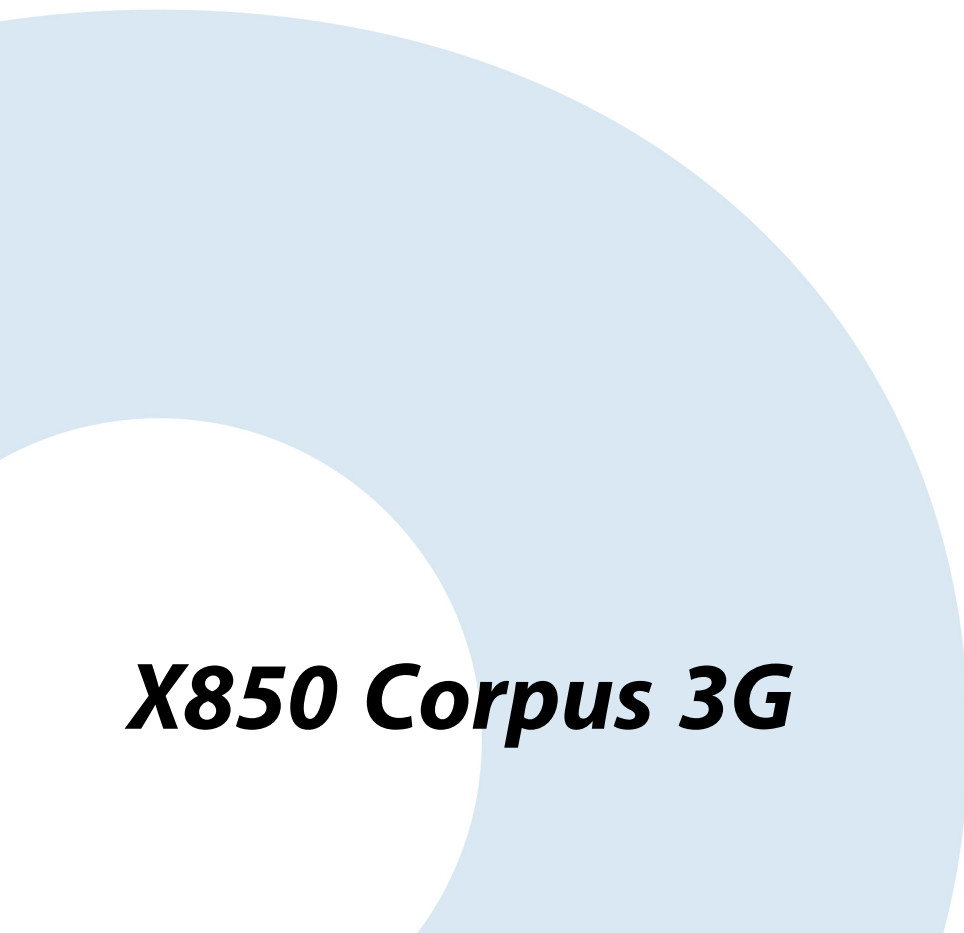


User's Manual

British English



X850 Corpus 3G

CE

Sold and Serviced by:

Summerland Scooters and Rehab

The Plaza

Alstonville

NSW 2477

phone: 02 6628 3915

www.summerlandscooters.com.au

Dear Permobil User

We congratulate you on your choice of powered wheelchair. Our goal is for you to continue to feel satisfied with your choice of both vendor and product. Your powered wheelchair is designed to provide the highest possible comfort and safety while meeting both safety and environmental requirements.

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.

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1 Important information

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 to 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 using the wheelchair.

Always keep operating instructions within convenient reach when using your product, as the need for important information may arise concerning its use, safety and maintenance.

It is also possible to obtain information concerning our products from our website: www.permobil.com.

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

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

For those who are visually impaired, this document can be downloaded at www.permobil.com. The PDF reader magnifying tool can be used to achieve the desired text and image size.

1.1 Guarantee

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

Product Guarantee Information sets forth the conditions of the guarantee. For further information about applicable warranties, see <https://permobilus.com/support/guaranties/>.



NOTICE

Unapproved replacement of parts

If any part is replaced without approval from Permobil, the wheelchair guarantee will become invalid. Permobil accepts no liability for any loss that occurs as a result of a control system component being opened, adjusted or modified without permission.

1.2 Product approval

This product fulfils the requirements according to:

- EN 12184
- EN 1021-1
- EN 1021-2
- ISO 7176-9
- ISO 7176-14
- ISO 7176-16
- ISO 7176-19

1.3 Technical support

In the event of technical problems, contact Permobil.

Be prepared to provide the wheelchair serial number, located on the chassis, to ensure proper support. See

3.3.8 *Serial number label*, Page 46.

1.4 Cyber security

If you discover or suspect that someone unauthorised has tampered with, removed, or replaced a device or data derived from a device, immediately contact Permobil for support.

1.5 Reporting incidents

If an incident occurs, please contact your nearest Permobil representative. This is usually the same person you were in contact with at the time of purchase. To get in touch with your contact, use the link at www.permobil.com. Open your country page and the contact page. The page provides the necessary contact information and a document to help you provide us with the information we need to investigate the incident. Provide as much of the information as possible; it will be of great help to us.

We ask that you submit incident reports to help us improve quality and make sure our product remains safe throughout its service life.

To meet these requirements and to ensure our products remain safe in your hands, we need your assistance. We hope you never need to use the information on this page but in the event of an incident, please contact us.

1.6 Spare parts and accessories

Spare parts and accessories must be ordered through Permobil.

The expected service life of this product is five years.

1.7 Ordering documentation

Should you need another copy of this manual, one may be ordered from Permobil. Ask for the order number specified on the back cover.

1.8 Scrapping and recycling

Contact Permobil for information about scrapping agreements in force.

2 Safety instructions

A powered wheelchair is a motorised vehicle and therefore special care must be taken when using it.

Please read and follow all instructions and warnings in all manuals supplied with your powered wheelchair and its accessories. Incorrect use may both injure the user and damage the wheelchair. In order to reduce these risks, read the User's Manual and all manuals supplied carefully, in particular the safety instructions and their warning texts.

Permobil is not responsible for personal injuries or property damage resulting from any person's failure to follow the warnings and instructions in this manual. Permobil is not responsible for injuries or damage resulting from failure to exercise good judgement.

The final selection and purchasing decision about the type of powered wheelchair to be used is the responsibility of the user and his or her healthcare professional. Permobil is not responsible for inappropriate selections of models, features or improper mountings on the wheelchair.

Your powered wheelchair was configured specifically for your needs as prescribed by your healthcare provider. Contact your healthcare provider to have changes in seat position or other adjustments made.

It is also of the utmost importance that you devote sufficient time to getting acquainted with the various buttons, functions and steering controls; the different seat adjustment possibilities, etc. of your wheelchair and its accessories before you begin using it.

Do not undertake your own first test drive without making sure help is available in the immediate vicinity should you need it.

2.1 Descriptions of admonitions

The following admonitions describing warnings, remarks and explanatory texts are used throughout this manual to draw attention to items of significant importance to safety:



DANGER!

Danger admonition

Indicates a dangerous situation which, if not avoided, could result in death as well as serious damage to the product or other property.

**WARNING!****Warning admonition**

Indicates a hazardous situation which, if not avoided, could result in serious injury or death as well as damage to the product or other property.

**CAUTION!****Caution admonition**

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury as well as damage to the product or other property.

**NOTICE****Notice admonition**

Indicates an important but not hazardous situation which, if not avoided, could result in damage to the product or other property.

-  Provides information about the conditions or circumstances under which the information given applies.

2.2 Warnings and precautions



CAUTION!

Operation, driving

If the wheelchair is equipped with lights, Permobil recommends their use whenever you drive near public rights of way. Use extreme caution when driving near unprotected edges, drops or on elevated surfaces. Unintended movement or excessive speed in such areas can lead to personal injury or property damage.



CAUTION!

Operation

Do not drive the wheelchair over any curbs or obstacles higher than specified in the technical specifications section of the manual. When driving over a curb or similarly elevated surface, cross it at a 90-degree angle (perpendicular). Crossing such surfaces at any other angle may result in the wheelchair tipping.

Reduce your speed when driving on uneven terrain or soft surfaces. Never use your wheelchair on stairs or escalators. Always take the lift.

Do not lift or move the wheelchair by any of its removable parts. Doing so could lead to personal injury and property damage, including damage to the wheelchair.

**CAUTION!****Operation, pulling and minor impacts**

Do not use the wheelchair to pull any kind of object and never hang excessive weights on the backrest. Doing so could lead to personal injury and property damage, including damage to the wheelchair.

In the event of a collision with a wall, door or other fixed object when operating the wheelchair, always make sure all parts of the wheelchair are undamaged before operating it again. Failure to do so could lead to personal injury.

**CAUTION!****Operation, adjust seating system for elevations**

Be sure to adjust the position of your seating according to the limitations applicable to the wheelchair concerned before climbing obstacles or driving on uneven surfaces or slopes.

**WARNING!****Risk of tipping over**

Do not allow the leg support to hit the ground when climbing obstacles, driving on uneven surfaces or slopes or when a slope levels out. Make sure there is sufficient ground clearance to avoid the risk of tipping over.

**CAUTION!****Operation**

Do not let children drive the wheelchair without supervision. Do not drive the wheelchair on public streets or roads. Obey all local pedestrian rules and be aware that vehicle drivers may have difficulty seeing you.

Do not operate your wheelchair under the influence of alcohol. Consumption of alcohol may impair your ability to operate your wheelchair safely.

Some physical impairments or the use of prescription and non-prescription medication may limit your ability to operate your wheelchair safely. Be sure to consult with your physician about your physical limitations and medications.

**WARNING!****Modifications**

Do not modify your wheelchair or any of its components. Your wheelchair has been configured specifically for your needs as prescribed by your healthcare provider. Special skills, training and knowledge are needed to set up, modify and repair the wheelchair.

Initial setup and all modifications and repairs must be performed by a qualified service technician. For guarantee service, contact the dealer from whom the wheelchair was purchased.

**WARNING!****Do not alter safety parameters**

The wheelchair is equipped with certain safety parameters that limit or inhibit wheelchair functions or, under certain conditions, prevent the wheelchair from being driven. Do not alter these safety parameters.

**WARNING!****Weight limitations**

The maximum user weight for your wheelchair is set forth in the technical specifications section in this user manual. Operation of the wheelchair by users who exceed the maximum allowable user weight can lead to personal injury and property damage, including damage to the wheelchair, as well as voiding any guarantee applicable to the wheelchair.

Do not carry passengers on the wheelchair. Doing so can lead to personal injury and property damage, including damage to the wheelchair.

**CAUTION!****Prior to riding**

In some instances, including where certain medical conditions exist, users should practise operating their wheelchair under the supervision of an assistant who is familiar with the operation of the wheelchair and with the abilities and limitations of the user.

**CAUTION!****Operation - slopes**

When driving downhill, select the slowest speed and proceed with caution. Driving down a slope may shift the user's centre of gravity forward. If the wheelchair rolls faster than you would like, stop the wheelchair by releasing the joystick and begin descending again more slowly.

Avoid sudden stops or starts. Stop by releasing the joystick rather than by turning the power off. Turning off the power while the wheelchair is in motion will cause the wheelchair to stop suddenly. Permobil recommends the use of securely fastened positioning belts at all times.

When driving up a slope, try to keep moving at a steady speed. Stopping and starting the wheelchair while moving up a slope makes the wheelchair more difficult to control.

Do not drive up or down slopes with gradients greater than those set forth in the technical specifications section of this User's Manual. There is a risk that the wheelchair will not manoeuvre safely.

**WARNING!****Operation - inclines**

Do not drive the wheelchair where the sideways gradient is greater than that set forth in the technical specifications section of this User's Manual. There is a risk of tipping over.

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

When driving up an incline, be sure to drive the wheelchair straight up the incline (perpendicular). Driving up an incline at an angle increases the risk of tipping or falling. Use extreme caution when driving up inclines.

Do not drive up or down hazardous inclines such as a surface covered with snow, ice, or wet leaves, or a surface that is uneven. Also avoid driving on ramps that do not have proper edge protection.

**WARNING!****Operation - turning**

Turning your wheelchair at high speeds may cause it to topple with personal injury as a result. The risk of tipping over is increased by high turning speeds, sharp turns, uneven surfaces, abrupt changes in direction, and driving from an area of low traction (e.g. lawn) to an area of high traction (e.g. pavement).

To avoid tipping over, personal injury and property damage, reduce speed and turn less sharply.

**WARNING!****Operation - free-wheel mode**

In order to prevent the wheelchair from rolling away, make sure it is on a level surface before releasing the brakes.

To avoid personal injury, do not use your wheelchair in free-wheel mode without an attendant present. Do not attempt to put the wheelchair in free-wheel mode yourself while sitting in it.

Do not put your wheelchair in free-wheel mode while on an incline. This may cause the wheelchair to roll on its own, causing injury and property damage, including damage to the wheelchair.

**CAUTION!****Driving range**

The driving range stated in the technical specifications of this manual represents the theoretical driving range when testing the wheelchair according to EN 12184 and ISO 7176-4. This test is performed under ideal conditions and actual driving ranges will vary depending on battery status, tyre selection and driving conditions. Frequent driving on slopes, rough ground or frequently climbing curbs etc. will also reduce the driving range.

**CAUTION!****Driving in the dark**

Driving in the dark is only permissible if the wheelchair is equipped with functioning lighting at the front and rear, or as per applicable national or local traffic regulations.

**WARNING!****Passengers**

The wheelchair is not intended to carry passengers, regardless of the age of the passenger. The maximum user weight for your seating system is stated in the technical specifications section of this User's Manual. The stated user weight includes the user and any personal effects. The maximum limit may not be exceeded. The wheelchair's manoeuvrability and stability can be degraded as a result.

**WARNING!****Driving with seat lift, seat tilt, backrest recline**

Make absolutely sure that nothing gets stuck between the chassis and the seat when the seat lift and/or seat tilt is operated. Operating the seat lift, seat tilt and/or backrest recline changes the centre of gravity and increases the risk of tipping over. Always drive at low speed and only use these seat functions on level ground – not on hills, ramps, slopes or other inclines. Using these seat functions while driving on inclines may lead to personal injury and property damage, including damage to the wheelchair.

