



Choosing a scooter or buggy

DLF Factsheet

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INTRODUCTION

The many types of battery-powered vehicles currently available for the disability market are divided into three main categories: powered wheelchairs, scooters, and buggies. This factsheet covers scooters and buggies only. For advice on powered wheelchairs refer to DLF Fact sheet 'Choosing a powered wheelchair'. Highway regulations group powered vehicles into two categories: Class 2 and Class 3 vehicles:

- Class 2 vehicles can travel up to 6.4kph (4mph) and are allowed on pavements and to cross over roads only;
- Class 3 vehicles can travel up to 12.8 kph (8mph) and can be used on roads, and on pavements at the reduced speed of 6.4kph.

Within each category there is a range of different models and accessories, each with their own features to meet individual needs

Scooters and buggies look very similar, the main difference being that scooters dismantle while buggies do not.

For up-to-date product and supplier information, please contact our equipment helpline, open Monday to Friday from 10am to 4pm, Tel: 0845 130 9177 (calls charged at local rate), or if you use a textphone: 020 7432 8009).

Alternatively, write to our letter enquiry service or contact us via email at

advice@dlf.org.uk. To help us give you a concise and informative reply, please provide us with as much detail as possible including information on the difficulties you are having and any solutions you have considered, including equipment ideas.

SOURCES OF SUPPLY - WHO CAN HELP?

PURCHASE OF EQUIPMENT

Scooters and buggies are not available through the Wheelchair Service, which means that potential users will need to purchase them privately. It is therefore very important to get as much independent advice as possible about the range of scooters and buggies available. There are various ways to get assistance with funding.

Motability Route2Mobility Scheme

This is a non-commercial finance scheme open to people who receive the higher rate mobility component of the Disabled Living Allowance (DLA) - which people can only apply for before their 65th birthday - or War Pensioners Mobility Supplement. Vehicles are supplied through a network of accredited suppliers and can be purchased using a one, two or three year hire purchase agreement. Clients must agree to surrender part or all of their weekly DLA instalments to Motability for a fixed term. No deposit is required unless the cost of the scooter is over £6,000.

Further information on how the scheme is managed, information on the range of scooters available through the scheme and an application form are available from Route2Mobility Ltd (see useful addresses).

Funding from charitable sources

If you have little or no disposable income or you do not have the financial capacity to support a private loan, you could consider applying to a charity, benevolent or occupational fund for financial assistance.

The following information sources can help you to identify specific organisations that may be able to help you:

- A guide to grants for individuals in need published by the Directory of Social Change (see useful addresses). A social worker, Citizens Advice Bureau or local library may have a copy that you can refer to; The Association of Charity Officers (see useful addresses) has a list of members who can provide funding for equipment.

Second-hand equipment

Sometimes second-hand scooters and buggies can be bought through commercial suppliers. Although the equipment tends to be more expensive than it would be if bought from a private individual, it is likely to have been thoroughly serviced and may carry a short guarantee.

Some mainstream magazines and several

disability organisations publish journals that contain advertisements for second-hand equipment. If you are buying second-hand from a private individual, you must make sure that the vehicle has been regularly maintained, that you also receive accompanying literature, for example a care manual; and that you are not compromising on your essential requirements by buying second hand. Refer to DLF factsheet 'Sources of second hand equipment' for information on advertising sources.

SHORT TERM LOAN/HIRE

Private hire

A number of private hire firms make daily/weekly/monthly hire charges, which may vary in amount and in the conditions attached. There are a few points that you may wish to consider before taking out a hire contract for a piece of equipment, for example:

- does the company provide a delivery and/or collection service and, if so, are there any additional charges?
- does the company ask for a deposit before loaning of a vehicle?
- if hiring long term is the vehicle subject to a six monthly service liability; if so, will a replacement scooter be supplied in the mean time?

- who is responsible for maintenance, e.g. if you have a puncture?
- if you are hiring for holiday use, are you permitted to take the vehicle overseas? Are there additional charges, and/or an increase in the deposit needed?
- are you obliged to take out insurance; if so, is this included in the price and what eventualities does the insurance cover?
- when hiring a piece of equipment, ensure that the user understands how to operate and use it before taking delivery or collecting.

