

POWERTEC F50



Owner's Manual





How to use this manual

We at Sunrise Medical want you to get the best out of your Powertec F50 powerchair. This Owner's Manual will familiarise you with the chair and its features. It contains hints on everyday usage and general care in addition to information on the high quality standards which we adhere to and details about the guarantee. There are a wide range of accessories and adjustments available on the Powertec F50 for further information about these you should contact your wheelchair prescriber/supplier.

Your wheelchair will reach you in excellent condition having been personally inspected before leaving our factory. By following the guidelines for maintenance and cleaning your wheelchair will maintain its first class condition and give you complete satisfaction.

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Guarantee

Your guarantee

The guarantee form is included in the Sunrise Pack, please fill in the relevant details and return to us to register your entitlement.

THIS IN NO WAY AFFECTS YOUR STATUTORY RIGHTS.

Warranty conditions

- 1) The repair or replacement will be carried out by an authorised Sunrise Medical dealer/service agent.
- 2) To apply the warranty conditions should your Wheelchair require attention under these arrangements, notify the designated Sunrise Medical service agent immediately giving full information about the nature of the difficulty. Should you be operating the Wheelchair away from the locality of the designated Sunrise Medical service agent work under the "Warranty Conditions" will be carried out by any other service agent designated by the manufacturer.
- 3) Should any part of the Wheelchair require repair or replacement as a result of a specific manufacturing or material defect within twelve months from the date on which the possession of the Wheelchair was transferred to the original purchaser, and subject to it remaining within that ownership, the part or parts will be repaired or replaced completely free of charge if returned to the authorised service agent.

Note: This guarantee is not transferable.

- 4) Any repaired or replaced part will benefit from these arrangements for the balance of the warranty period applicable to the Wheelchair.
- 5) Parts replaced after the original warranty has expired are covered for a further twelve months
- 6) Items of a consumable nature will not generally be covered during the normal warranty period unless such items have clearly suffered undue wear as a direct result of an original manufacturing defect. These items include amongst others upholstery, tyres, inner tubes, and similar parts.



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- 7) The above warranty conditions apply to all wheelchair parts, for models purchased at full retail price,
- 8) Under normal circumstances, no responsibility will be accepted where the Wheelchair has required repair or replacement as a direct result of.-
 - a) The Wheelchair or part not having been maintained in accordance with the manufacturer's recommendations, where such exist. Or failing to use only the specified original equipment parts.
 - b) The Wheelchair or part having been damaged by neglect, accident or improper use.
 - c) The Wheelchair or part having been altered from the manufacturer's specifications, or repairs having been attempted prior to the service agent being notified.

Please keep a note of your local service agent's address and telephone number in the space below. In the event of a breakdown, contact them and try to give all relevant details so they can help you quickly. The Wheelchairs shown and described in this manual may not be exactly the same in every detail as your own model. However, all instructions are still entirely relevant, irrespective of detail differences.

The manufacturer reserves the right to alter without notice any weights, measurements, or other technical data shown in this manual. All figures, measurements, and capacities shown in this manual are approximate, and do not constitute specifications.

Sunrise Medical authorised Service Agent

Name:
Address:

Tel:
Postcode:

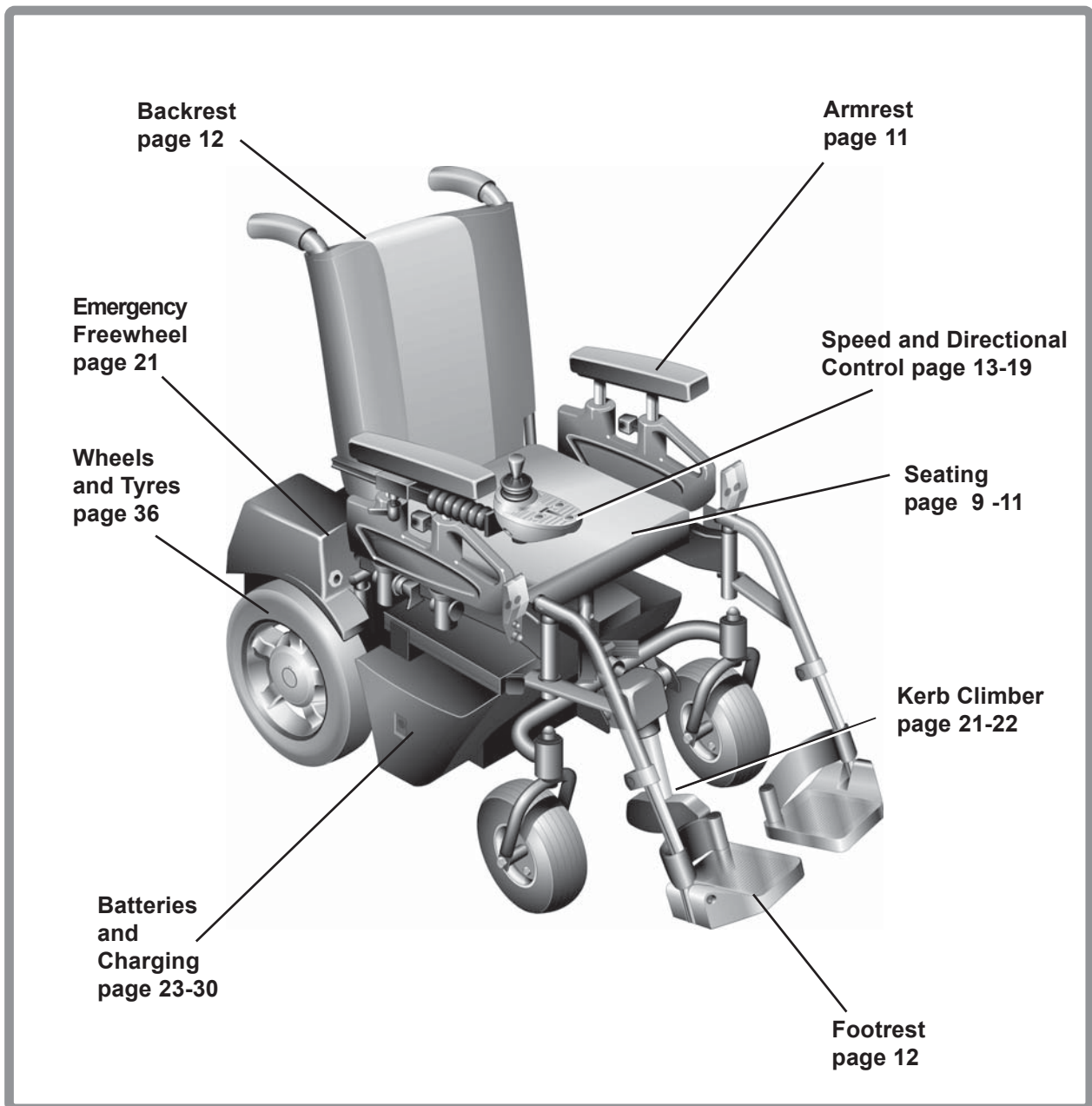
Sunrise Medical authorised Service Agent

Name:
Address:

Tel:
Postcode:

Please remember to fill in and post the guarantee registration card enclosed with this manual. **Sunrise Medical Limited** recommend that you do not undertake maintenance tasks other than those explained in this manual. Your local approved Sunrise Medical service agent is fully trained by Sunrise Medical to carry out detailed maintenance as and when required. **Use only genuine Sunrise Medical replacement parts.**

Features and options



The Powertec F50 has been designed for use by an individual on a daily basis. It is suitable for both indoor and outdoor use. It is only intended for use as a pavement vehicle, but may also be used when crossing between pavements.

This vehicle has been designed for a single occupant of limited mobility up to the weight of 118Kg who has the cognitive, physical and visual ability to control the vehicle safely. If you are in any doubt as to the suitability of the powerchair, contact your local Sunrise approved dealer for clarification, prior to commencing use.

Some of the options shown in this manual may not be available in your country. For further information please consult your Sunrise supplier.

Safety warnings

Safety warnings

Safety is a very important with any vehicle that is power driven, here are some helpful tips to safeguard your use.

General

Always ensure that your wheelchair is switched off before attempting to mount or dismount.

Always ensure that you are able to operate all controls from a comfortable position. Paying attention to your posture is essential to ensure your continued comfort and well being.

Always make sure that you can be seen clearly, especially if you intend using your wheelchair in poor light.

Kerbs

Never descend a kerb forwards. Please read carefully the section on kerb climbing in this manual before attempting to mount and dismount any kerbs in your wheelchair.

Do not attempt to climb or dismount a series of steps. It is unsafe to do so and could cause personal injury or damage the chair. The F50 has only been designed to climb a single step or kerb.

Routine service

Like most things in life a little care and attention goes a long way and your chair is no exception. The recommended service interval is one year. (See service history on later page).

Emergency freewheel

Please remember that you have no braking facility when the freewheel lever is moved from the normal drive position to the freewheel position.

The wheelchair must never be left with the lever in the freewheel position. For a fuller description of this facility and its limitations to use please see later section.

Emergency braking

The simplest and safest way to stop the wheelchair is to release the joystick control lever (see Control pod section). This will bring the chair to halt in a controlled manner.

Switching the control system off whilst the chair is in motion will also bring the chair to a halt. This latter method is not recommended as the stopping action is very abrupt.

Sharp turns

Full speed turns should not be attempted. If you need to turn sharply you must reduce your speed with the joystick or speed setting. This is particularly important when travelling across or down a slope. Disregarding this advice could lead to your wheelchair tipping over.

Safety warnings

Batteries

Your wheelchair is supplied as standard from Sunrise Medical with maintenance-free batteries. These only require regular charging.

Do not, under any circumstances, tamper with the batteries. If in any doubt contact your local service agent.

Do not connect the battery charger to the mains supply until after you have connected the charger to the wheelchair. Before charging, please read the relevant section in this manual. Take care with battery acid which is very dangerous. It can cause burns to the skin as well as damage to floors, furniture and your wheelchair. If it comes into contact with the skin or clothing, wash immediately with soap and water. If it comes into contact with the eye, immediately flood the eye with running cold water for at least 10 minutes and seek medical attention immediately. Acid can be neutralised with baking soda and water. Take care to keep batteries upright at all times, especially when transporting your wheelchair.

Note: Before using your vehicle for the first time, please charge your batteries for a period of 24 hours.

Tyres

Your wheelchair tyres can wear depending on use. Check them regularly in accordance with the service instructions in this manual, especially the pressure of the tyres.

NEVER inflate the tyres using a garage forecourt airline, always use the pump provided.

Cleaning seating

Should the seating of your wheelchair become soiled or dirty, it can be wiped with a damp cloth with a dilute disinfectant until clean. This is important should the wheelchair be used by more than one person to ensure there is no cross infection.

Cleaning controls

Should the control of your wheelchair become soiled or dirty, it can be wiped with a damp cloth with a dilute disinfectant until clean. This is important should the wheelchair be used by more than one person to ensure there is no cross infection.

Wheelchair motors

After prolonged use, the motors will produce heat which is radiated through the motors outer casing. Do not touch the motors outer casing for at least 30 minutes after using the wheelchair, to allow it to cool.

Safety warnings

Wheelchair range

The range of your wheelchair can be affected by many factors such as user weight, terrain, ambient temperature and battery condition. The stated range in the sales literature should be seen as the theoretical maximum and may not be attained by every user.

We recommend that every user initially limit their journey to half the stated range, until they have confidence in the actual range their wheelchair can attain. If your battery indicator is showing a low charge then do not attempt a long journey unless you are confident in reaching your destination and also returning to your home without the risk of being left stranded.

Use on a slope

Your wheelchair has been designed and tested to allow its use on slopes or gradients of up to 8° or 10°. However, if you have the option of adjusting the angle of seating with either tilt seat or recline back, then in certain circumstances your wheelchair could become unstable. Before attempting to climb or decline a slope, we strongly recommend that you return the seat and back to an upright position.

Use on a slope (continued)

Failure to do this may cause the wheelchair to become unstable.

If you are in any doubt about the capabilities of wheelchair on a slope then do not attempt to drive up or down the slope, try to find an alternative route.

