond to the powerchair that you purchased. We reserve the right to make design modifications.

Standard Options: Attendant control unit.

This is an additional control unit that is attached to the push handle so that the powerchair can be operated by an attendant. Please read the instruction manual supplied with this optional control unit, in conjunction with this instruction manual, to ensure safe operation of the powerchair.

4. SAFETY

4.1 Warnings & Cautions



Warning

Warnings in this user manual highlight potential hazards that if disregarded could lead to injury or death.



Caution

Cautions in this user manual highlight potential hazards that if disregarded could lead to equipment damage or failure.

4.2 Risk Assessment

Before using the powerchair, a risk assessment must be performed by a competent individual to ensure the safe use of the powerchair on a user-by-user basis. It is the responsibility of users and carers to determine that they are both mentally and physically capable of operating the powerchair with minimal risk of injury to themselves or others.

The risk assessment should include, but not be limited to:

- Entrapment
- Falling out of the powerchair
- Small adults (and children)
- Individuals who lack capacity
- Users with visual, reading or cognitive disabilities
- Very active occupants
- Unauthorised people with access to the powerchair

4.3 Contraindications

- The end user exceeds maximum weight capacity indicated in section 4.4
- The end user has postural support needs that are not addressed by the AstrolitePowerchair.
- Inability to safely operate a power mobility device.

Other contraindications may be relevant which are specific to an individual and / or care environment.

4.4 Powerchair Loading

The maximum occupant mass of the Astrolite Powerchair is: 120kg (18.9st)

Exceeding the maximum weight capacity will void your warranty. Drive DeVilbiss Healthcare Ltd. will not be held responsible for injury and / or damages resulting from failure to observe weight capacities.



Warning

- The maximum load is for the powerchair to be occupied by one person only. Additional weight could damage components or destabilise the powerchair, potentially causing injury.
- The powerchair may only be used to transport one person at a time. It should not be used for climbing. The backrest is not designed to support an entire person's body weight, and the armrests are not designed to support other individuals sitting / leaning — risk of collapse, entrapment.
- The powerchair is not a toy. Children should not be allowed to play near or operate the powerchair, as they are at risk of harm.
- If any ancillary attachments or accessories are being transported in addition to the occupant the rated load of the Astrolite powerchair is not to be exceeded.

4.5 Training

All individuals operating the Astrolite Powerchair are to be suitably familiar with the functionality and limitations prior to use. It is the responsibility of the user to ensure they are suitably trained to use the powerchair and any associated parts safely and correctly. Every effort should be made to resolve deficiencies and should include consideration of retraining, falls prevention and equipment alterations and modifications.

If these instructions for use are not deemed sufficient and the need for training is required, please contact Drive DeVilbiss Healthcare Ltd. (see section 2) who can discuss training options with you.

4.6 General Warnings



Warning

- Do not use a damaged or badly worn powerchair — risk of harm.
- Check the functionality of the powerchair before every use. Ensure the joystick and control system is responsive and free from unintended movement. Check the current fastest speed setting is appropriate. (It is recommended to use a slower speed setting at the beginning of every use, gradually increasing the speed setting as appropriate). Ensure your lap belt is secured before operating the powerchair.
- Do not use the powerchair in rain or snow conditions — risk of electric shock.
- Improper storage of your powerchair may result in permanent damage to the frame and / or electronics.
- Do not drive on grass, motorised roads or in muddy or icy conditions.
- Reduced speed and care should be taken when navigating obstacles.
- Do not attempt to navigate on slopes greater than 6°.
- The stopping distance on slopes can be significantly greater than on level ground.
- If unintended movement of the powerchair occurs, release the joystick to automatically stop the powerchair. If this fails, cut off power to the powerchair.
- Under no circumstances should the powerchair be used as a seat in a motor vehicle
- The powerchair is designed for occupants who weigh less than 120kg; overloading may put the user at risk of falling or entrapment.
- Do not touch any exposed contacts or connectors whilst using the product or whilst in contact with other individuals.
- Misused electrical equipment can be hazardous.
- Do not operate the powerchair whilst under the influence of alcohol, drugs or when excessively tired.



