

Invacare® Esprit Action® 4 NG

en **Power Wheelchair
User Manual**



This manual **MUST** be given to the user of the product.
BEFORE using this product, this manual **MUST** be read and saved for
future reference.



Yes, you can.®

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Invacare reserves the right to alter product specifications without further notice.

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1 General

1.1 Introduction

This user manual contains important information about the handling of the product. To ensure safety when using the product, read the user manual carefully and follow the safety instructions.

Note that there may be sections in this document, which are not relevant to your product, since this document applies to all available models (on the date of printing). If not otherwise stated, each section in this document refers to all models of the product.

The models and configurations available in your country can be found in the country-specific price lists.

Invacare reserves the right to alter product specifications without further notice.

Before reading this document, make sure you have the latest version. You find the latest version as a PDF on the Invacare website.

If you find that the font size in the printed document is difficult to read, you can download the PDF version from the website. The PDF can then be scaled on screen to a font size that is more comfortable for you.

For more information about the product, for example product safety notices and product recalls, contact your Invacare representative. See addresses at the end of this document.

1.2 Symbols in this manual

In this User Manual warnings are indicated by symbols. The warning symbols are accompanied by a heading that indicates the severity of the danger.



WARNING!

Indicates a hazardous situation that could result in serious injury or death if it is not avoided.



CAUTION!

Indicates a hazardous situation that could result in minor or slight injury if it is not avoided.



IMPORTANT!

Indicates a hazardous situation that could result in damage to property if it is not avoided.



Gives useful tips, recommendations and information for efficient, trouble-free use.



This product complies with Directive 93/42/EEC concerning medical devices. The launch date of this product is stated in the CE declaration of conformity.



Manufacturer

1.3 Standards and Regulations

Quality is fundamental to the company's operation, working within the disciplines of ISO 13485.

The vehicle was successfully tested according to international standards as to its safety. It satisfies the requirements according to RoHS 2011/65/EU, REACH 1907/2006/EC, EN 12184 including a test for flammability (EN 1021-2 or ISO 8191-2) and ISO 7176-14. It was also tested successfully according to EN 60529 IPX4 as to its resistance to spray water, and is therefore well suited for weather conditions such as typical European weather conditions.

1.4 Type classification

This vehicle 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 negotiate some outdoor obstacles.

1.5 Intended use

The mobility device is propelled electrically and should only be used for independent or assisted transport of a disabled person with mobility difficulties. This power wheelchair is intended to provide mobility to persons ages 10 and up (children, adolescents and adults) with a weight capacity of 80 & 125 kg depending on the seat width. This power wheelchair is designed for persons whose ability to walk is impaired, but who are still in terms of their eyesight and physically and mentally able to operate an electric mobility device. The power wheelchair should only be used on level

ground and accessible terrain, as well as indoors or outdoors with limited crossing capacities.



This mobility device needs to be subscribed and fit to your specific health condition.



WARNING!

Any other or incorrect use could lead to hazardous situations.



CAUTION!

- In some configurations, the overall dimensions of the power wheelchair when it is ready for use exceed the authorized limits, the access to emergency escape routes is not possible.
- In some configurations, the power wheelchair exceed the size recommended for travelling by train in the EU.



Theft and metal detection systems: in seldom cases the materials used in the mobility device may activate theft and metal detection systems.

1.6 Indications

The use of this power wheelchair 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 power 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.

Contraindications

There are no contraindications known.

1.7 Usability

Only use a mobility device when it is in perfect working order. Otherwise, you might put yourself and others at risk.

The following list does not claim to be exhaustive. It is only intended to show some of the situations that could affect the usability of your mobility device.

In certain situations, you should immediately stop using your mobility device. Other situations allow you to use the mobility device to get to your provider.

You should immediately stop using your mobility device if its usability is restricted due to:

- Unexpected driving behaviour
- brake failure

You should immediately contact an authorized Invacare provider if the usability of your mobility device is restricted due to:

- the lighting system (if fitted) failing or being defective
- reflectors falling off

- worn thread or insufficient tire pressure
- damage to the armrests (e.g. torn armrest padding)
- damage to the legrest hangers (e.g. missing or torn heel straps)
- damage to the postural belt
- damage to the joystick (joystick cannot be moved into the neutral position)
- cables that are damaged, kinked, pinched or have come loose from the fixation
- the mobility device drifting when braking
- the mobility device pulling to one side when moving
- unusual sounds developing or occurring

Or if you have the feeling that something is wrong with your mobility device.

1.8 Warranty

Invacare guarantees that their wheelchairs are free from defects and are fully functional. The warranty covers all faults and defects which are verifiably attributable to faulty construction, substandard materials or poor workmanship. Warranty claims against the manufacturer may only be made by the distributor and not by the user of the product.

The warranty does not cover normal wear and tear, the consequences of improper handling or damage, poor maintenance and incorrect assembly or commissioning by the purchaser or a third person or faults which are attributable to circumstances beyond our control. Wearing parts are not covered by the guarantee. The warranty is voided if modifications are made to the product which were not authorized and not performed by the specialist dealer or if inappropriate accessories or spare parts are used. The warranty does not cover consequential costs arising

from the rectification of defects such as freight and travel expenses, labor costs, fees etc.

The term of the warranty is 24 months.

Furthermore, the terms and conditions are part of the general terms and conditions particular to the individual countries in which the product is sold.

1.9 Limitation of liability

Invacare accepts no liability for damage arising from:

- Non-compliance with the user manual
- Incorrect use
- Natural wear and tear
- Incorrect assembly or set-up by the purchaser or a third party
- Technical modifications
- Unauthorised modifications and/or use of unsuitable spare parts

1.10 Service life

We estimate a service life 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 service life 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 service life can also be considerably reduced by extreme or incorrect usage. The fact that we estimate a service life for this product does not constitute an additional warranty.

2 Safety

2.1 Safety information

This section contains important safety information for the protection of the wheelchair user and assistant and for safe, trouble-free use of the power wheelchair.

**WARNING!**

Risk 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 manual.
- Pay strict attention to the safety information.

**WARNING!**

Risk 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.

**WARNING!**

Risk 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 (refer to Operation chapter, ALBER esprit user manual).

**WARNING!**

Risk 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 Control unit chapter, ALBER esprit user manual).



WARNING!

Risk of injury when transferring mobility device to a vehicle for transport without the occupant seated in it

- If the mobility device does need to be loaded using a ramp which exceeds the rated slope (refer to *10 Technical Data, page 65*), then you must use a winch. The 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 does not exceed the maximum permissible weight for the platform lift or winch if you are using.



WARNING!

Risk 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.



CAUTION!

Risk of injury if maximum user weight is exceeded

- Do not exceed the maximum user weight (refer to *10 Technical Data, page 65*).
- The mobility device is only designed for use by a single occupant whose maximum weight does not exceed the maximum user weight of the device. Never use the mobility device to transport more than one person.



CAUTION!

Risk 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.



CAUTION!

Risk of injury by moving parts

- Make sure that no injury is incurred by moving parts of the mobility device, like wheels especially when children are around.

**CAUTION!****Risk of injury from hot surfaces**

- Do not leave the mobility device in direct sunlight for prolonged periods. Metal parts and surfaces such as the seat and armrests can become very hot.

**CAUTION!****Risk 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 authorized dealer.

2.2 Safety information on the electrical system

**WARNING!****Risk of death, serious injury or damage**

- Misuse of the mobility device may cause the mobility device to start smoking, sparking, or burning. Death, serious injury, or damage may occur due to fire.
- DO NOT use the mobility device other than its intended purpose.
 - If the mobility device starts smoking, sparking, or burning, discontinue using the mobility device and seek service IMMEDIATELY.

**WARNING!****Risk of death, serious injury or damage when carrying along oxygen systems**

- Textiles and other materials that normally would not burn are easily ignited and burn with great intensity in oxygen enriched air.
- Check the oxygen tubing daily, from the cylinder to the delivery site, for leaks and hold away from electrical sparks and any source of ignition.

**WARNING!****Risk of injury or damage due to electrical shorts**

- Connector pins on cables connected to the power module can still be live even when the system is off.
- Cables with live pins should be connected, restrained or covered (with non-conductive materials) so that they are not exposed to human contact or materials that could cause electrical shorts.
 - When cables with live pins have to be disconnected, for example, when removing the bus cable from the remote for safety reasons, make sure to restrain or cover the pins (with non-conductive materials).



WARNING!

Risk of death, serious injury, or damage

Corroded electrical components due to water or liquid exposure can result in death, serious injury, or damage.

- Minimize exposure of electrical components to water and/or liquids.
- Electrical components damaged by corrosion **MUST** be replaced immediately.
- Mobility devices that are frequently exposed to water/liquids may require replacement of electrical components more frequently.



WARNING!

Risk of death or serious injury

Electric shock can cause death or serious injury

- To avoid electric shock, inspect plug and cord for cuts and/or frayed wires. Replace cut cords or frayed wires immediately.



Risk of damage to the mobility device

A failure in the electric system can lead to unusual behavior such as continuous light, no light, or noises from the magnetic brakes.

- If a failure exists, switch off the control unit and switch it on again.
- If a failure still exists, then disconnect the interface from the battery pack (refer to Battery pack chapter, ALBER esprit user manual).
- In any case, contact your authorized dealer.

2.3 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:

**WARNING!****Risk 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.

2.4 Safety information on driving mode

**DANGER!****Risk of death, serious injury, or damage**

Malfunctioning joystick could cause unintended/erratic movement resulting in death, serious injury, or damage

- If unintended/erratic movement occurs, stop using the wheelchair immediately and contact an authorized dealer.



WARNING!

Risk of injury if the mobility device tips over

- Inclines and declines can only be travelled up to the maximum safe slope (refer to *10 Technical Data, page 65*).
- Always return the backrest of your seat to an upright position before ascending slopes. We recommend that you position the seat backrest 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 wet, slippery, icy, or oily surfaces (such as snow, gravel, ice etc.) where there is a risk of you losing control over the vehicle, especially on a gradient. This may include certain painted or otherwise treated wood surfaces. 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 mobility device.
- When overcoming obstacles, always observe the maximum obstacle height (refer to *10 Technical Data, page 65* and information about overcoming obstacles in *5.4 Taking Obstacles, page 44*).
- Avoid shifting your center of gravity as well as abrupt joystick movements and changes of direction when the mobility device is in motion.



WARNING!

Risk of injury if the mobility device tips over (continued)

- Never use the mobility device to transport more than one person.
- Note that the mobility device will brake or accelerate if you change the driving mode whilst the mobility device is in motion.



WARNING!

Risk of serious injury or damage

Improper positioning while leaning or bending could cause the wheelchair to tip forward resulting in serious injury or damage

- To assure stability and proper operation of your mobility device, you must at all times maintain proper balance. Your power wheelchair has been designed to remain upright and stable during normal daily activities as long as you DO NOT move beyond the center of gravity.
- DO NOT lean forward out of the mobility device any further than the length of the armrests.
- DO NOT attempt to reach objects if you have to move forward in the seat or pick them up from the floor by reaching down between your knees.

**WARNING!**

Risk 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.

**WARNING!**

Risk of injury if your foot slides off the footrest and gets caught underneath the mobility device when it is in motion

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

**WARNING!**

Risk 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.

**WARNING!**

Risk of injury

- If your mobility device has been fitted with elevating legrests, there is a risk of personal injury and damage to the mobility device if you drive the mobility device with the legrests raised.
- To avoid unwanted displacement of the mobility device center of gravity to the front (especially when travelling downhill) and in order to avoid damage to the mobility device, elevating legrests must always be lowered during normal travelling.

**WARNING!**

Risk of tipping

- Anti-tippers (stabilizers) are only effective on firm ground. They sink in on soft ground such as grass, snow or mud if the mobility device rests itself on them. They lose their effect and the mobility device 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 mobility device.



WARNING!

Tipping hazard if anti-tippers are removed, damaged or changed to a position different to the factory settings

- Anti-tippers should only ever be removed for dismantling the mobility device for transport in a vehicle or for storage.
- The anti-tippers must always be fitted if the mobility device is being used.