Mobile telephones and two - way radios.

When operating cordless or mobile telephones, two way radios, walkie-talkies, C.B. Amateur Radio or other transmitting devices, the following must be noted:

Mobile telephones or two - way radios devices must not be used while operating the vehicle.

Use of Mobile Phones or Two Way Radios can cause excessively strong electromagnetic fields. This may interfere with the vehicles electronic systems. If Mobile Phones or Two Way Radios are required to be used, the vehicle must be brought to a halt and the power turned off before any such device is switched on or used.

Preparing your wheelchair for use

Power-base assembly

Your Sunrise electric wheelchair has been designed with a unique capability - the front and rear sections of the powerbase will separate, allowing for greater ease when transporting your chair (Fig.1). To “re-dock” the two halves tilt the rear unit backwards resting unit on the small anti-tip wheels (Fig.1). Ensure that the drive lever is engaged, this will prevent the power base from moving. Offer the front sub frame studs “A” (Fig.1a) to the lower slots in the rear sub frame brackets and locate. The two halves now form an arch, push the front of the rear unit down (Fig.1b) to couple both units together. Secure the coupling by locking over the seat location bar to engage studs “B” (Fig.1c).

If the above procedures have been performed correctly, the front and rear sections of the wheelchair should now be completely secure. Test by lifting the seat location bar (Fig.1a) without any downward movement, which would cause the two section to part (Fig.1c). If the chair is correctly ‘Docked’, the pins will remain firmly in their slots. Re-dock if not.

The term “de-dock” is used to describe the separation of the front and rear sub frames. To de-dock push seat location bar towards front sub frame and lift in one movement.

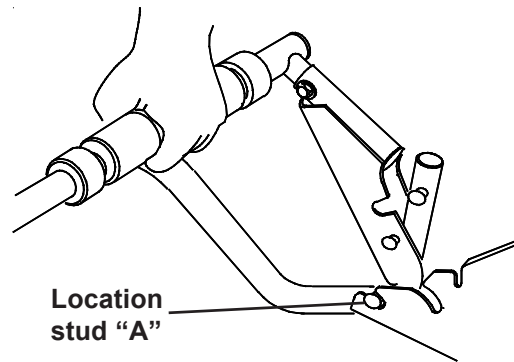


Fig. 1A

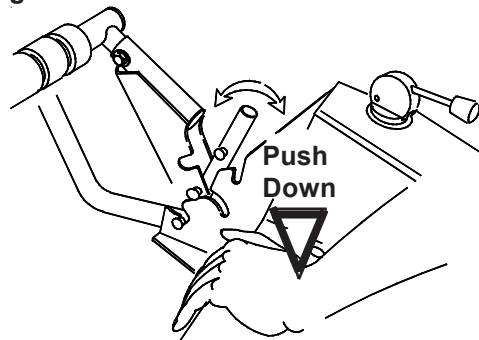


Fig. 1B

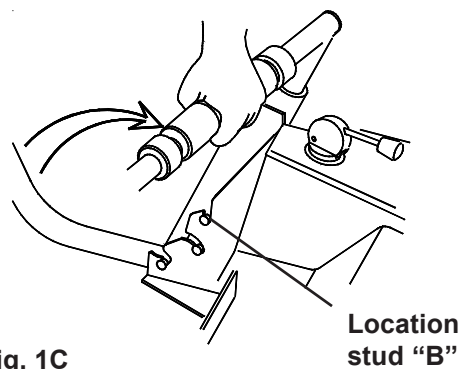


Fig. 1C

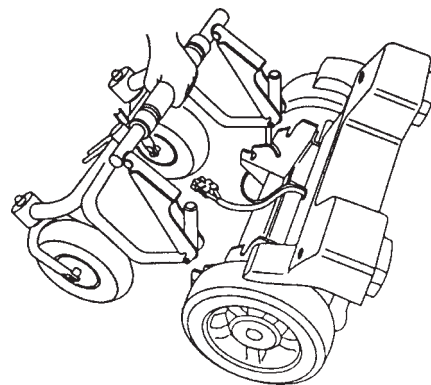


Fig. 1

Preparing your wheelchair for use

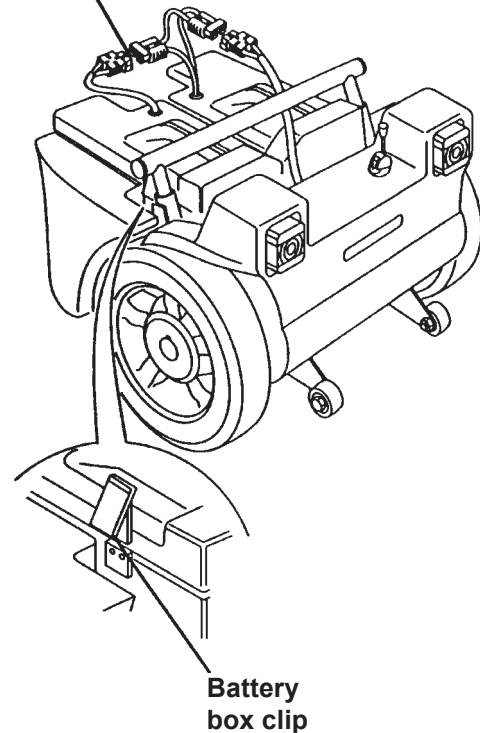
Fitting the batteries

Your Sunrise wheelchair batteries are located in two battery boxes. With your powerbase fully assembled, drop the battery boxes into the centre of the powerbase. It is important to note that there is a left and a right hand battery box. The easiest way to remember which battery box locates where, is to ensure that the curved side panel of each battery box forms a natural wheel arch to the rear wheels.

Locate securely, the battery boxes and lid clips. Take the leads from each battery box and connect together.

Connect battery socket on Battery loom to socket on loom coming out of rear chassis moulding.

Connecting
plugs



Battery
box clip

Fig. 2

Attaching the rear view mirror

1. Firstly set the Pilot Plus remote pod arm into the desired position.
2. Place the metal clamp over the remote arm, between the adjust bracket and the rubber gaiter of the pilot plus swing-away. The holes must be toward the outside of the chair.
3. Place the mirror through the clamp holes and then, using the locking handle, begin to tighten the mirror in position.
4. The mirror should stand vertically once in position but can be subsequently adjusted by slackening off the locking handle, adjusting the mirror and then re-tightening.

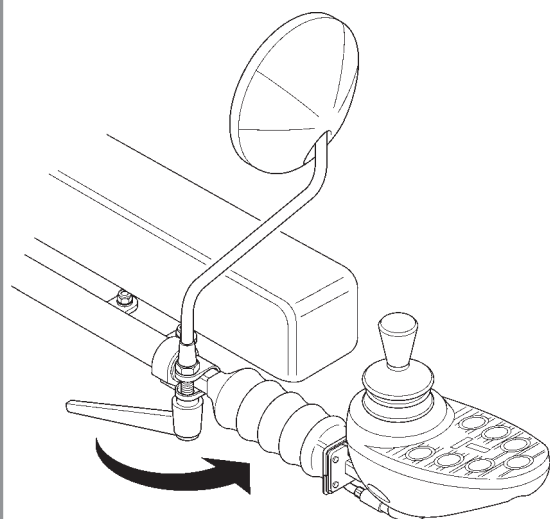


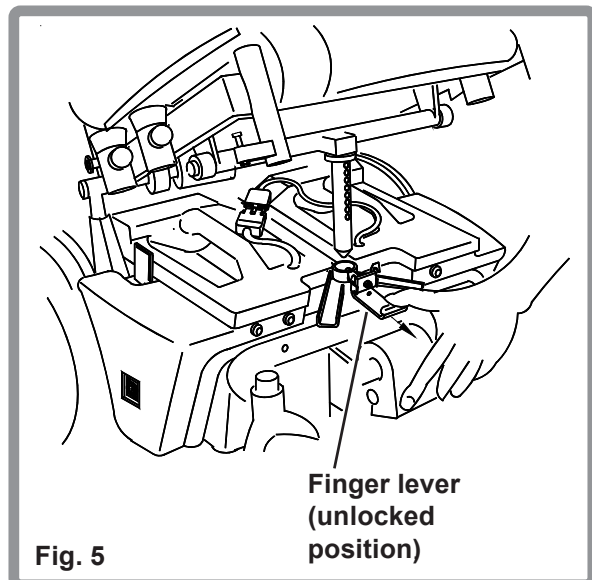
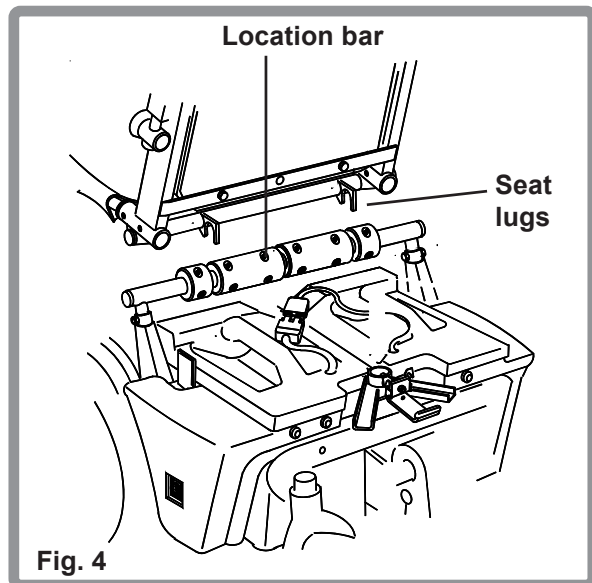
Fig. 3

Preparing your wheelchair for use

Fitting the seat frame

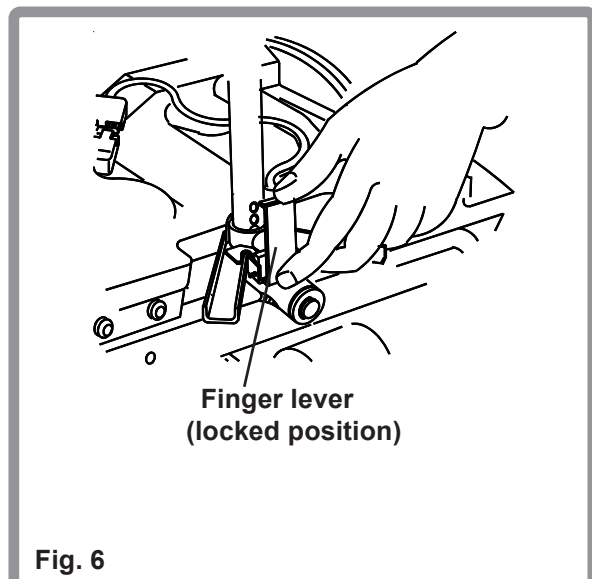
To fit the seat frame to a fully assembled powerbase, locate the rear seat lugs into the two outer grooves on the seat location bar (Fig. 4). Lower seat to position the seat stem into the receiving collar (Fig. 5).

Ensuring that seat is supported, fold down finger lever and pull outwards against the spring loaded pin allowing the adjustable seat stem to locate in the receiving collar at a required height. Release the finger lever to lock the pin into one of the holes provided in the seat stem. Fold up the finger lever to lock the position of the pin (Fig. 6).



Warning

The chair seat is not locked when the finger bar is in the lower position. If this occurs, check for alignment of the locking pin with the appropriate hole in seat stem. The seat stem is only locked when the finger bar is in the upper position as Fig. 6.



