

EN

OWNER'S MANUAL

EN

# Koala

Power Wheelchair

**Koala**

permobil

permobil

Article no.: 205289-UK-0



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# ***Koala***

Power Wheelchair

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## **Important Information about this Owner's Manual**

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

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

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

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

It is also possible to obtain information concerning our products from our home page on the Internet. You can find us at [www.permobil.com](http://www.permobil.com).

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

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

## Technical support

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

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

## Spare part & accessories

Spare parts and accessories must be ordered through Permobil.

## Scrapping

Contact Permobil BV for information about scrapping agreements in force.

## Warranty

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

## Incident reporting

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

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

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

## Product approval

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



## Safety rules - General

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

### Warning labels

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



#### NOTE

Take care here.



#### WARNING

Take extra care here.

Risk of personal injury or of damage to the wheelchair and its surroundings.



#### NOTE

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



## Safety rules - General

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

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

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

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

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

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

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

## Safety rules



### WARNING

#### Operation

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

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

Do not drive the wheelchair over kerbs or other edges higher than 60 mm. When you drive over a kerb or similar raised surface, you must cross it at a 90-degree angle (at right angles). If you cross such surfaces at any other angle, the wheelchair may tip over.

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

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



### NOTE

#### Operation

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

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

## Safety rules



### WARNING

#### Maintenance and service

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

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

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

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

#### Weight limits

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

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



### NOTE

#### Before driving

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

## Safety rules



### WARNING

#### **Driving on sloping surfaces**

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

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

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

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

## Safety rules



### WARNING

#### **Driving on sloping surfaces**

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

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

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

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

## Safety rules



### WARNING

#### **Operation - turning/cornering**

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

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

#### **Operation - releasing the wheelchair's magnetic brakes**

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

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

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

## Safety rules



### NOTE

#### **Driving on loose or soft surfaces**

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

#### **Driving in the dark and poor light**

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



## Safety rules



### WARNING

#### **Operation of seat lift/seat angle/back angle**

Make sure that there is no risk of anything getting in between the chassis and the seat when the seat lift/seat angle and back angle functions are being used. Using these functions alters the center of gravity, which always means an increased risk of tipping. Always drive at low speed and only use these seat functions on a level surface and not on slopes, ramps, hills or other gradients.

#### **Center of gravity**

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

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

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

#### **Fixed seat tube**

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

## Safety rules

### WARNING

#### Fixing belt

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

#### Support wheels

If your wheelchair is fitted with support wheels, they must always be fitted when you drive.

#### Getting in and out of the chair

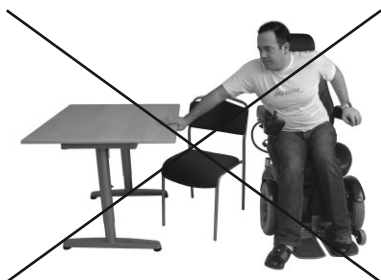
Make sure the power is turned OFF before getting into or out of the wheelchair and before raising the arm rest with the control panel. When getting into or out of the wheelchair you should take all precautions to reduce the distance between the wheelchair and the point to which the user is moving. If this distance is increased, it could result in the user losing balance or falling over.

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

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

Never use the joystick as a handle or support.

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



## Safety rules



### WARNING

#### Passengers

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

#### Operation in different climates

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

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

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

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

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

## Safety rules



### WARNING

#### Transport

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

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

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

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

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

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

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

## Safety rules



### WARNING

#### **Maintenance and service**

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

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

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

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

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

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

#### **Charging batteries**

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

## Safety rules



### WARNING

#### **Electronic safety circuits**

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

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

#### **Replacing the batteries and fuses**

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

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

#### **Filling tires with air**

Check at regular intervals that the wheelchair's tires have the correct tire pressure. The incorrect tire pressure may result in lower stability and maneuverability.

The correct tire pressure is 200 kPa (2 bar). Note that overfilling entails a risk of explosion.

## Safety rules



### WARNING

#### **Tire replacement/repair**

Avoid using pointed/sharp tools when changing/repairing tires.

