



Invacare® Action® Vertic

User guide

EN



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



Yes, you can.®

Foreword

The information contained in this manual is subject to change without notice. Some information is submitted under copyright – all rights reserved. Any information in this document cannot be photocopied or duplicated without prior written authorization by Invacare.

As the European and world's leading manufacturer of wheelchairs, Invacare endeavours to supply a wide range of wheelchairs to meet all the needs of the user in everyday life. Final selection of the ActionVertic is based upon prior trial in order to obtain part or full reimbursement. The user, with the assistance of a multi-disciplinary team of qualified health advisors as well as a registered distributor, will find out if the product is perfectly adapted.

Intendant use

- Your wheelchair is especially designed to be used inside. It is intended for active adults who wish to position themselves vertically during the day for medical or professional reasons. This product complies with the European CE EN93/42 directives relative to medical products of Class I, EMC (NF EN6060-2 et CEI 60335-2) and meets the NF mark standard (NF EN ISO 14971 & NF EN 12182). The launch date of this product is started in the CE declaration of conformity.
- The ActionVertic is designed to be used for short periods as well as permanently, in everyday life or at work.
- It is important that you comply with the vertical positioning protocol (duration, frequency, posture, maximum verticality angle,...) which has been prescribed by your physical therapist.

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: Danger of malfunction due to electromagnetic interference!

- Do not switch on or operate portable transceivers or communication devices (such as radio transceivers or cellular phones) when the vehicle is switched on!
- Avoid getting near strong radio and television transmitters!
- In case the vehicle should be set in motion unintentionally, 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!

Stamp of the Distributor

Introduction

Dear Customer

Thank you for purchasing an Invacare wheelchair.

This model was designed to provide you with all the benefits and features to meet your needs. Only quality components were selected for your wheelchair based upon rigorous inspections during the entire manufacturing process.

This manual describes the operating limits of your wheelchair, maintenance operations and adjustments that you or your assistant can make. However, all the repairs (except for inner tubes) as well as some adjustments, require specific technical training and, therefore, must be performed by your distributor.

 Please read carefully the operating instructions in this user guide before first use of your wheelchair .

This product was supplied by Invacare® manufacturer with respect to the environment. It is in conformity with 2002/96/CE directive relative to electric and electronic equipment waste management.

This product may contain substances which might damage the environment if they are disposed of in inappropriate places and places non conform to national regulation.

 The symbol showing a crossed out waste bin is affixed on this product in order to encourage you to recycle it at selective collection structures (please contact your municipal authorities / local government). Please be ecologically responsible and recycle this product at the end of use.

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A GENERAL GUIDELINES

1. Safety and operating limits

For a safe operation of your wheelchair, the following parameters should be observed :

- Stability and balance

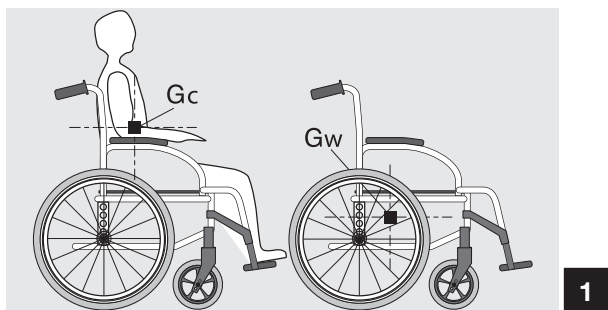
Your wheelchair has been designed to provide the stability you need during normal daily activities.

Any movement in the wheelchair will have an impact on the position of the centre of gravity, which may lead to the wheelchair tipping and a fall.

To improve your safety when you move a lot or you transfer your weight from one place to another, we recommend using seat belts.

- Weight distribution (figure 1)

Many actions cause the user of a wheelchair to reach out, lean over or move about within the wheelchair and outside it. These movements cause a change to normal balance, centre of gravity (G) and weight distribution of the wheelchair.



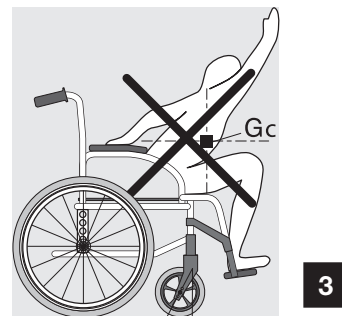
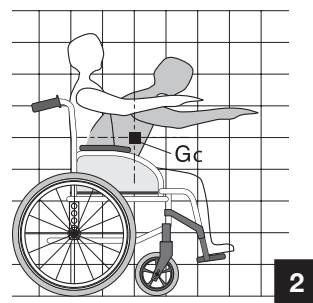
- Weight Limit

The maximum recommended weight of the user is 115kg. However, the level of activity is an essential factor. For example, an active user who weighs 75 kg may subject the wheelchair to more stress than a user who weighs 100 kg. To this purpose, we recommend that you consult your retailer when choosing the model of wheelchair based upon your daily life style.

1.1. Reaching an object from the chair

The limitations on reaching out from a wheelchair indicated in the following diagrams have been calculated based on a representative sample of wheelchair users:

- Only the arms should be extended beyond the seat of the wheelchair. (figure 2).
- The body and head should remain within the boundaries of the seat. (figure 3).



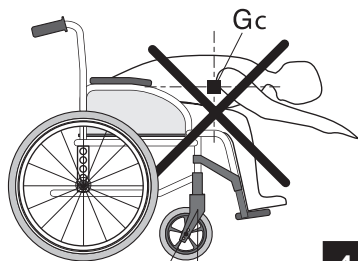
I.1.1 Leaning forward

Do not extend your chest over the armrest (figure 4). In order to reach an object in front of you, you must lean and bend down ; therefore, you must use the castors as a tool (pointing them forward) to maintain stability and balance. An accurate alignment of the wheels is essential for your safety (figure 5).