Preparing your wheelchair for use

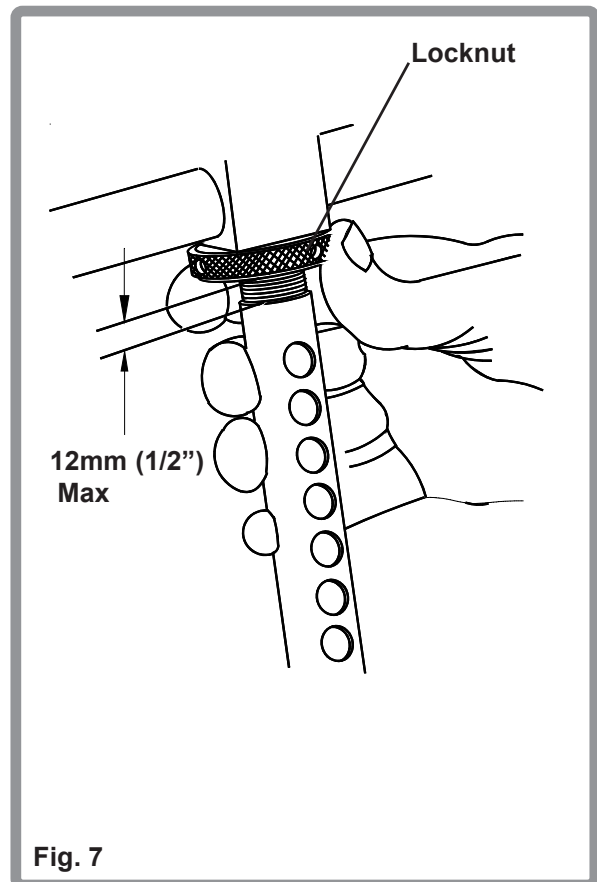
Seat stem adjustment

In order to provide fine adjustment of the angle of the seat frame, you will note that the seat stem is fitted with a locknut where the seat stem meets the under seat cross bar. To adjust the seat angle to a position between that normally provided for by the series of holes in the seat stem. To increase the angle turn the stem anti-clock wise, to decrease turn stem clockwise. The holes in the seat must always be aligned so that the locking pin is always free to engage with the desired hole in the seat stem. Once the adjustment has been made and with the knob correctly engaged with the appropriate seat stem hole, the locknut must then be fully retightened.

The adjustment provided by the above means, is intended for adjustment between hole spacings only. The gap between the top of the seat stem and locknut must not exceed 12mm (1/2") (Fig. 7).

If in doubt consult Sunrise Medical or your local dealer.

Always check to see if the seat stem locking mechanism has properly located into the seat stem hole by exerting downward pressure with your palm on the seat itself.



Preparing your wheelchair for use

Never attempt to adjust the seat angle with the user still occupying the chair. Never attempt to drive the wheelchair with set angle in excess of 15° from horizontal.

Removal of seat frame

To remove the seat frame press down the finger bar and pull backwards to release the seat stem and lift the seat upwards until it can be raised no further. With the tip of the seat stem resting in its receiving hole, pull the whole seat gently towards you (lifting at the same time) until the seat is clear of the powerbase.

Seat pan height adjustment

In addition to being able to adjust the single angle of the seat pan to the power base by selection of the appropriate hole in the seat stem, the height of the complete seat pan can be adjusted to suit the chair user (Fig. 8). The chair will normally be supplied with the seat pan at its lowest setting. To raise the rear of the seat pan, remove two nuts and bolts at either end of the seat location bar. The seat location bar may now be raised to the desired level and bolts reinserted.

Having raised the seat location bar, it will be necessary to select a higher position with the seat stem.

Armrests/skirt guard

To fit the armrest/skirt guard assembly, ensure that locking pin (A) (Fig. 9) is in the 'unlocked' position shown. Lower the armrest into the support cups and press down to ensure a firm location. Release the locking pin lever to lock position. To adjust the height of the armrest pull back the lever of locking pin (B) and hold. Lift or lower armrest to the required position and release pin to lock position, check armrest has seated properly.

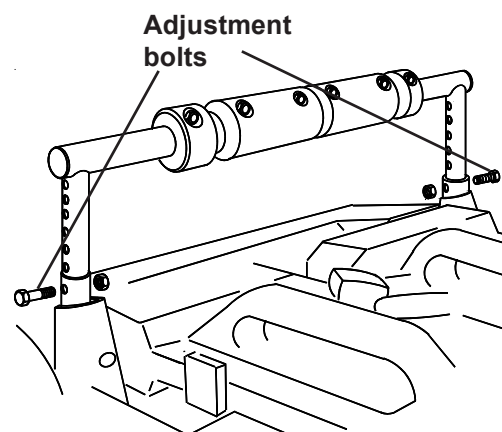


Fig. 8

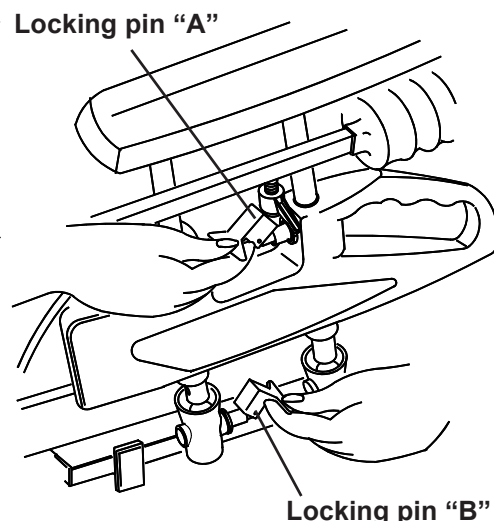


Fig. 9

Preparing your wheelchair for use

Attaching the backrest

The backrest of your Sunrise wheelchair is assembled by locating the backrest tube into their receivers as shown. Once inserted up to the shoulder the backrest **must** be secured by inserting the spring loaded release pin into the lower location hole in the receivers. To achieve this, the button on the top of the pin must be depressed during insertion (Fig.10).

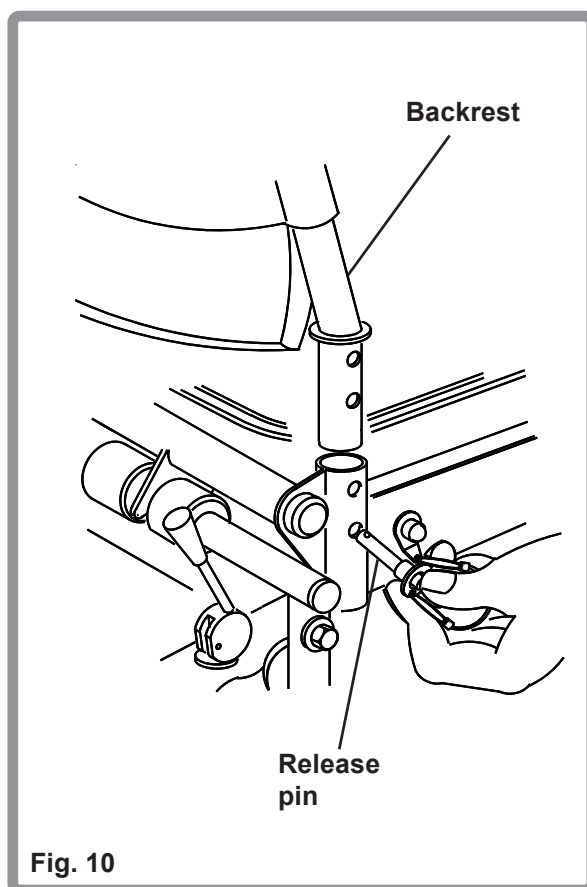


Fig. 10

Fitting footrests

Offer the footrest/hanger assembly to the chair as shown. Position the locating tube into the hanger receiver and lock by swinging the hanger forward. To swing away the footrest, push the retaining catch on the hanger whilst turning the footrest out (Fig.11). Lift to remove. The footplate may be adjusted both for height and angle. To adjust the footplate angle lift up the footrest and note the adjustment screw mounted on the bottom of the extension leg, slacken the locking nut and adjust. Lower footrest and check angle to suit. Remember to re-tighten securely. To adjust height remove the bolt in the hanger tube, align hole in the extension tube with the required hole in the hanger tube. Re-insert bolt to secure.

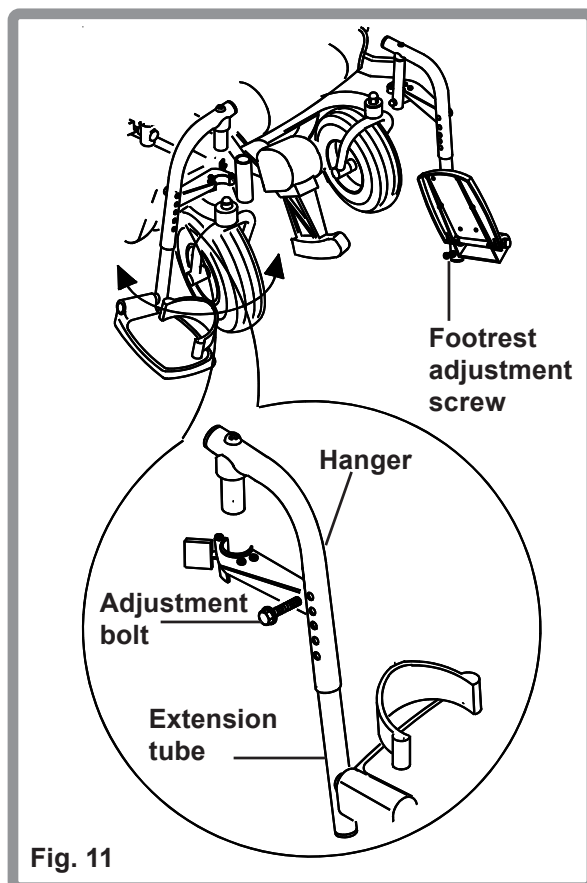


Fig. 11

The Penny and Giles Pilot + control pod

Power supply

Ensure the power lead is connected correctly into its socket on the rear of the control pod (Fig.12).

The immobiliser plug

When this is activated the chair will not function, other than the hazard warning light system. This may be useful if you wish to leave your wheelchair unattended (Fig.12).

To activate the immobiliser

1. Switch the chair on via the On/ Off button (Fig.13).
2. Insert the immobiliser plug into the charger/programmer socket located on the front of the control pod.
3. Remove the plug after 1-2 seconds.
4. Your chair should now be immobilised.

To de-activate the immobiliser

1. Switch the chair on via the On/ Off button.
2. Insert the immobiliser plug into the charger/programmer socket located on the front of the control pod.
3. Remove the plug after 1-2 seconds.
4. Your chair should now be ready to use.

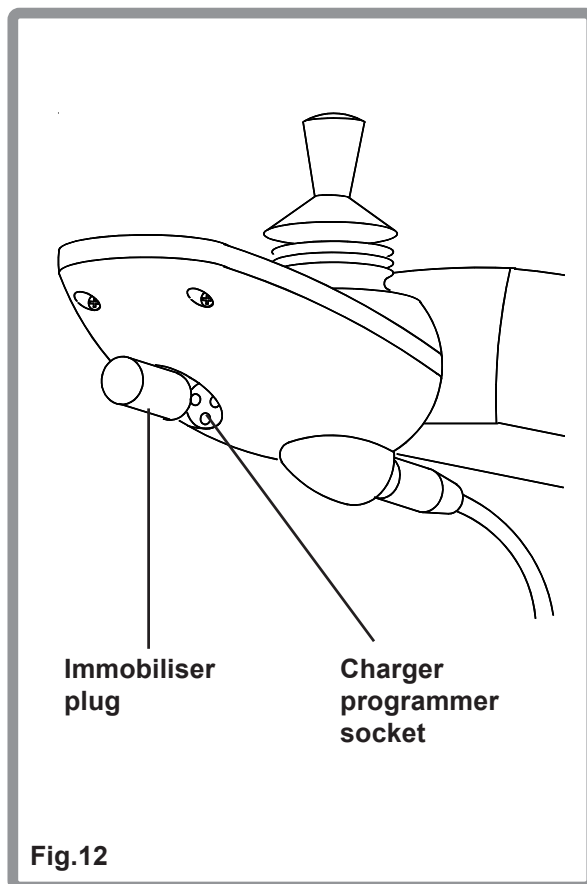


Fig.12

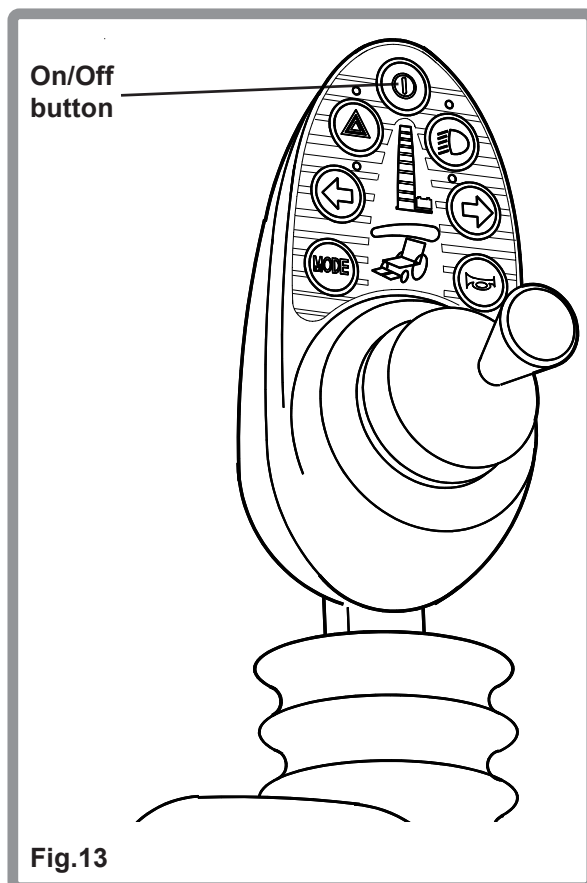


Fig.13

The Penny and Giles Pilot + control pod

Adjustable speed setting

Your controller has five speed settings.

