

Chairman

Owner's manual



How to contact Permobil

Permobil Inc.

6961 Eastgate Blvd.
Lebanon, TN 37090
USA

Phone: 800-736-0925

Fax: 800-231-3256

Head Office of the Permobil group

Permobil AB
Box 120, S-861 23 Timrå, Sweden.
Phone: +46-60-59 59 00.
Fax: +46-60-57 52 50
E-mail: firmapost@permobil.se

Chairman

Owner's manual

Produced and published by Permobil AB, Sweden

Edition no. 2, 9905

Order no.: 201103-US-0

PAB no.: 1103:2-2

Contents

Contents	5
Safety instructions	6
General introduction	8
Specially adapted wheelchair	8
Design and function	9
General	9
Seat	10
Seat lift	10
Seat inclination	10
Wheels	11
Reflectors	11
Electrical system	12
Control panel	14
Accessories	21
Tool bag	21
Luggage basket	22
Handling	23
General	23
Driving	23
Driving rules	26
Releasing the brakes	29
Charging the batteries	30
Transport	32
Air transport	33
Maintenance and repairs	34
General	35
Cleaning	36
Wheels	36
Batteries	36
Repairs	37
Changing fuses	37
Changing batteries	39
Changing inner tubes	40
Filling with air	40
Changing bulbs	41
Technical specifications	42
Electrical system	43
Important information	44

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.

Operating the seat lift

Ensure that nothing is caught between the chassis and the seat when the seat lift is operated. Raising the seat lift raises the center of gravity and increases the risk of tipping. Therefore, you should only use the seat lift on level ground and not on hilly ground.

Releasing the brakes

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

Charging the batteries

The batteries must be charged in a well-ventilated room, not in a closet. Do not charge the batteries in a bathroom or wet room. Use only chargers with a maximum 10 A charging current (mean value). When the charger is connected, the chair must not and cannot be driven.

Transport

Ensure that the wheelchair is properly secured (see page 32).

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. 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 easily cause an explosion. Always use protective gloves and goggles.

The recommended air pressure is 0.2 MPa. Overfilling entails the risk of explosion.

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 Instructions for Use carefully, in particular the safety instructions. Keep the Owner's Manual together with everything else associated with your wheelchair.

The first thing to do is to charge the batteries. Read the chapter Charging the Batteries on page 30 if you are uncertain about how to do this. Charging takes approximately 9 hours.

Specially adapted wheelchair

If your 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 wheelchairs of the same type..

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

Overview Chairman with Corpus seat



Figure 1. Chairman, front view

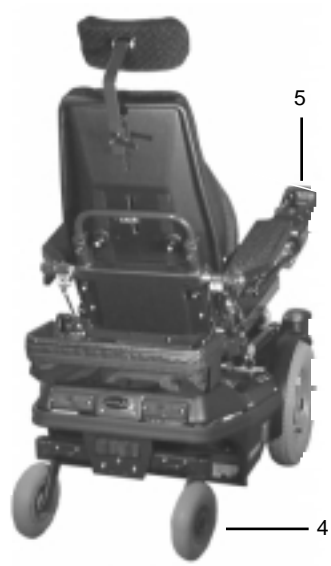


Figure 2. Chairman, rear view

- 1. Seat
- 2. Chassis
- 3. Drive wheel
- 4. Rear wheel
- 5. Control panel

Seat

See the supplied Owner's Manual for the seat.

Seat lift

The Chairman can be fitted with an electrically operated seat lift. An adjustment device which is controlled from the manoeuvring panel makes it possible to raise the seat up to 7 3/4" to adapt the height to tables, benches, etc. If the seat lift is raised from its lowest position, the wheelchair's maximum speed is reduced by 50 %.

