Chairman Basic

Owner´s manual

permobil

CE

US

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Chairman Basic

Owner's Manual

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Contents

Safety instructions

General

An electric wheelchair is a motorized vehicle and special care must, therefore, be taken when it is used.

Incorrect use may both injure the user and damage the chair. In order to reduce these risks, you should read the Owner's Manual carefully, in particular the safety instructions and their warning texts.

Any inappropriate modifications to the wheelchair and its various systems may entail an increased risk of accidents. Carefully follow the recommendations in the Handling section to prevent the risk of accidents in connection with driving.

All modifications to and interventions in the vital systems of the wheelchair must be performed by a qualified service technician. Always contact a qualified service technician in cases of doubt.

Warning

WARNING

Please show great caution where this warning symbol appears. There is a risk of personal injury.

Maximum user weight

The wheelchair is intended for one person and the maximum weight is 240 - 260 lbs, depending on chair configuration.

Passengers

It is absolutely prohibited to carry passengers on the wheelchair.

Driving

Do not drive the wheelchair over curbs and other obstacles higher than 2 1/4 inches.

When driving downhill, use the lowest speed and take great care.

The wheelchair is not designed to be driven down slopes greater than 7 degrees.

Do not drive up slopes greater than 7 degrees. If you drive up steeper slopes, there is a risk that the wheelchair cannot be maneuvered safely.

Do not drive the wheelchair along slopes greater than 10 degrees. There is a risk of tipping.

Releasing the brakes

In order to prevent the wheelchair from rolling away, ensure that the wheelchair is on a level base before releasing the brakes.

Tire pressure

Do not over-inflate the tires. Failure to follow these suggestions may cause the tire to explode and cause bodily harm.

Charging the batteries

The batteries must be charged in a well-ventilated room. **DO NOT** charge the batteries in a bathroom or wet room.

Use only chargers with a maximum 8A charging current (mean value).

When the charger is connected, the chair must not and cannot be driven.

If acid batteries are used, the acid-proof battery case must be used to avoid damage to the wheelchair and adjacent surfaces.

Transport

Ensure that the wheelchair is properly secured.

If the chair is not properly secured and comes loose, it can cause serious injury to persons in the vehicle and serious damage to the vehicle.

Service

Carry out only the service and maintenance which are stated in the Owner's Manual as being suitable to be carried out by the user. All other service and maintenance must be carried out by persons with sufficient technical skill to be able to carry it out in a professional manner.

During all work on the electrical system of the wheelchair, the connection to the negative pole of the battery must always be removed.

Take care when using metal objects in connection with work on the batteries. Short-circuiting can cause an explosion. Always use protective gloves and goggles.

The recommended air pressure is 30 lbs. Overfilling entails the risk of explosion.

The seat is heavy and must be handled with care in order to avoid personal injury.

General introduction

In order that you can obtain the greatest possible benefit from the chair, it is important that it is used in the intended manner. We would, therefore, like you to read the Owner's Manual carefully, in particular the safety instructions. Keep the Manual together with everything else associated with your Permobil wheelchair.

The first thing to do is to charge the batteries. Read the Batteries chapter if you are uncertain about how to do this. Charging takes approximately 8 hours.

Specially adapted wheelchair

If your Permobil wheelchair is marked with the decal "specially adapted product", it has been adapted to your requirements and wishes. This means that its design and functions may differ from the text in the present Owner's Manual or from the design and functions of other Permobil wheelchairs of the same type.

The design and functions of your Permobil wheelchair are stated in the written or oral instructions provided when your wheelchair is delivered.

Specifications

All the information and specifications contained in the present Owner's Manual were valid at the time of delivery of this wheelchair. As development and improvement take place continuously at Permobil, we reserve the right to make changes without prior notification.

Design and function

General

1. Seat
2. Maneuvering panel
3. Electronics unit
4. Chassis
5. Drive wheel
6. Chassis cover
7. Rear wheel

Figure 1. Chairman Basic with MPS B seat

Seat

See the supplied Owner's Manual for the seat.

Seat elevator

Chairman Basic is equipped with a powered seat elevator alternative a fixed seat tube.
The powered seat elevator, controlled from the switch box, makes it possible to steples adjust the height of the seat to a comfortable height to tables and desks.

When the seat elevator is elevated from its lowest position, the maximum speed of the wheelchair is limited to 3.5 km/h.

Wheels

The wheelchair's front wheels, the drive wheels, have pneumatic tires. The rear wheels, the steering wheels, have solid rubber tires.

Reflectors

In the standard version, the wheelchair has no lights, but is equipped with reflectors.

Figure 2. Reflectors

Electrical system

The wheelchair's batteries are located under the chassis cover behind the electric motors. Permobil recommends the use of maintenance-free, gel-type batteries.

If acid batteries are used, it is important to check the level of liquid regularly. A battery with too low a level of liquid may dry out, which means an increased temperature and damage to the battery.

Figure 3. Batteries

WARNING

If acid batteries are used, the acid-proof battery case must be used to avoid damage to the wheelchair and adjacent surfaces.

Figure 4.
Acid batteries are placed in the battery case before being placed in the wheelchair.