#### **Storage**

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

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

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

#### **Damage to/breakdowns in the wheelchair and its accessories**

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

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



## Safety rules



### NOTE

#### **Recycling batteries**

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

#### **EMC requirements**

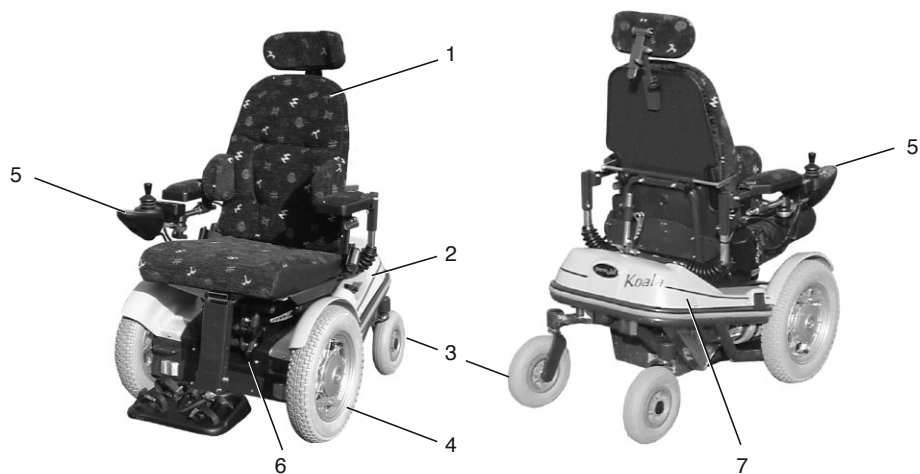
The electronics of a power wheelchair may be affected by external electromagnetic fields (for example from cell phones). Likewise the wheelchair electronics themselves may emit electromagnetic fields which may affect the environment (for example alarm systems in shops).

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

Permobil's power wheelchairs meet these threshold values.

# Design and Function

## General



- |                |                  |
|----------------|------------------|
| 1. Seat        | 5. Control panel |
| 2. Chassis     | 6. Battery cover |
| 3. Rear wheel  | 7. Chassis cover |
| 4. Drive wheel |                  |

*Fig.1. Koala*

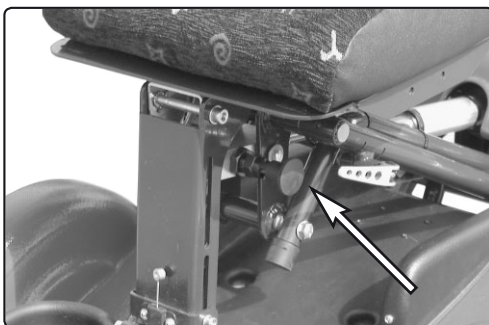
## Seat

See enclosed seat instructions.

### Seat lift/seat adjustment

Koala is fitted with an electrically controlled seat lift. A position adjuster operated from the control panel allows continuous adjustment of the seat to any height between 370-610 mm, permitting simple matching with table, seat heights etc. Whenever the seat lift is raised from its lowest position the chair's maximum speed is lowered to 3,5 km/h.

If the seat angle catch (Fig. 2) is released, the chair will tilt back when the seat lift reaches its highest position. Pull out the knob and twist to release the catch. The chair will not tilt while the catch is engaged.



*Fig. 2. Seat angle catch  
when pulled out*

The chair is fitted with two safety switches which cut off current to the seat lift if anything is trapped between the chassis and the seat. The safety switches are located on the battery cover.