To adjust:

1. Press the mode button until the speed settings indicator is flashing (Fig. 14).
2. Increase or decrease the speed setting by pushing the joystick to the left or right respectively, until the required setting is obtained. To activate the setting either push the joystick forwards to drive or press the mode button until the flashing lights are no longer flashing.
3. When the third or middle speed indicator light is selected on a 10 km/h chair the vehicle is set at 4mph. **Please note that this is the maximum speed permitted for pavement use.**

Battery level indicator

This has ten colour coded lights, 3 red, 4 orange, and 3 green, and denotes the state of charge of the batteries (Fig. 15). Green is high, Orange is low, and Red is dangerously low. The most accurate reading is attained when the chair is stationary and on a level surface. The lights also help indicate the position of a fault (should the need arise). When in fault the light will flash quickly. Noting the number of lights flashing may help your service agent in simple fault finding.

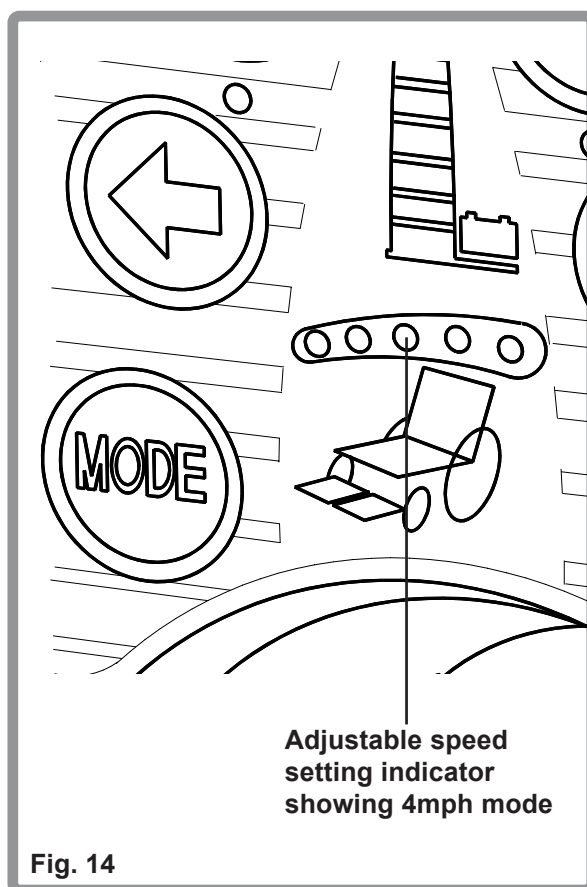


Fig. 14

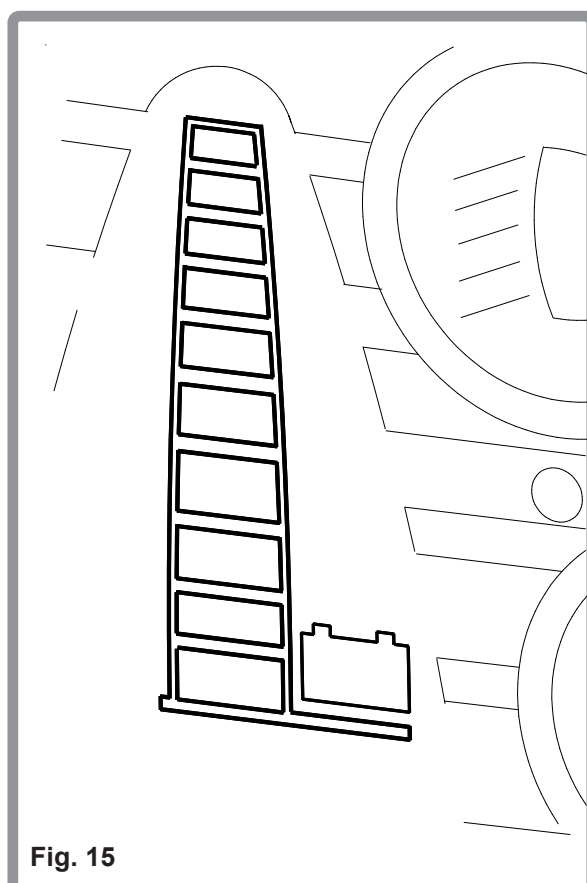
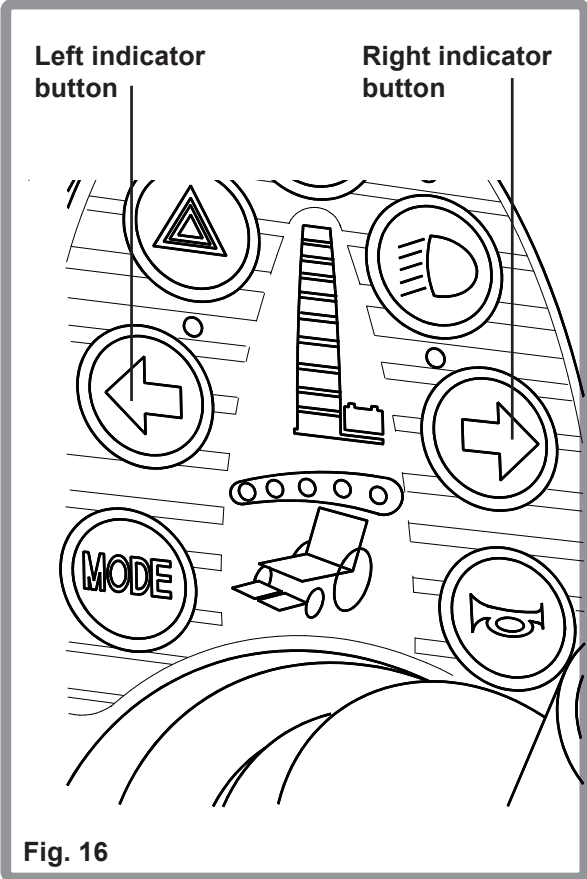


Fig. 15

The Penny and Giles Pilot + control pod

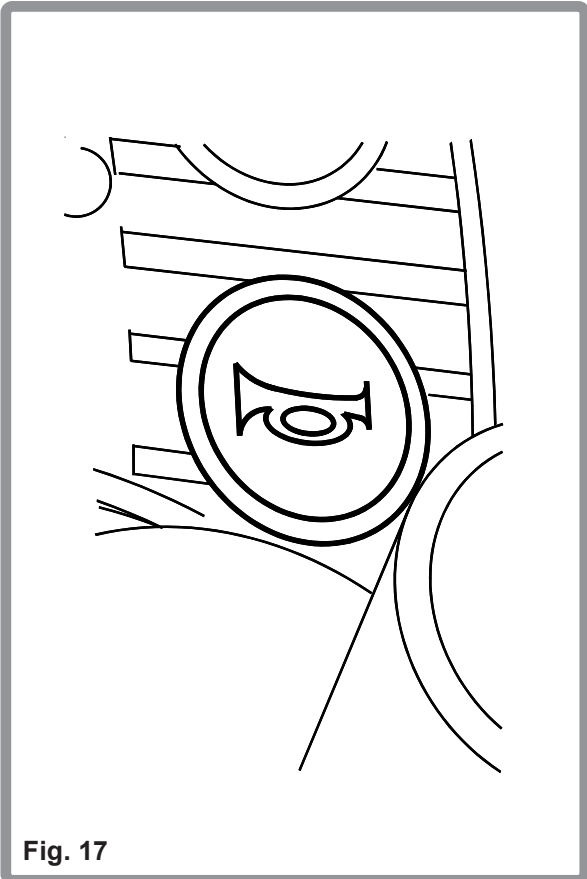
Indicators

The right hand button operates the right side, front and rear indicators, the left button operates the left side, front and rear indicators. To cancel press the button again (Fig. 16).



The horn button

When pressed the horn buzzer will sound, it stops when you release the button (Fig. 17).



The Penny and Giles Pilot + control pod

Hazard lights

Depressing the button will operate the front and rear hazard lights. This is effective either when the chair is switched On or Off. The two indicators will flash intermittently until cancelled by pressing the button again (Fig. 18).

Hazard lights button

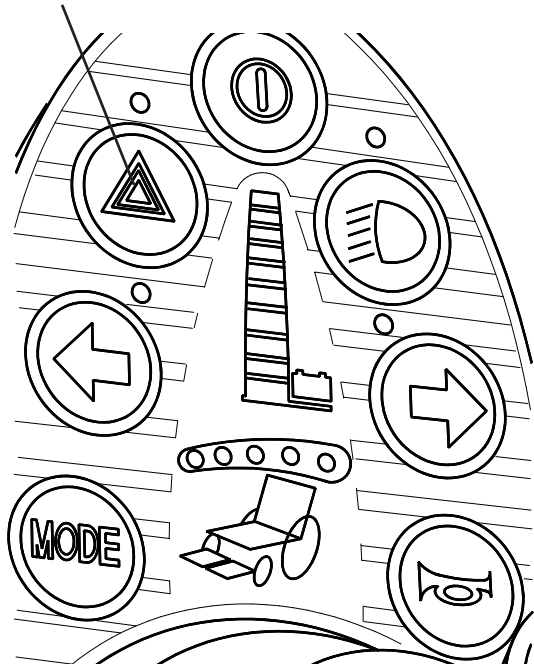


Fig. 18

Main lights

Depressing this button will operate the lights (Fig. 19) only when the chair is switched on.

Pressing it again will switch the lights off.

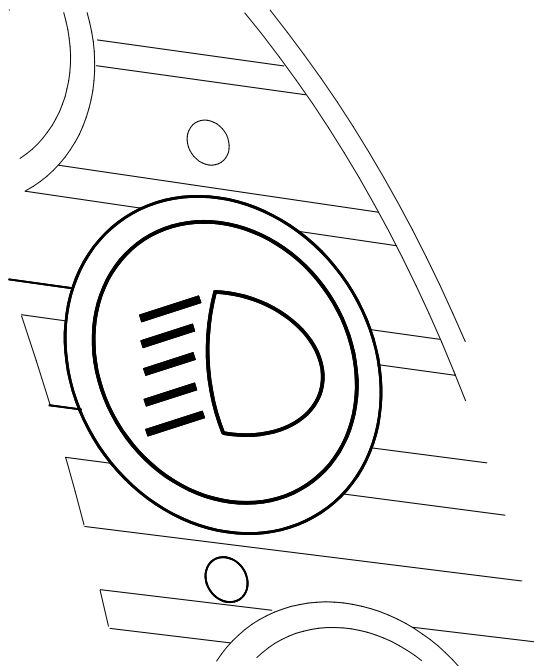


Fig. 19

The Penny and Giles Pilot + control pod

Actuator mode function

This will be included on your remote control pod if you have one or more electric options fitted to your chair. Refer to Fig. 20.