Shopmobility

Many towns and cities have Shopmobility schemes through which people can be loaned manual wheelchairs, powered wheelchairs, and scooters to enable them to go shopping. Some of the schemes are free but some require a returnable deposit. For details of your nearest Shopmobility centre contact the National Federation of Shopmobility (see useful addresses).

CONSIDERATIONS

A scooter or buggy may be chosen in preference to a wheelchair if the user:

- is to use it for covering the distance to and from a certain place, rather than

needing to use it all the time, i.e. to go to the shops but leave it outside while actually doing the shopping;

- * is able to transfer easily on and off the seat;
- has strong upper body muscles;
- does not have painful shoulder joints or weak arms;
- does not need a specialised seat unit or pressure care cushion.

If a scooter or buggy is being chosen to partially or completely replace a standard, manual wheelchair, it may be worth considering the advantages that an active user wheelchair can offer.

Active user wheelchairs are manual chairs that are lightweight and have large rear wheels that can be positioned slightly further forward than those on a standard manual wheelchair. The resulting redistribution of weight lessens the effort needed to propel or push this type of chair. The reduced weight is also an advantage if the chair has to be lifted and transported, particularly if an essential requirement is that the vehicle should be easy to transfer in and out of a car boot. For further details on active user wheelchairs refer to DLF factsheet 'Choosing an active user wheelchair.'

Before buying a scooter aim to see and try out the equipment. There are Disabled

Living Centres around the country that have a wide range of equipment on display. Some centres can give advice and information on scooters and related equipment. For details of the one nearest to you, contact the Disabled Living Centres Council (see useful addresses).

Some Mobility Centres (see useful addresses) have a range of powered vehicles on display and offer an assessment service. They may also have examples of vehicle racks and hoists. If you are applying to a charity for funding, you could also include the cost of the assessment in your grant application.

Some manufacturers of scooters and buggies provide a home demonstration service, which allows users to try the vehicle in their surrounding environment to test whether the controls, seating, and leg room are sufficiently comfortable and to ensure that there are no hidden problems in the environment where the scooter will be used, such as narrow doors or impassable steps.

Check whether the supplier belongs to British Healthcare Trades Association (see useful addresses). The association produces a code of good practice to which its members are expected to conform.

You must have a secure and waterproof place to store your vehicle, close to a power point to charge the vehicle's batteries. If you are keeping your vehicle in your home, make sure access is possible

and the vehicle is not going to obstruct essential circulation space.

Powered scooters or buggies may not be suitable for everyone. Users with visual, perceptual or intellectual difficulties should seek medical advice and have a thorough assessment at a mobility centre for details of your nearest Mobility Centre, contact the UK Forum of Mobility Centres (see useful addresses).

Before you commit to buying, the following should be checked:

- what is the delivery time?
- will the scooter arrive ready assembled?
- what guarantee is available?
- what after-care service is offered ?
- how much is the call out charge?
- will spare parts be brought to the home?
- if the scooter has to be taken away for repairs will a 'loan scooter' be offered?

WHAT DOES THE USER NEED?

A STABLE SEATING BASE

Everyone should have a seat, backrest and foot support that combine to provide a

comfortable, stable seating base. This enables users to expend their energy on essential activities, such as driving the vehicle and accomplishing tasks from within the vehicle, rather than wasting effort trying to maintain a comfortable, upright position. The seat unit should have an anatomically contoured seat base and backrest and be wide enough to accommodate outdoor clothing if necessary. However, it should not be so wide that the user is forced to sit asymmetrically to feel properly supported. If the seat is too narrow, it will become uncomfortable and increase the risk of pressure sores.

Try to choose a scooter vehicle that has a seat/backrest unit which can be adjusted to meet individual requirements. Scooter and buggy seat units often do not provide any special support - some models do not even have armrests and therefore users require good upper body control. Users with poor upper body control, or those who need a good deal of arm support, should consider a powered wheelchair that may meet their needs better.

