



USER MANUAL

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UK

Permobil X850

Electric Wheelchair

permobil

Where to find Permobil

Permobil Europe BV is responsible for the servicing and sales carried out by its importers and local dealers throughout large parts of Europe. So contact us if you have any questions regarding servicing or sales in the area where you live.

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Permobil X850

Electric Wheelchair

Important information about the user manual	6
General information	7
Technical support	7
Spare parts & accessories	7
Disposal.....	7
Warranty & service	7
Product approval.....	7
Safety rules	8-23
Design & function.....	24
General - overview	24
Seat lift, seat angle, seat rotation	25
Driving, shock absorbers	26
Wheels, lights, reflectors.....	27
Electronics - batteries	28
Electronics - fuses/charging socket	29
Control panel - design and functions.....	30
Control panel - functions.....	31
Seat Control Panel	35
Joystick menu - functions	36
Operation	39
General - driving	39
Driving technique	40
Driving rules	41
Seat lift, extension.....	46
Seat rotation	47
Brake release	48
Charging batteries	50
Transport	52
Air transport.....	54
Maintenance and repairs	56
Toolbag	56
General - batteries, storage	57
Cleaning	58
Wheels	59
Fixing belt, brake release	61
Replacing the batteries	62
Fuses.....	64
Technical specifications	65
Data - electrical system.....	67
Troubleshooting guide	68
Accessories	70

Important Information about this Owner's Manual

We congratulate you on your choice of power wheelchair. Our goal is for you to continue to feel satisfied with your choice of both vendor and wheelchair.

Before you begin using your wheelchair, it is important that you read and understand the content of these operating instructions and in particular the Safety Instructions.

These operating instructions are primarily intended to acquaint you with the functions and characteristics of the wheelchair and how you can use them in the best manner possible. They also contain important safety and maintenance information, as well as describing possible problems that can arise while driving the wheelchair.

Always keep these operating instructions handy in connection with your wheelchair, since the need for important information can arise concerning its use, safety and maintenance.

It is also possible to obtain information concerning our products from our home page on the Internet. You can find us at www.permobil.com.

All information, pictures, illustrations and specifications are based upon the product information that was available at the time that these operating instructions were printed. Pictures and illustrations that are found in these operating instructions are representative examples and not intended to be exact depictions of the various parts of the wheelchair.

We reserve the right to make changes to the product without prior notice.

Technical support

In the event of technical problems, you should contact Permobil.

Always state the seats serial number when contacting Permobil to ensure that the correct information is provided.

Spare part & accessories

Spare parts and accessories must be ordered through Permobil.

Scrapping

Contact Permobil BV for information about scrapping agreements in force.

Warranty

All wheelchairs are supplied with a two-year product guarantee. Batteries and charger are supplied with one year warranty.

Incident reporting

If an incident occurs please contact your nearest Permobil representative. Normally the same person you contacted at purchase day. To prepare this contact there is a link on our homepage, on the internet, at www.permobil.com. Open up your country page and the contact page. Here is the needed contact information and a guidance document in what information we need to investigate the incident. Complete the information as much as possible. This is of great help for us.

To increase the product quality and to ensure that our product is safe through the whole life cycle we need you to send in Incident Reports. It is also stated in MEDDEV 2.12-1 and Annex 9 that the manufacturer shall *“Encourage users or those given specific responsibility for reporting incidents that have occurred with medical devices and that meet the criteria within these guidelines to report the incidents to the Manufacturer and or to the Competent Authority in accordance with national guidance”*.

To meet the requirements and to ensure that our products shall remain safe in your hands we need your assistance. We hope you never need to use the information on this page but if there is an incident please contact us.

Product approval

This product fulfill the requirements according to EN 12184 and ISO 7176.

Safety rules - General

An electric wheelchair is a motor-driven vehicle. Therefore, you need to be very careful when you use and handle it. It is important to read and follow the instructions and safety rules given in this user manual before starting to use your wheelchair as incorrect use could lead to a risk of injury to users or damage to the wheelchair and its environment.

Warning labels

The user manual contains the following “warning labels” which are intended to draw attention to situations which could lead to problems, near-accidents, personal injury or damage to the wheelchair, etc.

NOTE

Take care here.

WARNING

Take extra care here.
Risk of personal injury or of damage to the wheelchair and its surroundings.

NOTE

Permobil accepts no liability for personal injury or damage to property which may arise from the failure of the user or other persons to follow the recommendations, warnings and instructions given in this user manual.

Safety rules - General

Your wheelchair may have been adjusted precisely to your needs on delivery, so you should always ask the advice of the person who ordered the seat on your behalf before making changes or adjustments to the wheelchair. Certain adjustments may impair the wheelchair's safety/functions or its suitability for your needs.

To minimise incorrect use of your wheelchair, it is also extremely important to take the necessary time to familiarise yourself with the wheelchair and its accessories, the various keys, function and steering controls and the various seat adjustment options, etc. before starting to use it.

Do not set out alone on your first test ride, but make sure you have assistance close by if you should need help.

To ensure that nothing has occurred to the seat during its transport to you, please check the following before first use:

- Check that all products ordered are included in the delivery. If you suspect that something is missing, contact your aids centre or Permobil as soon as possible for information.
- Check that no transport damage or other damage has occurred to the seat and its accessories. If you discover any damage or see any other problem, contact your aids centre or Permobil as soon as possible for information before continuing your inspection.

Check also that the wheelchair's batteries are fully charged and that the tyres have the right air pressure before using the wheelchair.

If, in any situation, you find that the wheelchair does not behave as expected or you suspect that anything is wrong, stop your test ride as soon as possible, switch off the wheelchair and contact your service contact or Permobil for information.

Safety rules



WARNING

Operation

Do not allow children to drive the wheelchair unsupervised. If your wheelchair is fitted with lights, they must always be used in poor light and when you are near public roads. Always remember that drivers may find it difficult to see you.

Be extremely careful when you drive near unprotected edges, on steep slopes or on raised surfaces. Unintentional movement or excessive speed in such areas may lead to personal injury or damage to property.

Do not drive the wheelchair over kerbs or other edges higher than 110 mm. When you drive over a kerb or similar raised surface, you must cross it at a 90-degree angle (at right angles). If you cross such surfaces at any other angle, the wheelchair may tip over.

Reduce speed when you drive on uneven ground or soft surfaces. Do not use the wheelchair on stairs or escalators. Always use a lift.

Do not lift or move the wheelchair by holding any of its moving parts, its seat or its seat lift. If you do so, the result may be personal injury or damage to property, including damage to the wheelchair.



NOTE

Operation

Do not drive the wheelchair if you are under the influence of alcohol. Alcohol may affect your ability to use the wheelchair safely.

Some physical limitations or the ingestion of medicines, either prescription or over the counter medicines, may limit your ability to use the wheelchair safely. Always consult your physician about your limitations and medicines.

Safety rules

WARNING

Maintenance and service

Carry out only the service and maintenance activities noted in this user manual. All other service, alterations to and interventions in the wheelchair and its accessories' vital systems must be carried out by a competent service engineer or a person with sufficient knowledge to do so in an expert manner. In case of doubt, always contact a competent service engineer or Permobil.

The power supply must be switched off during all work or servicing on the wheelchair's electrical system.

Use only spare parts or accessories approved or recommended by Permobil. All other use could lead to changes which might impair the functions and safety of the wheelchair. It could also lead to the warranty for your wheelchair becoming invalid.

Note that the seat is heavy and contains many moving parts, which means there will always be some risk of crushing.

Weight limits

The maximum user weight for your wheelchair is specified in the specifications section of the user manual supplied with the seat model in question. If the wheelchair is used by anyone who weighs more than the maximum permitted user weight, the result may be personal injury or damage to property, including damage to the wheelchair. This may also invalidate the wheelchair's warranty.

Do not carry passengers on the wheelchair. This may result in personal injury or damage to property, including damage to the wheelchair.

NOTE

Before driving

If necessary, and when certain medical conditions exist, the user should practise using the wheelchair together with an assistant who knows how the wheelchair works and the abilities and limitations of the user.

Safety rules

WARNING

Driving on sloping surfaces

When driving down a slope, you should always select the lowest speed and drive carefully. Driving down a slope with the wheelchair can shift the user's centre of gravity forwards. If the wheelchair moves faster than you want, you can stop the wheelchair by letting the joystick go and then start to drive downhill again at a lower speed.

Avoid sudden stops or starts. Stop by letting the joystick go. If the wheelchair is switched off using the ON/OFF switch on the control panel while the wheelchair is moving, the wheelchair may stop suddenly. Ensure that the recommended fixing belt is always properly tightened.

When driving up a slope, you must try to maintain a steady speed. If you stop and start the chair while moving uphill, the wheelchair will be more difficult to control.

Do not drive up or down slopes that are steeper than specified in this user manual. There is a risk that the wheelchair cannot be controlled safely.

Safety rules



WARNING

Driving on sloping surfaces

Do not drive the wheelchair where the side slope is steeper than specified in this user manual. There is a risk of tipping.

Do not drive up or down ramps that are not fitted with adequate edge protection along the sides of the ramp to prevent the wheelchair from falling off the ramp.

When you drive up a slope, ensure that you drive the wheelchair straight up the slope (vertically). If you drive at an angle, the risk of tipping over or falling is increased. Be extremely careful when you drive up a slope.

Always avoid driving on slopes covered with snow, ice, gravel, clay, sand, wet leaves or similar or where the surface is uneven.

Safety rules

WARNING

Operation - turning/cornering

The risk of the wheelchair tipping over increases at high turning speed, in tight curves, on uneven surfaces, with fast changes of direction and if you drive from a place with low friction (for example a lawn) to a place with high friction (for example a gravel road).

To avoid tipping over, with the risk of personal injury or damage to property that entails, you should always drive slowly when turning/cornering and changing direction.

Operation - releasing the wheelchair's magnetic brakes

To prevent the wheelchair from rolling off, ensure that it is on a dry, level surface before releasing the brakes.

Always ensure that someone is present to help you if the brakes need to be released when you are in the wheelchair.

Never release the brakes if the wheelchair is on a slope. This could result in the wheelchair rolling off, which could result in personal injury or damage to property, including damage to the wheelchair.

Safety rules



NOTE

Driving on loose or soft surfaces

When the wheelchair is set to the lowest speed and the batteries are not fully charged, it may be difficult to drive on some surfaces, for example gravel, sand or thick floor coverings.