**WARNING!****Centre of balance**

The likelihood of the wheelchair tipping and the point at which the wheelchair will tip forward, backward or to the side depends on its centre of balance. Note that the following factors affect the wheelchair's centre of balance:

- Elevation of the seat.
- Height and angle of the seat.
- Body position or weight distribution.
- Driving on an incline such as a ramp or a hill.
- The use of a rucksack or other accessories, depending on the amount of weight added.

If the wheelchair begins to move in an unexpected manner, release the joystick immediately to stop the wheelchair. Except in an emergency, do NOT use the On/Off button to stop the wheelchair, as this will cause the wheelchair to stop abruptly which may cause personal injury.

**WARNING!****Fixed seat post**

Only authorised service providers may adjust seat height.

**WARNING!****Use installed positioning aids**

The user must use and securely fasten the positioning belt and any other positioning aids on the wheelchair. Failure to properly use positioning belts and other positioning aids may cause bodily injury. If there is any sign of damage or wear on any positioning belt or aids, immediately contact Permobil for a replacement.

**WARNING!****Support wheels**

If the wheelchair is equipped with support wheels, they must always be fitted when the wheelchair is being driven.

**WARNING!****Transfer into and out of the wheelchair**

Make sure the power is turned off before getting into or out of the wheelchair and before lifting the control side armrest.

When transferring into or out of the wheelchair, every precaution must be taken to reduce the distance between the wheelchair and the place to which the user is transferring. Too great a distance may cause the user to overexert him or herself, lose balance or fall.

Permobil recommends that users transfer in the presence of or with the assistance of an attendant.

Use caution when bending or reaching.

Never use the joystick as a handle or support.

Do not use footplates or armrests as supports when transferring into or out of the wheelchair. The footplates and armrests are not designed as load-bearing structures. Excessive force may cause them to give way, resulting in personal injury or property damage, including damage to the wheelchair.

**NOTICE****Transporting the wheelchair**

The wheelchair may only be transported in vehicles approved for this purpose. The vehicle must be suitably designed, insured and equipped to transport a person in a wheelchair. No matter how securely it is fastened in the vehicle, a wheelchair is not designed to be a car seat and cannot offer the same degree of safety as offered by standard car seats.

Before transportation, check that the wheelchair is properly secured and that both wheel locks are engaged. Secure the wheelchair front and rear to the vehicle at the tie-down points only (marked with yellow stickers). Follow the manufacturer's instructions supplied with the approved fastening straps.

Instead of fastening straps, the wheelchair may be secured with a locking system approved by Permobil for the product concerned.

For alternative vehicle securement options, please consult your dealer.

**WARNING!****Wheelchair must be facing forward**

The wheelchair is designed to be facing forward when used as a seat in a motor vehicle.

**CAUTION!****Damage during transportation**

You must inform Permobil as soon as possible after the event if the wheelchair and its accessories have suffered transportation damage, damage during driving or damage from other causes. There is a risk that the wheelchair and its accessories can no longer be used safely and securely. Contact your service provider or Permobil for further information.

**DANGER!****User transportation in wheelchair**

When the user is seated in the wheelchair during transport, the following requirements must be met:

- The vehicle must be equipped with a locking system approved by Permobil for the product concerned. For alternative vehicle securement options, please consult your dealer.
- The locking system must be dimensioned for the total weight of the wheelchair.
- The user must use a three-point seat belt attached to the vehicle.
- The wheelchair must be crash tested and approved.
- The wheelchair must be fitted with a headrest.
- Alterations or substitutions should not be made to wheelchair securement points, structural parts, frame parts or components without consulting Permobil or the dealer.
- Spill-proof sealed batteries, such as gel or AGM, must be used.
- Make sure that wheelchair components do not accidentally press down the seat belt's release button.

If these requirements are not followed, the user can sustain bodily injuries or die.

**WARNING!****Positioning belts and aids are not vehicle seatbelts**

The wheelchair positioning belt and aids are designed to properly position the user in the wheelchair for safely operating the wheelchair. The wheelchair positioning belts and aids do not provide protection in a traffic accident and do not replace a vehicle mounted seatbelt.

**WARNING!****Secure loose objects during transportation**

Auxiliary wheelchair equipment, loose or mounted on the wheelchair, must either be secured to the wheelchair or removed from it. Dismantled or movable auxiliary equipment must be properly secured in the vehicle during transit. This is to prevent loose parts or parts that may come loose from causing injury to the occupants during transit.

**CAUTION!****Driving in extreme weather conditions**

Our wheelchairs are designed to withstand most adverse weather conditions. However, to minimise the risk of being caught in difficult situations, you should avoid using the wheelchair outdoors in e.g. severe cold, heavy rain or thick snow.

Also bear in mind that certain surfaces on the wheelchair can get very hot or cold in the event of prolonged exposure to intense sunlight or cold.

**WARNING!****Environmental conditions**

Protect the wheelchair from exposure to any type of moisture, including rain, snow, mud or spray. Exposure to moisture may cause the chair to short-circuit, catch fire and cause personal injury or property damage. If it has been exposed to moisture, do not operate your wheelchair until it has dried completely.

If any of the covers or the joystick boot has cracks or tears, it must be replaced immediately. Failure to do so may allow moisture to enter the electronics and cause personal injury or property damage, including fire.

Be extremely careful when operating your wheelchair in icy or slippery conditions. Such conditions can lower the performance and safety of your wheelchair which could lead to an accident, personal injury and property damage, including damage to the wheelchair.

Exercise extreme caution when using oxygen in close proximity to electrical circuits and other combustible materials. Contact your oxygen supplier for instruction in the use of oxygen.

**CAUTION!****Maintenance and service**

Only carry out the minor adjustments and maintenance specified in the user manual.

All other service, repairs and maintenance on Permobil products, including control system programming, must be performed by a qualified service technician authorised by Permobil. Incorrect settings may result in unsafe operation of the wheelchair and cause it to become unstable or uncontrollable. Such modifications will also render the product's guarantee invalid.

**CAUTION!****Non-approved aftermarket accessories**

Do not use parts or accessories not authorised by Permobil.

The use of non-approved aftermarket accessories and parts may cause changes in the wheelchair that make it unstable or uncontrollable.

The product guarantee may be voided if unauthorised parts or accessories are used.

**CAUTION!****Non-approved electrical or electronic devices**

Connecting non-approved electrical or electronic devices to the wheelchair's electrical system may cause damage to the wheelchair and make it uncontrollable or erratic. Such use may also render the guarantee invalid.

**CAUTION!****Risk of getting caught in crush points**

The wheelchair is heavy and contains many moving parts, which means there is an ever-present risk of getting caught in pinch points.

**WARNING!****Charging batteries**

Charge batteries in a well-ventilated room, not in a wardrobe or cupboard. Batteries must not be charged in a bathroom or wet room. Only use chargers with a max 10 A charging current (average value). The charging current RMS value must not exceed 12 A. When the charger is connected, the wheelchair cannot, and may not, be driven.

**WARNING!****Replacing batteries and circuit breakers**

Always turn the main circuit breaker to the Off position when replacing batteries or circuit breakers.

Exercise caution when using metallic objects during work with batteries. A short-circuit can easily cause an explosion. Always use protective gloves and goggles.

**WARNING!****Safety circuits**

The products are equipped with safety circuits. Inhibit circuits prevent the wheelchair from being driven under certain conditions. Speed reduction circuits limit the wheelchair's maximum speed under certain conditions. Limit switch circuits limit the wheelchair's functions under certain conditions. Overload protection circuits switch the wheelchair off in the event of overload. If any of these circuits stops working, stop using the wheelchair immediately and consult an authorised Permobil distributor.

Any attempt to modify the safety circuits will result in unsafe wheelchair operation and may cause the chair to become unstable or uncontrollable. Such modifications may also render the wheelchair's guarantee invalid.

**CAUTION!****Recycling batteries**

Used batteries must be disposed of responsibly in accordance with local recycling regulations.

**WARNING!****Inflating tyres**

Regularly check that the wheelchair's tyres have the correct pressure. Incorrect tyre pressure may cause stability and manoeuvrability to deteriorate.

**NOTICE****Changing tyres**

Avoid the use of sharp-edged tools when working with tyres.

**NOTICE****Storage**

Always turn off the wheelchair and its accessories when it is not in use. Always store the wheelchair so that access for unauthorised individuals is prevented.

Never store the wheelchair in a room where there is a risk of condensation (mist or moisture on surfaces) e.g. in pool areas, laundry rooms or similar.

If you are unsure how your wheelchair and its accessories should be properly stored, contact your supplier or Permobil for more information.

**WARNING!****Damage and/or malfunctions**

If you feel the wheelchair is not behaving as it should in any regard or if you suspect that something is wrong, stop driving as soon as possible, switch off the wheelchair and contact your service provider or Permobil for further information. Refer to page 5.

**WARNING!****Flame resistance**

Fabric components have been tested for flammability. Padded parts meet the requirements of EN 1021-1, EN 1021-2 and ISO 7176-16. Plastic parts meet the requirements of UL94.

**CAUTION!****EMC requirements**

The electronics in a power wheelchair can be affected by external electromagnetic fields (e. g. from cell phones). Similarly, the electronics in the wheelchair itself also emit electromagnetic fields that may affect the immediate surroundings (e.g. certain alarm systems in businesses).

The Electromagnetic Compatibility (EMC) limit values with respect to powered wheelchairs are set forth in the harmonised standards for the EU in the Medical Devices Directive, No. 93/42/EEC.

Our powered wheelchairs comply with these limit values.

**WARNING!****Discontinue use following a serious accident**

Stop using your wheelchair if it has been subject to flooding, fire, dropping, crushing or any impact event including a vehicular accident. Extraordinary events like these can lead to significant damage that is impossible to detect upon inspection.

Damage caused by these types of incidents exceeds the limits covered by the manufacturer's guarantee.

For further information, contact Permobil AB to get in contact with a technical service supervisor.

3 Getting to know your wheelchair

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3.1 Overview

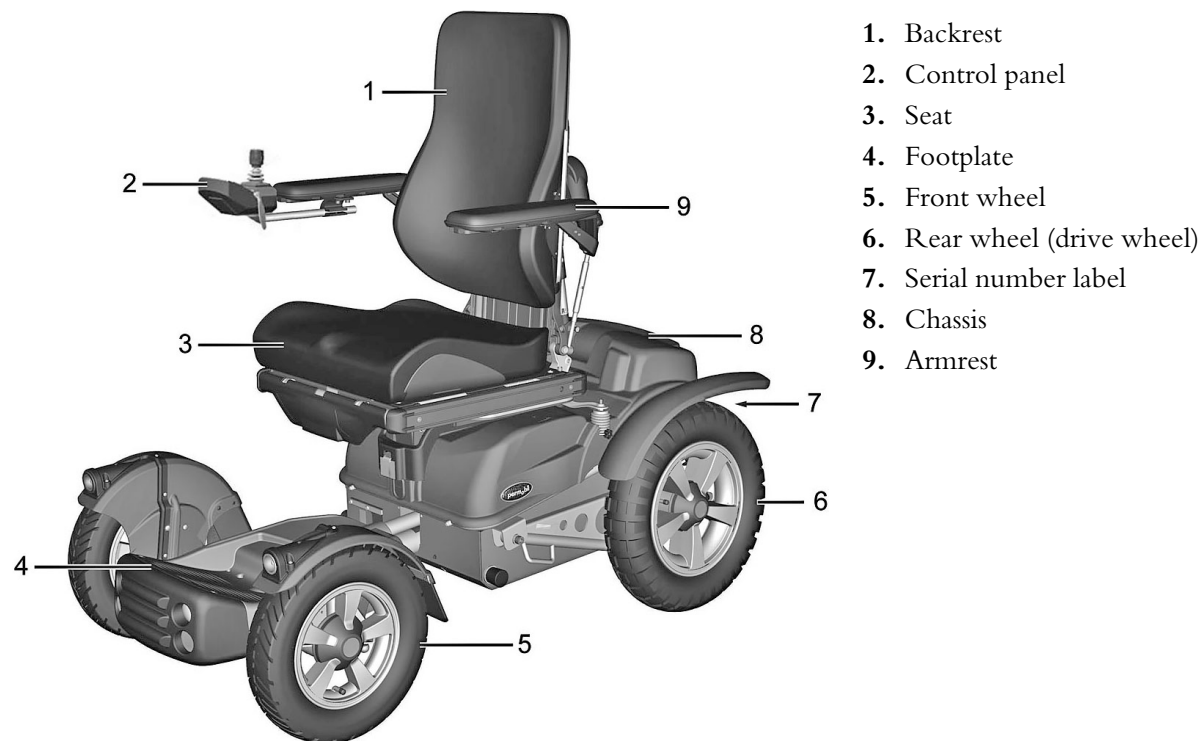


Figure 1. X850 Corpus 3G Overview

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

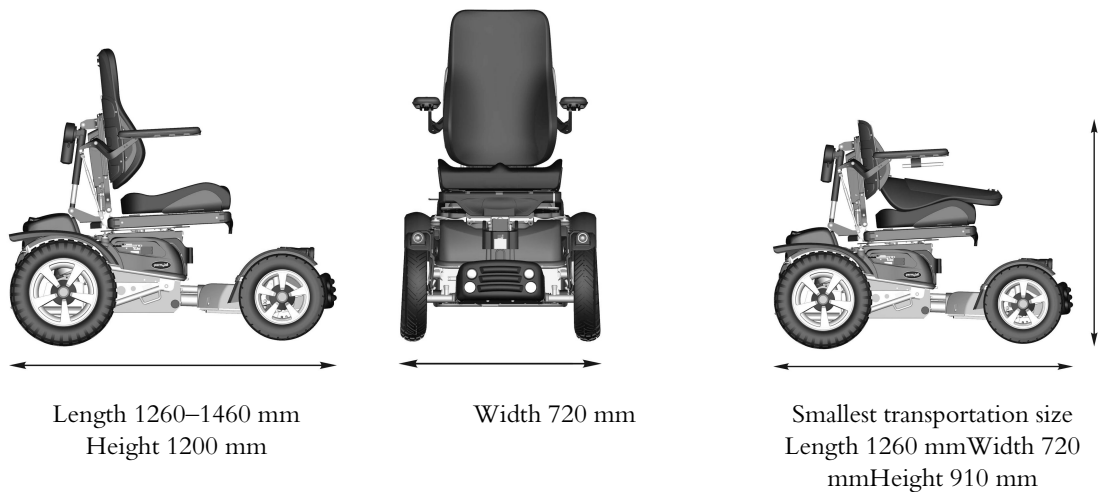
The wheelchair consists of a chassis and a seat. The chassis contains the wheelchair's electronics, power supply and drive functions.