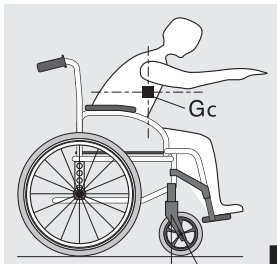
I.1.2 Leaning backward

Position the wheelchair as close as possible to the desired object so that you can simply pick it up by stretching your arm while sitting in the chair in a normal position. In any case, do not lean backwards because you may cause the chair to tip (figures 6 and 7).

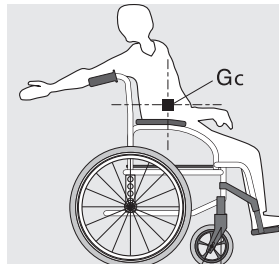
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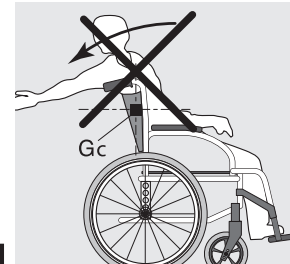
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1.2. Transferring to other seats sideways

(figures 8 & 9)

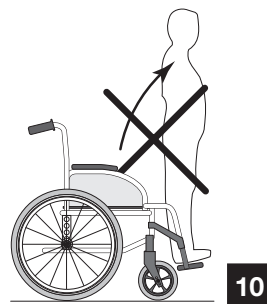
This may be done without assistance provided that you are sufficiently mobile and have a strong enough torso.

- Move the wheelchair as close as possible to the seat to which you would like to sit, with the castors pointed forward. Lock the wheels by applying the brakes. Swing the armrest pad backwards on the side you would like to move to. Move the weight of your body towards the seat (figure 8)
- Front transfer is possible by leaning on the two armrests to lift yourself up ; however it is not recommended as the slight flexibility of armrests may cause momentary instability and possibly lead to a fall.
- While moving from the wheelchair to the seat, your body will have little or no support. Where possible use a transfer board during transfers (figure 9).



Warning :

- Position yourself as close as possible to the place where you wish to sit.
- When transferring, position yourself as far back as possible in the seat to prevent breaking screws, damaging the seat upholstery or causing the wheelchair to tip forward.
- Lock the two brakes ; they should not be used in any case as support for transfers.
- Never stand on the footrests when you are getting in or out of the wheelchair (figure 10).



1.3. Tilting (balancing on the rear wheels)

For greater safety, this operation must be performed by an attendant. The attendant should be aware of the required physical effort and use appropriate positioning in order to relieve the strain on his/her back (keep a straight back and bend your knees during this operation).

To tilt the wheelchair, the attendant must firmly grab the handles making sure both are properly fixed. Warn the occupant in the wheelchair before tilting it and remind him / her to lean backwards and make sure that both feet and hands of the user are clear of the wheels.

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Place a foot on the footstep tube and move continuously until the chair reaches the equilibrium point. At this stage, the assistant will feel a difference in weight distribution, which usually occurs at approximately 30°. At this point, the wheelchair can get over the obstacle easily.

Finally, the attendant slowly and gradually lowers the front down to the ground, while firmly holding the handles.



Warning :

- Be aware of detachable parts such as armrests or legrests : they must **NEVER** be used as lifting supports as they may be inadvertently released, resulting in possible injury to the user and / or attendant.
- Do not lower the wheelchair suddenly, even if it is several centimetres from the ground, as this may result in injury of the user.

1.4. Tilting, Kerbs

To get on the pavement :

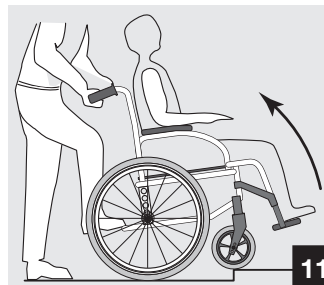
- Method 1 (figure 11)

The attendant positions the wheelchair in front of the pavement facing forward. Attendant tilts the wheelchair backwards until the castors reach the pavement; attendant pushes the wheelchair forward until the rear wheels are against the kerb and again pushes the wheelchair until the rear wheels climb over the kerb.

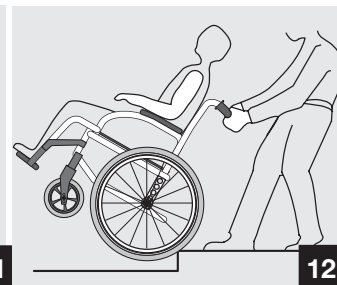
- Method 2 (figure 12)

In this case, the attendant stays on the pavement and moves the wheelchair in a backwards position with the rear wheels against the kerb. The attendant tilts the wheelchair backwards until it is balanced and pulls the wheelchair with a steady movement until the rear wheels climb over the kerb ; then he / she lowers the castors, while making sure that the chair is far enough on the pavement so that the castors do not fall into empty space.

To get off the pavement :



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The attendant positions the wheelchair facing forward on the pavement and tilts it backwards until it is balanced, then he/she pushes the wheelchair forward until the rear wheels touch the road after getting over the obstacle; then, he / she gradually lowers the castors to the ground.

1.5. Slopes

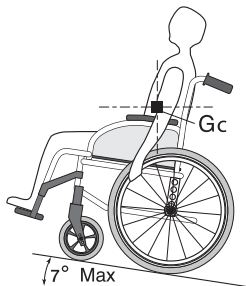
It is recommended to avoid using ramps with a slope higher than 7°. The wheelchair risks tipping over in the event of spinning or side movement (figure 13).

Upward slopes (figure 14) :

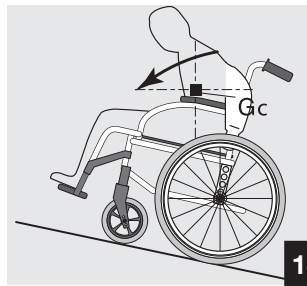
Lean the upper body forward and move the wheelchair forward with short quick pushes on the hand rims to maintain speed and direction control. If you want to rest, apply both brakes when stopping.

