

**drive**

 **DeVilbiss®**  
HEALTHCARE



 **ASTROLITE**

Lightweight Boot Scooter  
Instructions for use

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## 1. INTRODUCTION

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Thank you for purchasing this AstroLite Scooter. These instructions for use should be read carefully and understood before operating the scooter. Improper use or unfamiliarity with the scooter may result in harm, injury or traffic accidents. A maintenance schedule has also included at the back. Keep this manual with the scooter, 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 scooter, contact Drive DeVilbiss Healthcare Ltd.

## 2. CONTACT INFORMATION

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For assistance in setting up, using, maintaining your scooter, 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 code on all correspondence.

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**

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### **3.1 Environment**

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

### **3.2 Intended User Group**

The AstroLite Scooter 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. 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 scooter is to transport an end user with restricted mobility, as defined in section 3.2.

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

### **3.4 Indications**

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

### **3.5 Product Overview**

The AstroLite Lightweight Boot Scooter has been designed to provide a comfortable and secure solution for users who have mobility restrictions. The product is a class A scooter (under EN 12184:2014), class I medical device and class 2 invalid carriage (under The Use of Invalid Carriages on Highways Regulations 1988). For specific guidance with outdoor use, see section 9.6.

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 scooter that you purchased. We reserve the right to make design modifications.

## 4. SAFETY

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### 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 scooter, a risk assessment must be performed by a competent individual to ensure the safe use of the scooter 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 scooter with minimal risk of injury to themselves or others.

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

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

### 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 AstroLite Scooter
- Inability to safely guide a power mobility device

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

## 4.4 Scooter Loading

The maximum user weight of the scooter is: 120kg (18.9st)

Maximum user weight is the sum of the user mass and the mass of any ancillary attachments or accessories. 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 scooter to be occupied by one person only. Additional weight could damage components or destabilise the scooter, potentially causing injury.
- The scooter 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 — risk of collapse, entrapment.
- The scooter is not a toy. Children should not be allowed to play near or operate the scooter, as they are at risk of harm.

## 4.5 Training

All individuals operating the AstroLite Scooter 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 scooter 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 scooter — risk of harm.
- Check the functionality of the scooter before every use, using the method listed in section 8.3. 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.)
- Do not use the scooter in rain, ice or snow conditions. Such exposure can damage the scooter and put the user at risk. If exposed to moisture, do not operate the scooter until it has dried thoroughly.
- Do not drive on tall grass, motorised roads, loose surfaces, such as gravel or sand, or in muddy conditions.
- Reduced speed and care should be taken when navigating obstacles.
- Do not attempt to navigate on slopes greater than 6°.
- If unintended movement of the scooter occurs, release the throttle levers to automatically stop the scooter. Do not use the key switch to stop your scooter unless an emergency requires the powering down of the scooter.
- Under no circumstances should the scooter be used as a seat in a motor vehicle.
- The scooter is designed for occupants who weigh less than 120kg (18.9st); overloading may put the user at risk of falling or entrapment.
- Do not touch any exposed contacts or connectors while using the product or while in contact with other individuals.
- Misused electrical equipment can be hazardous.
- Do not operate the scooter while under the influence of alcohol or when excessively tired.
- Do not operate the scooter at night near motorised roads or in situations without a clear line of sight.
- Only approved parts, specified for the AstroLite Scooter, should be used. Accessories that have not been approved or designed for use with the scooter are not to be used — a hazard could be introduced due to product combination incompatibility. If in doubt, contact Drive DeVilbiss Healthcare Ltd.



Warning

- Modification of the AstroLite Scooter, its parts or features is not allowed without the permission of Drive DeVilbiss Healthcare Ltd. — a hazard could be introduced.
- The scooter is electrically operated, so should not be used in oxygen-rich environments, in the presence of flammable gases, sources of heat or naked flames — risk of explosion / fire. Damaged or worn upholstery increases the risk of fire hazard and should be replaced immediately.
- Individuals unable to drive the scooter without assistance or supervision must not use the scooter without such supervision. Unsupervised use of the scooter must be avoided if there is any doubt about the ability of an individual to operate it safely.
- If children, adults with learning difficulties or pets pose a potential risk of tampering with the scooter, its suitability for use is to be considered during the initial user / product risk assessment.
- Only use freewheel (manual) mode to manually manoeuvre the AstroLite Scooter when unoccupied. Do not use freewheel mode on the scooter whilst occupied and / or on a slope. Always put the scooter in drive mode when freewheel manoeuvring is completed.
- Do not overload the carry basket - maximum loading weight is 3kg.

