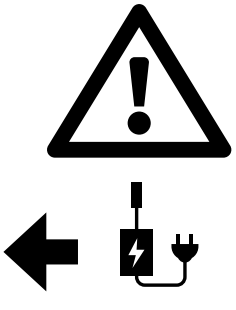
S50 Carbon
Scooter

Directions for Use

STERLING®

I0200139

This product complies with the standards set forth in EU and UK regulations. Options or accessories shown are available at extra cost.



Charger location

If you have any queries about the use, maintenance or safety of your Scooter, please contact your local approved Sunrise Medical service agent. If you do not know of an approved dealer in your area or have any other questions please write or telephone:

Sunrise Medical
North American Headquarters 12002 Volunteer Blvd.
Mount Juliet, TN 37122, USA
(800) 333-4000
(800) 300-7502
www.SunriseMedical.com

Sunrise Medical Canada Inc. 1000 Creditstone Rd., Unit #2
Concord, ON, L4K 4P8
Canada
Phone: 800.263.3390
Fax: 800.561.5834
E-mail: cscanada@sunmed.com
www.SunriseMedical.ca

Sunrise Medical Australia
11 Daniel Street
Wetherill Park NSW 2164
Australia
Ph: +61 2 9678 6600
Email: enquiries@sunrisemedical.com.au
www.SunriseMedical.com.au

Dealer signature and stamp

Contents

1.0 User information

Thank you for purchasing your scooter from Sunrise Medical.
As a part of ongoing product improvement initiatives, your product may change without notice.
However, any changes to information provided for existing users shall be clearly communicated if they are safety critical.
Further, not all features and options offered are compatible with all configurations of the scooter.
All dimensions are approximate and may be subject to change.
The intended lifetime of this product is 5 years. Please DO NOT use or fit any 3rd party components to the scooter unless they are officially approved.

1.1 This user manual

This user manual will help you to use and maintain your scooter safely.

Do not use your scooter until this entire manual and all relevant booklets have been read and understood!

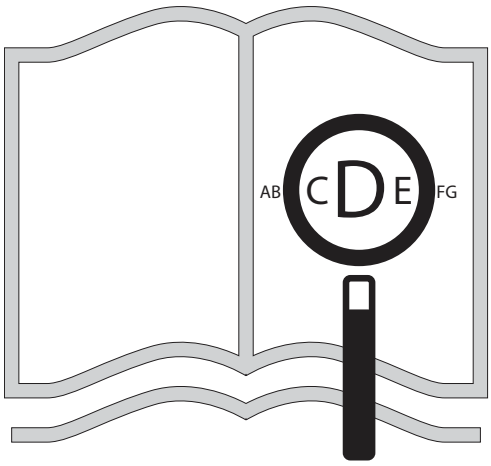
If one of the user manuals was not included with your scooter, please contact your dealer immediately.

1.2 For further information

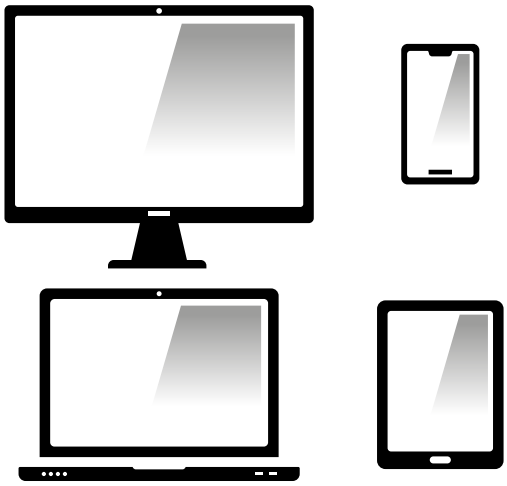
Please contact your local, authorized Sunrise Medical dealer if you have any questions regarding the use, maintenance or safety of your Scooter. In case there is no authorized dealer in your area, or you have any questions, contact Sunrise Medical either in writing or by telephone.

1.3 Packaging

For air transport approval for your scooter, you must retain the original product packaging that your scooter is supplied with. It will be necessary to repack your scooter in the original box to comply with the air travel certification.



If you are visually impaired, this document can be viewed in PDF format at **www.SunriseMedical.com**



or alternatively is available on request in large text.

1.4 Symbols used in this manual

⚠ **DANGER!**	Potential risk of serious injury or death
⚠ **WARNING!**	Potential risk of injury
⚠ **CAUTION!**	Potential damage to equipment

CE As the Authorised Representative, SUNGO EUROPE B.V., declares that this product conforms to the Medical Device Regulation (2017/745).

UK CA As the Authorized Representative, SUNGO CERTIFICATION COMPANY LIMITED, declares that the product conforms to the UK Medical Devices Regulation on 2002 No. 618.

NOTE:
General user advice.
Not following these instructions may result in physical injury, damage to the product or damage to the environment!

Notice to the user and/or patient: Any serious incident that has occurred in relation to the device should be reported to the manufacturer.

B4Me special adaptations
Sunrise Medical strongly recommends that in order to ensure that your B4Me product operates, and performs as intended by the manufacturer, all the user information supplied with your B4Me product is read and understood, before the product is first used.

We also recommend that the user information is not discarded after reading it, but it is kept safely stored for future reference.

2.0 Safety

Follow the instructions carefully next to these warning symbols! Not paying careful attention to these instructions could result in physical injury or damage to the Scooter or the environment. Wherever possible, safety information is provided in the relevant chapter.

2.1 Symbols and labels used on the product

The signs, symbols and instructions affixed to the Scooter comprise part of the safety facilities. They must never be covered or removed. They must remain present and clearly legible throughout the entire lifespan of the Scooter.
Replace or repair all illegible or damaged signs, symbols and instructions immediately. Please contact your dealer for assistance.
Fig. 2.1. Warning – Danger of finger entrapment
Fig. 2.2. Freewheel mechanism
Fig. 2.3. The serial number and information label, (example only).
Fig. 2.4. UK Responsible Person and EC REP label (example only).
Fig. 2.5. Location of Serial Number Label and UDI Label (overleaf)

Fig. 2.1

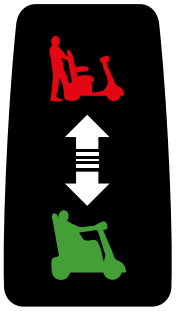


Fig. 2.2

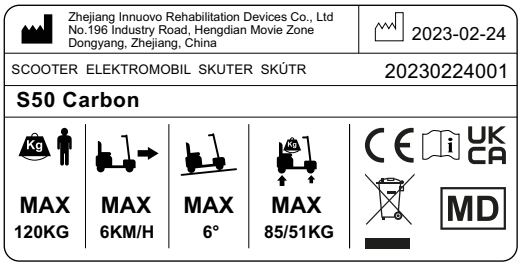


Fig. 2.3

UK RP	SUNGO Certification Company Limited 3rd floor, 70 Gracechurch Street, London. EC3V 0HR.
EU REP	SUNGO Europe B.V. Fascinatio Boulevard 522, Unit 1.7, 2909VA Capelle aan den IJssel, The Netherlands
CH REP	SUNGO Technical Service GmbH Bahnhofstrasse 21,6300 Zug, Switzerland
Sponsor	SUNGO Australia Pty Ltd L 3 85 William Street, Darlinghurst, NSW, 2010 Australia

Fig. 2.4

2.2 Safety: Temperature

⚠ WARNING!

- Avoid physical contact with the scooter's motors at all times. Motors are continuously in motion during use and can reach high temperatures. After use, the motors will cool down slowly. Physical contact could cause burns. Allow the motors after using at least 30 min. to cool down.
- If you do not use the scooter, ensure that it is not exposed to direct sunlight for lengthy periods of me. Certain parts of the scooter, such as the seat, the back and the armrests can become hot if they have been exposed to full sunlight for too long. This may cause burns or allergic reactions to the skin.

2.3 Safety: Moving parts, (Fig.2.6)

⚠ DANGER!

A scooter has moving and rotating parts. Contact with moving parts may result in serious physical injury or damage to the scooter. Contact with the moving parts of the scooter should be avoided.

- Tiller (Fig. 2.6 - A)
- Backrest folding latch (Fig. 2.6 - B)
- Wheels (Fig. 2.6 - C)

2.4 Safety: Electromagnetic radiation

⚠ CAUTION!

The standard version of your mobility scooter has been tested on the applicable requirements with respect to electromagnetic radiation (EMC requirements) In spite of these tests:
It cannot be excluded that electromagnetic radiation may have an influence on the Scooter. For example:

- mobile phone
- large-scale medical apparatus
- other sources of electromagnetic radiation
- It cannot be excluded that the scooter may interfere with electromagnetic fields. For example:
- shop doors
- burglar alarm systems in shops
- garage door openers

In the unlikely event that such problems do occur, we request that you notify your dealer immediately.

⚠ DANGER!

- When operating two-way radio, walkie-talkies, C.B., Amateur radio, public mobile radio and other powerful transmitting devices the scooter should be brought to a halt and turned off.
- The operation of cordless, mobile telephones and cell phones including hands-free devices is permitted but if abnormal operation of the scooter is encountered then it must be brought immediately to a halt and turned off.

Fig.2.5

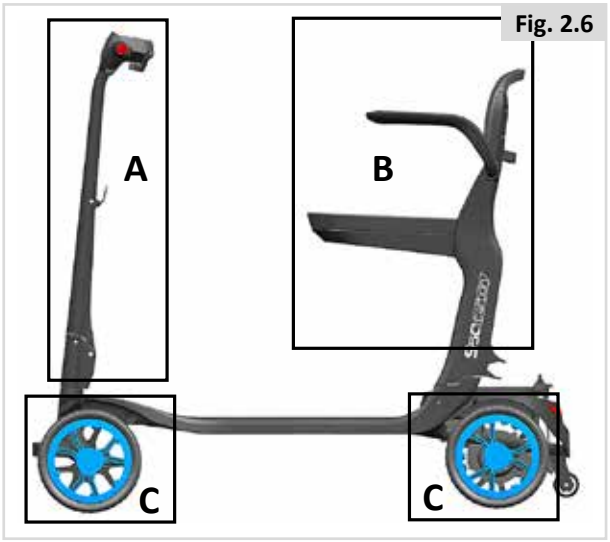


Fig. 2.6

2.5 Electromagnetic interference (EMI)

⚠ **DANGER!**

Electromagnetic interference comes from external electromagnetic wave energy (like radios, TV transmission stations, CB radio waves, garage door starters, radio phones, etc.). Electromagnetic interference may affect the control system of the power scooter. Some interference may lead to the brake failure, automatic power-on or steering failure. lt may so may lead to the permanent damages to the control systems. Below information on cables are provided for EMC reference.

Cable	Max. cable length, shielded / unshielded		Number	Cable classification
AC Power Line	1m	Shielded	1 set	AC Power
DC Power Line	1m	Shielded	1 set	DC Power

Important information regarding Electro Magnetic Compatibility (EMC)

- This electrical medical equipment needs special precautions regarding EMC and put into service according to the EMC information provided in the user manual; The equipment conforms to this IEC 60601-1-2:2014 standard for both immunity and emissions. Nevertheless, special precautions need to be observed:
- The equipment with ESSENTIAL PERFORMANCE/Following ESSENTIAL PERFORMANCE, only has intended used in Home healthcare environment.

ESSENTIAL PERFORMANCE:

- ⚠ **WARNING!** Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally".
- The use of accessories, transducers and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.
- ⚠ **WARNING!** Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the S50 Carbon, including cables specified by the manufacturer.
- Otherwise, degradation of the performance of this equipment could result.
- ⚠ **WARNING!** If the product is being used near (e.g. less than 1.5 km from) AM, FM or TV broadcast antennas (which can create electromagnetic disturbances), please check that your scooter is operating normally.
- When the AC input voltage is interrupted, the equipment will stop battery charging and if the power supply restored, it could be recovered automatically.

