



# Invacare® Mistral Plus

**Electric wheelchair  
User manual**

CE



## How can you get in touch with Invacare®?

If you have any questions or need support, please contact your authorised Invacare® Dealer, who has the necessary know-how and equipment plus the special knowledge concerning your Invacare® product, and can offer you all-round satisfactory service. Should you wish to contact Invacare® directly, you can reach us in Europe at the following addresses and phone numbers.

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# 1 Introduction

**Dear user,**

First we would like to thank you for purchasing our product! We hope that you will have a great deal of pleasure with your new power chair.

**This operating manual contains important information and notes about:**

- **Safety**
- **Operation**
- **Care and maintenance**

**Please take care to read the operating manual thoroughly before starting out on your first journey.**

This wheelchair has been constructed for a large circle of users with different requirements.

The decision whether the model is suitable for the user may only be taken by medical specialists with appropriate expertise.

Invacare® or their statutory representatives can accept no liability in cases in which the wheelchair has not been adapted to suit the users' handicaps.

Some maintenance and settings can be performed by the user or his/hers attendants. Certain adjustments do however require technical training and may only be carried out by your Invacare® specialist dealer. Damages and errors caused by nonobservance of the operating manual or as a result of incorrect maintenance are excluded from all guarantees.

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## 1.1 Important symbols in this manual

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### **WARNING!**

This symbol warns you of danger!

- *Always follow these instructions to avoid injury to the user or damage to the product!*
- 



### **EXPLOSION HAZARD!**

This symbol warns you of an explosion hazard, which, for example, can be caused by excessive tyre pressure in a pneumatic tyre!

- *Always follow the instructions to avoid injury to the user or damage to the product!*
- 



### **BURN HAZARD!**

This symbol warns you of burns due, for example, to leaking battery acid!

- *Always follow the instructions to avoid injury to the user or damage to the product!*
- 



### **NOTE:**

This symbol identifies general information which is intended to simplify working with your product and which refers to special functions.

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### **Requirements:**

- This symbol identifies a list of various tools, components and items which you will need in order to carry out certain work.
- 



### **READ WELL BEFORE OPERATION!**

This symbol advises you to read information carefully.

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## 1.2 Important symbols found on the vehicle



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This product has been supplied from an environmentally aware manufacturer that complies with the Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/CE. This product may contain substances that could be harmful to the environment if disposed of in places (landfills) that are not appropriate according to legislation.

- *The 'crossed out wheeled bin' symbol is placed on this product to encourage you to recycle wherever possible.*
  - *Please be environmentally responsible and recycle this product through your recycling facility at its end of life.*
- 



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This symbol indicates the position of an anchoring point for use with a tie-down system.

If the symbol appears on a bright yellow sticker, the anchoring point is suitable for fixation of the wheelchair in a vehicle for use as a vehicle seat.

If the symbol appears on a transparent sticker, the anchoring point can only be used to tie down the wheelchair for transport without the occupant seated in it.

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This wheelchair may be used as a vehicle seat, but only if it is equipped with the headrest that has been approved by Invacare for this purpose!

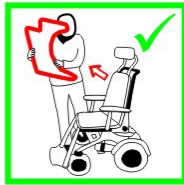
- *Please always make sure that the wheelchair is equipped with the headrest available from Invacare before using it as a vehicle seat!*
-



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This symbol indicates the maximum width to which an armrest may be adjusted. Pulling the armrest out further can cause it to fall out of its fixation. For further information, see chapter "Fehler! Verweisquelle konnte nicht gefunden werden." on page Fehler! Textmarke nicht definiert..

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If the electric wheelchair is fitted with a table, it is imperative that it is removed and safely stowed when transporting the wheelchair in a vehicle!

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## 1.3 Type classification and permissible use

This vehicle was designed for persons whose ability to walk is impaired, but who are still physically and mentally able to operate an electric vehicle. It has been classified according to EN 12184 as a **class B mobility product** (for indoor and outdoor areas). It is therefore compact and agile enough for indoor areas, but also able to overcome many obstacles in outdoor areas.

You can find exact information on speed, turning radius, range, safe climbing ability, maximum obstacle height and permissible operating conditions in chapter "**Technical Specifications**" starting from page 92.

Please also pay attention to all safety information in chapter "**Safety Notes**" starting from page 16.

The vehicle was successfully tested according to German and international standards as to its safety. It was also tested successfully according to EN60529 IPX4 as to its resistance to spray water, and is therefore well suited for typical middle European weather conditions. When equipped with an appropriate lighting system, the vehicle is suitable for use on public roads.

## 1.4 Guarantee

The terms and conditions of the guarantee are part of the general terms and conditions particular to the individual countries in which this product is sold.

## **1.5 Indications**

The use of this mobility product is recommended for the following indications:

The inability or a greatly restricted ability to walk within the scope of the basic requirement to be able to move within one's own four walls. The need to leave the dwelling place in order to get some fresh air during a short walk or to reach those places generally to be found at close distance to the dwelling and where everyday business is carried out.

Provision of electric wheelchairs for interior and exterior areas is advisable if the use of hand-operated wheelchairs is no longer possible on account of the disability, yet proper operation of an electromotive drive unit is still practicable.

## **1.6 Life expectancy**

We estimate a life expectancy of five years for this product, provided it is used in strict accordance with the intended use as set out in this document and all maintenance and service requirements are met. The estimated life expectancy can be exceeded if the product is carefully used and properly maintained, and provided technical and scientific advances do not result in technical limitations. The life expectancy can also be considerably reduced by extreme or incorrect usage. The fact that we estimate a life expectancy for this product does not constitute an additional warranty.

## 2 Safety Notes



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**READ WELL BEFORE OPERATION!**

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### 2.1 General Safety Notes



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**Danger of injury if mobility device is used in any other way than the purpose described in this manual!**

- *Only ever use the mobility device in accordance with the instructions in this User's Manual (see chapter "Type classification and permissible use" on page 14).*
- *Pay strict attention to the safety information.*

**Danger of injury if the mobility device is driven when ability to operate a vehicle is impaired by medication or alcohol!**

- *Never drive the mobility device under the influence of medication or alcohol. If necessary, the mobility device must be operated by an attendant who is physically and mentally able.*

**Danger of damage or injury if mobility device is accidentally set into motion!**

- *Switch the mobility device off before you get in, get out or handle unwieldy objects.*
  - *When the drive is disengaged, the brake inside the drive is deactivated. For this reason, pushing the mobility device by an attendant is only recommended on flat surfaces, never on gradients. Never leave your mobility device on a gradient with its motors disengaged. Always re-engage the motors immediately after pushing the mobility device (see chapter "Pushing the wheelchair in freewheel mode" on page 30).*
-



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**Danger of injury if the mobility device is switched off while driving, for example by pressing the On/Off Button or disconnecting a cable, due to it coming to an abrupt, sharp stop!**

- *If you have to brake in an emergency, simply release the joystick which will bring you to a halt. (refer to the joystick operating manual for more information).*

**Danger of injury when transferring mobility device to a vehicle for transport with the occupant seated in it!**

- *It is always better to transfer the mobility device to a vehicle without the occupant seated in it.*
- *If the mobility device needs to be loaded up a ramp together with its driver, ensure that the ramp does not exceed the maximum safe slope (see chapter "Technical Specifications" from page 92).*
- *If the mobility device does need to be loaded using a ramp which exceeds the maximum safe slope (see chapter "Technical Specifications" from page 92), then you must use a winch. An attendant can safely monitor and assist the loading process.*
- *As an alternative you can use a platform lift. Ensure that the total weight of the mobility device including the user does not exceed the maximum permissible weight for the platform lift or winch if you are using.*

**Danger of injury if maximum permissible load is exceeded!**

- *Do not exceed the maximum permissible load (see chapter "Technical Specifications" from page 92).*
  - *The mobility device is only designed for use by a single occupant whose maximum weight does not exceed the maximum permissible load of the chair. Never use the mobility device to transport more than one person.*
-



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**Danger of injury due to wrong lifting or dropping of heavy components!**

- *When maintaining, servicing or lifting any part of your mobility device, take into account the weight of the individual components especially the batteries. Be sure at all times to adopt the correct lifting posture and ask for assistance if necessary.*

**Danger of falling out of the mobility device.**

- *Do not slide forward on the seat, do not lean forward between your knees, do not lean backwards out over the top of the backrest, for example to reach an object.*
- *If a posture belt is installed, it should be correctly adjusted and used each time you use the mobility device.*
- *When transferring to a different seat, position the mobility device as close as possible to the new seat.*

**Danger of injury by moving parts!**

- *Make sure that no injury is incurred by moving parts of the mobility device, like wheels or one of the Lifter Modules (if fitted), especially when children are around.*

**Danger of fire or breaking down due to electric devices being connected!**

- *Do not connect any electric devices to your mobility device that are not expressly certified by Invacare® for this purpose. Have all electrical installations done by your authorised Invacare® Dealer.*
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## 2.2 Safety information with regard to care and maintenance



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### **Danger of accident and loss of guarantee if maintenance is insufficient!**

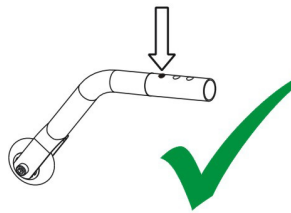
- *For reasons of safety and in order to avoid accidents which result from unnoticed wear, it is important that this electric mobility product undergoes an inspection once every year under normal operating conditions (see inspection plan contained in service instructions).*
  - *Under difficult operating conditions such as daily travel on steep slopes, or in the case of use in medical care cases with frequently changing wheelchair users, it would be expedient to carry out intermediate checks on the brakes, accessories and running gear.*
  - *If the mobility product is to be operated on public roads, the vehicle driver is responsible for ensuring that it is in an operationally reliable condition. Inadequate or neglected care and maintenance of the mobility product will result in a limitation of the manufacturer's liability.*
-

## 2.3 Safety information on the anti tip wheels



**CAUTION: Danger of tipping over!** The anti tip wheels have three settings. They can only have full effect in the longest setting and prevent the wheelchair tipping over.