The Corpus 3G seat is an ergonomically shaped seat that can be easily adjusted according to the user's needs. The seat can be supplemented with a broad range of accessories.

The seat can be fitted with a fixed or power seat lift and both manual and power seat functions.

3.2 Technical specifications

Product name	X850 Corpus 3G
Wheelchair class	C



3.2.1 Dimensions and weight

Length	1260–1460 mm
Width	720 mm
Height	1200 mm
Weight, including batteries	203 kg

Minimum transportation length	1260 mm
Minimum transportation width	720 mm
Minimum transportation height	910 mm
Seat plane angle	0°
Effective seat depth	370–570 mm
Effective seat width	420–570 mm
Seat surface height at front edge	540–740 mm
Backrest angle	90–123°
Backrest height	470–670 mm
Footplate to seat distance	360–460 mm
Armrest to seat distance	185–320 mm
Front location of armrest structure	0–435 mm

3.2.2 Performance

Range	35–45 km
Min. turning radius	1680 mm
Reversing width	2250 mm
Ability to Negotiate Obstacles (approach distance 50 cm)	110 mm
Min. ground clearance	82 mm
Hill-climbing ability	18°
Rated slope	15°
Static stability downhill	17°

Static stability uphill	20°
Static stability sideways	15°
Max. Speed forward	15 km/h
Min. braking distance from max. speed.	3.5 m
Max. User weight	136 kg

3.2.3 Wheels

Rear wheel tyre dimensions	3.50" x 10"
Front wheel tyre dimensions	2.50" x 8"
Rec. tyre pressure	200–250 kPa (2–2.5 bar)

3.2.4 Electronics

Type	SafeGate
------	----------

3.2.5 Batteries

Recommended battery type	24 cells, gel
Battery capacity	2x97 Ah
Nominal voltage	12V
Charging time	11 hours
Weight	2x31 kg

3.2.6 Control force

Joystick	1.5 N
Keys	2 N

3.2.7 Circuit breakers

Main fuse	100 A
-----------	-------

3.3 Labels

Take a good look at all the labels on the wheelchair and get acquainted with their meaning. The labels contain important information for safe and proper use.



WARNING!

Accident risk – Always replace missing labels

Never remove a label from the wheelchair. If a label becomes difficult to read or falls off, order a replacement label from Permobil.

3.3.1 Read the instructions

The label indicates that there are instructions that must be read and understood before use or adjustment.

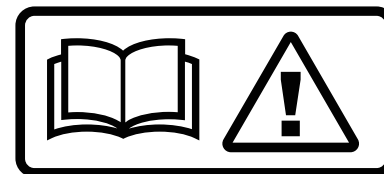


Figure 2. Read the instructions.

3.3.2 Circuit Breaker/Battery Isolator

The sticker shows in what position the switch should be to turn the main power Off and On respectively.

Description of the Circuit Breakers function is found on page 142.

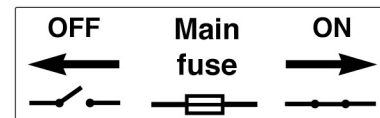


Figure 3. Circuit Breaker/Battery Isolator

3.3.3 Wheel Locks

The sticker shows the wheel lock release levers position, in released and activated state respectively.



Figure 4. Wheel Locks

3.3.4 Tie-down point

The sticker indicates where the wheelchair must be secured during transport. There is a label next to each tie-down point.

Description of transport of the wheelchair is found on page 117

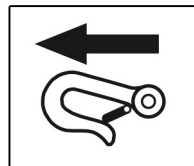


Figure 5. Tie-down point

3.3.5 Use as seat in motor vehicle prohibited

The sticker indicates that the wheelchair is not approved for use in motor vehicles. General advice regarding transport is found on page 117

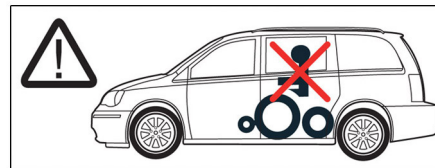


Figure 6. Use as seat in motor vehicle prohibited

3.3.6 Crush hazard

The label indicates a crush hazard.



Figure 7. Crush hazard.

3.3.7 Battery connections and circuit breakers

The sticker shows the polarity of the batteries and where the wheelchair circuit breakers are located.

Description of battery charging is found on page 113.

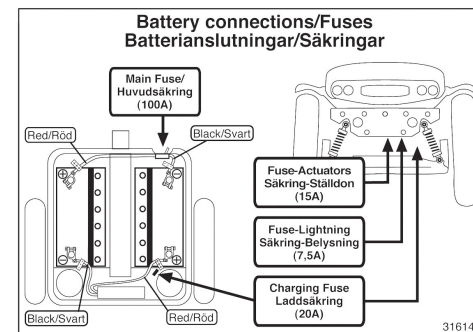


Figure 8. Battery connections and circuit breakers.

3.3.8 Serial number label

1. Made in (country of final assembly) by (address of site of final assembly)
2. Serial number
3. Product type
4. Date of assembly
5. EAN code
6. Maximum user weight

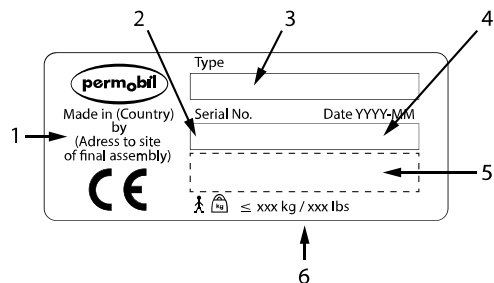


Figure 9. Serial number label

3.4 Design and function

3.4.1 Seat

3.4.1.1 Powered seat functions

Power seat functions may vary based on the equipment fitted on your wheelchair.

The powered seat functions are driven by a powered actuator which is steplessly controlled from the wheelchair control panel.

Functions:

- seat lift
- seat rotation
- seat tilt
- back angle

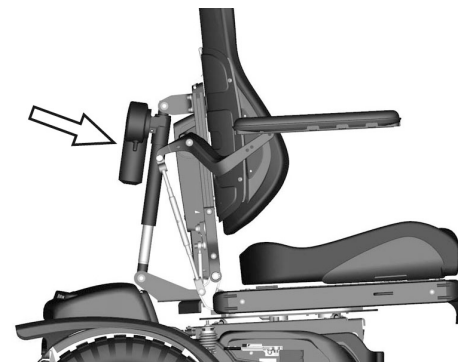


Figure 10. Power actuator.



WARNING!

Risk of pinching while using seat functions

There is a risk of crush-point accidents when using the powered seat functions. Make absolutely sure that nothing gets stuck between moving parts. Failure to do so may lead to personal injury.

Powered seat lift

The wheelchair can be fitted with an electrically controlled seat lift that allows the seat to be raised steplessly up to 200 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 forward 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.

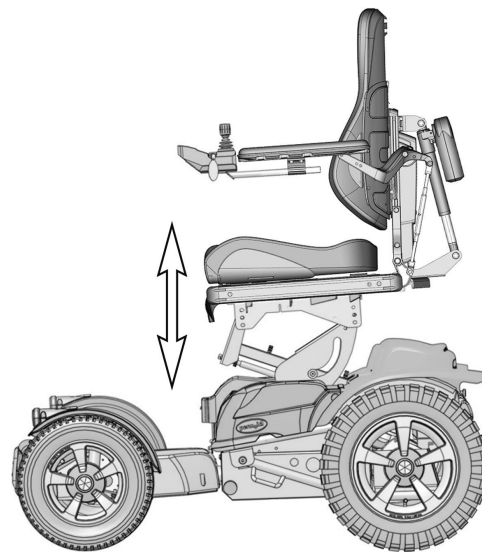


Figure 11. Seat lift

Power seat rotation

The wheelchair can be fitted with power seat rotation.



WARNING!

There will always be a crushing risk when the power seat functions are in action. Be careful and make sure that nothing can get stuck or crushed between the chassis and the seat when the seat rotation is operated. There is a risk of personal injury.

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

Seat tilt

The seat tilt can be adjusted to three fixed positions, inclined forward, neutral and inclined backward. 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 power seat tilt, which makes it possible to adjust the angle of the seat.

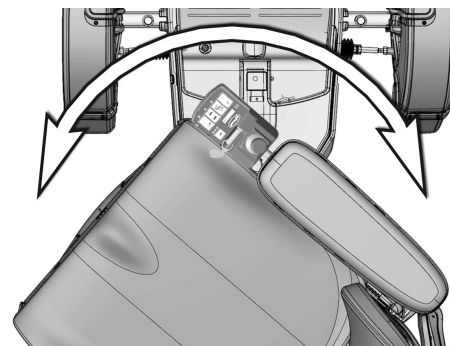


Figure 12. Seat rotation

3.4.1.2 Manual seat functions

Manual seat functions may vary depending on the equipment fitted on your wheelchair.

The seat can be adjusted manually by adjusting manual locking poles with quick-acting locks in a number of fixed positions.

Functions:

- back angle
- seat rotation
- leg support angle

3.4.1.3 Other adjustments

The control panel, armrest, footplates and other accessories have manual adjustment and setting options.

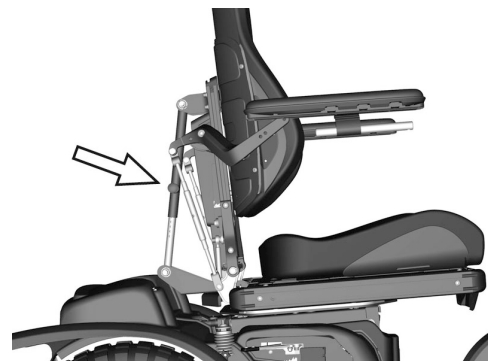


Figure 13. Manual locking tube for backrest angle

3.4.2 Chassis

3.4.2.1 Drive unit

The wheelchair has a drive unit 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.

3.4.2.2 Shock absorbers

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

3.4.2.3 Wheels

The wheelchair's wheels have pneumatic tyres.

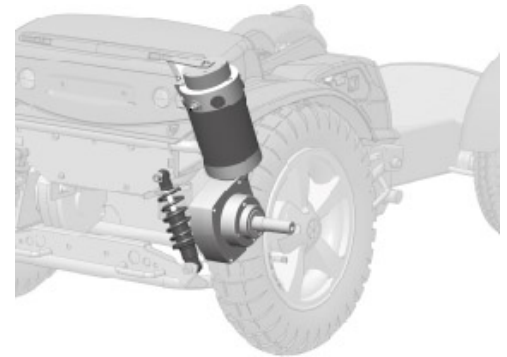
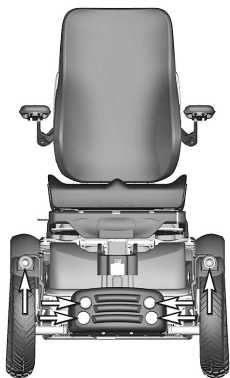


Figure 14. Drive unit and shock absorber.

3.4.2.4 Lights and reflectors



Front Lights



Rear Lights



Side Reflectors

In the standard version, this wheelchair is fitted with reflectors at the front and rear as well as the sides. There are also lights and indicators at the front and rear.

3.4.2.5 Batteries

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



WARNING!

Handling batteries - avoid short-circuit

Exercise caution when using metallic objects during work with batteries. A short-circuit can easily cause an explosion. Always use safety gloves and goggles.

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



CAUTION!

Recycling batteries

Used batteries must be disposed of responsibly in accordance with local recycling regulations.

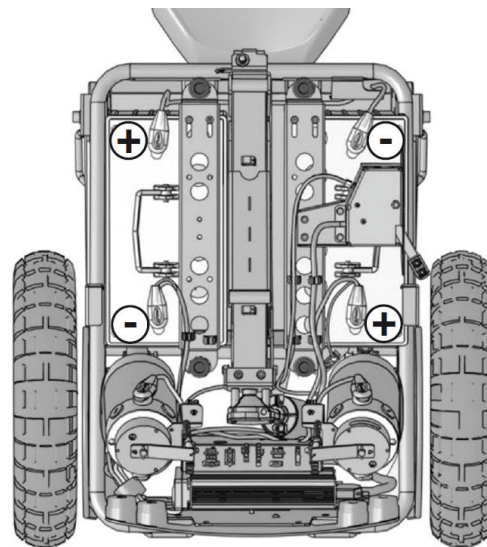


Figure 1 5. Location of batteries

3.4.2.6 Main circuit breaker

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.



NOTICE

Investigate tripped main circuit breaker

A tripped main circuit breaker often indicates a major electrical fault. The cause of a tripped main circuit breaker must be carefully investigated and determined before resetting the circuit breaker.



NOTICE

Before using the main circuit breaker

Always switch off the power to the control panel before switching off the main power with the main circuit breaker.

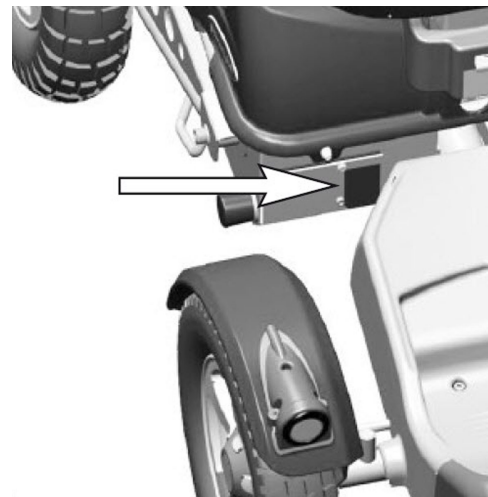


Figure 16. Main fuse

3.4.2.7 Fuses

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.



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 the 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.