EMI Compliance table (Table 1)
Table 1 - Emission

Phenomenon	Compliance	Electromagnetic environment
RF emissions	CISPR 11 Group 1, Class B	Home healthcare environment
Harmonic distortion	IEC 61000-3-2 Class A	Home healthcare environment
Voltage fluctuations and flicker	IEC 61000-3-3 Compliance	Home healthcare environment

EMS Compliance table (Table 2 -5)
Table 2 - Enclosure Port

Phenomenon	Basic EMC standard	Immunity test levels Home healthcare environment
Electrostatic discharge	IEC 61000-4-2	±8 kV contact ±2kV, ±4kV, ±8kV, ±15kV air
Radiated RF EM field	IEC 61000-4-3	20V/m 26MHz-2.5GHz 80% AM at 1kHz 10V/m 80MHz-2.7GHz 80% AM at 1kHz
Proximity fields from RF wireless communications equipment	IEC 61000-4-3	Refer to table 3
Rated power frequency magnetic fields	IEC 61000-4-8	30 A/m 50 Hz or 60Hz

Table 3 – Proximity fields from RF wireless communications equipment

Test frequency (MHz)	**Band (MHz)**	**Immunity test levels** **Home healthcare environment**
385	380 - 390	Pulse modulation 18Hz, 27V/m
450	430 - 470	FM, ±5kHz deviation, 1kHz sine, 28V/m
710	704 - 787	Pulse modulation 217Hz, 9V/m
745		
780		
810	800 - 960	Pulse modulation 18Hz, 28V/m
870		
930		
1720	1700 - 1990	Pulse modulation 217Hz, 28V/m
1845		
1970		
2450	2400 - 2570	Pulse modulation 217Hz, 28V/m
5240	5100 - 5800	Pulse modulation 217Hz, 9V/m
5500		
5785		

Table 4 - Input a.c. power Port

Phenomenon	**Basic EMC standard**	**Immunity test levels** **Home healthcare environment**
Electrical fast transients/burst	IEC 61000-4-4	±2 kV 100kHz repetition frequency
Surges Line-to-line	IEC 61000-4-5	±0.5 kV, ±1 kV
Conducted disturbances induced by RF fields	IEC 61000-4-6	0% UT; 0.5 cycle At 0º, 45º, 90º, 135º, 180º, 225º, 270º and 315º
		0% UT; 1 cycle and 70% UT; 25/30 cycles Single phase: at 0º
Voltage interruptions	IEC 61000-4-11	0% UT; 250/300 cycles UT=rated input voltage

Table 5 - Signal input/output parts Port

Phenomenon	**Compliance**	**Electromagnetic environment**
Electrostatic Discharge	IEC 61000-4-2	±8 kV contact ±2kV, ±4kV, ±8kV, ±15kV air

2.6 Safety: Choking hazard

⚠ DANGER!

This mobility aid uses small parts which under certain circumstances may present a choking hazard to young children.

2.7 Safety: Using a (vehicle mounted) scooter lift

Scooter lifts are used in vans, buses and buildings to help you move from one level to another.

⚠ DANGER!

- Ensure that the user and all carers fully understand the lift manufacturer's instructions for using the passenger lift.
- Never exceed the lift manufacturer's recommended safe working load and load distribution guidance.
- Always turn off all power when you are on the lift. If you fail to do so, you may touch the wig-wag by accident and cause your scooter to drive off the platform. Be aware that a roll-stop at the end of the platform may not prevent this.
- Always position the user securely in the scooter to help avoid falls while on the lift.
- Always ensure the scooter is in drive mode when using passenger lift (wheels locked not in freewheel/manual mode).

2.8 Safety: Lifting the scooter

⚠ WARNING!

- Do not lift this seating system by any parts that are removable, doing so may result in damage to the seating system or injury to the user.

3.0 Intended use of the scooter

General description

The S50 Carbon is a mobility scooter. The design allows you to have an ideal driving experience indoors as well as outdoors.

Mobility Scooters are exclusively for a user who is unable to walk or has limited mobility, for their own personal use in- and outdoor.

A Mobility Scooter is a battery-operated device that is intended for medical purposes to provide mobility and comfort to persons restricted to a sitting position.

3.2 Area of application: The user

Mobility scooters are exclusively for a user who is limited mobility, for their own personal use indoors and outdoors.
Driving a powered scooter requires cognitive, physical and visual skills. The user must be able to estimate and correct the results of actions when operating the scooter.
The scooter cannot transport more than 1 person at a time.
The maximum weight limit (includes both the user and any weight of accessories fitted to the scooter) is marked on the serial number label, which is affixed to the side frame (Fig. 2.5).

The user must be informed of the contents of this user manual before driving the scooter. In addition, the user of the scooter must be given thorough instruction by a qualified specialist before he or she participates in traffic. The first sessions in the scooter should be practiced under supervision of a trainer/advisor.

Indications

The S50 Carbon can be used by those who have limited mobility and the elderly.

- Paralysis
- Loss of extremity (leg amputation)
- Extremity defect deformity
- Joint contractures/joint injuries
- Illnesses such as heart and circulation deficiencies, disturbance of equilibrium or cachexia as well as for elderly people who still have strength in the upper body.

Contraindications

The scooter shall not be used in case where any of the following impair safe operation:

- Visual or other perception disorder
- Disorders of awareness or alertness
- Uncontrolled involuntary movements or imbalance that cannot be accommodated
- Unstable position in sitting
- Loss of both arms, if not supported by a caregiver
- Joint contracture or joint damage on both arms

Fig. 3.1

Additional considerations

The following should be taken into consideration in relations to the provision of the scooter and any specificoptions available.

- The users body size, weight including the distributionof body weight.
- The mass of any carry on or stowed items should beadded to the users body mass and together should notexceed the maximum load of the scooter.
- The user's physical and psychological constitution. The age of the user, their living conditions and theenvironment in which the scooter is going to be used.e.g.home surroundings and the intended area of use.

Please note that driving a scooter requires sufficient cognitive, physical and visual skills. The user must be able to assess the effects of actions during the operation of the scooter and, if necessary, to correct them. These capabilities and the safe use of the additionally attached components cannot be assessed by Sunrise Medical. The manufacturer cannot accept any liability for any damage resulting from this.

Please refer to the operating instructions of the scooter and the additionally mounted components. Instruct the user in the safe use of the scooter and the additionally mounted components. Inform users of specific warnings that need to be read, understood, and respected.

Basic Components (Fig.3.1).

1. Tiller
2. Handle
3. Tyres
4. Chassis
5. Drive wheel
6. Battery
7. Seat upholstery
8. Armrest
9. Backrest

⚠ WARNING!

- If you are under the influence of medicines that can have an effect on your ability to drive, you are not permitted to drive a Scooter.
- Adequate vision is required in order to safely operate a Scooter in the user situation concerned.
- Not more than one person at a time can be seated in the scooter.
- Do not allow children to ride in the Scooter unsupervised.
- The user of the Scooter is at all times completely responsible for complying with the applicable local safety regulations and guidelines.

3.2 Area of application: The user environment

This Scooter has been designed for indoor use (EN12184 (2014) Class A). If driving the Scooter outdoors, drive only on paved roads, pavements, footpaths and bicycle paths. The speed must be adapted to suit the environment.

⚠ WARNING!

- Drive carefully on slippery roads resulting from rain.
- When driving at higher speeds you must be extra careful. Select a lower maximum speed indoors, on the pavement and in pedestrian areas.

⚠ CAUTION!

- Do not drive off high obstacles.
- Do not attach a weight to the Scooter without the approval of a qualified specialist. This may negatively affect the stability of the product.
- Prevent the Scooter from coming into contact with sea water: sea water is caustic and may damage the Scooter.
- Prevent the Scooter from coming into contact with sand: sand can permeate into the moving parts of the Scooter, causing extensive wear on these parts.
- Do not use the Scooter if temperatures are below: -25˚C or above +50˚C.
- Do not open doors using the footrest.
- Do not push and/or tow any objects with the Scooter.
- Do not drive through puddles of water (Please refer to Fig. 3.2).

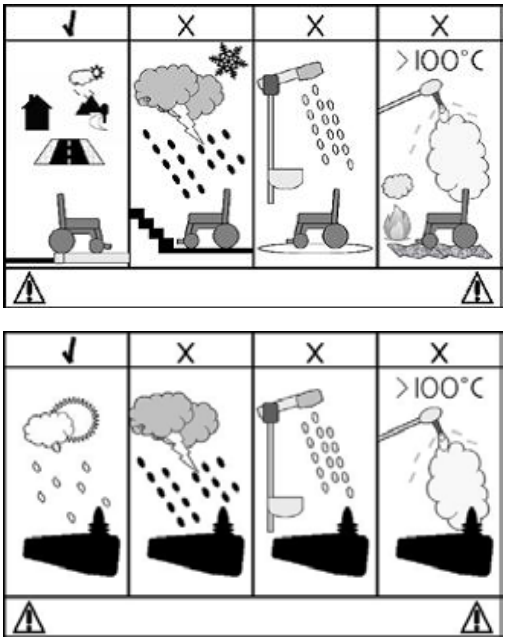


Fig. 3.2

4.0 Setting up the scooter

4.1 Assembling

Open the packaging box, then take out the scooter and remove the protective padding.
Firstly, hold the upper part of the handle (Fig. 4.1-①) with one hand, then press the button (Fig. 4.1-②) with the other, this allows you to pull it upward to the desirable angle.

Then, pull up the seat from the position of (Fig. 4.2-④) to the position of (Fig. 4.3) until it clicks into place. Make sure the seat is in the locked position before use.

Take out the armrest, the left armrest from an angle of about 30 degrees upward (Fig. 4.4), the front of the armrest protrudes against the groove of the side frame armrest mounting port, loaded to the very bottom and then rotated forward to (Fig. 4.5), the right armrest mounted in the same way as the left armrest.

Remove the seat upholstery and stick it to the seat plate in the direction of (Fig. 4.6), with the periphery matching the shape of the seat plate, as in (Fig. 4.7).

Insert the battery into the battery holder as shown in Fig. 4.8. Then press the battery down until the pin on the left side of the battery inserts into the hole of the rear shroud. At this point, if the battery cannot be pulled out when you lift it upward, it means it is installed in place (see Fig. 4.9). When you need to remove the battery, toggle the latch (in the direction of the arrow in Fig. 4.8) and push up the battery handle to take out the battery.

As shown in the figure (Fig. 4.9) press the brake handle, press for drive mode, pull away for freewheel/manual mode, the product factory default for freewheel/manual mode need to be pressed, if not pressed will be reported as fault 9.

⚠ DANGER!

When installing the battery, make sure that the battery is fully pushed in and the pin at the back of the battery ⑤ (Fig. 4.8) is inserted into the slot at the back of the battery compartment. If it is not properly positioned, just press the back cover of the battery compartment gently to make it automatically snap into place.

⚠ DANGER!

When the mobility scooter has no power or needs to be pushed, pull up the brake puller (Fig. 4.9). Do not use your scooter in freewheel/manual mode when it is on an incline. Otherwise, the scooter will roll down the slope and may cause personal injury.