Warning

- Do not operate the powerchair at night near roads or in situations without a clear line of sight.
- Only approved parts, specified for the Astrolite Powerchair, should be used. Accessories that have not been approved or designed for use with the powerchair are not to be used — a hazard could be introduced due to product combination incompatibility. If in doubt, contact your local distributor.
- Modification of the Astrolite Powerchair, its parts or features is not allowed without the permission of Drive DeVilbiss Healthcare Ltd. — a hazard could be introduced.
- The powerchair is electrically operated, so should not be used in the presence of flammable gases, sources of heat or naked flames — risk of explosion / fire. Damaged or worn upholstery may reduce its resistance to ignition and should be replaced immediately.
- Individuals unable to drive the powerchair without assistance or supervision must not use the powerchair without such supervision. Unsupervised use of the powerchair must be avoided if there is any doubt about the ability of an individual to operate it safely.
- Do not step on the footrest whilst transferring to and from the powerchair. Risk of instability.
- Do not hang items from any part of the powerchair. Risk of instability.
- If children, adults with learning difficulties or pets pose a potential risk of tampering with the powerchair, its suitability for use is to be considered during the initial user / product risk assessment.
- Do not use or leave the Astrolite Powerchair unattended whilst in manual mode. Always seek assistance if manual mode is used. Do not use the powerchair in manual mode when on any slope.
- Only use the approved battery charger supplied with the Astrolite Powerchair to charge the Lithium (Lithium-ion) battery pack supplied with the Astrolite Powerchair.

5. TRANSPORT & STORAGE

Environmental conditions for transport and storage:

Ambient temperature: 0°C to +50°C

Humidity: <80% RH

Follow these conditions when transporting or storing the powerchair:

- Store the powerchair fully folded, on a flat, level floor (see section 8.3).
- Always fully charge, then remove the battery prior to long-term storage.
- The powerchair should be stored in clean and dry conditions. Cover to protect from fluid ingress, dirt, dust etc.
- Powerchairs should not be stored on their side, on their backs, or stacked.
- When transporting powerchairs by vehicle, they should be securely stowed in the back of a van, truck, or boot of a car. Adjustable parts should be removed or properly secured during transport.
- Keep the instructions for use with the powerchair or in a safe place.

Note: This vehicle is suitable for land and air transport, but contact your carrier in advance to determine their specific requirements. The lithium battery pack may require special packaging and storage provisions in line with IATA or UN guidelines. To remove the battery, press the release button and then pull the battery pack towards you, to disconnect it. Continue to pull the battery pack towards you to remove it, away from the frame.

If your powerchair is stored for a prolonged period, flat spots may develop in the wheels, causing an uneven sensation when driving. This should work itself out over time. Drive DeVilbiss Healthcare Ltd. suggests placing a sturdy platform under the frame to lift the wheels off the ground and take weight off the wheels during storage. If you notice flat spots after continued use, replace the powerchair wheels immediately.



Caution

- Always lift your powerchair by the frame. Do not attempt to lift by any movable parts (e.g. seat cushion or armrests).
- Infrequently charged batteries, or batteries stored without a full charge are susceptible to permanent damage, causing unreliable performance from your powerchair.
- Avoid placing the powerchair in direct sunlight — this could damage the electrical system and / or cause label fading.
- Clean the powerchair in line with section 10 prior to storage.



Warning

- Do not sit in the powerchair whilst in a moving vehicle

6. SYMBOL DEFINITION

The following symbols are found on the Astrolite Powerchair:

Symbol

Description



Warning
Beware of potential hazard



Caution
Beware of potential product damage



Refer to instructions for use - Recommended
Failure to read the instructions for use could introduce a hazard



Refer to instructions for use - Mandatory
Failure to read the instructions for use could introduce a hazard



Medical Device



Maximum occupant mass



Do not create a stack of more than two boxes.



Fragile, handle with care



Use no hooks



No heavy load



This device must not be used as a seat in a motor vehicle.

Symbol

Description



Serial Number



Product Code



Model Number



Quantity



Authorised EU Representative



UK Responsible Person



Manufacturer



Date of Manufacture



Importer



W.E.E.E. (Waste Electrical and Electronic Equipment)
Refer to section 12



Keep away from rain



This way up



Beware of trapping points

7. PARTS IDENTIFICATION



8. CHARGING & PREPARING FOR USE

8.1 Installation



Warning

- Before preparing the powerchair, ensure these instructions have been read and fully understood.
- Prepare the powerchair in a dry, indoor environment. Risk of electric shock if prepared in a damp area.
- Only competent persons are to prepare the powerchair for use. If in doubt, contact Drive DeVilbiss Healthcare Ltd.
- Ensure a risk assessment in line with local health and safety policy is undertaken to ensure that staff are not put at risk when performing assembly activities.

Refer to the Quick Start Guide for installation instructions (see section 18)

8.2 Battery Charging



Warning

- Do not open the battery case.
- Do not connect an extension cord to the battery charger.
- Keep metal objects away from the battery terminals; electric shock may occur.
- Ensure the charging cable is not under excessive tension to avoid cable damage — damaged cables can create an electrocution / fire risk.
- Ensure the battery is not exposed to direct sunlight or a secondary heat source — direct heating of the battery via an external source could pose a fire risk or cause an explosion.
- Do not drive the powerchair while the charging cable is attached or connected.
- **Only charge the Astrolite Powerchair with the approved charger. Never charge the powerchair using a different charger.**



Caution

- Charge fully before each use.