WARNING!

Risk of tipping

The hanging of additional load (back pack or similar items) onto your wheelchair back posts can affect the rearward stability of your wheelchair. This can cause the chair to tip backwards causing injury.

- Always make sure that the anti-tipper device is fitted correctly on each side when using your back posts with additional load (back pack or similar items).



CAUTION!

Risk of injury from the backrest folding over during use

If the folding backrest has not engaged properly, it may fold backwards unexpectedly when load is placed on it and you may fall from the wheelchair.

- Before using the wheelchair, make sure that the backrest is folded up and the hinges have engaged.

2.5 Safety information on care and maintenance



WARNING!

Risk of death, serious injury, or damage

Incorrect repair and/or servicing of this mobility device performed by users/caregivers or unqualified technicians can result in death, serious injury, or damage.

- DO NOT attempt to carry out maintenance work that is not described in this user manual. Such repair and/or service **MUST** be performed by a qualified technician. Contact an authorized dealer.



CAUTION!

Risk of accident and loss of warranty if maintenance is insufficient

- For reasons of safety and in order to avoid accidents which result from unnoticed wear, it is important that this mobility device undergoes an inspection once every year under normal operating conditions.
- Under difficult operating conditions such as daily travel on steep slopes, or in the case of use in medical care cases with frequently changing mobility device users, it would be expedient to carry out intermediate checks on the accessories and running gear.

2.6 Safety information on changes and modifications



WARNING!

Risk of serious injury or damage

Use of incorrect or improper replacement (service) parts may cause injury or damage

- Replacement parts **MUST** match original Invacare parts.
- Always provide the wheelchair serial number to assist in ordering the correct replacement parts.



CAUTION!

Risk of injuries and damage due to unapproved components and accessory parts

Seating systems, additions and accessory parts which have not been approved by Invacare for use with this mobility device can affect the tipping stability and increase tipping hazards.

- Only ever use seating systems, additions and accessory parts which have been approved by Invacare for this mobility device.

Seating systems which are not approved by Invacare for use with this mobility device do not, under certain circumstances, comply with the valid standards and could increase the flammability and the risk of skin irritation.

- Only use seating systems that have been approved by Invacare for this mobility device.

Electrical and electronic components which have not been approved by Invacare for use with this mobility device can cause fire hazards and lead to electromagnetic damage.

- Only ever use electrical and electronic components which have been approved by Invacare for this mobility device.

Batteries which have not been approved by Invacare for use with this mobility device can cause chemical burns.

- Only ever use batteries which have been approved by Invacare for this mobility device.



CAUTION!

Risk of injuries, and damage, if unapproved backrests are used

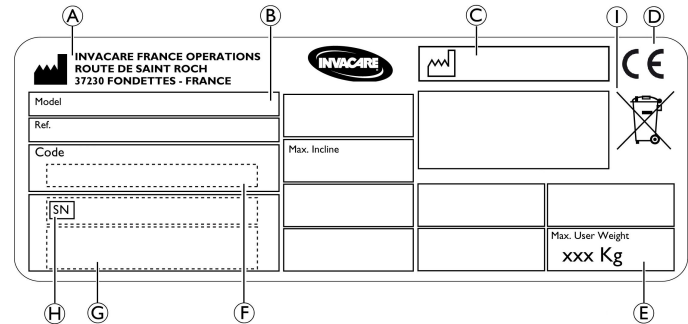
A retrofitted backrest which is not approved by Invacare for use with this mobility device may overload the backrest tube and thus increase the risk of injuries and of damage to the mobility device.

- Please contact your authorized dealer who will perform risk analyses, calculations, stability checks etc. to ensure that the backrest can be used safely.



CE marking of the mobility device

- The conformity assessment/CE marking was carried out in accordance with Directive 93/42 EEC and only applies to the complete product.
- The CE marking is invalidated if components or accessories are replaced or added that have not been approved for this product by Invacare.
- In this case, the company that adds or replaces the components or accessories is responsible for the conformity assessment/CE marking or for registering the mobility device as a special design and for the relevant documentation.






A	Manufacturer's address
B	Product description
C	Date of manufacture
D	CE mark
E	Maximum user weight
F	Part number
G	Serial number barcode
H	Serial number
I	"Crossed out wheelie bin"

2.7 Labels and symbols on the product


Identification label


The identification label is attached to the frame of your power wheelchair and gives the following information:

	Read user manual
	Indicates a hazardous situation that could result in serious injury or death if it is not avoided.
	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 wheelie bin” symbol is placed on this product to encourage you to recycle wherever possible.

Snap hook symbols

Depending on the configuration, some wheelchairs may be used as a seat in a motor vehicle, some may not.

 ISO 7176-19	Tie-down positions where the restraint system straps must be placed in case of using the wheelchair as a seat in a motor vehicle, see section <i>7.3 Transporting the occupied wheelchair in a vehicle</i> , page 50.
--	---

	WARNING Symbol This power wheelchair is not configured for passenger transport in a motor vehicle. This symbol is attached to the frame close to the identification label.
---	--

3 Components and their functions

3.1 Overview



Ⓐ	Push handle
Ⓑ	Back
Ⓒ	Rear wheel with motor
Ⓓ	Parking brake (with 22"/24" manual wheels only)
Ⓔ	Front wheel fork with front wheel
Ⓕ	Leg rests, swiveling
Ⓖ	Footrest
Ⓗ	Frame
Ⓘ	Seat
Ⓙ	Armrest
Ⓚ	Coupling ring (both wheels)
Ⓛ	Control unit
Ⓜ	Joystick
Ⓝ	Battery pack

Short description

This is a powered wheelchair with crossbar folding mechanism and swiveling leg rests.



The equipment of your powered wheelchair may differ from the diagram as each mobility device is manufactured individually to the specifications in the order.

3.2 General setup information



WARNING!

Risk of death, serious injury, or damage

Continued use of the mobility device that is not set to the correct specifications may cause erratic behavior of the mobility device resulting in death, serious injury, or damage.

- Performance adjustments should only be made by professionals of the healthcare field or persons fully conversant with this process and the driver's capabilities.
- After the mobility device has been set-up/adjusted, check to make sure that the mobility device performs to the specifications entered during the set-up procedure. If the mobility device does not perform to specifications, IMMEDIATELY turn the mobility device Off and re-enter set-up specifications. Contact Invacare, if mobility device still does not perform to correct specifications.



WARNING!

Risk of death, serious injury, or damage

Attaching hardware that is loosely secured or missing could cause instability resulting in death, serious personal injury, or property damage.

- After ANY adjustments, repair or service and before use, make sure that all attaching hardware is present and tightened securely.



WARNING!

Risk of injury or damage

Incorrect set up of this mobility device performed by users/caregivers or unqualified technicians can result in injury or damage.

- DO NOT attempt to set up this mobility device. Initial set up of this mobility device MUST be performed by a qualified technician.
- Adjustment by the user is only recommended after they have been given appropriate guidance by the healthcare professional.
- DO NOT attempt to carry out the work if you do not have the appropriate tools available.




CAUTION!


Damage to mobility device and accident hazard

It is possible that collisions can occur between mobility device components due to various combinations of adjustment options and their individual settings

- The mobility device is fitted with an individual, multiply adjustable seating system including adjustable legrests, armrests, a headrest or other options. These adjustment options are described in the following chapters. They are used to adapt the seat to the physical requirements and the condition of the user. When adapting the seating system and the seat functions to the user, ensure that no mobility device components collide.

 Initial setup should always be done by a healthcare professional. Adjustment by the user is only recommended after they have been given appropriate guidance by the healthcare professional.

Electrical adjustment options

 Refer to Control unit chapter, ALBER esprit user manual, for your control unit on operating electrical adjustment options. In any case, contact your authorized dealer.

3.3 Control units information

Your mobility device may be fitted with one of several different control units. For information on the different functions and how to operate a particular control unit, refer to Control unit and Control unit for attendants chapters, ALBER esprit user manual.

3.4 Control unit adjustments



CAUTION!

Risk of injury

When leaning on the control unit, for example, when transferring into or out of the wheelchair, the control unit holder may break and the user may fall out of the chair.

- Never lean on the control unit as a support for, for example, transfer.

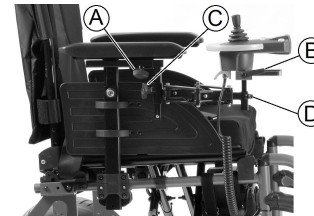


CAUTION!

Risk of the control unit being pushed backwards during an accidental collision with an obstacle, such as a doorframe or table, and the joystick being jammed against the armpad if the position of the control unit is adjusted and all screws are not completely tightened

This will cause the mobility device to drive forward uncontrollably and potentially injure the mobility device user and any person standing in the way.

- When adjusting the position of the control unit, always make sure to tighten all screws securely.
- If this should accidentally happen, immediately switch the mobility device electronics OFF at the control unit.



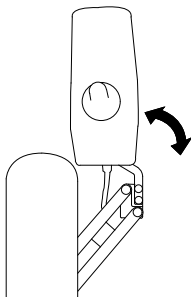
Adjusting the length

1. Loosen wing screw **A** or/and lever **B**.
2. Shift the control unit forwards or backwards to the desired distance.
3. Retighten the wing screw **A** or/and lever **B**.

Adjusting the height

1. Loosen wing screws © or/and ©.
2. Adjust the control unit to the desired height.
3. Retighten the wing screws © or/and ©.

Swivelling to the side



Your mobility device is fitted with a swing-away control unit holder, then the control unit can be moved away to the side, for example, to drive up close to a table.

3.5 Armrests



WARNING!

The armrest does not engage into the wheelchair.
– Therefore do not hold it in order to lift the wheelchair.

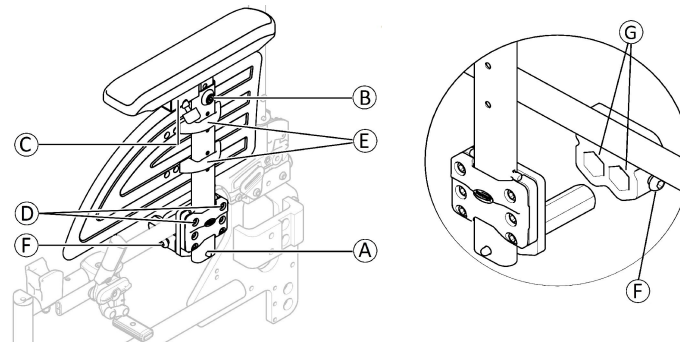


CAUTION!

Risk of pinching

– Keep your fingers away from movable parts during removing, fitting or adjusting the armrest.

3.5.1 Armrest removable, width and depth adjustable with armpad height and depth adjustable



Removing

1. Previously press on the locking mechanism ① located at the bottom of the armrest vertical bracket.
2. Pull the armrest by the arm cushion out of the holder.
3. To adjust how easy or difficult it is to pull the armrest out of the holder, change the degree to which the screws ② are tightened.

Fitting

1. Push the armrest into the holder.

Adjusting the armrest width and depth (2 positions)

1. Loosen the screw ⑥ with 5 mm Allen key at bottom of the armrest bracket.
2. Move the armrest sideways until you reach the desired width, while keeping screw ② in place.
3. Tighten the screw ⑥ (8–9 Nm).

- Two depth positions © are possible, frontwards or backwards.
- Perform the setting on both sides, if necessary.

Adjusting the armpad height

- Loosen the screw ⑥ with 5 mm Allen key at top of the armrest tube.
- Move the armrest upwards or downwards until you reach the desired height, while keeping screw ⑥ in place.
- Tighten the screw ⑥ (5–6 Nm).
- Perform the setting on both sides.

Adjusting the armpad depth

- Loosen the 2 screws © below the armpad bracket.
- Move the armpad frontwards or rearwards until you reach the desired depth, while keeping screw © in place.
- Tighten the 2 screws © (1,5–2 Nm).
- Perform the setting on both sides.