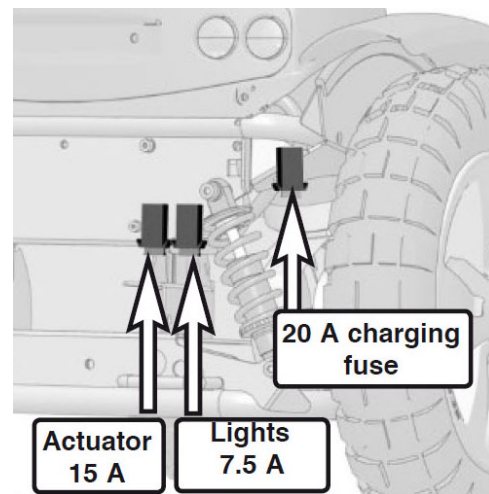


Figure 17. Fuses

3.4.2.8 Charging socket

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



CAUTION!

Switch off main circuit breaker

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

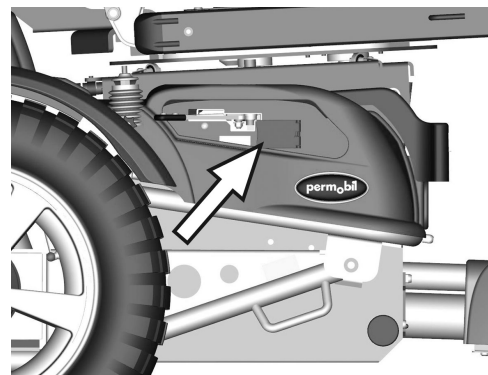


Figure 18. Charging socket

3.5 Control Panel

3.5.1 Overview



Figure 19. Overview 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 power seat functions from the Seat Control Panel or the control panel.

3.5.2 Function buttons and Indication symbols

3.5.2.1 Lights button and indicator

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.



Figure 20. Lights

3.5.2.2 Horn button

Press the switch to produce a signal to attract attention.



Figure 21. Lights

3.5.2.3 Indicators button and indicator

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



Figure 22. Indicators

3.5.2.4 Seat lift button and indicator

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



Figure 23. Seat lift

3.5.2.5 On/Off button

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



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 and/or the life of the wheelchair's drive components being reduced.

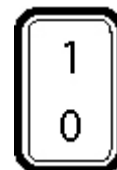


Figure 24. Start key On/Off

3.5.2.6 Speed selector button and indicator

Indicates the maximum speed set for the wheelchair.

Low = 0–3 km/h, 1 lamp lit

Medium = 0–9 km/h, 2 lamps lit

High = 0–14.5 km/h, 3 lamps lit



Figure 25. Speed selector

3.5.2.7 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



Figure 26. Battery voltage indicator

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 unnecessary 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.

3.5.3 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.

3.5.4 Joystick

The joystick is used to control the wheelchair's speed forward and backward, 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.

3.5.5 Seat Control Panel

Seat control panel

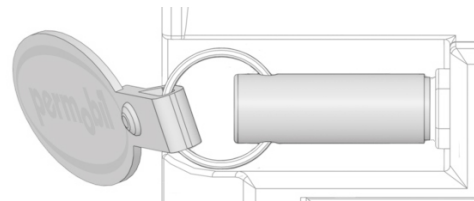


Figure 27. Key switch

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.



Figure 28. Seat Control Panel

3.5.5.1 Backrest angle

The backrest 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°.



Figure 29. Backrest angle

3.5.5.2 Extension

The distance between the footplate and the seat on the wheelchair is adjustable. Press the upper surface of the symbol to move the footplate out and press 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.

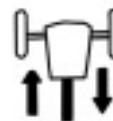


Figure 30. Extension



WARNING!

Make sure that there is nothing stuck between the chassis and the footplate 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.

3.5.5.3 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 anti-clockwise. The seat rotates until the position is straight forward or in 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. While the seat is rotating, it is not possible to drive the wheelchair.

With the front wheels turned as far as they will go to either 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, which is straight forward.



Figure 31. Seat rotation

3.5.5.4 Seat Tilt

The seat tilts backwards when the bottom part of the seat tilt button is pressed and moves forward 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.



Figure 32. Seat tilt

3.5.6 Joystick menu

3.5.6.1 Enabling/disabling the Joystick menu

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

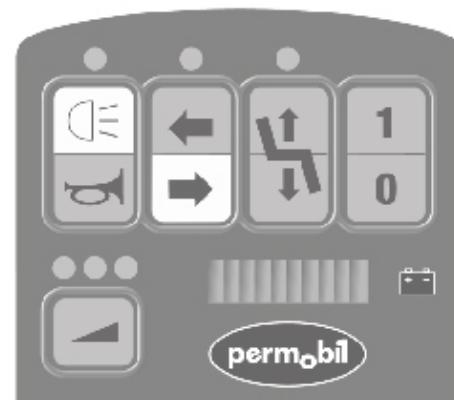


Figure 33. Enabling Joystick menu

3.5.6.2 Using the Joystick menu

There are two different ways of entering the Joystick menu. One way is to press and hold the lights key for two seconds. The other way is to move the joystick to the maximum left or right position and hold it there for two seconds. This action is confirmed with a short acoustic signal.

- i** To be able to enter the Joystick menu with the joystick, the wheelchair electronics must be configured. Contact your service engineer for help.

When you have entered the Joystick menu, the lamp above the lights key and the horn key will be lit. All other lamps are off, including the LED indication for the battery voltage.

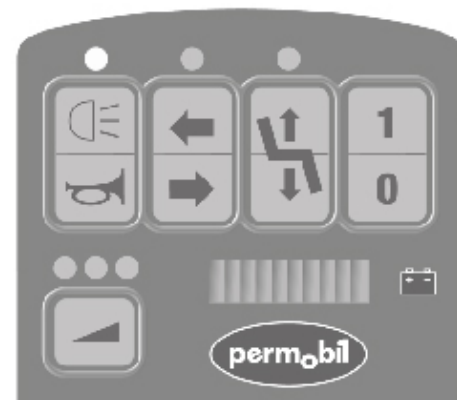


Figure 34. Indication of Joystick menu

3.5.6.3 Functions in the Joystick menu

When the lamps above the lights key and horn key are lit, the lights can be activated by moving the joystick forwards and the horn can be activated by moving the joystick backwards. Therefore, moving the joystick forwards has the same effect as pressing the upper key. The function remains active until the joystick is returned to its original position.

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

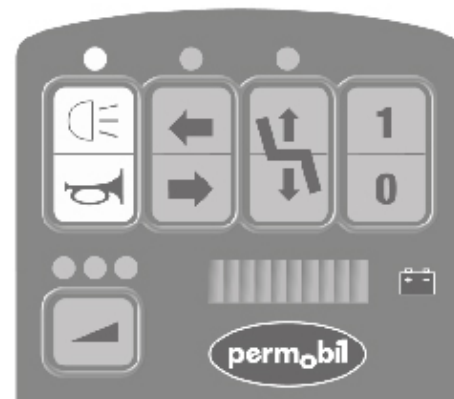


Figure 35. Activation of lights/horn

3.5.6.4 Other Joystick menu functions

- 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 is lit. Move the joystick forwards to activate the left indicators. Move the joystick backwards to activate the right indicators.

- i** After one of the indicator functions has been activated, the Joystick menu will automatically return to the drive position. See also 3.5.6.5 *Exiting the Joystick menu*, Page 73.

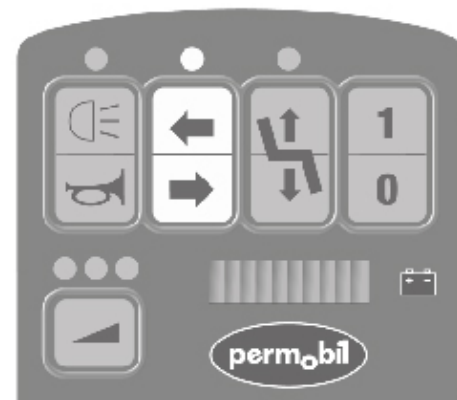


Figure 36. Activation of indicators

Activation of the seat lift

Move the joystick to the right until the lamp above the seat lift key is lit. To raise the seat lift, move the joystick forwards. To lower the seat lift, move the joystick backwards.

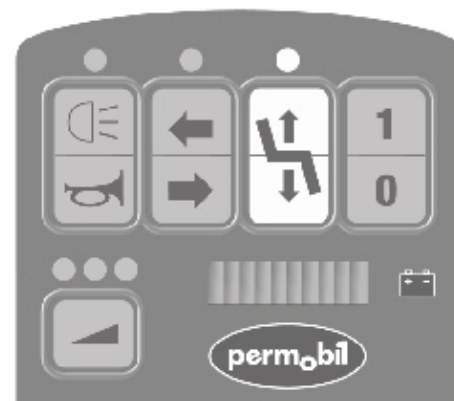


Figure 37. Activation of the seat lift

Activation of the speed selector

Move the joystick to the right until the lamp above the speed selector is lit. Move the joystick forwards to increase the speed. Move the joystick backwards to reduce the speed.

The speed can be set to any one of three fixed positions. These are indicated by the number of lamps lit (one, two or three).

- i** Moving the joystick to the right or left without activating any function allows for stepping forwards or backwards through the Joystick menu. This continues until the joystick is released.

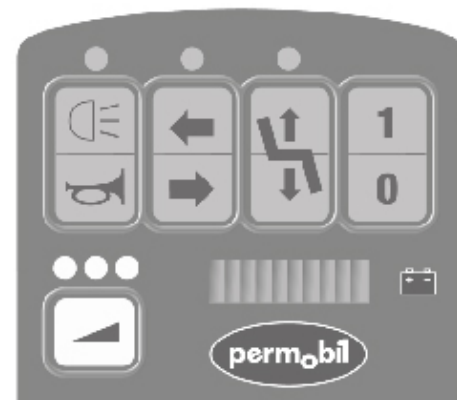


Figure 38. Activation of speed selector

Controlling the functions of the Seat Control Panel

To control the functions of the extra Seat Control Panel, step forwards in the Joystick menu until you reach the battery voltage indicator. The first four LEDs there (three 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 the left, etc. The function is activated by moving the joystick either forwards or backwards.

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

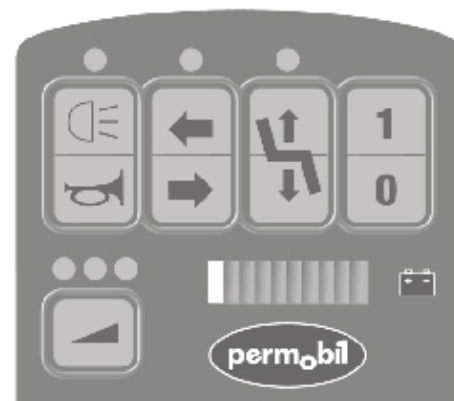


Figure 39. Activation of the Seat Control Panel

3.5.6.5 Exiting the Joystick menu

There are two methods of exiting the Joystick menu.

1. Go to the last menu position

Move the joystick to the right until all ten LEDs on the battery voltage indicator light up (three red, four yellow and three green). The other indication lamps on the control panel also light up. Return to the drive position by moving the joystick forwards. The wheelchair can also be switched off by moving the joystick backwards and holding it in that position for at least three seconds.

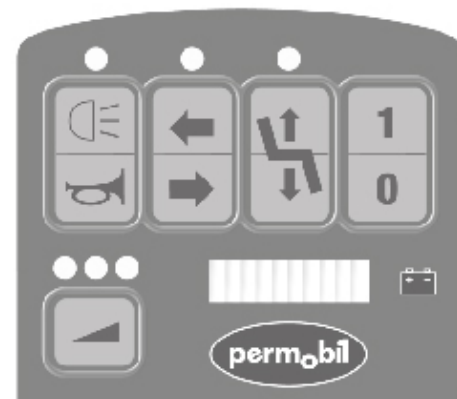


Figure 40. Exit Joystick menu

2. *Activate the indicator function*

Move the joystick to the right until the light above the indicator key is lit. Activate either the left or right indicator. The Joystick menu will then be exited and the wheelchair will return to the drive position.

3.6 Accessories

Accessories for Permobil products are subject to continuous development. Contact your nearest Permobil dealer for more information on the accessories available for your product.



Figure 41 . Exit Joystick menu

4 Preparing for use

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4.1 Settings and adjustments

4.1.1 Seat lift

The wheelchair can be fitted with an electrically controlled seat lift that allows the seat to be raised steplessly up to 200 mm in order to adjust the height to tables, benches, etc. This function is controlled from the Control Panel.

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

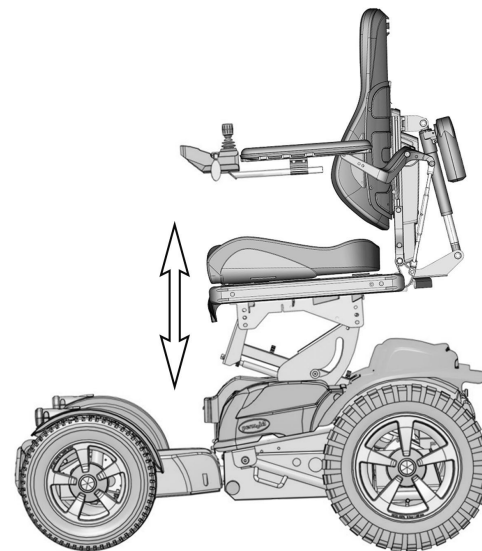


Figure 42. Seat lift

4.1.2 Extension

The distance between the footplate and the seat on the wheelchair is adjustable by up to 200 mm. This function is controlled from the Seat Control Panel.

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

4.1.2.1 Manual extension (settings)

This is done by adjusting the adjustment rod in the rear to the appropriate position (0–200 mm).

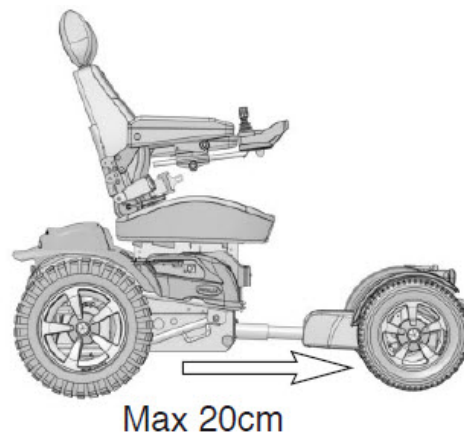


Figure 43. Extension

4.1.3 Seat rotation

Seat rotation makes it easier to get into and out of the seat. The power seat rotation is controlled from the Seat Control Panel. It is not possible to drive the wheelchair when the power seat rotation is activated.