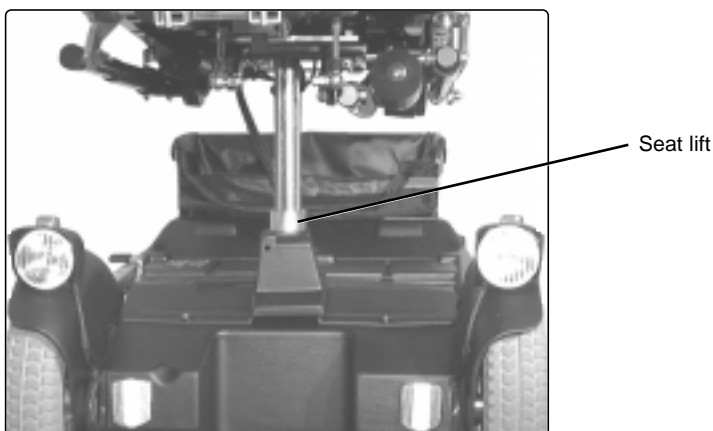


Figure 3. Seat lift

Seat inclination

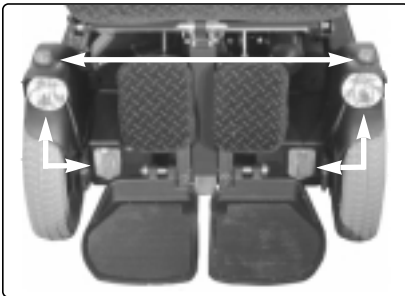
The Chairman can be fitted with electric seat inclination which makes it possible to adjust the angle of the seat. The electric seat inclination is operated from the manoeuvring panel.

Wheels

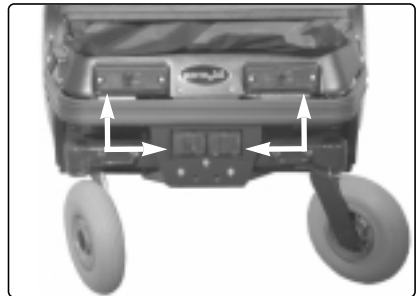
The wheelchair's front wheels, the drive wheels, have pneumatic tires. The rear wheels, the steering wheels, have solid rubber tires.

Lights and reflectors

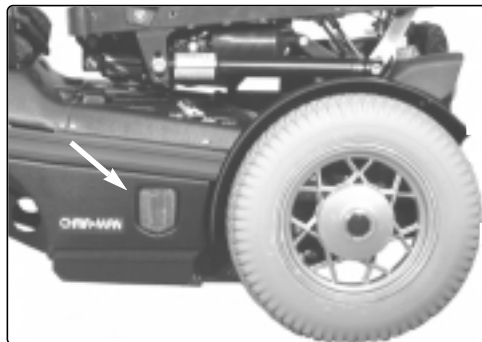
In the standard version, the wheelchair is equipped with reflectors at the front, rear and sides. The CS model also has front/rear lights and indicators.



Lights, indicators and front reflectors



Rear reflectors



Side reflectors

Figure 4. Lights, indicators and reflectors

Electrical system

The wheelchair's batteries are located under the battery cover in the centre of the chassis.

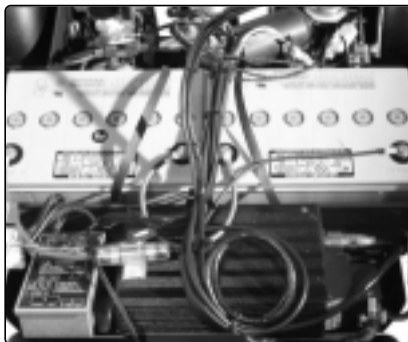


Figure 5. Batteries

Driving

The wheelchair has a drive pack for each drive wheel. The motors regulate the speed, turning and braking. A joystick on the manoeuvring panel sends signals to the electronics unit placed under the cover on the rear part of the chassis. The electronics unit then controls the motors.

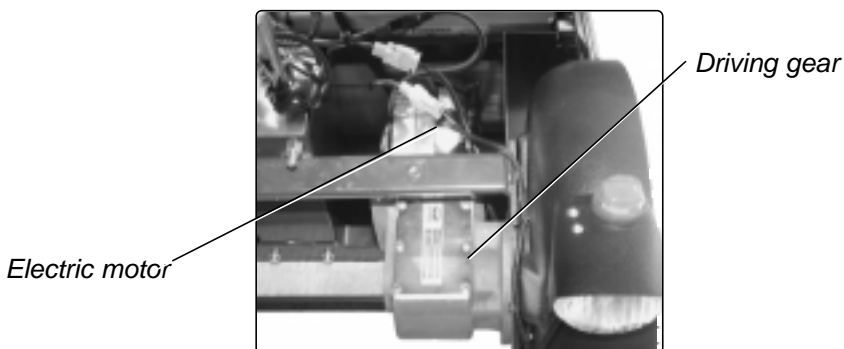
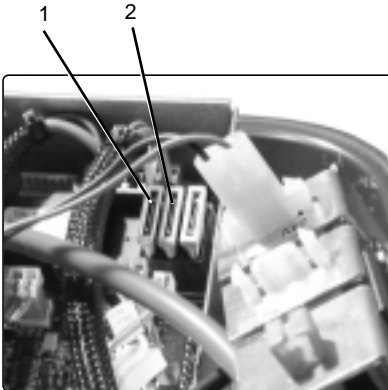