Adjusting the side protection height

- Loosen the 2 screws of the side protection clamps ⑤.
- Move the side protection upwards or downwards until you reach the desired height.
- Tighten the 2 screws of the side protect clamps ⑤ (0,7–1,2 Nm).
- Perform the setting on both sides.

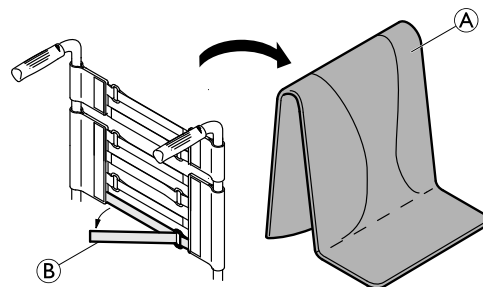
3.6 Backrest

There are three types of backrest (Fixed, Folding and Reclining) available.

3.6.1 Backrest cover

You can adjust the tension of the backrest cover as required.

Adjusting the backrest cover



- Remove the backrest cushion ①.
- Loosen the hook and loop strips ⑥ on the rear of the backrest cover by simply pulling on them.
- Tighten or loosen the strips as required then reattach them.



WARNING!

Risk of tipping

If the bands are set very loose, the tipping point of your wheelchair is changed for the worse.
– Ensure that the bands are set correctly.



IMPORTANT!

– Do not overtighten the bands; this is to ensure that the geometry of the wheelchair is not changed.

! **IMPORTANT!**

- Only ever tighten the bands when the wheelchair is unfolded.

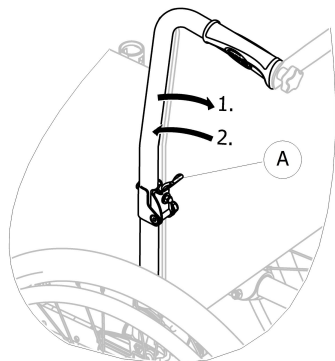
i A simple backrest cover is available for all backrest types. These covers are not adjustable.

3.6.2 Backrest cover height

i The height of the backrest cover can be adjusted on the reclining back posts only. The adjustment must be carried out by an authorized dealer.

3.6.3 Folding backrest

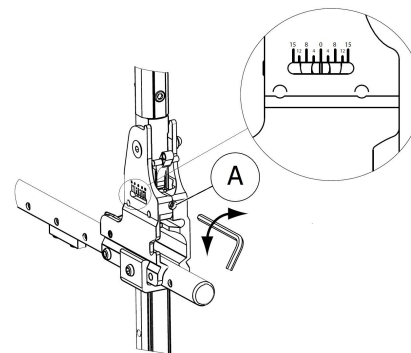
To save space for transporting the wheelchair, the backrest can be folded.

**Folding and unfolding the backrest**

1. Operate lever **A** by pulling it and fold the top of the backrest.
2. To return to the initial position, bring the top in the vertical position; it locks automatically.

3.6.4 Angle adjustable backrest (-15°/+15°)

The angle of the backrest can be adjusted from -15° to $+15^{\circ}$ (step less).



1. Adjust the backrest angle thanks to the adjustable screw **A**.
2. Turn 5 mm Allen key clockwise to obtain a negative angle.
3. Alternatively, turn 5 mm Allen key under clockwise to obtain a positive angle.
4. Ensure both adjustments to the desired angle are equal on both sides.

Invacare recommends that the backrest angle adjustment is carried out by an authorized dealer.



WARNING!

Risk of tipping

Do not move the wheelchair when the backrest is in reclined position.

- Invacare strongly recommend the use of anti-tippers (available as an option) when the backrest is in reclined position .



WARNING!

Risk of injury

- Invacare strongly recommends the use of anti-tippers (available as an option) in combination with all rear wheel positions when you use your backrest with an angle of 12° and more



WARNING!

Risk of serious injury

- Tilting up with a user of more than 125 kg can fatigue, bend or break the wheelchair backrest.
- Avoid tilting up the wheelchair with a user weight of more than 125 kg.



CAUTION!

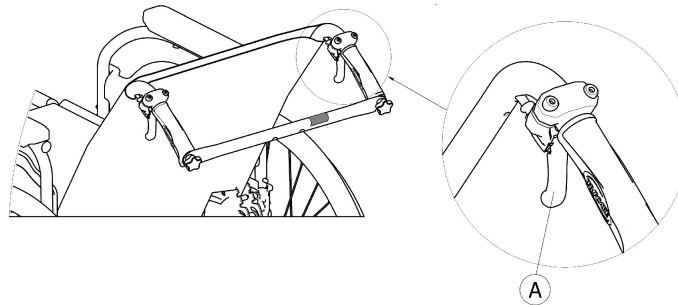
Risk of uncomfortable posture

An angle less than 90° between the seat and the backrest is uncomfortable for certain users.

- This adjustment must be performed by a professional technician upon agreement by a prescribing physician. Please consult with your dealer.

3.6.5 Reclining backrest

To achieve a more comfort position for the user, the backrest can be reclined.



WARNING!

Risk of tipping

Do not move the wheelchair when the backrest is in reclined position.

- Invacare strongly recommend the use of anti-tippers (available as an option) when the backrest is in reclined position .

Backrest angle

The angle of the backrest can be adjusted in four steps (0° to 30°) with the mechanical version, and stepless with the gas struts version.

**WARNING!****Risk of injury**

- Always make these adjustments before the user settles down in the wheelchair to prevent injuries.
- Invacare strongly recommends the use of anti-tippers (available as an option) in combination with all rear wheel positions when you use your backrest with an angle of 12° and more

**IMPORTANT!**

- Push on the backrest canes before operating the levers, this is to release the auto-locked security system.

1. Release the auto-locked system by pushing on the backrest canes.
2. Simultaneously pull the levers (A) to provides the same angle on both sides.
3. Release the levers when you reach the desired angle.

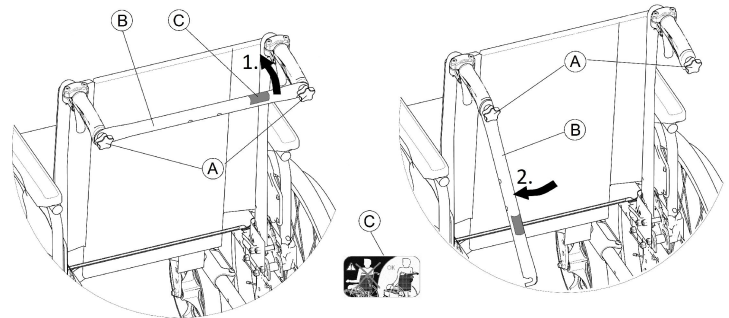
3.7 Standard backbrace for the backrest

The backbrace links the two push handles, provides tension to the backrest upholstery and must always be in position on recliner versions.

**CAUTION!**

- Do not use the backbrace to push the wheelchair. The backbrace is not a push bar!
- Do not attempt to lift the wheelchair using the backbrace; it may come loose and it could break.
- Keep your fingers away from movable parts and sharp edges to prevent injuries.


Folding the backbrace



1. Slightly loosen the two hand screws (A), pull up the backbrace (B) and swivel it downwards along the backrest (on right or left hand).
2. Fold the backbrace (B) until it is in vertical position.

Unfolding the backbrace

1. Fold the backbrace (B) upwards.
2. Align the backbrace (B) with the push handle and push it down on the hand screw (A).
3. Firmly tighten the hand screw (A) and make sure that the TWO hand screws (A) are properly tightened.

 It is important to ensure that the backbrace is correctly fitted and engaged at all times when the chair is in use. It should not be left hanging loose (see label C on the backbrace).



3.8 Leg rests



WARNING!

Risk of injury

- Never lift the wheelchair by the footrest supports or leg rests.



CAUTION!

Risk of pinching or crushing fingers

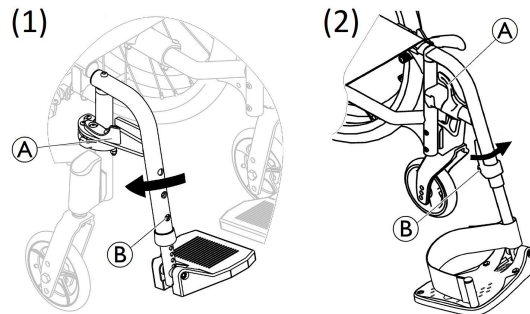
- There are swing mechanisms where you could trap your fingers.
- Be careful when using, swinging, disassembling or adjusting these mechanisms.



IMPORTANT!

- Risk of damage to the leg rest mechanism
- Do not place anything heavy, or let children sit on the leg rest.

3.8.1 Swing away leg rests



Swinging outwards

1. Activate the release lever (A) and swing the leg rests to the outside.

Swinging forwards

1. Swing the leg rest forwards until it engages.

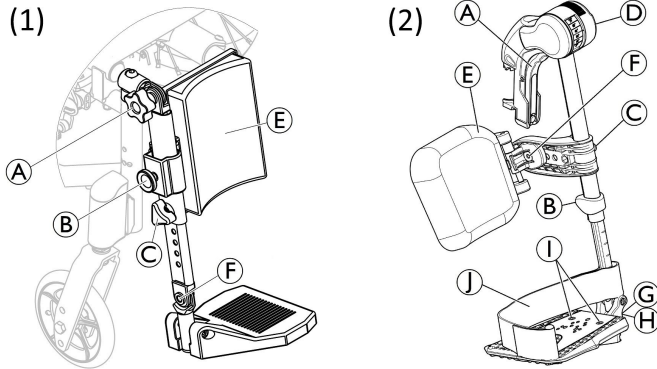
Unhinging

1. Activate the release lever (A).
2. Pull the leg rest upwards.

Hinging

1. Hinge the leg rest on the front of the frame and swing it forwards until it engages.

3.8.2 Swing away, angle adjustable leg rests



Swinging outwards

- Version (1)
 1. With one hand, slightly pull the leg rest upwards (up to 20 mm) and swing the leg rest to the outside.
- Version (2)
 1. Activate the release lever (A) and swing the leg rests to the outside.

Swinging forwards

- Version (1)
 1. Swing the leg rest forwards.
 2. Slightly push the leg rest downwards until it engages.

- Version (2)
 1. Swing the leg rest forwards until it engages.

Unhinging

- Version (1)
 1. Pull the leg rest upwards.
- Version (2)
 1. Activate the release lever (A), swing the leg rest outwards.
 2. Pull the leg rest upwards.

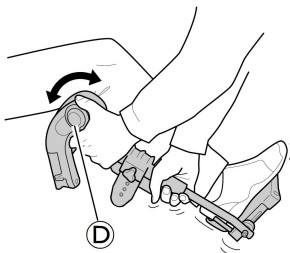
Hinging

- Version (1)
 1. Hinge the leg rest on the front of the frame and swing it.
 2. Slightly push the leg rest downwards until it engages.
- Version (2)
 1. Push the leg rest down into its receiver and swing it forwards until it engages.

Adjusting angle

- Version (1)
 1. Rotate the knob (A) with one hand while supporting the leg rest with your other hand.
 2. When a suitable angle is obtained, lock the knob (A) into the desired position.

- Version (2)



There are six preset positions available for angle adjustment.

1. Rotate the knob **D** with one hand while supporting the leg rest with your other hand.
2. When a suitable angle is obtained, let go off the knob and the leg rest will lock into the desired position.

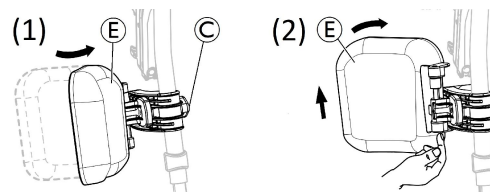
Swinging calf pad and adjustments

- Version (1)

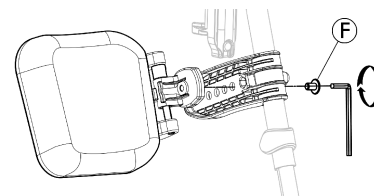
The calf pad **E** swings away during transfers and has height adjustment options.