Driving

The wheelchair has a drive motor for each drive wheel. The motors regulate the speed, turning and braking. A joystick on the maneuvering panel sends signals to the electronics unit placed in the maneuvering panel.

The electronics unit then controls the motors.

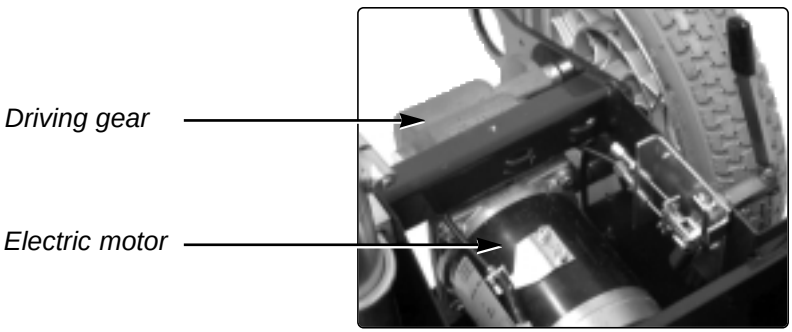


Figure 5. Electric motor with driving gear

Fuses

There are three fuses in the wheelchair: the main fuse, the function fuse and the magnetic brake fuse. The fuses are located by the left drive motor.

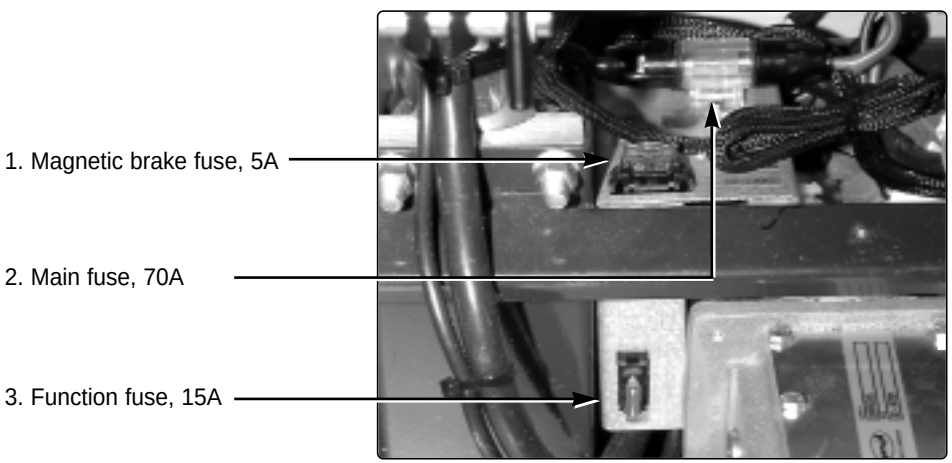
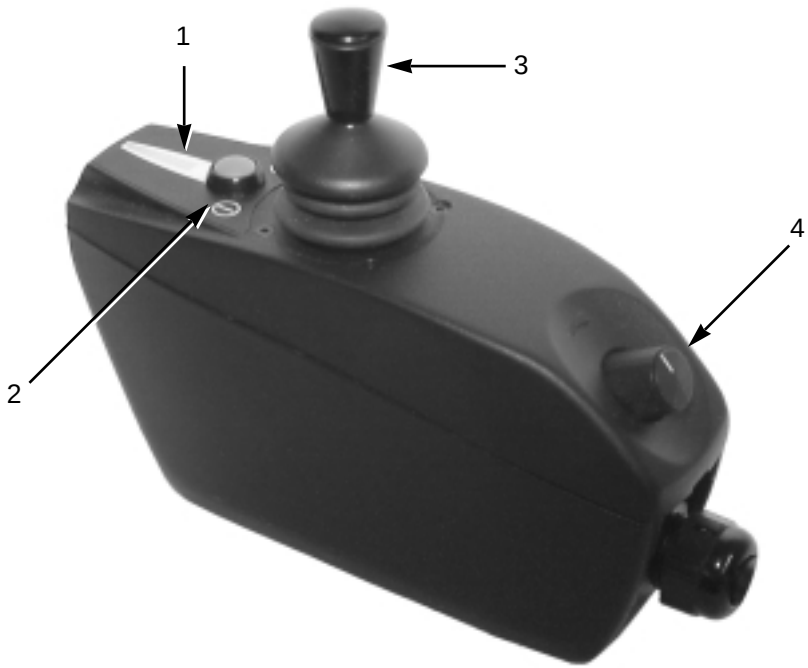


Figure 6 Fuses

Maneuvering panel

The maneuvering panel of the wheelchair is mounted on the right arm rest and its location can be adjusted to achieve the most comfortable position in connection with maneuvering. The maneuvering panel can also easily be moved to the left arm rest of the wheelchair if required. The figure below shows the various functions of the maneuvering panel.



1. Battery voltage indicator
2. On/off power switch
3. Joystick
4. Speed selector (stepless)

Figure 7. Maneuvering panel

Main power switch
The main power switch functions has an on/off button for the power supply to the wheelchair and must be switched on for the wheelchair to work.