## 5. PARTS IDENTIFICATION



The approximate weights of the major component parts are below:

- Seat – 7.4kg
- Front Section – 9.9kg (seat post removed)
- Rear Section – 8.8kg
- Battery Pack (10.3Ah) – 2kg
- Battery Pack (17.2Ah) – 2.64kg
- Seat Post – 0.85kg
- Basket – 0.6kg



## 6. TRANSPORT & STORAGE

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Environmental conditions for transport and storage:

Ambient temperature: 0°C to +45°C

Follow these conditions when transporting or storing the scooter:

- The key ignition should be turned off.
- Always fully charge, then remove the battery prior to long-term storage to ensure maximum battery efficiency.
- The scooter should be stored in clean and dry conditions. Cover to protect from fluid ingress, dirt, dust etc.
- Scooters should not be stored on their side, on their backs, or stacked. Make sure the seat is set in the “forward” position.
- When transporting scooters 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 scooter 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 battery pack contains a Lithium-Ion battery (Model MS027 has a 10.3Ah battery and model MS028 has a 17.2Ah battery).

The battery requires charging every week to ensure battery longevity.

The battery supplied as standard with the MS027 is classified as safe for air transport under IATA special provision A67.

If your scooter 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 scooter wheels immediately.



Caution

- Infrequently charged batteries, or batteries stored without a full charge are susceptible to permanent damage, causing unreliable performance from your scooter.
- Avoid placing the scooter in direct sunlight — this could damage the electrical system and / or cause label fading.
- Clean the scooter in line with section 10 prior to storage.



Warning

- Improper storage of your scooter may result in permanent damage to the frame and / or electronics.
- Do not sit on the scooter while in a moving vehicle.

## 6.1 Assembling the scooter

1. Ensure the freewheel lever (circled) is in the 'drive' position. Align the front and rear sections of the scooter, using the red markers as a guide. Lift up the front section using the yellow connecting handle and slowly lower it onto the rear section, so that they lock together. Ensure that the yellow connecting handle clicks into position, over the bar of the rear section of the scooter.



2. Unlock front tiller by pulling the locking knob out and turning 90°.

3. Loosen the tiller adjustment knob and lift up the tiller to the required height. Retighten the knob to secure, ensuring that the teeth are inter-linked.



4. Insert the battery into the housing in the scooter base. Ensure that a good connection is made and then push the handle down so that it clicks into a vertical position.



5. Insert the seat post into the tube on the scooter base. Align the holes and insert the pin through the seat post. Secure the seat post by fitting and tightening the seat post knob. Lower the seat down onto the seat post. Lift up the seat rotation lever and rotate the seat slowly until the swivel lock engages and you hear a click.



6. Insert the armrests into the tubing under the seat. Position them at the required width and then fix them in place by turning the tightening handles clockwise.



Warning

- After assembling the Scooter, make sure the tiller adjustment knob is fully tightened.
- Ensure the seat is locked in the forward facing position before driving.

## 6.2 Disassembling the scooter

The AstroLite scooter can be disassembled in to five pieces without tools: seat, seat post, front section, rear section and battery pack. Please perform the following steps:



Warning

- Ensure that the scooter is switched off and the freewheel lever is in the 'drive' position, before starting to disassemble the scooter.
- To avoid personal injury, ask for assistance, if necessary, whilst assembling or disassembling your scooter.

1. Lift up the Seat Rotate Lever, whilst pulling up on the seat to remove. (If required, the seat post can also be removed by loosening the seat post knob, removing the pin, and then lifting the seat post out).



2. Pull up the battery handle and then lift the battery pack out of the battery compartment.

3. Turn the tiller knob anti-clockwise to loosen tiller. Lower the tiller and then turn the tiller knob clockwise to secure. Remove the basket, if necessary.



4. Lock the steering by pulling the locking knob out and turning 90°.



5. Lift up the yellow connecting handle and separate the front and rear sections of the scooter.  
Note: When lifting the front section of the scooter, use the handle on the front of the frame and the seat post holder.