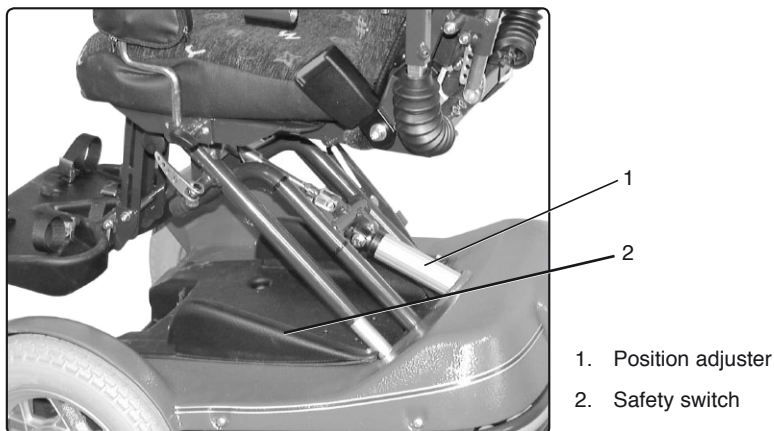
**WARNING !**

**Make sure nothing is trapped between the chassis and the seat when operating the seat lift.**



**WARNING !**

**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.**



*Fig. 3 Seat lift*

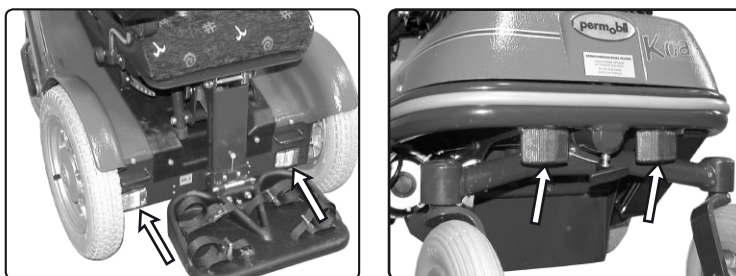
## **Wheels**

The front wheels of the wheelchair, the drive wheels, have pneumatic tyres. The swivel-mounted rear wheels have solid rubber tyres.

## **Reflectors**

The standard wheelchair has no lighting but is fitted with reflectors.

When travelling at night, lighting should be fitted. Available as an optional purchase.



*Fig. 4 Reflectors*

## Electrical system

The wheelchair batteries are situated under the battery cover in the centre of the chassis. The batteries are maintenance-free (jelly-type), so there is no need to check fluid levels.



*Fig. 5 Batteries*

## Drive system

The wheelchair has a drive pack for each drive wheel. The motors regulate speed, turning and braking. A joystick on the control panel passes signals to the electronic unit under the chassis cover on the right-hand side, which in turn controls the motors.



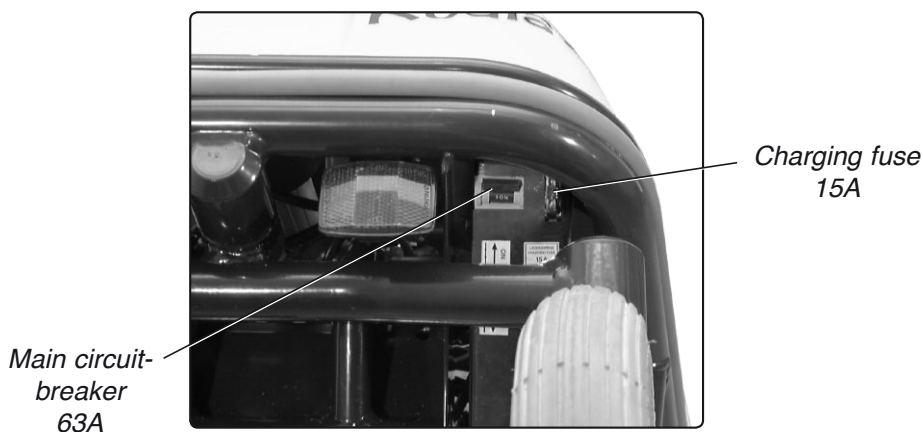
*Fig 6. Electric motor with driving gear.*

## Main circuit-breaker

You can reset the main circuit-breaker if it trips. It is on the underside of the chassis, over the right, rear wheel, see fig. 7. The main circuit-breaker is protected from dirt and water by a rubber flap, which you can easily fold back.

## Charging fuse

The charging fuse is next to the main circuit-breaker, on the underside of the chassis, over the right, rear wheel, see fig. 7.



*Fig.7. Main circuit-breaker and charging fuse*

## 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 fig. below shows the various functions of the control panel.

You can also have a seat control panel fitted to your wheelchair. You can then choose whether you want to adjust the electrical seat functions from the seat control panel.



*Fig. 8. Control panel Koala*

- |                              |                        |
|------------------------------|------------------------|
| 1. Selector                  | 6. Lights              |
| 2. Indicators                | 7. Indicators          |
| 3. Warning light             | 8. Horn                |
| 4. Switch, on/off            | 9. Joystick            |
| 5. Battery voltage indicator | 10. Seat control panel |



## Security key

The security key can be used to lock the wheelchair to prevent unauthorized use. To lock the wheelchair it must be switched on, the key should then be inserted into and withdrawn from the panel outlet, the wheelchair will now be locked.

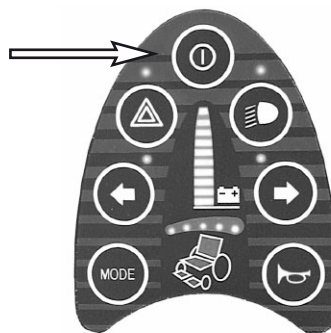
To unlock the wheelchair, switch it on. The maximum speed indicator will ripple up and down but driving will not be possible. The key should now be inserted into and withdrawn from the panel outlet, the wheelchair can now be driven.