The Astrolite Powerchair's battery should be fully charged (approximately 5-8 hours) before its initial use. This initial charge will allow the battery to perform at about 90% of its optimal performance. Following the initial use, it is recommended to perform another 5-8 hour charge to improve the battery's performance. After the first few uses and charges of the battery, it should be operating at optimal performance and will extend the lifespan of the battery. Repeat this process when the battery is replaced.

Ensure the powerchair is switched off and is in Drive 'Electric' mode prior to connecting the charger.

The battery can be charged on-board (when the battery is installed on the powerchair) or off-board (when the battery is removed).



Ensure both freewheel levers are pushed forwards.

To charge the battery on-board:

Connect the round plug, on the output from the charger, into the charging socket on the underside front of the joystick controller. Connect the charger to the mains and switch on the power.



To charge the battery off-board:

Remove the battery from the powerchair. Connect the adapter lead into the round plug, on the output of the charger. Connect the small round plug into the socket, on the underside of the battery pack. Connect the charger to the mains and switch on the power.



The LED on the charger will appear blue whilst charging. When charging is complete, the LED will change to green. It is recommended to charge for 5-8 hours on each charge. After charging is complete, remove the charger from the powerchair/battery pack and the plug from the wall socket. Store the charger in a safe location.

The Astrolite Powerchair has an overload protector built into the battery box. In the event the battery or motor is overloaded, the overload protector will trip and cut off the power. This will reset after 1-2 minutes and allow use of the powerchair.

If you use your powerchair on a daily basis, charge the battery as soon as you are finished with the day's activities. After charging, unplug the charger from the mains socket and the charging socket on the joystick controller/ battery pack.

If there is a longer period of no use, it is recommended to charge the battery every two months. This may help preserve / extend the life of the battery.

8.3 Folding and Unfolding

To fold the powerchair: First lift up the armrests (see section 9.4). Then lift up the folding lever, located under the front of the seat. Whilst lifting the lever, hold the front of the seat and the top of the backrest and push them together. Raise the footrest and then the powerchair can be stood upright, resting against the anti-tip wheels.

To unfold the powerchair: First lower the footrest and then push the seat front and backrest apart, so that the powerchair opens out. The folding lever should 'click' into place, when the powerchair is fully unfolded. Lower the armrests into position.



8.4 Checking Before Use

It is important to check the functionality of the powerchair before the initial use to ensure its safe operation.

- With both of the motor freewheel levers set to manual 'neutral', the powerchair should move freely when pushed by hand. With both of the motor freewheel levers set to electric 'drive', it should not be possible to move the powerchair by hand.
- Switch on the powerchair controller and wait 5 seconds for the joystick to initialise.
- Gently press the joystick in any direction then check that the battery indicator and speed limiter lights are illuminated on the joystick controller.
- Gently rotate the joystick in all directions and ensure the front wheels rotate freely.
- Release the joystick after moving in any direction. The joystick should immediately return to the middle position.

9. OPERATION OF THE ASTROLITE POWERCHAIR

9.1 Operational Limits

Ambient temperature: 0°C to 40°C
Operating humidity: 20% to 85% RH

9.2 Control Panel

Please refer to the image below to identify your Astrolite Powerchair control panel and its functions. Familiarise yourself with the terminology to better understand references throughout these instructions.



Caution

Make sure the powerchair functions work correctly before operating, using the checklist in section 8.4 for guidance.

On/Off Switch

Pressing the on/off switch controls the power supply for the control unit from the battery pack. Power is directed from the control unit to the motor on each wheel. Only use the on/off switch to stop the powerchair in emergency situations. Frequent and repeated emergency stopping may shorten the lifespan of the powerchair components.

Joystick






The joystick is used to control the speed and directional movement of the powerchair. The joystick has 360° of movement and steers the powerchair in a combination of forwards, backwards, left and right movements. The further the joystick is pushed from the central position, the faster the powerchair will move. When the joystick is released, it automatically returns to the central position and engages the powerchair brakes.

Horn Button

The horn will sound when this button is pressed.

Speed-up / Speed-down buttons

These buttons control the maximum speed setting of the powerchair. After the powerchair is switched on, the display will show the current maximum speed setting. This setting can be adjusted using these buttons.

	0~3.7mph
	0~3.4mph
	0~3.1mph
	0~2.8mph
	0~2.5mph

Charging socket

This socket is the connection for the 3-pin power outlet of the battery charger.