Driving in the dark and poor light

You should only drive in the dark on public roads if your wheelchair is fitted with functioning lights front and rear or according to national or local traffic rules.

Safety rules



WARNING

Operation of seat lift/seat angle/back angle

Make sure that there is no risk of anything getting in between the chassis and the seat when the seat lift/seat angle and back angle functions are being used.

Using these functions alters the centre of gravity, which always means an increased risk of tipping. Always drive at low speed and only use these seat functions on a level surface and not on slopes, ramps, hills or other gradients.

Centre of gravity

Note that the following factors may affect the centre of gravity of the seat/wheelchair and thus the risk of tipping:

- Raising the seat lift
- Height and angle of seat
- Position or weight distribution of the body
- Driving on sloping surfaces, for example a ramp or hill
- When wearing a rucksack or using other accessories, depending on the extra weight.

If your wheelchair starts to move in an unexpected way, immediately let go of the joystick to stop the wheelchair. Except in an emergency, never use the on/off key to stop the wheelchair. This could lead to the wheelchair stopping quickly and violently and could lead to personal injury.

Fixed seat tube

The seat height should only be adjusted by a competent service engineer or someone with adequate knowledge to perform the adjustment in an expert manner. See the service manual for further information.

Safety rules



WARNING

Fixing belt

Permobil's fixing belt is only designed to hold the user in place and not as protection in the event of a collision/accident. Check the condition of the belts regularly in case any damage or worn places have developed.

Getting in and out of the chair

Make sure the power is turned OFF before getting in or out of the wheelchair and before raising the arm rest with the control panel.

When getting in or out of the wheelchair you should minimise the distance between the wheelchair and the point to which the user is moving. If this distance is increased, it could result in the user losing balance or falling over.

Permobil recommends that users get in and out with another person present to keep an eye on the operation or to help.

Be careful when bending down or reaching out to get something.

Never use the joystick as a handle or support.

Do not use the foot plates or arm rests as supports when getting in and out of the wheelchair. The foot plates and arm rests are not intended to support heavy loads. Unnecessarily high load could cause them to give way, which could result in personal injury or damage to property, including damage to the wheelchair.

Safety rules

WARNING

Passengers

The wheelchair is not designed to transport passengers, whatever their age. Nor is it designed to carry heavy items other than the user's personal belongings. The maximum user weight specified in the user manual for the seat in question must not be exceeded. Ignoring this could impair the wheelchair's manoeuvrability and stability.

Operation in different climates

Permobil's wheelchairs are designed to tolerate most weather conditions, but you should avoid exposing the wheelchair to severe cold, persistent dampness, heavy rain/snowfall and similar situations. If the wheelchair has been exposed to any of these, do not use it again before it has completely dried out.

Remember also that certain surfaces on the wheelchair/seat may heat up or cool down under lengthy exposure to strong sunshine or cold, etc.

If any of the seat covers or the control panel box shows signs of cracking, etc., they should be replaced so no moisture can penetrate and damage the electronics.

Do not use the wheelchair when it is icy or slippery outdoors. These conditions may impair the performance and safety of the wheelchair, which could result in accident, personal injury and damage to property, including damage to the wheelchair.

NOTE: Be extremely careful when you use oxygen in the immediate proximity of electronic circuits and other inflammable substances. Contact your oxygen supplier for instructions on the use of oxygen.

Safety rules

WARNING

Transport

The wheelchair must only be transported in vehicles approved for this purpose.

Carefully check that the wheelchair is properly fixed and that the brake release has not been activated (the wheelchair drive wheels must be locked). The wheelchair can be locked in position with loading straps from the transport eyes at the front and rear, marked with yellow stickers.

Anchor the wheelchair with the vehicle's anchoring system and according to the manufacturer's instructions. Always check that the fixing points on the transport vehicle are well anchored.

An inadequately fixed wheelchair could cause great damage and injury if it broke loose, both to persons in the transport vehicle and to the vehicle and the wheelchair itself.

Permobil recommends that users are **NOT** transported in any vehicle while seated in the wheelchair. The only safe alternative is for the user to move to a seat in the vehicle and to use the vehicle's safety belt system.

Do not sit in the wheelchair in a moving vehicle. In the case of accident or a sudden stop, the user could be thrown from the chair with serious injuries as a consequence.

Permobil's fixing belt is only designed to hold the user in place and gives no protection in the case of accident.

Safety rules



WARNING

Maintenance and service

Carry out only the service and maintenance activities noted in this user manual. All other service, alterations to and interventions in the wheelchair's and its accessories' vital systems must be carried out by a competent service engineer or a person with sufficient knowledge to do so in an expert manner.

During all work on the wheelchair's electrical system, the battery isolator must be in the OFF position.

Be careful when using metal objects when working with batteries. A short-circuit can easily cause an explosion. Always use safety gloves and safety goggles.

Use only spare parts or accessories approved or recommended by Permobil. All other use could lead to changes which might impair the functions and safety of the wheelchair. It could also lead to the warranty for your wheelchair becoming invalid.

If you connect non-approved electrical or electronic appliances to the wheelchair's electrical system, the chair may be damaged and it may no longer be controllable or may drive erratically. Such use may also invalidate the warranty.

Note that the wheelchair is heavy and contains many moving parts, which means there will always be some risk of crushing and of clothes, etc. getting caught.

Charging batteries

The batteries must be charged in a well-ventilated room, not in a wardrobe. The batteries must not be charged in a bathroom or wetroom. Only a charger with max. 10 A charging current (average) may be used (the effective value of the charging current must not exceed 12 A). When the charger is connected, the chair must not and cannot be driven.

Safety rules



WARNING

Electronic safety circuits

Permobil's products are fitted with safety circuits. Inhibit circuits prevent the chair from driving under certain conditions. Speed reduction circuits limit the wheelchair's maximum speed under certain circumstances. Limit circuits limit the wheelchair's functions in certain circumstances. Overload protection circuits switch the wheelchair off if it is overloaded. The user should immediately stop using the wheelchair and contact an authorised service engineer or Permobil if he or she suspects that any of these circuits is no longer working.

Any attempt to modify the safety circuits will result in unsafe use of the wheelchair and may lead to the chair being unstable or uncontrollable. Such use may also invalidate the warranty.

Replacing the batteries and fuses

The main fuse must always be switched off when fuses and batteries are replaced.

Be careful when using metal objects when working with batteries. A short-circuit can easily cause an explosion. Always use safety gloves and safety goggles.

Filling tyres with air

Check at regular intervals that the wheelchair's tyres have the correct tyre pressure. The incorrect tyre pressure may result in lower stability and manoeuvrability.

The correct tyre pressure is 200-250 kPa (2-2.5 bar). Note that overfilling entails a risk of explosion.

Safety rules



WARNING

Tyre replacement

Avoid using pointed/sharp tools when changing tyres.

Storage

The wheelchair and its accessories must always be switched off when they are not being used. Always store the wheelchair so that unauthorised persons do not have access to it.

Never store the wheelchair in areas subject to condensation (steam or moisture on surfaces), for example utility rooms or similar.

If you are unsure how best to store your wheelchair and its accessories, contact your supplier or Permobil for information.

Damage to/breakdowns in the wheelchair and its accessories

If you start noticing that the wheelchair and its various functions are not behaving as expected or if you suspect anything is wrong, stop your test drive as soon as possible, turn off the wheelchair and contact your aids centre or Permobil for information.

It is extremely important that Permobil is informed that the wheelchair and its accessories have been damaged during transport, during driving or for some other reason as soon as possible after the damage has occurred. There could be a risk that the wheelchair and its accessories can no longer be operated safely and without danger.

Safety rules



NOTE

Recycling batteries

Used or malfunctioning batteries should be disposed of responsibly in accordance with local recycling regulations.

EMC requirements

The electronics of an electric wheelchair may be affected by external electromagnetic fields (for example from mobile phones). Likewise the wheelchair electronics themselves may emit electromagnetic fields which may affect the environment (for example alarm systems in shops).

The threshold values for Electromagnetic Compatibility (EMC) relating to electric wheelchairs are laid down in harmonised standards under EC Directive 93/42/EEC Medical Devices.

Permobil's electric wheelchairs meet these threshold values.

Design & Function

General

This wheelchair is an electric rear-wheel drive wheelchair for outdoor driving. It is intended for people with physical disabilities.

The wheelchair consists of a chassis and a seat. The chassis contains the wheelchair's electronics, power supply and drive functions. The seat consists of a seat frame, seat plate/back rest, arm rest, seat lift/fixed seat tube and any accessories/options such a head rest, calf rest, etc.

In this user manual, we have chosen to show the wheelchair with our CS seat. However, the operation of the chassis and most of its functions are the same regardless of the seat model chosen.

Overview



- | | |
|------------------|-----------------------------|
| 1. Back rest | 5. Front wheel |
| 2. Control panel | 6. Rear wheel (drive wheel) |
| 3. Seat | 7. Chassis |
| 4. Foot plate | 8. Arm rest |

Seat

The wheelchair chassis can be combined with different seat models, which are supplied with a separate user manual.

Seat lift

The wheelchair can be fitted with an electrically controlled seat lift that allows the seat to be raised steplessly up to 240 mm in order to adjust the height to tables, benches, etc. If the seat lift is raised from its lowest position, the wheelchair's maximum speed forwards is reduced to 7 km/h and the maximum speed backwards to 4 km/h. The seat lift function works only when the wheelchair is stationary.

Seat angle

The seat angle can be adjusted to three fixed positions, inclined forwards, neutral and inclined backwards. If the seat is fitted with seat rotation, the seat must always be fitted in the neutral position, i.e. the level position.

The wheelchair can also be equipped with electric seat tilt, which makes it possible to adjust the angle of the seat.

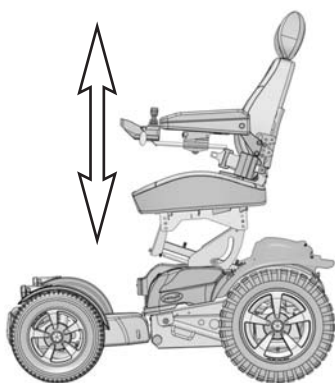
Seat rotation

Together with certain seats, the wheelchair may be fitted with electric or manual seat rotation.