Fig. 4.1

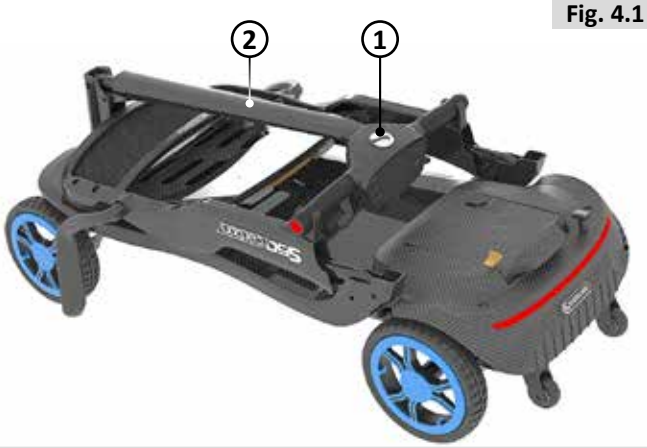


Fig. 4.2

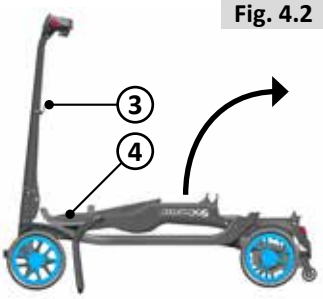


Fig. 4.3

Fig. 4.4

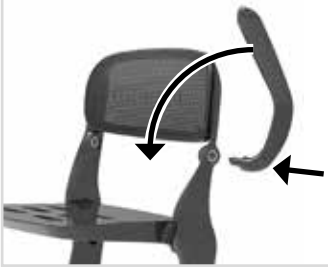


Fig. 4.5

Fig. 4.6

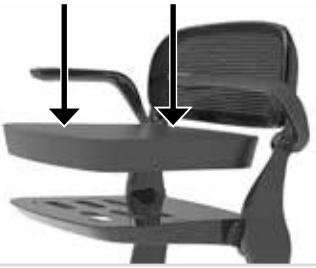


Fig. 4.7

Fig. 4.8

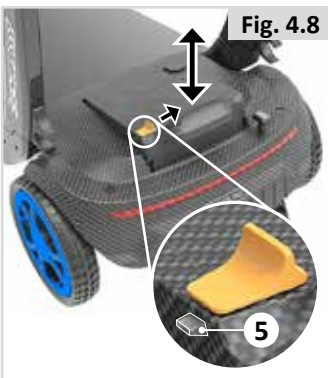


Fig. 4.9

4.2 Adjusting

4.2.1 Handle Adjusting

The scooter handle angle can be adjusted by pushing on the lever (Fig. 4.11-⑥) and supporting the handle (Fig. 4.11-⑤) with your other hand.

4.2.2 Armrest Flip

For the convenience of getting on/off scooter, the armrest can be flipped up (Fig. 4.12). After getting on/off the scooter, the armrest can be flipped forward to return it to its original position.

⚠ DANGER!

When the backrest is open (Fig. 4.11), the unfolding is completed when the backrest cannot be pushed forward. If it can be pushed forward, do not drive the scooter, otherwise it will damage the scooter and could cause personal injury, make sure that the folding button is in the closed state of the front end (Fig. 4.10).

⚠ DANGER!

When handle is in the unfolded state and user need to adjust the angle of the handle, hold the handle first and then press the tiller lock lever (Fig. 4.11-⑥), otherwise it will damage the scooter and could cause personal injury.

4.3 Operating

4.3.1 Preparation before operation

- Make sure that the Scooter is in drive mode and only get in and out of the Scooter when the power is off.
- Please flip up the armrest before getting on scooter (Fig. 4.12).

4.3.2 Practice before operation

- Find a spacious place and have an assistant to help you practice until you have enough confidence to operate it.
- Be certain to shut down the power when you get on and off the scooter.
- Set the speed control button to the speed you want.
- We recommend that you set the lowest speed setting until you can operate the electric Scooter skillfully.
- Practice stopping, moving forward and backward. If you are assisting, make sure you are comfortable and confident with the operation of the Scooter.

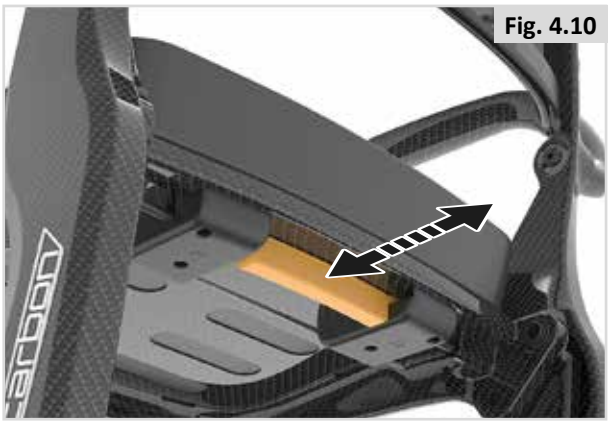


Fig. 4.10

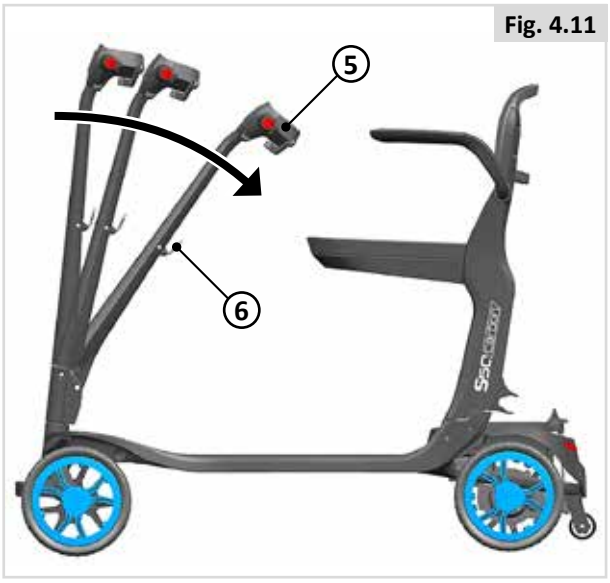


Fig. 4.11


Fig. 4.12

4.4 Folding

When the scooter needs to be folded, please snap your thumb to the back of the seat frame (Fig. 4.13) and pull the folding button back with the rest of your fingers. If the button cannot be pulled, gently push the backrest backward and when the folding lock is pulled to the rear, push the backrest forward until it fits in the pedal position (Fig. 4.14)

While steadying the tiller (Fig. 4.15-⑦) with one hand, use the other hand to press the tiller lock lever (Fig. 4.15-⑧). Then, allow the handle to slowly fold down until the handlebar fits into the C-clamps (Fig. 4.16-⑨). The C-clamps at both ends of the side frame will grip the handle to limit left/right movement.

When the mobility scooter needs to be moved after folding, hold the front handle shown by the arrow in Fig. 4.16 with one hand. It can then be towed while supported by the two small anti-tip wheels.

Carrying

The product can be carried by holding the front handle (Fig. 4.16) with one hand and dragging the other hand under the rear shell.

⚠ **DANGER!**

Do not lift the tiller when folding or carrying, otherwise the handlebar will detach from the C-clamps, allowing the frame to swing freely. This could result in personal injury or damage to the scooter.

4.5 Control system programme

This scooter is equipped with a control system that can be programmed by adjusting settings within the system. This is a specialized job that needs training and can only be adjusted with professional software. The end user is not allowed to adjust these settings.

⚠ **DANGER!**

The incorrect setting of the parameters for the control system may result in injury. Settings must be made by qualified specialists.

Fig. 4.13

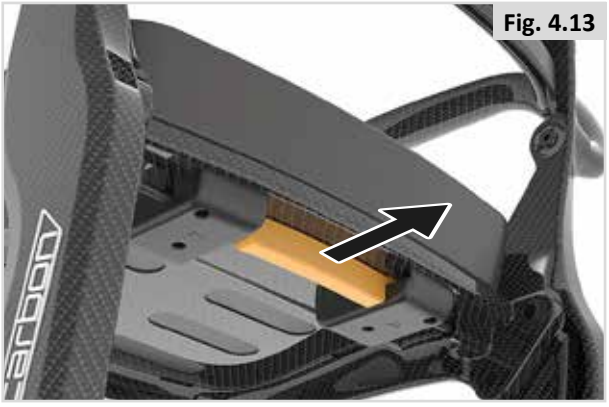


Fig. 4.14

Fig. 4.15

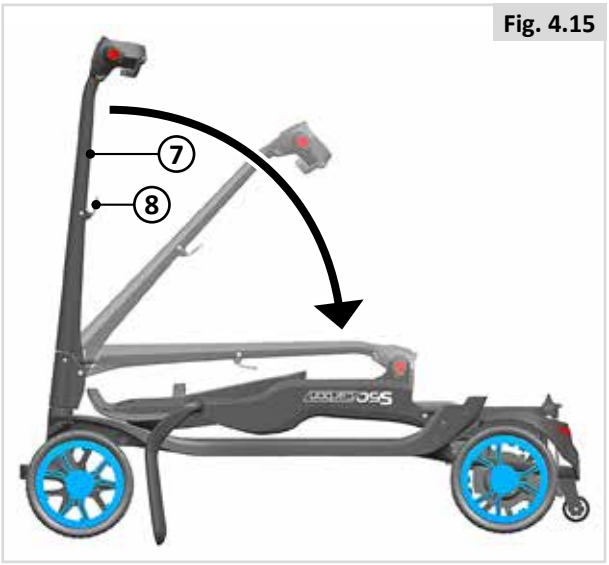
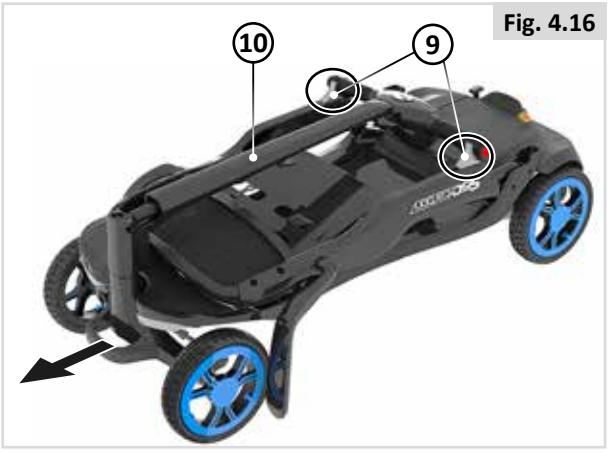


Fig. 4.16



4.6 Lap strap / seating positioning belt

(This part is optional. If additional seat belt configurations are required, please contact Sunrise)

⚠ DANGER! / WARNING!

- This product is only to be used to position a single person in a scooter.
- Lap straps are not suitable for transit purposes, approved occupant restraint systems must be used.
- Failure to heed these warnings may result in severe injury or death.
- Ensure that the carer or attendant is trained in the correct operation of the belts.
- Poorly fitted belts may lead to delays, if an emergency situation occurs.

Positioning a person with a lapstrap

- Adjust the lap strap to suit, leaving no more than a hand's width gap for comfort and safety (Fig. 4.17).
- The hand clearance should be with the lap strap under normal tension and not allow large gaps or loops.
- Generally, the lap strap should be fixed so that the straps sit at an angle of approximately 45° (Fig. 4.18), and when correctly adjusted should not allow user to slip down in the seat.
- Place the strap loosely across the seat with the opening end of the buckle facing to the right for a left-handed person and to the left for a right-handed person. Pass the other ends of the strap through the gap between the backrest posts and the backrest.

⚠ DANGER! / WARNING!

- Always make sure that the lap strap is correctly secured and adjusted prior to use.
- If a strap is too loose it could cause the user to slip down and cause serious injury.
- Check lap strap and securing components at regular intervals for any signs of fray or damage. Replace if necessary.
- When servicing, check for correct operation of the release buckle and for any signs of wear on the material or plastic brackets.

Regular Checks/Activities:

- As with all positioning components, there is a need for corrective adjustments as the person changes their seating position over time.
- Check the belts regularly for correct fitting, to ensure the safety and comfort of the user.