Menu select

To choose an electric option press the mode button until the red lights are visible on the wheelchair diagram next to the joystick. Move the joystick to the left or right to indicate which function can be used

Legrest left Backrest recline
Seat tilt

Legrest right Both legrests

When the desired function has been chosen you can activate the electric actuator system.

If you attempt to operate the electric functions when driving, the chair will automatically come to a safe stop. We recommend you only use the electric options whilst stationary.

Up/down movement

Once the relevant electric option has been chosen the required movement is achieved by moving the joystick forwards or backwards.

Programme port

This will enable an approved service agent to reprogramme your chair and also gain useful information when tracing any faults (Fig. 21).

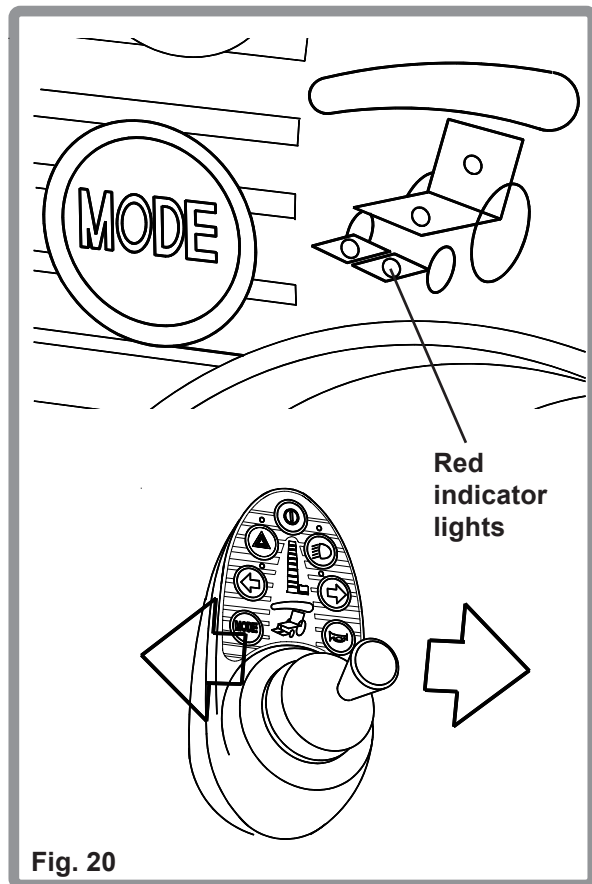


Fig. 20

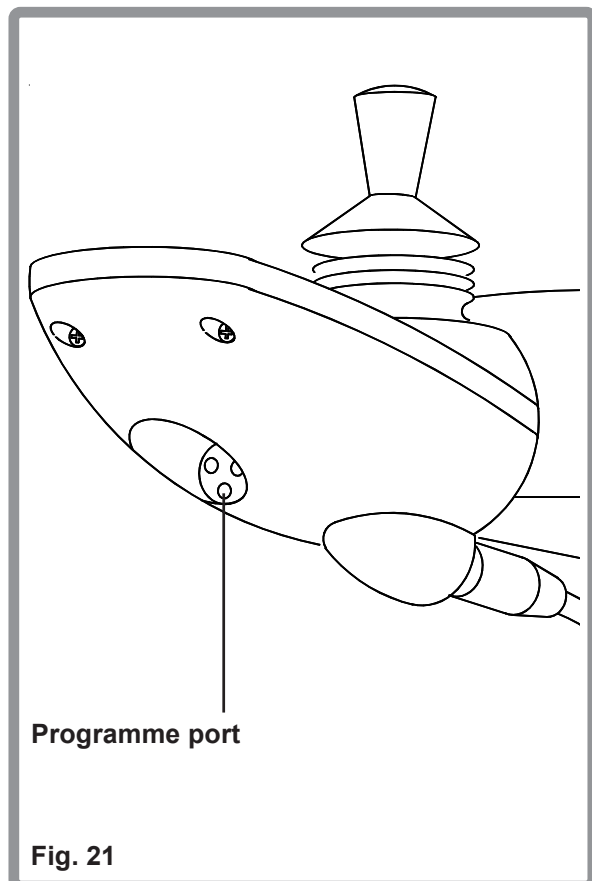


Fig. 21

The Penny and Giles Pilot + control pod

Charging socket

See section on charging.

Operation the control joystick

When engaging the main On/Off switch, allow a few seconds prior to moving the joystick. This allows the system to self check. If you move the joystick too soon, the battery level indicator display will flash, disabling drive to your wheelchair. Whilst this is not harmful to your wheelchair, you will need to switch off and then back on to clear the system.

To steer, simply move the joystick in the direction you wish to go. Proceed slowly at first, i.e. do not push the joystick too far forward.

Brakes will operate as soon as the joystick is released and allowed to return to its centre position. On level ground, this should bring you to a halt within one chair's length (6 km/h model). On a steep hill, it may travel slightly further and you will notice the brakes being automatically applied when the chair is nearly stationary. Once the brakes have been applied, switching off will make no difference to the brakes, although it is always safer when remaining stationary for a period of time to switch off.

Note: If you need to stop in an emergency, the simplest and safest way is to just release the joystick. This will bring the chair to halt in a controlled manner.

A second means of bringing the chair to a halt is to press the On/Off switch. This method is not recommended as the chair will stop very abruptly and will cause unnecessary wear in the chair's braking system.

The Penny and Giles Pilot + control pod

Summary

1. To steer, simply move the joystick in the direction you wish to go (Fig. 22).
2. The further you move the joystick, the faster you will go.
3. New users should use slower speeds until they are confident when driving the power chair. Adjust the speed range as explained on the previous pages.
4. The brakes will automatically stop the wheelchair from any speed when the joystick is released.
5. Switching off immediately applies braking and is not recommended for normal use.
6. It is important that the chair is stationary when changing direction from reverse to forward.
7. Always switch to off before getting into or out of the chair.

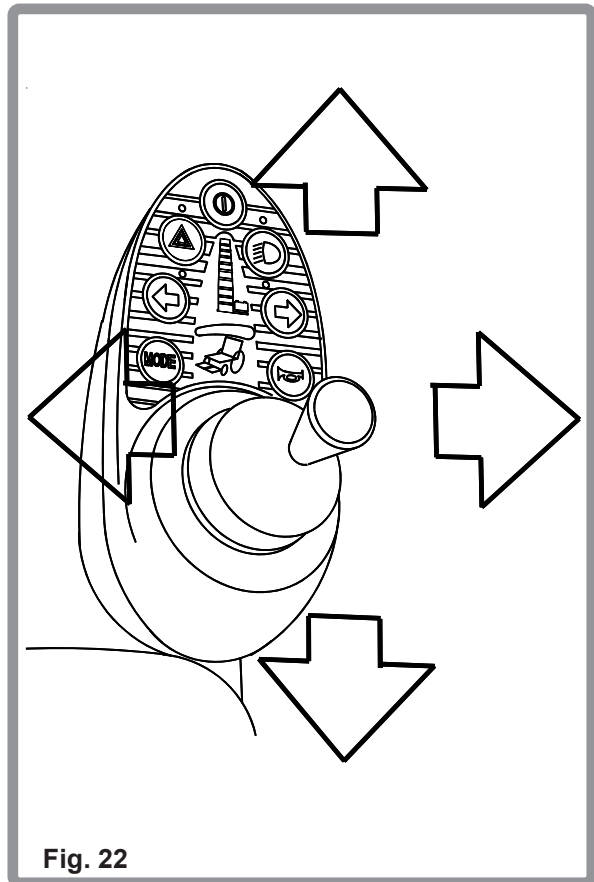


Fig. 22

Parallel Swing-Away Arm

Before adjusting the swing-away arm, switch off the controller to avoid accidental displacement of the joystick which would cause unwanted movement of your wheelchair.

Gently apply pressure to the side of the controller nearest the user and as close as possible to the front of the controller.

The controller will move outward and then backward before reaching its fully back position.

Keep your fingers and clothing, etc., clear while operating the swing-away mechanism.

If required, your wheelchair can be operated with the swing-away mechanism in its fully back position, but only for slow manoeuvring such as positioning the wheelchair closer to table tops, etc.

To revert to the normal driving position, switch off the power and pull the arm outwards and then forwards before returning the arm to its 'home' position. Make sure the controller is fully engaged in its home position before switching on and operating the wheelchair in the normal manner.

Caution

Do not hang any items on or over the parallel swing-away remote assembly as this could damage the swing-away mechanism.

When transferring to and from the wheelchair do not use the remote as a means of support.

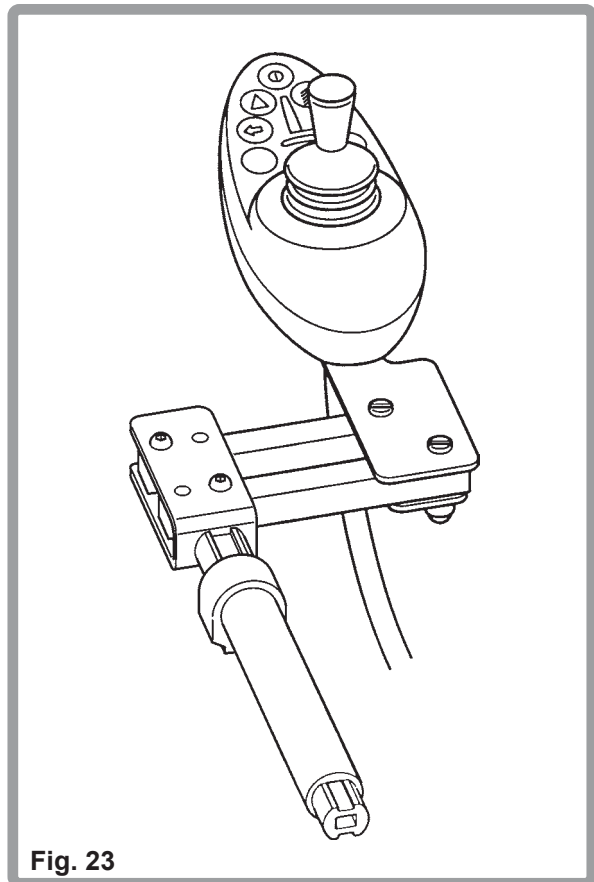


Fig. 23

Warning

Keep fingers, clothing, etc., clear of the swing-away mechanism at all times.

Ensure the power is switched off while adjusting the parallel swing-away arm.

Only operate the wheelchair at low manoeuvring speed when the parallel swing-away is in use.

Using your wheelchair

Kerb climber

Fitting

Offer the kerb climber up to the "U" brackets, align holes in the kerb climber shaft with the alignment holes in the "U" brackets. Take the spring clips and feed the straight section into the "U" bracket alignment holes. Push in until the shaped section of the clip grips the outer surface of the "U" bracket (Fig. 24).

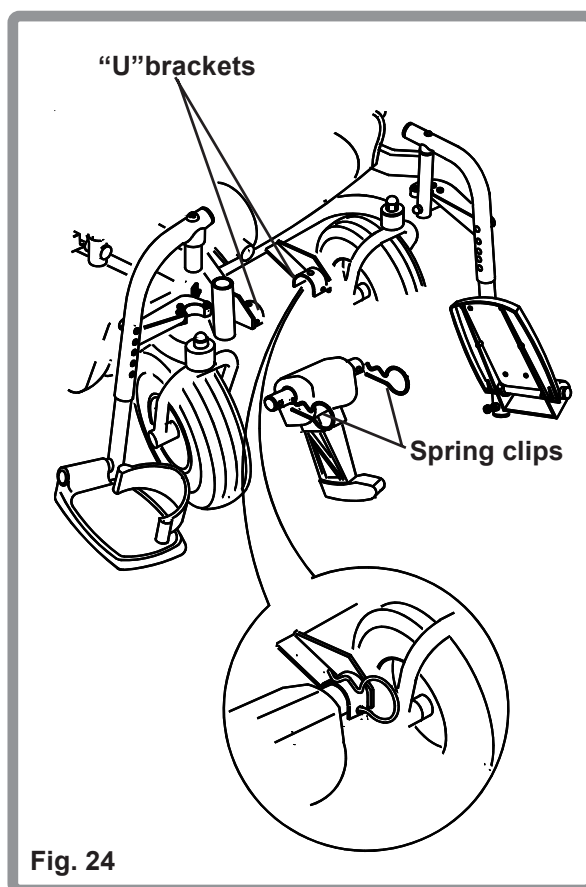


Fig. 24

Mounting the kerb

- 1 Approach the kerb head on driving forwards slowly and steadily.
- 2 As the Kerb Climber makes contact with the kerb, the wheelchair should be moving slowly. Small kerbs can be climbed from a standstill.
- 3 Apply sufficient power to the motors to lift the front of the chair up onto the kerb and then apply slightly more power and speed so that the drive wheels climb the kerb smoothly and without hesitation. As far as possible, keep the joystick in the straight forward position.