Figure 8. Main power switch

Battery voltage indicator
The window display on the maneuvering panel (figure 9) shows the following indications (from the joystick):

Red/yellow/green = Fully charged

Red/yellow = Semi-charged

Red = Charge the batteries

Figure 9. Battery voltage indicator

Speed selector
The maximum speed can be set steplessly by turning the control.

Always start at a low speed.

Figure 10. Speed selector

Joystick

The joystick is used to regulate the speed of the wheelchair forwards or backwards, to turn and to brake.

The speed is regulated steplessly by moving the joystick forwards or backwards. The speed is directly proportional to the movement of the joystick (small movement low speed – large movement high speed).

The wheelchair is turned by moving the joystick to the left or right.

The wheelchair is braked by moving the joystick back to the neutral position or letting it go.

Figure 11. Joystick

Locking the controller

If your wheelchair is provided with a security key, you can lock the Pilot controller to prevent unauthorized use of the wheelchair.

To lock the wheelchair it must be switched on, the key should then be inserted into and withdrawn from the battery charging socket, the wheelchair will now be locked.

To unlock the wheelchair, firstly switch it on. The battery gauge will ripple up and down but driving will not be possible. The key should now be inserted into and withdrawn from the battery charging socket, the wheelchair can now be driven.

Figure 12.

Switch box

The switch box is mounted at the right or left side, behind the control panel. The switches at the box are labeled to indicate chosen options, e.g. seat elevator and tilt-in-space.

The pictures below show the different functions and labeling of the switch box.

Seat elevator (option)
Control switch for seat elevator up or down. When the seat elevator is elevated from its lowest position, the maximum speed of the wheelchair is limited to 2.8 MPH (4.5 km/t).

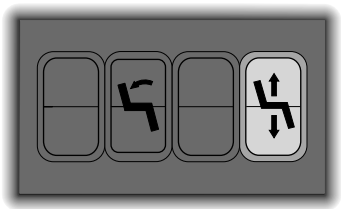


Figure13. Seat elevator

Tilt-in-space (option)
The seat can be tilted backwards.

The tilt angle can steples be adjusted from 0° to 30°.

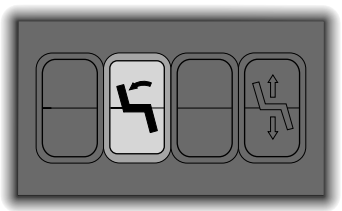


Figure 14. Tilt-in-space

Accessories

Tool bag

The wheelchair is supplied with a tool bag which contains the following tools.

Tool	*Area of use*
1. Pair of protective goggles	Work on the batteries
2. Set of Allen keys	General maintenance/adjustment of the seat
3. 4 Pole shoes	For use with acid batteries
4. Seat lift crank	Raising the seat
5. 2 Battery straps	Changing batteries

Figure 15. Tool bag

Handling

General

This wheelchair is designed for use inside and for limited use outside. When driving inside, take normal care. However, outside you must remember to drive very slowly on steep slopes and not to drive over curbs and other obstacles higher than 2 1/4 inches. Also drive carefully along steep slopes as there may be a risk of tipping over.

Do not make the first test run on your own. The test run is to find out how you and the Permobil wheelchair work together and you may need some assistance.

Driving

1. Switch on the power by pressing the main power switch on the maneuvering panel.
2. Select a suitable speed range by turning the speed selector to the required position. You would do well to start with a low speed.

Figure 16. Main power switch

Figure 17. Speed selector

3. Move the joystick carefully forwards to drive forwards or backwards to reverse.

Driving forwards

Reversing

Figure 18. Joystick

4. The speed of the wheelchair is regulated steplessly by moving the joystick forwards or backwards to different extents.

The Permobil wheelchair's electronics make it possible to move slowly over curbs and other obstacles. You can drive up to the curb or obstacle and then carefully drive over it.

When you drive down an obstacle or a steep slope, you must drive slowly and brake gently. The maximum speed should be set to low speed. You can brake gently by pulling the joystick back to a position just before the neutral position

When the speed has been reduced, you can let the joystick go.

Steering

The wheelchair can be turned in the required direction by moving the joystick to one side or the other while driving forwards or backwards.

Steering to the left *Steering to the right*

Figure 19. Steering

Releasing the brakes

WARNING

In order to prevent the wheelchair from rolling away, ensure that the wheelchair is on a level base before releasing the brakes.

The brakes can be released to make it possible to move the wheelchair manually.

1. Switch off the Permobil wheelchair by switching off the main power switch.

2. Move the brake release lever forwards (see figure 19). The chair can now be moved manually.

NB: Reset the brakes after moving the chair by pulling the lever backwards.