Fig. 4.17

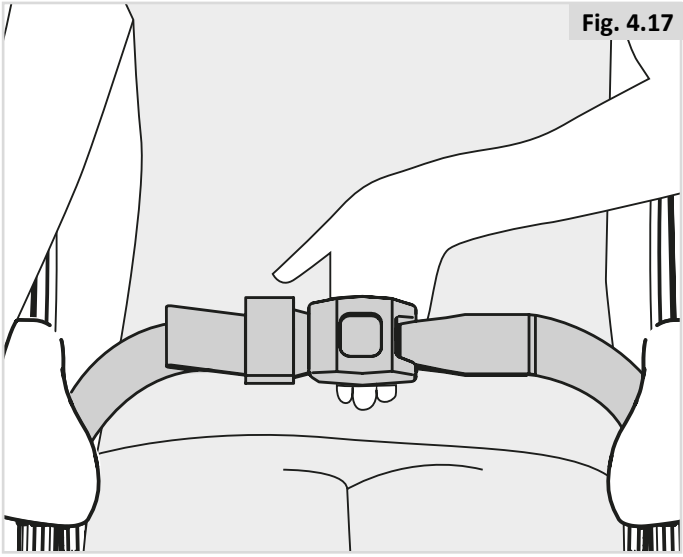


Fig. 4.18

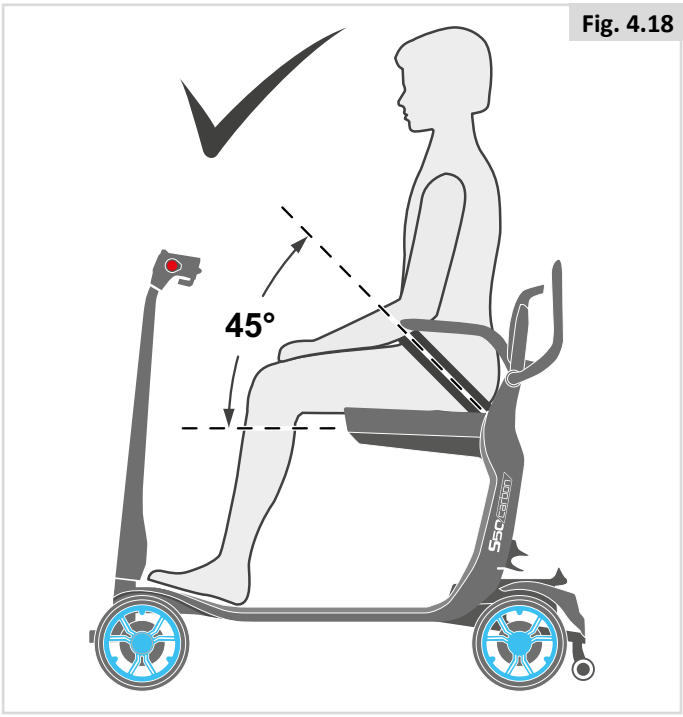


Fig. 4.19

5.0 Using the scooter

⚠ DANGER!

- Be aware that you may need to adjust the controller settings of your system.
- Consult your authorised dealer to adjust the control settings immediately if you notice any change in your ability to:

1. Wigwag
2. Hold your torso erect
3. Avoid running into objects.

5.1 Checking scooter before use

Perform the following daily check routine before driving:

⚠ CAUTION!

Checking wheels
- Are the wheels sufficiently secured (Chapter 8.2).

Checking the battery
- Before using your vehicle for the very first time, please charge your batteries for a period of 8 hours.
- Are the batteries sufficiently charged? The green lights on the battery indicator must be on.

Checking remote
- With the control system switched off, check that the wigwag is not bent or damaged and that it returns to the centre when you push and release it.

Checking free wheel lever
- Ensure that the free wheel lever has been set to 'drive'.

Checking seating
- Ensure that all the cushions are in place.
- Visually inspect the scooter to make sure armrests etc. are correctly positioned and attached to the scooter and all fasteners are sufficiently tightened.

Checking clothing on potential entrapment
- When operating the scooter, ensure that your clothing does not hamper the scooter (i.e. too long). Before use, always check if your clothing or accessories do not come into contact with the wheels or and other moving and/or rotating parts in which they could become entangled.

Checking weather conditions
- In winter, batteries have a reduced capacity. During a period of light frost, the capacity is roughly 75% of the normal capacity. At temperatures below -5˚C this will be roughly 50%. This will reduce your range of action.

⚠ WARNING

Avoid wearing loose cuffs/sleeves when operating wigwag as they could become entangled.

5.2 Control function Module (Fig. 5.1)

All the electronic components to control the scooter are integrated to the controller which controls the motor speed.

1. **Hare button** is for speed increase. The scooter has a total of four gears. Every press will increase one gear. When the scooter is switched off then on again, it will automatically be at the speed when last switched off.
2. **Tortoise button** is for speed decrease. The scooter has a total of four gears. Every press will decrease one gear. When the scooter is switched off then on again, it will automatically be at the speed when last switched off.
3. **Horn Button:** Press the button, the horn will sound:
4. **Wigwag:** This controls the scooter forward and backward, the right, right control forward, left control backward.
5. **Type-C connector** can charge your phone quickly when scooter is power on.
6. **Power switch and NFC key.** Please do not use the power switch and NFC key to turn off the scooter while driving in non-emergency situations, otherwise it will shorten the life of the scooter.
7. **Headlight switch.** After pressing the headlight switch, the headlight at the front of the mobility scooter and the pulsing light at the rear will light up at the same time.
8. **NFC key.** When the power switch is pressed, hold the NFC key to close to the NFC button (Fig. 5.1-⑥) to tuen the scooter power on.

   Holding the NFC key close to the NFC button again will turn the scooter power off.
9. **Combination key.** Press speed increase and speed decrease at the same time, after about 5 seconds, you can switch the speed display MPH and KPH.

Fig. 5.1

Control module components (Fig.5.1).

1. Speed increase button
2. Speed decrease button
3. Horn button
4. Wigwag
5. Type-C connector
6. Power switch + NFC Sensor Area
7. Headlight switch
8. NFC key

5.3 Controller Indicator (Fig. 5.2)

A	Indicates that the headlight and tail breathing light are on
B	Indicates that the scooter has been energized then can be powered on after swiping the NFC key
C	Power level indicator:

Red light only:	Approx. 0–5 km remaining range
2 green lights:	Approx. 5–10 km remaining range
3 green lights:	Approx. 10–15 km remaining range
4 green lights:	Approx. 15–20 km remaining range

D	Turtle buttons to Hare buttons are displayed as gears throughout the arc.

When Fig. 5.2-G shows KPH:

Gear 1: 1 light on	Max speed: 1 KPH;
Gear 2: 2 lights on	Max speed: 2 KPH;
Gear 3: 3 lights on	Max speed: 3 KPH;
Gear 4: 4 lights on	Max speed: 4 KPH;
Gear 5: 5 lights on	Max speed: 5 KPH;
Gear 6: 6 lights on	Max speed: 6 KPH;

When Fig. 5.2-G shows MPH:

Gear 1: 1 light on	Max speed: 0.62MPH, shows 1MPH;
Gear 2: 2 lights on	Max speed: 1.24MPH, shows 1MPH;
Gear 3: 3 lights on	Max speed: 1.86MPH, shows 2MPH;
Gear 4: 4 lights on	Max speed: 2.49MPH, shows 2MPH;
Gear 5: 5 lights on	Max speed: 3.11MPH, shows 3MPH;
Gear 6: 6 lights on	Max speed: 3.73 MPH, shows 4MPH;

E	When E+F is flashing, it indicates a fault

F	Speed indicator, it will display the speed when driving

Speed unit display, the speed unit can be displayed as KPH or MPH. The unit can be changed by (Fig. 5.1-①) and (Fig. 5.1-②) are pressed at the same time for about 5 seconds.

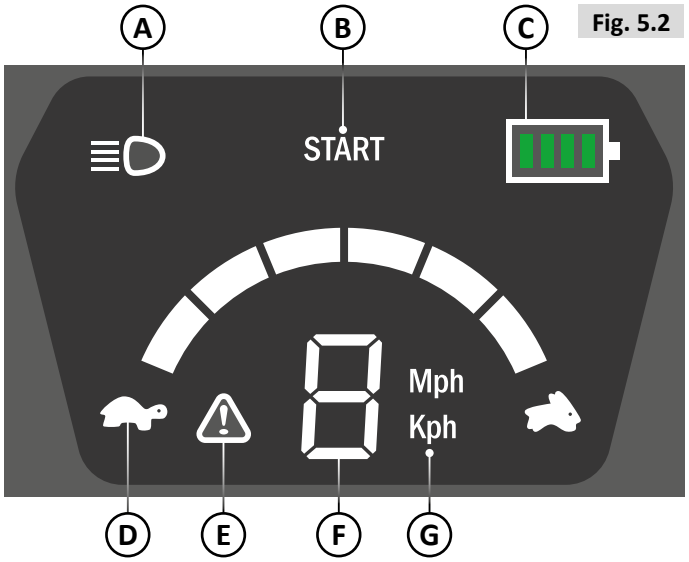


Fig. 5.2

Power Level Indicator	
	**≤25%**
	**25%-50%**
	**50%-75%**
	**75%-100%**

5.4 Light Type

The headlight and taillight are controlled by the controller. When the button (Fig. 5.1-⑦) is pressed, the (Fig. 5.2-A) light on, and the (Fig. 5.3-①) and (Fig. 5.4-②) on at the same time.

When the taillight (Fig. 5.4-②) is on, it will show a breathing state for about 5 seconds.

When the scooter is slowing down (Fig. 5.5-③), the brake light on and go out after speeding up. When the scooter is stopping (Fig. 5.5-③), the brake light on for about 5 seconds and then off.

5.5 Driving the scooter

⚠ WARNING

- The user of the scooter is completely responsible for complying with the applicable local safety regulations and guidelines at all times.

Mobility scooters are driven by means of a controller.

1. Switch on the controller, place the key close to the NFC sensor area (at the power switch).
2. Setting the maximum speed limit by tortoise and hare buttons.
3. Left hand forward toggle for backward, right hand forward toggle for forward, toggle the more forward the greater the speed.

Road use

This product is approved for indoor use. Please show the utmost consideration for the other traffic on the road if used outdoors.

Adverse conditions:

Please be aware that when driving your scooter in adverse conditions, e.g. on wet slippery surfaces, you may experience a reduction in the grip and traction of your scooter.

NOTE :

Extreme variances in temperature may trigger the self-protect mechanism in the control system. If this occurs the control system will temporarily shut down to prevent damage to the electronics or the scooter.

5.6 Braking & Emergency stop

There are three ways to stop your scooter:

- Simplest and safest way to stop the scooter is to release the wigwag. This will bring the scooter to a halt in a controlled manner.
- Switching the control system off whilst the scooter is in motion will also bring the scooter to a halt.
- The scooter can also be stopped by holding the NFC key close to the NFC sensor area while the scooter is in motion.

⚠ WARNING!

- Pressing the power button and disconnecting the power stop with the NFC key is only to be used in an emergency situation as the stopping action is very abrupt.