## 7. SYMBOL DEFINITION

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The following symbols are found on this scooter:

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



Safe working load



Do not create a stack of more than 2 boxes

















Fragile, handle with care



Use no hooks



This way up

Symbol	Description
	Serial number
	Product code
	Model Number
	Quantity
	UK Responsible person
	Authorised EU Representative
	Manufacturer
	Date of manufacture
	Importer
	Distributor
	W.E.E.E Label - Found on individual parts of electrical system (Waste Electrical and Electronic Equipment) Refer to section 12)
	Keep away from rain
	Beware of trapping points
	This device must not be used as a seat in a motor vehicle.

## 8. CHARGING & PREPARING FOR USE

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### 8.1 Installation



Warning

- Before preparing the scooter, ensure these instructions have been read and fully understood.
- Prepare the scooter in a dry, indoor environment.
- Do not attempt to fold / unfold the scooter while in use.
- Only competent persons are to prepare the scooter 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.

### 8.2 Battery Charging



Warning

- Do not open the battery.
- 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 scooter while the charging cable is attached or connected.



Caution

- Only charge the AstroLite Scooter with the approved charger, using the charging port on the battery.
- Never charge the scooter using a different charger. Use of the socket to supply power to other electrical equipment may damage the scooter's control system and EMC performance.
- Charge fully before each use.

The battery pack can be charged either when it is installed or removed from the scooter.

- Switch the key ignition off.
- If required, remove the battery pack.
- Open the charging socket cap on the battery pack. Then connect the charger's round plug in to the charging socket.
- Plug the charger's power cord in to the mains.
- Switch on the plug socket at the mains.



Warning

- Keep away from flammable objects while charging as it may lead to fire or explosion of the battery.
- Do not smoke while charging as the battery may release hydrogen gas. Always charge your battery in a well-ventilated space.
- Never connect or disconnect the plug or cord with wet hands.
- Keep fingers and hands clear of the gap between the battery pack and the handle, when sliding the handle down, or inserting the battery pack into the battery compartment.

### Battery Charger

The charger LED will illuminate red when the batteries are charging. When the LED turns green then bulk charging is complete, however the charger will continue to trickle charge the batteries. Trickle charging is used to improve battery longevity and performance.

The charging duration is approximately 6 hours. For optimum performance the batteries should be charged for 10 hours, but never more than 24 hours.

Note: The LED will also illuminate green if the mains is switched on, but no battery is connected to the charger.

### 8.3 Checking Before Use

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

- With the freewheel lever set to 'NEUTRAL', the scooter should move freely when pushed by hand. With the freewheel lever set to 'DRIVE', it should not be possible to move the scooter by hand.
- Gently pull on either of the throttle controls and ensure the scooter responds correctly.
- Turn the tiller console and ensure the wheels respond correctly.
- Release the throttle control after moving in any direction. The throttle control should immediately return to the neutral position and the scooter should come to a stop.

## 9. OPERATION OF THE ASTROLITE SCOOTER

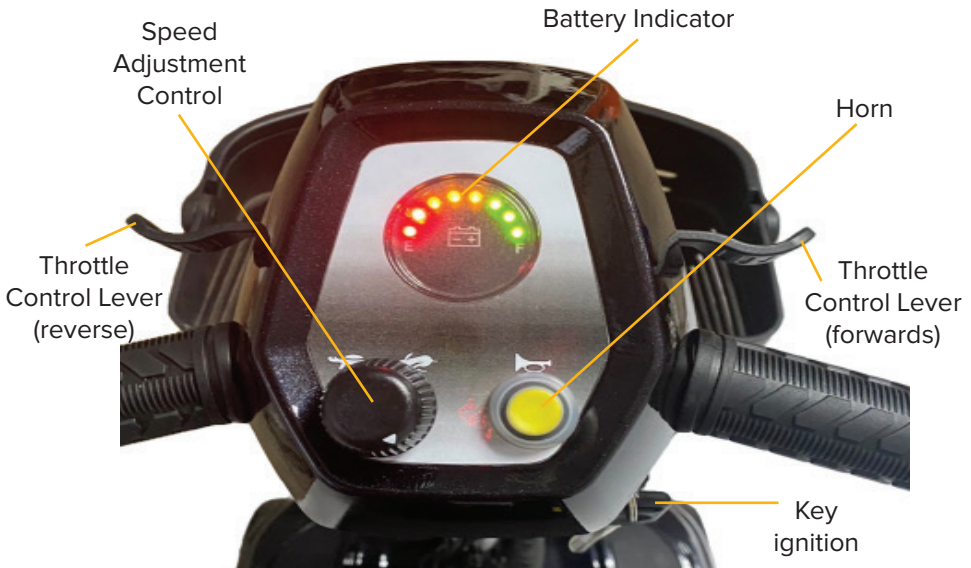
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### 9.1 Operational Limits