A stable seating posture is essential in order to manage the vehicle's controls. This is especially important for users of the scooters and buggies which have tiller steering. The seat unit should be moved to a position which the user finds most comfortable and which gives him the best access to the steering controls.

A VEHICLE THAT IS EASY TO STEER

Tiller steering is a feature of scooters and buggies. Two hands are usually needed to work the controls and move the handlebars for steering. Some models, e.g. those that have one lever for acceleration and switches for forward/reverse mode, could be controlled by only one hand, although turning the vehicle away from the good side might require the driver to lean forwards and could prove tiring. Operating the ancilliary controls at the same time as steering can also be difficult, even with two handed control, tiller steering for long periods can put strain on the arms and shoulders. Adaptations for controls on scooters are fairly limited compared to the options available with powered wheelchairs.

A VEHICLE THAT MAKES TRANSFERRING EASY

Some people may find it more difficult to transfer into a scooter or buggy than into a wheelchair, particularly if it has a fixed seat. Users need some standing and walking ability to get to and from the scooter and on and off the seat.

The following features may help:

- a seat that swivels through at least 180° so that it can face outwards for easier transfers. However, ensure that the user can swivel the seat back into the 'driving' position independently;

- an angle adjustable tiller, a feature more common on buggies, that can be pushed forward whilst transferring onto the seat;
- an adjustable height seat so that the most convenient height can be selected;
- armrests that can be grasped to push up from or lower down to the seat;
- fold-up armrests that can be flipped out of the way for sideways transfers.

A VEHICLE THAT IS EASY TO MANOEUVRE

Although 'indoor' versions of both scooters and powered wheelchairs are available, indoor scooters tend to be the larger of the two and are therefore not as easy to manoeuvre in most domestic settings. If you do decide to buy an indoor scooter make sure that the chosen scooter will go through doorways, make tight turns from hallways, and go down shop aisles. Vehicles that can move around easily indoors tend not to be as good over distances, on steep slopes or uneven ground. Your powered vehicle may not meet all your mobility needs and it may still be necessary to have the use of a manual wheelchair.

Buggies and class 3 vehicles which are designed purely for outdoor use and can reach a maximum speed of 8mph (Class 3) usually have very wide turning circles. However, they also tend to have wide/deep

tread tyres that allow them to be manoeuvred over rough or soft ground. These vehicles usually have a built-in suspension.

A STABLE VEHICLE

Over flat, even ground all scooters and buggies should be stable. Four wheels are generally more stable than three. Particular care should be taken when turning corners which should be taken gently and at a reduced speed.

Kerb climbing should be avoided if at all possible as it requires skill and courage. Try to plan your route using dropped kerbs, which are becoming more common with the increasing awareness of local councils.

In a three-wheeled vehicle, it is always best to adopt a 'straight on' approach when climbing a kerb - approaching at an angle may cause the vehicle to tip. Scooter users should be able to use their body weight or feet to stabilise the scooter if necessary. Four wheeled vehicles tend to be more stable, and some larger ones have a flexible chassis to allow for an angled approach.

FREEDOM OF TRAVEL

Powered vehicles allow the user to travel quite long distances without too much personal effort, especially in hilly areas. Scooters and buggies have tiller steering, which tends to be more tiring to drive than

a powered wheelchair with joystick steering. Although many vehicles have a good distance/range per battery charge - some even travelling up to 30km to 40km (25 miles) - the time taken to cover these distances also has to be taken into account. Powered vehicles are not replacements for cars. It would still take a minimum of two hours to cover 25km (16 miles), even in the class 3 (8mph) vehicles.

Most vehicles will easily climb a 1:6 slope without losing speed, although the fact that more battery power is used up reduces quite dramatically the maximum distance claimed by the manufacturers. The user needs to take these factors into account when working out the distance that needs to be covered.

A VEHICLE THAT IS EASY TO TRANSPORT

Although most scooters can be dismantled for transporting it may not be easy. Some smaller models can be folded and levered into a car boot, others have to be dismantled and the user may require assistance as components may be large, awkward and heavy. It is best to check with the supplier as to the weight of the heaviest component. This can be anything from around 9kg upwards. Remember that a bag of sugar weighs only 1kg. Also bear in mind that, if the vehicle is to be taken somewhere to be used and then brought back again, this will involve lifting the components at least four times, assembling and disassembling them. Various methods

other than manual lifting can be used to get components or the whole vehicle into a car.