1. After loosening the fixing screw **B** adjust to the desired height and firmly tighten the fixing screw.

- Version (2)



- Swinging calf pad forwards (1) or backwards (2) :
 1. Swing calf pad **E** forwards (1).
 2. Pull up the calf pad **E** and swing it backwards (2).
- Adjusting height of calf pad:
 1. Loosen knob **C**.
 2. Adjust to the desired height and firmly tighten the knob.
- Adjusting depth of calf pad



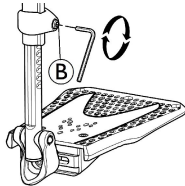
The calf pad has four depth adjustment options:

1. Remove the fixing screw **F** with 5 mm Allen key.
2. Adjust to one of the four positions and firmly tighten the fixing screw **F** (3–5 Nm).

Adjusting foot plate

There are three different foot plates available.

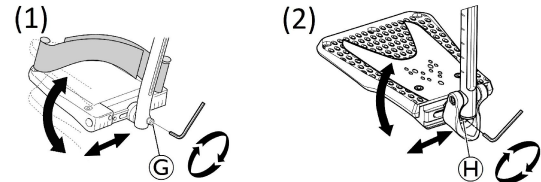
- Height adjustable foot plates, version (1)
 1. Loosening the hand screw ©.
 2. Adjust into one of the preset positions and tighten the hand screw © into the desired position.
- Standard height adjustable foot plates, version (2)



1. Loosen the fixing screw © with 5 mm Allen key.
2. Adjust the height and let the screw catch one of the recesses on the foot plate tube.
3. Tighten the fixing screw © (3–5 Nm) in the desired position.

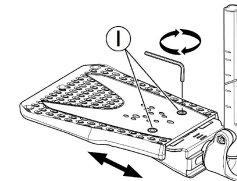
i The distance between the lowest part of the footrest and the ground must be at least 50 mm.

- Depth-, Angle- (1) and Width- (2) adjustable foot plates:



1. Loosen the fixing screw © or © with 5 mm Allen key.
2. Adjust the depth and angle positions and firmly tighten the fixing screw © (12 Nm) or © (8–9 Nm) in the desired position.

- Width-adjustable foot plates (2):



1. Loosen the two fixing screws ① with 5 mm Allen key.
2. Adjust the width position and firmly tighten the two fixing screws ① (3–5 Nm) in the desired position.

Invacare recommends that foot plate adjustment is carried out by an authorized dealer.

i To ensure a good position of the feet, two types of straps can be provided; the heel strap (serial) and the calf strap (optional) attached to the leg rest support. Both adjustable by hook and loop fasteners.

3.9 Anti-tipper ALBER and standard

An anti-tipper prevents the wheelchair from tipping backwards.

If your wheelchair is equipped with ALBER anti-tippers (with jack-up function), refer to Anti-tippers chapter, ALBER esprit user manual.



WARNING!

Risk of overturning

Anti-tippers that are incorrectly set or no longer working can lead to overturning.

- Always check that the anti-tipper is working before using the wheelchair and have it set or readjusted by an authorized dealer when required.

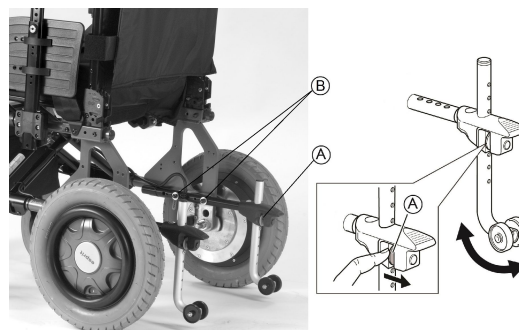


WARNING!

Risk of overturning

On uneven or soft ground, the anti-tipper can sink into potholes or directly into the ground, thereby curtailing or eliminating its safety function.

- Only use the anti-tipper when travelling on even and firm ground.



Activating the anti-tipper

1. Release the spring button **A** and swivel the anti-tipper sideways until it engages.
2. Ensure front release button **A** protrudes fully through frame hole.



WARNING!

Risk of tipping

An activated anti-tipper can catch when negotiating a step or an edge.

- Always deactivate the anti-tipper before driving over a step or kerb.

Deactivating the anti-tipper

1. Release the spring button **A** and swivel the anti-tipper sideways until it engages.



WARNING!
Risk of overturning

– Always advise the user if you deactivate the anti-tippers.



There is a label on the housing of the anti-tipper, this label shows when the anti-tipper is inactivated. When the anti-tipper is correctly activated, the label will be concealed.

Setting the height



WARNING!
Risk of overturning

– The adjustments of the anti-tipper must be carried out by an authorized dealer.



This adjustment is required with reference to the position and diameter of the rear wheel as well as the user conditions and his particular safety limits.



Make sure that the anti-tipper device is fitted correctly on each side, the spring button **A** and fixation **B** must be locked into position.

3.10 Tires

The ideal pressure depends on the tire type:

Tire	Max. pressure		
Solid tire: 317 mm (12 1/2")	-	-	-
Pneumatic tire: 560 mm (22"); 610 mm (24")	4 bar	400 kPa	58 psi
Solid tire: 560 mm (22"); 610 mm (24")	-	-	-
Solid tire: 175 mm (7"); 200 mm (8")	-	-	-
Pneumatic tire: 175 mm (7"); 200 mm (8")	2.5 bar	250 kPa	36 psi



The compatibility of the tires listed above depends on the configuration and/or model of your wheelchair.



The size of the tire is mentioned on the sidewall of the tire. The change of appropriate tires must be carried out by an authorized dealer.



CAUTION!

– The tires pressure have to be equal in both wheels to avoid a less driving comfort, to keep the brakes efficiency and an easy propelling of the wheelchair.

3.11 Seat cushion

A suitable cushion is recommended to provide an even pressure distribution on the seat.



CAUTION!

Adding a cushion to the seat will raise your height above the ground and can affect your stability in all directions. If a cushion is changed it may also change the user's stability. If the thickness of the cushion is changed, a complete set up of the wheelchair need to be done by an authorized dealer.

- We recommend to use an Invacare or Matrix cushion with anti-slip base cover in order to prevent sliding.

4 Accessories

4.1 Posture belt

The wheelchair can be equipped with a posture belt. It prevents the user from sliding downward in the wheelchair or from falling out of the wheelchair. The posture belt is not a positioning device.

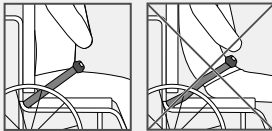


WARNING!

Risk of serious injury / strangulation

A loose belt can allow the user to slip down and create a risk of strangulation.

- The posture belt should be mounted by a qualified technician and fitted by the responsible prescriber.
- Always make sure that the posture belt is tightly fitted across the lower pelvis.
- Each time the posture belt is used, check if it fits properly. Changing the seat and/or backrest angle, the cushion and even your clothes influence the fit of the belt.



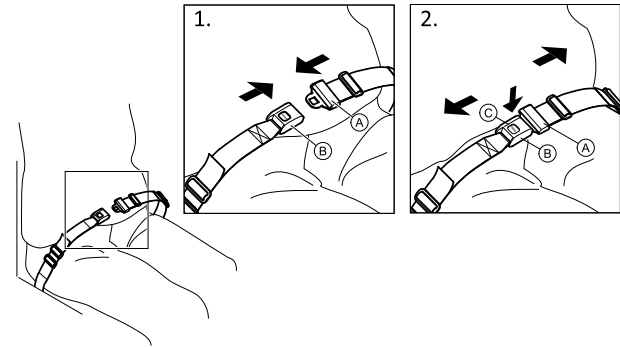
WARNING!

Risk of serious injury during transport

In a vehicle, a user in his wheelchair must be secured by a safety belt (3-point belt). A posture belt only is not sufficient as a personal restraint device.

- Use the posture belt as a complement, but not as a substitute to the 3-point safety belt, when transporting the wheelchair user in a vehicle.


Closing and opening the posture belt

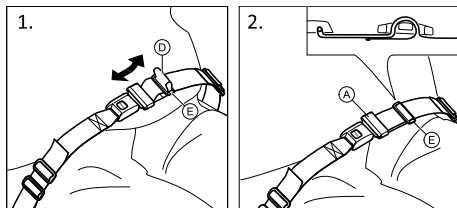


Ensure that you are sitting fully back in the seat and that the pelvis is as upright and symmetrical as possible.

1. To close, push the catch **(A)** into the buckle clasp **(B)**.
2. To open, push the PRESS button **(C)** and pull the catch **(A)** out of the buckle clasp **(B)**.

Adjusting the length

 The posture belt has the good length, when there's just sufficient space for a flat hand between body and belt.



1. Shorten or extend the loop **D** as required.
2. Thread loop **D** through catch **A** and plastic buckle **E** until the loop is flat.

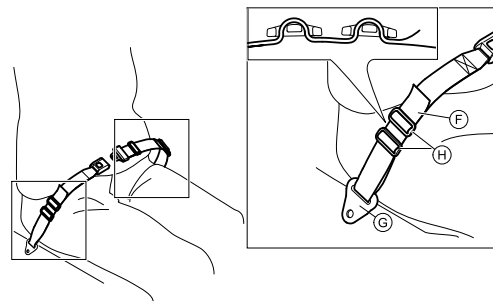
If this adjustment is not sufficient, it might be required to re-fit the posture belt at the fixations.

Fitting the posture belt at the fixations



CAUTION!

- Thread the belt loop through both plastic buckles to avoid the belt from loosening.
- Do the adjustments on both sides equally, so that the buckle clasp remains in a central position.
- Make sure that the belts do not get caught in the spokes of a rear wheel.



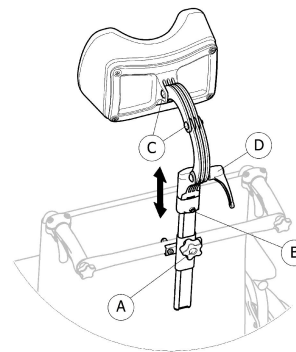
1. Thread the loop **F** through the fixation on the chair **G** and then through BOTH plastic buckles **H**.

4.2 Headrest




The height and the removal are operated by the handwheel. The bar is equipped with an adjustable stop block.

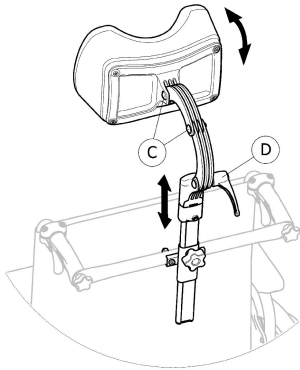
Height adjustment



1. Loosen the screw in the stop block ⑥.
2. Loosen the handwheel ④.
3. Adjust the headrest to the desired position.
4. Re-tighten the handwheel ④ down to the top of the headrest attachment.
5. Slide the stop block ⑥.
6. Re-tighten the screw .


 It is now possible to remove the headrest and reinsert it in the desired position without further adjustments.

Depth / angle adjustment

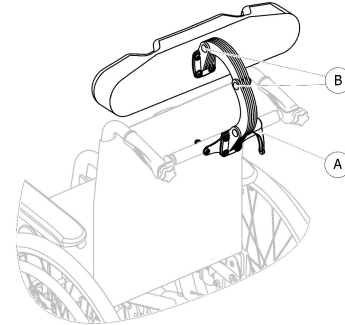


1. Loosen the handle ④.
2. Loosen the screws ③.
3. Adjust the depth and angle of the headrest.
4. Re-tighten the handle and the screws.

4.3 Headrest Junior

 The height; depth and angle adjustments are operated by the combination of the headrest scissor brackets position.

Height; depth and angle adjustment



1. Loosen the handle ④.
2. Loosen the screws ③ with 5 mm Allen key.
3. Adjust the height; depth and angle of the headrest by moving the scissor brackets to the desired position.
4. Re-tighten the handle ④ and the screws ③ (5–6 Nm).

4.4 Manual propulsion (22" or 24" wheels)

The manual propulsion allows to drive and steer the wheelchair by using the handrims.



WARNING!

Risk of overturning

If the removable axle of a rear wheel is not fully engaged, the wheel can become loose during use. This can lead to overturning.