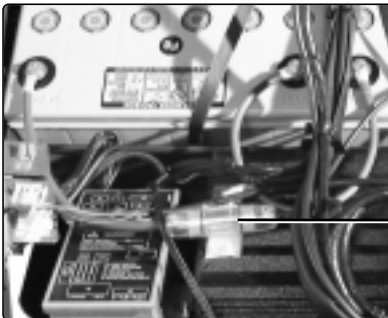
Figure 6. Electric motor with driving gear

Fuses

There are four fuses in the wheelchair: the main fuse, the charging fuse, seat lift/lights/24V switched and 24V direct. The main fuse is mounted on the electronics unit, the charging fuse is located on the thin red cable which goes to the positive pole of the battery and the two other fuses are in the electronics unit.



1. Seat lift/lights/24V switched, 15 A
2. 24V direct, 15 A
3. Main fuse, 80 A
4. Charging fuse, 15 A



Chairman CS Control Panel

The control 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 manoeuvring. The control panel can also be mounted on the left arm rest. The figure below shows the various functions of the control panel.

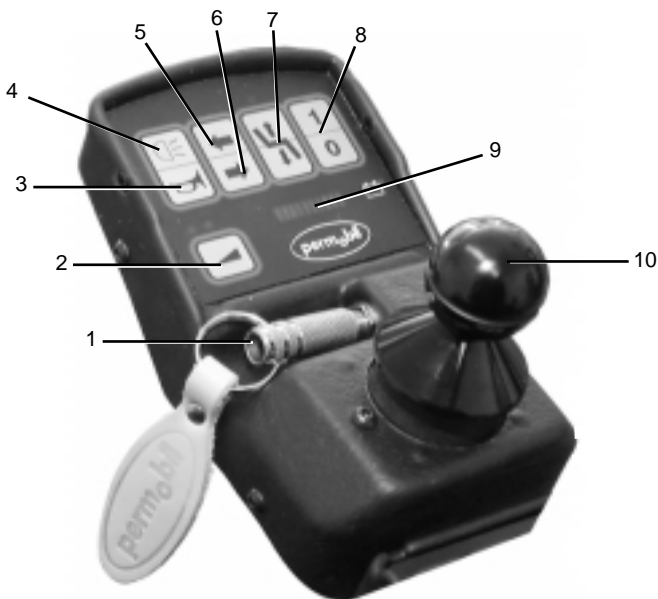


Figure 8. Chairman CS control panel

- | | |
|---------------------|------------------------------|
| 1. Key switch | 7. Seat lift |
| 2. Speed selector | 8. On/off power switch |
| 3. Horn | 9. Battery voltage indicator |
| 4. Lights | 10. Joystick |
| 5. Left indicators | |
| 6. Right indicators | |

Key switch

The key switch is a plug which is inserted in the side of the control panel. The key must be inserted before the main power switch can be activated.



Figure 9. Key switch

Main power switch

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



Figure 10. Main power switch

Seat lift

The switch for manoeuvring the seat lift up and down. When the seat lift is in operation, the indicator lamp lights (figure 11). When the seat lift is activated from its lowest position, the maximum speed is reduced by 50 %.



Figure 11. Seat lift switch

Battery voltage indicator

The window display on the control panel (figure 12) shows the following indications (from left to right):

- Red/yellow/green = Fully charged
- Red/yellow = Semi-charged
- Red = Charge the batteries



Figure 12. Battery voltage indicator

Horn

Pressing this switch produces a sound to attract attention.



Figure 13. Horn switch

Speed selector

The speed can be set in three positions and one or more of the indicator lamps lights depending on the speed range selected.