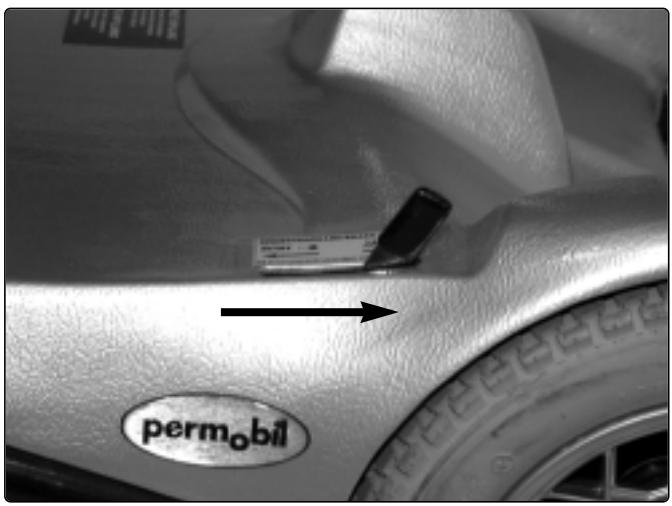


Figure 20. Releasing the brakes

Driving rules

High curbs and other obstacles

WARNING

Do not drive the wheelchair over curbs and other obstacles higher than 2 1/4 inches.

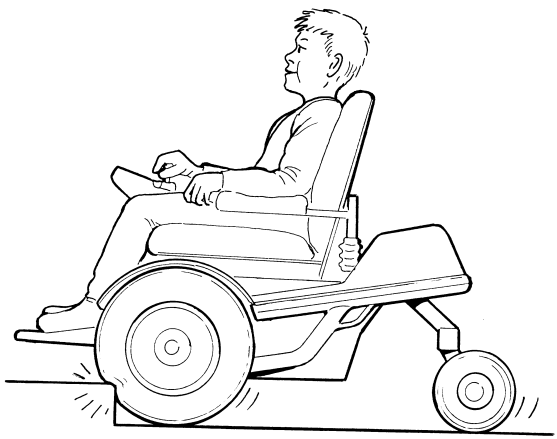


Figure 21. High curbs and other obstacles

Downhill slopes

When driving downhill, you should drive at the lowest speed and take great care.

NB! If the seat is fitted with negative seat inclination, the seat inclination should be set to the neutral position to increase stability.

WARNING

The wheelchair is not designed to be driven down slopes steeper than 7 degrees.

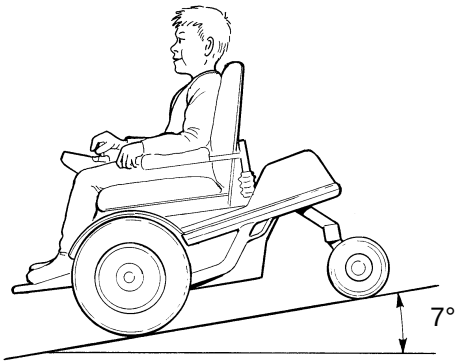


Figure 22. Driving downhill

Uphill slopes

WARNING

Do not drive up slopes steeper than 7 degrees.

If you drive up steeper slopes, there is a risk that the wheelchair cannot be maneuvered safely.

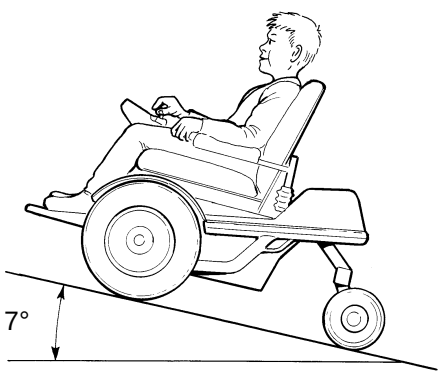


Figure 23. Driving uphill

Driving along slopes

WARNING

Do not drive the wheelchair along slopes steeper than 10 degrees. There is a risk of tipping.

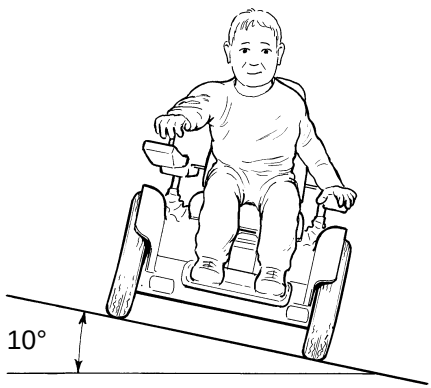


Figure 24. Driving along slopes

Charging the batteries

WARNING

New batteries MUST be fully charged prior to initial use. Always charge new batteries before initial use or battery life will be reduced. The batteries must be charged in a well-ventilated room. DO NOT attempt to recharge the batteries and operate the power wheelchair at the same time.

WARNING

Take care when using metal objects in connection with work on the batteries. Short-circuiting can cause an explosion. Always use protective gloves and goggles.

WARNING

Use only chargers with a maximum 8A charging current.

Figure 25. Lester Electrical´s Dual mode charger

When should the batteries be charged?

As a general rule, you should recharge your batteries as frequently as possible to assure the longest possible life and to minimize the required charging time. Plan to recharge them when you do not anticipate using the chair for a long period of time.

A battery voltage indicator on the maneuvering panel indicates when the battery voltage is low (see figure 9 on page 13). The batteries must then be charged as soon as possible.

If the batteries should become completely discharged, it is important that you recharge them as soon as possible. If you delay before recharging them, the batteries can be damaged.

Charging

1. Connect the mains cable to the mains.
2. Connect the connection cable from the charger to the charging socket on the wheelchair, which is under the plastic cover on the maneuvering panel.