Caution

Only use this socket for charging the Astrolite Powerchair. Use of the socket to supply power to other electrical equipment may damage the powerchair's control system and EMC performance.



9.3 Battery Pack

The Astrolite Powerchair has the facility to accommodate two battery packs. The powerchair is supplied as standard with a 24V 10.4Ah Lithium-ion battery in one battery slot. The other battery slot is filled with an empty battery pack, which protects the electrical connections.

If you wish to extend the range of the powerchair, an additional 10.4Ah battery pack can be purchased from your dealer. This is then installed onto the powerchair, in place of the empty battery pack.

To install the battery pack: Align the pack with the base unit (circled) and then push it forwards until it 'clicks' into position.

To remove the battery pack: Lift up the red lever and slide the battery pack towards you, so that it comes away from the base unit.



9.4 Armrests

The armrests can be raised to aid transfers to and from the powerchair.

To raise the armrests: Press the red button and lift up the end of the armrest, so that it can then be raised away from the seat.

To lower the armrests: Gently lower the armrest until it clicks into position.



Warning

- Hold the end of armrest when lowering it, to prevent any finger entrapment risk.



Armrest Release Button

9.5 Driving the Powerchair

You must exercise awareness, caution, care, and common sense when operating your powerchair. Always keep in mind your own limitations and substance use.

Users may encounter difficult manoeuvring situations such as narrow doorways, travelling up and down ramps, cornering, and travelling on uneven terrain. Be sure to lower the speed, take your time, and carefully manoeuvre the powerchair.

For your safety, fasten the safety belt before you drive the powerchair.



- Never use your powerchair whilst tired, smoking, under the influence of alcohol or other mind-altering substances. Be aware of precautions, warnings, and safety issues when taking prescribed or over-the-counter drugs before driving.
- If there is a history of active seizures in the last 6 months, clearance should be obtained from a neurologist that the patient's seizures do not prohibit safe use of a motorised device.
- When operating the powerchair, the occupant is expected to be positioned appropriately in the seat, with their feet inboard of the footrest at all times, and limbs clear of moving parts to prevent entrapment. Never reach, lean or bend when driving the powerchair.
- Always make sure the power is off, with the powerchair and backrest fully unfolded before getting on / off the powerchair.
- Carers should keep clear once the powerchair is powered on. Do not operate the controls whilst anyone is entering or leaving the powerchair – a hazard may be introduced.
- Do not let children play near or operate the powerchair.
- Keep your feet on the footrests at all times during operation. Do not stand on the footrests.
- Keep your hands and feet away from moving parts whilst driving. Be aware of loose-fitting clothes that can become caught in the drive wheels.
- Always reduce your speed and maintain a stable centre of gravity when turning corners.



Always check the Powerchair is free of obstructions before use.

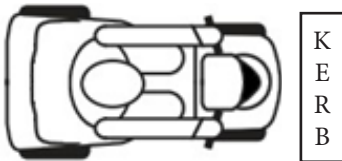
9.6 Steps, Kerbs & Fixed Obstacles

Use extreme caution when operating your powerchair near kerbs, porches, stairs, escalators, drop-offs, unprotected ledges, and raised areas. Approach slowly, and make sure the front of the powerchair is perpendicular to the obstacle.

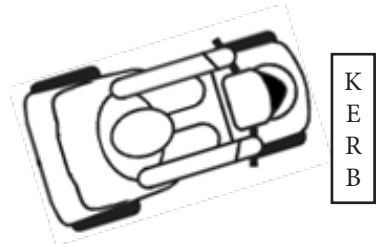
To manoeuvre up a fixed obstacle – Increase the forward speed until the powerchair has cleared the obstacle, and then you may reduce the speed or return the joystick to neutral.

To manoeuvre down a fixed obstacle – Reduce the forward speed just before the front wheels come in contact with the obstacle and remain at the reduced speed until the powerchair has cleared the obstacle, then you may increase the forward speed.

Correct Approach:



Incorrect Approach:



Warning

- Never attempt to navigate your powerchair over a kerb or other fixed obstacle taller than the maximum ground clearance. Refer to section 14 for this information.
- Never attempt to navigate your powerchair backwards over an obstacle. Make sure that there are no steps, kerbs or other obstacles behind you whilst reversing – tipping / falling risk.
- Never attempt to operate your powerchair on steps or escalators.

9.7 Inclines

Use caution when approaching inclines or declines. If necessary, lower the speed before travelling on a slope.

When travelling up an incline, try to keep the powerchair moving forward. If you must come to a stop, use caution and slowly accelerate the powerchair forward. When travelling down an incline, lower the speed on your powerchair to the slowest setting, and proceed cautiously.