*Fig.9. Panel outlet with security key*

## Start button

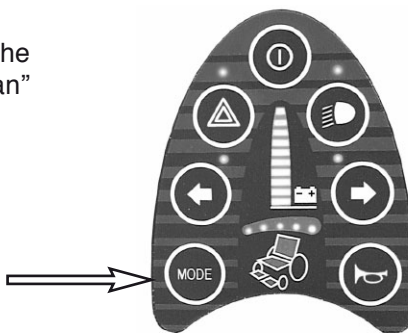
You use this button to start and stop the wheelchair. The start button must have been pressed for the chair to operate.



*Fig.10. Start button*

## MODE (selector)

You use this switch to activate the speed selector and "Leverman" (see page 33).



*Fig.11. Mode (selector)*

### Battery voltage indicator

The window display on the control panel (fig.12) shows the following indicator lights:

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

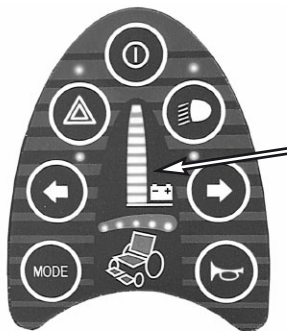


Fig.12. Battery voltage indicator

### Warning symbol

When you press the switch, the indicator lamps flash on the control panel for the warning symbol (red lamp) and for both indicator lights (green lamp). If your wheelchair has lights, both indicator lamps flash too, to attract attention.

**NB!** This function works even when the start button is switched off

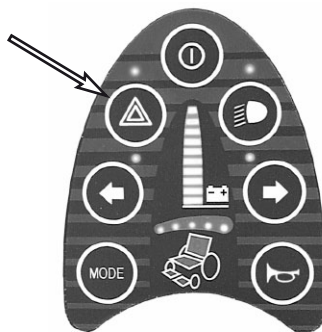


Fig. 13. Switch warning

### Speed selector

The speed can be set in 5 stages, and one or more of the indicator lamps light depending on which speed range has been selected.

1 - 2 lamps = Low speed  
 2 - 4 lamps = Medium speed  
 5 lamps = Maximum speed

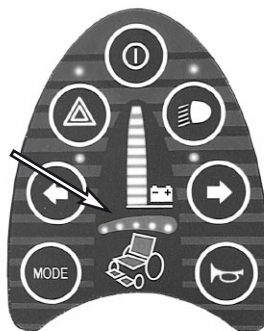


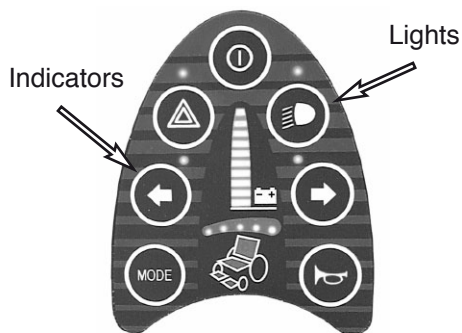
Fig. 14. Speed selector

### **Lights**

Press the switch to turn on the lights of the wheelchair.

### **Indicators**

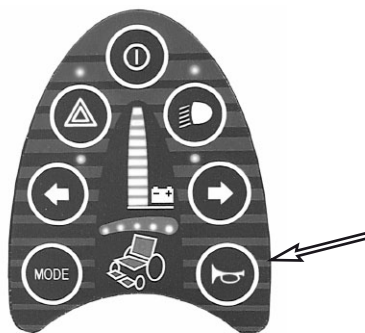
Pressing the right or left arrow activates the chair's indicators.



*Fig. 15. Light/indicator switches*

### **Warning horn**

Press the button to sound the horn and attract attention.



*Fig. 16. Horn 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 proportionally 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.



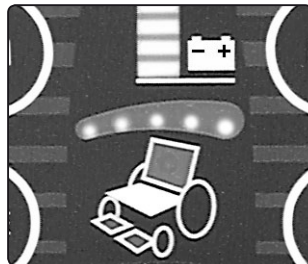
*Fig. 17. Joystick*

## Leverman (Joystick manager)

With the help of the Leverman, you can use the joystick to control the speed of the chair (5 positions), and seat lift.

### Operating the Leverman

1. Switch the start button on the control panel.
2. Press the MODE button. The battery indicator lights and the speed selector lights flash. Step the speed range up or down by moving the joystick right or left.
3. Press MODE to move through the program. The right foot-plate lights.
4. Move the joystick to the right and the seat lamp will come on. Moving the joystick forwards or backwards will raise or lower the height of the seat.
7. Press the MODE button again. The program ends and the chair is ready to drive.



