How to contact Permobil

Permobil Inc. USA
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, 861 23 Timrå, Sweden
Tel: +46 60 59 59 00. Fax: +46 60 57 52 50
E-mail: info@permobil.se
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contents</td>
<td>5</td>
</tr>
<tr>
<td>Safety instructions</td>
<td>6</td>
</tr>
<tr>
<td>General introduction</td>
<td>8</td>
</tr>
<tr>
<td>Design and Functions</td>
<td>9</td>
</tr>
<tr>
<td>Adjustments</td>
<td>19</td>
</tr>
<tr>
<td>Accessories</td>
<td>23</td>
</tr>
<tr>
<td>Operation</td>
<td>24</td>
</tr>
<tr>
<td>Transportation</td>
<td>31</td>
</tr>
<tr>
<td>Repair and maintenance</td>
<td>34</td>
</tr>
<tr>
<td>Repairs</td>
<td>37</td>
</tr>
<tr>
<td>Technical specifications</td>
<td>42</td>
</tr>
<tr>
<td>Important information (only for the US market)</td>
<td>46</td>
</tr>
</tbody>
</table>

- Specially modified wheelchairs: 8
- (only for the US market): 46
Safety instructions

General
A wheelchair is a motor-driven vehicle, so be very careful when using it.

Incorrect use can cause a risk of injury or damage to the chair. To reduce these risks, you should read the operating instructions carefully, especially the safety instructions and warnings.

Any improper modification of the wheelchair and its systems can increase the risk of accidents. Follow the recommendations in the section on Operation, in order to avoid risks when driving.

All modifications to, and interference with, the key systems of the wheelchair should be done by a qualified service engineer. Always contact a qualified service engineer if you are in doubt.

Warning

⚠️ WARNING !
Use extreme caution when you see this warning symbol. There is a risk of injury.

Passangers
The wheelchair is not intended for carrying passengers, whatever their age.

Maximum weight of user
The HD seat can be used by someone weighing up to 400 lbs.

Driving
• Do not drive the wheelchair over edges higher than 2”.
• Observe caution when driving downhill, and always drive slowly.
• Do not drive up or down gradients greater than 12 degrees*). On steeper gradients, there is a risk that you won’t be able the maneuver the chair safely.
• Do not drive the wheelchair where the sideways gradient is more than 7 degrees. There is a risk of tipping.

*)Dynamic stability according to ISO 7176-2 = 7°.
Operating the seat lift
Make sure nothing gets jammed between the chassis and the seat when you are operating the seat lift. The center of gravity is higher when the seat is raised, increasing the risk of tipping. So use the seat lift only on flat ground and not on uneven surfaces.

Releasing the brakes
Make sure the wheelchair is on a level surface before you release the brakes, so it doesn’t rolling away.

Charging batteries
Charging should be done in a well-ventilated area, not in a wardrobe or closet. You should not charge the batteries in a bathroom or wet area. Only use a charger with a maximum charging current of 10A (mean value). You should not try to drive the chair when the charger is connected, since this will not work.

Transportation
Ensure that the chair is properly secured (see page 31). A chair that is not properly secured can cause injury and damage if it comes loose.

Servicing
Only attempt the servicing and maintenance that the operating instructions say may be done by the user. All other servicing and maintenance should be done by someone with sufficient knowledge to be able to do it correctly.

Always disconnect the negative terminal of the battery before you work on the electrical system of the wheelchair. Take care when using metal objects while working on the battery. A short circuit could easily cause an explosion. Always use protective gloves and glasses.

The recommended air pressure is 36 psi. The tire could explode if you over-inflate it.
General introduction

The Chairman HD is a flexible chair, which is intended for users between 265 and 400 lbs. It has many installation options and can be quickly modified for different requirements.

The seat is made up of modules. The seat frame forms the basic support, and is supplemented with a choice of seats, backrests, armrests and leg supports. The modular system makes it easy to change and reuse the various parts.

In order to get the best possible use from your wheelchair, it is important to use it in the intended way. We therefore advise you to carefully read the operating instructions, especially the safety instructions. Keep the operating instructions with the rest of the things belonging to the chair.

The first thing you should do is to charge the batteries. If you’re not sure what to do, read the chapter on Battery charging on pages 29-30. Charging takes about 9 hours.

Specially modified wheelchairs
If your wheelchair is marked with a “Specially modified product” sticker, it has been modified to your specific needs and wishes. This means that the design and functions could be different from the text in these operating instructions, or the design and functions of other wheelchairs of the same type.