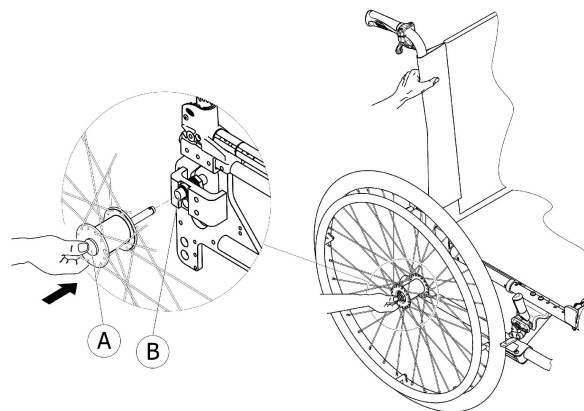
- Always ensure that the removable axles are fully engaged whenever you fit a wheel.

Removing the control unit and the powered 12" rear wheels



The battery pack only needs to be removed when the wheelchair requires folding for transportation. The battery pack can remain on the wheelchair in manual propulsion mode.

1. Switch off the power button of the control unit.
2. Remove the control unit from its armrest bracket, loosening wing screw Ⓐ, refer to *3.4 Control unit adjustments, page 22*.
3. Disconnect the plug from the control unit, refer to Control unit chapter, ALBER esprit user manual.
4. Remove the powered 12" rear wheels, refer to *7.6 Removing and fitting the powered 12" rear wheels, page 57*.
5. To retrofit from manual propulsion mode to power mode, reverse this procedure.



Fitting the rear wheels

1. Release the brakes.
2. With one hand, hold the wheelchair upright.
3. With the other, hold the wheel through the external spoke rim around the wheel hub.
4. Using your thumb, press the removable axle button Ⓐ and hold it down.
5. Push the axle into the adapter sleeve Ⓑ up to the stop.
6. Release the removable axle button and make sure that the wheel is secure.

Removing the rear wheels

1. Release the brakes.
2. With one hand, hold the wheelchair upright.
3. With the other, hold the wheel through the external spoke rim around the wheel hub.

4. Using your thumb, press the removable axle button (A). Keep it pressed and pull the wheel out of the adapter sleeve (B).
5. Keep it pressed and pull the wheel out of the adapter sleeve (B).

4.4.1 Parking brakes

The parking brakes are used to immobilize the wheelchair when it is stationary to prevent it from rolling away.



WARNING!

Risk of overturning if you brake sharply

If you apply the parking brakes while you are moving, the direction of movement can become uncontrollable and the wheelchair may stop suddenly, which can lead to a collision or to you falling out.

- Never apply the parking brakes while you are moving.



WARNING!

Risk due to wheelchair being out of control

- The parking brakes must be operated simultaneously.
- Do not apply the parking brakes to slow down the wheelchair.
- Do not lean on the parking brakes for support or transfer.



WARNING!

Risk of overturning

The parking brakes will not operate correctly unless there is sufficient air in the tires.

- Ensure the correct tire pressure, *3.10 Tires, page 33.*



CAUTION!

Risk of pinching or crushing

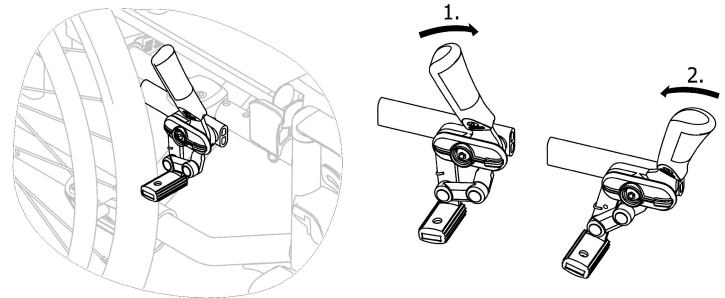
There may be a very small gap between the rear wheel and the parking brake with the risk that you could trap your fingers.

- Keep your fingers away from movable parts when using the brake, always keep your hand on the brake lever.




The distance between the brake shoe and the tire can be adjusted. The adjustment must be carried out by an authorized dealer.

Standard brake



1. To apply the brake, push the brake lever forwards as far as possible.
2. To release the brake, pull the brake lever backwards.

 The lever of the push handle can be folded back to facilitate transfers. To do so, pull up the lever and fold it backwards.



WARNING!

Risk due to wheelchair being out of braking control

In stiff slopes you can lose braking control of your wheelchair and overturn.

- Do not take slopes exceeding 5° to ensure perfect braking control of the wheelchair.

4.5 Comfort version

It is made up of a rigid shell (A) and a preformed foam cushion (B) which is locked in place by hook and loop fasteners. The backrest shell is removable to allow the folding of the wheelchair. The comfort version is always delivered in passive rear wheel position for a better stability.



WARNING!

Risk of injury

- Never lift the wheelchair by the backrest shell.

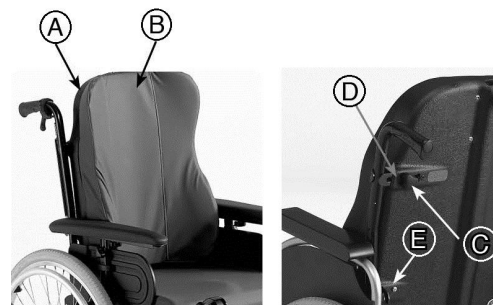


CAUTION!

Risk of pinching

- Keep your fingers away from movable parts during folding, disassembling or adjustment.

Remove the backrest shell



1. Slightly loosen the two hand screws (C) .
2. Slide the levers (D) inwards until they are in open position.
3. Disengage the hooks (E) from their supports.

Install the backrest shell

1. Engage the hooks (E) into their supports.
2. Slide the levers (D) outwards until they are in lock position.
3. Firmly tighten the two hand screws (A) and make sure that the TWO hand screws (A) are properly tightened .



It is recommended that this operation be performed only by the attendant. It is important to ensure that the backrest shell is correctly fitted and engaged at all times when the chair is in use. Make sure the backrest cushion hook and loop fasteners are in good state and well positioned.

4.6 Tray

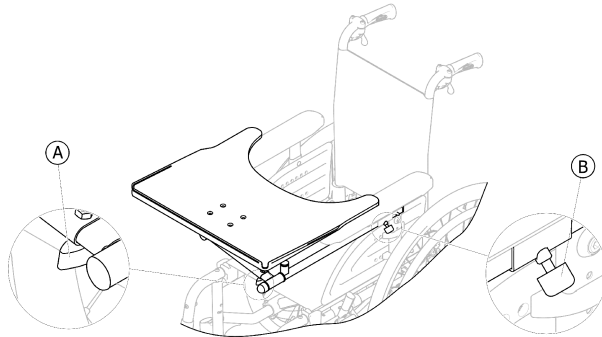


CAUTION!

Risk of injury or material damage if a mobility device which is fitted with a tray is transported in a vehicle

- If a tray is fitted, always remove it before transporting the mobility device.

4.6.1 Adjusting, removing, swinging the tray



Adjusting width of the tray

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

Adjusting depth, removing the tray

1. Loosen wing-screw **(B)**.
2. Adjust tray to desired depth (or remove it entirely).
3. Re-tighten wing-screw **(B)**.

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Swinging away the tray

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

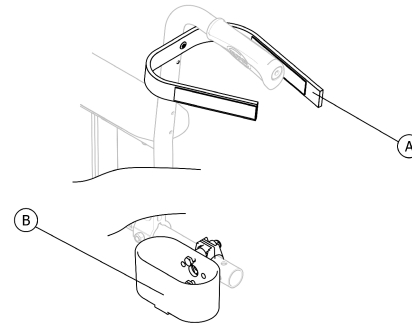


CAUTION!

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.

4.7 Cane holder



WARNING!

Risk of overturning

- Ensure that the cane holder does not project beyond the external diameter of the rear wheel.

1. Place the cane in the holder ②.
2. Fix the top of the cane to the backrest ①.

5 Usage

5.1 Driving



The maximum user weight that is stated in the technical data only states that the system is designed for this weight in total. However, this does not mean that one can sit a person with this body weight in the mobility device without restrictions. Attention must be paid to the body proportions, such as height, weight distribution, abdominal belt, leg and calf strap and seat depth. These factors have a strong influence on driving features such as tilt stability and traction. It may possibly be necessary to carry out adaptations to the seat system.

5.2 Before driving for the first time

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



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

Sitting comfortably = Driving safely

Before each trip, make sure that:

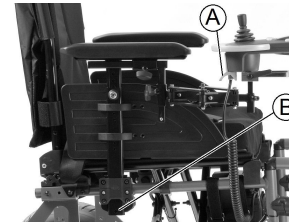
- You are within easy reach of all operating controls.
- The battery charge is sufficient for the distance intended to be covered.
- The posture belt is in perfect order.

5.3 Getting in and out of the mobility device



- The armrest must be removed or swiveled up in order to get into or out of the mobility device from the side.

5.3.1 Removing the armrest in order to side transfer



1. Pull the plug **A** of the control unit socket to disconnect the control unit.
2. Press on the locking mechanism **B** located at the bottom of the armrest vertical bracket.
3. Pull the armrest by the arm cushion out of the holder.

5.3.2 Information about getting in and out





WARNING!

Risk of serious injury or damage

Improper transfer techniques may cause serious injury or damage

- Before attempting transfers, consult a healthcare professional to determine proper transfer techniques for the user and type of wheelchair.
- Follow the instructions below.



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

Getting into the mobility device:

1. Position your mobility device as close as possible to your seat. This might have to be done by an attendant.
2. Align casters parallel to the drive wheels to improve stability during transfer.
3. Always switch your mobility device off.
4. Always engage both motor in “Power Driven” mode to prevent the wheels from moving.
5. Remove the armrest.
6. Now slide into the mobility device.

Getting out of the mobility device:

1. Position your mobility device as close as possible to your seat.
2. Align casters parallel to the drive wheels to improve stability during transfer.
3. Always switch your mobility device off.

4. Always engage both motor in “Power Driven” mode to prevent the wheels from moving.
5. Remove the armrest.
6. Now slide onto your new seat.

5.4 Taking Obstacles

5.4.1 Maximum obstacle height

You can find information about maximum obstacle heights in the chapter entitled *10 Technical Data, page 65*.

5.4.2 Safety information when taking obstacles



CAUTION!

Risk of tipping over

- Never approach obstacles at an angle but at 90 degrees as shown below.
- Approach obstacles followed by a gradient with caution. If unsure whether the gradient is too steep or not, move away from the obstacle and if possible try to find another location.
- Never approach obstacles on an uneven and/or loose ground.
- Never drive with too low tire pressure.
- Put your backrest into an upright position before ascending an obstacle.

**CAUTION!**

Risk of falling out of the mobility device and damage to the mobility device such as broken casters

- Never approach obstacles that are higher than the maximum climbable obstacle height.
- Never let the footrest/legrest touch the ground when descending an obstacle.
- If unsure whether taking an obstacle is possible or not, move away from the obstacle and if possible find another location.

5.4.3 The correct way to take obstacles

**WARNING!**

Risk of injury or damage

Tilting the wheelchair by gripping the backrest canes may cause injury or damage

- Never tilt the wheelchair by gripping the backrest canes, the backrest canes could bend or break during this manoeuvre.



The following instructions how to take obstacles also apply for attendants if the mobility device is fitted with an attendant control.

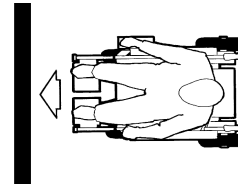


Fig. 5-1 Right

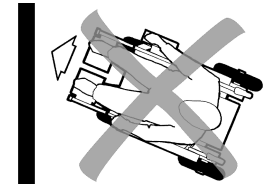


Fig. 5-2 Wrong

Ascending

1. Approach the obstacle or the curb slowly, head-on and at a right angle.
2. Depending on the wheel drive type, stop in one of the following positions:
 - a. In the case of centrally driven mobility devices: 5 - 10 cm before the obstacle.
 - b. For all other drives: approx. 30 - 50 cm in front of the obstacle.
3. Check the position of the front wheels. They must be in driving direction and at right angles to the obstacle.
4. Approach slowly and keep at a consistent speed until the rear wheels have also passed over the obstacle.