Since many of the buggies and class 3 vehicles do not dismantle for transporting, ways of carrying them 'whole' will have to be found. Refer to DLF factsheet 'Out and about with your wheelchair' for details of different methods of transporting buggies and scooters.

A VEHICLE THAT MEETS THE ASSISTANTS'S NEEDS

For lifting and transporting, powered vehicles are not very 'carer friendly'. Although most of them dismantle into several manageable or even compact sized components, most of these are still quite heavy to lift. Try lifting them before purchase. If transportability is an essential feature, practise dismantling the vehicle and re-assembling it to ensure that these are manageable tasks.

A VEHICLE THAT MAKES THE USER LOOK GOOD AND FEEL CONFIDENT

Although 'to look good and feel confident' is last in this list of user's needs it is of primary importance. A scooter or buggy which provides a good stable seating base from which to carry out activities and provides the maximum amount of mobility, will contribute towards giving the user the

confidence and ability to lead an active and independent life.

FEATURES TO CONSIDER WHEN CHOOSING A SCOOTER OR BUGGY



BASE PLATE

The base unit is the body of the scooter and consists of a steel, aluminium, or composite frame and floor to support the feet and batteries. The base unit, according to the size of its wheelbase, ground clearance, turning circle and overall dimensions, determines whether the scooter is designed for indoor or outdoor use and its manoeuvrability.

The base unit also determines the comfort and safety of the user. It is important to ensure that the user sits comfortably, and that he/she can reach and use the controls. Some models have a longer length/extendable base that can accommodate longer legs. The length may need to be fixed by the supplier at the time of purchase. An increased base length will increase the turning circle of the vehicle. Try the scooter before purchase to

evaluate its overall stability. A scooter should not tip easily during sharp turns or on inclines.

On some scooters, the base unit may consist of modular units or may otherwise be disassembled for transport and storage. These same features may also allow the scooter to be converted from a three- to four-wheeled models and/or from indoor to outdoor use.

WHEELS/TYRES

The size of the wheels on a scooter determines the ability of the scooter to surmount obstacles and affects its stability. Scooters usually have six-, eight-, or ten-inch wheels, and these are usually of equal diameter front and back. Smaller wheels are generally found on front-wheel drive scooters intended for indoor use. The larger the wheels, the more stable the unit, and the larger and wider the tyres, the greater the ability of the scooter to manage kerb climbing and to be driven on rough terrain will be.

The number of wheels affects the scooter's performance.

Four wheeled scooters tend to be more stable than those with three wheels especially for kerb climbing and turning sharp corners.

Three wheeled scooters tend to be more

manoeuvrable, i.e. have a smaller turning circle.

The drive wheels are those to which the motor directs its power.

Rear wheel drive provides better grip and power when driving over uneven or slippery ground, especially as the user's weight is directly over these wheels.

Free-wheel facility enables the wheels to be disengaged from the motor so that the scooter can be pushed manually in an emergency situation. Beware; it is heavy and difficult to push.

There are different types of tyres including:

- pneumatic tyres, which need to be inflated regularly to maintain air pressure, also need to be checked as they can puncture. They give a more smooth and comfortable ride and better traction on kerbs, slopes and rough ground than solid rubber tyres. Punctures can be repaired in a similar way to bicycle tyre punctures. If this task is too difficult to manage at home, a local cycle shop or mobility vehicle suppliers should be able to carry out the repair;
- solid tyres do not puncture or need inflating and may make it easier to manoeuvre on some surfaces;
- puncture-proof tyres are a compromise between solid and pneumatic tyres.

They are made of an open cell rubber compound to help with shock absorption;

- deep tread tyres are available with different levels of tread. The deeper the tread, the greater the ability of the scooter to provide increased grip and stability on kerbs, slopes, muddy grass and rough or uneven ground.