The seat can also contain parts that are unique to your chair. These aren’t available as spare parts, and must be made as required. This can affect the repair time of your seat.

Specifications
All information and specifications given in these operating instructions where applicable when this wheelchair was delivered. As Permobil carries out continual development and improvement, we reserve the right to make changes without prior notice.
Design and Functions

General

Overview of the Chairman HD

Fig. 1. Front view

Fig. 2. Rear view

1. Seat
2. Chassis
3. Drive wheels
4. Rear wheels
5. Control panel
Wheels
The front wheels of the wheelchair, the drive wheels, have pneumatic tires. The double rear wheels, the castor wheels, have solid rubber tires.

Lighting and reflectors
In the standard design, the wheelchair is fitted with front and rear lights, and reflectors at the front, rear and sides.

Fig. 3. Front lights, indicators and reflectors

Fig. Rear lights and reflectors

Fig. 5. Side reflectors
**Electrical system**
The batteries are situated under the battery cover in the center of the chassis.

![Fig. 6. Batteries](image)

**Drive**
The wheelchair has a drive unit for each drive wheel. The motors control the speed, turning and braking. A control stick on the control panel sends signals to the electronic unit under the cover at the rear of the chassis. The electronic unit then controls the motors.
Fuses
There are four fuses in the wheelchair: main fuse, charge fuse, seat lift/lights/24V switched and 24V unswitched. The main fuse is fitted above the electronic unit, the charge fuse is in the thin red cable that goes to the positive terminal of the battery, and the remaining two fuses are in the electronic unit.

1. Seat lift/lighting/24V switched 15A
2. 24V unswitched 15A
3. Main fuse 80A
4. Charge fuse 15A

Fig. 8

Fig. 9. Main fuse

Fig. 10. Charge fuse
Chairman HD control panel
The control panel is fixed to the right-hand armrest and can be adjusted for optimum comfort during operation. The control panel can also be fitted to the left armrest. The diagram below shows the various functions of the control panel and how it can be adjusted.

1. Key switch
2. Speed selector
3. Horn
4. Lights
5. L/R indicators
6. Seat lift
7. On/Off switch
8. Battery voltage indicator
9. Joystick
10. Seat control panel

A. Sideways adjustment
Loosen both of the screws on the underside of the control panel/button box and select one of three fixed positions.

B. Friction joint
Adjusting screw for how light or stiff you want the sideways movement of the panel to be.

C. Length adjustment
Loosen the screw and adjust the length as required.

Height adjustment high/low
Loosen the screws that hold the control panel and button box. Unscrew the adjusting screw for the friction joint, then turn the fixing for the panel and refit in reverse order.
**Key switch**
The key switch is a jack plug that you put into the side of the control panel. The key must be in place for the main switch to work.

![Fig. 12. Key switch](image)

**Main switch**
The main switch operates as an on/off button for the power supply to the chair, and must be switched on for the chair to work.

![Fig. 13. Main switch](image)

**Seat lift**
Switch for moving the seat lift up and down. When you are operating the seat lift, the indicator lamp lights up (Fig.14). You cannot drive the wheelchair when you move the seat lift away from its lowest position.

![Fig.14. Seat lift](image)
**Battery voltage indicator**  
The window display on the control panel (diagram 15) shows the following indicators (from left to right):

Red+Yellow+Green = Fully charged  
Red+Yellow = Half charged  
Red = Charge the batteries

![Fig. 15. Battery voltage indicator](image)

**Warning horn**  
When you press the switch, a warning horn sounds to attract attention.

![Fig. 16. Warning horn](image)

**Speed selector**  
You can set the speed to one of three positions, and one or more indicator lamps light depending on which one you select.

Low = 0 - 1 mph  
Medium = 0 - 2 mph  
High = 0 - 4 mph

![Fig. 17 Speed selector](image)
**Lights**
When you press the switch, the wheelchair lights come on. Press switch again to turn off lights.

![Fig. 18. Lights](image)

**Indicators**
When you press the right or left arrow, the indicators are activated. Press again to turn off indicators.

![Fig. 19. Indicators](image)

**Joystick**
You use the joystick to control the forward and backward speed, to steer and to brake.

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

You steer the chair by moving the joystick to one side or the other.

The brakes come on when you move the joystick back to the neutral position or release it completely.