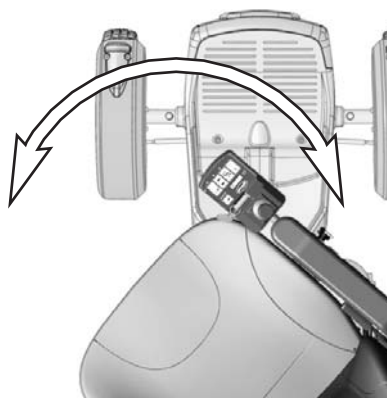


WARNING

The seat rotation must not be used when the wheelchair is on a sloping surface.



Seat lift



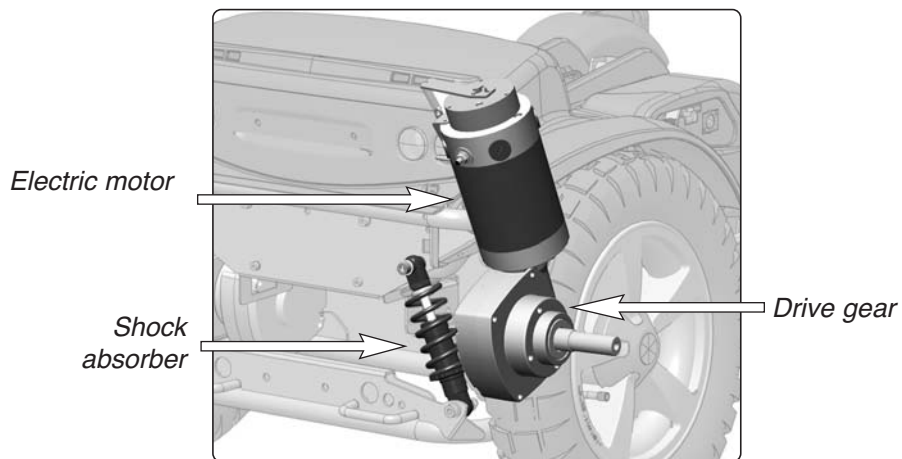
Seat rotation

Driving

The wheelchair has a drive pack for each drive wheel. The motors regulate the speed and braking. A joystick on the control panel sends signals to the electronics unit. The electronics unit then controls the motors.

Shock absorbers

The rear of the wheelchair is fitted with two shock absorbers that increase comfort when driving on uneven surfaces.



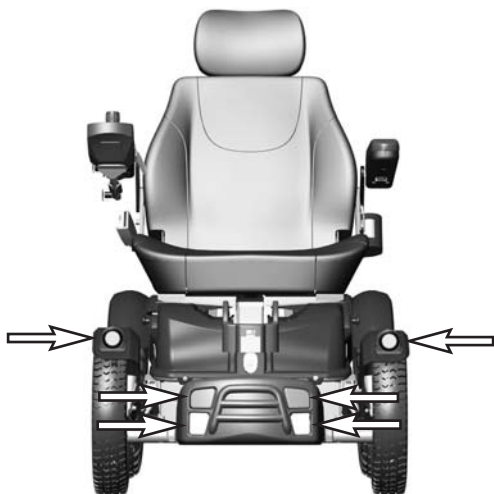
Drive pack and shock absorber

Wheels

The wheelchair's wheels have pneumatic tyres.

Lights and reflectors

In the standard version, the wheelchair is fitted with reflectors at the front and rear and on the sides, plus lights and indicators front and rear.



Front reflectors and lights/indicators



Rear reflectors and lights/indicators

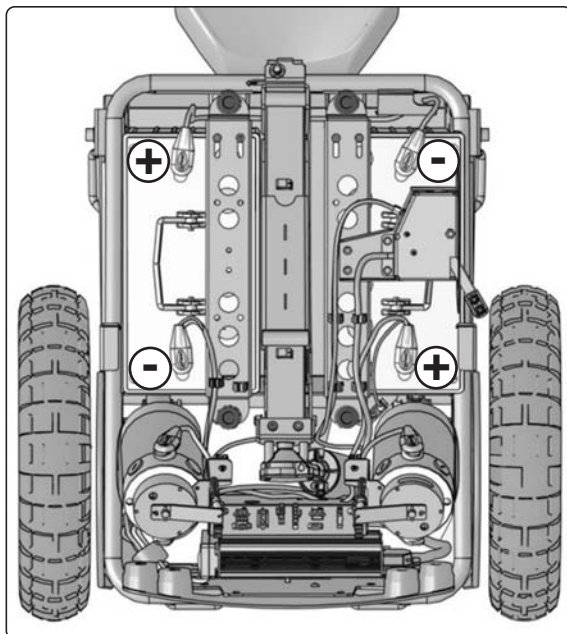


Side reflectors

Electronics

Batteries

The wheelchair's two batteries are located in the chassis and are easily accessible for maintenance and service.



Position of the batteries.



WARNING

Be careful when using metal objects when working with batteries. A short-circuit can easily cause an explosion. Always use safety gloves and safety goggles.

Remember that the batteries are heavy and must be handled with great caution.



NOTE

Used or malfunctioning batteries should be disposed of responsibly in accordance with local recycling regulations.

Electronics

Fuses/charging socket

Main fuse/battery isolator

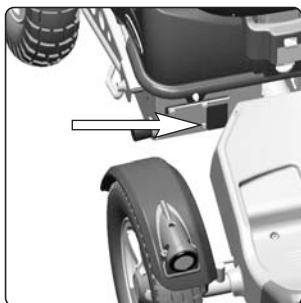
This wheelchair is fitted with a 100 A automatic main fuse that can be reset when it has been triggered. It also functions as a battery isolator and is controlled (ON/OFF) via a recess in the front of the chassis.

Fuses

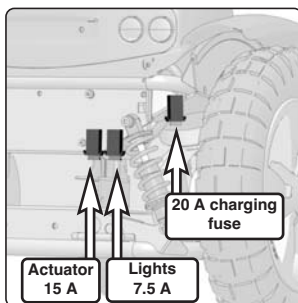
The other fuses are located under the rear chassis cover. The charging fuse is located in front of the right drive motor. This fuse and other fuses are accessible from beneath the chassis.

Charging socket

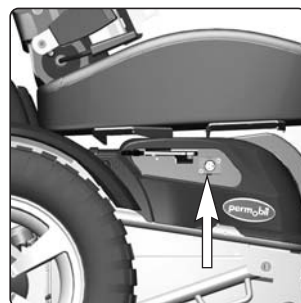
The charging socket is located on the right side of the chassis.



Main fuse



Fuses



Charging socket



NOTE

Always switch off the power supply to the control panel before interrupting the power with the main fuse.



WARNING

If the main fuse is triggered, there is often a major electrical fault. The cause of the fault should be checked carefully before the switch is reset. Contact Service in case of doubt.



WARNING

Always switch off the power supply to the control panel before changing the charging fuse. The battery charger must not be connected when the charging fuse is changed.

If the charging fuse is triggered, there may be problems or faults with batteries, the charger/charging cables or the wheelchair's charging socket.

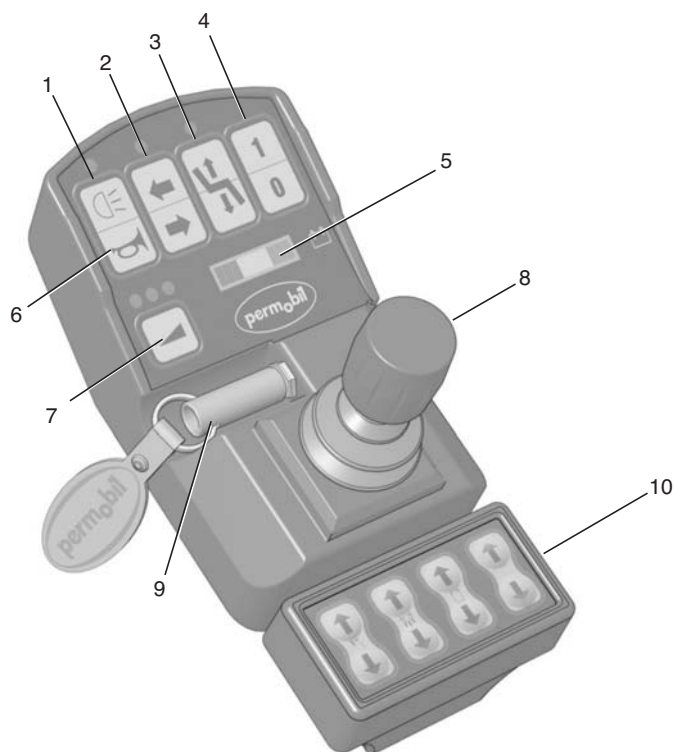
The cause of the charging fuse being triggered should be checked carefully before the fuse is changed.

Control panel

The control panel consists of a joystick, function keys and indication symbols.

Your wheelchair may also be fitted with a Seat Control Panel connected to the control panel. In that case, you can choose whether you want to control the electric seat functions from the Seat Control Panel or the control panel.