Fig. 5.3

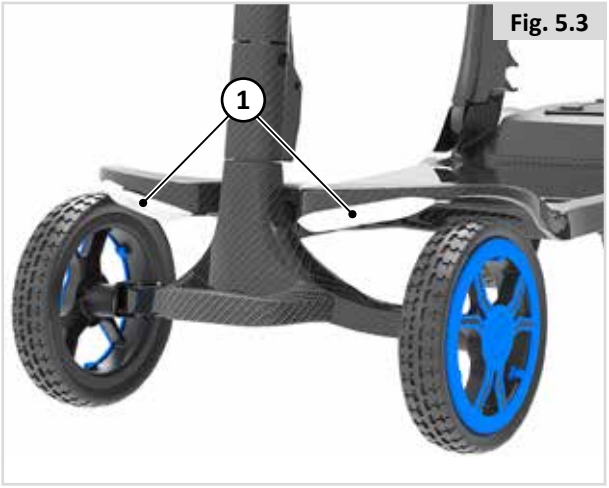


Fig. 5.4

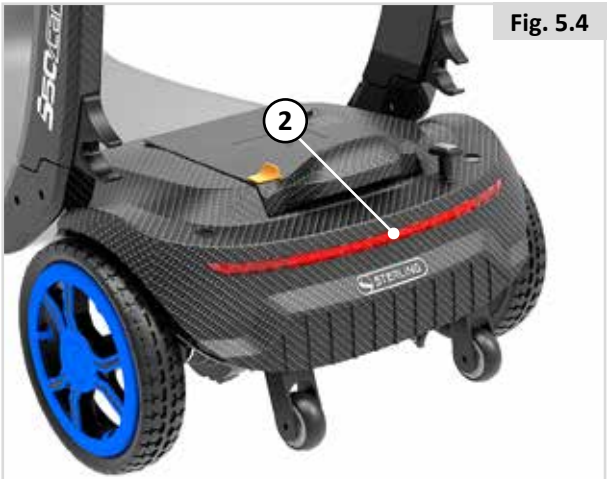


Fig. 5.5

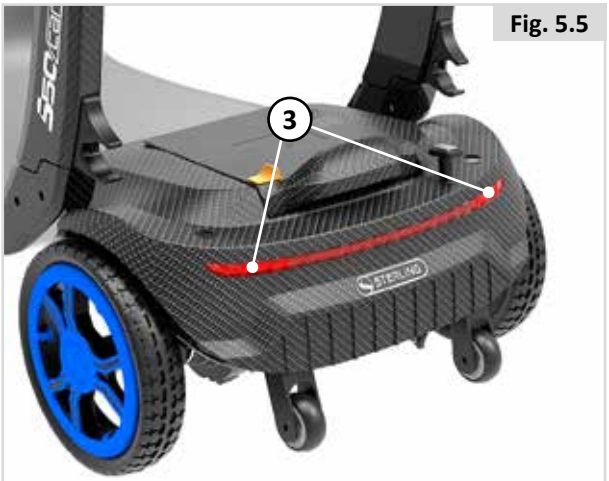


Fig. 5.6

5.7 Driving on a slope

Your scooter has been designed and tested to allow its use on slopes or gradients of at least 6° .

S50 Carbon: 6° (10.5%) in standard configuration.

⚠ **DANGER!**

- Stopping distances on slopes can be significantly longer than on level ground.

⚠ **DANGER!**

- In certain circumstances your scooter could become unstable.
- Before attempting to climb or descend a slope or a kerb, caution should be taken when using your body for a counter balance weight.
- To improve stability, lean forward when driving uphill, with the seat and back in an upright position.
- Alternatively sit in an upright position when travelling in a forward, downhill direction or recline the seat backwards.
- If you are in any doubt about the capabilities of your scooter on a slope then do not attempt to drive up or down the slope/kerb; try to find an alternative route.

Gradients: ascents:

⚠ **WARNING!**

- When going uphill, keep the scooter moving.
- Steer by carefully moving the wigwag forwards making slight Left and Right adjustments as you go.
- If you have stopped on a hill, you should start slowly.
- If necessary, lean forward.

Gradients: descents:

On descents, it is important not to let the scooter accelerate beyond its normal level of ground speed.

⚠ **WARNING!**

The mobility scooter controller may force the scooter to slow down when the slope exceeds the limit angle of the scooter going downhill. If this occurs, do not go down a steep hill for a long time, as this may damage the scooter or personal injury.

⚠ **DANGER!**

- Proceed slowly down steep descents, (below the speed of 5kph) and stop if you feel anxious.
- If the scooter picks up speed, centre the wigwag to its home position to allow it to slow, or to stop.
- Restart slowly and do not allow the speed to increase above what you are comfortable with.

NOTE:

- The controller has the benefit of a logic system that will help compensate when driving along a camber or up a hill. This is an added safety feature on your scooter. In addition, of course, you may control the scooter speed by using the speed control.

5.8 Obstacles & kerbs:

⚠ DANGER!

- Never descend a kerb backwards.
- Do not attempt to climb or descend a series of steps or use on escalators. It is unsafe to do so and could cause personal injury or damage the scooter. This scooter has only been designed to climb a single step or kerb.
- We recommend that users with upper trunk instability wear restraint systems to keep the upright body position during descending or ascending ramps, kerbs or obstacles.

Kerb climbing:

Always approach a kerb at 90° (Fig. 5.7).

- Approach the kerb or step, head on at a 90° angle.
- Drive forwards slowly and steadily.
- Stop the scooter as soon as the castor wheels touch the kerb.
- Apply sufficient power to the motors to lift the front of the scooter up onto the kerb or step and then apply slightly more power until the drive wheels climb the kerb or step smoothly.

The maximum obstacle or kerb climbing height is:

- S50 Carbon : 40 mm.

The approach speed and process can vary depending on your scooter drive type and castor wheel choice.

Dismounting the kerb.

⚠ DANGER!

Move the scooter slowly and carefully in a forward direction until both front wheels are on the edge of the kerb, again in a 90° position to the kerb.

Drive as slowly as possible off the kerb with the drive wheels. Don't stop the scooter during decent of the kerb. You will feel more secure if you can lean backwards, but if you can't, don't worry, the scooter is stable. As long as you stay within its limitation, you will be quite safe.

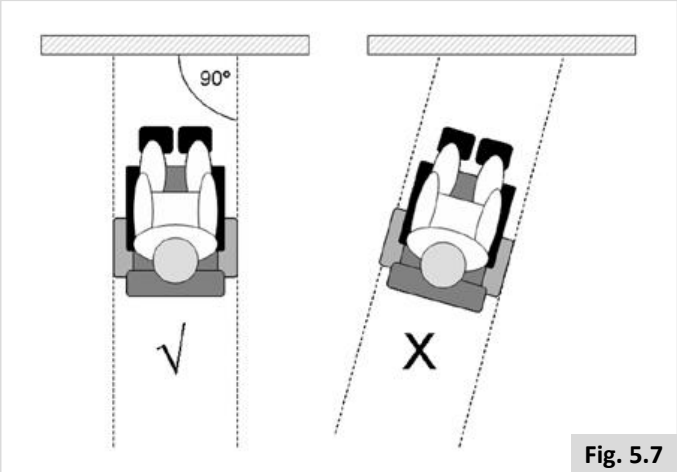


Fig. 5.7

5.9 Pushing the scooter

The brake lever must be pulled up by pulling the locking handle to push the mobility scooter, so that the brake lever is in the released and the wheels can rotate freely. This feature was developed for no electricity and needs to be pushed, the latter for short distances.

The freewheel lever has 2 positions:

1. For driving the scooter.

'Drive' position: Press the brake puller (Fig. 5.8).

2. For disengaging the motors.

'Freewheel' position: Pull up the brake puller (Fig. 5.9).

⚠ DANGER!

- The scooter should only be in freewheel/manual mode when unoccupied.
- Never set the lever to the 'freewheel' position on a slope! When the lever is set to 'freewheel', the automatic parking brake is deactivated. This makes it possible for the scooter to roll down the slope. (Fig. 5.9)
- The automatic parking brake only works if the lever is set to 'drive' position.
- When the scooter is no longer being pushed, the lever should be set to 'drive' immediately.
- To manually push the system, you must release the motor brakes.
- The label on the brake puller describes the 'Drive' and 'Freewheel/Manual' modes.
- Do not engage or disengage motor brakes unless power to the system is off.
- Make sure you have full control over the system when you release the brakes.
- Make sure the system is on level ground before you release the motor brakes.

Fig. 5.8

Fig. 5.9

6.0 Batteries, charging and range

6.1 Usage of Battery

Fully charge the new battery prior to its initial use. This brings the battery up to 90% of the its peak performance level.

Give the battery a full charge (The green LED on the charger lights) after every use and operate your scooter again, the batteries will perform at over 90% of their potential. After four or five charging cycles, the battery utilization rate is close to 100%, extending the battery lifespan.

After battery failure, please be sure to buy new batteries and replace them as required, and the old ones must be returned to the supplier for disposal to prevent environmental pollution.

In the case of not using, it is recommended to charge the battery every two weeks, and use it for more than 20 minutes, which can extend the life of the battery.

Do not charge you product outdoors.

Keep the product away from fire and heat source when charging. Please put the product in the open, clean, dry and ventilated place with no flammable, explosive or chemical substances around.

Batteries replaced or scrapped shall be recovered and disposed of in accordance with local laws.

(Fig. 6.1 shows reference to the electrical diagram of the S50 Carbon)

6.2 Usage of Charger

The battery charger is an important component of scooter. The scooter can reach the optimal state by simple and fast charging with this charger.

Use charger to charge the battery:

- Connect the three-pin metal plug of the charger to the three-hole interface of the battery.
- Plug the other end plug of charger into a standard socket. The blue light is on when charging and the green light is on when the battery is fully charged.
- After battery is fully charged, remove the power line and charger.

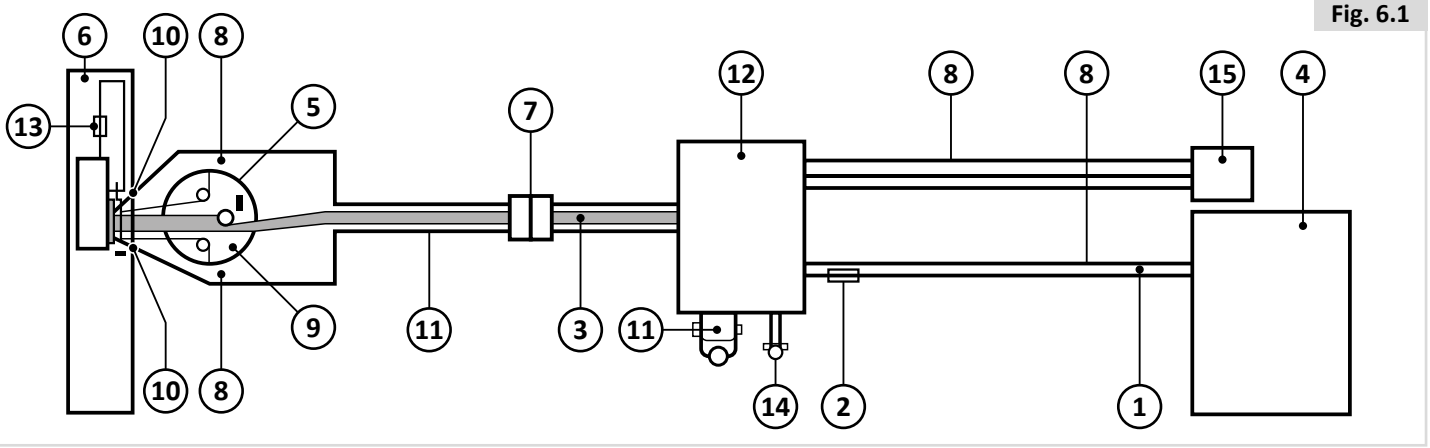
⚠ DANGER!

- Do not, under any circumstances, tamper with the batteries. If in any doubt contact your local Sunrise Medical authorised dealer.
- Do not leave the batteries/battery pack unattended while charging.

⚠ WARNING!