![Fig. 20. Joystick](image)
Design and functions of the seat

Seat
The seat consists of a seat frame, backrest, armrests and leg supports.

The diagram below shows the seat separated from the chassis.

1. Footplate
2. Leg support/calf support
3. Seat
4. Armrest
5. Backrest
6. Seat lift
7. Tilt mounting

Fig. 21. HD-seat

Seat
The seat cushions are covered with fabric or leatherette. The seat is available in three widths.

Backrest including cushion
Backrests and cushions are available in various lengths and widths.

Armrest
These have adjustable height and angle and can be tilted up. The armrests are covered with fabric or leatherette and are available in various lengths.

Leg supports with footplate
The leg supports can be angled and are either manually or electrically adjusted. The leg supports can be separated for individual angle adjustment. The footplate can be whole or divided.
Seat lift
The chairman HD can be fitted with an electrically operated seat lift. An adjuster that you operate from the control panel lets you raise the seat up to 8”, so you can make the height comfortable for tables, benches etc. You can’t drive the wheelchair when you move the seat lift away from its lowest position.

Electric Backrest/Seat Adjustment
The Chairman HD can be fitted with electric adjustment of the backrest/seat angle, which you do using the seat control panel (see below).

Electric Leg Support
The Chairman HD can be fitted with electrically adjustable leg supports, which lets you adjust the angle of the leg supports using the button box (see below).

Seat control panel
The button box is attached between the control panel and the right armrest. The control panel and button box can also be fitted to the left armrest. The diagram below shows the various functions.

1. Backrest angle
The backrest is angled forwards when you press the top part of the backrest angle button and backwards when you press the bottom part.

2. Tilt
The seat goes forwards when you press the top part of the seat angle button and backwards when you press the bottom part.
You can adjust the seat continuously backwards up to a maximum angle of 25°.

3. Leg support
The leg support moves forwards when you press the top part of the leg support button and backwards when you press the bottom part.
Adjustments

Armrest
*Adjusting height/angle*

1. Loosen the two nuts (Fig. 22).
2. Adjust to the desired height/angle.
3. Tighten the nuts.

**Fig. 22. Armrest angle**

Built-in trunk support
*Adjusting the height*

1. Loosen the knob (Fig. 23).
2. Adjust by moving the trunk support up or down.
3. Retighten the knob.

**Fig. 23. Trunk support adjustment**

Lumbar support
*Adjusting height and depth*

1. Remove the back cushion.
2. Adjust the lumbar support as required (Fig. 24).
3. Replace the back cushion.

**Fig. 24. Lumbar support adjustment**
Leg support
Adjusting leg support angle
1. If the seat has electric leg supports, you adjust the angle from the button box, see page 18.
2. If the seat has manual leg supports, adjust the angle using the screw (Fig. 25).

Adjusting leg support length
1. Loosen the screw (Fig. 26).
2. Adjust the leg support.
3. Tighten the screw.

Footplate
Adjusting footplate angle
1. Tilt the footplate up.
2. Adjust the footplate angle by screwing screw A in or out (Fig. 27).
3. Lock the adjusting screw with nut B.

Fig. 25. Manual adjustment of leg support

Fig. 26. Adjusting the leg support length

Fig. 27. Adjusting the footplate angle
Backrest

*Adjusting the backrest angle*

1. If your seat has an electric backrest, adjust the angle with the button box, see page 18.
2. If your seat has a manual backrest, adjust the angle using the screw (Fig. 28).
3. Tighten the screw firmly after adjustment.

![Fig. 28. Manual adjustment of the backrest](image)

Head support, adjustment

*Adjusting height*

1. Loosen the knob.
2. Set the desired height.
3. Tighten the knob.

![Fig. 29. Adjusting height](image)

*Adjusting forwards/backwards*

1. Loosen the clamping bar.
2. Adjust as required.
3. Tighten the clamping bar.

![Fig. 30. Adjusting angle](image)
Calf support

Setting width/angle

1. Loosen the four screws on the rear of the calf support (Fig. 31).
2. Adjust to a suitable width and height.
3. Tighten the screws.

![Fig. 31. Calf support adjustment](image)

Thigh support

1. Length
   Open the zipper on the thigh support, loosen the screw (32:1), adjust to the desired position and tighten the screw.
2. Thigh support angle
   Loosen the screw (32:2), set an appropriate angle and tighten the screw.
3. Width adjustment
   Loosen the screw (32:2), adjust the width and tighten the screw.