If the powerchair is travelling down the incline faster than you expected, slowly return the joystick to the centre to come to a stop, then slightly push the joystick forward again to continue safely down the incline.



Warning

- Drive your powerchair straight up or down an incline, never backwards. Erratic movements, or back and forth patterns may increase the chance of tipping.
- Be careful when driving on inclines. Inclines vary and doing so may decrease stability.
- Do not, under any circumstances, travel on a slope greater than the maximum stability angle for this powerchair. Refer to section 14 for this information. Exceeding the stability angle may cause unstable conditions.

9.8 Outdoor Operation & Inclement Weather Precautions

Exposure to inclement weather should always be avoided. Monitor weather forecasts before starting a journey to reduce risks. If you find yourself caught in inclement weather whilst operating your powerchair, proceed to the closest shelter immediately. Completely dry your powerchair before operating, charging, or storing.



Warning

- Always use the pavement when it is available. When there is no pavement, use extreme caution when on the road and where possible travel in the direction of the traffic.
- Be cautious when driving your powerchair in busy areas, such as shopping malls.
- If you get caught outside in the rain, seek shelter immediately and dry the powerchair with a cloth.
- Do not drive your powerchair at night without proper lighting.
- Avoid exposure to moisture, standing water, rain, snow, ice or salt when possible. Operating in rain, snow, salt, mist and on icy or slippery surfaces may have an adverse effect on the electrical system.
- At extreme temperatures, the batteries may freeze, and your powerchair may not be able to operate. In extreme high temperatures, it may operate at slower speeds due to a safety feature of the controller that prevents damage to the motors and other electrical components. Operational limits stated in section 9.1 must be observed.



Caution

If you are unsure of a surface, such as gravel, it is recommended to avoid it and locate an alternative route.

9.9 Lap Belt

The powerchair is supplied with a lap belt to aid the user to remain seated in the powerchair. The lap belt is length adjustable and should be adjusted to suit the user.

9.10 After Use Instructions

Turn off the power after use of the powerchair. Store the powerchair in a location that cannot be interfered with by children, meets the storage temperatures listed in section 5 and is free from excess moisture.

Clean the powerchair with a soft cloth and ensure it is dry (see section 10). Do not use chemicals to clean the powerchair. If the seat cover requires cleaning, remove it to be washed and allow to dry before placing back on the powerchair.

If the powerchair is to be stored for a long period of time, we recommend fully charging and then removing the battery to prevent battery drain.

10. CLEANING



Warning

- Never use direct contact with water to clean the powerchair. This could cause damage to the electrical components and put the user at risk. Only a damp cloth should be used.
- Always disconnect the Astrolite Powerchair from the mains supply prior to cleaning.
- Never use any neat bleach or abrasive detergents to clean the powerchair.
- PPE must be worn during manual decontamination to prevent the risk of infection.
- Deviating from the specified cleaning instructions could cause a biological hazard, especially in multi-user environments, and adversely affect the life and efficiency of the product.



Caution

Regular cleaning can help prolong the lifespan of the powerchair.

The surface of the powerchair frame has been treated with a protective coating to allow for easy removal of dirt. Use a damp cloth with a mild soap to clean the frame and then dry thoroughly.

11. MAINTENANCE & SERVICING



Warning

- Your powerchair should be serviced every 12 months. Take your powerchair to a service engineer, for inspection and maintenance, who is authorised on behalf of Drive DeVilbiss Healthcare Ltd.
- Always disconnect the powerchair from the mains power supply and remove the battery prior to performing any maintenance procedures (where viable).
- Never attempt to open the enclosures, re-wire any components or replace internal battery components. Modification of the powerchair is not allowed without the permission of Drive DeVilbiss Healthcare Ltd and electrical system components are only to be replaced by authorised service personnel.
- No maintenance or servicing should be conducted whilst the device is in use – risk of electric shock, entrapment, etc. If not possible due to the occupant’s mobility, a risk assessment should be carried out, and if deemed safe to proceed, care should be taken to avoid contact with the occupant when working on electrical items.
- Failure to carry out the following checks at the stated frequencies could negatively influence the essential performance of the powerchair and as a result put individuals at risk.
- Allow all components to cool before performing maintenance. Parts of the motor system can generate heat whilst driving.



Caution

All maintenance should be conducted by a competent person. Disassembling the controller, motor, or charger by anyone other than an approved service engineer is prohibited and voids any applicable warranty. For any maintenance concerns, contact Drive DeVilbiss Healthcare Ltd.

11.1 General Guidelines

Routine maintenance is required to ensure the maximum use of your powerchair. Whilst some of the maintenance can be done by yourself, you may need assistance from an authorised service engineer. If you have any doubts, contact Drive DeVilbiss Healthcare Ltd. If there are any signs of damage, or the powerchair is not performing as it should, withdraw it from service until the powerchair has been repaired and is fit for use.