NB! When the charger is connected, the chair must not and cannot be driven.

Description and Use of Battery Charger, see supplied Instruction Manual.

Figure 26. Socket for the charger

Figure 27. Charger connected to the charging socket.

Transport

The Permobil wheelchair can be secured with straps via the fastening loops on the front panel and under the bumper at the rear. If the chair has to be transported in a station wagon or similar vehicle, it is extremely important that the chair is secured properly and that the fastening points used are well anchored in the vehicle.

We recommend, if possible, that no person is sitting in the wheelchair during transport.

WARNING

If the chair is not properly secured and comes loose, it can cause serious injury to persons in the vehicle and serious damage to the vehicle.

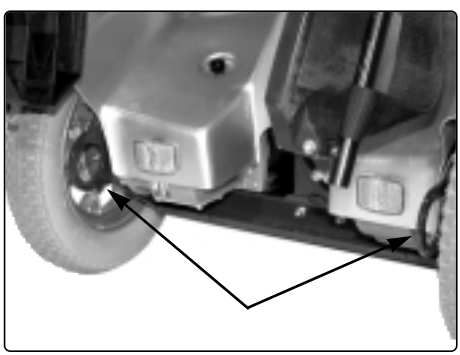


Figure 28. Front fastening loops

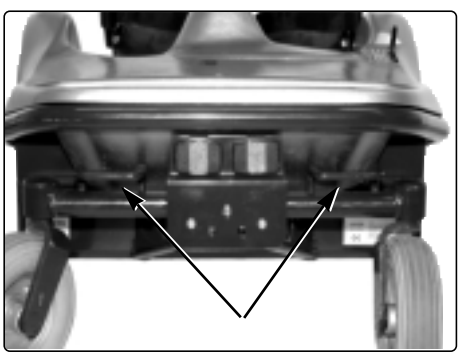


Figure 29. Rear fastening loops

Air transport

When transporting your chair by air, you should be aware of three things above all: the batteries, the dimensions and weight of the wheelchair and that the seat can be damaged when handled as it is placed together with luggage and other goods in a narrow space.

Batteries

If the wheelchair is equipped with maintenance-free gel batteries; in some airlines it is not necessary to remove the batteries from the wheelchair during the flight. However, the electrical connections to the battery must be disconnected and insulated. Check with your airline which rules apply.

If a wheelchair is equipped with acid batteries, most airlines require that the batteries shall be removed from the wheelchair and transported in special boxes provided by the airline.

Some airlines refuse to take acid batteries aboard at all, so always check with the airline in question which rules apply.

See page 32 for how to remove the batteries.

The dimensions and weight of the wheelchair

The weight and dimensions of the wheelchair are significant in relation to the type of airplanes in which the wheelchair is to be transported. The smaller the airplane, the smaller the wheelchair may be/the less it may weigh and vice versa. Always check with the airline in question which rules apply.

Preventing damage

Cover the maneuvering panel with soft, shock-absorbing material (foamed plastic or similar) and fold it in towards the back rest. Protect other salient objects in similar fashion. Tape any loose cables to the seat or covers.

NB!

To ensure that the chair is transported safely and that no nasty surprises pop up at the last minute, ***always contact the airline with which you are travelling beforehand.***

Maintenance

WARNING

During all work on the electrical system of the wheelchair, the connection to the negative pole of the battery must always be removed.

VARNING!

Take care when using metal objects in connection with work on the batteries. Short-circuiting can cause an explosion. Always use protective gloves and goggles.

WARNING

Take care when using the supplied battery straps so that the batteries don't slip out of the straps. The strap is only for help to lift the batteries in/out of the chair. It should not be used to carry batteries any longer distance.

General

To ensure that your wheelchair works well, it is important that it is looked after.

Every wheelchair is subject to wear, partly between the moving parts and partly on account of strains and stresses.

Therefore, you must know how the wheelchair works, how you are to drive it and use it correctly and how you are to look after it.

Preventive maintenance is intended to prevent faults. If you look after your wheelchair, it will work well and the risk of faults is reduced.

Cleaning

Clean the wheelchair often. It is especially important to clean it after it has been used outside. Use a damp rag with a mild soap solution to wipe off dirt and dust.

Among other things, you should remove the plastic cover and clean it thoroughly as well as wiping the back of the cover with a damp rag.

NB! Do not use a hose to wash the wheelchair with water. The electronics can be damaged.

Tires

Do not use your power wheelchair unless it has the proper tire pressure. Check regularly that the air pressure in the tires is correct. Do not over-inflate the tires.

Batteries

Storage

Please note that batteries discharge of their own accord and that a discharged battery may freeze and burst when it is cold. If the wheelchair is to be stored and not used for a long period of time, the batteries must always be charged once per month to avoid damaging them.

NB! The temperature in the storage room should not be less than 38°F.

If your wheelchair is equipped with acid batteries, the level of acid should be checked regularly.

If your wheelchair is equipped with gel batteries, there is no need to check the liquid level.

The durability of the batteries depends entirely on regular charging.

Figure 30. Using battery strap

Repairs

Changing fuses

Main fuse

The main fuse must only be changed by persons with a good knowledge of the wheelchair.