![Fig. 32. Thigh support adjustment](image)

Maintenance

Checking belts
Check the condition of the belts regularly for damage and wear.

Upholstery washing instructions
All covers can be removed and washed in a 104°F color wash (fabric) or 104°F delicate fabrics wash (artificial leather).

You can wash the complete cushion, i.e. you don’t need to remove the cover.

The items can be tumble-dried.


Accessories

We are continually developing accessories for Permobil electric wheelchairs. Contact your nearest Permobil retailer for more information about which accessories are available for your wheelchair.

Tool bag

A toolbar is supplied with the wheelchair, with the following tools:

![Tool bag image]

Fig. 33. Tool bag

<table>
<thead>
<tr>
<th>Tool</th>
<th>Area of use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Protective glasses</td>
<td>Work on the battery</td>
</tr>
<tr>
<td>2. Hexagon keys</td>
<td>General maintenance/adjustment of the seat</td>
</tr>
<tr>
<td>3. 13 mm open-ended spanner</td>
<td>General maintenance, changing batteries</td>
</tr>
<tr>
<td>4. Screwdriver</td>
<td>General maintenance/removing covers</td>
</tr>
<tr>
<td>5. Seat lift crank</td>
<td>Raising the seat</td>
</tr>
</tbody>
</table>
Operation

General
This wheelchair is designed for both indoor and outdoor use. When driving indoors, you should take normal care. When outdoors you should remember to drive very slowly on steep downhill slopes and not to drive over edges higher than 2”.

Don’t make your first test run on your own. The test run is a check of how you and the wheelchair work together, and you might need some assistance.

Driving
1. Put the key switch into the side of the panel.
2. Switch on the power by pressing the 1 switch on the control panel.
3. Set the suitable speed range by pressing the speed selector until the desired indicator lamps light for your type of driving.

Fig. 34. Main switch

Fig. 35. Speed selector
4. Move the control stick carefully forwards to drive forward, or backwards to reverse.

5. You control the speed of the wheelchair steplessly by moving the control stick a different amount forwards or backwards. The wheelchair’s electronic control lets you crawl over edges. You can drive up to the edge and then drive carefully over.

When you drive down an obstacle or steep downhill slope you should drive slowly and brake gently. You should set the lowest speed range. Brake gently by moving the control stick to a position just before the neutral position and when the speed has dropped you can release the control stick completely.

**IMPORTANT:** You can’t drive the wheelchair with the seat raised. *The center of gravity is higher when the seat is raised, increasing the risk of tipping. You should only use the seat lift on flat ground and not on an incline.*

**Steering**

By moving the control stick to the right or left while moving forwards or backwards, the wheelchair turns in the desired direction.
Driving rules

High edges

⚠️ WARNING ! ⚠️
Do not drive the wheelchair over edges higher than 2”.

Fig. 38. High edges

Downward slopes
When driving downhill you should drive slowly and with great care. **Take extra care when driving downhill on uneven surfaces** (e.g. grass, gravel, sand, ice and snow).

⚠️ WARNING ! ⚠️
Do not drive down slopes steeper than 12 degrees*).

*) Dynamic stability according to ISO 7176-2 = 7°.

Fig. 39. Driving downhill
**Upward slopes**
When driving on slopes with an angle greater than 12°, there is a risk that you won’t be able to control the wheelchair safely.

---

**WARNING !**
Do not drive up slopes steeper than 12 degrees.

---

**Driving on sideways slopes**

---

**WARNING !**
Do not drive the wheelchair on sideways slopes greater than 7 degrees. There is risk of tipping.

---

Fig. 40. Driving uphill

Max 12°

Fig. 41. Driving on sideways slopes

Max 7°
Releasing the brakes

⚠️ WARNING !

To avoid the wheelchair rolling away, make sure it is on a level surface before you release the brakes.

You can release the brakes to let you move the chair by hand.

1. Shut down the wheelchair by switching off the main switch.

2. Move the lever (Fig. 42) forwards. You can now move the chair manually.

**IMPORTANT!** Reset the brakes after moving the chair, by returning the lever to its original position. When the brakes are released, the wheelchair can not be driven.

Also regularly check the operation of the brake release (about once a month), by connecting and releasing the brakes a few times.
Charging the batteries

WARNING!

Charging should take place in a well-ventilated area, not in a wardrobe or closet. Charging should not be carried out in a bathroom or wet area.

WARNING!

Take care when using metal objects while working on the battery. A short circuit could easily cause an explosion. Always use protective gloves and glasses.