Descending

The approach to descend an obstacle is the same as to ascend it with the difference that you need not to stop before descending.

1. Descend the obstacle with medium speed.



When descending an obstacle too slowly it could happen that the anti-tippers get stuck and lift the drive wheels off the ground. Driving the mobility device is then no longer possible.

5.5 Driving up and down gradients

For information concerning the maximum safe slope, refer to *10 Technical Data, page 65*.



CAUTION!

Risk 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 to an upright position before ascending slopes. We recommend that you position the seat backrest slightly to the rear before descending slopes.
- Never attempt to ascend or descend a slope on slippery surfaces or where there is a risk 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.



CAUTION!

Braking distance is much longer on a downhill slope than on even terrain

- Never drive down a slope that exceeds the rated slope (refer to *10 Technical Data, page 65*).

5.6 Pushing the mobility device in “free-wheeling” mode

The motors of the mobility device are equipped with automatic brakes, preventing that the mobility device starts rolling out of control when the control unit is switched off. When using the mobility device manually whilst “free-wheeling” mode, the magnetic brakes must be disengaged.



WARNING!

Risk of injury or damage

- Tilting the wheelchair by gripping the backrest canes may cause injury or damage
- Never tilt the wheelchair by gripping the backrest canes, the backrest canes could bend or break during this manoeuvre.



The intended use of the “free-wheeling” mode is to maneuver the mobility device over short distances. The push handles support this function, but be aware that there might be some impairment between the feet of the assistant and the rear part of the mobility device.

5.6.1 Disengaging, re-engaging motors



CAUTION!

Risk of the mobility device running away

– When the motors are disengaged (for push operation whilst freewheeling), the electromagnetic motor brakes are deactivated. When the mobility device is parked, the coupling rings for engaging and disengaging the motors must without fail be locked firmly into the "POWER DRIVEN" mode (electromagnetic motor brakes activated).



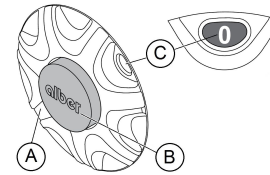
The motors may only be disengaged by an attendant, not by the user.

This ensures that the motors are only disengaged if an attendant is available to secure the mobility device and prevent unintended rolling.

The coupling rings for disengaging the motors are located on the powered drive wheels, refer to Wheels and Driving chapters, ALBER esprit user manual.

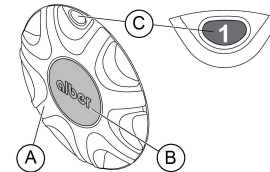


Disengaging motor



1. Switch off control unit.
2. Rotate coupling ring (A) clockwise as far as it will go.
3. Release cover (B) protrudes beyond the coupling ring and "0" is displayed in the window (C) .
The powered drive wheel is now disengaged. Wheel is in "free-wheeling" mode.
4. Perform step 2 to 3 on both sides.

Re-engaging motor



1. Rotate coupling ring (A) until it reaches the middle stop.
2. Release cover (B) is flush with the coupling ring and "1" is displayed in the window (C) .
The motor is now re-engaged. Wheel is in "Power Driven" mode.
3. Perform step 1 to 2 on both sides.
4. Switch on control unit.

6 Controls system

6.1 Controls protection system

The wheelchair controls system is fitted with an overload protection.

If the drive is severely overloaded over a long period of time (for example, when driving up a steep hill) and especially when the ambient temperature is high, the controls system could overheat. In this case, the wheelchair performance is gradually reduced until it comes to a halt. The status display shows a corresponding error code (refer to Control unit and Quick assistance on system failure chapters, ALBER esprit user manual). By switching the power supply off and back on again, the error code is cleared and the controls system is switched back on. It can however take up to five minutes until the controls system has cooled down enough for the drive to restore full performance again.

If the drive is stalled by an insurmountable obstacle, for example, a curb or similar which is too high, and the driver attempts driving for more than 20 seconds against this obstacle, the controls system automatically switches off to prevent the motors from being damaged. The status display shows a corresponding error code (refer to Control unit and Quick assistance on system failure chapters, ALBER esprit user manual). By switching off and back on again, the error code is cleared and the controls system is switched back on.



A defective main fuse may be replaced only after checking the entire controls system. Your authorized dealer must perform the replacement. You can find information on the fuse type in *10 Technical Data, page 65*.

6.2 Battery pack

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

You can find information on how to charge, handle, transport, store, maintain, and use batteries, refer to Battery pack chapter, ALBER esprit user manual.

7 Transport

7.1 Transport — General information



WARNING!

Risk of injury if the mobility device is not properly secured

In the event of an accident, braking manoeuvre, etc. you may suffer serious injuries from flying power wheelchair parts.

- Always remove components not strongly assembled when transporting the power wheelchair.
- Firmly secure all power wheelchair components in the means of transport to prevent them from coming loose during the journey.



WARNING!

Risk of death or serious injury to the mobility device user and potentially any other nearby occupant of the vehicle, if a mobility device is secured using a 4-point tie-down system available from a third party supplier and the unladen weight of the mobility device exceeds the maximum weight for which the tie-down system is certified

- Make sure the weight of the mobility device does not exceed the weight for which the tie-down system is certified. Consult the tie-down manufacturer's documentation.
- If you are unsure how much your mobility device weighs, then you must have it weighed using calibrated scales.



CAUTION!

Risk of injury or material damage if a mobility device which is fitted with a tray is transported in a vehicle

- If a tray is fitted, always remove it before transporting the mobility device.

7.2 Transporting the mobility device without occupant



CAUTION!

Risk of injury

- If you are unable to fasten your mobility device securely in a transport vehicle, Invacare recommends that you do not transport it.

Your mobility device 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.

- Before transporting your mobility device, make sure the motors are engaged and that the remote is switched off. Invacare strongly recommends that you additionally disconnect or remove the batteries. Refer to Removing the batteries.
- Invacare strongly recommends securing the mobility device to the floor of the transporting vehicle.

7.3 Transporting the occupied wheelchair in a vehicle

Even when the wheelchair is properly secured and the following rules are met, injuries to passengers may occur in a collision or sudden stop. Therefore Invacare strongly recommends transferring the wheelchair user to the vehicle seat with the seatbelt on. Do not make alterations or substitutions to points of the wheelchair (structure, frame or parts) without the written consent of Invacare Corporation. The wheelchair has been successfully tested according to the requirements of ISO 7176-19 (Frontal impact).



WARNING!

Risk of serious injury or death

To use the wheelchair as a seat in a vehicle the backrest height minimum must be at least 400 mm.

To transport the wheelchair with user in a vehicle, a restraint system must be installed in the vehicle. Wheelchair tie-downs and occupant restraint systems must be approved according to ISO 10542-2. Contact your local Invacare authorized dealer for more information on getting and installing an approved and compatible restraint system.



WARNING!

If, for some reason, it is impossible to transfer the wheelchair user to a vehicle seat, the wheelchair can be used as a seat in a vehicle if the following procedures and regulations are followed. A transportation kit (optional) have to be fitted on the chair for such a purpose.

- The wheelchair must be secured in the vehicle with a 4-point wheelchair restraint system.
- The user must wear a 3-point passenger restraint system secured to the vehicle.
- The user can be additionally secured with a posture belt in the wheelchair.



WARNING!

Safety restraint devices must only be used when the wheelchair user's weight is 22 kg or more (ISO-7176-19).

- Do not use the wheelchair as a seat in a vehicle when the user weight is lower than 22 kg.

**WARNING!**

- Before journey contact transporter and request information about the capability for the below required equipment.
- Make sure there is sufficient free space around the wheelchair and user to avoid the user making contact with other vehicle occupants, unpadded parts of the vehicle, wheelchair accessories or anchor points of the restraint system.

**WARNING!**

- Make sure the tie-down points at the wheelchair are not damaged.
- It's recommended to use puncture-proof tires during transport to avoid stability problems due to reduced tire pressure.

**WARNING!**

- Injury or damage may occur from wheelchair components or accessories loosened during a collision or sudden stop.
- Ensure all removable or detachable components and accessories are removed from the wheelchair and securely stored in the vehicle.
 - It is essential to have your wheelchair checked by a specialist dealer after an accident, collision etc.

**WARNING!**

Before transporting your mobility device, make sure the motors are engaged and that the remote is switched off.

Injury or damage may occur from battery pack loosened during a collision or sudden stop:

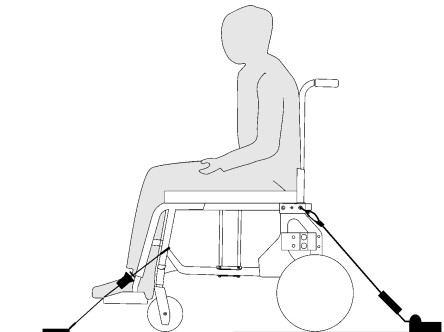
- Disconnect, remove and securely store the batteries in the vehicle.
- Insert the interface into the battery bag.
- For the above procedure, refer to paragraph 3.2 Removing the battery pack, Alber esprit user manual.

**IMPORTANT!**

It is recommended that training be given on the proper use of a restraint system product.

- Refer to the user manuals supplied with the restraint systems.
- The following illustrations may differ depending on the restraint system supplier.

Securing the wheelchair with a 4-point restraint system



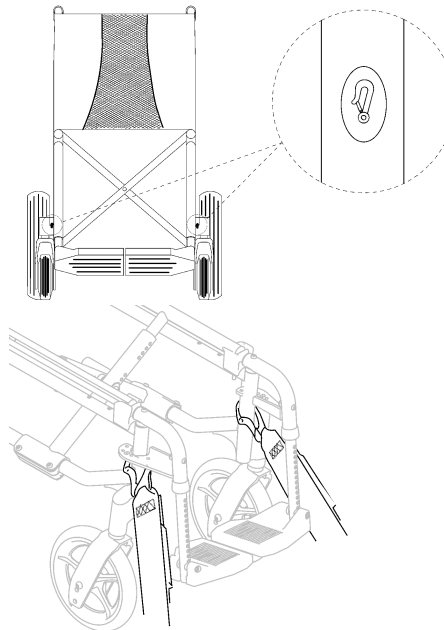
WARNING!

- Place the wheelchair with the user forward-facing in direction of vehicle travel.
- Make sure the motors are engaged and that the remote is switched off.
- Activate anti-tipper.

The wheelchair tie-down positions where the restraint system straps must be placed are marked with snap hook symbols (see following figures and section 2.7 *Labels and symbols on the product, page 18*).

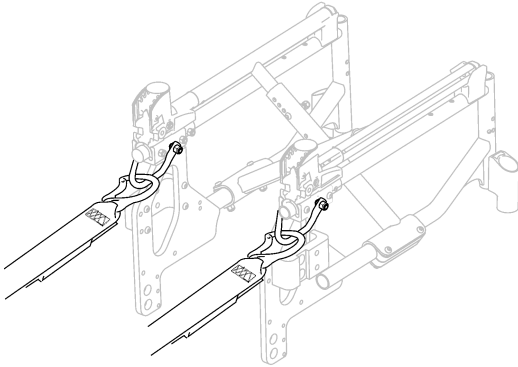
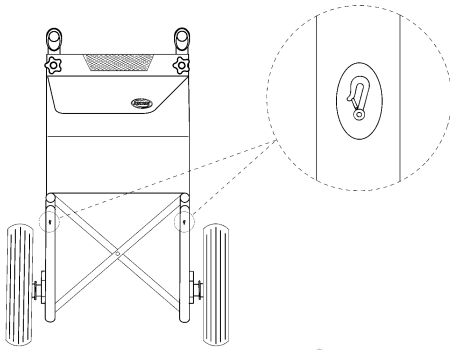
1. Using the front and rear straps of the 4-point restraint system, secure the wheelchair to the vehicle mounted rails. Refer to the user manual supplied with 4-point restraint system.