Preventative maintenance is key to keeping the Astrolite Powerchair in prime operating condition. Follow the Maintenance Schedule at the end of this manual to periodically inspect the Astrolite Powerchair for serviceable items.

- Avoid abuse to the joystick and control functions
- Avoid prolonged exposure to extreme heat or cold
- Keep the powerchair clean and free from moisture
- Never use a conditioner on the tread of the wheels
- If only a red LED appears on the battery gauge, the batteries are nearly out of charge and should be recharged as soon as possible
- Check for the presence of flat spots on the tyres
- Check all cable connections, ensuring they are fastened and not corroded
- Check the frame and all components for loose fasteners and tighten where appropriate

The following conditions may indicate a serious problem with your powerchair. Contact Drive DeVilbiss Healthcare Ltd. if one of the following conditions occurs:

- Motor or gearbox noise
- Frayed electrical harnesses
- Cracked or broken connections
- Uneven wear on the tyres
- Veering to one side when steering straight
- Bent or broken wheel assemblies
- Will not power on
- Loose seat or seat components

If in doubt about the correct replacement of a component, contact Drive DeVilbiss Healthcare Ltd.

11.2 Fault Detection

This Astrolite Powerchair has an automatic fault detection system that will alert you to any issues. When a fault occurs, you will hear a series of audible beeps and all the LEDs on the controller will flash. The issue can be identified using the table below. If the fault does not appear on the table below, do not use the powerchair, turn off the power and contact Drive DeVilbiss Healthcare Ltd.

Beep Code	Fault Diagnosis	Resolution
2 Beeps	Left hand motor fault	Check the motor connections. Swap the right and left hand motor connections to the controller. If the fault is still 2 beeps then check the controller. If the fault is now 4 beeps then the left hand motor is faulty.
3 Beeps	Left hand brake fault	Check that the Freewheel Lever is in 'Drive' mode. Check motor connections.
4 Beeps	Right hand motor fault	Check the motor connections. Swap the right and left hand motor connections to the controller. If the fault is still 4 beeps then check the controller. If the fault is now 2 beeps then the right hand motor is faulty.
5 Beeps	Right hand brake fault	Check that the Freewheel Lever is in 'Drive' mode. Check motor connections.
8 Beeps	Internal fault	Replace the controller.

11.3 Repair

Contact your provider to discuss the replacement of components on the powerchair. Some spare parts may be replaced by the user under instruction from service personnel, however other components will require installation by a service engineer.

11.4 Programming

The driving parameters within the powerchair's controller can be re-programmed. This will affect the driving characteristics and performance of the powerchair and must only be carried out by competent service personnel.

12. END OF LIFE & DISPOSAL

12.1 Expected Service Life

If maintained and serviced correctly, the Astrolite Powerchair has an expected service life of 5 years.

12.2 Disposal of Parts

When the powerchair, the electrical system or any associated packaging and accessories have come to the end of their useful life, follow W.E.E.E. (Waste Electrical and Electronic Equipment) policies, local and national regulations for recycling and disposal.

Individual parts can be separated and disposed according to the type of material. The electrical components of the powerchair should not be disposed in municipal waste. Some of these electrical components could be harmful to the environment and where viable, can be recovered and reused / recycled.

When the powerchair is unpacked for the first time, the cardboard box, and plastic packaging used can be recycled at recycling centres that offer suitable cardboard and polymer recycling programmes respectively.

For further information about disposal, contact your local waste agency, recycling centre, or provider. If in doubt, contact Drive DeVilbiss Healthcare Ltd.

13. ELECTROMAGNETIC COMPATIBILITY (EMC)

Electromagnetic interference (EMI) tests have shown to produce adverse effects on the performance and control of electrically powered mobility devices. EMI can be produced from different sources, such as cellular phones, amateur radio transmitters (HAM), microwave signals and emergency vehicle transceivers. The EMI produced from hand-held radios are of special concern.

The EMI waves can cause unintentional movement of the powerchair, or damage to the controller. Every electrically powered mobility device has a resistance to EMI. The higher the resistance level the greater the protection. The intensity of the interference can be measured in Volts per meter, V/m.

If the powerchair or any alternative equipment is found to be operating abnormally, turn off the piece of equipment that is believed to be causing the interference (if possible, as soon as it is safe) to identify the source of the RF energy. Once identified, mitigation measures are to be taken, such as the separation distances being increased and / or the device(s) being re-orientated. If the powerchair continues to operate abnormally, turn off at the mains supply and contact Drive DeVilbiss Healthcare Ltd.