- *The anti tip wheels must always be set in the longest (rear) position. Both front settings must not be used.*



**CAUTION: Danger of tipping!** Anti tip wheels (stabilisers) are only effective on firm ground! They sink in on soft ground such as grass, snow or mud if the electrical vehicle rests itself on them. They lose their effect and the electrical vehicle can tip over.

- *Only drive with extreme care on soft ground, especially during uphill and downhill journeys. In the process pay increased attention to the tip stability of the electric vehicle.*

## 2.4 Safety Information on Electromagnetic Interference

This electric vehicle was successfully tested in accordance with International standards as to its compliance with Electromagnetic Interference (EMI) Regulations. However, electromagnetic fields, such as those generated by radio and television transmitters, and cellular phones, can influence the functions of electric vehicles. Also, the electronics used in our vehicles can generate a low level of electromagnetic interference, which however will remain within the tolerance permitted by law. For these reasons we ask you to please observe the following precautions:



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**WARNING: Danger of malfunction due to electromagnetic interference!**

- *Do not switch on or operate portable transceivers or communication devices (such as radio transceivers or cellular phones) when the vehicle is switched on.*
  - *Avoid getting near strong radio and television transmitters.*
  - *In case the vehicle should be set in motion unintentionally or the brakes are released, switch it off immediately.*
  - *Adding electrical accessories and other components or modifying the vehicle in any way can make it susceptible to electromagnetic interference. Keep in mind that there is no sure way to determine the effect such modifications will have on the overall immunity of the electronic system.*
  - *Report all occurrences of unintentional movement of the vehicle, or release of the electric brakes to the manufacturer.*
-

## 2.5 Safety Information on Driving and Freewheel Mode

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### **Danger of injury if the wheelchair tips over!**

- *Inclines and declines can only be travelled up to the maximum safe slope (see chapter "Technical Specifications" from page 92).*
  - *Always return the backrest of your seat or the seat tilt to an upright position before ascending slopes. We recommend that you position the seat backrest and the seat tilt (if fitted) slightly to the rear before descending slopes.*
  - *Only ever drive downhill at a maximum of 2/3 of the top speed. Avoid abrupt braking or accelerating on gradients.*
  - *If at all possible, avoid driving on slippery surfaces (such as snow, gravel, ice etc.) where there is a danger of you losing control over the vehicle, especially on a gradient. If driving on such a surface is inevitable, then always drive slowly and with the utmost caution.*
  - *Never attempt to overcome an obstacle when on an uphill or downhill gradient.*
  - *Never attempt to drive up or down a flight of steps with your wheelchair.*
  - *When overcoming obstacles, always observe the maximum obstacle height (see chapter "Technical Specifications" from page 92 and information about overcoming obstacles in chapter "Taking Obstacles" from page 28).*
  - *Avoid shifting your centre of gravity as well as abrupt joystick movements and changes of direction when the wheelchair is in motion.*
  - *Never use the wheelchair to transport more than one person.*
  - *Do not exceed the overall maximum permissible load or the maximum load per axle (see chapter "Technical Specifications" on page 92).*
  - *Note that the wheelchair will brake or accelerate if you change the Driving Mode whilst the wheelchair is in motion.*
-



**Danger of breaking down in adverse weather conditions, i.e. extreme cold, in an isolated area!**

- *If you are a user with severely limited mobility, we advise that in the case of adverse weather conditions DO NOT attempt a journey without an accompanying attendant!*

**Danger of injury if your foot slides off the footrest and gets caught underneath the wheelchair when it is in motion!**

- *Make sure each time before you drive the wheelchair that your feet are squarely and securely in place on the footplates, and that both legrests are properly locked into place.*

**Danger of injury if you collide with an obstacle when driving through narrow passages such as doorways and entrances!**

- *Drive through narrow passages in the lowest driving mode and with due caution.*

**If your electric wheelchair has been fitted with angle-adjustable legrests, there is a danger of personal injury and damage to the wheelchair if you drive the wheelchair with the legrests raised!**

- *To avoid unwanted displacement of the wheelchair centre of gravity to the front (especially when travelling downhill) and in order to avoid damage to the wheelchair, angle-adjustable legrests must always be lowered during normal travelling.*
- 



**CAUTION: Danger of tipping! Anti tip wheels (stabilisers) are only effective on firm ground! They sink in on soft ground such as grass, snow or mud if the electrical vehicle rests itself on them. They lose their effect and the electrical vehicle can tip over.**

- *Only drive with extreme care on soft ground, especially during uphill and downhill journeys. In the process pay increased attention to the tip stability of the electric vehicle.*
-

### 3 The most important components

- 1) Push Handle
- 2) Armrest
- 3) Battery box
- 4) Drive motor
- 5) Backrest
- 6) Joystick Box
- 7) Legrests
- 8) Declutching lever



## 4 Getting in and out of the wheelchair



**Danger of injury if legrests break due to use as a stepping board!**

- *Do not use the legrests as a stepping board when getting in and out of the wheelchair!*

### 4.1 Removing / inserting armrest

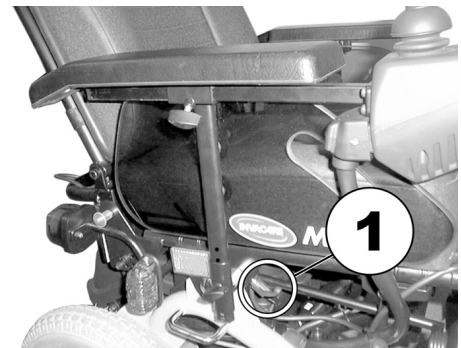
To get in and out from the side, the armrest must be removed.

#### Removing

- Release the clamping lever (1).
- Pull the armrest up out of its holder.

#### Re-fitting:

- Place the armrest tube into its holder.
- Re-tighten the clamping lever (1).



**Getting into the wheelchair:**

- Position your wheelchair as close as possible to your seat. This might have to be done by an attendant.
- Switch your wheelchair off.
- Apply the manual wheel lock of your wheelchair (if existing).
- Detach the skirt guard of your wheelchair or swivel it up.
- Now slide into the wheelchair.

**Getting out of the wheelchair:**

- Drive your wheelchair as close as possible to your seat.
- Switch your wheelchair off.
- Apply the manual wheel lock of your wheelchair (if existing).
- Detach the skirt guard of your wheelchair or swivel it up.
- Now slide onto your new seat.

**NOTE:**

If you do not have sufficient muscle strength, you should ask other persons for help. Use a sliding board, if possible.

## 5 Driving

---



### NOTE

The maximum load capacity that is stated in the technical data only states that the system is designed for this mass in total. However, this does not mean that one can sit a person with this body weight in the wheelchair without restrictions. Attention must be paid to the body proportions, such as height, weight distribution, abdominal girth, leg and calf girth and seat depth. These factors have a strong influence on driving features such as tilt stability and traction. The permissible axle loads in particular must be adhered to (see chapter "**Technical Specifications**" as from page 92)! It may possibly be necessary to carry out adaptations to the seat system.

---

### 5.1 Before driving for the first time...

Before you take your first trip, you should familiarise yourself well with the operation of the vehicle and with all operating elements. Take your time to test all functions and driving modes.

---



### NOTE:

If installed, make sure to properly adjust and use the posture belt each time you use the wheelchair.

---

#### **Sitting Comfortably = Driving Safely**

**Before each trip, make sure that:**

**You are within easy reach of all operating controls.**

- **The battery charge is sufficient for the distance intended to be covered.**
- **The posture belt (if installed) is in perfect order.**

## 5.2 Taking Obstacles

Your wheelchair can overcome obstacles and kerbs with the following heights.

- Invacare® Mistral without kerbrider: 6 cm
- Invacare® Mistral with kerbrider: 10 cm



---

### CAUTION: Danger of Tipping Over!

- *Never approach obstacles at an angle but at 90 degrees as shown below.*
  - *Put your backrest into an upright position before climbing an obstacle.*
- 

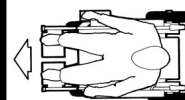
#### Driving up over an obstacle

- Approach the kerb or obstacle slowly head-on. Shortly before the front wheels or kerb-lifter touch the obstacle, increase the speed and reduce only after also the rear wheels have climbed the obstacle.