- Low = 0 - 1 miles/h
- Medium = 0 - 2,2 miles/h
- High = 0 - 4,5 miles/h



Figure 14. Speed selector

Lights

Pressing this switch turns on the wheelchair's lights.

Indicators

Pressing on the right or left arrow activates the wheelchair's indicators.



Figure 15. Lights/indicators switches

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 16. Joystick

Chairman L control panel

The control 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 manoeuvring. The control panel can also be mounted on the left arm rest. The figure below shows the various functions of the control panel.

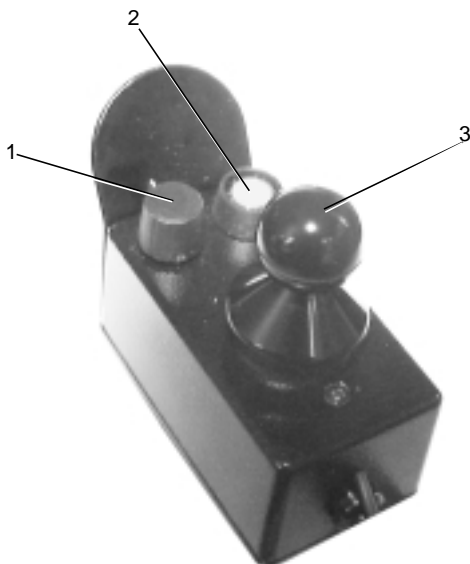


Figure 17. L control panel

1. Maximum speed control
2. Main power switch/warning lamp
3. Joystick

Maximum speed

The maximum speed can be adjusted steplessly using the maximum speed knob. Turning it anticlockwise reduces the speed.

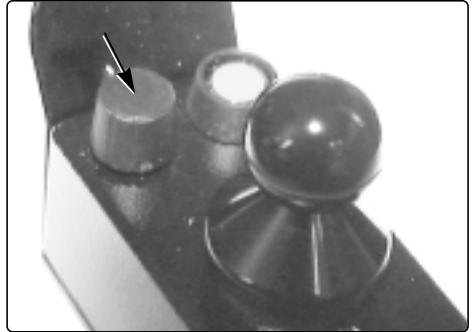


Figure 18. Maximum speed knob

Main power switch

The main power switch with integrated lamp functions not only as an on/off button but also provides warning signals. These signals are:

On constantly

The chair is ready to be driven.

Flashing slowly (once per second)

Batteries low. Charge them as soon as possible.

Flashing fast (twice per second)

Electrical, data, battery or motor fault.
Contact service.

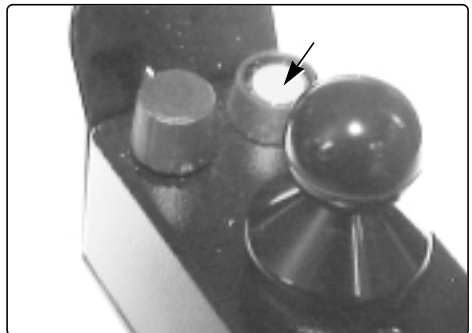


Figure 19. Main power switch

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.

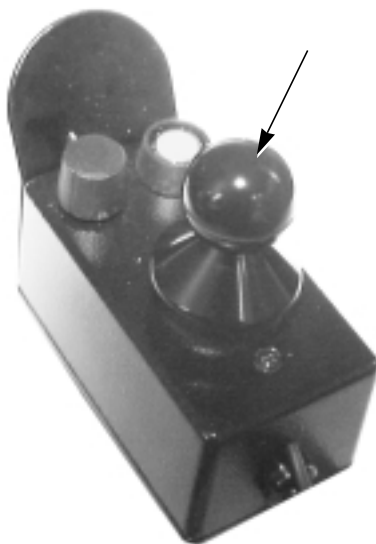


Figure 20. Joystick

Accessories

Tool bag

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



Figure 21. Tool bag

<i>Tool</i>	<i>Area of use</i>
1. Pair of protective goggles	Work on the batteries
2. Set of Allen keys	General maintenance/adjustment of the seat
3. 1 x 13 mm spanner	General maintenance, changing the battery
4. Screwdriver	General maintenance/removing the covers
5. Seat lift crank	Raising the seat

Luggage basket

A luggage basket is available as an accessory for the Chairman. It is fitted to the back of the wheelchair.