NB! If the main fuse blows, there is often a major electrical fault and a service technician should be called.

1. Remove the cushion on the seat.

2. Loosen the nut on the seat tube clamp (see fig. 31).

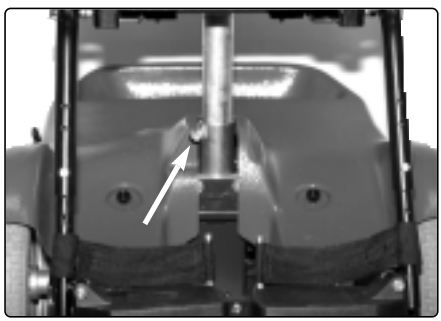


Figure 31. The nut to the seat tube clamp.

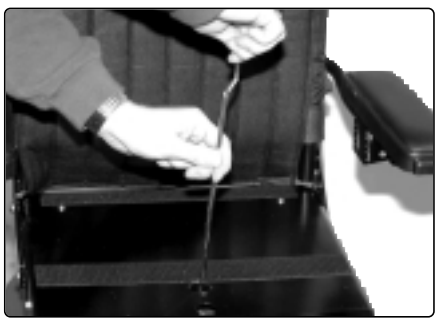


Figure 32. Raise the seat using the seat lift crank.

3. Raise the seat using the seat lift crank (see fig 32), or pull the seat up.

4. Unscrew the three plastic knobs which hold the chassis cover in place.

5. Remove the chassis cover.

6. Change the fuse and replace the chassis cover.

7. Re-adjust the seat to the correct height and tighten the seat tube clamp.

WARNING

The seat is heavy and must be handled with care in order to avoid personal injury.

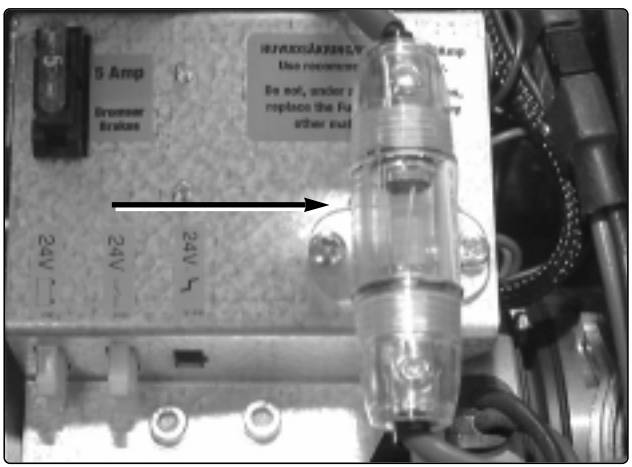


Figure 33. Main fuse

Function fuse/magnetic brake fuse

1. Raise the seat to its highest position using the enclosed crank.

2. Remove the chassis cover.

3. Replace the blown fuse.

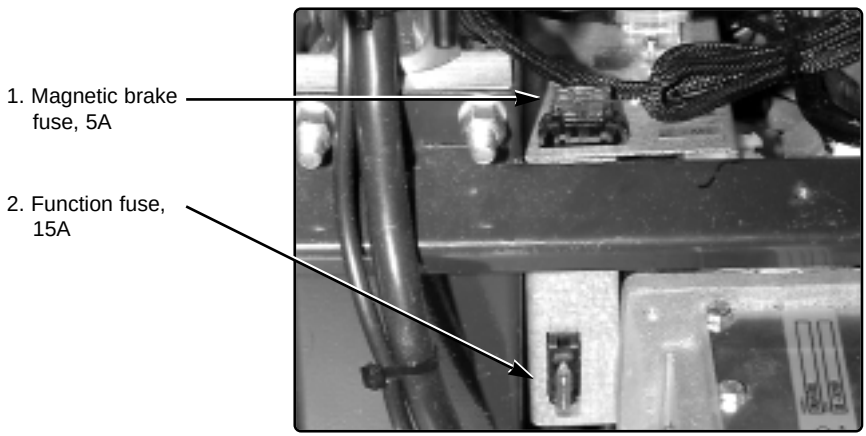


Figure 34. Fuses

4. Replace the chassis cover and re-adjust the seat to the correct height. Tighten the seat properly with the seat tube clamp.

Changing the batteries

1. Place the Permobil wheelchair on a level base.
2. Switch off the main power switch.
3. Loosen the seat tube clamp and screw or pull the seat up to its highest position, see page 30.
4. Remove the chassis cover.
5. Disconnect the battery connections. Disconnect the positive poles first and then the negative poles.