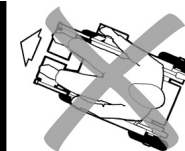
#### Driving down off of an obstacle

- Approach the kerb or obstacle slowly head-on. Before the front wheels touch the obstacle, reduce the speed and keep it until also the rear wheels have climbed the obstacle.

#### Correct



#### Incorrect



## 5.3 Driving up and down gradients

For information concerning the maximum safe slope, please see chapter "**Technical Specifications**" starting on page 92.



---

**WARNING: Danger of tipping over!**

- *Only ever drive downhill at a maximum of 2/3 of the top speed. Avoid sudden changes of direction or abrupt braking when driving on slopes.*
  - *Always return the backrest of your seat or the seat tilt (if adjustable seat tilt is available) to an upright position before ascending slopes. We recommend that you position the seat backrest or the seat tilt slightly to the rear before descending slopes.*
  - *Always lower the lifter (if fitted) to its lowest position before ascending or descending a slope.*
  - *Never attempt to ascend or descend a slope on slippery surfaces or where there is a danger of skidding (such as wet pavement, ice etc).*
  - *Avoid trying to get out of the vehicle on an incline or a gradient.*
  - *Always drive straight in the direction the road or path you are on goes, rather than attempting to zigzag.*
  - *Never attempt to turn around on an incline or a slope.*
- 

## 5.4 Parking and stationary

**When you leave your wheelchair standing still for a longer period of time:**

- Switch the Joystick Box OFF (ON/OFF Button).

**When parking your vehicle:**

- Activate the Drive Away Interlock, if available.

## 6 Pushing the wheelchair in freewheel mode

### 6.1 Disengaging Motors

The motors of the wheelchair are equipped with automatic brakes, preventing that the wheelchair starts rolling out of control when the joystick box is switched off. When pushing the wheelchair manually whilst freewheeling, the magnetic brakes must be disengaged.



---

**Danger of the vehicle running away!**

- *When the motors are disengaged (for push operation whilst freewheeling), the electromagnetic motor brakes are deactivated! When the vehicle is parked, the levers for engaging and disengaging the motors must without fail be locked firmly into the "DRIVE" position (electromagnetic motor brakes activated)!*
- 

The disengagement lever is located at the right side of the wheelchair.

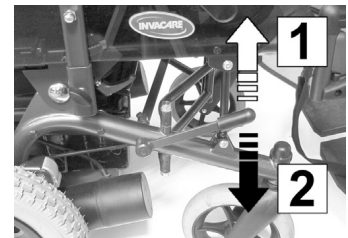
**Disengage Motors (1)**

- Switch off joystick box.
- Pull lever upwards.

**Engage Motors (2)**

- Press lever downwards.

Lever for engagement and disengagement of the motors



## **7 Remotes**

Your wheelchair may be equipped with one of several different remotes. For information on the different functions and how to operate a particular remote, please see its corresponding User Guide.

## 8 Adjustment Options

This chapter will cover different ways to adapt the wheelchair to suit the user's sitting posture, for example:

- Adjusting the angle of the backrest
- Adjusting the seat tilt
- Adjusting the height and the length of the Joystick Box

### 8.1 Adjusting angle of the backrest

Depending on the wheelchair configuration, the backrest of the Mistral can be adjusted in one of three different ways:

- By means of a metal plate with sets of holes in it, which allows different angles to be pre-set.
- By means of a manually activated gas pressure spring.
- By means of an electrical actuator that is controlled via the Joystick Box.

The first two options will be described in this section. For information on adjustment by means of an electrical actuator, see chapter "**Fehler! Verweisquelle konnte nicht gefunden werden.**" on page **Fehler! Textmarke nicht definiert.**

### 8.1.1 Adjusting the backrest using the metal plate with holes



---

**Requirements:**

- Open-end spanner 10 mm
  - Allen key 5 mm
- 

The metal plate with screw-holes determines the angle of the backrest, which attaches the backrest to the frame.

By selecting different combinations of holes, the angle can be adjusted in a range between 0° and 36°, in increments of 4.5° (see drawing).

**Position of the metal plate**

### Adjusting angle of the backrest

- Remove the screw using the 5 mm Allen key and the 10 mm open-end spanner.
- Determine which holes are to be used to adjust the Backrest to the desired angle.
- Re-fasten the backrest frame using the hole combination selected.

**Metal plate with holes**



---

#### **NOTE**

To make it easier to re-position the screws that hold the backrest, it may be held in place by a second person.

---

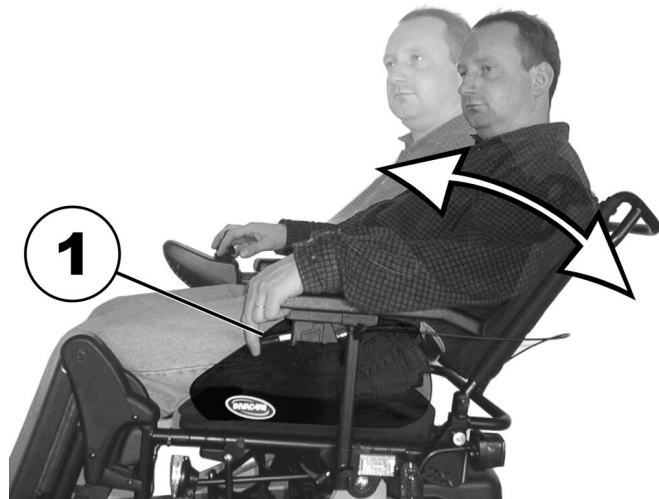
## 8.1.2 Adjusting the backrest using the gas pressure spring

The lever for adjusting the backrest is located on the opposite side from the Joystick Box under the armrest.

The angle can be adjusted continuously between 0° and 30°.

### Adjusting angle of the backrest

- Pull lever (1) upward.
- Adjust backrest angle by leaning forward or backward.
- Release the lever again. The backrest is locked at the desired angle.



---

#### NOTE

If the lever is pulled upwards and inwards at the same time, it will latch into a notch at the top. Push the lever out of the notch to release it, and allow it to be moved down again.

---

## 8.2 Adjusting the seat tilt

Depending on the version, the seat angle on the Mistral can be either adjusted manually or electrically using the remote. Please see the relevant separate instruction manual for your remote for information on electrical adjustment via the actuator.

### 8.2.1 Adjusting the seat angle manually

The Mistral seat angle with manual adjustment has four different positions. The angle is adjusted using two wing nuts which can be found to the left and right under the seat.

#### Position of the thumb screws





**WARNING: Danger of injury if support rods are not correctly secured! The seat tilt can be released unintentionally by abrupt braking and maneuvering!**

- *When tightening the thumb screws, make sure they securely fit into the notches in the support rods!*
- 



**WARNING: Danger of injury!**

- *The user must not be in the wheelchair whilst the seat tilt is being adjusted!*
- 

#### **Adjusting the seat tilt**

- Loosen both thumb screws.
- Adjust the seat tilt to the desired angle by lifting or lowering the seat frame.
- Re-tighten both thumb screws again in the desired notches.

## 8.3 Adjusting the armrests

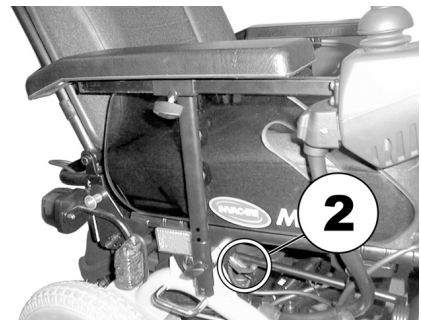
### 8.3.1 Adjusting the height

- Loosen thumb screw (1).
- Adjust the armrest to the desired height.
- Tighten the thumb screw again.



### 8.3.2 Adjusting the width of the side parts

- Release the clamping lever (2).
- Pull the side parts outwards until the desired width is reached.
- Re-tighten the clamping lever.

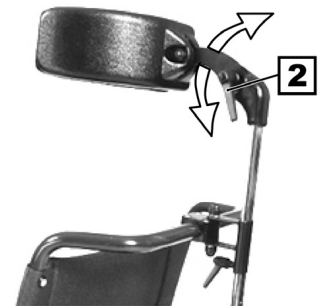


## 8.4 Adjusting the headrest

### 8.4.1 Adjusting the angle of the headrest

- Release the clamping lever (2).
- Adjust the headrest to the desired position.
- Re-tighten the clamping lever.

#### Adjusting the position



### 8.4.2 Adjusting the height of the headrest

- Release the clamping lever (1).
- Adjust the headrest to the desired height.
- Re-tighten the clamping lever.

#### Adjusting the height



## 8.5 Postural belts

A postural belt is an option which can either be fixed to the wheelchair ex-works or can be retrofitted by your specialist dealer. If your wheelchair is fitted with a postural belt, your specialist dealer will have informed you about fitting and usage.