SEATS

Most seats consist of a moulded plastic or contoured padded seat with lift-up armrests. Seats usually come in one size and do not provide postural support.

Some scooters have a height adjustable seat, which allows the user to find the most suitable sitting position. Some have powered, elevating seats, for use when the vehicle is stationary which enables the user to reach higher work surfaces and storage areas. In the elevated position, the feet of the user will not be supported on the base platform and therefore stability will be compromised. Since, it will also increase pressure on the thighs, this facility is designed for short period use within the daily schedule.

Most scooter seats swivel through 90°, 180° or 360° by releasing a lever to make transferring on and off the seat easier. Check that the user can reach and manipulate the lever, and swivel the seat round while sitting on it. Forward and/or backwards adjusting seats

ensure that the user can reach the tiller comfortably and therefore has full control of the scooter/buggy. Also, moving the seat forwards/backwards can accommodate different leg lengths.

The whole seat unit on some scooters can be removed for storing and transporting.

BACKREST

Some scooters have a moulded backrest and seat to which no individual adjustment can be made.

Some scooter backrests fold forwards or backwards for easier storage and transporting; this is especially useful when driving the unoccupied scooter up ramps into the back of an estate car.

ARMRESTS

Fold-up armrests make sideways transfer on and off the seat easier. On a swivelling seat, they provide a hand hold to push up from or to control descent onto the seat.

BRAKES

All scooters have automatic brakes which come on immediately when the user releases the accelerator control.

Some models have the option of a handbrake which acts directly onto the tyre when stationary. Therefore, the tyre pressures must be kept firm. Although not

essential, this provides extra security.

TILLER

The tiller is the control and steering mechanism for the scooter, and has the controls to drive the scooter forward or in reverse, as well as steering the front wheel or wheels. Most scooters offer one style of standard tiller. Some may also include height/angle adjustment to ensure that the user can comfortably reach the tiller and therefore has maximum control over the vehicle. A console, centrally mounted on the tiller, has the ancillary controls for lights, indicator, horn and the on/off switch/key.

CONTROLS

Acceleration on a scooter is controlled by a single proportionally controlled lever (i.e. the greater the pressure applied to the lever, the faster the vehicle moves). This may be situated on the right or left hand side, or both sides of the tiller. This lever is often controlled by thumb movement or by squeezing (rather like the action required to apply a bicycle cable brake). This may be difficult for people who have poor movement or little strength in their hands.

Reversing mechanism

The reversing mechanism on a scooter is operated by a lever which may be on the opposite side to the accelerator or may be on the same lever as the accelerator but working in the opposite direction.

Alternatively, there may be only one acceleration lever with forwards and reverse selected by a switch on the control panel

Some scooters have a speed limiter which determines the maximum speed to which the scooter can accelerate. There are generally two options:

- * a fast/slow speed switch that allows only two maximum speeds - one quite slow and the other to the maximum speed of 6.4 kph;
- * a speed dial that allows more varied and accurate control of maximum speed.

KEY/JACK PLUG IGNITION

If the key/jack plug ignition is removed, the scooter or buggy is immobilised, thus allowing the user to leave the vehicle unattended, for example outside a shop.

KERB CLIMBING

Scooters and buggies do not have specific kerb climbing devices. Smaller wheeled vehicles are not designed to mount or descend kerbs. Vehicles with larger wheels may be able to negotiate kerbs of up to 13cm in height. Check with suppliers the

recommended maximum height for each model and the technique you should use to climb kerbs safely. Four-wheeled scooters and buggies are more stable going up kerbs than the three-wheeled versions.

Some three-wheeled scooters have stabilising wheels on the chassis on either side of the front wheel. These help to stabilise the vehicle when travelling over rough ground and lessen the risk of tipping during kerb climbing.

LIGHTS/INDICATORS

Class 2 powered vehicles with a maximum speed of 6.4km/h travelling on the pavements are not required by law to have lights, but lights are advisable for night time journeys. The addition of standard bicycle lights may be adequate. Lights and indicators are available as accessories on some models and are wired to the vehicle battery.