- Only use the approved charger supplied with the scooter.
- Always unplug and switch off after charging is complete.
- There is a risk of fire and injury if instructions are not followed.
- Do not smoke near, or expose the batteries to directheat (i.e. naked flame, gas fire).
- Do not attempt to change the fuses yourself.
- Do not attempt to by-pass the fuse as this would be very dangerous and could cause a fire.
- If you suspect a fault, contact your Sunrise Medical authorised dealer as soon as possible.
- Do not short circuit the battery terminals. Remember tools, jewellery etc can conduct and if dropped across the battery terminals may cause severe burnsand/or explosion!
- Ensure the battery terminal covers are fitted.
- You may find the batteries heavy. Take extra care when removing them from the scooter.
- Always use the handle provided to lift the batteries. After reinstalling or replacing the battery, ensure the battery is properly installed in place (refer to Section 4.1).

Fig. 6.1



Key					
1	test point D	6	battery	11	traction wiring
2	control wiring fuse	7	connector	12	scooter drive controller
3	test point B	8	charge and/or control wiring	13	circuit protection device
4	panel digital control screen	9	charge connector	14	electromagnetic brake
5	test point C	10	test point A	15	speed controller

6.3 Charging batteries:

The general procedures and effects for the interference with the scooter and the batteries remain valid.

Battery care plan

Below is set out a battery care plan for maintenance free batteries. This has been agreed with the battery manufacturers, to enable you to get the best out of your batteries. If a different care plan is followed, this may result in lower-than-expected performance from your mobility scooter.

- Only use the approved charger compatible with the scooter to be charged.
- Charge your batteries every night, regardless of the amount of use your mobility device has had during the day.
- Charge the batteries in a well-ventilated area.
- Do not interrupt the charging cycle.
- If your mobility device is not required for use, it should remain connected to the charger until required. This will not damage your batteries, as long as the mains socket/plug is left switched on. Turning the mains socket/plug off but leaving the mains cable plugged in will eventually deplete your battery charge.
- If you leave your vehicle for an extended period (more than 15 days) charge the batteries fully and then disconnect the main battery lead.
- Failure to allow for recharge will damage the batteries and can lead to shortened distances and premature failure.
- Do not top up the charge of your batteries during the day. Wait until the evening for a full overnight charge.
- Following all the points above should result in a healthier battery, greater range for the vehicle user and a longer life for your batteries.

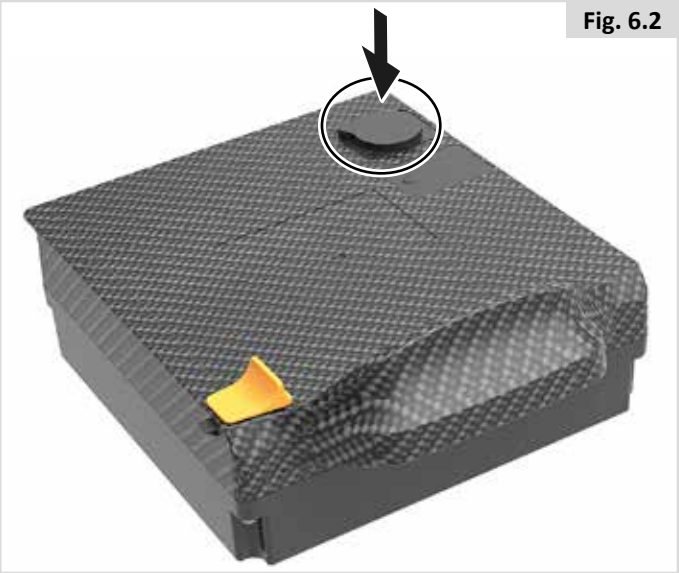


Fig. 6.2

Fig. 6.3

Charging Methods

Connect the input plug of charger to the standard power outlet and connect the output plug of charger to the controller socket for charging or detach the battery for charging by connecting interface on the battery box (Fig. 6.2).
When the battery is installed in scooter, the same can be charged to the battery, when inserted into the 3-hole plug, the scooter will inhibit the control system, so that the scooter cannot be driven, this is a safety design. After fully charged, unplug the 3-hole plug, then press the power switch, brush the NFC key to boot up the scooter can be driven normally.

⚠ WARNING!

Please do not operate the scooter while charging.

Back up battery

For those with higher mileage needs, a second battery can be purchased as a backup, which can be stored inside the bag (if equipped with) under the seat.

Battery Charger

The external charger has been designed to charge the Li-Ion battery (= 24 V).

The chargers have features which prevent hazards or accidents occurring because of connecting the batteries the wrong way round, overheating caused by fault conditions or attempting to charge wrong voltage batteries.

Most charger sizes are electrically double insulated, and no earth connection is required. Some larger sizes may be electrically earthed, and this will be clearly stated on the label.

If your charger has been specified for use in Continental Europe it will contain a European two pin plug which does not have a fuse. In this case the fuse is located in the fascia panel of the charger.

Country specific information: UK
The 3-pin British mains input plug is fitted with a replaceable fuse. The rating of this fuse (13A) is indicated on the charger label.

⚠ **DANGER!**

- As with all mains powered electrical equipment, always replace blown fuses with the same type and size of fuse as specified.
- Fitting fuses can result in increased fire risk, damage to the charger or failure of the charger to operate properly.

Battery Replacement

⚠ **WARNING!**

Please replace with battery of same type. Please select the battery type and capacity per specification in the manual. Please use the replacement battery directly provided by the authorized supplier(s) to ensure performance and function.

⚠ **WARNING!**

Please protect the battery from freezing; Please keep the scooter well if live in a cold place. Please do not charge the frozen battery, otherwise the battery may be damaged.

Overload / undervoltage fuse

This unit is designed for scooter safety by switching off and on a protective circuit within the Lithium-ion battery. It will immediately cut off power supply if the motor is overloaded or the voltage is too low so as to protect motors and electrical components from damage. To restore the protector function, use the charger to charge the scooters or re-plug the battery connector. (Fig. 6.4)

Fig. 6.4

6.4 The range of your vehicle:

Please refer to the specification tables at the back of this manual for Energy Consumption, (Maximum Range), information.

Most manufacturers of mobility products state the range of their vehicles either in the sales literature or within the Owner's Manual. The range stated sometimes differs from manufacturer to manufacturer even though the battery size is the same.

But variances still occur due to motor efficiencies and overall product load weight.

The range figures are calculated to ISO Standard 7176. Part 4: scooter Energy Consumption Theoretical Range.

This test is carried out in controlled conditions with new, fully charged batteries, on a level test surface and a user weight of 100 kg. The range figures stated should be seen as a theoretical maximum and could be reduced if any single, or combination, of the following circumstances occur:

- User weight heavier than 100 kg.
- Batteries whose age and condition are less than perfect.
- The terrain is difficult e.g. very hilly, sloping, muddy ground, gravel, grass, snow and ice.
- The vehicle climbs kerbs regularly.
- The ambient temperature is very hot or very cold.
- Lots of start/stop driving.
- Also thick pile carpets within the home can affect range.
- Use of additional power consumption options (e.g. light, actuators, etc.)

The battery sizes available on your product should give sufficient range to cope with the majority of customer's lifestyles.

6.5 Battery warranty:

Battery warranties are subject to periods set by the manufacturers. However, most of these warranties are subject to a wear and tear clause, and if you genuinely wear out your batteries in 6 months, it will not be possible to obtain a replacement under warranty.

6.6 Replacing batteries

- The scooter uses a 24V Li-Ion battery which is fully sealed and requires no maintenance.
- Replacing and servicing batteries is to be done by a qualified specialist.
- In case of malfunctioning batteries, contact your local dealer.

⚠ DANGER!

- Do not attempt to replace or service batteries without the supervision of trained and qualified personnel.

6.7 Air Transportation of the scooter

The scooter and the single 24v Li-Ion battery has air transport certification to the International Air Transport Association (IATA) regulations.

Individual airlines have differing requirements related to transport of products with Li-Ion batteries. Prior to arranging any air travel with the scooter, please confirm with your airline or carrier that they accept battery-powered vehicles under UN classification: UN3556. Note: The pilot of the aircraft has the ultimate decision to allow or deny travel of any device onboard the plane.

If your airline accepts the UN3556 classification, the following steps will be necessary to prepare your scooter for air travel.

- The battery must have a maximum charge of 30%. We recommend to completely discharge your battery until the gauge shows the single red LED in the battery display reference Fig. 5.2 – C (on page 18).
- Ensure the battery is correctly clipped into place, and the latch is in place.
- Carefully pack your scooter in the original packaging for transport to the airport.

6.8 Transportation in vehicles:

This scooter is not suitable to use as a seat in a vehicle.

6.9 General transport warnings

⚠ WARNING!

- No changes or replacements must be made to the anchorage points/car fastenings on the scooter, or to constructional elements or parts of the frame.
- The scooter should be inspected by a Sunrise Medical authorised dealer/service agent, before reusing following involvement in any type of vehicle collision.

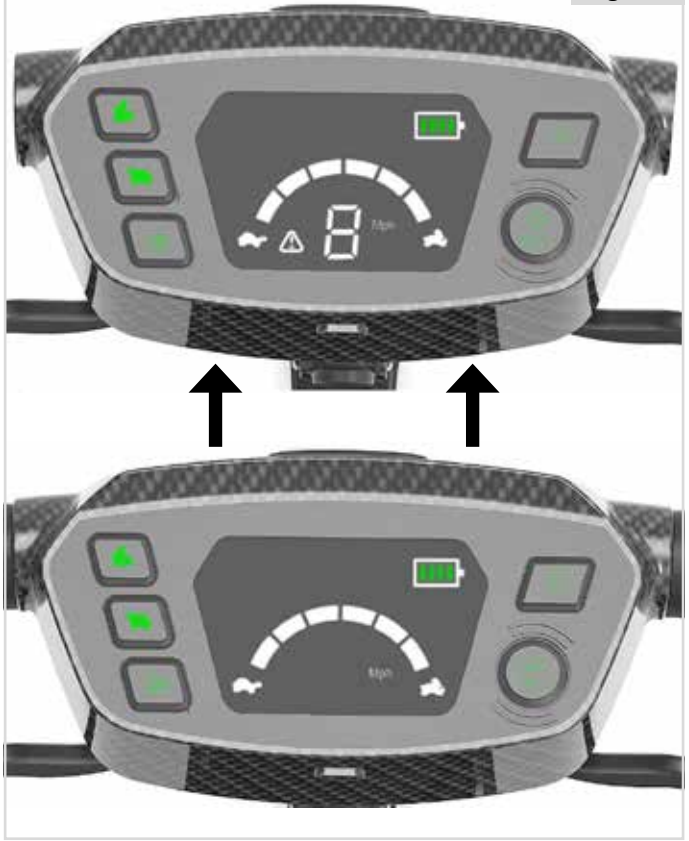
7.0 Fault analysis and troubleshooting

For your convenience, this scooter is equipped with an automatic fault warning device. Once it is out of order, the display panel triangle fault labeling and numbers will flash, different numbers (0-9) represent different faults (Fig. 7.1); at the same time, the horn will sound the number of times corresponding to the number of times, when the display is not 0 fault, the buzzer will sound 10 times.

(Fig. 7.1). You can find where the fault is according to the table below. If the fault persists after checking, please contact your service agent.

After pressing the power switch and swiping the NFC key, fluctuating the toggle immediately, it will display fault 7, and you need to reboot the power for about 2 seconds before toggling the toggle again. Because the controller needs to self-test the control system for faults within two seconds before powering on.