WARNING!

There will always be a crushing risk when the power seat functions are in action. Be careful and make sure that nothing can get stuck or crushed between the chassis and the seat when the seat rotation is operated. There is a risk of personal injury.

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

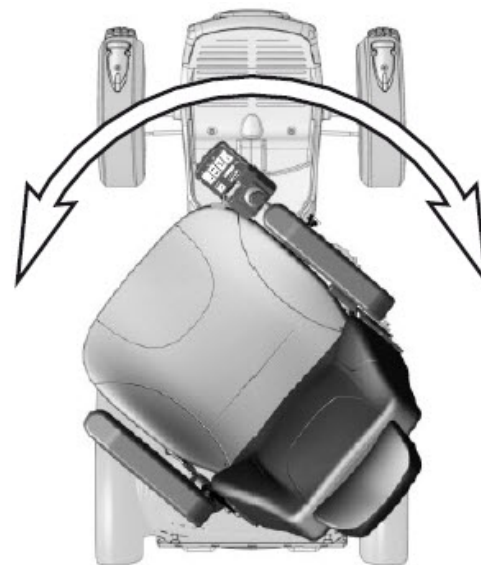


Figure 44. Seat rotation

4.1.4 Headrest

i Accessory

This headrest has expanded adjustment options to give the user optimal comfort. The headrest can also be removed and remounted while preserving the same setting.



Figure 45. Headrest overview

4.1.4.1 Removing headrest

1. Undo the handle (C) on the rear of the backrest.
2. Remove the headrest by lifting it straight up.

4.1.4.2 Mounting headrest

Mount in the reverse order

4.1.4.3 Adjusting headrest height and depth

1. Undo the handle (A) on the rear of the backrest.
2. Adjust the height/depth of the headrest as required.
3. Tighten the handle (A).

4.1.4.4 Adjusting headrest angle

1. Undo the handle (B) on the rear of the headrest.
2. Adjust the angle of the headrest as required.
3. Tighten the handle (B).

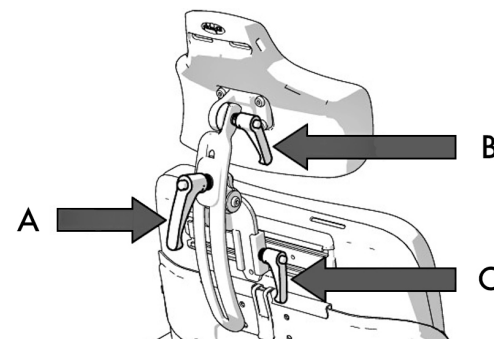


Figure 46. Adjusting headrest



NOTICE

Risk of damaging mechanism

Do not put weight on the headrest while adjusting it.

4.1.5 Backrest

4.1.5.1 Lumbar support

The lumbar support consists of three back cushions with Velcro fastening which can be separated, depending on how much lumbar support is required.

1. Remove the backrest cushion.
2. Adjust the lumbar support as required.
3. Re-fit the backrest cushion.

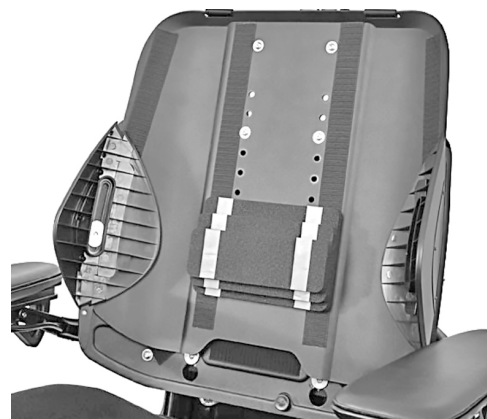


Figure 47. Lumbar support

4.1.5.2 Trunk support

The height of the trunk support is adjustable.

1. Remove the backrest cushion.
2. Undo the screw on the rear of the backrest holding the trunk support in place.
3. Adjust the trunk support as required.
4. Tighten the screw.
5. Re-fit the backrest cushion.

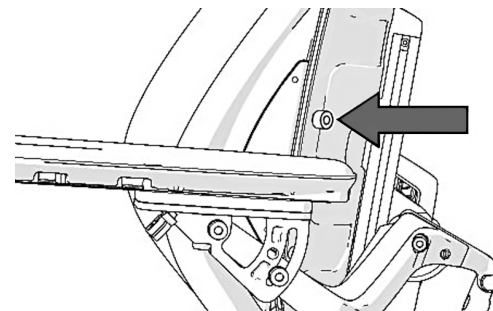


Figure 48. Trunk support screw.

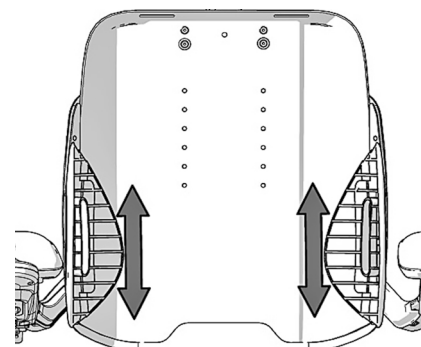


Figure 49. Adjusting trunk support height.

4.1.6 Armrest

4.1.6.1 Armrest position

The armrest can be angled inwards/outwards in order to provide the user with optimal comfort. The angle can be changed by pushing the front section of the armrest in or out.

The functions' end positions can be set in three fixed positions. The position is selected by moving a screw on the underside of the armrest.



WARNING!

Driving with armrest pointing outwards

Do not pass through narrow passageways with the armrest pointing outwards. This may lead to personal injury and property damage, including damage to the wheelchair.

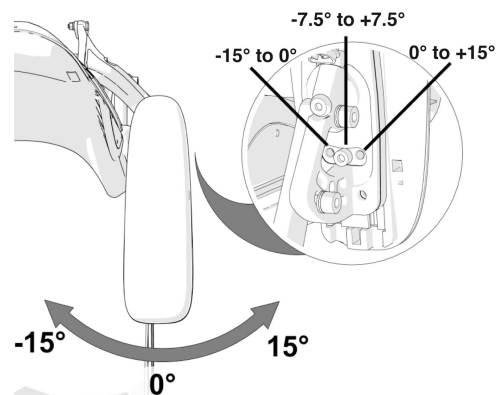


Figure 50. The armrest can be angled inwards/outwards

4.1.6.2 Armrest height

The height of the armrest can be adjusted for optimal comfort.

The scale on the back of the backrest shows the current height setting for the armrests.

1. Undo the four screws on the rear of the backrest that secure the height of the armrest.
2. Adjust to the required position using the adjustment screw on the rear of the backrest. The scale on the centre of the backrest shows the current height setting of the armrest.
3. Secure the height of the armrest by tightening the four screws on the rear of the backrest.

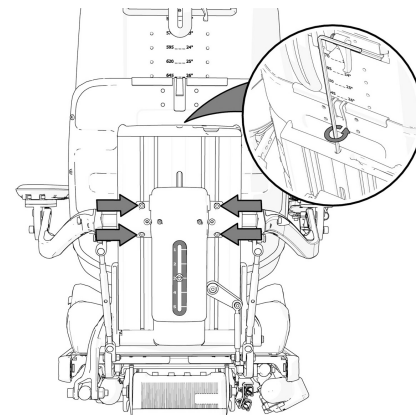


Figure 51 . Adjusting the armrest height

4.1.6.3 Armrest angle

The armrest angle can easily be adjusted for optimal comfort.

1. Adjust the armrest angle by turning the adjustment bars.



WARNING!

Risk of injury while adjusting armrests

Do not subject the armrests to load while adjusting.

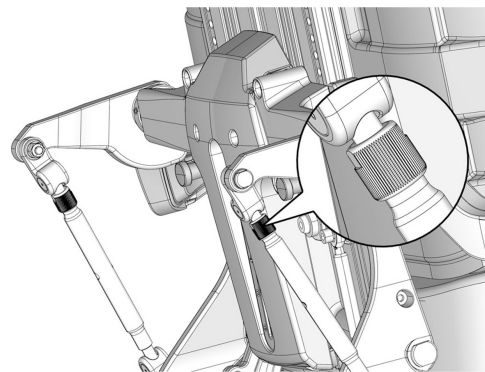


Figure 52. Adjusting the armrest angle

4.1.6.4 Armrest height/angle

The armrest height/angle is normally adjusted as described on page 85–page 86. However, for special needs, the armrests can be adjusted individually for users who want a left and right armrest at different heights and/or angles. This adjustment can only be made for special needs. It may have negative effects on the movement of the armrest when raising/lowering the backrest.

1. Adjust the armrest height by turning the adjustment bars (C).
2. The angle of the armrest is secured using a screw (B). Move the screw from a fixed position (A) to a flexible position (B).
3. Adjust the armrest to the required angle and secure by tightening the screw (B).

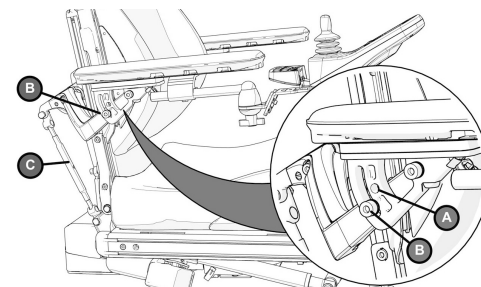


Figure 53. Individual adjustment of the armrest height/angle



NOTICE

Armrest flexible position

This type of adjustment should only be made for special needs. It may have negative effects on the movement of the armrest when raising or lowering the backrest

**WARNING!****Risk of injury while adjusting armrests**

Do not subject the armrests to load while adjusting.

4.1.7 Leg support

**WARNING!****Risk of injury while working on the leg support**

Do not place any weight on the leg support while working on it.

4.1.7.1 Leg support top cover

The leg support cover must be removed in order to adjust the leg supports.

1. Remove the leg support cover by undoing the two screws.
2. Pull the cover directly forward.
3. Adjust the leg supports as preferred.
4. Push the leg support cover into place.
5. Secure the cover with the two screws.

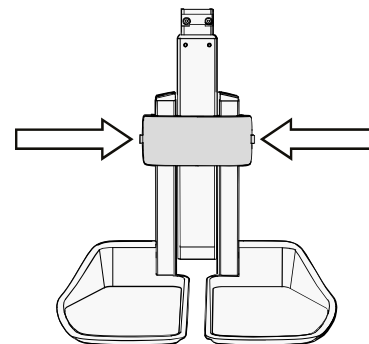


Figure 54. Adjustment screws for leg support cover.

4.1.7.2 Leg support length

The leg support length is adjustable continuously and secured using two locking screws.

1. Remove the leg support cover.
2. Undo the leg support's two inner locking screws.
3. Adjust the leg support to the required length and secure by tightening the locking screws.
4. Check that the leg support is fully secured.
5. Re-fit the leg support cover.



WARNING!

Risk of injury – adjust floor-to-footplate clearance

After adjustment, and with the seat lift in its lowest position, make sure there is sufficient clearance, at least 25 mm, between the ground and the footplate at all times when moving the leg support in or out. Perform this test with the user sitting in the wheelchair with his or her feet on the footplates.

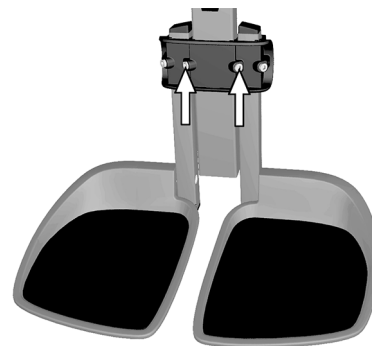


Figure 55. Adjustment screws for leg support cover.

4.1.8 Footplates



WARNING!

Risk of injury while adjusting footplates

Do not place any weight or load on the footplates while adjusting the footplates.

4.1.8.1 Footplate height

The height of the footplates is individually and steplessly adjustable. They are secured using the two outer locking screws.

1. Remove the leg support cover.
2. Undo the footplates' locking screws.
3. Adjust the footplates to the required height and secure by tightening the locking screws.
4. Check that the footplates are fully secured.
5. Replace the leg support cover.

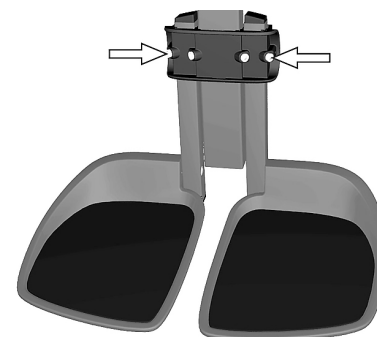


Figure 56. Adjusting footplate height.

**WARNING!****Risk of injury – adjust floor-to-footplate clearance**

After adjustment, and with the seat lift in its lowest position, make sure there is sufficient clearance, at least 25 mm, between the ground and the footplate at all times when moving the leg support in or out. Perform this test with the user sitting in the wheelchair with his or her feet on the footplates.

4.1.8.2 Footplate angle

The angle of the footplates is adjusted using detent screws under each footplate.

1. Tilt up the footplate.
2. Undo the lock nut.
3. Set to the required angle by adjusting the detent screw in or out.
4. Lock the stop screw in the required position using the lock nut.

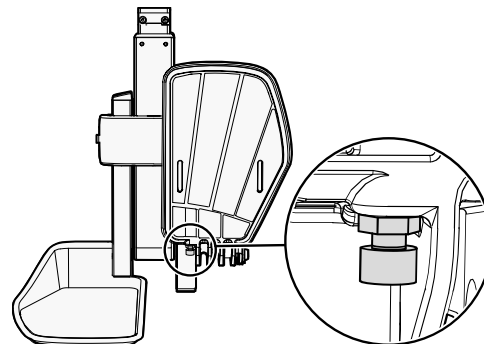


Figure 57. Footplate angle detent screw.

4.1.9 Panel holder

i The control panel holder can be mounted on the left or right armrest.

4.1.9.1 Rotational panel holder

The location of the control panel is adjustable lengthwise for the optimal driving position. It is also possible to adjust the angle of the panel sideways to facilitate getting in and out of the wheelchair.

Length adjustment

1. Undo the screw (A) on the panel joint and adjust the panel to the required position.
2. Tighten the screw.

Angle adjustment with friction hinge

Using the knob (B) on the friction hinge, it is possible to adjust how easily the panel can be pushed out to the side.