Class 3 powered vehicles are all supplied fitted with the appropriate lights for road use; on a dual carriageway, they must have a flashing amber light (Highway Code February 1999 Rule 195).

HOODS

Some scooters are supplied with hoods that enclose the user in the vehicle for weather protection. For more information refer to DLF factsheet 'Clothing ideas for wheelchair users'.

RANGE

This is the manufacturer's prediction as to the scooter or buggy's range under optimum conditions with new batteries on a full charge. Range can be affected by:

- condition of batteries – older, well used batteries will not store as much power;
- weight of user – the heavier the person the more power will be used;
- terrain – climbing hills and kerbs uses up more power;
- accessories – lights and indicators are powered by the wheelchair batteries;
- weather – batteries do not perform as well in cold weather.

GRADIENT

This is the manufacturer's prediction as to the maximum gradient under the best conditions, taking into account the user's weight, temperature, surface etc.

OVERALL SIZE

Check the overall size of the vehicle, especially of buggies, as they tend to need quite a large space for storage and charging. Also, remember that the larger vehicles have a bigger turning circle and are therefore less manoeuvrable.

HEAVIEST COMPONENT

Scooters can be dismantled for transporting and storage. However, the components still tend to be very heavy.

Check the weight of the heaviest component and compare it to the weight of a bag of sugar, which weighs only 1kg. Buggies cannot be dismantled and therefore will need to be transported whole.

Refer to DLF factsheet 'Out and about with your wheelchair' for other ways of moving/transporting-powered vehicles.

CAPACITY

It is essential to find out the capacity of the vehicle as exceeding it will increase the wear and tear on the motors and batteries, and also increase running costs. It may also invalidate the guarantee of the manufacturer. Most standard scooters will carry a person up to 89-102kg but larger capacity vehicles are available.

ACCESSORIES

In addition to the standard features, manufacturers offer a range of optional accessories, including crutch and cane holders, oxygen carriers, front and rear baskets, trailers, headlights, rear lights, horns and canopies.

TYPES OF CLASS 2 SCOOTERS

Legally these scooters can travel up to 6.4kph (4mph) on pavements and are allowed on the road to cross from one side of the road to the other. Within the category of class 2 scooters some are more suited to indoor use as they are smaller and more compact.

Class 2 vehicles can be divided into sub-sections:

MICRO SCOOTERS

- small and compact;
- designed to fit easily into a car boot;
- indoor use and outside on even surfaces only;
- short distance range;
- smaller wheel base and therefore less stable.

INDOOR/OUTDOOR SCOOTERS

- three or four wheeled vehicles;
- indoor use;
- limited outdoor use on even surfaces;
- some have a limited kerb climbing facility (9cm);

- short/medium distance range;
- can be collapsed/dismantled for transporting.

OUTDOOR SCOOTERS



- three or four wheeled vehicles;
- not for domestic indoor use;
- outdoor use on uneven ground;
- kerb climbing of 10cm or more;
- medium/long distance range;
- can be dismantled for transporting,

BUGGIES

- four-wheeled vehicles (car shaped);
- no indoor use;
- outdoor use including rough ground;
- kerb climbing of 10cm or more;
- medium/long distance range;

- cannot be dismantled.

TYPES OF CLASS 3 VEHICLES

These vehicles generally have features similar to Class 2 vehicles, but tend to be larger and can be used on the roads where they can travel up to 12.8kph (8mph). Class 3 vehicle users do not require a driving license but should obey the highway code at all times. This includes complying with relevant eyesight requirements and not driving under the influence of alcohol, drugs etc. Class 3 vehicles are not allowed on motorways, bicycle tracks or bus/cycle lanes. Although legally allowed on dual carriageways, this is not recommended.

It is advisable to do a training course - especially if the user is not used to driving on roads. Details of these may be obtained from the local road safety officer.

Class 3 vehicles can be divided into:

Scooters

- three and four -wheeled vehicles;
- not for domestic indoor use;
- outdoor use including uneven ground;
- tiller steering;
- kerb climbing of 10cm or more;

- cover long distances.