Ambient temperature: 0°C to +50°C  
Operating Humidity: 20% to 85% RH

### 9.2 Scooter Controls

Please refer to the diagram below to identify your scooter controls and their functions. Familiarise yourself with the terminology to better understand references throughout these instructions.



Caution

Make sure the scooter functions work correctly before operating, using the checklist in section 8.3 for guidance.

### Key Ignition

The key ignition acts as the key ignition for the scooter. To switch the power on, turn the key clockwise and battery gauge should illuminate. To switch the power off, turn the key anticlockwise, after which the battery gauge should switch off and the key can be removed.



Warning

- Do not turn the ignition off whilst driving as this will lead to an emergency stop and possible risk of damage or injury.
- When at rest, power down your scooter to prevent unintended motion.

### Speed Adjustment Control

Turn the speed knob to determine the maximum speed of the scooter. Turn the knob clockwise to increase the speed setting and turn the knob anticlockwise to decrease the speed setting.



Warning

Do not adjust the speed setting whilst driving as this could result in loss of control. Do not set the highest speed whilst driving indoors.

### Tiller Lock

When the tiller is centered, pull the tiller lock button out and turn 90° clockwise then release.

### Tiller Unlock

When the tiller is locked, pull the tiller lock button out and turn 90° anticlockwise then release.



Warning

Always ensure the tiller lock is disengaged before driving the scooter.  
Always check the tiller moves and turns freely before driving.

## Moving and Braking

To move forward, pull the right hand side of the wigwag paddle with your hand towards you whilst resting the palm of your hand on the handle bar. Pull the left hand side of the wigwag paddle towards you and the scooter will move backwards, emitting an audible reversing alarm. To brake, release the wigwag paddle which will return to neutral and activate the electromagnetic brake automatically and bring the scooter to a prompt stop. The wigwag paddle allows you to control the speed of the scooter up to a maximum speed determined by the Speed control. The further the wigwag paddle is deflected, the faster the scooter will go (up to 4mph).



Warning

Do not push both left and right hand sides of the wigwag simultaneously. You will not be able to control the scooter.

## Horn Button

Press the horn button to sound the horn. Release the button to stop the horn. The horn is the yellow button located on the control panel.

## Braking – Electromagnetic Brake

Release the wigwag paddle completely, and the electromagnetic brake will be activated automatically and the scooter will stop.



Warning

When on a gradient, never set the vehicle to freewheel mode. The brakes will not be applied.

## Seat

The seat can be rotated and locked in position at 45° intervals. Lift up the seat lever and swivel the seat. Release the lever and then continue swivelling the seat until it locks in position.



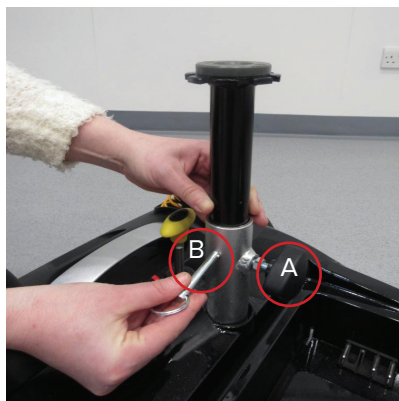
Warning

Return the seat to the forward position before driving.