The postural belt is used to help the wheelchair user keep an optimum sitting position. Correct use of the belt assists the user in sitting securely, comfortably and well-positioned in the wheelchair, especially for such users who do not have such a good sense of balance while sitting.



---

### NOTE:

We recommend using the postural belt whenever the wheelchair is used. The belt should be tight enough to ensure that you are sitting comfortably and that your body is in the correct sitting position.

---

### 8.5.1 Types of postural belts

Your wheelchair can be fitted with the following postural belt types ex-works. If your wheelchair has been fitted with a different belt to those listed below, please ensure that you have received the manufacturer's documentation with regard to correct fitting and use.

#### **Belt with metal buckle, adjustable one side**

Belt can only be adjusted on one side which can result in the buckle not sitting centrally.



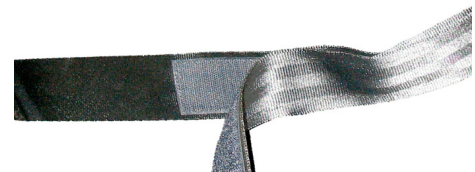
### **Belt with metal buckle, adjustable both sides**

Belt can be adjusted on both sides. This means that the buckle can be centrally positioned.



### **Belt with Velcro fastening**

Adjustments are made using the Velcro fastening. For this reason no buckle is required on this belt.



## **8.5.2 Adjusting the postural belt correctly**

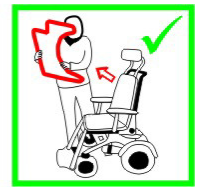
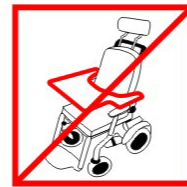
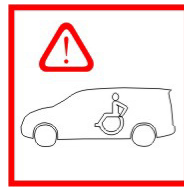
- Ensure that you are sitting correctly, which means that you are sitting right at the back of the seat, your pelvis is positioned erect and as symmetrically as possible, not to the front, to the side or at one edge of the seat.
- Position the postural belt so that your hipbones can be easily felt above the belt.
- Adjust the belt length using one of the adjustment aids described above. The belt should be adjusted so that you can fit a flat hand between the belt and your body.
- The buckle should be positioned as centrally as possible. In doing so, please carry out adjustments on both sides as much as possible.
- Please check your belt every week to ensure that it is still in good working condition; to ensure it has no damage or wear, and that it is fixed properly to the wheelchair. If the belt is only fastened with a bolted connection, ensure that the connection has not loosened or undone. You can find more information about maintenance work on belts in the service manual, which is available from Invacare®.

## 8.6 Adjusting and removing the tray



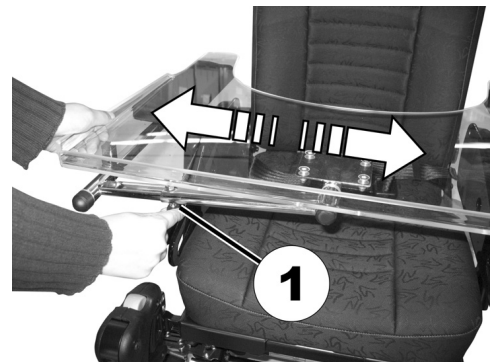
**CAUTION: Injury hazard or material damage if an electric wheelchair which is fitted with a table is transported in a vehicle!**

- *If a table is fitted, always remove it before transporting the wheelchair.*



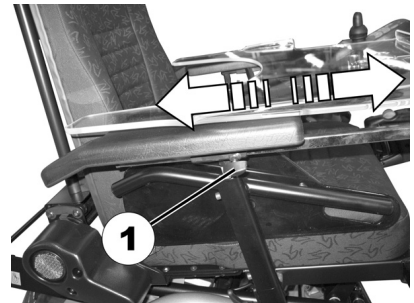
### 8.6.1 Laterally adjusting the tray

- Loosen the wing-screw (1).
- Adjust the tray towards the left or right.
- Re-tighten wing-screw.



### 8.6.2 Adjusting the depth of the tray / removing the tray

- Loosen the wing-screw (1).
- Adjust the table to the desired depth (or remove it entirely).
- Re-tighten the screw.



### 8.6.3 Swinging the tray away to the side

The tray can be swivelled up and away to the side to allow the user to get in and out of the mobility device



---

**CAUTION! Risk of injury! When the tray is raised it does not lock in place in this position!**

- *Do not tilt the tray up and leave it leaning in this position.*
  - *Never attempt to drive with the tray tilted up.*
  - *Always lower the tray in a controlled manner.*
-

The tray can be swivelled upwards and pushed to the side as illustrated to enable getting on and off.

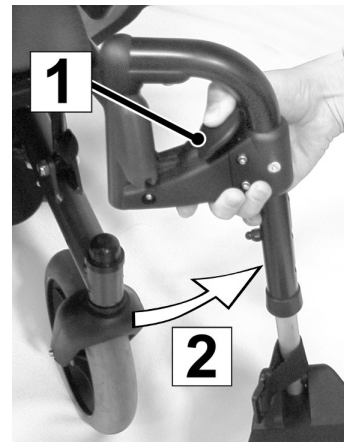


## 9 Adjusting the footrests and the legrests

### 9.1 "Standard 80°" Footrest

#### Removing the Footrest

- Release the footrest by pressing or pulling the lever (1).
- Swing footrest out approximately 90° (2).



- Pull footrest up out of its holder.





## Adjust the length of the footrest

---

### Requirements:

- 1x Spanner 10 mm
  - 1x Allen key 5 mm
- 

- Loosen and remove the screw (2) using the Allen key and the spanner.
- Adjust the footrest to the desired height, making sure to align the holes in the tubes.
- Position the screw in the holes.
- Twist-on the self-locking nut.
- Tighten the screw.



## 9.2 Standard footrest with pre-adjusted angle

### 9.2.1 General Information

The footrest can easily be adapted to the individual needs of the user. The angle of the footrest in relation to the seat and its length are adjustable. This way the footrest can be individually adjusted to the angle of the seat the user's needs. Adjustment of the footrest can be done with corresponding tools. We recommend that this adjustment be done by a trained Invacare® Dealer.



## 9.2.2 Adjusting the angle



---

**WARNING: Danger of Injury if footrest or legrest is incorrectly adjusted!**

- Before and during each drive, always make sure there is sufficient clearance between the legrest (or footrest) and the ground, as well as the castors!
- 

**Requirements:**

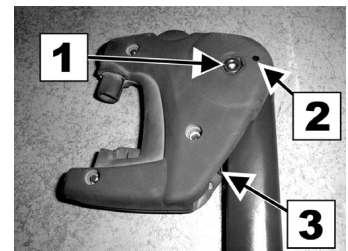
- 1x Allen key 6 mm
- 

**NOTE**

When adjusting the footrest, keep an eye on the small metal pin (3), which determines the lowest position of the footrest. It can fall out and get lost during adjustment.

---

- Loosen the screw that allows the angle to be adjusted (1).
- Adjust to the desired angle.
- Tighten the screw again.

**NOTE**

If the footrest still cannot be moved after loosening the screw, position a metal pin in the hole on the side (2) and tap it lightly with a hammer. This releases the clamping mechanism inside the footrest. If necessary, repeat this procedure from the other side of the footrest.

---

### 9.2.3 Adjusting the length

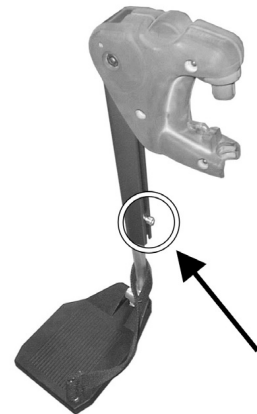


---

**Requirements:**

- 1x Allen key 5 mm
- 

- Loosen the screw which allows the length to be adjusted using the Allen Key.
- Adjust to the desired length.
- Tighten the screw again.



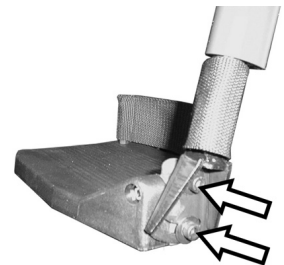
## 9.2.4 Adjusting the angle of the footplate (option)



### Requirements:

- 1x Allen key 5 mm

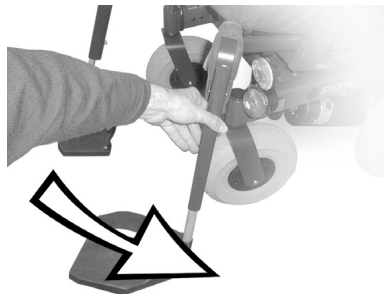
- Loosen both of the screws that hold the footplate, using a 5 mm Allen Key.
- Adjust to the desired angle.
- Tighten the screws again.



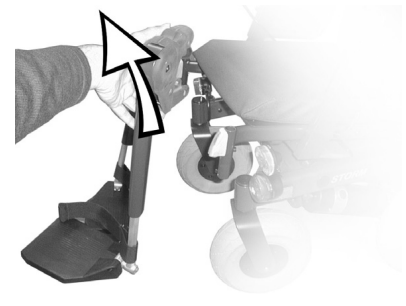
## 9.2.5 Removing the Footrest



Release the footrest by pressing the button.