Downward slopes (figure 15) :

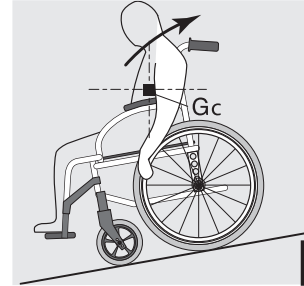
Lean backward cautiously and let the hand rims slide in your hands. Be ready to react at any moment to control speed and direction.



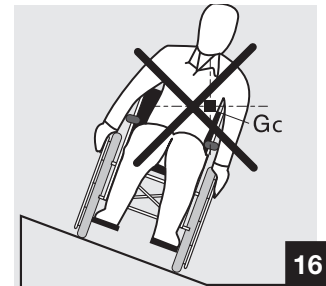
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Warning :

- Avoid turning suddenly and never try to climb and descend a ramp diagonally (figure 16).

1.6. Stairways

Because this is a difficult movement, we recommend using two attendants, one in front of the wheelchair and one behind the wheelchair.

Warning :

we recommend that users over 125 kg in weight do not use this operation !

To climb stairways (figure 17) :

After tilting the wheelchair to the point of equilibrium, one assistant (at the back) holds the wheelchair up against the first step grasping the handles firmly to lift.

The second assistant, lifts the wheelchair above the stairs, while holding firmly a fixed part of the frame, and holds

it while the first assistant takes a step and repeats the operation. The wheelchair must not be lowered until the last step has been passed and the chair is clear of the stairs.

To descend stairways :

Same operation as above, however, in reverse order.

! Warning :

- Do not attempt to lift the wheelchair by any removable parts (such as armrests, legrests or footrests).
- Avoid using an escalator which may lead to serious injury in the event of a fall.



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1.7. Vertical positioning

Battery autonomy make it possible to stand up and sit down about 150 times (depending on user's weight) before recharging.



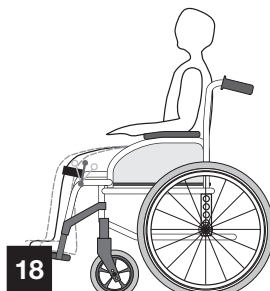
Warning :

You should not use the raising/lowering mechanism when the charger is connected, unless batteries are at very low capacity and cannot drive lowering operation.

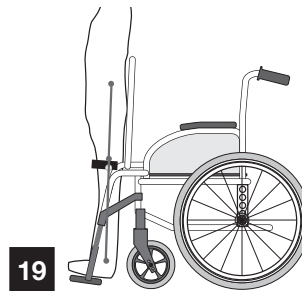
Please comply with the vertical positioning protocol which has been prescribed by your physical therapist.

It is essential that your ActionVertic is perfectly adapted to your morphology, all necessary adjustments are described in § B 2.1.

Always make sure that the ground where you want to stand up is perfectly level and firm, without any obstacle or object which might damage stability of the wheelchair and safety of the user.



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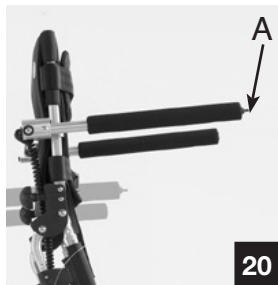
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Operate both manual brakes to block rear wheels.
Make sure that the four slings used to hold the body during vertical positioning are in place and well adjusted , see § B
2.1.7. Straps and posture belts

Make sure that no obstacle or person (a child for instance) prevents the raising or lowering as there is a risk of serious injury in case of body jamming in moving mechanical devices.

Be careful not to hit an obstacle with the raising / lowering knob, as the possibility of the switch breaking could cause an overly long blockage in the vertical position.

Make sure you always have the possibility to call for assistance in case of a problem when standing up (mobile phone or alarm necklace / bracelet at hand).



1.7.1. Standing up (photos 20 & 21)

After applying the above safety measures, you can stand up : position your forearms on armrest tubes and operate button (A) upwards ; stand up progressively (in stages) until the prescribed vertical angle. The persons around you and yourself will be advised that you are using the stand up function by a long beep (1 tone).

1.7.2. Sitting down (photo 22)

Keep your forearms on the armrest tubes and switch button (A) down ; go down progressively (in stages) to the initial seating position (beeping will stop).

Note :After no use during 30 minutes, 1 tone warns you of the setting in a stand-by mode.



2. Operating instructions

2.1. Folding and unfolding of stand-up wheelchair

2.1.1. Folding :

- To reduce the wheelchair bulk for transport or putting away, first loosen both threaded pins (A) to stop without forcing (risk of loss of the nut), then position the two armrest pads parallel to the backrest, pull the backrest upwards and fold it on the seat.
- Rear wheels also are removable : push on the central knob of the quick release wheel axle (see § B-2.3.3.)

2.1.2. Unfolding :

- Follow the same instruction in reverse order, by first positioning rear wheels.
- Then put the backrest in initial position.



Warning :

Push on the backrest (downwards) before re-tightening both treaded pins (A) to make sure the backrest is well positioned.



Warning :

Check that quick release axles are well locked in their housing, as there is a risk of a serious fall if not the case.

2.2. Wheelchair propulsion

Wheelchair propulsion is provided by the handrims mounted on the wheels. The handrims can be adjusted based upon your height to allow you to hold them properly, and various accessories can be added to improve the grip (anti-slip plastic coated, etc.)

Qualified medical and paramedical staff will be able to provide you with advice regarding the propulsion which is best adapted to your disability.