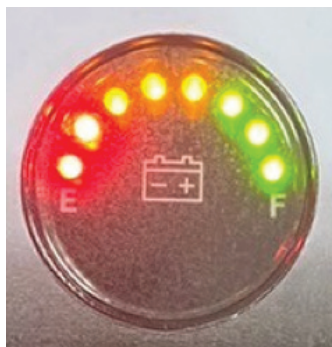
## Adjusting the Seat Height

Firstly remove the seat by rotating the seat (as described above) whilst pulling up on the seat. Slacken the seat post knob (A), remove the pin (B) securing the seat post. Reposition the seat post to the required height and then refit the seat post pin. Retighten the seat post knob to secure the seat post. Refit the seat, ensuring that it locks into position.



## Battery Indicator

When switched on, the LED's on the battery indicator will illuminate. The number of LED's illuminated indicates the approximate power remaining in the battery. Green indicates (40-100%) capacity, yellow indicates (10-30%) capacity and red indicates that an immediate recharge is necessary.



The remaining charge indicated by the battery indicator will vary by the driving time incurred and how you drive. Repeated starting, stopping and climbing will consume power more quickly.

If the first red LED is flashing, this means the scooter has encountered a problem. The LED will flash a number of times then pause. Count the number of flashes to determine the problem. If you experience any flash sequences, first restart the scooter, ensuring the wigwag paddle is released. If this does not remedy the problem recharge the batteries. If the error persists contact your Drive DeVilbiss Healthcare Dealer.



### **Tiller Adjustment**

The tiller can be adjusted in to many different positions to suit each user. To adjust follow the steps below:

1. Loosen the knob (as shown left in the photo) so the tiller can move.
2. Using the other hand, reposition the tiller as required, ensuring that the teeth are inter-linked, then retighten the knob to secure.

### Freewheel Lever

The lever located on the right-hand rear side of the scooter is used to engage the scooter motors to the wheels. When the lever is pushed downwards, the scooter is in drive mode. The controls will operate the scooter and the brakes will be engaged. The scooter cannot be moved by hand in this mode.

When the lever is pushed upward, the scooter is in freewheel mode. The scooter motors and brakes are disengaged, and the scooter is free to move by hand.



Neutral  
'FREEWHEEL'  
mode

Electric  
'DRIVE' mode



Warning

Never sit on your scooter when it is in freewheel mode and never use freewheel mode when the scooter is on an incline. The scooter brakes are disengaged and will be free to move. Failure to do so may cause personal injury.



Warning

Ensure the charger is unplugged before driving the scooter.

### 9.3 Driving the Scooter

You must exercise awareness, caution, care, and common sense when operating your scooter. 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 scooter.



Warning

- Never use your scooter while 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 scooter, the occupant is expected to be positioned appropriately in the seat, with limbs clear of moving parts to prevent entrapment. Never reach, lean or bend when driving the scooter.
- Always make sure the power is off before getting on and off the scooter.
- Carers should keep clear once the scooter is powered on. Do not operate the controls while anyone is entering or leaving the scooter – a hazard may be introduced.
- Do not let children play near or operate the scooter.
- Keep your feet on the scooter at all times during operation. However, do not stand with your full weight directly on the scooter – risk of tipping or personal injury.
- Keep your hands and feet away from moving parts while 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.



Caution

Always check the AstroLite Scooter is free of obstructions before use.

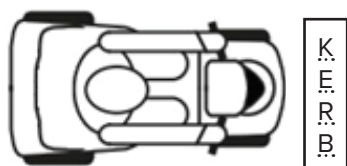
## 9.4 Steps, Kerbs & Fixed Obstacles

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

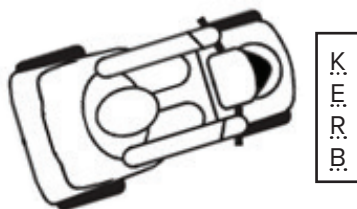
To manoeuvre up a fixed obstacle – Increase the forward speed until the scooter has cleared the obstacle, and then you may reduce the speed.

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 scooter has cleared the obstacle, then you may increase the forward speed.

Correct Approach:



Incorrect Approach:



Warning

- Never attempt to navigate your scooter 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 scooter backwards over an obstacle. Make sure that there are no steps, kerbs or other obstacles behind you while reversing – tipping / falling risk.
- Never attempt to operate your scooter on steps or escalators.

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

If the scooter is travelling down the incline faster than you expected, slowly return the throttle lever to neutral to come to a stop, then slightly pull the throttle lever forward again to continue safely down the incline.