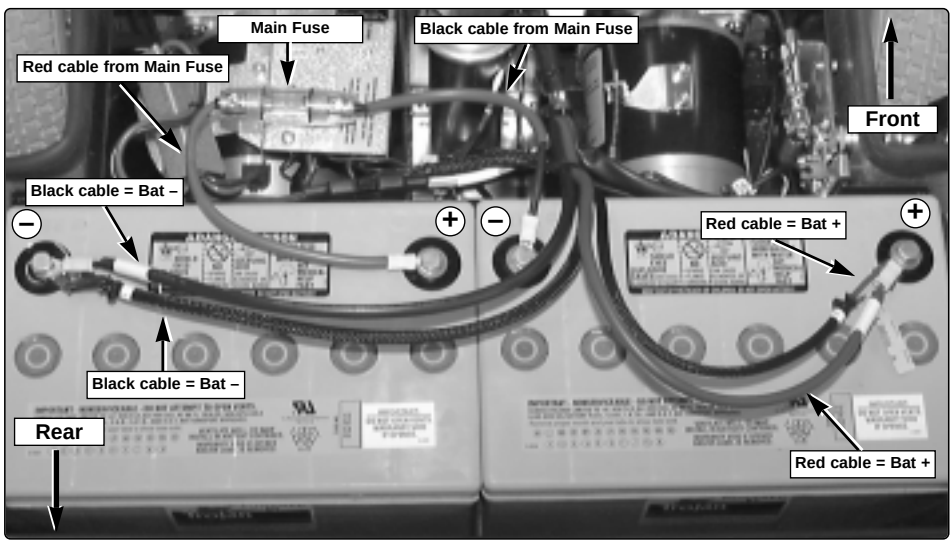


Figure 35. Battery connections

6. Lift out the batteries, use the supplied lifting straps enclosed in the tool bag. **Be careful so that the battery doesn't slip out of the strap.**
7. Check that the battery case is undamaged.
8. Insert two new batteries. The battery poles must be at the front.
9. Connect the battery connections, first the negative poles and then the positive poles.
10. Replace the chassis cover and re-adjust the seat to the correct height. Tighten the seat tube clamp.
11. Charge the batteries. See Charging on page 24.

Changing inner tubes

1. Lift up the wheelchair and support the chair so that the wheels spin freely and let the air out of the inner tube to be changed.
2. Stretch the tire over the rim. Use proper tire installation tool, not a screwdriver. It needs a relative great effort to stretch the tire over the rim.
3. Change the punctured inner tube.
4. Replace the tire on the wheel rim and fill with air.

Figure 36. Air valve

Filling with air

WARNING

The recommended air pressure is 0,2 MPa. Overfilling entails the risk of explosion.

Low air pressure in the tires produces abnormal wear and reduces the range. Therefore, check regularly that the front tires have a pressure of 0,2 MPa.

1. Unscrew and remove the plastic caps on the air valves on the drive wheels.
2. Connect the compressed air nozzle to the air valve and adjust the tire pressure to the prescribed level.

Data

General

Name ..... Chairman Basic

Dimensions and weight

Length..... 40 inches

Width..... 23 1/2 inches

Seat height ..... 18 inches to seat pan (MPS-B seat)
(cushion excluded)

Transport dimensions l/w/h..... 42 1/2/24/29 inches

Weight including batteries ..... 275 lbs (with MPS-B seat)

Maximum user weight..... 240 - 260 lbs
(depending on chair configuration)

Wheels

Wheel dimensions, front..... 2.50 x 8 inches

Wheel dimensions, rear..... 8 x 2 inches (200 x 50 mm)

Air pressure in front wheel..... 0,2 MPa.

Performance

Range ..... 18 - 21 miles

Turning circle, 180 degrees..... 43 1/4 inches

Maximum height of obstacles..... 2 1/4 inches

Maximum slope ..... 7 degrees

Electrical system

Batteries

Maximum battery dimension l/w/h .....10x6 3/4x8 3/4 inches

Weight.....51 lbs (gel battery)