3. Safety inspection and maintenance

3.1. Performance control

As the user, you will be the first to notice the possible operational defects of your wheelchair. The following table indicates the easiest troubleshooting symptoms to identify and the preliminary inspection that you can perform.

In the event that the symptoms persist after adjusting the pressure in the tyres and tightening screws and nuts, please consult your retailer.

The inner tubes of the wheels are the only components that you can repair yourself (see § B-2.3).

Depending on use (once a week to once a month), regularly lubricate the different articulations of the stand up mechanism with fluid oil (same type as for a sewing machine) or 3 in 1 type oil spray equipped with precision tip (see § B 2.2.2.)

The wheelchair swerves to the right	The wheelchair swerves to the left	The wheelchair turns or moves slowly	The castors lift	Creaking and clinking	Play in the wheelchair	Inspections
●	●	●				Make sure that pressure in the pneumatic tyre is correct (cf. § B-2.3)
		●	●	●	●	Make sure that the bolts are tight
●	●	●				Check the adjustment on the fork angle
●	●		●			Make sure that the 2 castors come in contact with the ground at the same time

3.2. General inspection

Your distributor, who has the required technical expertise, is responsible for any wheelchair repair.

We recommend that you take the wheelchair to your retailer at least once a year for a complete inspection. Regular maintenance allows the identification and replacement of defective and worn parts, which improves the daily operation of your wheelchair.

Regular inspections to be performed by you or your assistants :

a. General

Make sure that the wheelchair folds and unfolds easily.

Make sure that the wheelchair moves in a straight line. (no resistance or deviation)

b. Manual brakes

Make sure that the manual brakes do not touch the moving tyres.

Make sure that the manual brakes operate easily.

Make sure that the joints are not worn and do not have excessive play.

c. Vertical positioning system

Check the raising / lowering mechanism for any play or jamming in articulations (lubricate if necessary, see § B-2.2.2).

d. Skirtguard/armrest upholstery

Make sure that all the fittings are properly tightened.

e. Armrest tubes

Make sure that armrest tubes are securely tightened and that there is no play or jamming in articulations (lubricate if necessary, see § B-2.2.2)

f. Armrest tube foam

Make sure that armrest tube foam is in good condition

g. Seat and backrest upholstery

Make sure that the upholstery is in good condition.

h. Rear wheels

Make sure that the wheel nuts and precision bearings are tight.

Make sure that the wheels are parallel to the frame.

i. Handrims

Check for rough patches.

j. Spokes

Make sure that the spokes are not distorted, loose or broken.

k. Castors

Make sure that the axle is tight by turning the wheel the wheel must gradually come to a stop.

l. Fork/steering tube

Make sure that all the fittings are well tightened.

m. Pneumatic and solid tyres

Check the pressure of the pneumatic tyres (value indicated on the sidewall) check the wear of the solid tyre tread.

n. Batteries

Maintenance-free batteries are protected inside a box equipped with a light load indicator (green = full load charge; orange = low load charge, use is still possible; red = empty, battery to be recharged ASAP, see following page § 4 Battery recharging).

o. Maintenance

Make sure that electric connections are well in place, that cables are not cut or crushed.

**Warning :**

Do not use any product to clean parts except for the upholstery which can be washed with soap and water only. Make sure you dry the wheelchair if it is wet (e.g. after washing it or going out in the rain).

Avoid riding on wet areas as well as gravel, grass, etc. (warning: sand and sea water particularly damage ball bearings). When using the wheelchair inside, we recommend using solid tyre castors, especially when riding on carpet. Do not expose the wheelchair to a temperature higher than 40°C (e.g. in a vehicle).

4. Battery recharging

4.1. Instructions

- a. The usual time to charge at the full capacity the batteries is 5 hours if they are at a low load level state (the orange leds has just disappeared on the battery box).
- b. Before first use, new batteries should be charged for 8 hours .
- c. Recharge at least for 8 hours if batteries are completely unloaded (red light bars).

Warning :

Don't let in charge the batteries more than 10 hours, this can damage the batteries and reduce definitively their load level capacity.

- d. Ambient temperature during recharging should be between 10°C and 30°C.
- e. Recharging time is longer if temperature is below 10°C.

4.2. Battery charge

Warning :

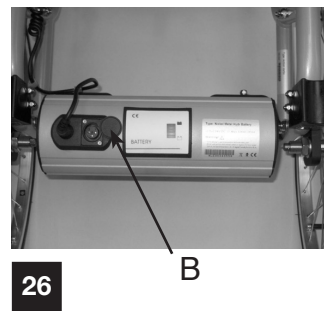
- Always use the charger (HP 1202N2) supplied with the wheelchair as there is a risk of explosion or destruction of batteries if poor quality or incompatible charger is used.
- Always protect the charger against humidity as there is a risk of electrocution and destruction of the charger if it is wet.
- Do not use the charger if it has been dropped or damaged as there is a risk of short-circuit and electrocution.

-Only use an extension lead if it is absolutely necessary as there is a risk of fire or injury if a damaged one is used. If there is no other choice, make sure the extension lead is in good condition and compatible with the charger power.

- Connect the charger (A) to the battery box (photo 25): the charge plug is located on the upper face, under the plug protection (B) (photo 26)
 - Plug the charger into the mains, it starts automatically and the red light on top of the charger turns orange.
 - When charging is finished (the warning light on top of the charger is green), first unplug the charger from the mains and then the charge plug from the battery box.
- Red flashing = low charge load capacity;
orange flashing = tension of batteries in low or overheating.

Warning :

Do not use the raising / lowering mechanism when the charger is plugged unless battery load capacity is too low for lowering operation.



4.3. Battery maintenance instructions

Warning :

Don't let in charge the batteries more than 10 hours, this can damage the batteries and reduce definitively their load level capacity.

Only store batteries when they are completely charged.

Batteries can be stored at a temperature from -40°C to +65°C.