Fig. 7.1



⚠ **1 Flash**	Battery Low	The batteries are running low. Recharge the batteries.
⚠ **2 Flashes**	Bad Motor Connection	Possible motor wiring fault. Please consult your dealer or qualified technical personnel.
⚠ **3 Flashes**	Motor Fault	Possible motor fault. Please consult your dealer or qualified technical personnel.
⚠ **4 Flashes**	Controller overheating	The controller temperature is too high. Turn the controller off, leave for a few minutes and turn back on again.
⚠ **5 Flashes**	Communication failure	Possible fault in the connecting cable between the controller and the instrument, please contact the dealer or qualified technician for repair.
⚠ **6 Flashes**	Charge inhibit	Please check whether it is in charging.
⚠ **7 Flashes**	Throttle fault	Possible throttle fault. Restart the scooter again and check if it works. If not, please consult your dealer or qualified technical personnel.
⚠ **8 Flashes**	Controller fault	Possible controller or the associated connections and wiring fault. Please consult your dealer or qualified technical personnel
⚠ **9 Flashes**	Brake fault	Check if the brake is in electric position in Drive mode. Or possible wiring fault. Please consult your dealer or qualified technical personnel
⚠ **10 Flashes**	High battery voltage	The battery voltage is too high, please stop charging or down a steep hill on a full charge. If the problem persists, please consult your dealer or qualified technical personnel.

8.0 Maintenance & cleaning

The scooter lifespan is dependent on it being well maintained. For information concerning specific settings, maintenance or repair work, please contact your authorised Sunrise dealer. Always be sure to mention the model, year of manufacture and identification number provided on the identification plate of the scooter when contacting your dealer.

⚠ CAUTION!

The scooter should be serviced by your authorized Sunrise dealer once a year or, in the case of intensive use, every six months. For a list of approved authorised dealers in your area please contact Sunrise Medical Service Centre.
The contact details of your local Sunrise medical service centre can be found on the inside front cover of this booklet.
National and International Website addresses are on the back cover.

8.1 Maintenance

⚠ WARNING!

- Loose fasteners should be re-tightened according to the installation instructions.
  Please refer (unless otherwise specified) to the general table below for needed Torques (Fig. 8.1).
- Chest straps should be replaced at the first indication of damage and/or excessive wear.
- If a broken or loose component is found, discontinue use immediately and contact your authorised Sunrise Medical supplier for replacement.
- Check all Velcro fastening straps for correct adhesion when pressed together.
- Ensure that any contamination, such as fluff, hair, etc. is removed from the Velcro straps. Such contamination may affect adhesion.

⚠ WARNING!

- If you are in any doubt about the performance requirements of your scooter, contact your Sunrise Medical authorised dealer.
- After performing any maintenance or repairs on the scooter you must make sure that it is functioning correctly before it is used.
- All fasteners must be replaced like-for-like using the correct length, tensile strength and materials.
- When replacing self-locking nuts, or nuts/studs secured with a thread locking solution, ensure that a suitable thread locking solution is reapplied to the fastener.

Daily checks

Perform the daily check routine before driving as described in chapter 5.1

Weekly checks

Perform the weekly check routine before driving as described below.

Checking Parking brake:
This test should be carried out on a level floor with at least one meter clearance all around the scooter.

- Switch on the control system.
- Check that the battery gauge remains on, or flashes slowly, after one second.
- Push the wigwag slowly forward until you hear the parking brakes operate.
- The scooter may start to move.
- Immediately release the wigwag. You should hear the brakes parking., (click), within a few seconds.
- Repeat the test a further 3 times, pushing the wigwag slowly backwards, front.

Checking connectors & cables:

- Make sure that all connectors are securely mated.
- Check all cables are not loose and secured to the scooter.
- Check the condition of all cables and connectors for damage.

Fig. 8.1

Checking tiller: (Fig. 8.2)

Turn the handle left and right to the maximum angle to make sure there is no gap in the connections, if there is obvious gap, please stop using the scooter immediately. Tighten the screws at the loose connections or replace the bearings. If you are unable to complete the overhaul personally, please contact your local dealer.

Push the wigwag back and forth to confirm that the wigwag can be restored to its original position, if not, the scooter may not be able to start, please refer to the troubleshooting table in section 7.0.

Hold the handle with one hand and press the air spring switch with the other hand to make sure the handle adjustment angle is normal.

⚠ WARNING!

Do not press the air spring switch without holding the handles, otherwise the handles will automatically spring back down towards the rear, which may damage the mobility scooter or cause personal injury.

Checking controls:

- Switch on the hand control – Do the lights flash? This signifies that there is a fault in the electronic system. Refer to chapter 9 for basic troubleshooting
- Operate all of the electric options, including lights and indicators, (if fitted), to make sure that they work correctly.
- With the seating in an elevated position, drive the scooter to make sure that the 'creep' mode works which will slow the scooter.
- Drive the scooter in each of the drive profiles to make sure the scooter performs as it did before.

⚠ WARNING!

- If you are in any doubt about the performance requirements of your scooter, contact your Sunrise Medical authorised dealer.
- After performing any maintenance or repairs on the scooter you must make sure that it is functioning correctly before it is used.
- A complete inspection, safety check and service should be conducted by a Sunrise Medical authorised dealer at least once per year.
- All fasteners must be replaced like-for-like using the correct length, tensile strength and materials.
- When replacing self-locking nuts, or nuts/studs secured with a thread locking solution, ensure that a suitable thread locking solution is reapplied to the fastener.
- Check all Velcro fastening straps for correct adhesion when pressed together.
- Ensure that any contamination, such as fluff, hair, etc is removed from the Velcro straps. Such contamination may affect adhesion.

Monthly checks

Perform the monthly check routine before driving as described below.

- All fasteners should be checked monthly for wear, such as loose bolts or broken components.
- Check all straps monthly for fraying, ripped seams or other indications of excessive wear damage. Discontinue use if damage is found.

8.2 Tyre maintenance and pressures

8.2.1 Tyres

When inspecting the tyres for signs of wear, look for significant scuff marks, cuts and a diminished tyre tread. Wheels will need to be changed when the tread cannot be seen over the complete surface of the tyre, (Fig. 8.3).

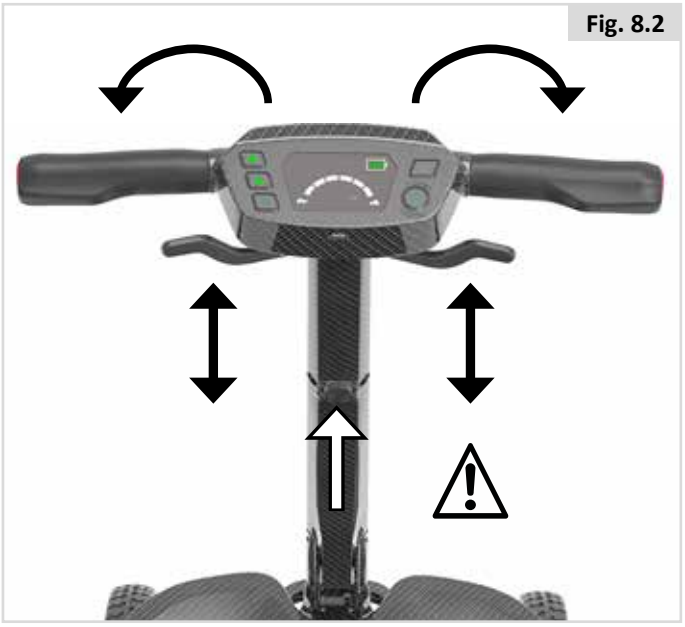


Fig. 8.2

Fig. 8.3

8.2.2 Drive wheel repair

To remove the drive wheel: (Fig. 8.4 & 8.5)
- Remove the colour insert off the drive wheel.
- Loosen the M12 nut on the axle using the 19mm socket (Fig. 8.8) handle
- Remove drive wheel from the scooter.

Installation of Drive Wheel:
Follow the reverse sequence of the steps above to fit the drive wheel and wheel trim kits, tightening the bolts to a torque of 15Nm.

To remove the front castor wheel: (Fig. 8.5)
- Using 5mm Hex keys (Fig. 8.9), unscrew and remove the central bolt from the castor wheel.
- Remove the front wheel from the scooter.

Note: Reverse the process to put the wheel back on. (Tighten bolts to 15Nm).

Note: Transfer colour insert over if needed to new wheel.

To remove the anti-tip wheel: (Fig. 8.4)
- Using 2 x 4mm Hex keys, unscrew and remove the central bolt from the anti-tip wheel.
- Remove anti-tip wheel from the scooter.

Note: Reverse the process to put the wheel back on. (Tighten bolts to 4-5Nm).

Fig. 8.4

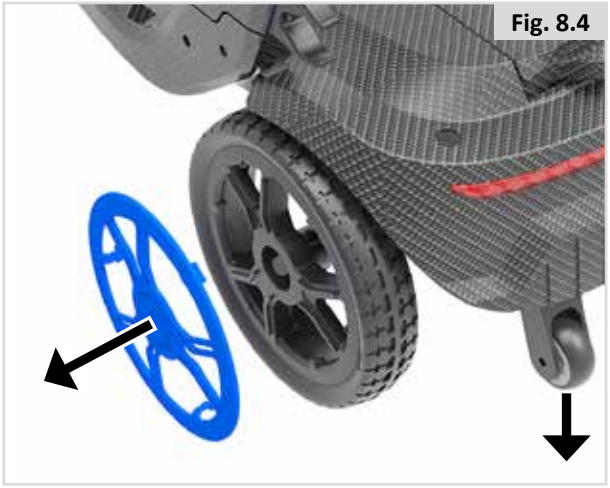


Fig. 8.5

Fig. 8.6

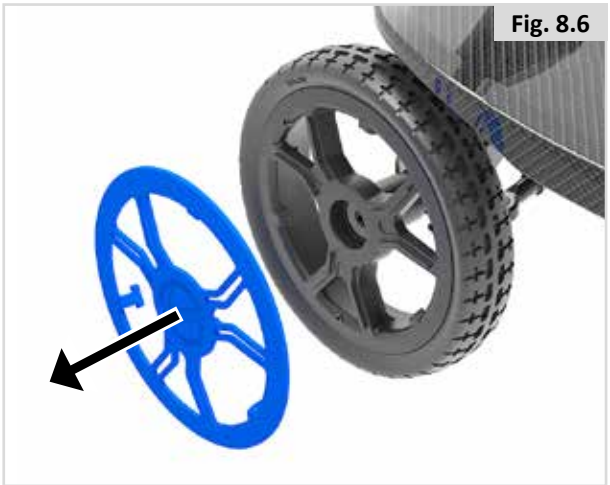


Fig. 8.6

Fig. 8.7

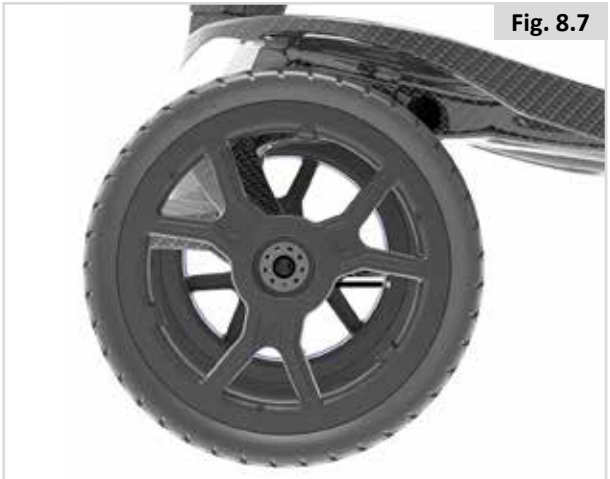


Fig. 8.7

Maintenance & Inspection Schedule	Daily*	Weekly	Monthly	Annually
Daily check routine as described in chapter 5.1	*			
Weekly check routine as described in chapter 8.1		*		
Complete inspection, safety check and service should be made by a Sunrise Medical authorised dealer.				*

8.3 Wheels & tyres maintenance

When inspecting the tyres for signs of wear, look for significant scuff marks, cuts and a diminished tyre tread. Tyres will need to be changed when the tread cannot be seen over the complete surface of the tyre.