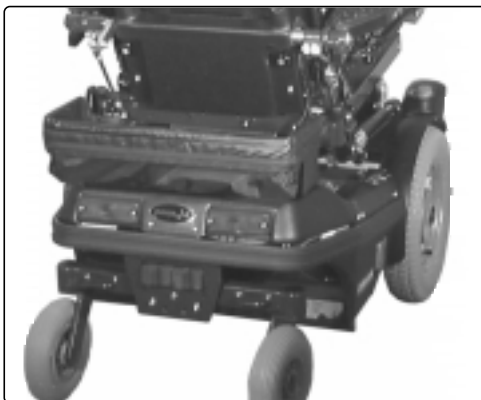


Figure 22. Luggage basket

Handling

General

This wheelchair is designed for use both inside and outside. When driving inside, take normal care. Outside you must remember to drive very slowly on steep downhill slopes and not to drive over curbs and other obstacles higher than 2 3/4 inches.

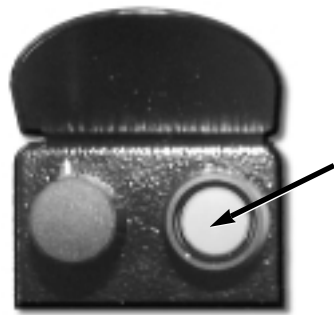
Do not make the first test run on your own. The test run is to find out how you and the wheelchair work together and you may need some assistance.

Driving

- 1 Insert the key switch in the side of the control panel (only CS panel).
2. Switch on the power by pressing the main power switch on the control panel.



CS Panel



L Panel

Figure 23. Main power switch

3. CS Panel

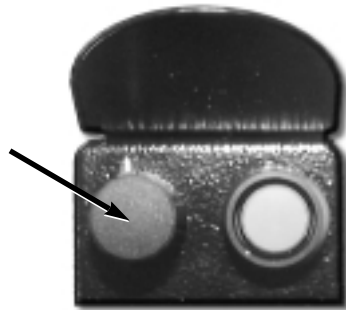
Select a suitable speed range by pressing the speed selector until the desired indicator lamp lights for your type of driving.

L Panel

Select a suitable speed range by turning the maximum speed knob. Turning it clockwise increases the speed range, turning it anticlockwise reduces the speed range.



CS Panel



L Panel

Figure 24. Speed selector

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



Figure 25. Joystick

5. The speed of the wheelchair is regulated steplessly by moving the joystick forwards or backwards to different extents. The wheelchair's electronics make it possible to move slowly over kerbs and other obstacles. You can drive up to the kerb 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.

NB: The wheelchair moves at reduced speed if the seat is raised. You can only drive at full speed if the seat is in its lowest position. Raising the seat lift raises the centre of gravity and increases the risk of tipping. Therefore, you should only use the seat lift when driving on level ground and not on hilly ground.

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



Figure 26. Steering

Driving rules

High curbs and other obstacles



WARNING

Do not drive the wheelchair over curbs and other obstacles higher than 2 3/4 inches (7 cm).



Figure 27. High curbs and other obstacles

Downhill slopes

When driving downhill, you must drive at low speed and take great care.



WARNING

The wheelchair is not designed to be driven down slopes steeper than 12 degrees.



Figure 28. Driving downhill

Uphill slopes

If you drive up slopes steeper than 12°, there is a risk that the wheelchair cannot be manoeuvred safely.



WARNING

Do not drive up slopes steeper than 12 degrees.



Figure 29. Driving uphill

Driving along slopes



WARNING

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

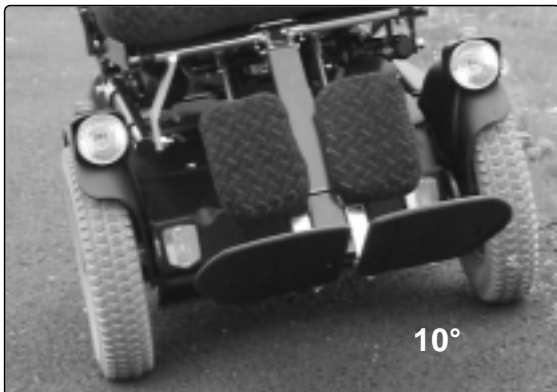


Figure 30. Driving along slopes

Releasing the brakes



WARNING

In order to avoid the wheelchair 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 wheelchair by switching off the main power switch.
2. Move the lever forwards (figure 31). The chair can now be moved manually.