Dismounting the kerb

- 1 Reverse the chair slowly and carefully until the rear wheels are on the edge of the kerb.
- 2 Reverse as slowly as possible off the kerb with the rear wheels. You will feel more secure if you can lean forward, but if you can't, don't worry, the wheelchair is extremely stable and as long as you stay within its limitation you will be quite safe.
- 3 The front of the chair will naturally follow down the kerb as you continue to drive slowly backwards.

Using your wheelchair

Kerb climber (Caution)

- 1 Please show the utmost consideration for the other traffic on the road. Remember that the last thing a car or lorry driver expects to see is a wheelchair backing off the kerb into the road. If in any doubt, do not risk crossing the road until you are certain that it is safe.
- 2 Always cross the road as quickly as possible, there may be other traffic.
- 3 Do not attempt to go up or down more than a 10cm (4") high kerb.
- 4 Do not attempt to use the kerb climber on a series of steps.
- 5 Do not attempt high kerbs if on steep slopes or cambers.
- 6 Do not attempt any kerbs in the vicinity of drain covers, uneven or gritty road surfaces.
- 7 Do not attempt to dismount a kerb any higher than 5cm (2") in the forwards direction.
- 8 Do not mount or dismount kerbs at an angle other than straight on (90 degrees) to the edge of the kerb.
- 9 Prior to climbing ensure your legrests will clear the kerb.

Emergency freewheel

This is a mechanism which enables the drive to be disconnected in the event of battery or other failure. This may only be used in an emergency, or if you need to manually push your wheelchair (Fig. 25).

It is not intended for permanent use.

REMEMBER:

The chairs automatic braking system will not work unless the handle on the right hand side of the chair is pushed down.

ALWAYS RE-ENGAGE THE EMERGENCY FREEWHEEL AFTER USE

IN FREEWHEEL NEVER leave or attempt to enter/dismount the chair.

Remember that the wheelchair is heavy and you may not be able to stop the wheelchair from rolling away if you engage the freewheel on sloping ground.

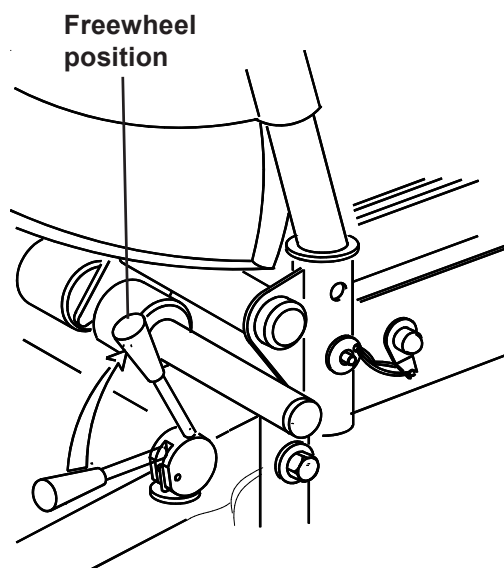


Fig. 25

Batteries and charging

General information

Batteries are the power source for almost all of the modern mobility products available today. The design of batteries used in mobility products is significantly different to the batteries used to start a car for example. Car batteries are designed to release a large amount of power over a short period of time, whilst mobility batteries (commonly called deep cycle batteries) release their power evenly, over a long period of time. Therefore, due to the lower production volumes and increased technological requirements, mobility batteries are typically more expensive.

Commonly two 12 volt batteries are used together in a mobility product, giving a total voltage of 24 volts. The size of the battery, (e.g. its available power) is expressed in amps per hour e.g. 30amp/hr. The higher the number, the bigger the battery size, weight and, potentially, the greater the distance you can travel.

Sunrise Medical only fit as standard maintenance free batteries into this type of wheelchair.

Maintenance free batteries

This type of battery uses a method of carrying the electrolyte commonly referred to as 'gel', that is held within the battery case. As the name implies, no maintenance is required other than regular charging. You can safely transport this type of battery without fear of acid spilling.

Furthermore, they are approved for transportation on aircraft.

Battery care

Below is set out a battery care plan for maintenance free batteries. This has been agreed between Sunrise Medical and 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 vehicle.

Batteries and charging

Maintenance free battery care plan

- 1 Only use an approved Sunrise Medical charger compatible with the vehicle to be charged.
- 2 Charge your batteries every night, regardless of the amount of use your mobility device has had during the day.
- 3 Do not interrupt the charging cycle.
- 4 If your mobility device is not required for use, it should remain connected to the charger until required. This will not damage your batteries, so 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.
- 5 If you leave your vehicle for an extended period (more than 5 days) disconnect the main battery lead.
- 6 Failure to allow for recharge will damage the batteries and can lead to shortened distances and premature failure.
- 7 Do not top up the charge of your batteries during the day. Wait until the evening for a full overnight charge.
- 8 As a general rule, maintenance free batteries take longer to fully charge than lead acid batteries.
- 9 The battery terminals need to be checked regularly for signs of corrosion. If any corrosion is apparent, then clean the terminals completely (a wire brush is ideal) and re-grease the terminal using Vaseline petroleum jelly, not ordinary grease. Ensure that the terminal nut and bolt, cable clip and exposed cable are completely covered with jelly.
- 10 Following all the points above should result in a healthier battery, greater range for the vehicle user and a longer life for your batteries.

Do not expose any part of the battery to direct heat (i.e. naked flame, gas fire).

When charging always place on a hard surface in a room with good ventilation.

You should not charge your batteries in outdoor conditions

Batteries and charging

General

The external charger (Fig. 26) has been designed to charge two 12 volt Sonnenschien Dryfit Gel type batteries.

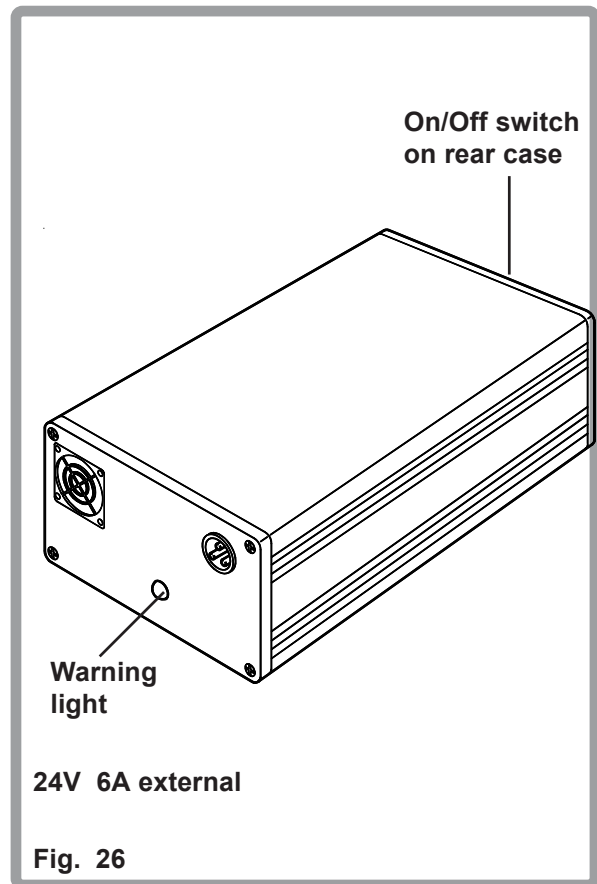
Safety features

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

The majority of 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.

The 3 pin UK mains input plug contains a replaceable fuse. The rating of this fuse is shown on the charger label. Always replace with the same type and size of fuse as specified. Fitting of different fuses can result in damage to the charger or failure of the charger to operate properly.

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.



Batteries and charging

Fault finding guide

If, having followed the correct steps to start battery charging, the charger does not operate as described, then check as follows:

No indicator

The connection between the charger and the batteries has not been made.

Mains supply

Check that the mains supply is on, that any fuses are intact, and that the charger is switched on.

Deeply discharged batteries

If the battery voltage is below 16 volts the charger will not commence charging. This will be indicated by the bi-coloured indicator light alternating between orange/green (Fig. 27).

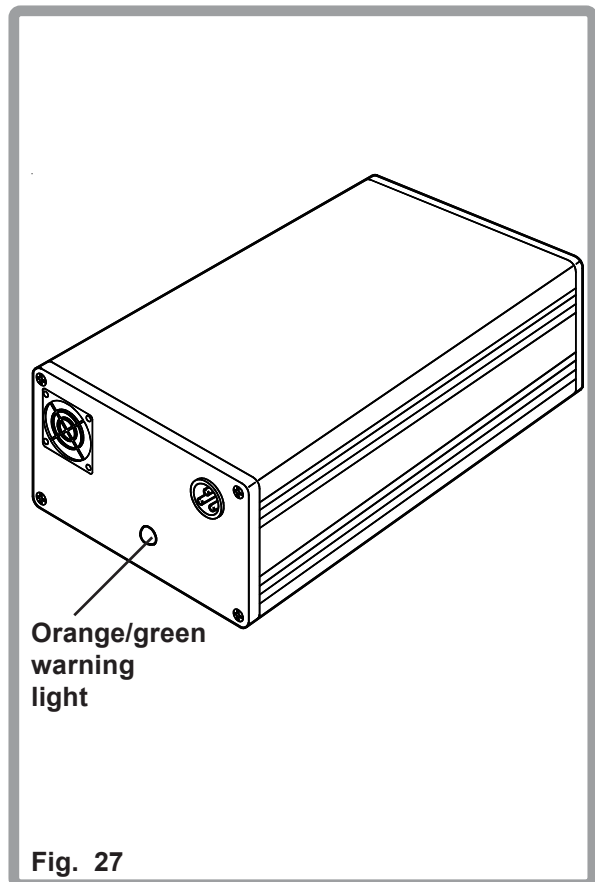


Fig. 27

Batteries and charging

Procedures for Charging. 24V 10A charger

The 24V 10A charger has one bi-coloured orange/green indicator to show the charger operation (Fig. 29).

- 1 Plug into the three pin charging point under the front of the control box (Fig. 28).
- 2 Connect the charger to the mains supply by means of the mains plug and switch on.
- 3 At the start of charging the charger will undergo a self test procedure, this is indicated by the indicator flashing, alternating orange/green (Fig. 29).
- 4 When the test is complete and there have been no faults found, charging will commence. This is indicated by a flashing orange only light.
- 5 On return of 90% or the bulk of the charge a steady orange light will be visible.
- 6 When a steady green light is visible the battery is fully charged.
- 7 An automatic switch to a float voltage will occur after a further period of time, and the charger should be left connected to the wheelchair until it is required for use.
- 8 No light indicator will show unless the charging plugs are connected.
- 9 Always switch off at the mains before disconnecting the batteries.