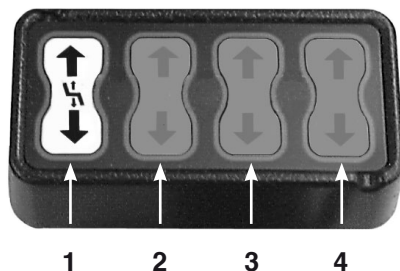
*Fig.18. Seat lift*

## Seat control panel

The seat control panel is attached to the right or left-hand armrest behind the control panel. The picture below show the function of the seat control panel.

### ***Seat lift, fig. 19:1***

The seat is raised when the top part of the seat lift button is pressed, and lowered when the bottom part of the button is pressed.



*Fig. 19. Seat control panel*

1. Seat lift
2. No function
3. No function
4. No function

## Joystick

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

## Speed

The speed is regulated proportionally 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.



*Fig 20. Regulation speed*

**Turning and braking**

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.



*Fig 21. Regulation turning*



# Accessory

We are constantly developing accessories for our wheelchairs. Contact your nearest Permobil retailer for more information about the accessories available for your wheelchair.

## Tool bag

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



Fig 22. Tool bag

Tool	Area of use
1 Pair of protective goggles	Work on the batteries
1 Set of Allen keys	General maintenance/adjustment of the seat
2 13 mm spanner	General maintenance, changing the battery
1 Seat lift crank	Raising the seat
1 Security key	Lock/Unlock the wheelchair

# 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 60 mm.

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. Switch on the wheelchair by pressing the start button on the control panel.

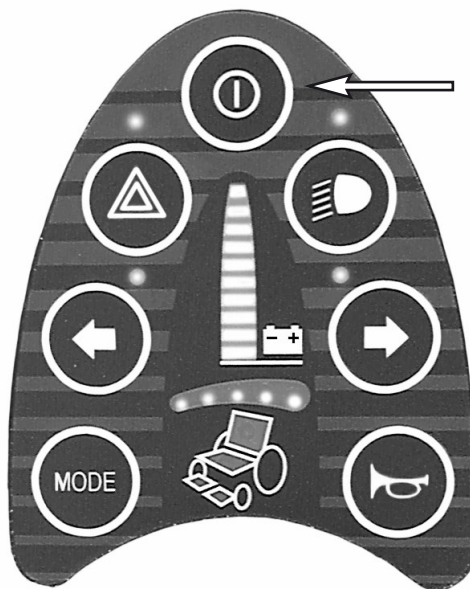
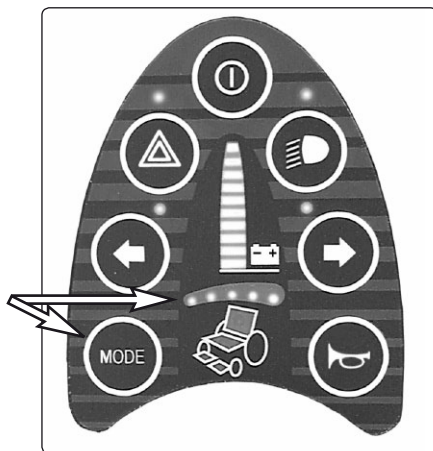


Fig. 23. Start button

2. Set a suitable speed range by first pressing the MODE button and then use the joystick to select the speed, until the desired indicator lamp comes on for your type of driving.



Increase speed = Step to the right.  
Reduce speed = Step to the left.

*Fig. 24. Speed selector*

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



*Fig. 25. Driving forward/backwards*

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

**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 center 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



Fig. 26. Steering

## Releasing the brakes



**WARNING !**

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

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

1. Press the on/off switch to switch off the wheelchair.
2. Move the lever, fig. 27, up. The chair can now be moved manually.