Warning

- Drive your scooter 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.
- The stopping distance on slopes can be significantly greater than on level ground.
- Never use freewheel mode when going up or down any inclines
- Do not, under any circumstances, travel on a slope greater than the maximum stability angle for this scooter. Refer to section 14 for this information. Exceeding the stability angle may cause unstable conditions.

## 9.6 Outdoor Operation & Inclement Weather Precautions

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



Warning

- Do not take your scooter on roads or highways.
- Be cautious when driving your scooter in busy areas, such as shopping malls.
- If you get caught outside in the rain, seek shelter immediately and dry the scooter with a cloth.
- Do not drive your scooter 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 scooter 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.

## 9.7 After Use Instructions

Remove the key after use of the scooter.

Store the scooter in a location that cannot be interfered with by children, meets the storage conditions in section 5 and is free from excess moisture.

Clean the scooter with a soft cloth and ensure it is dry (see section 10).

## 10. CLEANING

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Warning

- Never use direct contact with water to clean the scooter. 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 Scooter from the mains supply prior to cleaning.
- Never use any neat bleach or similar chemicals on the seat or armrests, as this may damage various materials.
- 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 scooter.

Use a damp cloth with a mild soap or detergent to clean the frame, and then dry thoroughly. A light coat of car wax can be used on the painted surfaces to retain the high-gloss appearance.

## 11. MAINTENANCE & SERVICING

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Warning

- Always disconnect the scooter from the main power supply and remove the battery prior to performing any maintenance procedures (where viable).
- Never attempt to deconstruct the enclosures, re-wire any components or replace internal battery components. Modification of the scooter is not allowed without the permission of the manufacturer and electrical system components are only to be replaced by authorised service personnel.
- No maintenance or servicing should be conducted while the device is in use – risk of electric shock, entrapment, loose parts, 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 scooter and as a result put individuals at risk.
- Allow all components to cool before performing maintenance. Parts of the motor system can generate heat while 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 scooter. While 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 scooter is not performing as it should, withdraw it from service until the scooter has been repaired and is fit for use.

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

- Avoid knocking or abuse to the control unit
- Avoid prolonged exposure to extreme heat or cold
- Keep the scooter clean and free from moisture
- Never use a conditioner on the tread of the wheels
- Check for the presence of flat spots on the tyres
- Check all electrical 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 scooter. Contact Drive DeVilbiss Healthcare Ltd. if one of the following conditions occurs:

- Motor or gearbox noise
- Frayed electrical cables
- 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

All wheel bearings have been lubricated and sealed. They should not require subsequent lubrication during maintenance.

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

# 11.2 Fault Resolution

Minor faults with the AstroLite Scooter can be resolved using the steps below:

- Switch off scooter by removing the ignition key.
- Check scooter freewheel lever is in 'Drive' mode.
- Check the charger is not plugged into the socket on the battery pack.
- Ensure the throttle lever is released.
- Switch the scooter back on with the ignition key and wait 5 seconds before trying the throttle lever.

If this does not resolve the issue, recharge the battery and repeat the above procedure. If the fault is still not resolved, do not use the scooter, turn off the power and contact Drive DeVilbiss Healthcare Ltd.

SYMPTOM	REMEDY
The scooter will not switch on	Try recharging the battery. If problem persists contact your supplier
The scooter switches on, but the scooter will not move.	Ensure there is enough power in the batteries. If not, recharge the batteries. Ensure the freewheel lever is engaged in the 'DRIVE' position.
The scooter travels slowly	Check the battery power level and recharge if necessary Check the speed control is not set to slow.
The seat turns when in operation	Slowly rotate the seat until it drops into place and is secure
The handlebar appears loose	Tighten the height adjustment handle to secure the handlebar
Involuntarily horn sounds	Ensure that the wigwag paddle is released. Switch the scooter off and on. Recharge the batteries.

# 11.3 Repair

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

## 12. DISPOSAL OF PARTS

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When the scooter, 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 scooter 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 scooter 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.



Warning

The AstroLite Scooter and any associated parts are to be decontaminated before disposal to avoid the risk of cross-contamination.