Castor wheel	Max. tyre pressure
8” (195mm)	Solid tyre only
Drive wheel	Max. tyre pressure
8” (195mm)	Solid tyre only

8.4 Cleaning and disinfection

The scooter should be wiped over once per week with a slightly damp, not wet, cloth and any fluff or dust that has accumulated around the motors should be blown or dusted away.

⚠ CAUTION!

Make sure that you dry all parts of your scooter if it becomes wet or damp after cleaning or if it is used in a wet or damp atmosphere.

⚠ DANGER!

It is important that should the scooter be used by more than one person it is cleaned thoroughly to ensure there is no cross infection.

Hygiene measures when being re-used:

Prior to the scooter being re-used, it must be carefully prepared. All surfaces which come into contact with the user must be treated with a disinfection spray.

To do this, you must use a disinfectant as authorised/ recommended in your country, for rapid alcohol-based disinfection for medical products and medical devices, which must be disinfected quickly.

Please be aware of the manufacturer's instructions for the disinfectant you are using.

In general, a complete disinfection cannot be guaranteed on seams. We therefore recommend that you dispose of seat and back slings to avoid micro-bacterial contamination with active agents according to your local infection protection law.

⚠ CAUTION!

- Do not use solvents, bleaches, abrasives, synthetic detergents, wax polishes or aerosols.
- Disinfectants may be used in dilution as specified by their manufacturer.
- Ensure surfaces are rinsed with clean water and dried thoroughly.

⚠ WARNING!

- Always read the label on any commercial or domestic cleaning substances.
- Always follow the instructions carefully.

Cleaning controls:

Should the control of your scooter become soiled or dirty, it can be wiped with a damp cloth with a dilute disinfectant until clean.

8.5 Medium to long term storage:

When storing your scooter for long periods of time (in excess of 15 days), follow these simple instructions:

- Fully charge the scooter for at least 24 hours.
- Disconnect the charger.
- Disconnect the batteries.

⚠ WARNING!

Never store your scooter:

- Outside.
- In direct sunlight, (plastic parts may discolour).
- Near a source of direct heat.
- In a damp environment.
- In a cold environment.
- With the batteries/battery boxes connected, (even if the controller is switched off).

Avoiding all of the above will minimise battery deep cycle discharge and extend battery lifetime.

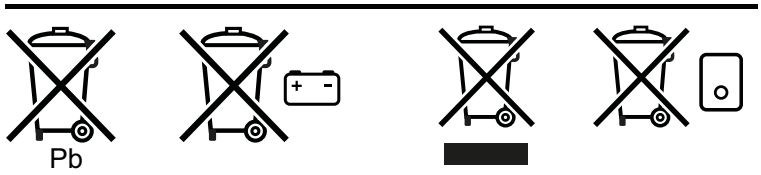
When returning the scooter to use, please reconnect the batteries/battery boxes and charge the scooter for at least 24 hours before use.

Storage Temperature: Min: -40ºC Max: 65ºC No restrictions on humidity and air pressure.

9.0 Disposal

The symbols below mean that in accordance with local laws and regulations your product should be disposed of separately from household waste. When this product reaches the end of its life, take it to the local collection point designated by local authorities. The separate collection and recycling of your product at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects the environment.

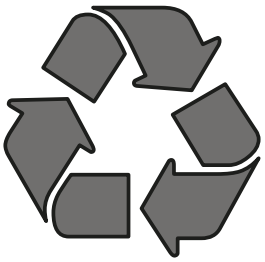
Ensure you are the legal owner of the product prior to arranging for the product disposal in accordance with the above recommendations and national requirements.



In the following section, there is a description of the materials used on the scooter, in view of the disposal or recycling of the scooter and its packaging.
There may also be special local regulations in force with regard to disposal or recycling, these must be taken into account when disposing of your scooter.

Aluminium: Differential (gear), transaxle
Steel: Fasteners, front wheel support
Plastic/PU: Tyres, Front panel top cover, Front panel lower cover, rear shroud, backrest frame
Packaging: Plastic bags made of soft polyethylene, cardboard
Carbon: Frame, seat plate, side frame, armrest, handle, front frame, hub

Disposal or recycling should be done through a licensed agent or authorised place of disposal. Alternatively, your scooter may be returned to your dealer for disposal.



10.0 Trouble shooting

If the scooter is not working as it should, check the following points.

- Check whether the batteries are charged.
- Turn the scooter off and then back on again.
- Check whether the battery plugs are all securely in place.
- Check whether the freewheel lever is in the DRIVE position.
- Make sure that the wigwag is in the original position, only toggled wigwag after two seconds of powering on and swiping the NFC key.
- Check that the four spring-loaded electrodes in the rear shroud back properly.

11.0 Technical specifications: Applicable norms / standards

CE This product complies with the regulations and guidelines for medical aids and carries a CE and UKCA symbol. The product meets the requirements and standards below. These are checked by independent institutions.
EN ISO 10993-5:2009
Biological evaluation of medical devices - Part 5: Tests for in vitro cytotoxicity (ISO 10993-5:2009)

UK CA As the Authorized Representative, SUNGO CERTIFICATION COMPANY LIMITED, declares that the product conforms to the UK Medical Devices Regulation 2002 No.618.

Standard	Definition / description	Test Dummy Weight
Medical Device Regulation (EU) 2017/745	Applicable as mentioned in Appendix 1	
EN 12182: 2012 Class A	Assistive products for persons with disability- General requirements and test methods	120 kg
	S50 Carbon	120 kg
EN 12184: 2022 Class A	Electrically powered wheelchairs, scooters and their chargers - Requirements and test methods	120 kg
	S50 Carbon	120 kg
ISO 7176-8: 2014	Requirements and test methods for impact, static and fatigue strengths	N/A
ISO 7176-9: 2009	Climate tests for electric wheelchairs	N/A
ISO 7176-14: 2022	Requirements and test methods for control systems for electric wheelchairs	N/A
ISO 7176-16: 2012	Requirements for resistance to ignition of upholstered parts	N/A

Model	S50 Carbon	
Maximum user weight	120 kg	265 lbs.
EN12184 class:	A	

	Metric system values		Imperial system values & alternative	
Description	Minimum	Maximum	Minimum	Maximum
Total length (including legrests)	1030 mm		40.6”	
Total width	530 mm		20.9”	
Total weight without battery, seat cushion, armrest, storage bag, wheel trim kit	12.88 kg		28.4 lbs.	
Total weight influencers Batteries	1.9 kg		4.2 lbs	
Transport weight of the heaviest part	12.88 kg		28.4 lbs.	
Dynamic stability: Rated slope	6°		10.5 %	
Min. braking distance at maximum speed	≤1000 mm		≤39.4”	
Static stability S50 Carbon Downwards / Upwards / Sideways	6°/6°/6°		10.5 %/10.5 %/10.5 %	
NB: The following aspects have a negative influence on the range of action: Obstacles, rugged terrain, driving on slopes, exposure to temperatures below freezing point and frequent use of powered seat options.				
6 kph range	19.2 km		11.9miles	
Climbing capability for obstacles	40 mm		1.6”	
Max speed forward	6 kph		4 mph	
Turning Radius	1475mm ±300mm		58” ± 11.8”	
Ground Clearance	40 mm (excluding transaxle and anti-tip)		1.57” (excluding transaxle and anti-tip)	

	Metric system values		Imperial system values & alternative	
Description	Minimum	Maximum	Minimum	Maximum
Battery capacity	12Ah		12Ah	
Maximum permissible charging voltage		24V		24V
Maximum charging current		2 A (rms)		2 A (rms)
Insulation	Class 2 double insulated		Class 2 double insulated	

	Metric system values		Imperial system values & alternative	
Description	Minimum	Maximum	Minimum	Maximum
Seat to floor height	530 mm		20.9”	
Backrest angle	14°		24.6%	
Back height	320 mm		12.6”	

Unspecified tolerances: Dimensions: ±10%

12.0 Warranty

THIS GUARANTEE DOES NOT AFFECT YOUR LEGAL RIGHTS IN ANY WAY.

Sunrise Medical* (on behalf of the manufacturer) provides a guarantee, as set out in the warranty conditions, for products to its customers covering the following.

Warranty conditions:

1. Should a part or parts of the product require repair or replacement as a result of a manufacturing and/or material fault within 24 months, then the affected part or parts will be repaired or replaced free of charge. The warranty will only cover manufacturing defects

2. To enforce the warranty, please contact the supplier of your **scooter** – e.g. the Sunrise Medical Approved dealership or Healthcare provider with the exact details of the nature of the difficulty. Should you be using the product outside the area covered by the Sunrise Medical customer service agent, repairs or replacements will be carried out by another agency as designated by the manufacturer. The product must be repaired by a Sunrise Medical designated Customer Service agent, (dealer).

3. For parts which have been repaired or exchanged within the scope of this warranty, we provide a warranty in accordance with these warranty conditions for the remaining warranty period for the product in accordance with point 1.

4. For original spare parts which have been fitted at the customer's expense, these will have a 12 month guarantee, (following the fitting), in accordance with these warranty conditions.

5. Claims from this warranty shall not arise if a repair or replacement of a product or a part is required for the following reasons:

   a. Normal wear and tear, which include but is not limited to the following parts where fitted; batteries, armrest pads, upholstery, tyres, brakes shoes, ferrules, etc.
   b. Any overloading of the product, please check the EC label for maximum user weight.
   c. The product or part has not been maintained or serviced in accordance with the manufacturer's recommendations as shown in the user instructions and/or the service instructions.
   d. Accessories have been used which are not specified as original accessories.
   e. The product or part having been damaged by neglect, accident or improper use.
   f. Changes/modifications have been made to the product or parts, which deviate from the manufacturer's specifications.
   g. Repairs have been carried out, before our Customer Service has been informed of the circumstances.

6. This guarantee is subject to the law of the country in which the product was purchased from Sunrise Medical"

7. Life expectancy

   We estimate a life expectancy of five years for this product, provided that:

   - It is used in strict accordance with the intended use as set out in this document.
   - All maintenance and service requirements are met.

   The estimated life expectancy can be exceeded if the product is carefully used and properly maintained, provided that technical and scientific advances do not result in technical limitations.

   The life expectancy can also be considerably reduced by extreme or incorrect usage.

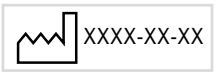
   The fact that we estimate a life expectancy for this product does not constitute an additional warranty.

* Means the Sunrise Medical facility from which the product was purchased.

Additional Notes for Australia Only:

i. For goods distributed by Sunrise Medical Pty Ltd in Australia, our goods come with a guarantee by Sunrise Medical (on behalf of the manufacturer) that cannot be excluded under Australian Consumer Law.
ii. You are entitled to a replacement or refund for a major failure and for compensation for any foreseeable loss or damage.
iii. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.
iv. The benefits to you given by this warranty are in addition to your other rights and remedies under a law in relation to the goods to which the warranty relate.

13.0 Nameplate

TYPE:	Product Name/SKU Number.
	Maximum safe slope with anti-tip tubes fitted,Depends on scooter setting,posture and physical capabilities of the user.
	Maximum user weight.
	Load maximum.
 MAX x/x mi/h km/h	Maximum speed.
	Maximum axle loading.
	UKCA Mark.
	CE Mark.
	Consult instructions for use.
	Indicates electrical /electronic equipment must be disposed of in accordance with the WEEE regulation.
 XXXX-XX-XX	Date of manufacture.
SN	Serial number.
MD	This symbol means Medical Device.
	Manufacturer’s address.
	Importer’s address
UK RP	UK Responsible Person
CH REP	Swiss Representative’s address

ISO 7010-M002

Instruction manual/booklet must be read! (Blue Icon)

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Rev.A_2025-12-16

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