If batteries are stored for more than 4 weeks, they should be recharged once a month. This is to keep their full charge and prevent any deterioration by spontaneous discharge.

5. Transportation

Warning :

This wheelchair was not designed nor tested to be used as a seat in a vehicle ; it is necessary to move the user to a vehicle seat adapted to human transport.

The Action Vertic is equipped with batteries which are not considered as « dangerous equipment ».

This classification conforms to the following regulations:

- Regulation on dangerous goods road transport (GGVS)
- Regulation on dangerous goods railway transport
- Regulation on dangerous goods air freight (IATA/DGR)

Two persons are required to raise the wheelchair, for example to put it into a car, as the heaviest part is about 27 kg in weight (see § 2.1. Folding / Unfolding). Make sure you are well positioned in order to relieve your back.

6. Summary of warranty terms

6.1. Standard Invacare terms and conditions

This is to certify that your manual wheelchair is warranted by Invacare for a period of 2 years for the frame and crossbars, all others parts 2 years also but subject to the following conditions :

- If a defect or fault is discovered the supplier / dealer from whom the appliance was purchased should be notified immediately.
- The manufacturer will not accept responsibility for damage caused by misuse or non-observance of the instructions set out in the user manual.
- During the period of warranty, any parts that have become defective due to faulty workmanship or materials, will be renewed or repaired without charge by the Invacare dealer/supplier.
- The warranty will be forfeited should any unauthorised alteration be made to the equipment.
- The Purchaser's statutory rights under the Consumer Protection Act are not affected.

6.2. Limitation of liability

This warranty does not extend to the consequential costs resulting from fault clearance, in particular freight and travel costs, loss of earnings, expenses, etc.

Invacare shall not be liable for :

- Natural wear and tear.
- Inappropriate or incorrect use.
- Defective assembly or setting-up by the purchaser or third parties.
- Defective or neglectful treatment use of unsuitable spares.

7. Operating instructions for optimal safety

- Maximum user's recommended weight : 115 kg.
- Do not attempt to reach objects if you have to move forward in the seat.
- Do not attempt to pick up objects from the floor by reaching down between your knees.
- Do not lean over the top of the upholstery back to reach objects located behind you : this may cause you to tip over
- Always engage both manual brakes simultaneously.
- Manual brakes are parking brakes : they must not be used in any case to slow down the wheelchair or as support during transfers.
- Do not tilt the wheelchair (down kerbs or steps) without using an assistant.
- Do not carry in the stairways or escalator; user sited in the wheelchair with only one attendant; this may cause serious injury.
- Do not use the wheelchair unless it has the proper tyre pressure as indicated on the side wall of the tyre.
- Do not overinflate the tyres : this may cause the tyres to explode and cause bodily harm.
- Do not expose the wheelchair to a temperature higher than 40°C.
- To avoid injury, keep your fingers away from mobile parts (swing in armrests, foldable backrest, vertical positioning system, manual brakes), and maintain good posture before lifting the wheelchair.
- Do not use the wheelchair in humid environment and outside under the rain.

B. DESCRIPTION OF YOUR WHEELCHAIR

I. PRESENTATION

I.1. Introduction

Your wheelchair has been factory set before you purchased it. However, it must be specifically adapted to your needs. The following detailed paragraphs describe the various functions and possible adjustments as well as available options. You can make some adjustments yourself, while others can be made only by your dealer.

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Important: based upon the selected model or options, your new **Action® Vertic** wheelchair may be equipped with all of the components or options which are described in the following pages.



This is a warning symbol ; you must imperatively follow the instructions that are provided in these paragraphs to prevent personal injuries as well as injuries to people around you !



This is an information symbol about possibility to contact your Dealer for more information.

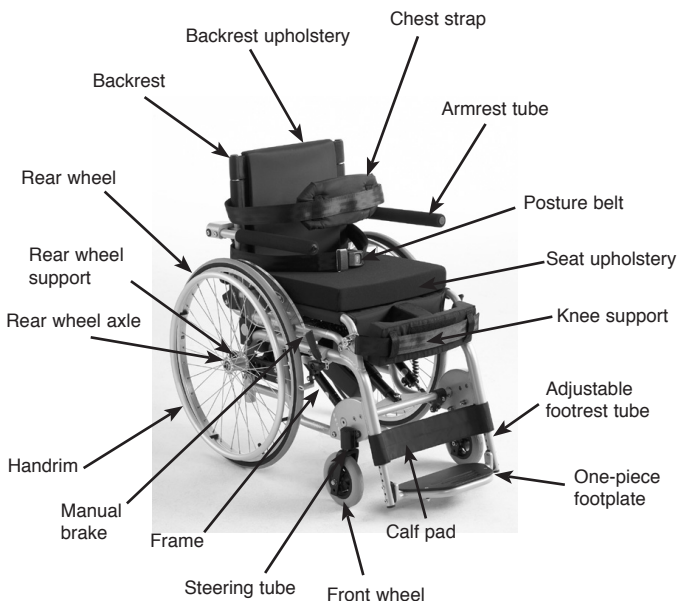
I.2. General description (see photo)

Your wheelchair is made of various parts and this manual describes only the main parts. We recommend that you become acquainted with the following terms in order to better understand your wheelchair operation :

- **The seat** consists of the seat and backrest upholstery, the backrest and armrests. This unit is designed to provide optimal comfort.
- **The swing-away footrest support or legrest** : this is the supporting part between the frame and the footrest which swivels to facilitate transfers and can be removed during transport.
- **The footrest** consists of an adjustable tube and the footplate which supports the foot.
- **The folding frame** consists of side frames and a folding system including the seat rails. These parts constitute the frame, which is the supporting component of the wheelchair and its strength is well tested (checked at 115 kg).
- **The steering tube** is the connection between frame and castors ; it allows the adjustment of the seat angle.
- **The rear wheel** consists of the wheel, axle and handrim. The rear wheels ensure the rear stability and allow the propulsion of the wheelchair using the handrims. They are mounted on the multiple adjustment wheel support brackets.