### 13. ELECTROMAGNETIC COMPATIBILITY (EMC)

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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 scooter, 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 scooter 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 scooter 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 scooter. Your scooter, with no modifications, has an immunity level of 20 V/m. For specific emissions and immunity information relating to the scooter, 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 while the scooter is powered on. Avoid use adjacent to or stacked with other equipment where possible. If adjacent use is necessary, the scooter 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 scooter and result in improper operation or driving performance.
- Portable RF communications should be used no closer than 30 cm to any part of the scooter (including its cables), otherwise a degradation in performance could result.
- Avoid use around radio transmission systems, such as radio or television stations.

## 14. SPECIFICATION

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Product names:	AstroLite Lightweight Boot Scooter 10Ah/17Ah
Product codes:	MS027BL, MS027BLK / MS028BL, MS028BLK
Manufacturer code:	WT- T4SU
Top Speed*	4 mph (6.4 kph)
Maximum Range*	6.8 miles (11 km) / 11.4 miles (18.4 km)
Rated Slope	6°
Maximum Stability Angle	9° (static) 6° (dynamic)
Ground Clearance	50 mm (2")
Minimum Turning Radius	1250 mm (49")
Scooter Dimensions:	
Assembled (L × W × H)	1090 × 495 × 900 mm (42.9" × 19.5" × 35.4")
Dis-assembled Parts:	
Front section	890 × 420 × 375mm (35" × 16.5" × 14.8")
Rear Section	495 × 310 × 260mm (19.5" × 12.2" × 10.4")
Seat	400 × 510 × 350mm (15.7" × 20.1" × 13.8")
Seat post	315 × 70 × 70mm (12.4" × 2.8" × 2.8")
Basket	255 × 292 × 225mm (10" × 11.5" × 8.9")
Wheels:	
Front Wheels	185 × 50 mm (7.3" × 2")
Rear Wheels	185 × 50 mm (7.3" × 2")
Wheel Type	Solid, PU
Maximum user weight:	120 kg (18.9 stone)
Component weights:	See Section 5
Total weight without battery:	27.6 kg (60.9 lbs)
Total weight with battery:	MS027: 29.6 kg (65.3 lbs) MS028: 30.2 kg (66.6 lbs)
Battery weight:	2 kg (4.4 lbs) / 2.64 kg (5.8 lbs)
Motor Type:	24 V, 270W
Battery Supplied:	10.3Ah / 17.2Ah Lithium-Ion Battery
The battery charger is considered a detachable part of the scooter equipment.	
Max Controller Output:	50 A
Max Charger Output:	2 A
Application environment:	See section 3.1
Liquid ingress protection:	IPX4 – Protection from water splashes

\* Maximum range is based on an ambient temperature of 20°C, a 100kg user weight and a brand new fully charged battery by a constant driving speed at 6 km/h with 70% battery power discharged. Speed and range may also vary depending upon user weight, battery charge and condition, incline, weather conditions and driving behaviour.

## 15. WARRANTY

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Drive DeVilbiss Healthcare Ltd. guarantees this product is free from defects in material and workmanship under normal use for 2 years (with the exception of batteries and tyres which are guaranteed for 1 year and the frame which is guaranteed for 3 years), from date of purchase from Drive DeVilbiss healthcare Ltd. and its subsidiary companies or authorised dealers (Your Supplier). All implied warranties, of fitness and merchantability, are limited in the total duration of 2 years from date of purchase. 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.

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, your Supplier 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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## 16. MAINTENANCE SCHEDULE

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Inspect your scooter routinely for service issue or wearable items.

Inspection	DAILY	WEEKLY	MONTHLY	SIX MONTHLY
All Parts			✓	
Turning, Driving, Preset and Disassembly etc.		✓		
Brake system	✓			
Connections		✓		
Battery Condition	✓			
Wheel Condition			✓	
Motors				✓
General Device Inspection		✓		
Cleaning	✓			

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

The expected service life of the Astrolite scooter is 5 years.



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**UKRP**

UK Aplan Corporation Ltd.  
47 Wandle Road, Croydon, Surrey, CR0 1DF, England, Great Britain

**EC REP**

Y. Sung Handelsvertretung  
Toulouser Allee 9, 40211 Duesseldorf, Germany



Wu's Tech (Vietnam) Co., Ltd.  
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