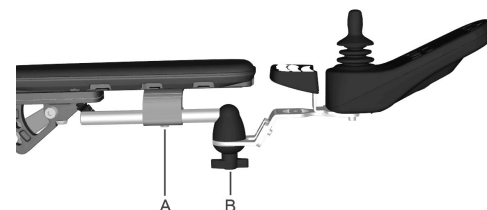


Figure 58. Rotational panel holder overview

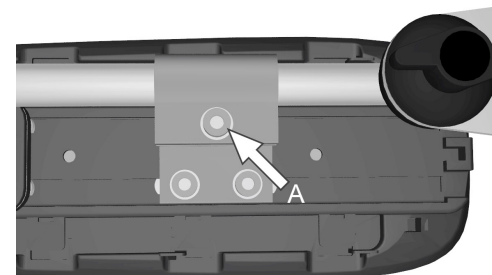


Figure 59. Screw for adjusting the panel holder length

Control panel sliding angle adjustment

1. Remove one of the screws. Choose the side that is desired to be sliding.

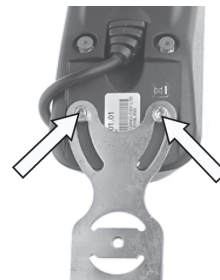


Figure 60. Only remove one of the screws.

2. Angle the panel.
3. Refit the screw. Tighten the screw to the preferred friction.

4.1.9.2 Parallel panel holder

- Allen key, 4 mm.
- Allen key, 5 mm.



Figure 61 . The slide tracks.

Length adjustment

1. Undo the screw(s) on the underside enough to slide the panel holder.
2. Adjust the panel to the preferred position. Leave at least a gap of 10 mm between the armrest and the panel.
3. Tighten the screw. Tightening torque 9,8 Nm.

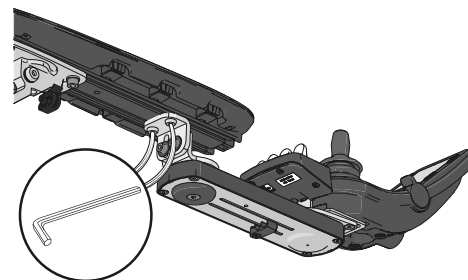


Figure 62. The position of the screws on the parallel panel holder.

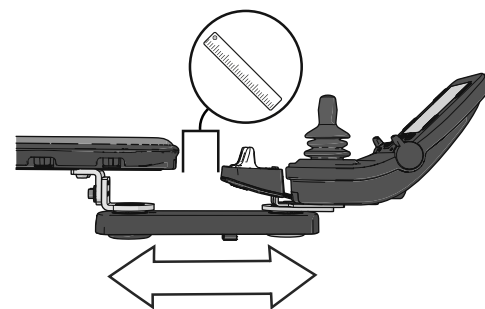


Figure 63. Adjusting the position on the parallel panel holder.

Adjusting the friction hinge

1. Undo the screw to make the friction joint more loose.

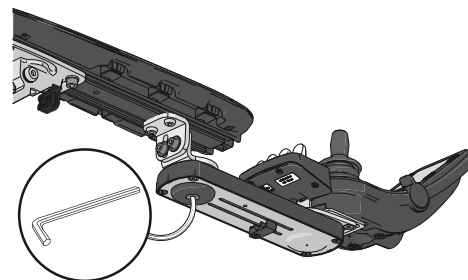


Figure 64. The screw's position on the parallel panel holder.

2. Slide the panel to the preferred position.
3. Tighten the screw to keep it in position.

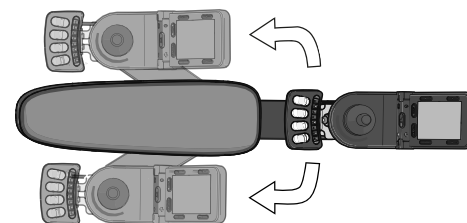


Figure 65. Slide the panel and the panel holder to preferred side of the armrest.

4.1.10 Positioning belt

Accessory

There is an accessory rail on each side of the seat frame intended for attaching a positioning belt, etc. The positioning belt should be fitted in the rail's upper groove.

1. Screw the belt in place, with the quick lock on whichever side suits the user best and the other part with the buckle on the opposite side.
2. Check that the belt buckle locks properly in the snap lock.



Figure 66. Attaching the positioning belt



Figure 67. Belt buckle locked properly in the snap lock.

**WARNING!****Use installed positioning aids**

The user must use and securely fasten the positioning belt and any other positioning aids on the wheelchair. Failure to properly use positioning belts and other positioning aids may cause bodily injury. If there is any sign of damage or wear on any positioning belt or aids, immediately contact Permobil for a replacement.

**WARNING!****Positioning belts and aids are not vehicle seatbelts**

The wheelchair positioning belt and aids are designed to properly position the user in the wheelchair for safely operating the wheelchair. The wheelchair positioning belts and aids do not provide protection in a traffic accident and do not replace a vehicle mounted seatbelt.

4.2 Handling and driving

The wheelchair is designed for use both indoors and outdoors. When driving indoors, take care in e.g. narrow passages, when passing through doors and entrances and when using lifts, ramps, etc.

Also bear in mind the crush hazard when using the powered seat lift and seat angle functions, especially if the wheelchair has been driven under a table, bench, etc. When driving outdoors, remember to drive very slowly down steep slopes and to take great care when driving on uneven surfaces, up slopes, on side slopes and over obstacles. Always observe a good safety distance when driving near edges and drops.

We recommend users make repeated test drives in environments where they feel safe to familiarise themselves with how the wheelchair and its accessories behave in different situations before starting to use the wheelchair on public roads and in other public spaces.

4.2.1 General - driving

Check that the control panel is correctly fitted and the joystick is in the neutral position. Make sure you have good support, for example, the wheelchair's armrest, for the part you use to handle the joystick.

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

1. Switch on the power.
2. Select a suitable driving profile with the Profile button (if the system is programmed for more than one driving profile).
3. Move the joystick carefully forward to drive forward or backward to reverse.
4. Adjust the speed setting with the higher and lower speed buttons. The wheelchair's electronics allow very slow driving over obstacles. Drive up to the obstacle, then carefully drive over it.



WARNING!

Risk of injury - place your feet correctly

Always make sure your feet are correctly and securely positioned on the footplates before you operate the wheelchair. Use foot straps if necessary. Failure to do so increases the risk of personal injury.

4.2.2 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.

4.2.2.1 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 forward to release the brakes. The chair can now be moved manually.

4.2.2.2 Resetting released brakes



WARNING!

Wheel locks

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

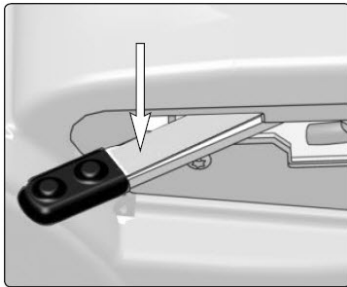
Always ensure that the wheelchair is switched off when the brakes are released/activated.

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

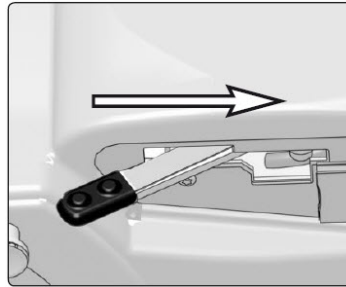
Anyone who pushes a wheelchair with the brakes released must ensure that this can be done safely without risks.

Always reset the brake release after moving the wheelchair manually.

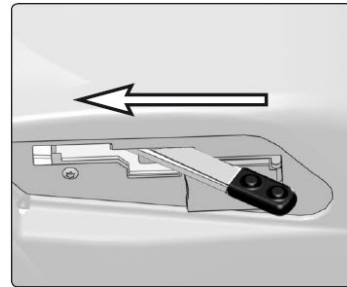
When the brakes are released, it should not be possible to drive the wheelchair. If the wheelchair can still be driven, contact your service contact or Permobil immediately.



Press catch down



Brakes activated



Brakes released

1. Move the lever backwards to its rearmost position.

i Always check that the release lever goes all the way to its rearmost position.

4.2.3 Driving technique

The control panel electronics interpret joystick movements and move the wheelchair accordingly. No complex user techniques are required for normal driving, which is an advantage if the user is inexperienced. A good way to get started is simply to move the joystick in the direction you want to go. The wheelchair will then move 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.



CAUTION!

First test drive

Do not take the first test drive alone. 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.

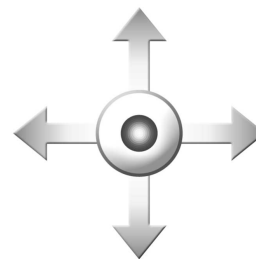


Figure 68. Joystick manoeuvring.

**CAUTION!****Driving - surface conditions**

Never drive at full speed in narrow or confined spaces or on sloping or inclined surfaces. Use extra caution when driving the wheelchair on surfaces that have ridges that could cause the chair to steer in a different direction.

**WARNING!****Release the joystick at the first sign of unexpected behaviour!**

Do not 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 makes the wheelchair stop whatever it is doing.

4.2.4 Driving restrictions



WARNING!

Risk of tipping over

Do not allow the leg support to hit the ground when climbing obstacles, driving on uneven surfaces or slopes or when a slope levels out. Make sure there is sufficient ground clearance to avoid the risk of tipping over.

The wheelchair consumes a lot of power when you drive up a hill, climb over obstacles, or drive on rough terrain (for example, sand). Permobil recommends that you, as far as possible, avoid driving for a long period of time in these types of conditions.

4.2.4.1 Driving restrictions related to different surfaces

Do not drive at high speed, avoid sudden stops and starts; avoid sudden evasive manoeuvres or sharp turns and use extreme caution in any of the following situations:

- when near edges and drops or on elevated surfaces,
- when on soft or uneven surfaces such as grass, gravel, sand, ice, snow,
- when driving from an area of high traction (e.g. pavement) to an area of low traction (e.g. grass),
- when turning the wheelchair,
- when in narrow or confined spaces, and
- when driving on surfaces that have ridges that could cause the wheelchair to move in a different direction.

These restrictions also apply to subsequent sections.

4.2.4.2 Driving over obstacles

You may drive over obstacles up to 110 mm, as long as 4 of the 6 wheels stay in contact with the obstacle's surface as the transition from front to rear takes place. If a car lock is installed on the wheelchair, it affects the ground clearance.

Use extreme caution when negotiating obstacles of this type. Always approach the obstacle at a right angle. If you drive over higher obstacles, there is a greater risk of tipping and of damage to the wheelchair.



Figure 69. Driving over obstacles.



WARNING!

Driving - high obstacles

Do not drive the wheelchair over obstacles higher than 110 mm. Always exercise great caution when driving over obstacles.

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

4.2.4.3 Driving on side slopes

Always exercise great caution when driving over side slopes.

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



Figure 70. Driving on side slopes.



WARNING!

Risk of tipping on uneven surfaces

Take great care when driving on side slopes with an uneven surface (e.g. grass, gravel, sand and snow).



WARNING!

Risk of tipping on steep slopes

Do not drive the wheelchair on side slopes steeper than 1:5. There is a risk of tipping over.

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

4.2.4.4 Driving downhill

Always drive downhill at low speed and with great caution.

Note that the distance required to stop will increase when driving downhill.

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

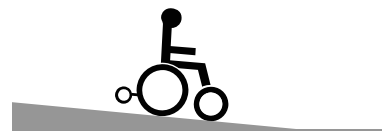


Figure 71 . Driving downhill.



WARNING!

Risk of tipping on uneven surfaces

Take great care when driving on side slopes with an uneven surface (e.g. grass, gravel, sand and snow).



WARNING!

Risk of tipping when driving downhill

Do not drive downhill on gradients greater than 18°.

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



WARNING!

Increased stopping distances

The distance required to stop the wheelchair will increase when driving downhill.

4.2.4.5 Driving uphill

Always drive uphill with great care.

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



WARNING!

Risk of tipping on uneven surfaces

Take great care when driving on side slopes with an uneven surface (e.g. grass, gravel, sand and snow).



WARNING!

Risk of tipping when driving uphill

Do not drive uphill on gradients greater than 15°.

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



Figure 72. Driving uphill.

4.3 Batteries

4.3.1 Charging batteries



NOTICE

Battery charger - see supplied manual

For a description and battery charger instructions, refer to the manual supplied.



WARNING!

Risk of fire or explosion - charging conditions

Use only the charger supplied with your wheelchair or a charger recommended by Permobil. The use of 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.

Only use chargers with a max 10 A charging current (average value). The effective value of the charging current must not exceed 12 A. The batteries must be charged in a well-ventilated room, not in a closet. The batteries must not be charged in a bathroom or wet room.

**WARNING!****Risk of fire or explosion - do not short-circuit**

Exercise caution when using metallic objects during work with batteries. A short-circuit can easily cause an explosion. Always use safety gloves and goggles.

**WARNING!****Risk for overheating, sparks or short-circuit**

To interrupt the charging process, turn off the power supply at the switch on the charger before removing the charging plug from the wheelchair's charging socket. This is to avoid sparking and unnecessarily high wear on the charging plug.

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

**NOTICE****Procedures when charging the batteries**

The charging cable must not be extended.

Carefully read the instructions supplied with the charger before starting to charge the wheelchair.

The main circuit breaker must be set to On to charge the batteries.

Make sure the charging plug is fully inserted in the wheelchair's charging socket.

The wheelchair cannot be driven when the charger is connected. If it is possible to drive the wheelchair during charging, contact Permobil or your dealer.

4.3.1.1 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 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, batteries should not be completely discharged. 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.

4.3.1.2 Charging

Ensure that the wheelchair is switched off, using the On/Off key on the control panel. Then connect the charging plug to the wheelchair's charging socket.

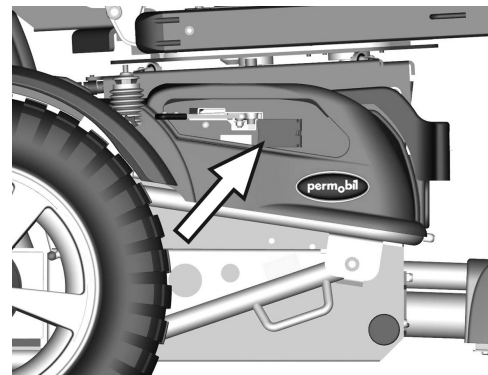


Figure 73. Charging socket

4.4 Transporting the wheelchair

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. Always make sure that the front strap (1) is positioned on top of the wheelchair's front axle (2).

