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CHOOSING A SCOOTER OR POWERCHAIR FOR RAMBLING

The following notes are intended as guidance to the considerations and questions that need to be addressed when buying a scooter or powerchair for rambling and do not constitute an endorsement of any suppliers or machines mentioned by name. The Disabled Ramblers (DR) shall not be held responsible for the consequences of any errors or omissions in this document or the decisions made by individuals based on this guidance.

Are you a first time buyer?

Your first steps will depend on whether you already have a scooter or powerchair for everyday use. If not and you are thinking of buying something you can use for both rambling and shopping there are a number of factors that you need to consider and there will inevitably have to be compromises. It is worth taking some time to decide just what you *need* (rather than *desire*) for home use and to this end the following sources offer good advice:

<http://www.rica.org.uk/content/choosing-mobility-scooter>

<https://www.fishinsurance.co.uk/products/mobility-scooters-expert-advice-and-information>

<https://www.tgamobility.co.uk/help-and-advice>

What is your budget?

Not everybody can afford to have a separate scooter for rambling. An off road scooter is not cheap, ranging from circa. £4,000 to over £12,000 when new and there may be other costs if a trailer is needed to transport it. Don't forget ongoing costs such as servicing and insurance which can amount to more than £200 p.a. Consequently you need to be realistic on how much you are able to spend on an item that may not be used for a large part of the year. They also tend to be larger than pavement models so are less convenient for use around town. Many DR members choose to have a fairly robust pavement scooter that can be used on easier rambles and, when they are available, use our Loan Scooters for more difficult ones.

Off road scooters can often be found on the second hand market at a significantly reduced price from new but you tend to get what you pay for. Get the fullest details of the model, age and condition of the scooter then, if possible, take knowledgeable advice before purchase. Needless to say, reserve the option to pull out of a deal on inspection!

What disabilities do you have?

It is Important that you are realistic about your disabilities and how they are likely to change in the next few years. Many people with mobility problems have unseen disabilities which may affect their choice of scooter. Some models have an optional rotating seat or other provision for those who have trouble getting on the scooter. Handlebars can be challenging for those with poor upper body strength or balance whilst some people cannot manage a twist grip speed control and need a lever action. However, not all manufacturers offer such alternatives. It may

be that a three wheeled scooter (which tend to have lighter steering) could be more suitable or even joystick control. Unfortunately, few manufacturers offer joystick options and then at additional cost. The quality of joystick controls, particularly as regards waterproofing, can be variable and driving a joystick scooter can be tiring if you have problems concentrating for long periods.

How adventurous do you want to be?

DR. Rambles range from outings on quiet roads, level farm tracks or forestry roads with metaled surfaces to rough grassland or open fell side. Footpaths can become muddy quagmires in wet weather – which can happen within a couple of hours. DR. categorises its rambles from category (cat.) 1 to cat. 3, with forestry tracks being typically cat. 2 and rough paths or open heath cat. 3.



CATEGORY 2 RAMBLE



CATEGORY 3 RAMBLE

Finding off-road scooters to consider

The number of companies supplying scooters or powerchairs for off-road use is limited and most have to be imported. Magazines on disability topics are a good starting point when looking for suitable scooters, together with knowledge gleaned from chatting with DR members. Internet searches such as “off road mobility scooters” can be helpful in extending your knowledge. A few suppliers of off road scooters exhibit at shows like Naidex and The Mobility Road show but often the stands are manned by sales people who will try to sell you a standard "pavement" scooter.

Some of the more robust "about town" or “pavement” scooters can be OK for cat. 2 rambles with larger batteries fitted but if you intend to get out over rougher country you need to consider heavyweight models, designed and built for off-road use. However, beware the pavement scooter *dressed* for off road use with bigger wheels and a more rugged styling than its stablemate!

Examples of a selection of the off-road scooters available:

The Beamer “Tramper”, <http://www.tramper.co.uk/specifications.php>

The Beamer “TWS” <http://www.tramper.co.uk/products/scooter>

The TGA “Supersport” <http://www.tgamobility.co.uk/product/supersport>

The TGA “Breeze” range <https://www.tgamobility.co.uk/range/scooters/breeze-s4>

The Mini Crosser range. http://www.minicrosser.com/united_kingdom.asp

The BOMA which Molten Rock produced and has been bought - but not yet in production (Feb 2017) - by Equal Adventure: <http://www.equaladventure.org/new-home-boma-terrain/>

The Terrain Hopper - <http://www.terrainhopper.com/>

Each has its pros and cons so needs careful consideration before purchase and there are other scooters not referenced here due to lack of space.