- **The castor** consists of the front wheel and the fork. The castors provide front contact with the ground and determine the steering by the direction of the forks.

- **The manual brake** is a parking brake. The two manual brakes are used to secure the wheelchair when stationary.



2.Adjustments and maintenance

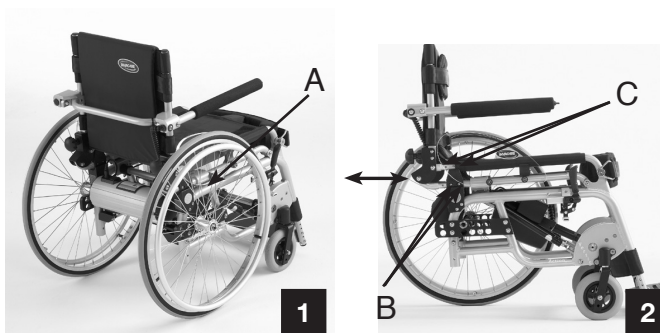
2.1. Seat elements

 Always perform the necessary adjustments before the user sits down the wheelchair in order to prevent any injury.

2.1.1. Depth adjustable seat (photo)

First loosen the 4 screws (A) (6 mm hexagonal key) located on the actuator back supports in order to facilitate the backrest supports sliding. Loosen the two external (B) and internal (C) screws sideways (4 mm hexagonal key), then simultaneously slide the two support tubes forwards or backwards (based upon user's morphology) to the preset holes.

Re-tighten the 4 screws (B & C) sideways.



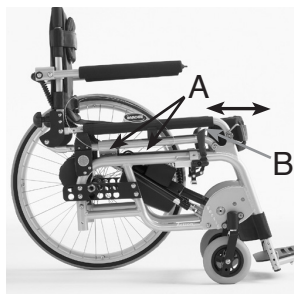
Make sure the 4 screws on the actuator back supports (A) are re-tightened, as there is a risk of vertical positioning system dysfunction if the supports slide on the chassis tubes.

2.1.2. Tension adjustable seat upholstery (photo 3)

It allows to adjust the depth and curvature based upon user's morphology. First disassemble one armrest panel by loosening the 2 screws and the supports (4 mm hexagonal key and 10 mm key) , position the upholstery, if needed, according to the depth adjustment (see above §) then adjust Velcro fasteners (B) in order to stretch or slacken them in width. Reposition the armrest panel (A) and securely tighten fastening screws.



Check the quality and positioning of Velcro fasteners.



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2.1.3. Height adjustable backrest (photos 4 & 5)

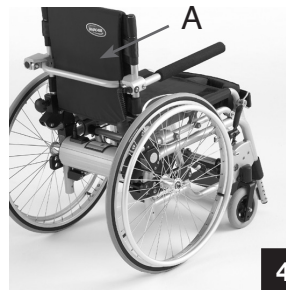
For height adjustment, first take the backrest upholstery off, slightly loosen the screw (A) with a 3 mm hexagonal key, adjust to the desired height based upon the preset holes, tighten without forcing. Reposition the backrest upholstery according to the new height.

2.1.4. Tension adjustable backrest upholstery (Photo 5)

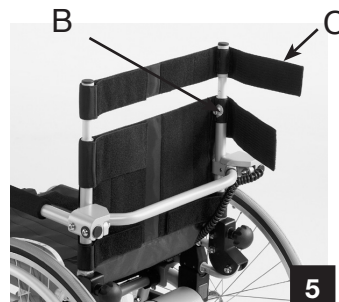
It allows to adjust the curvature of the backrest to the user's morphology and body posture. Lift the flap and adjust the Velcro straps in order to stretch or slacken them. Reposition the flap.



Check the quality and positioning of Velcro straps.



4



5

2.1.5. Footrest (height, angle and depth adjustment of the one-piece footplate) (photo 6)

- Remove the two screws (A & B) sideways (4 mm hexagonal key), adjust to the desired height, reposition the screws in the preset holes and firmly tighten sideways.
- For angle adjustment, loosen screws (A & B), adjust to the desired angle by positioning screw (B) in one of the 3 threads and firmly re-tighten the screws (A & B) sideways.
- Remove the two screws (A & B) sideways to position the one-piece footplate forwards or backwards, reposition the screws in the preset holes and tighten firmly.



2.1.6. Armrests (height adjustment and foam removing) (photo 7)

- Loosen the two screws (A) (5 mm hexagonal key) of each armrest tube support to make their sliding on the backrest tubes easier, slide the armrest tube supports upwards or downwards based upon the user's morphology.
- Firmly retighten the two fastening screws (A) sideways.
- The foam tubular coating of the armrest tube is subject to wear. To replace it, remove it and perfectly clean the tube, coat the tube and the inside of the new tubular foam coating with very soapy water, slide the foam coating forwards on the tube to its front end.



Wait at least for 24 hours for the soapy water to be completely evaporated before using your stand up wheelchair again.



2.1.7. Straps and posture belts

2.1.7.1. Chest strap (photos 8 & 9)

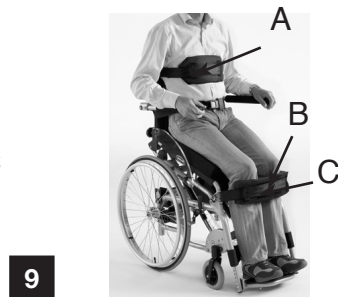
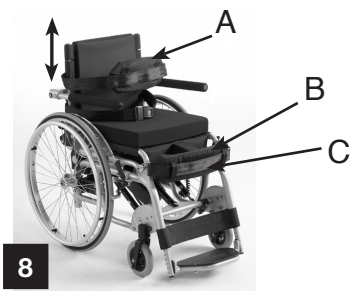
Ideally, it is positioned at the base of the chest with the cushion (A) well centered. For height adjustment, fasten the Velcro fastener to the rear part of the seat (under the flap) ; for tension adjustment, make sure the ribcage is not compressed based upon user's morphology

⚠ Check that Velcro fasteners are in place and make sure they perfectly overlap.