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



*Fig. 27. Releasing the brakes*

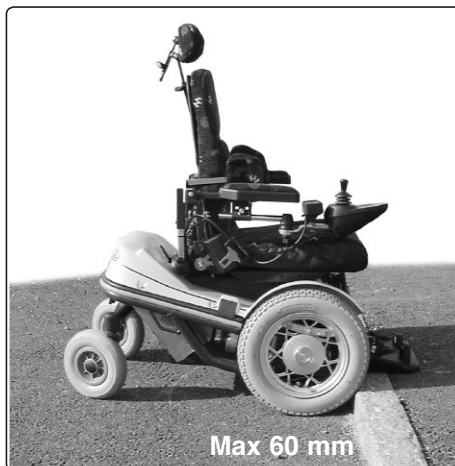
## Driving rules

### High curbs and other obstacles



**WARNING !**

**Do not drive the wheelchair over curbs and other obstacles higher than 60 mm.**



*Fig. 28. High curbs and other obstacles*

### Driving downhill

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

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

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



**WARNING !**

**Do not drive down slopes with a gradient greater than 6 degrees.**



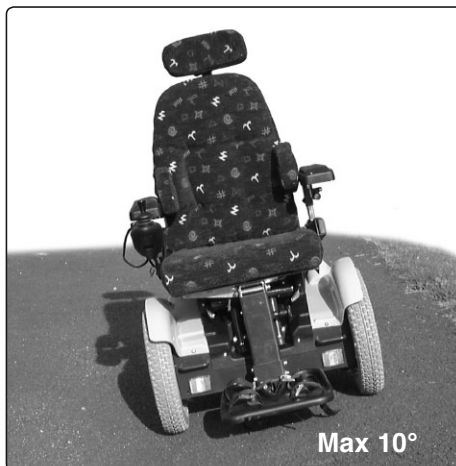
*Fig. 29. Driving downhill*

## Driving along slopes



**WARNING !**

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



*Fig. 30. Driving along slopes*

## Driving uphill

You should always drive uphill with great caution.

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

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



**WARNING !**

**Do not drive up slopes steeper than 10 degrees.**



*Fig. 31. Driving uphill*

## Battery charging



**WARNING !**

**Only carry out charging in a well-ventilated area, not a wardrobe etc. Do not charge up in a bathroom or other wet room.**



**WARNING !**

**Be careful with metal objects when working on the batteries. A short circuit could easily cause an explosion. Always wear safety 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.)



## When to recharge the batteries

To get the most out of the batteries with regard to running time each time they are charged as well as total lifetime, the batteries should be charged regularly. Always turn the wheelchair off when it is not in use and avoid running the batteries completely flat. Make a habit of charging the batteries whenever you are not using the wheelchair. You can see from the indicator on the manoeuvring panel of the wheelchair when the batteries are running low.

If you do run the batteries completely flat, it is important that you charge them up again as soon as possible, since running the batteries completely flat will shorten their lifetime.



**WARNING !**

---

**The charging cable on the charger must not be extended.**

---



**WARNING !**

---

**The charger may become warm, and should not be covered. The charger must be placed so that there is an air space all round it.**

---



**WARNING !**

---

**The charging plug must be replaced if it is damaged or heats up while charging. The switch on the flex to the charger and the charging socket on the wheelchair should both be replaced if either of them is damaged or worn. Replacement of plugs should be carried out by a qualified person.**

---

## Charging the batteries

*Read carefully through the instructions for using the battery charger before beginning to charge the batteries.*

1. Make sure that the wheelchair is turned off before beginning to charge the batteries. Then connect the mains cable of the battery charger to a suitable mains outlet.
2. Wait for the (red) Error lamp on the charger to show a steady light.
3. Connect the charging plug to the charging socket on the wheelchair.

The Error lamp will go out and both the Charging and the Completed lamps will light up for about a second while the charger checks the battery. Then the Charging lamp will light up if charging is necessary.

4. When the Completed lamp lights up, the battery is fully charged and the charger will automatically switch over to maintenance charging. Consumption of electricity during maintenance charging is very low, which means that the charger can be left connected to the wheelchair until you need to use it again. The charger cannot overload the batteries.

5. Before running the wheelchair, take the charging plug out of the charging socket on the wheelchair. The Completed lamp will then go out and the Error lamp will light up. If required, the charger can be disconnected by pulling out the mains plug.

6. If you wish to interrupt charging up (before the Completed lamp lights up) you should disconnect the mains connection before taking out the charging plug from the socket on the wheelchair, in order to avoid causing sparks and unnecessary wear on the charger socket.



*Connecting the charger*

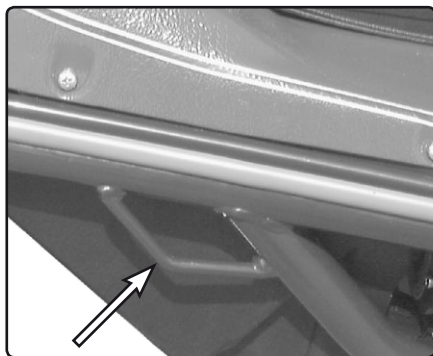
## Transport

We recommend that Permobil wheelchairs are transported on trailers. The Permobil can be locked in place with loading belts attached to the fixing loops on the front panel and at the side by the bumper. If the chair has to be transported in an estate car or other vehicle it is vital that the chair is properly fixed and that the fixing points used are well anchored.