Battery capacity ..... 2 x 60 Ah

Charging time ..... 8 hours

Fuses

Function fuse ..... 15 A

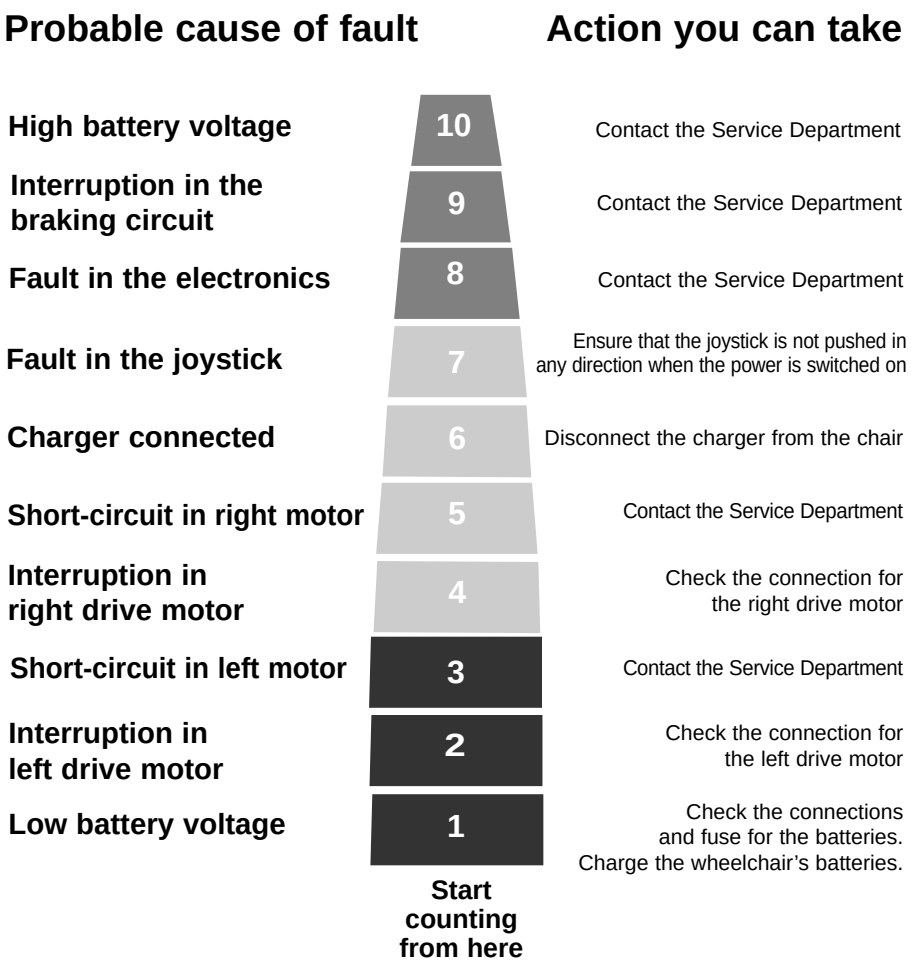
Magnetic brake fuse ..... 5 A

Main fuse ..... 70 A

Troubleshooting

If a fault occurs in the wheelchair, a number of lamps flash on the battery voltage indicator. Count the number of lamps, starting from the joystick, and check in the table what the fault is and what you can do about it.

If you are unsure of what action to take, contact the Service Department directly.



CAUTION! It is very important that you read this information regarding the possible effects of electromagnetic interferance on your powered wheelchair.

Electromagnetic Interference (EMI) From Radio Wave Sources

Powered wheelchairs and motorized scooters (in this text, both will be referred to as powered wheelchairs) may be susceptible to electromagnetic interference (EMI), wich is interfering electromagnetic energy (EM) emitted from sources such as radio stations, TV stations, amateur radio (HAM) transmitters, twoway radios, and cellular phones.

The interference (from radio wave sources) can cause the powered wheelchair to release its brakes, move by itself, or move in unintended directions. It can also permanently damage the powered wheelchair's control system. The intensity of the interfering EM energy can be measured in volts per meter (V/m). Each powered wheelchair can resist EMI up to a certain intensity. This is called its "immunity level". The higher the immunity level, the greater the protection.

At this time, requested immunity level as per EN 60601-1-2 is 3 V/m. The immunity level of this powered wheelchair model as shipped, with no further modification, is >20V/m in the range of 26 MHz to 950 MHz.

There are a number of sources of relatively intense electromagnetic fields in the everyday environment. Some of these sources are obvious and easy to avoid. Others are not apparent and exposure is unavoidable. However, we believe that by following the warnings listed below, your risk to EMI will be minimized.
The sources of radiated EMI can be broadly classified into three types:

1.
Hand-held portable transceivers (transmitters-receivers) with the antenna mounted directly on the transmitting unit. Examples includes: citizens band (CB) radios, "walkie talkie", security, fire, and police transceivers, cellular telephones, and other personal communication devices.

NOTE! Some cellular telephones and similar devices transmit signals while they are ON, even when not being used.

2.
Medium-range mobile transceivers, such as those used in police cars, fire trucks, ambulances, and taxis. These usually have the antenna mounted on the outside of the wehicle.

3.
Long-range transmitters and transceivers, such as commercial broadcast transmitter (radio and TV broadcast antenna tower) and amateur (HAM) radios.

NOTE! Other types of hand-held devices, such as cordless phones, laptop computers, AM/FM radios, TV sets, CD players, and casette players, and small appliances, such as electric shavers and hair dryers, so far we know, are not likely to cause EMI problems to your powered wheelchair.

Because EM energy rapidly becomes more intense as one moves closer to the transmitting antenna (source), the EM fields from hand-held radio wave sources (transceivers) are of special concern. It is possible to unintentionally bring high levels of EM energy very close to the powered wheelchair's control system while using these devices. This can affect powered wheelchair movement and braking. Therefore, the warnings listed below are recommended to prevent possible interference with the control system of the powered wheelchair.

WARNINGS

Electromagnetic interference (EMI) from sources such as radio ant TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones can affect powered wheelchairs and motorised scooters. Following the warnings listed below should reduced tdhe chance of unintended brake release or powered wheelchair movement wich could result in serious injury.

1.
Do not operate hand-held transceivers (transmittersreceivers), such as citizens band (CB) radios, or turn ON personal communications devices, such as cellular phones, while the powered wheelchair is turned ON.

2.
Be aware of nearby transmitters, such as radio or TV stations, and try to avoid coming close to them.

3.
If unintended movement or brake release occurs, turn the powered wheelchair OFF as soon as it is safe.

4.
Be aware that adding accessories or components, or modifying the powered wheelchair, may make it more susceptible to EMI.

(Note: There is no easy way to evaluate their effect on the overall immunity of the powered wheelchair).

5.
Report all incidents of unintended movement or brake release to the powered wheelchair manufacturer, and note whether there is a radio wave source nearby.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