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2.1.7.2. Knee support (photo 9)

Ideally it is positioned at the base of kneecaps with the cushion (B) well centered on legs ; tension adjustment helps to hold legs during vertical positioning, if knee slipping is felt when standing up, go back to sitting position and re-tighten the strap (C) progressively.

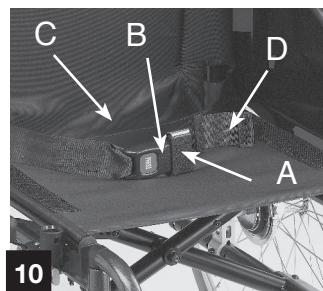


⚠ Check that the two buckles are well fastened to their supports ; make sure that Velcro fasteners are well positioned and perfectly overlap.

2.1.7.3. Posture belt

Belt with buckle fastening (photo 10) : to fasten the buckle, insert part (A) in part (B), to open the buckle, press part (C). Depending on user's corpulence, pull one or the other of the extremities of the strap passing through part (B) and adjust part (D) according to free length.

⚠ Check that the belt does not go into the rear wheel spokes. When in a vehicle, the posture belt should not be used as a safety belt.



2.1.7.4. Calf strap (photo 11)

According to the position of the one-piece footplate (forwards or backwards), tension adjustment should perfectly keep the feet centered : adjust the strap with Velcro slings (A) in order to stretch or slacken it.

 Check that Velcro fasteners are in place and make sure they perfectly overlap.

2.2. Frame

2.2.1. Side frames

Side frames are mainly designed to fix fork tubes for the front wheels and multi-adjustable wheel attachments for the rear wheels.

The rear wheels attachments allow two positions in length and five in depth :

Active = forward for easier driving

Standard = delivered in series, stable up to 10° slope

Amputee = backward for increased stability



Note : the adjustments and positioning must be performed by a professional technician upon agreement by a prescribing physician. Please consult with you dealer

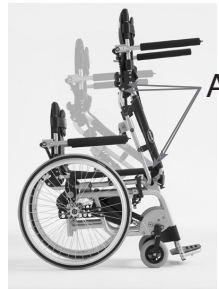
 In « Active » position, it is necessary to use anti-tippers to avoid any risk of tipping backwards when you drive on a slope.

2.2.2. Stand up mechanism

The raising / lowering mechanism does not need any particular adjustment or maintenance, just regularly make sure that :

- Electrical connections are in place and cables cannot be crushed or cut during raising or lowering operation.

- Depending on use (once a week to once a month), regularly lubricate the different articulations of the stand up mechanism with fluid oil (same type as for a sewing machine) or 3 in 1 type oil spray equipped with precision tip.



! Do not touch the side gas actuators as there is a risk of serious injury ; if you notice any oil leakage please consult with your dealer.

2.3. Rear wheels

2.3.1. Wheels

The 24" (610 mm) rear wheels are spoked wheels equipped with thin tread pneumatic tyres.

A flat tyre (photo 13) must be removed in order to be repaired. Remove the rim assembly (tyre and inner tube), repair or replace the inner tube, reinsert in the tyre and reposition the assembly on the rim.

Comply with the inflation pressure specified on the sidewall of the tyre.



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2.3.2. Handrims

They provide the wheelchair propulsion, they are made of anodized aluminium.

! Handrims are constantly in contact with your hands. Make sure that they are not damaged !

2.3.3. Quick release axles

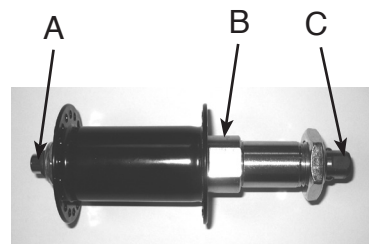
Depress the button (A) and insert the axle in the wheel hub. Position the assembly in the bearing (B) of the multiple adjustable wheel mounting until it locks in place. The locking balls (C) must rise above the bearing. No significant side clearance is allowed.

To reduce clearance as much as possible (photo 15), remove the axle and adjust the nut using a 24 mm key ; then block the axle with an 11mm open-end key.

! Make sure that the axle and the locking balls are clean.



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To prevent falls, it is essential that the button (A) and the locking balls (C) are disengaged providing a perfect lock of the rear wheels.

The quick release axle is a precision part, take care of shocks and clean regularly to ensure the good mechanism operation.

2.4. Castors

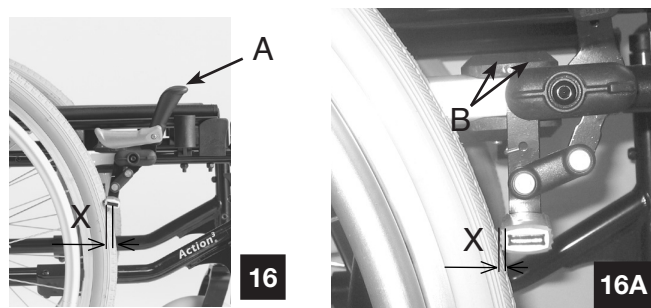
2.4.1. Wheels

The 6" front wheels are equipped with supple solid tyres.

2.5. Brakes

2.5.1 Manual brakes

The manual brakes (photo 16) are designed to secure the wheelchair during long stops. They are not intended to slow down the wheelchair or to be used as support during a transfer. They must be operated simultaneously.