Front side tie-down positions for snap hooks:



1. Attach the snap hooks above the castor supporters as shown in the figure above (see location of the attachment labels).
2. Attach front straps to the rail system referring to best practice recommended instructions from the safety belt manufacturer.
3. Tighten the straps.

Rear side tie-down positions for snap hooks:



1. Attach the snap hooks to the orange rings as shown in the two figures above (see location of the attachment labels).
2. Attach rear straps to the rail system referring to best practice recommended instructions from the safety belt manufacturer.
3. Tighten the straps.

! **IMPORTANT!**
 – Make sure that the snap hooks are covered with slip resistant material to avoid laterally slipping on the axle.

! **IMPORTANT!**
 – Check the plungers are fully engaged on both sides and located in the same position of the cut-out section of the rail.
 – Make sure that the angle between the rails and the straps lies between 40° and 45°.

Fit posture belt

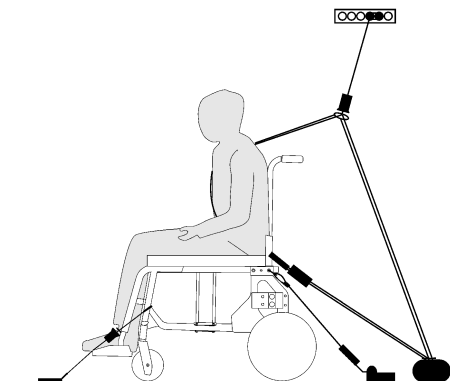


WARNING!

The posture belt can be used in addition to but never as a substitute for an approved passenger restraint system (3-point belt).

1. Adjust posture belt to fit the wheelchair occupant, see section 4.1 *Posture belt*, page 35.

Fastening the 3-point passenger restraint system



IMPORTANT!

The illustration above may differ depending on the restraint system supplier.



WARNING!

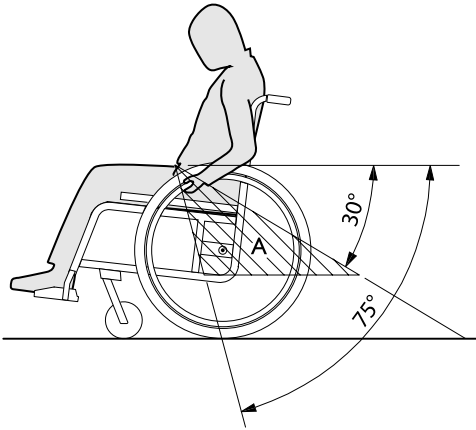
- Ensure the 3-point passenger restraint system fits as tightly across the user's body as possible without discomfort and no part is twisted.
- Ensure the 3-point passenger restraint system is not held away from the user's body by parts of the wheelchair such as armrests or wheels etc.
- Ensure the user restraint has a clear path from the user to the anchor point without interference by any part of the vehicle, wheelchair, seating or accessory.
- Ensure the posture belt fits snugly over the occupant's pelvis and is not allowed to ride up into the abdominal area.
- Ensure the user is able to reach the release mechanism unaided.



1. Attach the 3-point passenger restraint system referring to the user manual supplied with your 3-point restraint system.

! **IMPORTANT!**

- Apply the posture belt of the 3-point passenger restraint system low across the pelvis so that the angle of the posture belt is within the preferred zone (A) of 30° to 75° to the horizontal. A steeper angle is preferred, but never exceeding 75°.



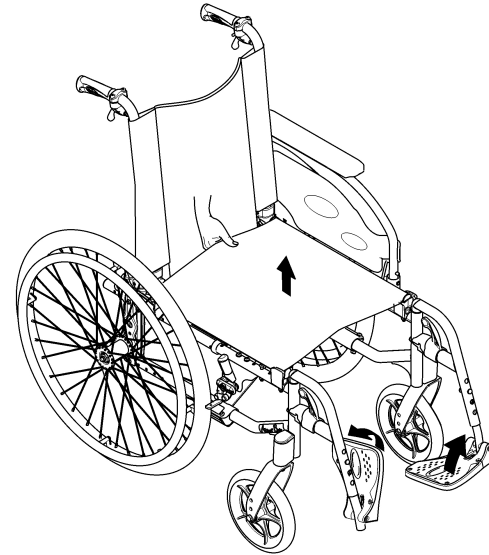
7.4 Disassembling the wheelchair for transport

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

1. Remove the leg rests, refer to *3.8 Leg rests, page 28*.
2. Remove the battery pack, refer to Battery pack chapter, ALBER esprit user manual.
3. Fold the wheelchair together and load it, refer to *7.4.1 Folding and unfolding the wheelchair, page 55*.

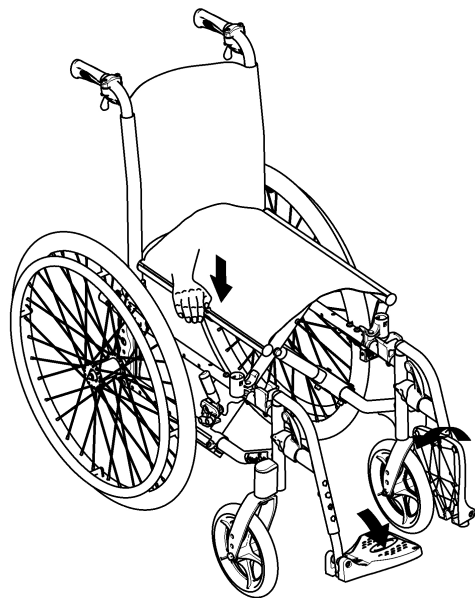
7.4.1 Folding and unfolding the wheelchair

Folding the wheelchair



1. Remove the seat cushion, if present.
2. Fold the backbrace, if present.
3. Fold the foot plates upwards.
4. Pull the seat cover upwards.

Unfolding the wheelchair



CAUTION!

Risk of getting fingers caught

There is a risk of getting your fingers caught between the seat edge and the frame.
– Never clasp the seat edge with your fingers.

1. Position the wheelchair next to you.
2. Tilt the wheelchair, if possible, gently towards you.
3. With your hand flat, press the seat edge closest to you, so that the seat surface flattens out.

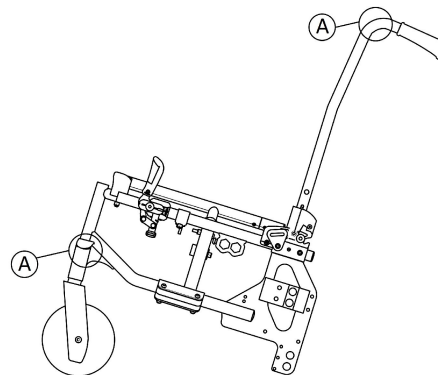
4. Put the wheelchair back completely on the floor and check that the seat edges on both sides are in the guide components.
5. Fold the foot plates down.
6. Unfolding the backbrace, if present.

7.5 Lifting the wheelchair frame (part > 10 kg)



IMPORTANT!

- Never lift the wheelchair by removable parts (armrests, footrests).
- Ensure the backrest posts are securely in place.



1. Fold the wheelchair, see chapter 7.4.1 *Folding and unfolding the wheelchair*, page 55.
2. Always lift the wheelchair by gripping the frame at points Ⓐ.

7.6 Removing and fitting the powered 12" rear wheels



CAUTION!

Risk of overturning

If the removable axle of a rear wheel is not fully engaged, the wheel can become loose during use. This can lead to overturning.

– Always ensure that the removable axles are fully engaged whenever you fit a wheel.



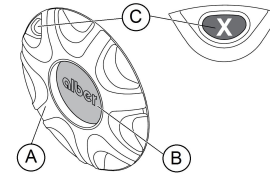
The rear wheels may only be removed by an attendant, not by the user.

This ensures that the rear wheels are only removed if an attendant is available to secure the mobility device and prevent risk of overturning.

The coupling rings for disengaging the motors are located on the powered drive wheels, refer to Wheels and Driving chapters, ALBER esprit user manual.

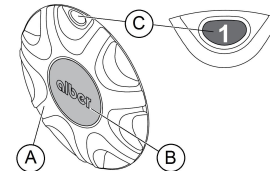


Removing the rear wheels



1. Switch off control unit.
2. Release cover **B** is pressed beyond the coupling ring.
3. Simultaneously rotate coupling ring **A** counterclockwise as far as an "X" is displayed in the window **C** . The powered drive wheel is now disengaged. Wheel can be fitted or removed.
4. Perform step 2 to 3 on both sides.

Fitting the rear wheels



1. Engage the rear wheel completely into the adapter sleeve and ensure that the torque plug is simultaneously pushed into the torque socket.
2. Rotate coupling ring **A** until it reaches the middle stop.
3. Release cover **B** is flush with the coupling ring and "1" is displayed in the window **C** . The motor is now re-engaged. Wheel is in "Power Driven" mode.

4. Perform step 1 to 2 on both sides.
5. Switch on control unit.

7.7 Reassembling the wheelchair

Reassembly of the wheelchair takes place in reverse order to disassembly. Proceed as follows:

1. Unfold the wheelchair together and load it, refer to *7.4.1 Folding and unfolding the wheelchair, page 55*.
2. Install the battery pack, refer to Battery pack chapter, ALBER esprit user manual.
3. Install the leg rests, refer to *3.8 Leg rests, page 28*.

8 Maintenance

8.1 Safety information



WARNING!

Some materials deteriorate naturally over time. This could result in damage to wheelchair components.

- Your wheelchair should be checked by a authorized dealer at least once a year or if it has not been used for a long period.



Your Invacare authorized dealer can provide help in carrying out regular maintenance. To find an authorized dealer near you, contact the Invacare distributor for your country (end of this document).



Packaging for return

The wheelchair shall be sent to the authorized dealer in an appropriate packaging to avoid damage during the shipment.

8.2 Inspection checks

The following table lists inspection checks that should be performed by the user and their intervals. If the mobility device fails to pass one of the inspection checks, refer to the chapter indicated or contact your authorized Invacare provider. A more comprehensive list of inspection checks and instructions for maintenance work can be found in the service manual for this device, which can be obtained from Invacare. That manual, however, is intended to be used by

trained and authorized service technicians, and describes tasks which are not intended to be performed by the user.

8.2.1 Before each use of the mobility device

Item	Inspection check	If inspection is not passed
Signal horn	Check for correct function.	Contact your authorized dealer.
Batteries	Make sure the battery pack is charged. See the user manual provided with your remote for a description of the Battery Charge Indicator.	Charge the battery pack (refer to Battery pack chapter, ALBER esprit user manual).

8.2.2 Weekly

Item	Inspection check	If inspection is not passed
Arm-rests/side parts	Check that armrests are firmly attached in their holders and do not wobble.	Tighten the screws that holds the armrest (see chapter 3.5.1 <i>Armrest removable, width and depth adjustable with armpad height and depth adjustable, page 23</i>). Contact your authorized dealer.
Tires (pneumatic)	Check that the tires are undamaged.	Contact your authorized dealer.
	Check that the tires are inflated to the correct pressure.	Inflate the tire to the correct pressure (see chapter 3.10 <i>Tires, page 33</i>).
Solid tires (puncture-proof)	Check that the tires are undamaged.	Contact your authorized dealer.
Anti-tippers	Check that anti-tippers are firmly attached and do not wobble.	Contact your authorized dealer.

8.2.3 Monthly

Item	Inspection check	If inspection is not passed
All upholstered parts	Check for damage and wear.	Contact your authorized dealer.
Manually angle adjustable backrest	Is the ratchet mechanism of the angle adjustment undamaged and in good working order?	Contact your authorized dealer.
	Do the different adjustment functions work without any problem?	Contact your authorized dealer.
Removable legrests	Check whether the leg rests can be fixed securely and whether the loosening mechanism is properly operable.	Contact your authorized dealer.
	Check that all adjustment options function properly.	Contact your authorized dealer.
Casters	Check that casters rotate and swivel freely.	Contact your authorized dealer.

Item	Inspection check	If inspection is not passed
Drive wheels	Check that the drive wheels rotate without wobbling.	Contact your authorized dealer.
Electronics and connectors	Check all cables for damage and all connecting plugs for snug fit.	Contact your authorized dealer.