Swing footrest out approximately 90°.



Pull footrest up out of its holder.

## 9.3 Manual height adjustable legrest 90° - 0°

### 9.3.1 General Information

The manual height-adjustable legrest can easily be adapted to the individual needs of the user. The angle of the footrest in relation to the seat and its length are adjustable. This way the footrest can be individually adjusted to the angle of the seat the user's needs. The angle and length adjustments of the adjustable legrest are equipped with a quick-release mechanism.



### 9.3.2 Adjusting the angle

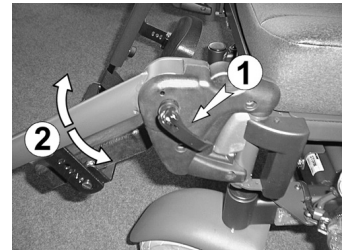


---

**WARNING: Danger of Injury if footrest or legrest is incorrectly adjusted!**

- *Before and during each drive, always make sure there is sufficient clearance between the legrest (or footrest) and the ground, as well as the castors!*
- 

- Loosen the quick-release (1) of the angle adjustment by lifting the lever.
- Adjust to the desired angle (2).
- Press the lever back down and secure the quick-release (1) by turning it clockwise.



### 9.3.3 Adjusting the length

- Loosen the screw that allows the length to be adjusted.
- Adjust to the desired length.
- Tighten the screw again.



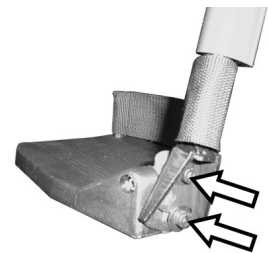
### 9.3.4 Adjusting the Angle of the Footplate



---

**Requirements:**

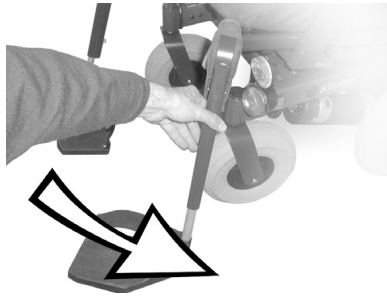
- 1x Allen key 5 mm
- 
- Loosen both of the screws that hold the footplate, using a 5 mm Allen Key.
  - Adjust to the desired angle.
  - Tighten the screws again.



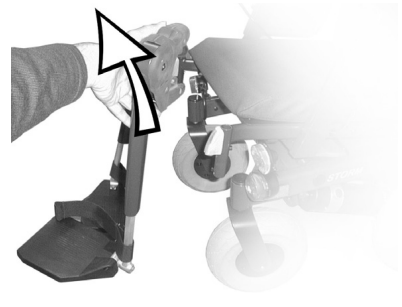
### 9.3.5 Removing the Footrest



Release footrest by pressing button.



Swing footrest out approximately 90°.



Pull footrest up out of its holder.

## **9.4 Manual height-adjustable legrest 80° - 0° with ergonomic length compensation**

### **9.4.1 General Information**

The manual height-adjustable legrest provides quick mechanical adjustment of the angle of the legrest. Adjustment of the length of the legrest and of the angle of the footplate can be done with corresponding tools. We recommend that this adjustment be done by a trained Invacare® Dealer.



## 9.4.2 Adjusting the angle

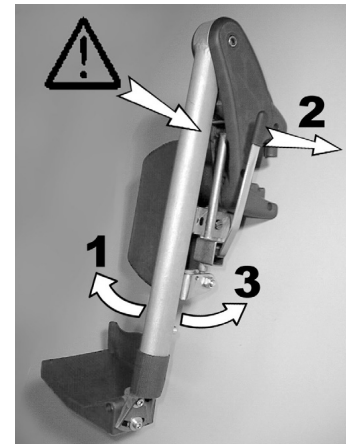


---

**WARNING: Danger of injury by moving parts!**

- *Do not place fingers in the area between the upper and lower parts of the legrest!*
- 

- Raising: Pull the legrest upwards until the desired angle is reached.
- Lowering: Hold the legrest by the footplate, pull the adjustment lever on the side (2) and slowly lower the legrest (3).

**NOTE**

After letting the adjustment lever go, the legrest is locked at the desired angle.

---

### 9.4.3 Adjusting the length

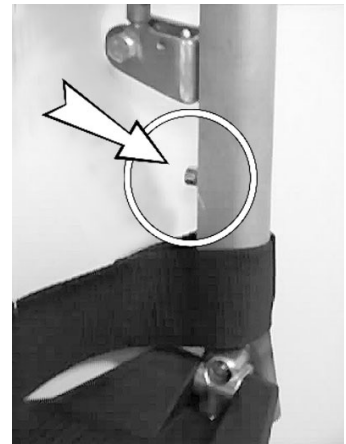


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**Requirements:**

- 1x Allen key 5 mm
- 

- Loosen the screw which allows the length to be adjusted using the Allen Key.
- Adjust to the desired length.
- Tighten the screw again.



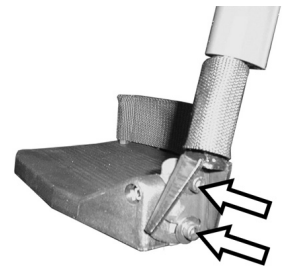
## 9.4.4 Adjusting the Angle of the Footplate



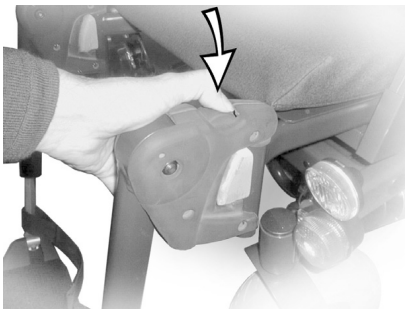
### Requirements:

- 1x Allen key 5 mm

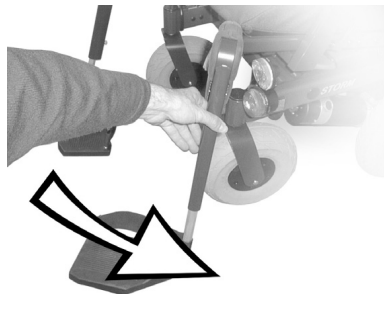
- Loosen both of the screws that hold the footplate, using a 5 mm Allen Key.
- Adjust to the desired angle.
- Tighten the screws again.



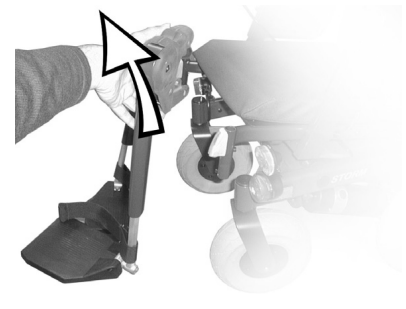
## 9.4.5 Removing the Footrest



Release footrest by pressing button.



Swing footrest out approximately 90°.



Pull footrest up out of its holder.

## **9.5 Electrically height-adjustable legrest 80° - 0° with ergonomic length compensation**

### **9.5.1 General Information**

The angle of the legrest can be adjusted electrically. Adjustment of the length of the legrest and of the angle of the footplate can be done with corresponding tools. We recommend that this adjustment be done by a trained Invacare® Dealer.



## 9.5.2 Adjusting the angle



---

**WARNING: Danger of injury by moving parts!**

- *Do not place fingers in the area between the upper and lower parts of the legrest!*
- 
- The angle of the legrest can be adjusted by means of the joystick box. Please refer to the appropriate separate instruction manual for the remote for information on electrical adjustment using the actuator.

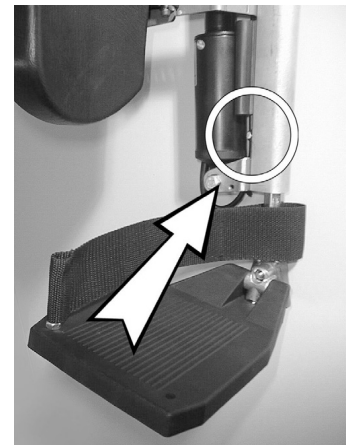
## 9.5.3 Adjusting the length



---

**Requirements:**

- 1x open-end spanner 10 mm
- 
- Loosen the screw which allows the length to be adjusted using the open-end spanner.
  - Adjust to the desired length.
  - Tighten the screw again.



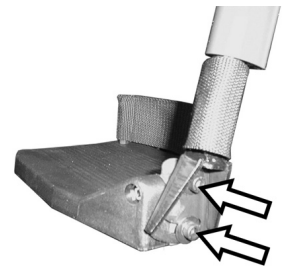
## 9.5.4 Adjusting the Angle of the Footplate



### Requirements:

- 1x Allen key 5 mm

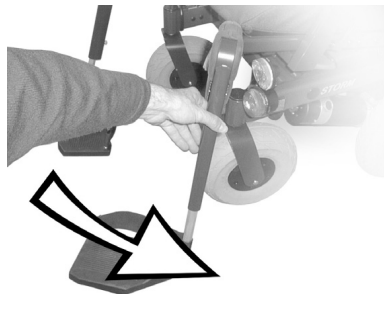
- Loosen both of the screws which hold the footplate, using a 5 mm Allen Key.
- Adjust to the desired angle.
- Tighten the screws again.