Buggies

- four-wheeled vehicles (car shaped);
- not for indoor use;
- kerb climbing of 10cm or more;
- cover long distances;
- cannot be dismantled and therefore require ramps or lifts to transport them in a vehicle or car trailer.

In addition, Class 3 vehicles also include:

- speed selector - two speed settings, usually changed by the flick of a switch, 12.8kph for road use, 6.4kph for pavement use;
- lights/indicators/horn/rear view mirror/rear reflectors - required by law;
- flashing beacon - optional. Can be used when driving on the road to warn other road users of their presence, and must be used if driving on a dual carriageway.

BATTERIES AND CHARGERS

Battery powered vehicles operate from either one or two, 12 volt rechargeable batteries. They are usually maintenance free gel batteries and are so called because their conducting chemicals are

suspended in a gel-like substance. Airlines will carry gel batteries on their aircraft because there is no risk of leakage of corrosive chemicals.

Battery output is measured in Ampere hours (ah) and, generally, the larger and heavier the batteries the greater the output capacity and range travelled. A choice of battery capacities is often available when purchasing new vehicles or replacement batteries. The kerb and gradient climbing ability of a vehicle is dependent on the battery output capacity and the power output of the motors driving the wheels (and will decrease with a heavier driver).

The distance travelled or range from a fully charged battery depends on its ampere rating, age, condition, type, temperature, weight of vehicle and user, frequency and distance of travel on rough ground, slopes and kerbs. Batteries in a vehicle stored outdoors at cold temperatures may not maintain their charge effectively. The figures quoted in the manufacturer's specifications are tested with an occupant of around 70kg on level ground and under ideal battery conditions.

Remember to include the on-going costs of maintenance and replacement of batteries when budgeting for a scooter or buggy.

CHARGING BATTERIES

The following information covers general points to consider regarding the maintenance and charging of batteries.

However, it is advisable to follow the guidelines recommended by the manufacturer.

Ideally, the scooter/buggy needs to be placed beside a mains electrically power socket, so that the batteries are charged in situ, usually overnight, using a specified battery charger. If this is not possible, then the batteries can be removed and charged separately, although a special charging harness, or an adaptation to the vehicle wiring may be needed.

Remember the following points:

- check that the charging point is easily accessible.
- plug the charger into the wheelchair charging point before plugging it into the mains;
- the battery charger may have a mains and a charging indicator light. Check they are both on;
- take care not to overcharge the batteries. If this is frequently done it changes the chemical composition and will reduce the life of the battery. It is much better to leave the batteries to charge overnight;
- most chargers have a cut out and a light indicator which operate when the battery is fully charged;
- if there is a battery level indicator, it will guide you as to when charging is

necessary. The reading should be taken when the vehicle is stationary and the lights switched off. Most of the power should be used in the battery before recharging. Ideally, they should be recharged when the battery level indicator reads 20% to 25% charge. Below this level, decay of the chemical components begins to take place;

- when chemical decay takes place recharging becomes impossible and new batteries have to be purchased. It takes about two months for the batteries to decay if left uncharged.

But:

- vehicles not in use should be charged once a month;
- vehicles used infrequently should be charged once a fortnight;
- vehicles in constant use should be charged daily. Daily use will increase the life span of the batteries.

General points

- Do not touch both terminals at once with wet hands or place a metal object across the terminals. Although a lethal shock would not be given, a small shock can be quite nasty!
- Keep the terminals free from corrosion by smearing with petroleum jelly.

- If replacing the batteries, check that the new ones will fit into the allotted space.

INSURANCE

Insurance is not legally required for any powered vehicle in either category, Class 2 for pavement use or Class 3 for pavement and road use. However, it is recommended that the purchaser have at least public liability insurance, covering accidental damage to other people and property. Some policies cover additional losses from fire, theft and damage and can include a breakdown recovery service.

Sometimes insurance cover can be added to some home contents policies or arranged through independent insurance brokers.

USEFUL ADDRESSES

British Healthcare Trades Association –
BHTA New Loom House, Suite 40.6
101 Back Church Lane
London E1 1LU
Tel: 020 7702 2141
Fax: 020 7680 4048
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Use website at www.justmobility.co.uk
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