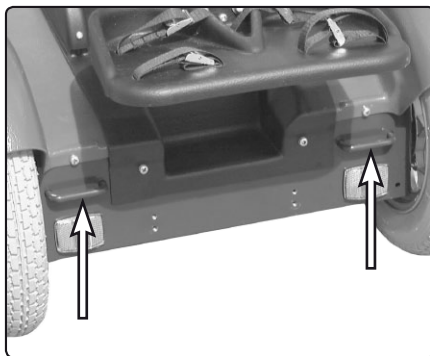


**WARNING !**

**A poorly fixed chair can cause serious injury to passengers if it comes loose, not to mention damage to the vehicle and the wheelchair itself.**



*Side fixing eyes*



*Front fixing eyes*

*Fig. 35. Wheelchair fixing eyes*

## 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 53 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 traveling beforehand.***

# Maintenance



**WARNING !**

**Before working on the wheelchair's electrical system the connection to the negative pole of the battery must always be removed.**

---



**WARNING !**

**Be careful with any metal objects when working on the battery. A short circuit could easily cause an explosion. Always wear safety gloves and goggles.**

---



**WARNING !**

**Make sure nothing is trapped between the chassis and the seat when operating the seat lift.**

---

## General

For optimum performance of your wheelchair it is important to take good care of it.

All wheelchairs are subject to wear, partly due to moving parts and partly due to stresses.

What you need to know is how your wheelchair works, how to drive and use it in the best way and how to take regular care of it.

The purpose of preventive maintenance is to prevent problems arising. If you look after your wheelchair it will function well and the risk of faults will be reduced.

## Cleaning

Clean the wheelchair often. After use outdoors it should be cleaned even more thoroughly. Use a damp cloth with a mild soap solution to wipe off dirt and dust.

Once in a while remove the battery and chassis covers and clean them thoroughly, wiping their undersides with a damp cloth.

**NB!** Do not hose down your wheelchair! The electronics may be damaged.

## Wheels

Regularly check the wheels for the correct tyre pressure. Top up the air if necessary. See page 55.

## 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.

## Batteries

### Storage

Note that a battery will run down of its own accord and a run-down battery will be ruined if it freezes in cold weather. If the wheelchair is to be kept unused for a lengthy period, the batteries must always be recharged once a month to prevent damage.

**NB!** The temperature in the place of storage must not fall below 5°C.

The Permobil Koala has maintenance-free jelly-type batteries. This means there is no need to check fluid levels.

Battery life depends entirely on regular charging.



*Fig. 36. Batteries*

## Repairs

### Resetting the main fuse/battery cut-out

The main fuse also functions as a battery cut-out but is still referred to as the main fuse in the user instruction.

**NB!** First switch off the power on the manoeuvring panel before switching the power off on the main fuse.

#### Main fuse

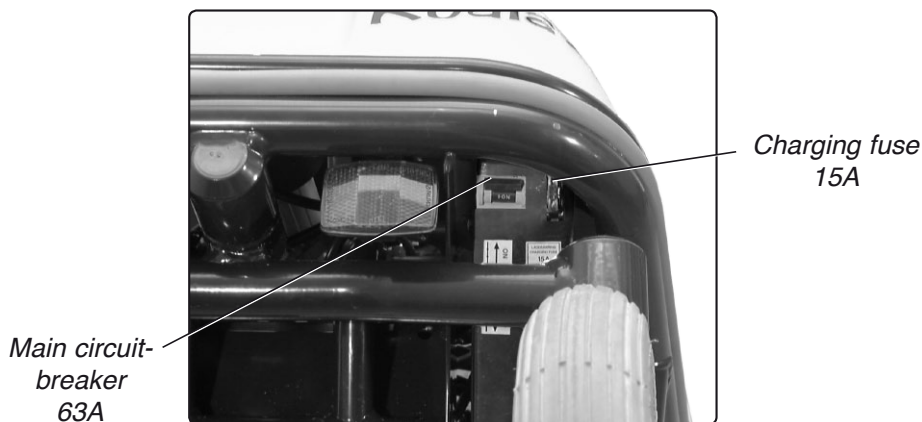
You don't normally need to change the main fuse, as you can reset it when it trips. You reset it by switching it to the "ON" position. The main fuse is under the chassis, over the right, rear wheel, see fig. 37.