NB: Reset the brakes after moving the chair by pulling the lever backwards. When the brake release has been activated, the wheelchair cannot be driven.



Figure 31. Releasing the brakes

Charging the batteries



WARNING

The batteries must be charged in a well-ventilated room, not in a closet. Do not charge the batteries in a bathroom or wet room.



WARNING

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



WARNING

Use only chargers with a maximum 10 A charging current (mean value). (The effective value of the charging current must not exceed 12 A.)



Figure 32. 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 control panel indicates when the battery voltage is low (see figure 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 control 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 33. Connecting the charger

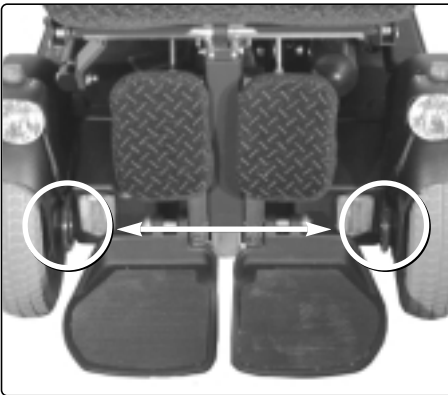
Transport

We recommend that Permobil's wheelchairs be transported on trailers. The wheelchair can be secured with straps via the fastening loops at the front and rear. If the chair has to be transported in a van, estate car or other vehicle, it is extremely important that the chair is secured properly and that the fastening points used are well anchored in the vehicle.



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 and itself.



Front fastening loops



Rear fastening loops

Figure 34. Chassis 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 39 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 control 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 and Repairs

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



WARNING

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 engineer. Always contact a qualified service engineer in cases of doubt.

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.



WARNING

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

General

- Batteries discharge themselves and must be charged and maintenance-charged to prevent them from being damaged.
- The wheelchair must not be stored in rooms in which condensation occurs (mist or moisture on surfaces), i.e. laundry or similar rooms.
- The wheelchair may be stored in an unheated room. From the point of view of corrosion, it is best for the chair if the room is a few degrees warmer than the surroundings, which keeps the room drier.

Short-term storage

In order for the charging process to produce a battery with good capacity, the temperature in the storage room should not be less than 41 F (+5°C). Storage at less than 41 F (+5°C) increases the risk that the battery is not fully charged when it is used and also increases the risk of corrosion.

Long-term storage

The chair may be stored in an unheated room but the battery should be maintenance-charged at least once per month. See also Short-term storage above.

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.

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

Wheels

Check regularly that the air pressure in the tyres is correct. Fill with air if necessary.

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 41 F (+5°C).

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 35. Batteries

Repairs

Changing fuses

In order to be able to change the fuses, you must remove the rear cover. Unscrew the five screws and lift off the cover. *Ensure that the rear light cables in the rear cover are firmly connected to the electronics (connector).*

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..

Change the main fuse and refit the rear cover.

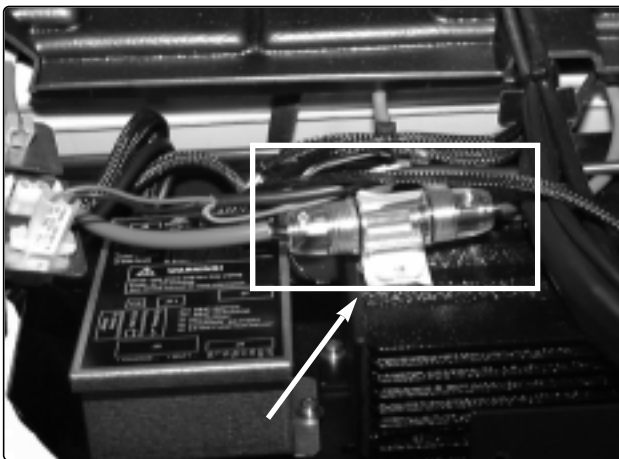


Figure 36. 80 A main fuse

Changing fuses, cont.