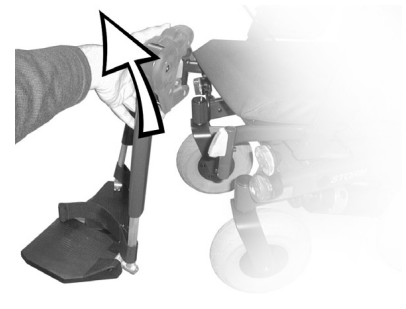
## 9.5.5 Removing the Footrest



Release footrest by pressing button.



Swing footrest out approximately 90°.



Pull footrest up out of its holder.

## 10 Electrical System

### 10.1 Electronics Protection System

The vehicle's electronics are equipped with an overload-protection system.

If the motors are put under considerable strain for a longer period of time (for example, when driving up a steep hill) and especially when the ambient temperature is high, then the electronic system could overheat. In this case the vehicle's power is reduced gradually until it finally comes to a halt. The Status Display shows a corresponding error code (see chapter "Fehler! Verweisquelle konnte nicht gefunden werden." on page Fehler! Textmarke nicht definiert.). By switching the power supply off and back on again, the error code is cancelled and the electronics are switched back on. It will take approximately five minutes until the electronics have cooled down enough for the motors to restore full power again.

When the motors are stalled by an insurmountable obstacle, such as a high kerb, and the vehicle driver allows the motors to strain against this hindrance for more than 20 seconds without moving, then the electronics will automatically switch off to prevent the motors from being damaged. The Status Display shows a corresponding error code (see chapter "Fehler! Verweisquelle konnte nicht gefunden werden." on page Fehler! Textmarke nicht definiert.). By switching off and back on again, the error code is cancelled and the electronics are switched back on.

### 10.1.1 The main fuse

The entire electric system of the wheelchair is protected against overload by two master fuses.

The master fuses are either directly mounted to the positive poles of the batteries or to the lower side of the battery lid. They can be replaced only after dismantling the battery lid.



---

**NOTE**

A defective main fuse may be replaced only after checking the entire electric system. An Invacare® specialised dealer must perform the replacement. You can find information on the fuse type in chapter "**Technical Specifications**" starting on page **92**.

---

## 10.2 Batteries

### 10.2.1 What you need to know about batteries

Power is supplied by two 12V batteries. The batteries are maintenance-free and only need regular charging.

New batteries should always be fully charged once before their first use. New batteries will be at their full capacity after having run through approx. 10 - 20 charging cycles. How fast the batteries will be discharged will depend on many circumstances, such as ambient temperature, condition of the surface of the road, tyre pressure, weight of the driver, way of driving and utilisation of lighting, etc.



---

## NOTE

The batteries supplied with your electric vehicle are not hazardous goods. This classification is based on the German *GGVS Hazardous Goods Road Transport Ordinances*, and the *IATA/DGR Hazardous Goods Rail Transport / Air Transport Ordinances*. Batteries may be transported without restrictions, whether by road, rail or by air. Individual transport companies have, however, guidelines which can possibly restrict or forbid certain transport procedures. Please ask the transport company regarding each individual case.

Pay attention to the Battery Charge Indicator! Make sure to charge the batteries when the Battery Charge Indicator shows that battery charge is low. We recommend charging the batteries after each trip, as well as each night over night. Depending on the level of discharge, it can take up to 12 hours until the batteries are fully charged again.

Protect your charger from sources of heat such as heaters and direct sunlight. If the battery charger overheats, charging current will be reduced and the charging process delayed.

To avoid damaging the batteries, never allow them to be fully discharged. Do not drive on heavily discharged batteries if it is not absolutely necessary, as this will strain the batteries unduly and shorten their life expectancy.

In case your vehicle is not used for a longer period of time, then the batteries must be charged at least once a month to maintain a full charge. Alternatively, the vehicle can stay connected to the charger. The batteries cannot be overcharged with the specified charger.

Please use only charging devices in Class 2. This class of chargers may be left unattended during charging. All charging devices which are supplied by Invacare® comply with these requirements.

---

## 10.2.2 Charging the batteries

- Make sure you read and understand the battery charger's User's Manual, if supplied, as well as the safety notes on the front and rear panels of the charger!



---

**WARNING: Danger of explosion and destruction of batteries if the wrong battery charger is used!**

- *Only ever use the battery charger supplied with your vehicle, or a charger that has been approved by Invacare®.*



**Danger of electric shock and damage to the battery charger if it is allowed to get wet!**

- *Protect the battery charger from water.*
- *Always charge in a dry environment.*

**Danger of short circuit and electric shock if the battery charger has been damaged!**

- *Do not use the battery charger if it has been dropped or damaged.*

**Danger of fire and electric shock if a damaged extension cable is used!**

- *Only ever use an extension cable if it is absolutely necessary. In case you must use one, make sure it is in good condition.*
-

The charging socket is on the bottom of the Joystick Box.

### **Connecting the charger**

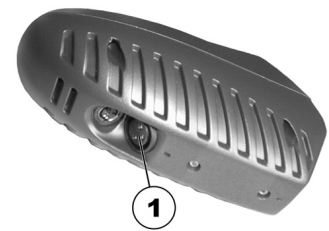
Proceed in the following order:

- Switch the electric wheelchair off at the Joystick Box.
- Connect the battery charger to the Joystick Box.
- Connect the battery charger to the mains power supply and switch on.

### **Disconnecting the charger**

Proceed in the following order:

- Disconnect the battery charger from the mains power supply.
- Disconnect the battery charger from the Joystick Box.



### 10.2.3 Removing and fitting batteries

---



**WARNING:**

**Danger of injury if the batteries are not handled correctly during assembly and maintenance work!**

- *New batteries should be installed by authorised technicians!*
- *Observe the warnings on the batteries!*
- *Take into account the heavy weight of the batteries!*
- *Only ever use the battery type defined in the technical specifications (see "**Technical Specifications**" on page 92)!*

**Danger of fire and burns if battery terminals are short-circuited!**

- *DO NOT short-circuit battery terminals with a tool!*
- 



**WARNING:**

**Corrosion and burns from acid leakage if batteries are damaged!**

- *Remove clothes that have been soiled by acid immediately.*

**After contact with skin:**

- *Immediately wash affected area with lots of water.*

**After contact with eyes:**

- *Immediately rinse eyes under running water for several minutes; consult a physician.*
-

### 10.2.3.1 Removing the batteries



---

**Requirements:**

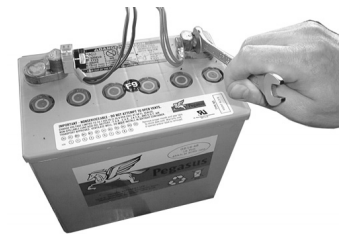
- Wrench 10 mm
  - Wrench 13 mm
  - Wrench 19 mm
- 

**NOTE**

The removal of the batteries from the battery box is described in detail in chapter "Removing the batteries." on page 83.

---

- Open battery carrying strap (1).
- Detach the cover of the battery.
  
- Loosen battery clamp (1) of the blue cable at the negative pole of the battery by means of a wrench and remove cable.
- Loosen the battery clamp (1) of the red cable at the positive pole of the battery by means of a wrench and remove cable.



### 10.2.3.2 Connecting the New Batteries

- Fasten battery clamp (2) of the red cable to the positive pole of the battery and tighten by means of a wrench.
- Fasten battery clamp (2) of the blue cable to the negative pole of the battery and fasten by means of a wrench.



- Lash down carrying strap as shown in the photo.
- Secure the cover by tightening the tensioning strap.



### 10.2.3.3 How to handle damaged batteries correctly

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**WARNING:**

**Corrosion and burns from acid leakage if batteries are damaged!**

- *Remove clothes that have been soiled by acid immediately.*

**After contact with skin:**

- *Immediately wash affected area with lots of water.*

**After contact with eyes:**

- *Immediately rinse eyes under running water for several minutes; consult a physician.*
- 

- Always wear safety goggles and appropriate safety clothing when handling damaged batteries.
- Place damaged batteries in an acid-resistant receptacle immediately after removing them.
- Only ever transport damaged batteries in an appropriate acid-resistant receptacle.
- Wash all objects that have come into contact with acid with lots of water.

**Disposing of dead or damaged batteries correctly**

Dead or damaged batteries can be given back to your dealer or directly to Invacare®.

## 11 Care and maintenance

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**NOTE:**

Have your vehicle checked once a year by an authorised Invacare® dealer in order to maintain it's driving safety and roadworthiness.

---

### **Cleaning the vehicle**

When cleaning the vehicle, pay attention to the following points:

- Only use a damp cloth and gentle detergent.
- Do not use any abrasive or scouring liquids.
- Do not subject the electronic components to any direct contact with water.
- Do not use high-pressure cleaning devices.