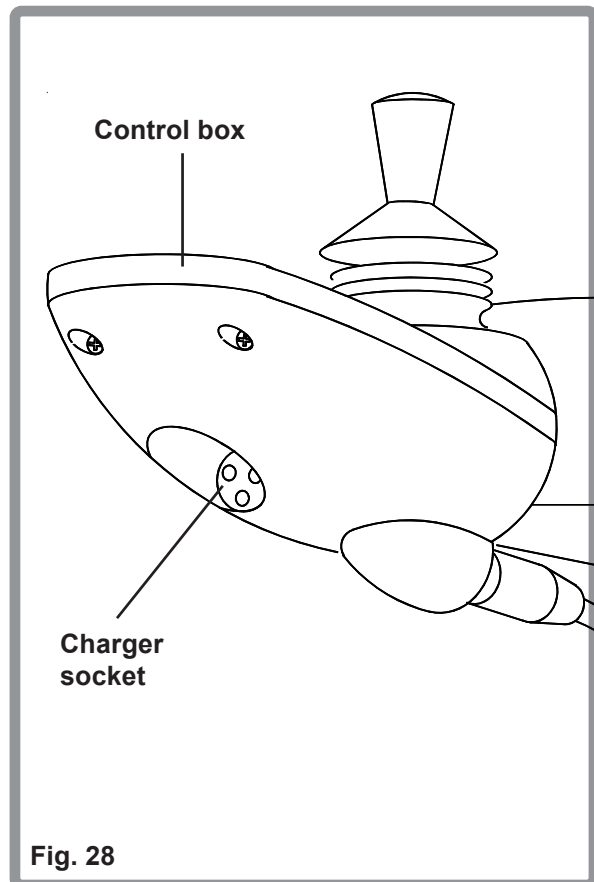


Fig. 28

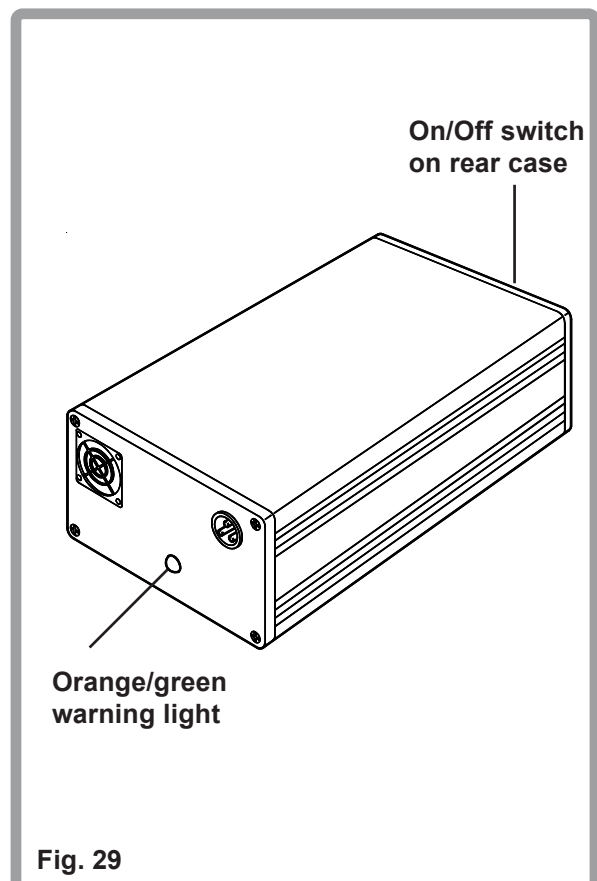


Fig. 29

Batteries and charging

Safety and caution notes

- 1 The charger is designed for indoor use. Do not use outdoors or expose to rain, snow, spray or moisture.
- 2 Use only with Sonnenschein dryfit Gel type batteries of the A200, A500 or A500C groups when employed in cyclic mode.
- 3 The charger may be used with other brands of Gel type batteries, subject to written confirmation from the Technical Department of Sunrise Medical.
- 4 Do not smoke, or create sparks or flames in the vicinity of the batteries.
- 5 Avoid standing the charger on carpets or rugs during use and do not cover the ventilation slots of the charger or allow objects to rest on the case.
- 6 Do not attempt to recharge other types of batteries such as car batteries, non-rechargeable batteries, AGM sealed batteries, wet electrolyte batteries or batteries of the wrong voltage.
- 7 Repairs should only be carried out by Sunrise Medical.
- 8 The charger is designed for mains input voltages of 110V AC and 220V AC to 240V AC.
- 9 Use of an attachment, not recommended or sold by Sunrise Medical, may result in a risk of fire, electric shock or injury to persons. To reduce the risk of damage to electric plug and cord, pull by the plug rather than the cord when disconnecting the charger. Make sure the cord is located so that it will not be stepped on, tripped over, or otherwise subjected to damage or stress. An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in a risk of fire and electric shock. If any extension cord must be used, make sure the pins on the plug of the extension cord are the same number, size and shape as those of the plug on the charger; and that the extension cord is properly wired and in good electrical condition.

Batteries and charging

Important !

Do not rest a battery on top of the charger.

Do not stand the charger on a carpet or other soft surface. Always place it on a hard surface.

Do not operate the charger if it has received a sharp blow, been dropped or otherwise damaged in any way, take it to a qualified technician.

Do not disassemble charger; only have it repaired by the manufacturers. Incorrect re-assembly may result in a risk of electric shock or fire. To reduce the risk of an electric shock, unplug the charger from the outlet before attempting any maintenance or cleaning.

Turning off the controls will not reduce the risk.

Never place the charger directly above the battery being charged; gases from the battery will corrode and damage the charger.

Never Smoke or allow a spark or flame in the vicinity of battery or charger. Be extra cautious to reduce the risk of dropping a metal tool on to the battery. It could spark or short circuit the battery or other electrical parts, that may cause an explosion. Also take off all personal metal effects and dangling objects when working on the battery.

Never Charge a frozen battery. A fully charged battery will rarely freeze but the electrolyte of a discharged battery can freeze at 16° Fahrenheit (-9° centigrade), any battery that is suspected of being frozen should be thawed completely before charging.

Note: when buying replacement batteries always consult your sunrise medical service agent.

Note: Before using your vehicle for the very first time, please charge the batteries for a period of 24 hours.

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.

Batteries and charging

The range of your vehicle

Most manufacturers of mobility products state the range of their vehicles either in the sales literature or within the Owners Manual. The range stated sometimes differs from manufacturer to manufacturer even though the battery size is the same. Sunrise Medical measure the range of their vehicles in a consistent and uniform manner, but variances still occur due to motor efficiencies and overall product load weight.

The range figures are calculated to **I.S.O. Standard 7176. Part 4: Wheelchair 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 75kg. 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:

- 1 User weight heavier than 75kg.
- 2 Batteries whose age and condition are less than perfect.
- 3 The terrain is difficult e.g. very hilly, sloping, muddy ground, gravel, grass, snow and ice.
- 4 The vehicle climbs kerbs regularly.
- 5 The ambient temperature is very hot or very cold.
- 6 Incorrect tyre pressures in one or more tyres.

- 7 Lots of start/stop driving.
- 8 Also thick pile carpets within the home can affect range.

All this technical information may seem complicated and a little daunting, but please remember, that the battery sizes available on each Sunrise Medical product should give sufficient range to cope with the majority of customer's lifestyles.

Myths and legends

Over the years, battery technology has moved forward but, unfortunately, some of the advice given on battery care has not. This has resulted in a number of confused and at times contradictory instructions on the 'best' way to care for your batteries. This section will help to dispel some of these myths and legends.

- 1 Batteries can be charged immediately after use. You do not need to allow them to cool prior to charging.
- 2 Mobility batteries do not develop a memory from using a repetitive charge and discharge cycle. This only applies to nickel cadmium batteries commonly found in products such as camcorders.
- 3 Batteries when new do not require any special attention with regard to their charge and discharge cycle. Following the relevant 'care plan' is the best advice we can give.

User tips

Caution

Please show the utmost consideration for the other traffic on the road.

Remember that the last thing a car or lorry driver expects to see is a wheel chair backing off the kerb into the road. If in any doubt, do not risk crossing the road until you are certain that it is safe.

Always cross the road as quickly as possible; there may be other traffic.

Adverse conditions

Please be aware that when driving your wheelchair in adverse conditions, e.g. on wet grass, mud, ice, snow, or other slippery surfaces you may experience a reduction in the grip and traction of your wheelchair. We recommend you take extra precautions in these conditions, particularly on hills and slopes, your wheelchair could become unstable or skid causing possible injury. 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 chair.

Ramps

When using a ramp, please ensure that is capable of taking the combined weight of the powerchair and yourself. If a ramp is being used to load a chair into a vehicle, please ensure the ramp is properly secured to the vehicle. Always approach the ramp head-on and exercise caution (Fig. 30).

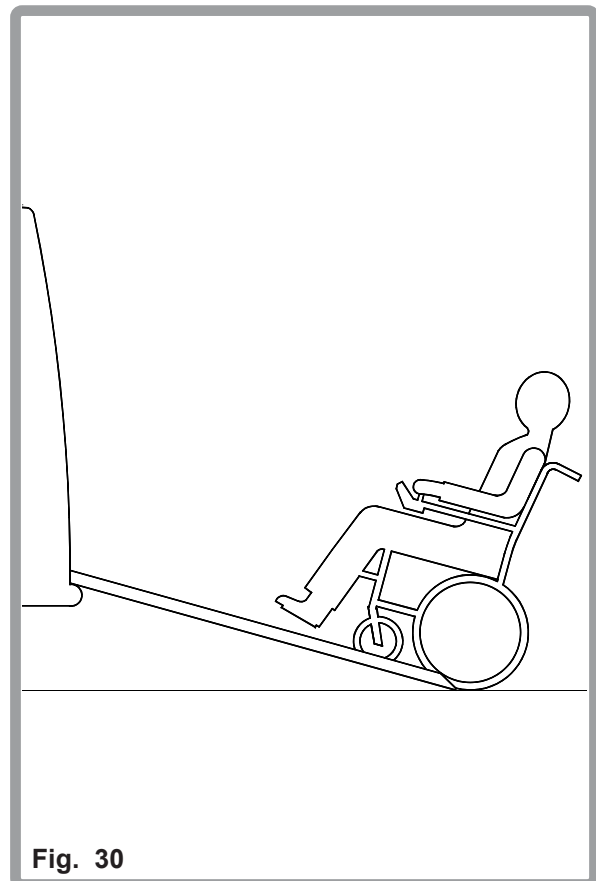


Fig. 30

User tips

Transfer to and from the chair

Sunrise Medical recommend that you consult your healthcare professional for assistance in developing your personal front or side transfer technique to best suit your needs, and avoid any personal injury (Fig. 31 and 32).



Fig. 31



Fig. 32

User tips

Gradients: ascents

When going uphill, keep the chair moving. Keep the joystick pushed well forward and steer by moving it from side to side. If you have stopped on a hill, then you should start slowly, and if necessary lean forward to obviate the tendency for the front wheels to lift (Fig.33).

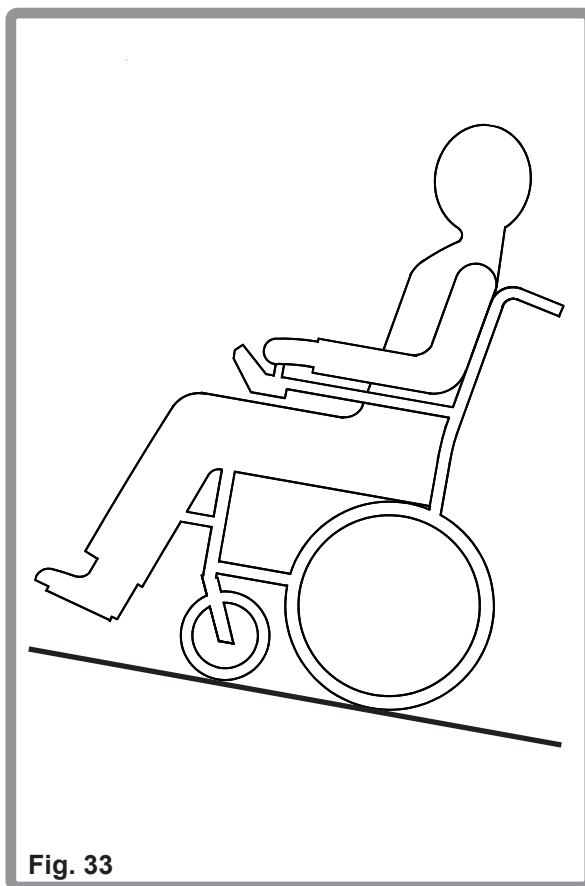


Fig. 33

Gradients: descents

On descents, it is important not to let the wheelchair accelerate beyond its normal level of ground speed. In fact, it is safer to proceed slowly down steep descents and stop immediately if any anxiety arises regarding directional control. If the chair picks up speed, centre the control to slow it or to stop all forward movement, then restart slowly and do not allow the speed to increase. The solid state 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 wheelchair. In addition of course, you may control the wheel chair speed by using the speed control (Fig. 34).