Pull the lid off the fuse box.

Change blown fuses. Refit the lid of the fuse box, refit the rear cover and screw it in place.

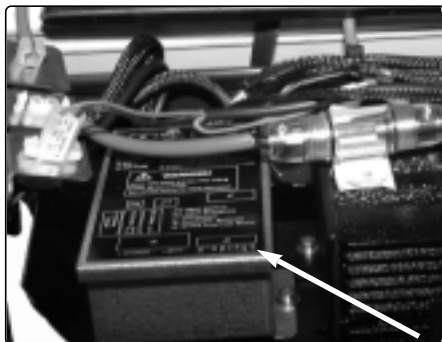


Figure 37. Fuse box

1. Seat lift/lighting/24V switched 15 A
2. 24V direct 15 A
3. *Jumper. Do not remove.*
4. Charging fuse 15 A

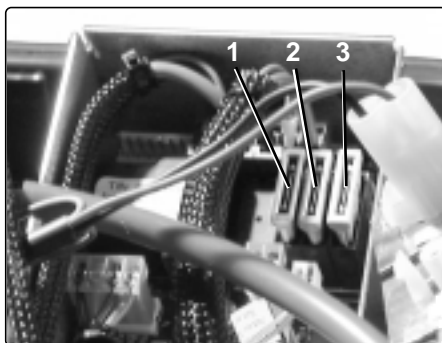


Figure 38. Fuses

Charging fuse

The fuse holder for the charging fuse is located on the thin red cable which goes to the positive pole of the battery.

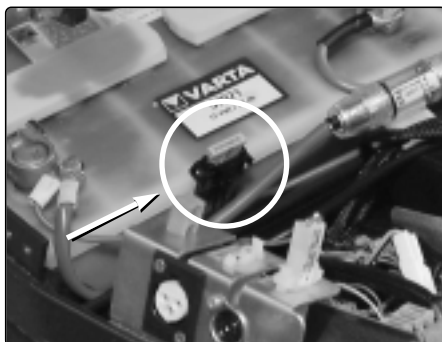


Figure 38A. Charging fuse

Changing the batteries

1. Place the wheelchair on a level base.
2. Raise the seat lift to its highest position. If the batteries are discharged, the seat must be raised manually. This is done by removing the seat cushion and the plastic plug. Then use the enclosed seat lift crank and crank the seat up.
3. Switch off the main power switch.
4. Loosen the battery covers and the rear cover.

NB: Take care when removing the rear cover. The rear light cables in the cover are firmly connected to the electronics.

5. Disconnect the battery connections. Disconnect the positive poles first and then the negative poles.

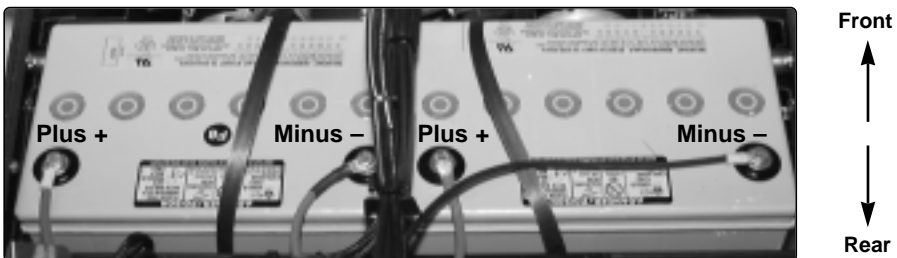


Figure 39. Battery connections.

6. Lift out the batteries.
7. Insert two new batteries.

NB: Position.

8. Connect the battery connections, first the negative poles and then the positive poles.

Changing inner tubes

1. Block up the wheelchair and let out the air.
2. Pull the tyre off the wheel rim.
3. Change the punctured inner tube.
4. Replace the tyre on the wheel rim and fill with air.



Figure 40. Filling valve

Filling with air



WARNING

The recommended air pressure is 0.2 MPa. Overfilling entails the risk of explosion.

Low air pressure in the tyres produces abnormal wear and reduces the range. Therefore, check regularly that the front tyres 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 tyre pressure to the prescribed level.

Changing bulbs (Chairman CS)

Front lights

1. Unscrew the two Allen screws (figure 41:1) on the top of the lamp cover.
2. Pull the reflector forwards.
3. Unscrew the two Phillips screws on the rear of the lamp holder and remove the reflector.
4. Change the bulb.