Overview, control panel

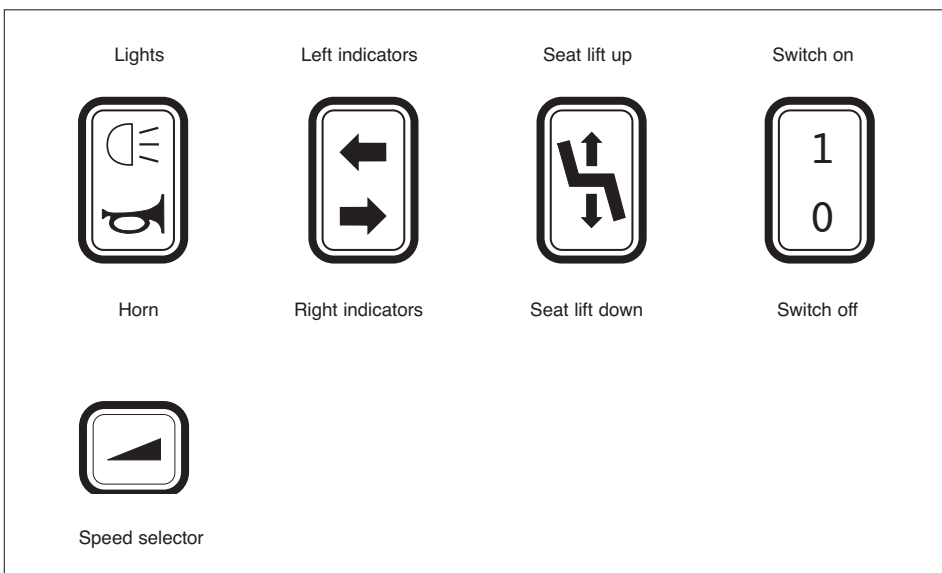


- | | |
|------------------------------|---------------------------------------|
| 1. Lights | 6. Horn |
| 2. Indicators | 7. Speed selector (low, medium, high) |
| 3. Seat lift | 8. Joystick |
| 4. On/off switch | 9. Key switch |
| 5. Battery voltage indicator | 10. Seat Control Panel |

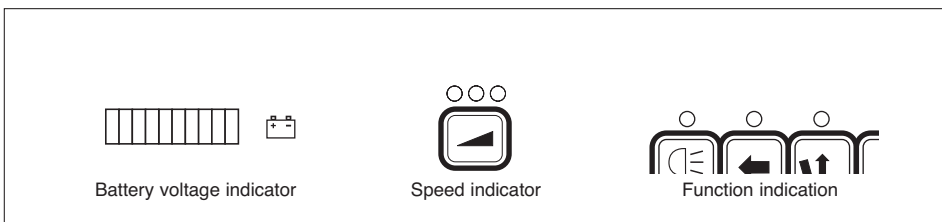
Function keys/Indication symbols

On the control panel there are 9 function keys and 3 indication symbols.

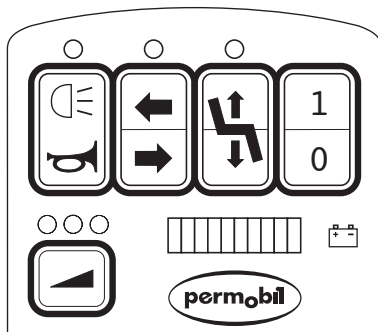
Function keys



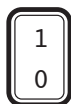
Indication lamps



Panel display for Safe Gate control panel

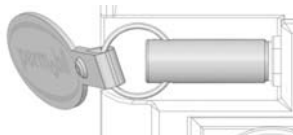


Overview, panel display



Start key On/Off

This switch is used to start or switch off the wheelchair. The start key must be pressed for the wheelchair to work.



Key switch

The key switch must be in place before the wheelchair can be started. When the key is removed, the wheelchair is locked and cannot be used by unauthorised persons.



WARNING

Never use the ON/OFF key to stop the wheelchair when driving unless there is an emergency. There is a risk of the user being ejected from the chair or of the life of the wheelchair's drive components being reduced.



Seat lift

Switch for moving the seat lift up and down. When the seat lift is in operation, the indication lamp lights up. When the seat lift is activated from its lowest position, the maximum speed is halved to approximately 7 km/h.



Lights

Press the switch to switch on the wheelchair's lights. Press the key again to switch off the lights. When the lights are on, the indication lamp lights up as well.



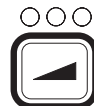
Horn

Press the switch to produce a signal to attract attention.



Indicators

Press the right or left arrow to activate the wheelchair's indicators. The indication lamp on the control flashes as well.



Speed selector

Indicates the maximum speed set for the wheelchair.

- Low = 0-3 km/h, 1 lamp lit up
- Medium = 0-9 km/h, 2 lamps lit up
- High = 0-14.5 km/h, 3 lamps lit up



Battery voltage indicator

Shows the voltage remaining for the batteries (from left to right):

- Red/Yellow/Green = Fully charged
- Red/Yellow = Half charged
- Red = Charge the batteries

A good way of using this indicator is to learn how it works while you are driving. Like a fuel gauge in a car, it does not show exactly how much "fuel" is left, but it gives you a rough idea so that you can avoid unneces-

sary stops because the batteries are discharged.

The indicator shows a more exact value after approximately 1 minute of driving.

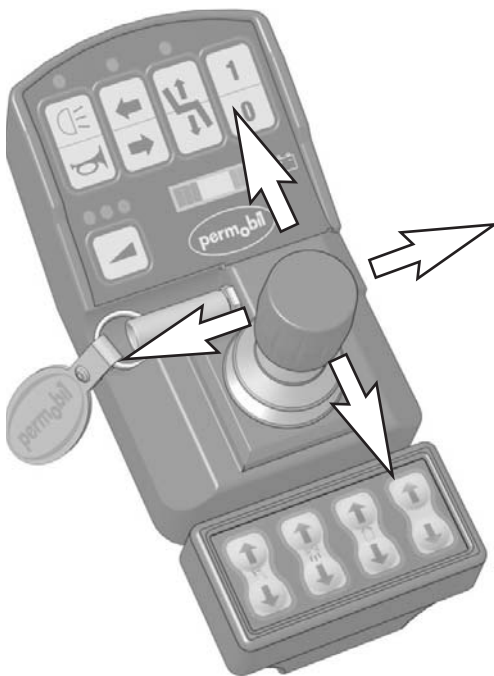
The battery voltage indicator also functions as a "fault indicator" for the wheelchair's electronics. See the service manual for further information.

Joystick

The joystick is used to control the wheelchair's speed forwards and backwards, to turn and to brake.

The speed is directly proportional to the joystick movement (little movement, low speed - big movement, high speed). The wheelchair is brought to a controlled stop when you move the joystick back towards the neutral position or let it go.

The wheelchair is turned by moving the joystick to one side or the other.

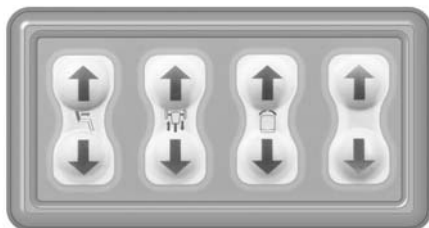


Joystick

Seat Control Panel

The wheelchair's Seat Control Panel is fixed to the right or left arm rest behind the control panel. The Seat Control Panel is used to control the various options such as the wheelchair's extension, seat rotation and back angle.

The pictures below show the different functions of the Seat Control Panel.



Seat Control Panel.

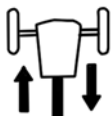
Back angle (Corpus II only)



The back rest can be angled backwards as the user wishes. Press the upper surface of the symbol to raise the back. Press the lower surface to lower the back.

The back can be angled down to 130°.

Extension



The distance between the foot plate and the seat on the wheelchair is adjustable. Press the upper surface of the symbol to move the foot plate out and on the lower surface to retract it.

This makes it easy to set the leg length for the user and you have the chance to stretch your legs while driving.

When the extension is fully extended, the wheelchair drives more softly outdoors. When the extension is retracted, driving is easier indoors. More information on page 46.



WARNING

Make sure that there is nothing stuck between the chassis and the foot plate when the length of the wheelchair is reduced. There is a risk of personal injury.

The seat rotation must not be used when the wheelchair is on a sloping surface. There is a risk of personal injury.

Seat rotation



The seat rotation function allows you to rotate the seat. This makes it easier to get into and out of the seat. Press on the upper surface of the symbol to rotate the seat clockwise. Press on the lower surface of the symbol to rotate the seat anticlockwise. The seat rotates until the position is straight forward or the right or left end position.

When the seat rotation is activated, a lamp lights up above the seat lift symbol on the control panel. Driving the wheelchair is now prohibited. More information on page 46.

With the front wheels turned as far as they will go to the left or right, there is more leg room, which makes seat rotation easier. Turn the front wheels as far as they will go using the joystick. Hold the joystick in the desired position and turn off the wheelchair using the main switch on the control panel. Then switch the wheelchair on again without touching the joystick. Activate the seat rotation. When the joystick is moved, the front wheels return to the neutral position, i.e. straight forwards.

Seat Tilt (Corpus II only)



The seat is angled backwards when the bottom part of the seat tilt angle button is pressed, and move forwards when the top part of the button is pressed.

When the seat tilt is activated, the lamp above the seat lift button flashes, this indicates that the seat lift cannot be used.

Joystick menu

Enabling/disabling Joystick menu

It is possible to choose whether you want to have access to Joystick menu or not. To enable/disable Joystick menu, hold down the lights key and the right indicator key when you switch the wheelchair on. Three beeps indicates that Joystick menu is enabled and two beeps indicates that Joystick menu is disabled.

Using Joystick menu

There are two different ways of entering Joystick menu. Either by *pressing and holding the lights key for two seconds* or by *moving the joystick to the maximum left or right position for two seconds*. This action is confirmed with a short acoustic signal.



NOTE

To be able to enter Joystick menu with the joystick, the wheelchair electronics have to be configured. Contact your service engineer or similar for help with this.

When you have entered Joystick menu, the lamp above the lights/horn keys will light up. All other lamps, including the LED indication for the battery voltage, are off.

Functions in Joystick menu

When the lamp above the lights and horn keys is on, you can activate the lights by moving the joystick forwards and activate the horn by moving the joystick backwards. Therefore, when you move the joystick forwards, this has the same effect as when you press the upper key. The function selected remains active until the joystick is moved back.

Each step (including the “key pressed”) is indicated by a short acoustic signal.



Enabling Joystick menu



Indication of Joystick menu



Activation of lights/horn

Other functions that can be activated using Joystick menu:

- Indicators - right/left
- Seat lift up/down
- Speed
- Extra Seat Control Panel
- Switch off the wheelchair

Activation of indicators

To activate the indicator function, move the joystick to the right until the lamp above the indicator keys lights up. Then you activate the left indicators by moving the joystick forwards and the right indicators by moving it backwards.

NOTE

After any of the indicator functions has been activated, Joystick menu will automatically return to the drive position. See also "Exiting Joystick menu".

Activation of the seat lift

Step forward to the seat lift key. To raise the seat lift, move the joystick forwards and to lower the seat lift, move it backwards.

Activation of the speed selector

Step forward to the speed selector. Move the joystick forwards to increase the speed and move it backwards to reduce the speed.

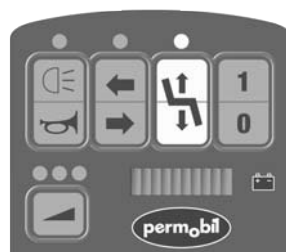
The speed can be set in three fixed positions. These are indicated by one, two or three lamps being lit.