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.



Figure 74. Transport instructions

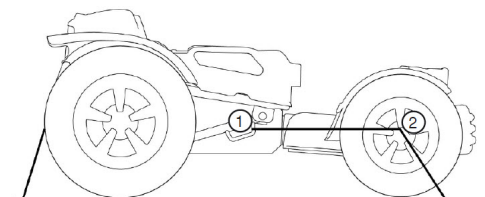


Figure 75. Loading strap positions

**WARNING!**

The wheelchair must only be transported in vehicles approved for this purpose. Always ask for confirmation of the transporter that the vehicle is suitable designed, insured and equipped to transport a person in a wheelchair. A wheelchair is not designed as a car seat and cannot offer the same degree of safety that is offered by standard car seats, no matter how securely it has been fastened in the vehicle concerned.

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, or by using a Permlock locking system.

If the wheelchair needs to be transported with the user seated in it, be sure to use an approved attachment system suitable for the total weight of the wheelchair to secure the wheelchair.

- The wheelchair can be fastened by securing it to the tie-down points on the wheelchair's chassis or in the Permlock locking system. The wheelchair must not be secured onto any accessory.
- Permobil recommends that the wheelchair be equipped with a headrest and that this is used during transportation.
- During transportation, it is essential that the user is secured with a three-point safety belt that is attached to the floor and one side of the vehicle.
- A lap strap attached to the wheelchair only serves to keep the person in an upright position and cannot be considered on par with a car safety belt.

**DANGER!****Risk of injury – correct seatbelt positioning**

The correct position for the vehicle's three-point seatbelt is on the inside of the wheelchair armrest. The three-point seatbelt should fit snugly to the user's body without anything in the way. Failure to correctly position the three-point seatbelt may cause injury and/or death, if the vehicle is in an accident.

**WARNING!****Requirements for vehicles used for transportation**

The wheelchair may only be transported in vehicles approved for this purpose. Make sure the vehicle is suitably designed and equipped to transport a person in a wheelchair and that the tie-down points on the transporting vehicle are well-anchored.

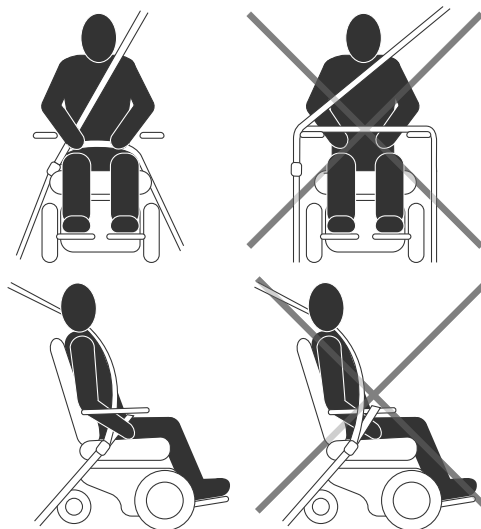


Figure 76. The illustrations on the left show correct positioning of the seatbelt positioning.

**CAUTION!****Damage during transportation**

You must inform Permobil as soon as possible after the event if the wheelchair and its accessories have suffered transportation damage, damage during driving or damage from other causes. There is a risk that the wheelchair and its accessories can no longer be used safely and securely. Contact your service provider or Permobil for further information.

**WARNING!****Positioning belts and aids are not vehicle seatbelts**

The wheelchair positioning belt and aids are designed to properly position the user in the wheelchair for safely operating the wheelchair. The wheelchair positioning belts and aids do not provide protection in a traffic accident and do not replace a vehicle mounted seatbelt.

**WARNING!****Use installed positioning aids**

The user must use and securely fasten the positioning belt and any other positioning aids on the wheelchair. Failure to properly use positioning belts and other positioning aids may cause bodily injury. If there is any sign of damage or wear on any positioning belt or aids, immediately contact Permobil for a replacement.

**WARNING!****Secure loose objects during transportation**

Auxiliary wheelchair equipment, loose or mounted on the wheelchair, must either be secured to the wheelchair or removed from it. Dismantled or movable auxiliary equipment must be properly secured in the vehicle during transit. This is to prevent loose parts or parts that may come loose from causing injury to the occupants during transit.

**WARNING!****Securing the wheelchair in vehicles**

The wheelchair may only be secured in position using approved fastening straps or a locking system. The locking system must be approved for the Permobil product concerned.

Secure the wheelchair by attaching approved fastening straps to the eyes at the front and rear, marked with yellow stickers. Do not attach the fastening straps to any other part of the wheelchair. Secure the fastening straps to the vehicle according to instructions for the restraint system in the vehicle.

Always make sure that the tie-down points in the transporting vehicle are well-anchored.

Check that the brake release on the wheelchair is set to locked position.

4.4.1 Removing the backrest

To make transportation of the wheelchair easier, the upper part of backrest can be removed in a few simple steps. The weight of the upper part is 1.5 kg.

1. Remove the backrest cushion. It is fixed in place by means of Velcro on the rear of the cushion.
2. Remove the upper section of the backrest by carefully undoing the clip on the rear of the backrest and pulling the upper section straight up at the same time.

If necessary, the headrest can also be removed.

4.4.2 Rail transportation

Directive 2008/57/EC concerns the interoperability of the European rail network. A part of this directive contains limits for weights and dimensions. In some configurations this product might deviate from the limits specified.

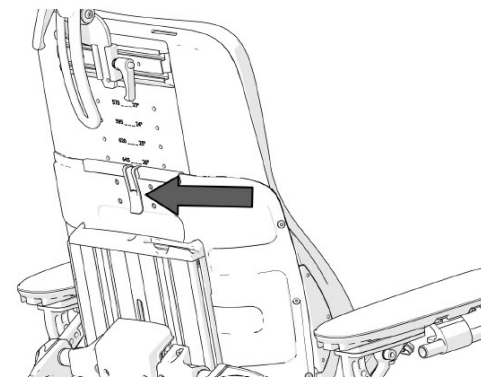


Figure 77. The upper section of the backrest is secured with a locking mechanism

4.4.3 Air transportation



NOTICE

Preparations for air transportation

Airlines have different rules regarding wheelchair transportation. Please contact your specific airline for more information and to make sure the wheelchair can be transported safely.

4.4.3.1 Batteries

Gel batteries: in most cases, gel batteries do not have to be removed from the wheelchair.

The main circuit breaker 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.

4.4.3.2 The wheelchair's dimensions and weight

The wheelchair's weight and dimensions are important, depending on the size and type of aeroplane in which the wheelchair is to be transported. Always check with the airline what rules apply.

4.4.3.3 Preventing damage to wheelchair

Since the wheelchair will be put with other goods in a confined space during the flight, it is important to take preventive measures to minimise transportation damage to the wheelchair.

Cover the control panel with soft, shock-absorbing material (foam plastic or similar) and turn the control panel in towards the backrest. Protect other protruding objects in a similar manner. Where possible, adjust parts to the folded position. Tape any loose cables to the seat or hoods.

5 Maintenance and repairs

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For the wheelchair to work well, it is important that it is used correctly and regularly maintained. A well maintained wheelchair lasts longer and has a lower risk of defects.

**CAUTION!****Maintenance by a qualified service technician**

Only qualified service technicians should perform the maintenance and repair specified in this manual. Read all instructions carefully before proceeding. If any questions arise, contact Permobil for assistance.

**NOTICE****When replacing batteries or circuit breakers,
switch off the main circuit breaker**

The main circuit breaker 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 circuit breaker.



NOTICE

Additional tools may be required

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

5.1 Frequency of maintenance and inspection

Permobil recommends compliance with the following maintenance and inspection schedule. Contact your authorised dealer for all service-related needs or questions.

Maintenance and inspection schedule	Daily	Weekly	Monthly	Yearly
Check battery level indicator and charge if necessary.	✗			
Check that the joystick panel and other control panels are not damaged.	✗			
Make sure all removable parts are securely fastened.	✗			
Check positioning belts for wear and make sure buckles work.	✗			
Check tyres and inflate as necessary.		✗		
If the wheelchair is equipped with lights and indicators, make sure they are operational and clean.		✗		
Clean the wheelchair and upholstery.			✗	
Check upholstery, seating, headrest, arm pads and calf pads for wear.			✗	

Maintenance and inspection schedule	Daily	Weekly	Monthly	Yearly
Check that the brake release and the brake release lever work properly.			X	
Complete inspection, safety check and service performed by an authorised wheelchair dealer.				X

5.2 Tool bag

The wheelchair comes with a tool bag 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

**NOTICE**

Additional tools may be required

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

5.3 Cleaning

Regular care and maintenance will prevent unnecessary wear and damage to your Permobil product.

-  Use only the following cleaning methods.
-  In the case of severe soiling of the upholstery or damage to the surface finish, contact Permobil for information.

**CAUTION!**

Switch off the wheelchair before cleaning

Always switch off the power supply to the wheelchair before cleaning.

5.3.1 Metal surfaces

Due to the high quality powder coating, optimum corrosion protection is guaranteed. Ideally, use a soft cloth or sponge, hot water and a mild detergent for normal cleaning. Wipe down carefully with a cloth and water, and dry off.

Remove scuff marks from semi-matte 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.

5.3.2 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.

5.3.3 Upholstery, cloth and 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 or soapy water residues with a clean, dry cloth. Repeat this procedure to remove stubborn dirt or stains. Ink spots can sometimes be removed by washing with soap and water followed by isopropyl alcohol.

Do not use any cleaning method that is not listed above; other methods may attack and degrade the vinyl and may void the wheelchair's guarantee.

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

5.4 Battery replacement

1. Place the wheelchair on a level surface and raise the seat lift for better access. If the battery is completely dead, it is possible to manually raise the seat lift using the screw at the front edge under the seat. Do not use an electric drill. 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 fig. 80. 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.

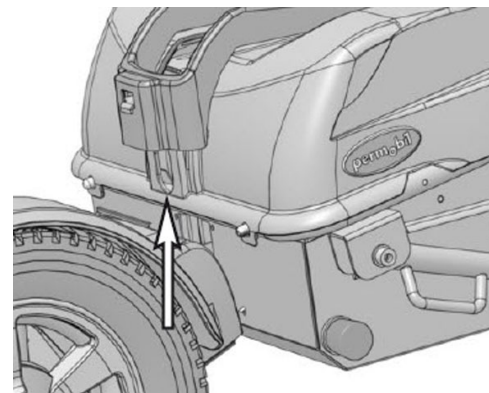


Figure 78. Manually raising the seat lift

2. Switch off the power supply using the ON/OFF key on the control panel and set the automatic main fuse to the OFF setting.

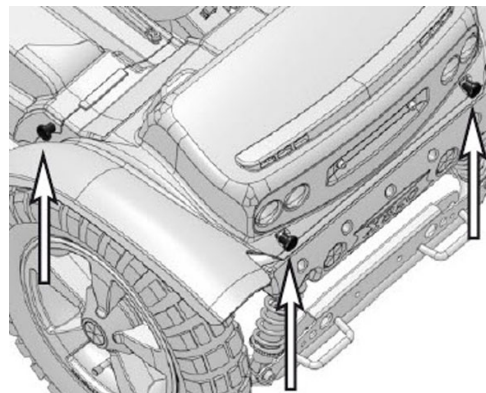


Figure 79. Covers are fixed with two knobs at the rear and one knob each on the left and right sides

3. Remove the rear cover. This is fixed with two knobs at the rear. Lift the cover up and backwards.
4. Remove the batteries' fixing bars. They are fixed with two knobs each. Turn the fixing bars backwards without detaching the cables.

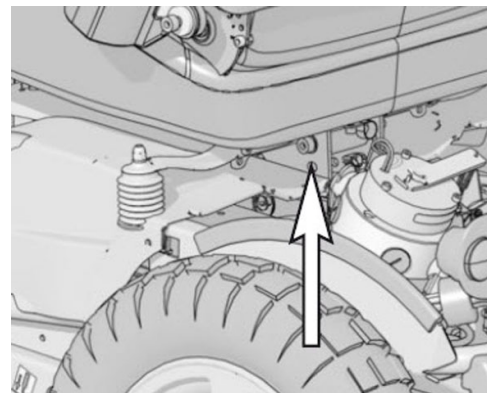


Figure 80. The seat's rear bracket on the chassis without an power seat lift

5. Detach the battery connections. Lift the batteries out of the chassis.
6. Fit the two new batteries. Place the batteries with the poles facing the outer sides of the chassis. Reattach the battery connections.
(See also the sticker on the inside of the front chassis cover.)
7. Fit the batteries' fixing bars. They are fixed with two knobs each.
8. Refit the chassis covers. On a wheelchair without an power seat lift, refit the seat. Switch the automatic main fuse to ON.

**WARNING!**

Use safety gloves and safety goggles

Always use safety gloves and safety goggles when working with batteries. Exercise caution when using metallic tools or other objects while working with batteries. Batteries are heavy and charged devices and must be handled with great caution. Failure to follow any of these warnings could cause a short circuit, explosion, property damage and/or bodily harm.

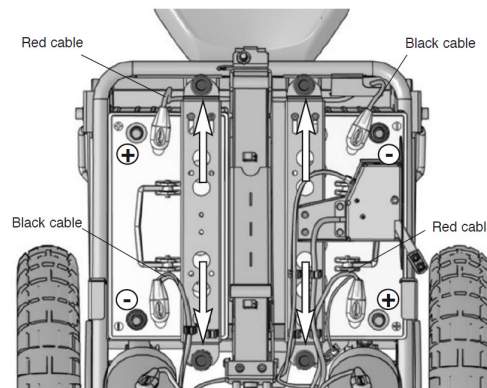


Figure 81 . Fixing bars and connections for the batteries

**CAUTION!****Recycling batteries**

Used batteries must be disposed of responsibly in accordance with local recycling regulations.

5.5 Batteries storage

- The wheelchair must not be stored in areas subject to condensation (steam or moisture on surfaces), e.g. utility rooms or similar.
- If the wheelchair is equipped with acid batteries, the acid level must be regularly checked. If the wheelchair is equipped with gel or AGM batteries, the liquid level does not need to be checked.
- Battery service life depends on regular charging and avoiding complete discharge of the batteries.