**NB!** If the main fuse trips, it usually means that there is a serious electrical fault. Check the cause carefully before you reset the circuit breaker.

### Charging fuse

The charging fuse is next to the main circuit-breaker, see fig. 37.

**NB!** The wheelchair should be inoperative when you change the charging fuse.



*Fig.37. Main circuit-breaker and charging fuse*

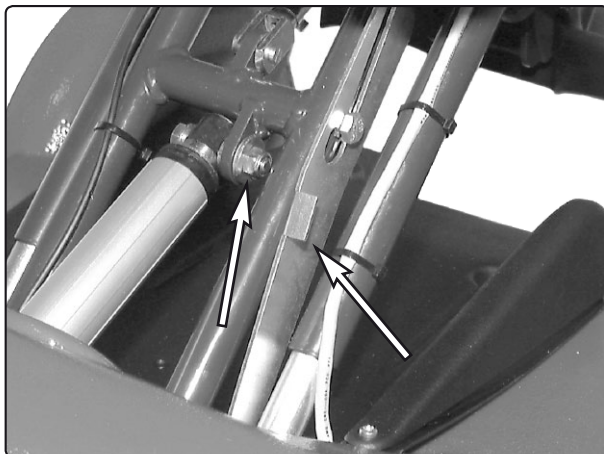
## Raising/lowering the seat manually

1. When you are raising the seat, remove the cushion and screw out the three screws that hold the seat, when lowering, go straight to point 2.
2. Remove the screw that holds the positioning-motor cylinder bar in the seat lift, see fig. 38.
3. Raise/lower the seat lift. When raising the seat, you can use the catch to hook it up, see fig 38.



**WARNING !**

**The seat is heavy, and you must handle it carefully to avoid injury.**



*Fig. 38. Fixing screws and catch on cylinder rod*



## Changing batteries

1. Set the Permobil on an even surface.
2. Raise the seat lift to its full height.
3. Switch off the main switch.
4. Loosen the battery cover and disengage the terminal protection connector.

**NB!** Be careful when removing the battery cover. The cable connector under the cover can cause injury.

5. Loosen the battery connections. First the negative, then the positive pole.



*Fig. 39. Battery Connections*

6. Remove the spacer plate
  7. Lift out the batteries.
  8. Set in two new batteries.
- NB!** Location
9. Replace spacer plate
  10. Connect the battery connections, first the positive, then the negative pole.
  11. Replace the battery cover (not forgetting the terminal protection connector) and lower the seat lift.
  12. Charge the batteries, see Charging pages 44-46.

## Changing an inner tube

1. Set up the wheelchair on blocks and let out the air.
2. Lever the tyre out of the rim.
3. Replace the defective inner tube.
4. Replace the tyre on the rim and reinflate.



*Fig. 40. Air valve*

## Filling with air

Low air pressure in the tyre will cause abnormal wear and a shorter travelling range. So, check regularly that the pressure in the front tyres is up to 200 kPa. (2 bar).

1. Unscrew the plastic cap on the drive wheel air valve.
2. Attach a compressed air nozzle to the air valve and adjust the tyre-pressure to the prescribed level.



**WARNING !**

**The recommended air pressure is 200 kPa (2 bar). Overfilling entails the risk of explosion.**

---

# Data

## General

Name .....	Koala
Wheelchair type.....	B

## Size and weight

Lenght.....	96 cm
Width .....	56 cm
Seat height .....	37-61 cm
Smallest transport size, lxbxh .....	71x56x80
Weight incl. batteries .....	92 kg with Mini-Flex-seat
Maximum weight of user .....	See the supplied Owner's manual for the seat.

## Wheels

Tire size, front.....	2,50 x 8
Air pressure, fronttires .....	200 kPa. (2 bar)
Tire size, back .....	200 x 50

## Performance

Range .....	20 - 25 km
Max speed, forward.....	6,5 km/h
Max speed, backwards.....	3,7 km/h
Turning distance, 180 degrees.....	930 mm
Ability to negotiate obstacles.....	60 mm
Hill climbing capability, downhill .....	6 degrees
Hill climbing capability, uphill.....	10 degrees
Safe slope .....	6 degrees

**Electrical system**

**Electronics**

PM80 Pilot+

**Control panel**

JSM-L 7key Pilot+

**Batteries**

Recommended battery type ..... Gel  
Battery capacity..... 2 x 38Ah  
Charging time ..... 8 hours

**Fuses**

Charging fuse ..... 15A  
Mainfuse..... 63A