Front indicators

1. Turn the indicator glass (figure 41:2) 90° anticlockwise.
2. Lift the indicator glass straight up (do not screw).
3. Change the bulb.

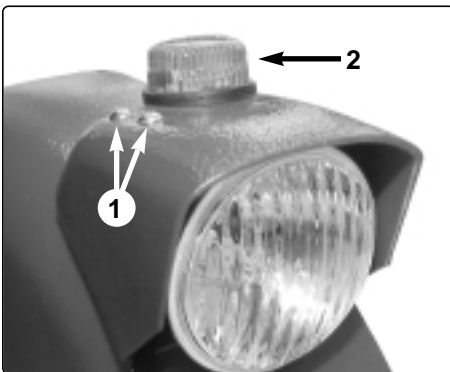


Figure 41. Front light

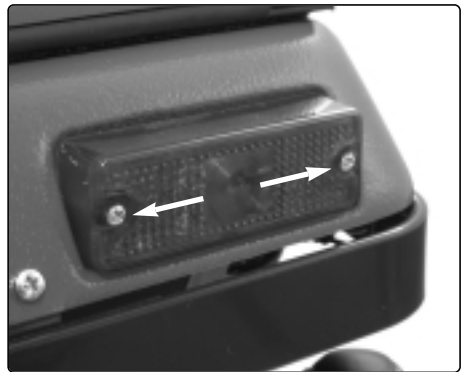


Figure 42. Rear light

Rear lights and indicators

1. The rear indicator bulb (upper bulb) and rear light bulb (lower bulb) can be changed after you have loosened the screws on the glass of the rear light (figure 42).

Bulbs	Socket type	Power
Headlamps	R10/E10	24V/3W
Front indicators	13256	24V/3W
Rear lights	SP36	24V/3W
Rear indicators	SP36	24V/3W

Data

General

Name Chairman

Dimensions and weight

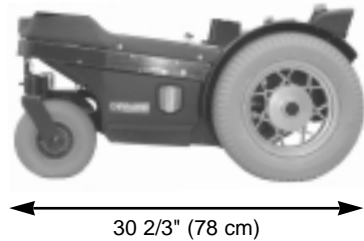
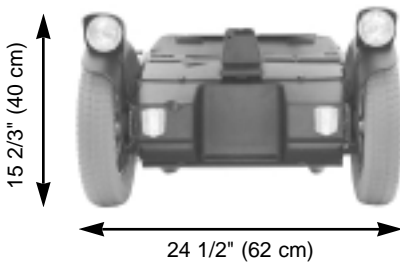
Length.....30 3/4" (78 cm)
 Width.....24 1/2" (62 cm)
 Height15 3/4" (40 cm)
 Weight including batteries231 lbs (105 kg)
 Maximum battery size..... 9 3/4" x 7" x 8 1/2" (25 x 18 x 21.5 cm)

Wheels

Wheel dimensions, front.....300 x 8
 Air pressure in front wheel.....0.2 MPa (2 kp/cm2)
 Wheel dimensions, rear.....200 x 50

Performance

Range19-24,5 Miles (30-40 km)
 Maximum speed, forwards4,5 miles/h (7.5 km/h)
 Maximum speed, backwardsapproximately 3 miles/h (5 km/h)
 Turning circle, 180 degrees40 1/2" (103 cm)
 Maximum height of obstacles.....2 3/4" (7 cm)
 Maximum slope12 degrees



Electrical system

Batteries

Recommended battery type	Gel
Battery capacity	2 x 73 Ah
Charging time	9 hours

Fuses

Main fuse	80 A
Charging fuse	15 A
Seat lift/lighting/24V switched.....	15 A
24V direct	15 A

CAUTION! It is very important that you read this information regarding the possible effects of electromagnetic interference 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), which is interfering electromagnetic energy (EM) emitted from sources such as radio stations, TV stations, amateur radio (HAM) transmitters, two-way 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 include: 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 vehicle.

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 cassette 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 and 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 reduce the chance of unintended brake release or powered wheelchair movement which could result in serious injury.

1.

Do not operate hand-held transceivers (transmitters/receivers), 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.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