5.5.1 Short-term storage

For short-term battery storage, the room must be at least 5°C. If the temperature is lower than this, the batteries may not charge fully and may be more vulnerable to corrosion.

5.5.2 Long-term storage

For long-term battery storage, the room may be unheated but to guard against battery corrosion, make sure the room is a few degrees warmer than its surroundings as this will keep the room drier.

Switch off the main circuit breaker to avoid complete discharge of the batteries.

The batteries must be fully charged before storage. Batteries in storage require charging every 6 months.

5.6 Wheels and tyres

Check at regular intervals that the wheelchair's tires have the correct air pressure. Incorrect pressure may result in less stability and manoeuvrability. Low air pressure in the tire also results in abnormal wear and shorter range. Regularly check that the air pressure in the tire is 200–250 kPa (2–2.5 bar).

5.6.1 Filling tyres with air

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



WARNING!

The recommended tire pressure for both front and rear tires is 200–250 kPa (2–2.5 bar). Overfilling tires can cause an explosion.

Incorrect pressure may result in less stability and manoeuvrability. Regularly check that the air pressure is correct.



Figure 82. Filling valve

5.6.2 Inner tube replacement

1. Chock up the wheelchair so that the wheel turns freely and carefully release the air.
2. Remove the tire from the wheel rim.
3. Replace the inner tube.
4. Put the tire back on the wheel rim and fill to the correct air pressure.

5.7 Resetting the main fuse/battery isolator

The main fuse also functions as a battery isolator but it is called the main fuse in the owner's 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.



NOTICE

Investigate tripped main circuit breaker

A tripped main circuit breaker often indicates a major electrical fault. The cause of a tripped main circuit breaker must be carefully investigated and determined before resetting the circuit breaker.



NOTICE

Before using the main circuit breaker

Always switch off the power to the control panel before switching off the main power with the main circuit breaker.

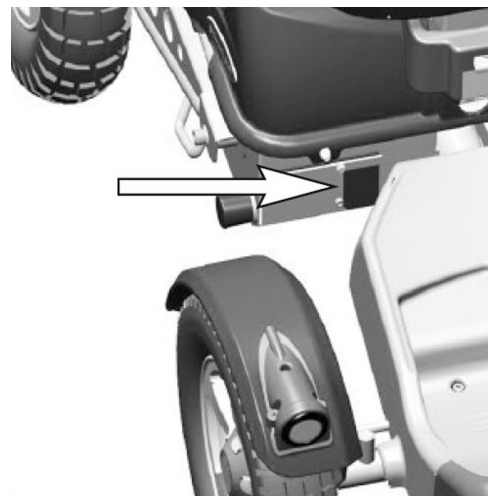


Figure 83. Main fuse.

5.8 Replacing fuses for charging, actuator, lights/indicators

Fuses for the actuator (15 A) and the 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 the fuses are accessible from the rear of the wheelchair.



NOTICE

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 is replaced.

See the service manual for further information.

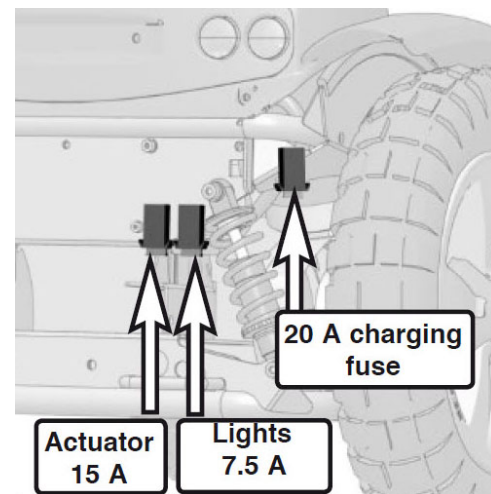


Figure 84. Fuses

**WARNING!**

Always switch off the power supply to the control panel before changing the charging fuse. The battery charger should be disconnected when the charging fuse is changed.

If the charging fuse is triggered, there may be problems or faults with the 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.

5.9 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.

5.10 Positioning belt

 Accessory

Check the condition of positioning belts regularly in case any damage or wear has occurred. If signs of damage or wear appear, replace the positioning belt immediately through your Permobil dealer.

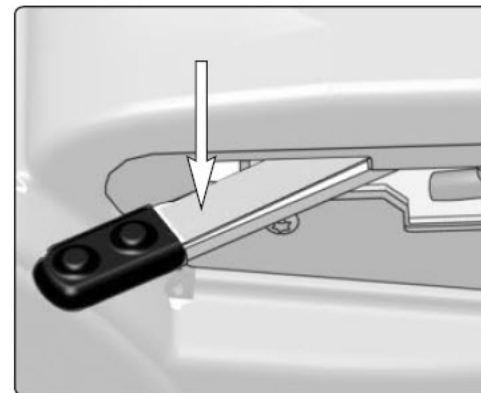


Figure 85. Brake release lever

6 Troubleshooting

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6.1 Troubleshooting guide

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

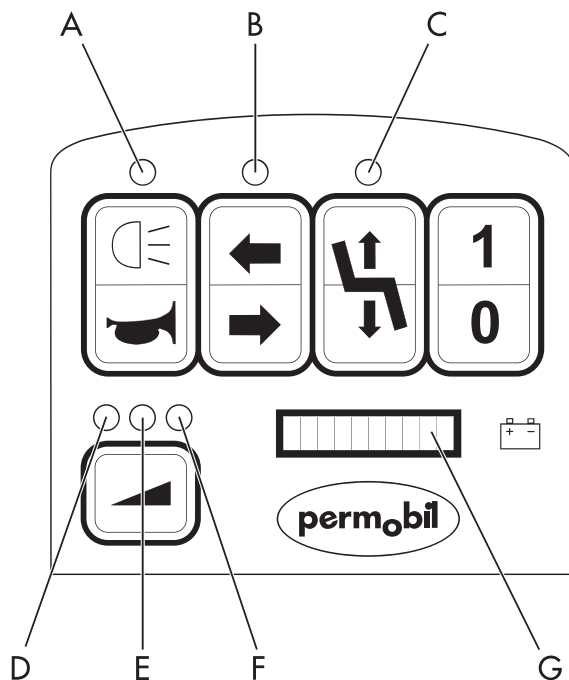
Event	Possible cause	Remedy
The wheelchair does not start.	Batteries discharged.	Charge the batteries.
	The cable connection to the control panel has come loose.	Insert the cable in the control panel.
	Main circuit breaker switched to off position after e.g. battery replacement.	Reset the main circuit breaker. See page 142.
	Main circuit breaker tripped.	See page 142.
The wheelchair cannot be driven.	Battery charger connected.	Stop charging. Disconnect the charging cable from the wheelchair charger socket.
	Brake release activated.	Reset the brake release.
	Wheelchair locked.	Unlock the wheelchair.
The wheelchair switches itself off after a certain period of inactivity (1 - 30 min).	The electronics' energy-saving mode has been activated.	Switch the wheelchair on again using the start button on the control panel.

Event	Possible cause	Remedy
The wheelchair stops while being driven.	The cable connection to the control panel has come loose.	Insert the cable in the control panel.
	Main circuit breaker tripped.	See page 142.
The wheelchair can only be driven at reduced speed.	Seat lift or seat tilt raised too high. Applies only to a powered seat lift and seat tilt.	Lower the seat lift or seat tilt.
The wheelchair cannot be charged.	Main circuit breaker switched to off position after e.g. battery replacement.	See page 142.
	The charging circuit breaker has tripped.	Wait five minutes, the circuit breaker will automatically reset.

6.2 Repairing defective units

Apart from specific OEM-approved spare parts, there are no replaceable parts in the R-net control system. Contact Permobil for further information on OEM-approved spare parts. Defective units must be sent for repair to Permobil or an authorised Permobil service centre.

6.3 Alarm categorisation and error codes



- A. LED 1
- B. LED 2
- C. LED 3
- D. LED 4
- E. LED 5
- F. LED 6
- G. Battery indicator

Figure 86. Overview

Alarms can belong either to the “user-remedied error” category or the “engineer-remedied error” category.

Check first whether an alarm belongs to the “user-remedied error” category. These alarms/warnings are indicated without unit affiliation. These “user-remedied errors” are indicated by the battery indicator flashing/”flowing” or in some cases by one/some of the LEDs flashing. If both the battery indicator and some of the LEDs flash, the alarm belongs to the “engineer-remedied error” category.

When an alarm belongs to the “engineer-remedied error” category, i.e. a combination of flashing LEDs and battery indicator, the combination of the LEDs indicates the unit producing the alarm, while the battery indicator indicates which alarm the unit is producing (TP1:1-10) (TP2:1-20). These indications are called error codes.

Each part of the electronics on the wheelchair (for example panel, motor controller) can, in the event of an alarm, transmit error codes which are displayed on the panel’s LEDs (LED 1 – LED 6) and battery indicator. LED 1 to LED 6 show which part of the wheelchair’s electronics has a problem. The battery indicator LEDs 1-10 show which error has occurred.

When the panel receives an error code, its source is displayed. At the same time, a signal is heard. The signal varies depending on how serious the error is.

Errors which can be remedied by users (for example, “Charger connected” or “Low battery voltage”) are presented in a simpler manner, without LED1-LED3. Only the battery indicator, max. speed LEDs (LED4-LED6), and panel horn are used.

Low battery voltage: two red dashes on the battery indicator flash and six short beeps are repeated at intervals of two minutes when the joystick is activated.

Recharge the batteries as soon as possible.

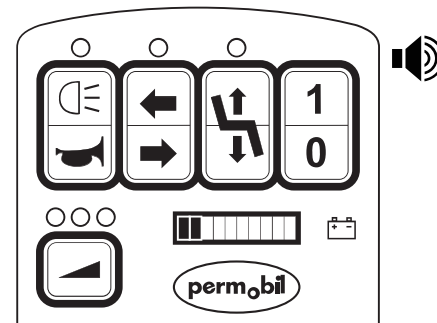


Figure 87. Low battery voltage

Critical battery voltage: one red dash on the battery indicator flashes and a continuous beep is heard when the joystick is activated. The wheelchair cannot be driven.

Turn the wheelchair off/on. The wheelchair can be driven a shorter range before recharging the batteries.

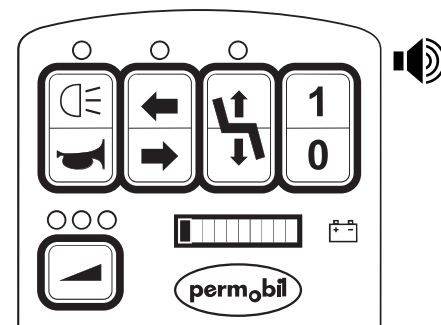


Figure 88. Critical battery voltage

Battery being charged: The battery indicator “flows” up and down. The wheelchair cannot be driven.

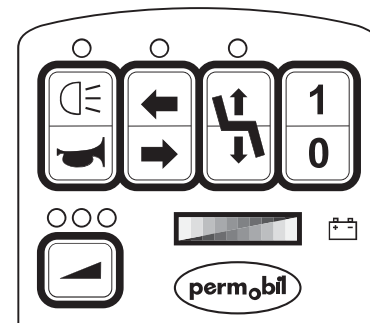


Figure 89. Battery being charged

Parking brake released or joystick deflected at start-up: The entire battery indicator flashes and short beeps are heard when the joystick is activated.

Make sure that the parking brake is released. Turn the wheelchair off/on.

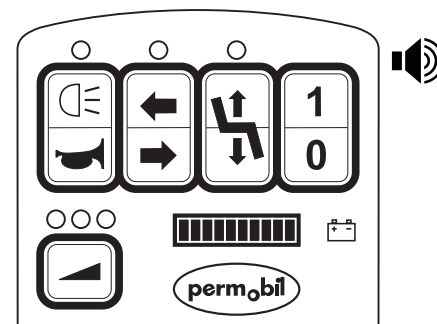


Figure 90. Parking brake released or joystick deflected at start-up.

Seat rotation out and seat lift pinch protection active: the seat up indication flashes. If pinch protection is active, the seat lift cannot be lowered.

If the seat rotation is out, the wheelchair cannot be driven.

Check if something has activated the pinch protection.

Check if the seat rotation is out.

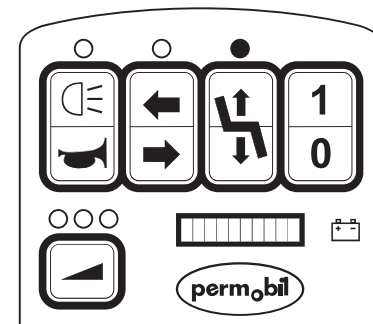


Figure 91 . Seat rotation out and seat lift pinch protection active

Warm motors or hot motors: Current speed indication flashes.

Warm: six short beeps at intervals of two minutes when the joystick is activated.

Hot: Continuous beeps for ten seconds. The wheelchair cannot be driven before cooling off.

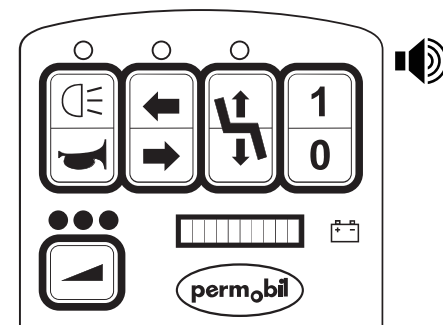


Figure 92. Warm motors or hot motors

Warm electronics: Current speed indication flashes.

Six short beeps at intervals of two minutes.

The wheelchair's driving power is reduced. If you drive on a hill, the reduced driving power can cause the wheelchair to stop or roll slowly downhill. The ability to brake remains the same and the wheelchair stops when you let go of the joystick.

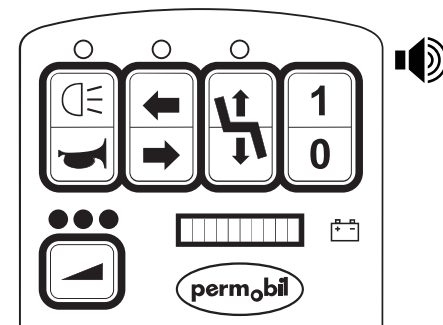


Figure 93. Warm electronics

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