### **Disinfection**

Spray or wipe disinfection using a tested and recognised product is permitted. A list of the current permitted disinfectants is available from the Robert Koch Institute at <http://www.rki.de>.

<b>Maintenance Jobs</b>	When Delivered	Weekly	Monthly
<b>Seat and backrest padding:</b>			
- Check for perfect condition.			✓
<b>Side part and armrest:</b>			
- Are all fastening elements installed?	✓	✓	
- Can armrests / side parts be removed and installed without too much physical effort?		✓	
- Are armrests secured in their positions?		✓	
<b>Legrests:</b>			
- Do legrests lock into place without any problem? (Only applies to detachable legrests)			✓
- Do the different adjustment functions work without any problem?			✓
<b>Tyres:</b>			
- Have tyres checked for specified air pressure (2,5 bar).	✓	✓	
<b>Front wheel forks / Front wheels</b>			
- Front wheels must be running smoothly.		✓	
- Check fork bearing for firm seat.			✓
<b>Rear wheels:</b>			
- Test wheel for firm seat on the axle drive shaft.			✓
- Rear wheels must turn without wobbling			✓

<b>Maintenance Jobs</b>	When Delivered	Weekly	Monthly
<b>Electronics / Electrical System:</b>			
- Check all plug connections for condition and firm seat.			✓
- Have all batteries been fully charged before the daily operation?	Before every trip		
- Are all holders, screws firmly fixed, tight and safe?			✓
- Are all electric bulbs of the lighting system (if applicable) in working order?	Before each trip		
<b>Cleaning:</b>			
- Clean all parts carefully.	When necessary		

**Have your vehicle inspected and serviced once a year by your authorised dealer. A complete checklist of necessary maintenance work can be found in the Service Manual, which can be obtained from Invacare®.**

## 12 Repair Instructions

The following are instructions on repairs that can be performed by the user. For the specifications of spare parts please see "**Technical Specifications**" on page **92**, or consult the Service Manual, available from Invacare® (in this connection please see the addresses and phone numbers in section "**How can you get in touch with Invacare®?**" on page **2**). In case you require assistance, please contact your Invacare® Dealer.

### 12.1 Repairing a flat tyre



---

**WARNING: Danger of damage or injury if the vehicle is accidentally set into motion during repairs!**

- *Switch the power off (ON/OFF Button)!*
  - *Engage the motors!*
  - *Secure the vehicle against rolling away by placing wedges under the wheels!*
-

### 12.1.1 Repairing a flat tyre (pneumatic tyres type 200 x 50)

---



#### Requirements:

- Allen key 5 mm
  - 2 x Open-end spanners 13 mm
  - Repair kit for inner tubes **or** an new inner tube.
  - Talcum powder
- 

#### Remove the wheel

- Jack the vehicle up and place a block of wood underneath it to prop it up.
- Remove the black end-caps from the bolt and the nut (if applicable).
- Remove the nut from the bolt using the open-end spanners (1).
- Remove the axle and the wheel from the fork.



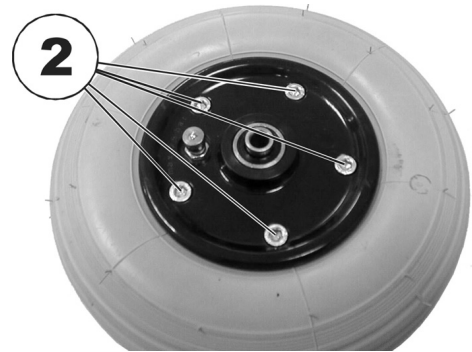
#### NOTE

Re-assembly is done in reverse order. Make sure that the wheel is put back on the same side it was on, and that it runs in the same direction it did before it was removed.

---

### Repair the flat tyre.

- Remove the valve cap.
- Let the air out of the tyre by pressing the pin in the centre of the valve in.
- Remove the 5 Allen screws (3)
- Take the tyre and the inner tube off of the rim halves.
- Repair the inner tube and re-fit, or replace it with a new one.



---

#### NOTE

In case the old inner tube is to be repaired and used again, and it happens to get wet during repair, then it is easier to re-fit it if you powder it lightly with talcum powder.

---

- Place the rim halves in the tyre from the outside.
- Pump up the tyre a little.
- Re-position the Allen screws in the rim and tighten them firmly.
- Check to make sure that the tyre is squarely in place on the rim.
- Pump up the tyre to the recommended tyre pressure.
- Check to make sure that the tyre is still squarely and snugly in place on the rim.
- Screw the valve cap back on.
- Refit the wheel.

### 12.1.2 Repairing a flat tyre at the back (tyre type 3.00-8")



---

**Injury hazard! If the wheel has been insufficiently secured during assembly, it can become loosened during driving!**

- *When refitting the drive wheels, tighten the Torx screw that secures the wheel to the hub to a torque of 30 Nm!*
  - *Secure all screws using a suitable threadlock (e.g. Loctite 243)!*
- 



---

**Requirements:**

- Torque wrench with ...
  - Allen bit 5 mm
  - Torx bit T40
  - Repair kit for tyre repair **or** a new inner tube.
  - Talcum powder
  - Threadlock Loctite (e.g. Loctite 243)
-

### Removing the wheel

- Jack the vehicle up and place a block of wood underneath it to prop it up.
- Remove the countersunk screw (1) using the Torx bit.
- Remove the wheel from the axle.

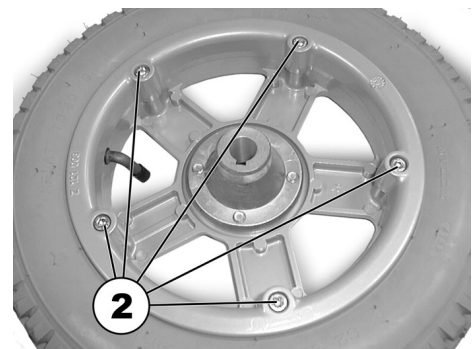


**EXPLOSION HAZARD!** The wheel will explode if the air pressure is not released from the tyre before disassembling the wheel rim!

- *Always make sure to completely release the air pressure by pressing the pin in the centre of the valve!*

### Repairing the flat tyre

- Remove the valve cap.
- Let the air out of the tyre completely by pressing the pin in the centre of the valve in.
- Remove the 5 cylinder head screws (back of the wheel, 2).
- Remove the rim halves from the tyre.
- Remove the inner tube from the tyre.
- Repair the inner tube and re-fit, or replace it with a new one.





---

**NOTE**

In case the old inner tube is to be repaired and used again, and it happens to get wet during repair, then it is easier to re-fit it if you powder it lightly with talcum powder.

---



---

**NOTE**

Re-assembly is done in reverse order. Make sure that the wheel is put back on the same side it was on, and that it runs in the same direction it did before it was removed.

---

- Re-fit the rim halves back into the tyre.
- Pump up the tyre a little.
- Insert the cylinder head screws in the rim and tighten to 10 Nm. Make sure the inner tube does not get pinched between the rims halves!
- Check to make sure that the tyre is squarely in place on the rim.
- Pump up the tyre to the recommended tyre pressure.
- Check to make sure that the tyre is still squarely and snugly in place on the rim.
- Screw the valve cap back on.
- Refit the wheel.
- Refit the Torx screw using threadlock and tighten to 30 Nm.

## 13 Transport

**There are two ways to prepare the wheelchair for transport:**

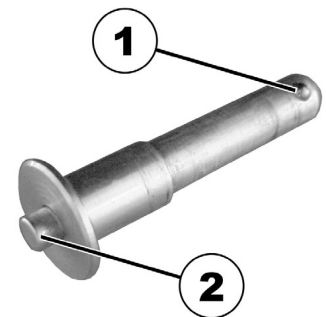
- In case your Mistral is equipped with an electric or gas pressure spring adjustable backrest, then the backrest can simply be folded down forwards.
- In addition, all Mistral models can be dismantled and folded for the transport.

### 13.1 Folding the backrest down

The adjustable backrest is fitted with quick-release pins.

The quick-release pins are equipped with spring loaded catches (1), which ensure that they don't fall out of their holes.

- The spring-loaded catches are released by pressing the release button (2).



**Folding the backrest down:**

- Press the release button and pull the quick-release pin out of its hole.
- Fold the backrest down forwards.



## 13.2 Dismantling the wheelchair for transport

To dismantle and fold the wheelchair for transport, proceed as follows:

- Remove the legrests
- Remove the kerbrider (available as an option and not always fitted).
- Loosen the traverse bar of the backrest (or remove the adjustable back).
- Disconnect the connector cable of the adjustable back.
- Remove the batteries.
- Remove the battery box.
- The battery box can also be removed without first removing the batteries. However, because of the heavy weight of the components, this should only ever be done by two people together.
- Remove the seat cushion
- Fold the wheelchair and load it into the transporting vehicle.

Re-assembly of the wheelchair is done in reverse order.

## 13.2.1 Removing the legrests



### NOTE

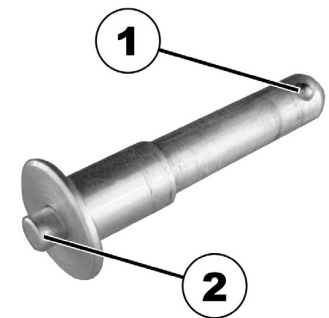
The way the legrests are removed depends on the type of legrest. For more information on this, please see chapter "**Adjusting the footrests and the legrests**" on page 45.