The warnings listed below are recommended to prevent possible interference with the control system of your powerchair. Your powerchair, with no modifications, has an immunity level of 20 V/m. For specific emissions and immunity information relating to the powerchair, contact Drive DeVilbiss Healthcare Ltd. Report EMI incidents to Drive DeVilbiss Healthcare Ltd. using the details provided in section 2.



Warning

- Do not operate hand-held transceivers or turn on personal communication devices whilst the powerchair is powered on. Avoid use adjacent to or stacked with other equipment where possible. If adjacent use is necessary, the powerchair should be observed to verify normal electrical operation in the configuration in which it is to be used.
- Use of accessories and cables other than those specified or provided by Drive DeVilbiss Healthcare Ltd. could result in increased electromagnetic emissions or decreased electromagnetic immunity of the powerchair and result in improper operation or driving performance.
- Portable RF communications should be used no closer than 30cm to any part of the powerchair (including its cables), otherwise a degradation in performance could result.
- Avoid use around radio transmission systems, such as radio or television stations.

14. SPECIFICATION

Product Name:	Astrolite Powerchair
Model Number:	LWALPCGH
Manufacturer Code:	HBLD3-B
Top Speed*	3.7 mph (6 kph)
Maximum Range*	8.7 miles (14 km) at 100 kg user weight
Rated Slope	8°
Maximum Stability Angle	8° (static) 3° (dynamic)
Ground Clearance	60 (Front), 40 (Rear), 50mm (A/T wheels)
Pivot Width	1300 mm (51")
Braking Distance	1300 mm (51")
Maximum Height of Kerb:	30 mm (1.2")

Powerchair Dimensions:

Unfolded (L x W x H)	1050 x 585 x 865 mm (41.3" x 23.0" x 34.1")
Folded (L x W x H)	605 x 585 x 830 mm (23.8" x 23.0" x 23.7")
Seat Height	500 mm (19.7")
Seat Width x Depth	390 x 430mm (15.4" x 16.9")
Armrest Height (from seat)	220 mm (8.7")
Width between armrests	455mm (17.9")
Backrest Height x Width	400 x 390 mm (15.7" x 15.4")

Wheels:

Front Wheels	178 x 40 mm (7" x 1.6")
Rear Wheels	250 x 45 mm (9.8." x 1.8")
Wheel Type	Solid, PU

Maximum Occupant Mass: 120 kg (18.9 stone)

If any ancillary attachments or accessories are being transported in addition to the occupant the rated load of the powerchair is not to be exceeded.

Product weight:	15.0 kg (33.1 lb) excluding battery
Battery weight:	1.48 kg (3.3 lb)

Motor Type: 24 V / 200 W (DC Brushless)

Battery Supplied: 25.9 V, 10.4 Ah, Lithium-ion
The battery charger is considered a detachable part of the powerchair equipment.

Max Controller Output:	30 A
Max Charger Output:	2 A

Application environment:	See section 3.1
Liquid ingress protection:	IPX4 – Protection from water splashes

* The driving distance is based on a 100 kg user weight and will be reduced if used frequently on slopes, rough ground or to climb kerbs. Speed and range may also vary depending upon user weight, battery charge and condition, incline, weather conditions and driving behaviour.

15. WARRANTY

Drive DeVilbiss Healthcare Ltd. guarantees this product is free from defects in material and workmanship under normal use for the following periods: 1 year for batteries (all types) (subject to compliance with the battery usage guidance stated in this manual), 2 years for electronic components (including controller, motor, transaxle, electromagnetic brake and related electronic parts), 1 year for wear and tear items (including tyres, cushions, upholstery, seats, disc brakes, ignition, suspension, steering components and similar consumables), and 5 years for the frame (excluding suspension and steering components). The full warranty set out above applies from the date of purchase if bought directly from Drive DeVilbiss Healthcare Ltd., or from the date of purchase if the product was sold by an authorised dealer or subsidiary within 6 months of receipt into their stock; where the product was sold after this 6 month period, the applicable warranty durations will be reduced by the excess time held in stock. All implied warranties, of fitness and merchantability, are limited to the duration of the applicable periods stated above. Proof of purchase must be presented with any claim.

Drive DeVilbiss Healthcare Ltd. makes no other warranties, expressed or implied and all implied warranties of merchantability, non-infringement and fitness for a particular purpose are hereby disclaimed. In no event will Drive DeVilbiss Healthcare Ltd. be liable for punitive, special, or consequential damages, or for an amount in excess of the purchase price of the defective Drive DeVilbiss Healthcare Ltd. product or products.