Joystick controlled scooters

Some companies have adapted their handlebar scooters to joystick control, e.g

The Mini Crosser “M Joy”; The BOMA ; The Terrain Hopper. :(see above links)

Powerchairs

Powerchairs are joystick controlled electric wheelchairs which steer by varying the speed of the driving wheels. You need a special reason for going down this route such as low upper body strength or poor balance. They also tend to be heavier than scooters so you should be aware of the regulations described elsewhere in this publication. A very small number of DR members use them on our rambles without major problems but great care is needed in what you choose.

Frequently they have too little ground clearance for serious off road rambling beyond forestry tracks with some exceptions but the following are worth considering:

The All Terrain Wheelchairs range <http://www.allterrainwheelchairs.co.uk/>

The Myability Four X DL <http://www.myability.co.uk/wheelchair/dl/>

The A4W range <http://www.a4wproducts.co.uk/products/>

The Permobil range <http://www.permobil.com/en-GB/English/C/Products/X850-Corpus1/>

Design considerations for both scooters and powerchairs

Without getting too deeply into the technical aspects of scooters and powerchairs, there are some things that anyone looking to buy a vehicle for off-road use needs to consider. For example, not everyone is able to use a twist grip throttle control so prefer a lever action (or perhaps a joystick), but can the controls be either left or right handed – or even switchable?

Three wheels or four?

Four wheeled scooters with direct handlebar controls were the logical design when going off road and should be the first type for a newcomer to consider. They offer good stability but, due to differences in mobility between individuals, do not suit everybody. Some manufacturers offer a turning seat to make mounting the scooter easier (also on three wheelers). The types of suspension offered vary greatly in layout and stiffness, so some compromise between comfort and stability is necessary.

Three-wheelers can help those with poor upper body strength as the steering tends to be lighter. However, in certain circumstances - e.g. addressing the start of a descent from an angle - they raise questions of stability and extra care is needed. The Supersport has been popular with members for a long time and recently Beamer, who make the Trumper, have launched the TWS which is gaining support.

Ground clearance, wheels and tyres.

Ground clearance is very important in avoiding obstacles and at least 100mm (4") is needed, preferably more than 130mm (5") if possible. Wheel size is obviously connected with clearance but large/deep tyres on small centres can make the whole scooter unstable if they are soft. Large centres with small tyres (like motorcycles) are better. Satellite casters on a powerchair can cause steering problems by catching on tufts of grass or boulders. A deep tread pattern can give improved grip on grassy slopes and some manufacturers utilise moto-cross tyres. However, a bobbly pattern and hard suspension makes for a less comfortable ride on solid surfaces.

How wide and long?

The width of the wheelbase of a scooter or powerchair is very important with regard to lateral stability. "Pavement scooters" are frequently designed to get through standard doors and can be as narrow as 600mm (2 ft.) wide so may be unstable on sloping rough ground. Conversely, anything over 750mm (29½ ins.) *can* give problems when getting through older narrow gates. The wheelbase of a powerchair is usually shorter than a scooter so sudden changes in gradient are felt more severely, particularly when starting a steep descent where, as with three wheelers, extra care is necessary.

Battery size and type.

The science of battery design, use and care is quite involved and beyond the scope of these notes save for some general comments and the advice to *read the instructions!* "Traditional" car batteries are not suitable for scooters as they are designed to give high current for a very short time when the vehicle starts and thereafter very little. In contrast, scooter batteries need to draw moderate to high currents over a prolonged period and allow for deep draining. They are sealed, low maintenance and frequently "gel" types. However, larger batteries mean increased weight and reduced range so an optimum size has been adopted by most manufacturers.

"Pavement" scooters are designed to operate on smooth, level surfaces and generally don't have large enough batteries for rambles beyond Cat.2. A full day Cat 3 ramble, possibly climbing 1000ft (300m) on rough ground, takes a great deal out of a battery. True off road scooters tend to operate at 24 volts and have 2 x 12 volt 75 amp-hour batteries or larger.

Be wary of the range that suppliers claim for their scooters. Their tests are usually made on good, level surfaces and sometimes at relatively high speed so tend not to reflect what can be achieved off road. A passable rule of thumb might be to halve what they say the scooter will do until you can try one on rough ground. Again ask around DR Members, especially those who have recently changed their scooter to get the low down on any you are interested in trying.