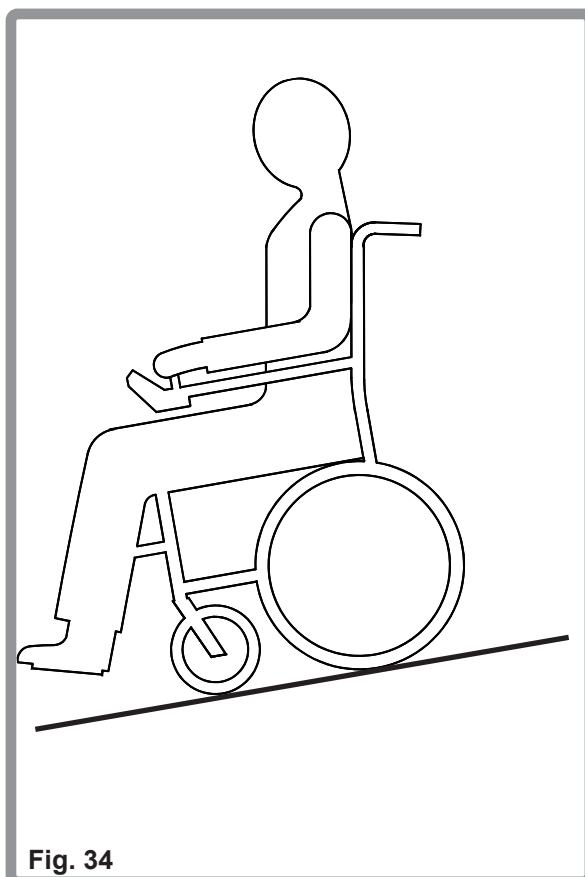


Fig. 34

Transportation

Clamp points

We do not recommend that you transport the F50 in a vehicle, however should you still choose to transport the F50, please clamp the product using a 4 Point Webbing Restraint as per the diagram shown (Fig 35).

Transportation in vehicles

Users should not remain seated in the wheelchair while travelling aboard any form of primary or secondary transportation.

Only permanently installed car seats and seat belts will offer sufficient protection in hazardous situations. When vehicles are in motion, unoccupied wheelchairs should be secured using appropriate means.

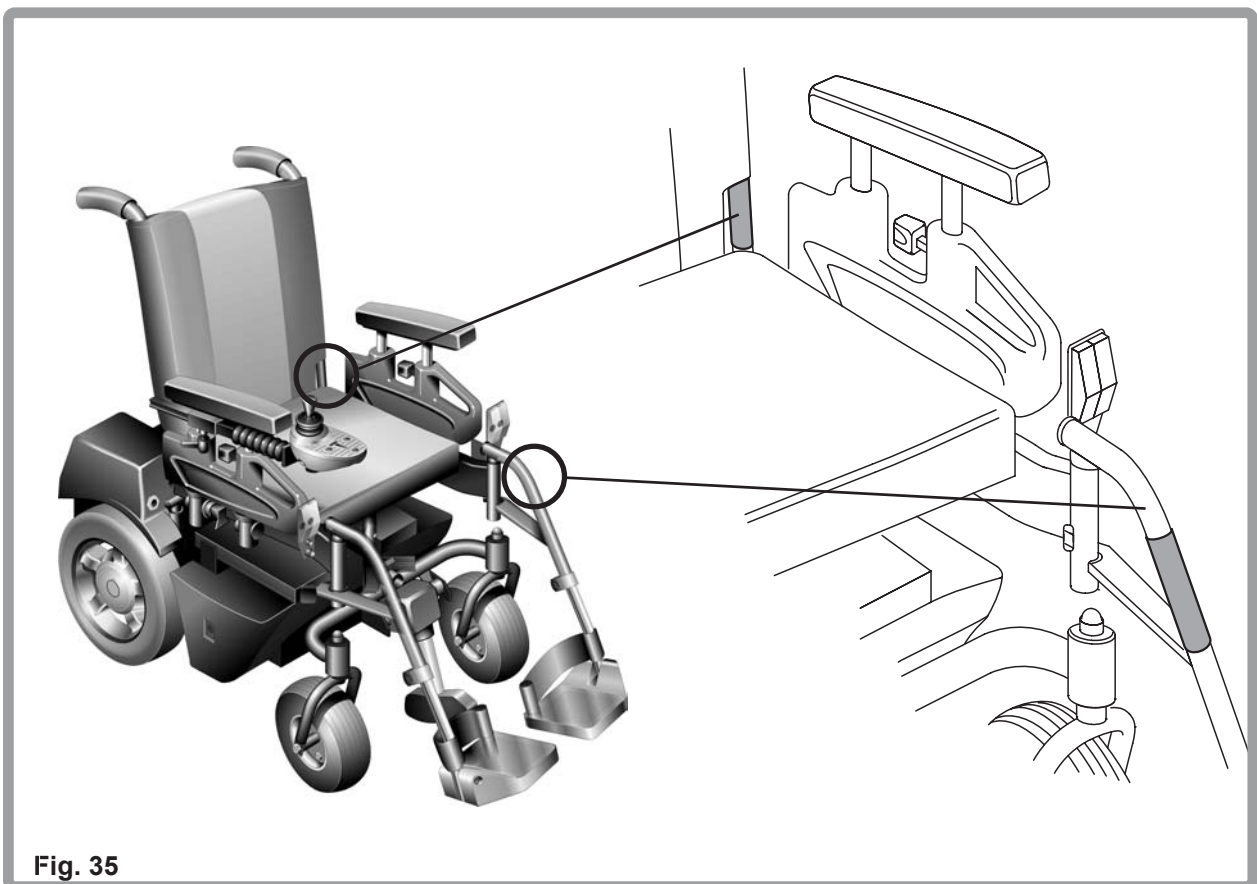


Fig. 35

Lap belt instructions

Note:

Lap belts are fitted as positional aids, and are not suitable as transportation restraints.

Step 1

Place lab belt around chair.



Step 2

Position belt such that fastening buckle is situated in the middle of the stomach. The positioning belt should be adjusted so that a hand can be placed between the user and the belt.



Step 3

Secure lap belt round back posts using tri-glide fittings.

Maintenance

Check lap belt, and securing components, at regular intervals for any sign of frays, or damage. Replace if necessary.



Maintenance

Cleaning

The wheelchair 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.

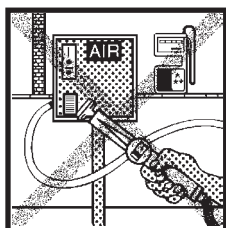
Tyre pressures

If pneumatic tyres are fitted to your wheelchair it is important to regularly check the air pressure and for signs of wear.

The correct pressures are between the minimum of 137 kiloPascals (20 psi, 1.37bar) and the maximum 241 kiloPascals (35 psi, 2.41bar) for rear wheels, and 102 kiloPascals (15psi, 1.02 bar).

The pressure will need to vary, depending on the weight of the user. IT IS IMPORTANT that front wheels are inflated to the same pressure as a pair, and likewise the rear. The inflator pump provides the safest method of inflating your wheelchair tyres and the pressure can be checked with a standard motor vehicle pressure gauge.

Do not inflate beyond the maximum tyre pressure.



PLEASE NOTE - NEVER INFLATE THE TYRES USING A GARAGE FORECOURT AIRLINE, ALWAYS USE THE PUMP PROVIDED.

Electrical connections

When inspecting electrical connections, pay attention to the battery connections, the connection of batteries to power loom and plug in sockets for the joystick, control box and lights and indicators.

Tyre wear

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.

Upholstery/seating

Tears, dents, wearing or slackening of upholstery particularly near to metal could result in poor posture or lower levels of comfort and pressure relief.

Authorised Sunrise Medical service agents

The annual full service must be performed by an approved Sunrise Medical Service Agent. For a list of approved service agents in your area please contact Sunrise Medical on this telephone number:

01384 44 66 88

Storage

When storing your powerchair for long periods of time (in excess of one week), first fully charge, and then disconnect the batteries, to minimise battery discharge.

Maintenance

F50 maintenance and routine inspection						
	DAILY	WEEKLY	MONTHLY	QUARTERLY	SIX MONTHLY	ANNUALLY
Charge batteries	<input checked="" type="radio"/>					
Check battery level indicator	<input checked="" type="radio"/>					
Ensure all removable parts are securely fastened	<input checked="" type="radio"/>					
Electrolyte level check (wet batteries only) SAFETY MUST BE OBSERVED!		<input checked="" type="radio"/>				
Ensure all electrical connections are made, and firm		<input checked="" type="radio"/>				
Wipe vehicle with a damp cloth		<input checked="" type="radio"/>				
Check tyre pressures		<input checked="" type="radio"/>				
Ensure lights and indicators are operational and clean		<input checked="" type="radio"/>				
Check tyres for wear			<input checked="" type="radio"/>			
Battery terminals inspection. Clean and protect with petroleum jelly. SAFETY MUST BE OBSERVED!				<input checked="" type="radio"/>		
Check condition of upholstery and seating					<input checked="" type="radio"/>	
Complete inspection, safety check and service should be made by an authorised Sunrise Medical supplier						<input checked="" type="radio"/>

To order spare parts.

PLEASE QUOTE THE FOLLOWING:

1. Model of chair
2. Serial number of chair
3. Left hand or right hand control
4. Part number and description and quantity of items required
5. State colour when ordering upholstery or frame parts.

Service history

This section is designed to assist you in keeping a record of any service and repairs to your Wheelchair. Should you decide to sell or exchange your vehicle in the future, this will prove most helpful to you. Your Service Agent will also benefit from a documented record and this manual should accompany the Wheelchair when service or repair work is carried out. The Service Agent will complete this section and return the manual to you.

Customer Name _____					Date chair purchased _____				
Address _____					Model _____				
_____					Colour _____				
Postcode _____					Serial No. _____				
YEAR	1	2	3	4	YEAR	1	2	3	4
Service dates					Service dates				
Controller					Upholstery				
On/off switch					Seat				
Output plug					Back				
Operation					Armpads				
Dynamic braking					Electrics				
Programmable settings					Condition of loom				
Batteries					Connections				
Levels					Lights (where fitted)				
Connections					Test run				
Discharge test					Forwards				
Wheels/tyres					Reverse				
Wear					Emergency stop				
Pressure					Left turn				
Bearings					Right turn				
Wheel nuts					Up/down slope				
Motors					Over obstacles				
Wiring					Parking brake (where fitted)				
Noise					List items repaired/adjusted				
Connections									
Brake									
Brushes									
Chassis									
Condition									
Steering									
Dealer Stamp					Dealer Stamp				
Date: Signed:					Date: Signed:				
Dealer Stamp					Dealer Stamp				
Date: Signed:					Date: Signed:				

Sunrise Medical

Your new F50 is manufactured in the West Midlands by Sunrise Medical.

With over 30 years experience behind us, we are one of the longest established mobility equipment manufacturers in the UK. All our Wheelchairs, Powerchairs, Scootas and Stairlifts undergo rigorous tests to ensure that they meet our requirements of comfort, safety and durability. Our success is based on the strong traditions of quality, value for money and genuinely caring for our customers.

We pride ourselves not only on designing and building the most innovative products but also on our commitment to offer an excellent standard of customer service both during and after sales.



In addition to your new F50, Sunrise also manufactures oxygen concentrators, nebulizers, hoists, and stairlifts. We have a vast range of aids to daily living which include the Merlin Bath Lifer, bed accessories and walking sticks.

Should you require any information on our full range of products please call us on 01384 44 66 88. or write to us at:

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