## 13.2.2 Removing the kerbrider

The kerbrider is fitted with quick-release pins.

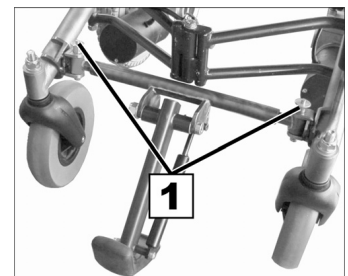
The quick-release pins are equipped with spring loaded catches (1), which ensure that they don't fall out of their holes.

- The spring-loaded catches are released by pressing the release button (2). This enables the kerbrider to be fitted and removed quickly.



### Removing the kerbrider:

- Press the release buttons, and pull the quick-release pins (1) out of their holes.
- Remove the kerbrider from the holders.



### 13.2.3 Removing the batteries.



---

**WARNING: Danger of injury due to the heavy weight of the battery box!**

- *The battery box should only ever be lifted by two persons together.*
  - *Do not reach under the battery box.*
- 

- Disconnect the cables from the battery box lid.



- Undo the belt that holds the battery box lid.



- Remove battery box lid by pulling it backwards out of the wheelchair.



- Disconnect the cables from the batteries.

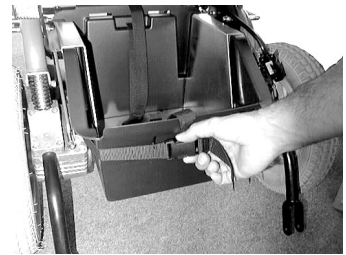


- Remove the batteries from the battery box.



### 13.2.4 Removing the battery box

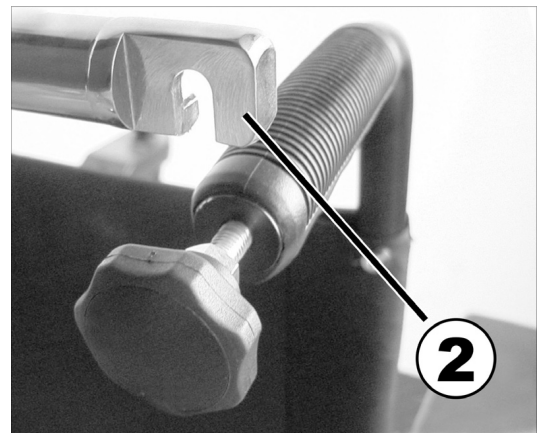
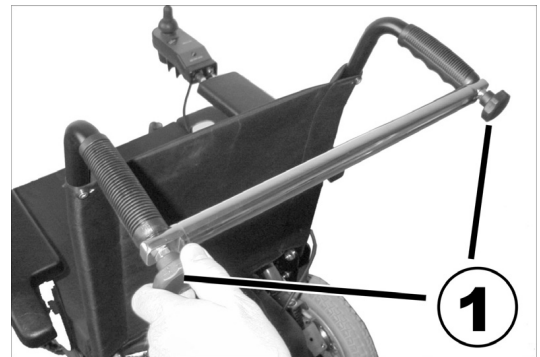
- Undo the belt that holds the battery box.
- Pull the battery box backward out of the support frame.



### 13.2.5 Releasing the traverse bar of the backrest frame

#### Release the traverse bar:

- Loosen the knurled screws at both ends (1) the traverse bar.
- Unhook the traverse bar from the right knurled screw (2).



## 13.2.6 Removing the backrest



---

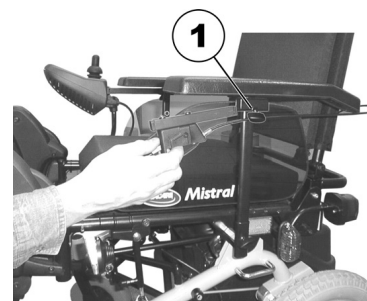
### NOTE

The removal of the backrest is shown here, using the pneumatic adjustable back as an example. The standard backrest is removed for transport in the same manner.

---

### In case you have a wheelchair with a manually adjustable backrest:

- Loosen the wing screw (1) of the release lever.
- Remove the lever mechanism.



The backrest is held in place by two quick-release pins (2).



- Remove the quick-release pins (2) that hold the backrest.



- Pull the backrest up out of its brackets.



## 13.2.7 Folding the wheelchair

### Step 1



Remove the seat cushion

### Step 2



Lean the wheelchair slightly to one side.  
Pull the seat up by the front and rear edges.

### Step 3



Press the wheelchair together.

## 13.2.8 Folding the wheelchair apart

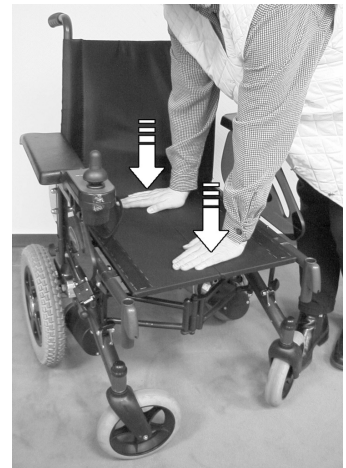


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**WARNING: Danger of injury by moving parts!**

- *Take care not to get your hands pinched between the two halves of the seat, when pushing them down!*
- 

- To unfold the wheelchair, lift it slightly on one side, and open it by pushing the armrests or the push-handles of the backrest apart.
- Grip the seat-plate at its front and rear edges, and press it down as far as it will go, until it locks firmly into place.
- Reposition the seat cushion.



### 13.2.9 Re-assembling the wheelchair



---

**NOTE**

Re-assembly of the wheelchair is done in reverse order to the disassembly process.

---



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**WARNING: Danger of injury if battery box does not latch securely into place!**

- *After re-assembling the wheelchair, make sure that the buckle of the belt that holds the battery box is securely locked into place! To check this, rattle and tug at the battery box!*
-

## 14 Technical Specifications

<b>Electrical System</b>	
Batteries	<ul style="list-style-type: none"> <li>• 31 AH, MU-1SLD G</li> <li>• 50 AH, M22NF SLD G</li> </ul>
Main Battery Fuse	<ul style="list-style-type: none"> <li>• 2x 50 A (1x per battery)</li> </ul>
<b>Weight *</b>	
Empty Weight	<ul style="list-style-type: none"> <li>• approx. 64 kg (with 31 Ah batteries)</li> <li>• approx. 80 kg (with 50 Ah batteries)</li> </ul>
Maximum load (payload)	<ul style="list-style-type: none"> <li>• 120 kg</li> </ul>
<b>Driving attributes</b>	
Range according to ISO 7176	<ul style="list-style-type: none"> <li>• 31 Ah = approx. 20 km</li> <li>• 50 Ah = approx. 30 km</li> </ul>
Note: The wheelchair's range depends strongly on various factors, such as battery charge, ambient temperature, local topography, road conditions, tyre pressure, driver's weight, driving habits and the usage of the batteries for lighting, actuators, and so on.	
Speed	<ul style="list-style-type: none"> <li>• 6 km/h</li> </ul>
Climbing capability	<ul style="list-style-type: none"> <li>• max. 17%</li> </ul>
Maximum obstacle height	<ul style="list-style-type: none"> <li>• without kerbrider = max. 6 cm</li> <li>• with kerbrider = max. cm</li> </ul>
<b>Dimensions</b>	
Height	<ul style="list-style-type: none"> <li>• approx. 95 cm</li> </ul>
Width	<ul style="list-style-type: none"> <li>• approx. 62 cm</li> </ul>
Length	<ul style="list-style-type: none"> <li>• approx. 102 cm</li> </ul>
<b>Tyres</b>	
Tyre pressure if fitted with pneumatic tyres	<ul style="list-style-type: none"> <li>• 2.5 bar (40 psi)</li> </ul>

\* The actual kerb weight depends on the fittings your mobility aid has been supplied with. Every Invacare® mobility aid is weighed when leaving the works. Please refer to the nameplate for the kerb weight (including batteries) measured.

## 15 Inspections Performed

It is confirmed by stamp and signature that all jobs listed in the inspection schedule of the Service and Repair Instructions have been properly performed. The list of the inspection jobs to be performed can be found in the Service Manual which is available through Invacare®.

<u>Delivery Inspection</u>	<u>1<sup>st</sup> Annual Inspection</u>
Stamp of authorised Dealer / Date / Signature	Stamp of authorised Dealer / Date / Signature
<u>2<sup>nd</sup> Annual Inspection</u>	<u>3<sup>rd</sup> Annual Inspection</u>
Stamp of authorised Dealer / Date / Signature	Stamp of authorised Dealer / Date / Signature
<u>4<sup>th</sup> Annual Inspection</u>	<u>5<sup>th</sup> Annual Inspection</u>
Stamp of authorised Dealer / Date / Signature	Stamp of authorised Dealer / Date / Signature

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Release Date: 07.12.2009

**English**