Battery technology has improved greatly in the last decade and is, to a large degree, responsible for our ability to ramble. However, the advent of lithium batteries is, to some, a mixed blessing. They are considerably lighter than lead-acid batteries and have a reasonable range, adequate for pavement scooters and some rambles. Unlike the voltage of lead batteries which, on coming towards the end of their charge, drops off gradually with plenty of warning, the fall off of lithium battery performance is sudden and quick, giving much less warning of being stranded! Hopefully this situation will improve. An article in the Autumn 2015 issue of our newsletter (The Disabled Rambler) entitled "Upgrading from 4 wheels to 3" gives an account of experience with the new Beamer TWS using Lithium – iron batteries, with good results so far.

Power chairs and scooters with four wheel drive can be heavy on batteries. This is because they consume power in steering either by varying the speed of one set of wheels or driving motors to turn the front wheels or axle. Consequently be even more wary of the range claimed.

Try before you buy!

It is **very** important that you try - **off road** - any scooter you might be considering for rambling. Controlling a scooter or powerchair on rough ground is far different from driving it round a car park! The National Trust and many country parks have Trampers for hire.

Look round where you live for possible places that you can ask suppliers to bring a scooter for you to try - any dealer worth their salt should do this without an argument. A "test track" might start as a road, go to a farm track and then get progressively rougher due to tractor activities. It would also be usefully to have some quite steep grassy banks to test traction on a slope.

Mobility scooters, powerchairs and the Law

Scooters and powered wheelchairs (powerchairs) are termed in law "Invalid Carriages". There is a raft of somewhat confusing legislation and regulations associated with them but we shall summarise only the most relevant information here. The important point as far as DR is concerned is that invalid carriages are permitted for use on Rights of way, footpaths and Access land. Neither The Chronically Sick and Disabled Persons Act 1970 nor the Countryside and Rights of Way Act 2000 make any specific reference to weight or other limitations. However, The DVLA divides them into three classes for road use:

Class 1 – Manually powered wheelchairs,

Class 2 – Powered wheelchairs and scooters for pavement use only (unless a road has no pavement)

Class 3 – Powered wheelchairs and scooters which may be driven on the road.

For full details see <https://www.gov.uk/mobility-scooters-and-powered-wheelchairs-rules/overview>

Limitations

Class 1 and 2 are limited to 113.4 Kgs *unladen weight* (the weight without the passenger and movable items but including the batteries) and 4 mph.

Class 3 – can be driven on the road up to 8mph but must have a device to restrict their speed to 4mph on pavements etc. They are limited to 150Kg unladen weight – which includes the batteries. However, by an amendment in 2015, if they have *necessary user equipment* (such as a lift or a turning seat) the limit is extended to 200Kgs. Such equipment must form part of, or be attached to the scooter/powerchair and be necessary for “the specific clinical, postural, hygienic, caring or nursing requirement of the usual user”. (See <http://www.legislation.gov.uk/wsi/2015/779/regulation/3/made>)

Class 3 are limited in width to 850mm (33½ ins.) but in truth anything above 750mm (29½ ins.) is likely to have problems getting through older gates and openings.

For safe and legal operation on the road, DVLA also require:

- an efficient braking system
- front and rear lights and reflectors
- direction indicators able to operate as a hazard warning signal
- an audible horn
- a rear view mirror
- an amber flashing light if used on a dual carriageway

Class 3 scooters to be used on the road must be registered with The DVLA but they are not subject to tax. See <https://www.gov.uk/mobility-scooters-and-powered-wheelchairs-rules/vehicle-tax-registration-and-insurance> for how to do this.

Scooters and Powerchairs for off-road use are most likely to be class 3 because of their robust construction, higher power and larger batteries. It is important to check if the weight specified in the supplier’s literature includes the batteries as they can erroneously be excluded to meet the weight limit.

It is the responsibility of DR members to ensure that their scooter or powerchair complies with these regulations.

How you are going to transport the scooter or powerchair?

Transporting a scooter/powerchair to a ramble can be a problem if you do not have a large car or a wheelchair adapted vehicle (WAV) and is a hidden cost that needs to be considered. Many people use a trailer – which means a tow bar is needed. Some motorhomes have a garage large enough to take their scooter or space inside that can be utilised. A few scooter suppliers and trailer manufacturers create designs tailored to particular models of scooter. Note that where a trailer is purchased exclusively for carrying a mobility scooter, it may be possible to do so free of VAT, i.e. “zero rated” – ask the supplier! NB, no matter what the supplier says, you don't claim the VAT back on any goods or services qualifying for zero rating, you don't pay it in the first place – see: <https://www.gov.uk/hmrc-internal-manuals/vat-relief-for-disabled-people> : <http://www.armitagetrailers.com/MOBILITYMATTERS.htm> <https://www.clhtrailers.com/catalogue/online/mobility-scooter-trailer/mobility-scooter/>

Good hunting!

RL 04/05/2017 10:17:00 – Issue 2.3