Except as provided herein, this warranty will not apply to any Drive DeVilbiss Healthcare Ltd. products that have been (a) damaged by lightning, water, or power surges, (b) neglected, altered, abused, or used for a purpose other than the purpose for which they were designed, (c) repaired by you or any other party without Drive DeVilbiss Healthcare Ltd. prior written authorisation, (d) used in conjunction with a third-party product or products not approved in advance by Drive DeVilbiss Healthcare Ltd. (e) damaged or failed by or attributes to acts of God, (f) damaged, caused by failure to follow instructions, or (g) otherwise used in a manner inconsistent with any instructions provided by Drive DeVilbiss Healthcare Ltd. The warranty explicitly exempts consumable items.

This warranty contains the entire agreement between You and Drive DeVilbiss Healthcare Ltd. with respect to any warranty matters and supersedes any and all other written or oral statements, representations or agreements relating to the subject matter of this warranty.

In the event of a product defect during the warranty period you should contact your Supplier, whether it be Drive DeVilbiss Healthcare Ltd., its subsidiary companies, authorised dealers or international distributors, who will at their option, unless otherwise provided by law, do one of the following:

a) correct the defect by product repair within the terms of the warranty, b) replace the product with one of the same or similar design or c) refund the purchase price.

Please note if a fault is outside of the warranty terms and conditions (please see above), any repair undertaken will be charged for.

All replaced parts and products on which a refund is made become the property of Drive DeVilbiss Healthcare Ltd. Repaired or replaced parts and products are warranted for the remainder of the original warranty period.

You will be charged for repair or replacement of the product made after the expiration of the warranty period.

Drive DeVilbiss Healthcare Ltd. cannot be held responsible for any injury or incident which relates to the use of this product in conjunction with accessories manufactured by companies other than Drive DeVilbiss Healthcare Ltd.

Drive DeVilbiss Healthcare Ltd. has a policy of continual product improvement and reserves the right to amend specifications covered in this document.

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17. MAINTENANCE SCHEDULE

Inspect your powerchair routinely for any worn or damaged items and replace where necessary.

Inspection	AT ANY TIME	WEEKLY	MONTHLY	SIX MONTHLY
Joystick returns to centre when released and is free from damage	✓	✓		
Exposed electrical cables have not been damaged	✓	✓		
Check tyres are in good condition and free from flat spots	✓	✓		
Seat, armrests and footrests have not experienced damage	✓	✓		
Batteries (and surrounding area) are free from corrosion			✓	
Electrical connection to control unit is secure			✓	
Check brake functionality by pressing the joystick in any direction and releasing. The joystick should return to centre and the powerchair should immediately slow down.			✓	
Check the tyres have sufficient tread				✓
Check the full rotation of the front castors and ensure they align with the rear wheels when driving straight				✓
Check all fasteners are tight and all components are secure.				✓
Ensure the powerchair is clean of dirt and built-up residue				✓

Once a year, take your powerchair to a service engineer for inspection and maintenance who are authorised on behalf of Drive DeVilbiss Healthcare Ltd.

18. QUICK START GUIDE

1. Unpack the powerchair and stand it on its rear wheels. Holding the top of the seat back, push the seat base forwards, so that the powerchair unfolds. The folding lever should 'click' into place, when the powerchair is fully unfolded.

2. Fold down the footplate.

3. Fold down the armrests, so that they 'click' into position.

4. Slide the bracket on the joystick controller into the slot in the end of the armrest. Turn the tightening knob clockwise, to secure the controller into position.



5. Connect the lead from the joystick to the lead from the main control unit and secure the connection.

6. Attach the anti-tip wheels to the back of the frame, ensuring that the push-buttons 'click' through the holes.



7. Put the motors into 'Electric' mode by pushing both freewheel levers forwards, towards the chair.



8. Ensure that the seat cushions are securely Velcro'd to the seat.



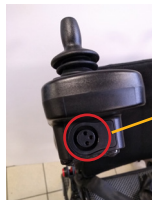
9. Slide the battery pack into the battery holder on the frame, so that it 'clicks' into position. The 2nd battery holder must be covered with the empty battery pack, to prevent moisture ingress into the electrical connection.



10. To remove the battery pack, lift up the red lever and slide the battery pack towards you, away from the terminals.



11. Charge the battery. The battery can be charged via the powerchair, by inserting the charging plug into the socket on the underside of the joystick controller.



Charging socket

The battery can also be charged directly, when removed from the powerchair, using the adapter lead and the small round charging socket on the battery pack.



12. Ensure the charger is disconnected before operating the powerchair. Turn on the powerchair by pressing the on/off switch.



On/Off Switch

13. After use, switch off the controller. The powerchair can be folded for storage (see section 8.3), if required.



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Drive DeVilbiss Healthcare Ltd. provide these instructions for use.

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