8.2.4 Cleaning

Your wheelchair will serve you well for many years if you clean it regularly.

! IMPORTANT!

- Sand and seawater can damage the bearings and steel parts can rust if the surface is damaged.
 - Only expose the wheelchair to sand and seawater for short periods and clean it after every trip to the beach.

! IMPORTANT!

- Do not use coarse abrasives, aggressive cleaning products or high-pressure cleaners. Never use acids, alkalines or solvents such as acetone or cellulose thinner.
 - Always use ordinary household cleaning agents.

1. Clean the cushions and metal parts with a soft, damp cloth.
2. Dry the wheelchair carefully with a cloth after using it in the rain.
3. If the wheelchair is dirty, wipe off the dirt as soon as possible with a damp cloth and dry it carefully.



Regular cleaning will reveal loose or worn parts and enhance the smooth operation of your wheelchair. To operate properly and safely, your wheelchair must be cared for just like any other vehicle. For upholstery that is severely stained or surface finish that is badly damaged, contact an authorized dealer for further information.

Cleaning upholstery

For cleaning upholstery refer to the instructions on the label on the seat, cushion and backrest cover.



If possible, always overlap hook and loop strips (the self-gripping parts) when washing, to minimize lint and thread build-up on hook strips and prevent damage to upholstery fabric by these.

Cleaning metal surfaces

Hot water and mild detergent on soft cloth should be used to clean metal surfaces.

1. Wipe down with damp cloth.
2. Dry surface by wiping down with dry cloth.

Car polish and soft wax can be used to remove abrasions and restore gloss.

Cleaning plastic surfaces

Plastic surfaces must be cleaned with soft cloth, mild detergent and hot water.



IMPORTANT!

– Do not use solvents or kitchen cleaners to clean plastic surfaces.

1. Rinse surface with clean water.
2. Dry surface by wiping down with dry cloth.

8.2.5 Disinfection

The wheelchair may be disinfected by spraying or wiping with tested, approved disinfectants.



Spray a soft cleaning and disinfecting product (bactericidal and fungicide meeting the EN1040 / EN1276 / EN1650 standards) and follow the instructions given by the manufacturer.

9 After Use

9.1 Storage



IMPORTANT!

- Risk of damage to the product
- Do not store the product near heat sources.
 - Never store other items on top of the wheelchair.
 - Store the wheelchair indoors in a dry environment.
 - Refer to temperature limitation in the chapter entitled *10 Technical Data, page 65*.

After long-term storage (more than four months) the wheelchair must be inspected in accordance to chapter *8 Maintenance, page 59*.

9.1.1 Short-term storage

In case a serious fault is detected, a number of safety mechanisms are built into your mobility device and will protect it. The power module prevents your mobility device from driving.

When the mobility device is in such a condition and while waiting for repair:

1. Switch off power.
2. Disconnect the battery pack.
Refer to the corresponding chapter about disconnecting the battery pack, ALBER esprit user manual.
3. Contact your authorized dealer.

9.1.2 Long-term storage

In case your mobility device is not used for a longer period of time, you need to prepare it for storage to ensure a longer life for your mobility device and battery pack.

Storing mobility device and battery pack

- We recommend to store the mobility device at a temperature of 15° to 25° C, avoid hot and cold extremes when storing to ensure a long service life of the product and battery pack.
- The components are tested and approved for greater temperature ranges as detailed below:
 - Allowable temperature range to store the mobility device is -40° up to 65° C.
 - Allowable temperature range to store batteries is -25° up to 65° C.
- Even not being used, battery pack discharge themselves. Best practice is to disconnect the battery supply from the power module if storing the mobility device longer than two weeks. Refer to the corresponding chapter about disconnecting the battery pack, ALBER esprit user manual. If in doubt which cable to disconnect, contact your authorized dealer.
- Battery pack should always be fully charged before storing.
- If storing the mobility device longer than four weeks, check the battery pack once a month and recharge as needed (before gauge reads half full) to avoid damage.
- Store in a dry, well-ventilated environment protected from outer influences.
- Slightly overinflate pneumatic tires.

- Position the mobility device on flooring that is not discolored by contact with tire rubber.

Preparing mobility device for use

- Re-connect the battery supply to the power module.
- The battery pack must be charged before use.
- Have the mobility device checked by an authorized Invacare dealer.

9.2 Re-use

The wheelchair is suitable for re-use. The following actions should be taken:

- Cleaning and disinfection, *8.2.4 Cleaning, page 61* and *8.2.5 Disinfection, page 62* in this manual.
- Inspection, *8.2 Inspection checks, page 59* in this manual.
- The wheelchair should be adapted for the new user in accordance with the service documentation (available from the Invacare distributor in your country).

9.3 Disposal

Be environmentally aware and dispose of your wheelchair properly. Disposal is subject to national and local regulations.



For correct disposal, contact your specialist dealer or ask your town or district council about local waste management companies.

10 Technical Data

10.1 Technical specifications

All dimension and weight specifications refer to a wide range of the wheelchair in a standard configuration. Dimension and weight (based on ISO 7176-1/4/5/7) may alter according to different configurations. In some configurations, the wheelchair exceed the recommended dimensions for a wheelchair.

Permissible operating and storage conditions	
Temperature range for operation according to ISO 7176-9:	<ul style="list-style-type: none"> -25° – +50 °C
Recommended storage temperature:	<ul style="list-style-type: none"> +15° - +25°C
Temperature range for storage according to ISO 7176-9:	<ul style="list-style-type: none"> -25° – +65 °C with battery pack -40° – +65 °C without battery pack
Relative humidity:	<ul style="list-style-type: none"> 20% – 75%
Atmospheric pressure:	<ul style="list-style-type: none"> 800 hPa– 1060 hPa

Electrical system	
Motors	<ul style="list-style-type: none"> 2 x 150 W
Battery pack	<ul style="list-style-type: none"> 2 x 12 V/12 Ah, leakproof/gel 2 x 12 V/17 Ah, leakproof/gel
Main fuses	<ul style="list-style-type: none"> 3 A and 25 A
Degree of protection	IPX4 ¹

Charging device	
Output current	<ul style="list-style-type: none"> 2.5 A
Output voltage	<ul style="list-style-type: none"> 240 V / 24 V

Dimensions according to ISO 7176–15	
Overall length with leg rests	<ul style="list-style-type: none"> • 900 mm – 1115 mm (1245 mm) ²
Overall width	<ul style="list-style-type: none"> • 475 mm – 775 mm (810 mm) ²
Folded length	<ul style="list-style-type: none"> • 900 mm – 1100 mm (1230 mm) ²
Folded width	<ul style="list-style-type: none"> • 340 mm
Folded height	<ul style="list-style-type: none"> • 915 mm – 1020 mm
Total mass ³	<ul style="list-style-type: none"> • 42 kg – 45 kg
Mass of the heaviest part	<ul style="list-style-type: none"> • 15 kg
Static stability downhill	<ul style="list-style-type: none"> • 10°
Static stability uphill	<ul style="list-style-type: none"> • 5°
Static stability sideways	<ul style="list-style-type: none"> • 10°
Driving characteristics	
Energy consumption (km) ⁴	<ul style="list-style-type: none"> • 14 km (12 Ah battery pack) • 26 km (17 Ah battery pack)
Dynamic stability uphill	<ul style="list-style-type: none"> • 0° – 5° (8.75 %) with 125 kg maximum user weight
Obstacle climbing	<ul style="list-style-type: none"> • 40 mm (Standard) • 30 mm (Junior)
Maximum speed forward	<ul style="list-style-type: none"> • 6 km/h
Minimum braking distance from maximum speed	<ul style="list-style-type: none"> • 1000 mm
Rated slope	<ul style="list-style-type: none"> • 5° (8.75 %) with 125 kg maximum user weight
Theoretic continuous driving distance in accordance with ISO 7176-4 ⁴	<ul style="list-style-type: none"> • 14 km (12 Ah) • 26 km (17 Ah)

Dimensions according to ISO 7176-15	
Maximum height of kerb	<ul style="list-style-type: none"> • 40 mm (Standard) • 30 mm (Junior)
Seat plane angle	<ul style="list-style-type: none"> • 0° – 3°
Effective seat depth	<ul style="list-style-type: none"> • 415 mm – 530 mm, in increments of 25 mm
Effective seat width	<ul style="list-style-type: none"> • 385 mm – 620 mm, in increments of 25 mm
Seat surface height at front edge ⁵	<ul style="list-style-type: none"> • 460 mm – 485 mm, in increments of 25 mm
Seat surface height at rear edge ⁵	<ul style="list-style-type: none"> • 435 mm – 460 mm • in increments of 25 mm
Backrest angle (Range) Backrest angle (Fixed) Backrest angle (Recliner)	<ul style="list-style-type: none"> • 0° / + 30° • 0° – 7° • 0° / + 30°, in increments of 10°
Backrest height ⁵	<ul style="list-style-type: none"> • 430 mm – 510 mm
Footrest to seat distance	<ul style="list-style-type: none"> • 350 mm – 565 mm
Leg to seat surface angle	<ul style="list-style-type: none"> • 0° – 90°
Armrest to seat height	<ul style="list-style-type: none"> • 210 mm – 290 mm
Front location of armrest structure	<ul style="list-style-type: none"> • 250 mm – 350 mm
Hand rim diameter ²	<ul style="list-style-type: none"> • 520 mm – 540 mm
Horizontal location of axle ⁶	<ul style="list-style-type: none"> • – 40 mm – + 40 mm
Minimum turning radius	<ul style="list-style-type: none"> • 420 mm
Reversing width	<ul style="list-style-type: none"> • 930 mm (Standard) • 760 mm (Junior)
Pivot width ²	<ul style="list-style-type: none"> • 1160 mm – 1960 mm

Dimensions according to ISO 7176–15	
Stowage width	<ul style="list-style-type: none"> • 260 mm – 305 mm
Stowage height	<ul style="list-style-type: none"> • 760 mm – 930 mm
Stowage length	<ul style="list-style-type: none"> • 1050 mm – 1150 mm
Overall length without leg rests	<ul style="list-style-type: none"> • 640 mm – 970 mm
Overall height	<ul style="list-style-type: none"> • 915 mm – 1280 mm
Maximum user weight	<ul style="list-style-type: none"> • 125 kg (Standard) • 80 kg (Junior)
Maximum slope angle brake	<ul style="list-style-type: none"> • 5°

- 1 IPX4 classification means that the electrical system is protected against spray water.
- 2 Measurement with Manual Propulsion wheels
- 3 The total weight depends on the fittings your mobility device has been supplied with.
- 4 Note: The drive range of a mobility device is strongly influenced by external factors, such as the speed setting of the wheelchair, the charging state of the batteries, surrounding temperature, local topography, road surface characteristics, tire pressure, weight of user, drive style, ...
The specified values are theoretical maximum achievable values measured according to ISO 7176-4.
- 5 Measured without seat cushion
- 6 Horizontal distance of wheel axle from intersection of loaded seat and backrest reference planes

10.2 Materials

Frame/backrest tubes	Aluminum, Steel
Upholstery (seat and backrest)	Foam PUR, Fabric Nylon and Polyester
Push handles	PVC
Plastic parts like brake handles, clothes guards, foot plates, armpads and parts of most accessories	Thermoplastic (e.g. PA, PP, ABS and PUR) according to marking on the parts
Folding mechanism / vertical brace / clamping parts / castor forks	Aluminum, Steel
Screws, washers and nuts	Steel



All materials used are protected against corrosion. We use only REACH and RoHS compliant materials and components.

11 Service

11.1 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.

Delivery Inspection	1st Annual Inspection
Stamp of authorized Invacare dealer / Date / Signature	Stamp of authorized Invacare dealer / Date / Signature
2nd Annual Inspection	3rd Annual Inspection
Stamp of authorized Invacare dealer / Date / Signature	Stamp of authorized Invacare dealer / Date / Signature

4th Annual Inspection	5th Annual Inspection
Stamp of authorized Invacare dealer / Date / Signature	Stamp of authorized Invacare dealer / Date / Signature

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