WARNING!

Only use a charger with a maximum charging current of 10A (mean value). (The effective value of the charging current must not exceed 12 A.)
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. 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 power outlet. Turn off charger first, then, after connecting, turn on charger.

2. Connect the connection cable from the charger to the charging socket on the wheelchair, which is under the rubber shield on the right side of the cover.

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

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

Fig. 44. Connecting the charger
Transportation

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, station wagon 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 people in the vehicle and serious damage to the vehicle and the wheelchair.

---

Fig. 46. Front fastening loops  
Fig. 47. Rear fastening loops
Transportation
To make transporting the seat easier, you can fold the backrest forwards and remove the head support.

Folding the backrest forwards
1. Release the pin, Fig. 48:1.
2. Loosen the knobs on the right and left sides of the backrest, Fig. 48:2.
3. Lift up the backrest and fixing plate and fold the backrest forwards.

Removing the head support
Unscrew the clamping bar (Fig. 49) and then move the head support to the right to remove it.
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. 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 increase 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 kept charged to prevent them from being damaged.
- The wheelchair must not be stored in rooms in which condensation occurs (mist or moisture on surfaces), e.g. 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 tires is correct. Fill with air if necessary.

Check of brake release
Check regularly, approx. once per month, the brake release function by engaging and disengaging the brake release a number of times. Check to see if chair actually goes in and out of freewheel by pushing the chair.

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.
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.

*Fig. 50. Main fuse, 80A*
Changing fuses, cont.

1. Pull the lid off the fuse box.
2. Change blown fuses.
3. Refit the lid of the fuse box.
4. Refit the rear cover and screw it in place.

**Fig. 51. Fuse box**

1. Seat lift/lighting/24V switched 15 A
2. 24V direct 15 A
4. Charging fuse 15 A

**Fig. 52. 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.

**Fig. 53. 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.

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.

*Fig. 54. Battery connections*
Changing inner tubes

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

Filling with air

⚠️ WARNING!

The recommended air pressure is 36 psi. 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 tires have a pressure of 36 psi.

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.
Changing bulbs

*Front lights*

1. Unscrew the two Allen screws (Fig. 56:1) 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 (Fig. 56:2) 90° counterclockwise.
2. Lift the indicator glass straight up (do not screw).
3. Change the bulb.

*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 (Fig. 57).

---

<table>
<thead>
<tr>
<th>Bulbs</th>
<th>Socket type</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head lamps</td>
<td>R10/E10</td>
<td>24V/3W</td>
</tr>
<tr>
<td>Front indicators</td>
<td>13256</td>
<td>24V/3W</td>
</tr>
<tr>
<td>Rear lights</td>
<td>SP36</td>
<td>24V/3W</td>
</tr>
<tr>
<td>Rear indicators</td>
<td>SP36</td>
<td>24V/3W</td>
</tr>
</tbody>
</table>
Technical specifications

Height 47"

Length 46"

Width 28"

Smallest transportation size= length 35”, width 28”, height 35”
Data

General
Name .......................................................... Chairman HD

Size and weight
Length, incl. footplate .................................................. 46”
Width............................................................................ 28”
Height .......................................................................... 47”
Weight, incl. batteries ............................................ 364 lbs
Max. battery size .........................................................10” x 7” x 8”

Wheels
Wheel size, front .................................................. 300 x 8
Air pressure in front wheels .................................... 36 psi
Wheel size, rear .................................................. 200 x 50

Performance
Range .......................................................... 18 - 25 miles
Max. speed, forwards.............................................. 5 mph
Max. speed, backwards approx. 2.5 mph
Turning circle, 180 degrees ................................. 47”
Ability to negotiate obstacles ................................ 2”
Hill climbing ability ............................................. 12 degrees*

*Dynamic stability according to ISO 7176-2 =7°

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/lights/24V switched .................................... 15 A
24V unswitched ........................................................ 15 A
Data
Seat adjustments

A: Backrest height ........................................ 28”
B: Seat depth ................................................. 17” - 25”
C: Seat width ................................................. 19”, 21”, 23”
D: Distance between armrests ...................... 18,5”, 20”, 22,5”
G: Armrest height .......................................... 7” - 12”
H: Control panel ............................................ 12” - 14”
I: Joystick - armrest hinge............................ 16” - 24”
K: Backrest angle ........................................... 0° - 25°
**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 motorized scooters. Following the warnings listed below should reduced 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.