NOTE

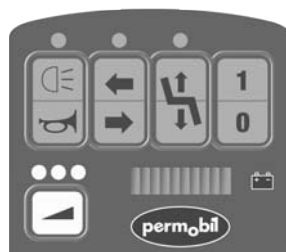
If you move the joystick to the right or left without activating any function, Joystick menu automatically steps further forwards or backwards through the menu until you let go of the joystick.



Activation of indicators



Activation of the seat lift



Activation of speed selector

Controlling the functions of the Seat Control Panel

To control the functions of the extra Seat Control Panel, step forwards to the battery voltage indicator. The first four LEDs there, 3 red and one yellow, are used to indicate the functions of the Seat Control Panel.

The first LED corresponds to the left key of the Seat Control Panel. The second LED corresponds to the second key from left, etc. The function is activated by moving the joystick either forwards or backwards.

NOTE

Your wheelchair does not need to be fitted with an extra Seat Control Panel for you to use the corresponding functions in Joystick menu.

Exiting Joystick menu

There are two ways of exiting Joystick menu.

1. Go to the last menu position

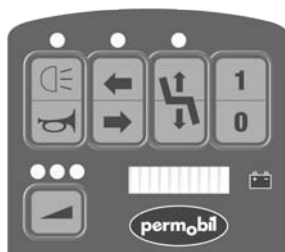
Step forward to the position for controlling the Seat Control Panel. Continue to move the joystick to the right until all ten LEDs on the battery voltage indicator light up; 3 red, 4 yellow and 3 green. The other indication lamps on the control panel also light up now and you can return to the drive position by moving the joystick forwards. You can also switch off the wheelchair by moving the joystick backwards and holding it in that position for at least 3 seconds.

2. Activate the indicator function

Step forward to the indicator function and activate the right or left indicators. Joystick menu will then be exited and you return to the drive position.



Activation of the Seat Control Panel



1. Exit Joystick menu



2. Exit Joystick menu

Operation

General

The wheelchair is designed for use outdoors but can also be driven indoors. To facilitate driving indoors, your wheelchair can be fitted with electric wheelbase adjustment. It is then possible to reduce the wheelbase electrically so that the entire wheelchair becomes shorter. When you drive indoors, you must be careful in, for example, narrow passages, when going through doors and entrances and when using lifts, ramps, etc.

You should also consider the risk of crushing when you use the electric seat lift and seat angle functions, above all if the wheelchair has been driven under tables, benches, etc. Outdoors you should remember to drive very slowly down steep slopes and to be very careful when driving on uneven surfaces, up slopes, on side slopes and over obstacles. Always observe a good safety distance when driving near edges and precipices.

We recommend that you do repeated test drives in an environment in which you feel safe so that you are very familiar with how the wheelchair and its accessories behave in different situations before you start to use the wheelchair on public roads and in other public locations.

General - Driving

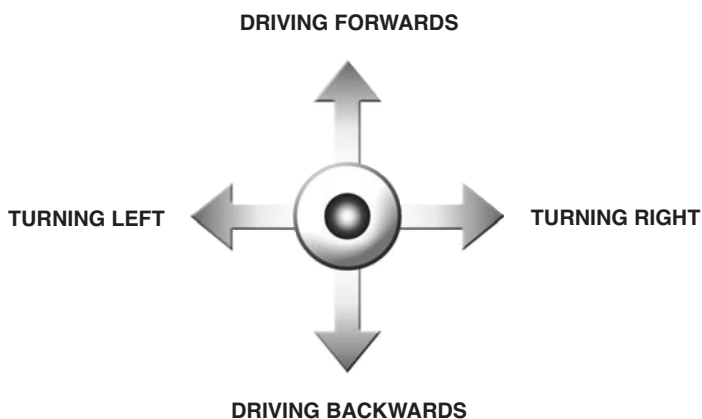
Check that the control panel is correctly fitted and the joystick is in the neutral position. Ensure that you have good support, for example the wheelchair's arm rest, for the part you use to handle the joystick with. Do not just use the joystick as a support. Fast turns and driving on uneven surfaces can interfere with your ability to handle the wheelchair safely.

1. Insert the key switch in the control panel.
2. Switch on the power by pressing the on/off switch (1) on the control panel.
3. Set the appropriate speed range by pressing the speed selector until the desired indication lamp lights up for your type of driving. It is a good idea to start with a low speed.
4. Move the joystick carefully forwards to drive forwards or backwards to reverse.
5. The speed of the wheelchair is controlled steplessly by moving the joystick forwards or backwards to different degrees. The wheelchair's electronics allow very slow driving over edges. You can drive up to the edge and then carefully drive over it.

Driving technique

The control panel's electronics "interpret" the movements of the joystick and move the wheelchair as intended. For normal driving, the user needs to employ no complex techniques, which is an advantage if the user is inexperienced. A good way of starting is quite simply to move the joystick in the direction you want to go. The wheelchair then moves in the direction in which the joystick is pointing.

However, always remember to drive as gently as possible and to avoid sudden braking and evasive manoeuvres.



NOTE

Do not take the first test drive on your own. The test drive is intended to establish how you and the wheelchair work together and you may need assistance.

Before driving, check that the brake release lever is in the drive position.



WARNING

Do not just use the joystick as a support. Fast turns and driving on uneven surfaces can interfere with your ability to handle the wheelchair safely.

If the wheelchair moves in a way that you do not want, **RELEASE THE JOYSTICK!**
This always make the wheelchair interrupt the current movement.

Driving rules



WARNING

Always be aware that high speed and a longer braking distance mean a greater risk of accident.

Never drive fast/at full speed in narrow passages, on narrow pavements, etc. because an incorrect manoeuvre/steering error can lead to a risk of accident.

Remember that a surface that has a sideways slope will affect the wheelchair and may make it steer sideways. Therefore, never drive at full speed on surfaces that has a sideways slope.

Driving over obstacles

Do not drive the wheelchair over obstacles higher than 110 mm. If you drive over higher edges, there is a higher risk of tipping and of damage to the wheelchair.

You should always drive over obstacles with great caution.



WARNING

Do not drive the wheelchair over obstacles higher than 110 mm. You should always drive over obstacles with great caution.



WARNING

A raised seat lift/seat angle/back angle changes the centre of gravity and increases the risk of tipping. Therefore, use these seat functions only on flat surfaces and always drive with great caution and at low speed.

Driving on side slopes

You should always drive on side slopes with great caution.

Avoid sudden evasive manoeuvres and never drive so fast that you are unable to control the wheelchair safely without risks.

You should be extremely careful when driving on side slopes with an uneven surface (for example grass, gravel, sand, ice and snow).



WARNING

Do not drive the wheelchair on side slopes steeper than 12 degrees. There is a risk of tipping.



WARNING

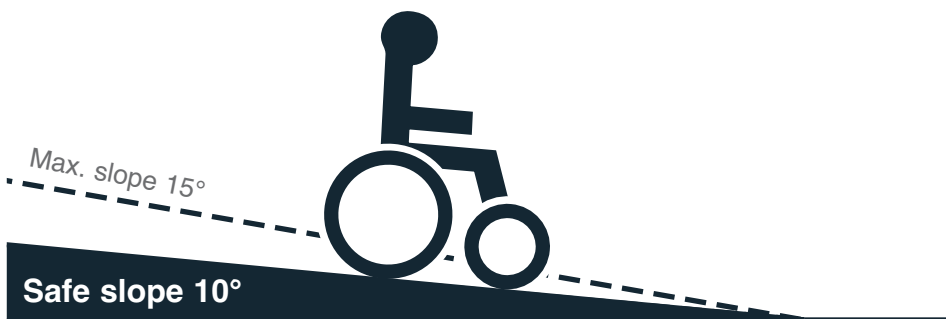
A raised seat lift/seat angle/back angle changes the centre of gravity and increases the risk of tipping. Therefore, use these seat functions only on flat surfaces and always drive with great caution and at low speed.

Driving downhill

You should always drive downhill at low speed and with great caution.

Avoid braking suddenly and sudden evasive maneuvers and never drive so fast that you are unable to control the wheelchair safely without risks.

You should be extremely careful when driving downhill on an uneven surface (for example grass, gravel, sand, ice and snow).



WARNING

Do not drive downhill on a gradient greater than 15°. Dynamic stability according to ISO 7176-2 = 10°.

WARNING

A raised seat lift/seat angle/back angle changes the center of gravity and increases the risk of tipping. Therefore, use these seat functions only on flat surfaces and always drive with great caution and at low speed.

Driving uphill

You should always drive uphill with great caution.

Avoid sudden evasive maneuvers and never drive so fast that you are unable to control the wheelchair safely without risks.

You should be extremely careful when driving uphill on an uneven surface (for example grass, gravel, sand, ice and snow).



WARNING

Do not drive uphill on a gradient greater than 15°. Dynamic stability according to ISO 7176-2 = 10°.



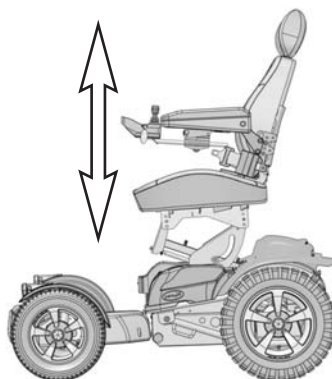
WARNING

A raised seat lift/seat angle/back angle changes the center of gravity and increases the risk of tipping. Therefore, use these seat functions only on flat surfaces and always drive with great caution and at low speed.

Seat lift

The wheelchair can be fitted with an electrically controlled seat lift that allows the seat to be raised steplessly up to 240 mm in order to adjust the height to tables, benches, etc. This function is controlled from the Control Panel. See page 32.

If the seat lift is raised from its lowest position, the wheelchair's maximum speed forwards is reduced to 7 km/h and the maximum speed backwards to 4 km/h. The seat lift function works only when the wheelchair is stationary.



Seat lift.

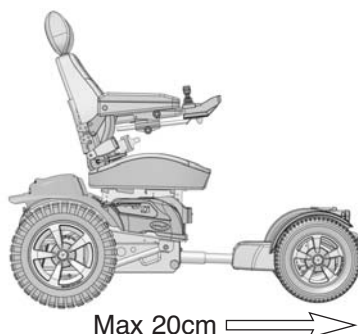
Electric extension

The distance between the foot plate and the seat on the wheelchair is adjustable by up to 20 cm. This function is controlled from the Seat Control Panel. See page 35.

Press the upper surface of the symbol to increase the distance between the seat and the front wheels and the lower surface to reduce it. This function works only when the wheelchair is stationary.

Manual extension (settings)

This is done by adjusting the adjusting rod in the rear to the appropriate position (0-20 cm).



Extension

Seat rotation

Seat rotation makes it easier to get into and out of the seat.

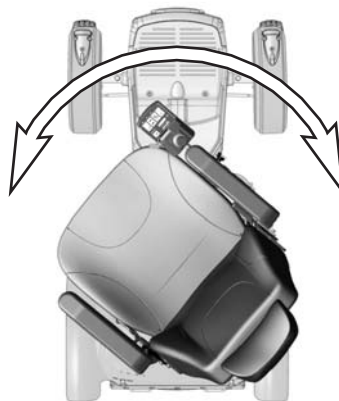
Electric seat rotation

Electric seat rotation is controlled from the Seat Control Panel. See page 35.

It is not possible to drive the wheelchair when the electric seat rotation is activated.

Manual seat rotation

The manual seat rotation has three fixed positions; drive position (straight forwards) and left and right. It is released from the fixed positions using the release handle. See the illustration. It is possible to drive the wheelchair only when the seat rotation is in the drive position (straight forwards).

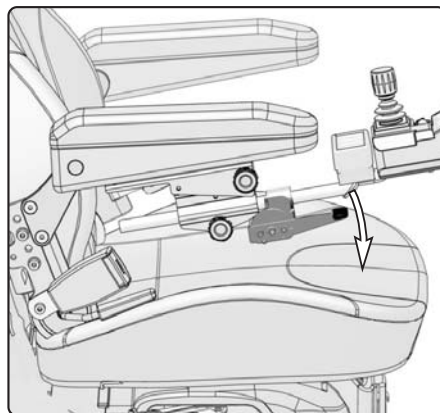


Seat rotation



WARNING

The seat rotation must not be used when the wheelchair is on a sloping surface.



Release handle for manual seat rotation

Brake release

The wheelchair is fitted with a manual brake release that can be released to make it possible to move the wheelchair manually. The brake release lever is located on the right side of the chassis. See the illustration.

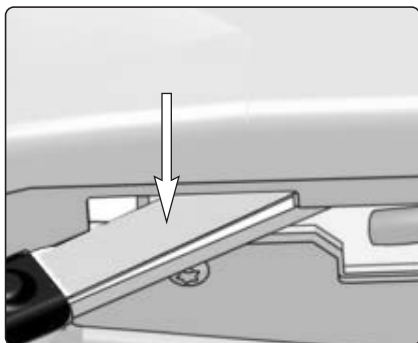
Releasing the brakes

1. Switch off the wheelchair with the On/Off key on the control panel.
2. While pressing the lever's safety catch down to release the lever, move the lever forwards to release the brakes. The chair can now be moved manually.

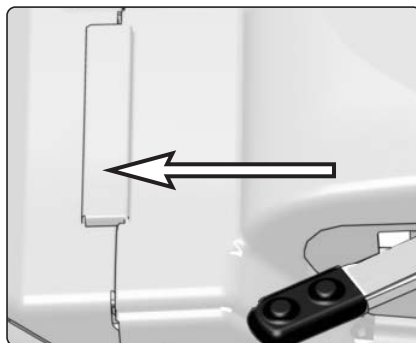
Resetting released brakes

1. Move the lever backwards to its rearmost position.

NB! Always check that the release lever goes right to its rearmost position.



Press the safety catch down when releasing the brakes



Brakes activated

Brake release



WARNING

Never use the wheelchair on a sloping surface with the brakes released.

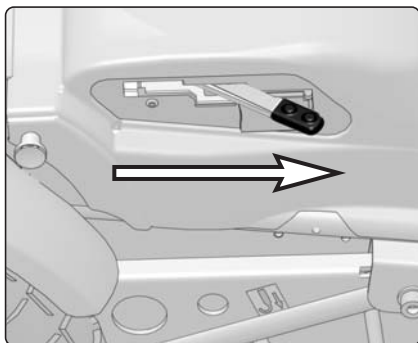
Always ensure that the wheelchair is switched off when the brakes are released/activated.

To prevent the wheelchair from rolling off, ensure that it is on a dry, level surface before releasing the brakes.

Anyone who pushes a wheelchair with the brakes released must ensure that this is done safely without risks.

Always reset the brake release after moving the wheelchair manually.

When the brakes are released, it should not be possible to drive the chair. If the chair can still be driven, contact your service contact or Permobil immediately.



Brakes released

Charging batteries

When should the batteries be charged?

How frequently you need to charge the batteries in your wheelchair depends on a number of factors, including how you use your wheelchair, the temperature and age of the batteries and how they are made. All batteries also gradually lose capacity as they age.

The most important factor for the life of the batteries is how much power is taken out of them before they are charged and how often they are charged/discharged.

To achieve the best life, the batteries should not be discharged completely. Always charge the batteries immediately after they have been discharged.

If the battery voltage indicator shows that the batteries appear to be losing power faster than normal, the batteries may be worn out and need to be replaced.



WARNING

Use only the charger supplied with your wheelchair or recommended by Permobil. Using other chargers may damage the batteries, the wheelchair electronics or the charger itself. It may also result in parts becoming overheated, which may entail a greater risk of fire.

Be careful when using metal objects when working with batteries. A short-circuit can easily cause an explosion. Always use safety gloves and safety goggles.

You may only use a charger with a maximum charging current of 12 A (average).

The batteries must be charged in a well-ventilated room, not in a wardrobe. The batteries must not be charged in a bathroom or wetroom.

If you want to interrupt the charging process, the mains voltage should be switched off before the charging contact is disconnected from the wheelchair's charging socket. This is to avoid sparking and unnecessarily high wear on the charging contact.

The charger's charging cable must not be extended.

The charger may get hot and must not be covered. The charger must be placed so that it has free space on all sides.

The charging contact must be replaced if it is damaged or gets hot during charging. Both the contact on the charger's cable and the wheelchair's charging socket should be replaced if one part is damaged or worn. The contacts must be replaced by qualified personnel.

Charging

Ensure that the wheelchair is switched off with the On/Off key on the control panel and then connect the charging plug to the wheelchair's charging socket. The battery voltage indicator on the wheelchair's control panel lights up and shows the charging status during charging.

After charging has been completed, the wheelchair must be switched off and on again with the On/Off key on the control panel before it can be driven.

NOTE

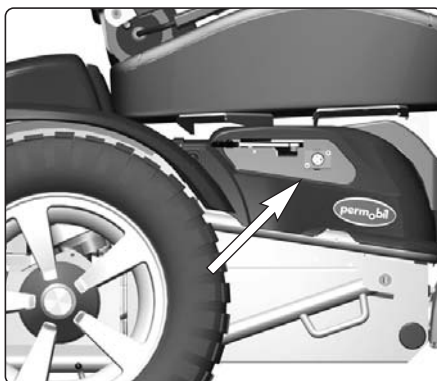
CAREFULLY READ THE INSTRUCTIONS SUPPLIED WITH THE CHARGER BEFORE STARTING TO CHARGE THE WHEELCHAIR.

NOTE

Switch off the wheelchair with the On/Off key on the control panel before charging but ensure that the main fuse is in the ON position.

Ensure that the charging contact has been fully inserted in the wheelchair's charging socket.

The wheelchair cannot be driven when the charger is connected.



Charging socket

Transport

The wheelchair must only be transported in vehicles approved for this purpose.

Check that the wheelchair is properly secured and the brakes are not released. The wheelchair can be locked in position with loading straps from the transport eyes at the front and rear, marked with yellow stickers.

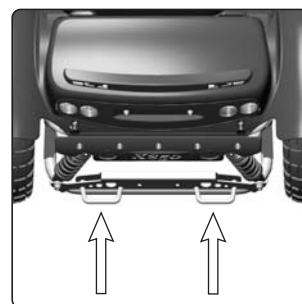
Anchor the wheelchair with the vehicle's anchoring system and according to the manufacturer's instructions. Always check that the fixing points on the transport vehicle are well anchored.



Front transport eyes



*Sticker for
transport eyes*



Rear transport eyes

**WARNING**

The wheelchair must only be transported in vehicles approved for this purpose.

Permobil recommends that users are **NOT** transported in any vehicle while seated in the wheelchair. The only safe alternative is for the user to move to a seat in the vehicle and to use the vehicle's safety belt system.

If the wheelchair has to be transported into the transport vehicle via a ramp or similar with the user in the wheelchair, the wheelchair must always be protected against tipping over backwards by a person behind the wheelchair.

Carefully check that the wheelchair is properly fixed and that the brake release has not been activated (the wheelchair drive wheels must be locked). The wheelchair can be locked in position with loading straps from the transport eyes at the front and rear, marked with yellow stickers.

Anchor the wheelchair with the vehicle's anchoring system and according to the manufacturer's instructions. Always check that the fixing points on the transport vehicle are well anchored.

An inadequately secured wheelchair could cause major damage and injury if it broke loose, both to persons in the transport vehicle and to the vehicle and the wheelchair itself.

Do not sit in the wheelchair in a moving vehicle. In the case of accident or a sudden stop, the user could be thrown from the chair with serious injuries as a consequence. Permobil's fixing belt is only designed to hold the user in place and gives no protection in the case of accident.

Any table or similar mounted on the wheelchair must be removed and secured in a separate location in the vehicle or in a safe place in the wheelchair.

All other wheelchair accessories must be secured to the wheelchair or removed and secured in a separate location in the vehicle so that they do not come loose during transportation with the risk of injury to vehicle passengers in the event of a collision.

General advice for air transport

When transporting your wheelchair by air, you should primarily pay attention to the following three things:

1. Batteries

Gel batteries: In most cases, they do not need to be removed from the wheelchair.

If your wheelchair has an automatic main fuse, this must always be in the Off position.

Acid batteries: Most airlines require that batteries be removed from the wheelchair and transported in special boxes that the airline may provide.

2. The wheelchair's dimensions and weight

How much the wheelchair weighs and how large it is are important depending on the type of aeroplane in which the wheelchair is to be transported. The smaller the aeroplane is, the smaller the wheelchair may be/weigh and vice versa. Always check with the airline what rules apply.



NOTE

If you do not know what type of main fuse your wheelchair has, contact Permobil or your service contact.

Some airlines may refuse to accept acid batteries on board.

General advice for air transport

3. Preventing damage

When transported by air, the wheelchair will be put with other goods in a confined space. Therefore, it is important to take preventive action to minimise transport damage to the wheelchair.

Cover the control panel with soft, shock-absorbing material (foam plastic or similar) and fold it in towards the back rest. Protect other protruding objects in a similar manner. Tape any loose cables to the seat or covers.



NOTE

To ensure that the wheelchair can be transported safely and no nasty surprises crop up at the last minute, you should always contact the airline in good time before you travel.

Maintenance and repairs

To ensure that your wheelchair works well, it is important for it to be used correctly and regularly maintained. A well maintained wheelchair lasts longer and has a lower risk of faults.

Toolbag

The wheelchair comes with a toolbag with the following contents that can be used for maintenance and minor repairs.

TOOL	AREA OF USE
Allen keys	General maintenance/seat adjustment
11, 13 mm, 1/2"-9/16". spanners	General maintenance/replacing batteries
Box spanner 13 mm.	Manually raising the seat lift
Screwdriver	General maintenance/
Security key	Locking/unlocking the wheelchair



NOTE

Some repairs may require tools other than those supplied with the wheelchair.



NOTE

The main fuse must always be switched off when batteries and fuses are replaced. Always switch off the power supply to the control panel before interrupting the power with the main fuse.



WARNING

Any unauthorised alterations to the wheelchair and its systems may lead to an increased risk of accident.

All alterations to and interventions in the wheelchair's vital systems must be performed by a competent service engineer. In case of doubt, always contact a competent service engineer.

General - batteries/storage

- Please note that a battery discharges itself and that a discharged battery can burst when it is cold. If the wheelchair is to be stored unused for an extended period of time, the batteries must always be charged once a month to avoid them being damaged.
- The wheelchair must not be stored in areas subject to condensation (steam or moisture on surfaces), for example utility rooms or similar.
- The wheelchair may be stored in an unheated room. From the point of view of corrosion, it is best for the room to be a few degrees warmer than the surroundings as this keeps the room drier.
- If the wheelchair is fitted with acid batteries, the acid level should be checked regularly. If the wheelchair is fitted with gel batteries, the liquid level does not need to be checked.
- The life of the batteries depends entirely on regular charging.

Short-term storage

For the charging process to produce a battery with good capacity, the temperature in the storage room should not be lower than +5 degrees. If it is stored at a temperature below +5 degrees, there is a higher risk that the battery has not been fully charged when it comes to be used and also a higher risk of corrosion.

Long-term storage

The battery may be stored in an unheated room but it should be charged at least once a month for maintenance purposes.



WARNING

Be careful when using metal objects when working with batteries. A short-circuit can easily cause an explosion. Always use safety gloves and safety goggles.

Cleaning

Regular care and maintenance will prevent unnecessary wear and damage to your wheelchair. The following is general advice recommended by Permobil. For severe soiling of the upholstery or damage to the surface finish, contact Permobil for information.

Upholstery, cloth/vinyl

For normal cleaning, wash the upholstery with lukewarm water and a mild non-abrasive soap. Use a soft cloth or brush. Before the surface dries, wipe off any water/soap residues with a clean, dry cloth. This procedure may be repeated to remove stubborn dirt or stains.

If necessary, the cover may be removed before cleaning. See also the washing instructions on the upholstery materials.

Metal surfaces

For normal cleaning it is best to use a soft cloth/sponge, hot water and a mild detergent. Wipe down carefully with a cloth and water, and dry off.

Remove scuff marks from semi-matt surfaces with soft wax (follow manufacturer's instructions).

Remove scuff marks and scratches from shiny surfaces using car polish, either liquid or paste. After polishing, apply soft car wax to restore the original surface gloss.

Plastics

For normal cleaning, wash plastic surfaces with a soft cloth, mild detergent and hot water. Rinse thoroughly and dry with a soft cloth. Do not use solvents or abrasive kitchen cleaners.

Checking the seat belts

Check the condition of the seat belts regularly in case any damage or worn places have developed.



WARNING

Never hose the wheelchair down as the electronics may be damaged. The wheelchair must always be turned off when being cleaned.

Wheels

Check at regular intervals that the wheelchair's tyres have the correct tyre pressure. The incorrect tyre pressure may result in lower stability and manoeuvrability. Too low tyre pressure also results in abnormal wear and shorter range. Therefore, check regularly that the tyre pressure is 200-250 kPa (2-2.5 bar).

Filling tyres with air

1. Unscrew and remove the plastic cap on the valve on the tyre.
2. Connect the compressed air nozzle to the valve and adjust the tyre pressure to the correct level.



Filling valve

Inner tube replacement

1. Chock up the wheelchair so that the wheel turns freely and let out the air.
2. Take the tyre off the wheel rim.
3. Replace the inner tube.
4. Put the tyre back on the wheel rim and fill with air.



WARNING

The recommended tyre pressure for front and rear tyres is 200-250 kPa (2-2.5 bar). Overfilling entails a risk of explosion.

The incorrect tyre pressure may result in lower stability and manoeuvrability. So check regularly that the tyres have the correct pressure.

Seat belts

Check the condition of the seat belts regularly in case any damage or worn places have developed.

Brake release

Check regularly, approximately once a month, that the brake release and the brake release lever are working properly.

When the brakes are released, it should not be possible to drive the wheelchair.



*Brake release lever with
safety catch*

Battery replacement

(See also the sticker on the inside of the front chassis cover)

1. Place the wheelchair on a level surface and raise the seat lift for better access.

NOTE

If the battery is completely dead, it is possible manually to raise the seat lift using the screw at the front edge under the seat. See the illustration.

The screw must not be unscrewed with an electric drill. There is a risk of damage to the material.

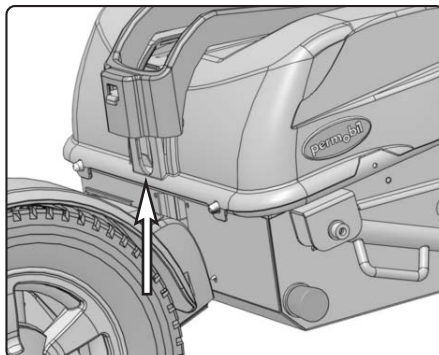
If there is a fixed seat bracket, remove the rear chassis cover. Then remove the seat's rear mounting screw and tip the seat forwards. See the illustration.

2. Switch off the power supply using the ON/OFF key on the control panel and switch the automatic main fuse to Off.
3. Remove the front cover. This is fixed with two knobs on the sides and two guide pins at the front. Lift the cover up and forwards.
4. Remove the rear cover. This is fixed with two knobs at the rear. Lift the cover up and backwards.
5. Remove the batteries' fixing bars. They are fixed with two knobs each. See the illustration. Turn the fixing bars backwards without detaching the cables.

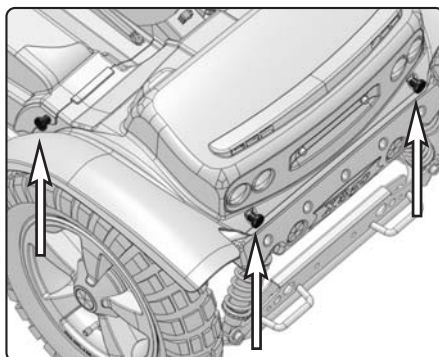
WARNING

Be careful when using metal objects when working with batteries. A short-circuit can easily cause an explosion. Always use safety gloves and safety goggles.

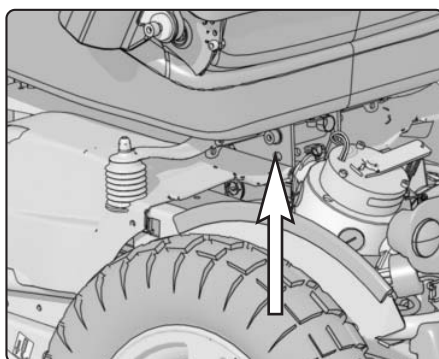
Remember that the batteries are heavy and must be handled with great caution.



Manually raising the seat lift.



The covers are fixed with two knobs at the rear and one knob on the left and right sides.



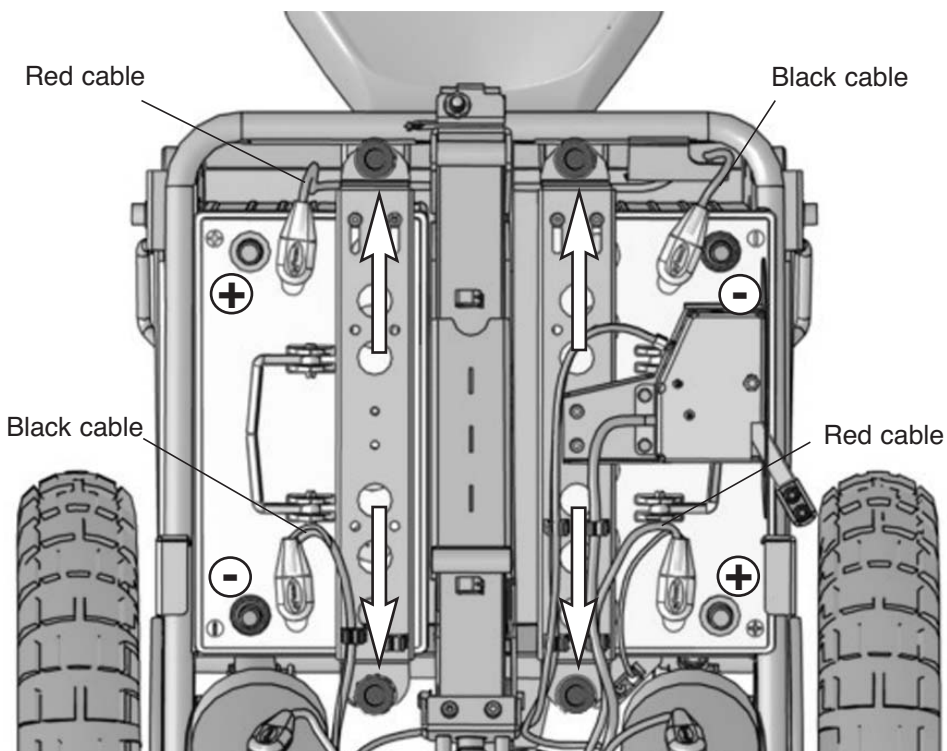
The seat's rear bracket on the chassis without an electric seat lift (fixed seat bracket)

Battery replacement

6. Detach the battery connections. Lift the batteries out of the chassis.
7. Fit two new batteries. Place the batteries with the poles facing the outer sides of the chassis.
8. Fit the batteries' fixing bars. They are fixed with two knobs each. See the illustration below.
9. Refit the chassis covers. On a wheelchair without an electric seat lift, refit the seat. Switch the automatic main fuse to ON.

NOTE

Used or malfunctioning batteries should be disposed of responsibly in accordance with local recycling regulations.



The batteries' fixing bars and connections

Resetting the main fuse/battery isolator

WARNING

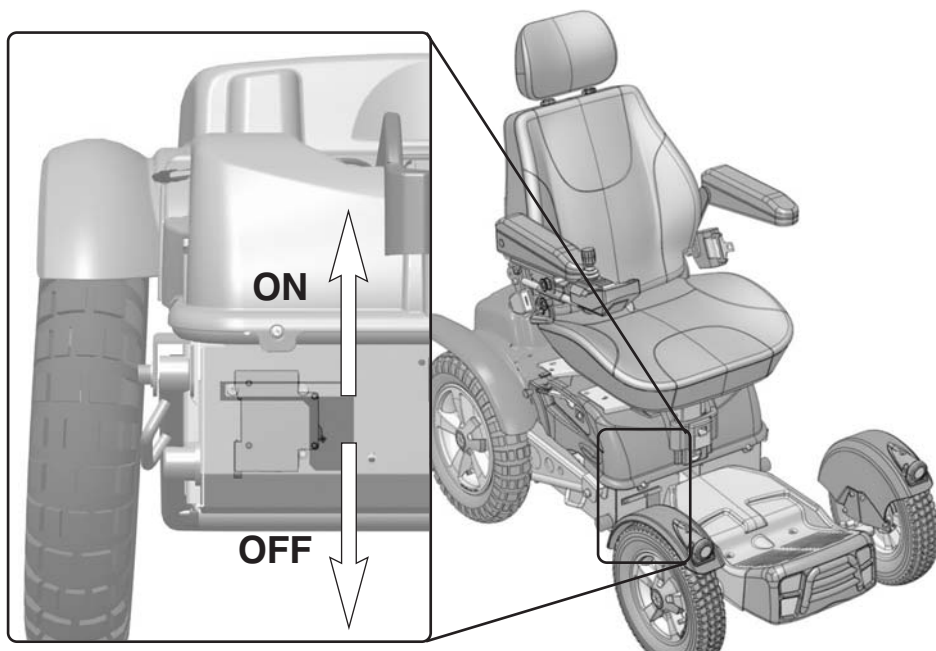
If the main fuse is triggered, there is often a major electrical fault. The cause of the fault should be checked carefully before the switch is reset. Contact Service in case of doubt.

The main fuse also functions as a battery isolator but it is called the main fuse in the user manual.

It is not normally necessary to replace the main fuse as it is automatic and can be reset when it has been triggered. It is reset by switching the switch to On.

NOTE

Always switch off the power supply to the control panel before interrupting the power with the main fuse.



Main fuse in the ON position

Replacing fuses for charging, actuator, lights/indicators

Fuses for the actuator (15 A) and lights/indicators (7.5 A) are located at the lower edge of the rear of the wheelchair (connection box). The charging fuse (20 A) is located between the right drive motor and the chassis. All these fuses are accessible from the rear of the wheelchair. See the illustration.

NOTE

The fuses in the Safe Gate electronics may, in very special situations, break the circuit. In these situations, a service engineer should carry out an inspection before the fuse may be replaced.

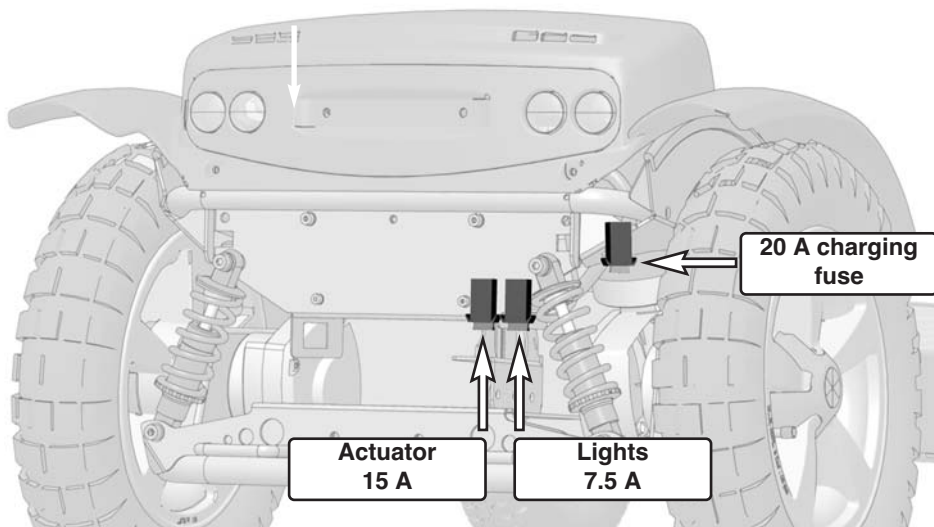
See the service manual for further information.

WARNING

Always switch off the power supply to the control panel before changing the charging fuse. The battery charger must not be connected when the charging fuse is changed.

If the charging fuse is triggered, there may be problems or faults with batteries, the charger/charging cables or the wheelchair's charging socket.

The cause of the charging fuse being triggered should be checked carefully before the fuse is changed.

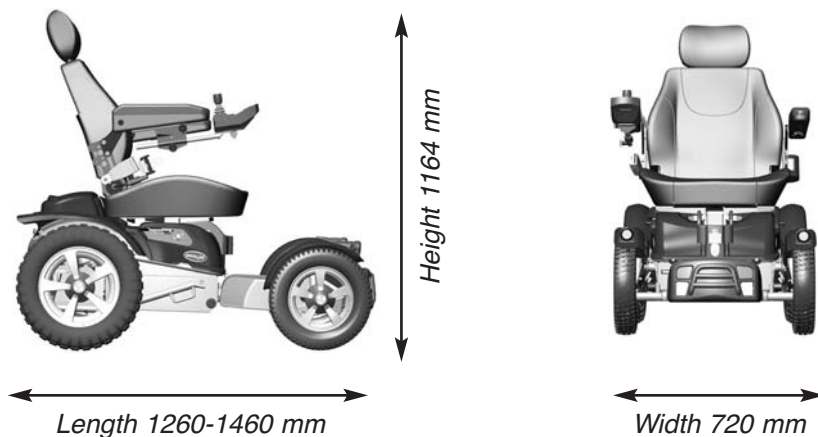


The fuses are accessible from the rear of the wheelchair

Technical specifications

The specifications given on the following pages apply only to the Permobil X850 CS.

For dimensions and weight specifications for each seat, see the user manual supplied with it.



*Minimum transport dimensions =
length 1260 mm, width 720 mm, height 910 mm*

DATA

General

Name Permobil X850
 Wheelchair class C

Dimensions and weight

Length.....1260-1460 mm
 Width.....720 mm
 Height1164 mm
 Minimum transport dimensions, lwxh1260 x 720 x 910 mm
 Weight, incl. batteries and Corpus II seat182 kg
 Max. battery size345 x 170 x 227 mm

Wheels

Front tyre dimensions.....3.00 x 8
 Rear tyre dimensions3.00 x 10
 Rec. tyre pressure front/rear200-250 kPa (2-2.5 bar)

Performance

Range35-50 km
 Min. turning radius1680 mm
 Min. turning circle1930 mm
 Max. height of obstacles.....110 mm
 Min. clearance under the wheelchair 82 mm
 Hill-climbing ability 15 degrees
 Safe slope..... 10 degrees
 Sideways Slope Capability 12 degrees
 Static stability downhill17°
 Static stability uphill20°
 Static stability sideways15°
 Max. speed forwards14,5 km/h

SAFE GATE ELECTRONICS SYSTEM

Electronics

Safe Gate

Control panel

Safe Gate

Batteries

Recommended battery type	Gel
Battery capacity	2x97 Ah
Charging time	Approximately 11 hours

Fuses

Main fuse.....	100 A
Charging fuse	20 A
Actuator fuse	15 A
Fuse for lights/indicators	7.5 A

Troubleshooting guide

The following troubleshooting guide describes a number of faults and events which may occur when you use your wheelchair, together with suggested remedies. Note that this guide cannot describe all the problems and events which may occur and you should always contact your service contact or Permobil in case of doubt.

EVENT	POSSIBLE CAUSE	REMEDY
The wheelchair cannot be started.	Batteries discharged.	Charge the batteries.
	Main fuse switched to OFF position after, for example, battery replacement.	Reset the main fuse. See page 64.
	Main fuse triggered.	See page 64.
The wheelchair cannot be driven.	Battery charger connected.	Stop charging and disconnect the charging cable from the wheelchair's charging socket.
	Brake release activated.	Reset the brake release.
	Wheelchair locked with the key switch.	Unlock the wheelchair. See page 32.
	Seat rotation activated.	Switch the seat rotation to the drive position, i.e. straight forwards. See page 47.
The battery voltage indicator on the control panel is flashing at 2.5 second intervals and the wheelchair cannot be driven.	The electronics' power saving position is activated.	Switch off and switch on the power using the start key on the control panel.
The battery voltage indicator on the control panel is flashing fast and the wheelchair cannot be driven.	Electronics fault.	Contact service.

EVENT	POSSIBLE CAUSE	REMEDY
The wheelchair stops while being driven.	Main fuse triggered.	See page 64.
The wheelchair can only be driven at reduced speed. <i>Applies with an electric seat lift.</i>	Seat lift raised too high.	Lower the seat lift. See page 32.
The wheelchair cannot be charged.	Main fuse switched to OFF position after, for example, battery replacement.	Reset the main fuse. See page 64.
	Charging fuse triggered, for example on account of a fault in the batteries, charger, charging cables or charging socket.	Check possible causes carefully before changing the charging fuse. See page 65.

Accessories

Accessories for Permobil electric wheelchairs are subject to continuous development. Contact your nearest Permobil dealer for more information on the accessories available for your wheelchair.

UK



Permobil X850



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