In order to brake, push the handle (A) forward. The handle folds back to facilitate transfers. Draw as a preliminary the handle upwards ! Once the brakes are engaged, the wheelchair should not move at all.

Note : brake adjustments are based upon the diameter and type of the wheels. After repairing a flat tyre or in the event of wear of the pneumatic or solid tyre, you may need to adjust the brake(s). To adjust the brake(s), loosen the two screws (B) and slide the brake assembly to obtain the following distance value between the wheel and the brake shoe in unlocked position (photo 16A)

Solid tyre $X = 4 \text{ mm}$, Pneumatic tyre $X = 4 \text{ mm}$



Firmly tighten the screws (B) after adjustment.
Keep your fingers away from movable parts to prevent injuries !

2.6. Options and accessories

2.6.1. Push handles (photo 17)

Take off the cap which shuts the backrest tube, insert the handle into the tube, position the screw in the preset hole (A), firmly retighten screw and nut sideways (4 mm Allen key and 10 mm spanner).

2.6.2. Anti-tippers (photo 18)

They prevent back tipping which ensures safety when driving on slopes or crossing obstacles. Insert the anti-tipper small wheel into the frame vertical tube, position the screw in the preset hole (A), firmly retighten screw and nut sideways (4 mm Allen key and 10 mm spanner).

 The anti-tippers must not be used without the 24" rear wheels nor be used as transfer wheels while the user is sitting on the wheelchair. This is to prevent any fall which may cause serious injuries.



2.6.3. Work tray

It is positioned on the armpads ; fasten it to the armrest tubes (on the painted tubes to the back of the armpads) using Velcro fasteners. Release the quick tightening handles (A), slide the tray forward or backward inside the aluminium gutters based upon the user's build and retighten the quick tightening handles (A).

The tray reduces the access to the raising-lowering knob.

 Do not place heavy (> 5 kg) or instable objects, containers with very hot and corrosive liquids on the tray, which may cause serious injury if they fall.



2.7. Light/sound signals signification

Light bars on the battery box (Leds)	Battery load level
All the green leds re lighted	100% of the batteries load level
The first 3 green leds disappears	90-95% of the batteries load level
The orange leds disappear, no leds anymore lighted, the noise alerting the batteries is empty starts	5-10% of the batteries load level

2.8. Specifications and tool

2.8.1. Standard wheelchair specifications

Maximum user weight :	115 kg
Seat width :	38/43/48 cm
Seat depth :	41-46 cm / 46-51 cm
Floor/seat height :	50 cm
Rear wheel :	24" (610 mm) pneumatic tyre
Castors :	6" (150 mm) solid tyre
Parking brake :	Manual brake with indexed brake shoe
Backrest :	Fixed and folding
Armrests :	Tubular & swing away
Seat upholstery :	Black nylon
Frame :	Aluminium, epoxy coated
Wheelchair average weight :	30 kg
Electrical fittings:	24V fuse T2A/250V
Batteries:	NI-MH 24V 3.8 Ah
Battery charger:	100-240V AC 50/560 Hz 1.0 A

Electrical actuator: Linak 4500 N
IP 65 protection
150 times

Authorized storage temperature: -40° C to +65° C

Authorized ambient temperature: -20° C to +40° C

2.8. 2. Tools for adjustments and regular maintenance (not supplied)

Function	Tool
Seating (depth)	4 mm Allen key
Backrest (height)	3 mm Allen key
Brake	5 mm Allen key
Footrest tube	4 mm Allen key
Footplate	4 mm Allen key
Armrests (height)	6 mm Allen key
Skirt guard	4 mm Allen key and 10 mm open end wrench
Castor	13 mm open end wrench (X 2)
Quick release axle	19 mm open end wrench & 11 mm open end wrench

2.8.3. After sale and disposal recommendations

- It is compulsory to use original Invacare® spare parts which you can buy from any Invacare® dealer.
- For any repair, please contact your local dealer who is in charge of returning your wheelchair to Invacare® after sales department.
- Disposal : electric parts must be disposed of as electric components through recycling.
Batteries must be disposed of in an authorized disposal place.
Metal and plastic parts can be disposed of through recycling (use of scrap).
The metal parts can be disposed of for scrap metal through recycling. Plastic parts are disposed of as plastic scrap.
Disposal must be carried out in accordance with respective national and local regulations. Please apply to your municipal authorities / local government for details about local disposal companies.

2.9. Dimension specifications (ISO)

Picture	Description	Min/Max value	Picture	Description	Min/Max value
	Seat effective width (mm)	435		Backrest height including headrest (mm)	N/A
	Overall width (mm)	625		Overall length (mm)	915/1040
	Width of folded wheelchair (mm)	N/A		Length without footrest (mm)	N/A
	Total height (mm)	790/960		Distance between front wheel and rear wheel (mm)	410/475
	Height from ground to back seat (mm)	460		Backrest angle (°)	0
	Height from ground to front seat (mm)	500		Bracket angle (°)	75
	Backrest height (mm)	350/500		Distance between footrest and seat (mm)	390/470
	Wheelchair height when backrest is folded (mm)	630		Distance between armrest and backrest (mm)	370

Picture	Description	Min/Max value	Picture	Description	Min/Max value
	Fixed armrest height (mm)	N/A		Maximum obstacle height (mm)	35
	Adjustable armrest height (mm)	150/230		Maximum down slope (°)	23
	Notched armrest height (mm)	N/A		Maximum up slope (°)	7
	Rear wheel diameter (mm)	600		Maximum lateral super elevation (°)	16
	Handrim diameter (mm)	530		Removable parts	Wheels
	Seat plane angle (°)	4/75		Overall weight when empty (kg)	30,5
	Height without rear wheel (mm)	500		User's maximum weight (kg)	115
	Turning circle (mm)	810		Weight of the heaviest removed part (kg)	27,2
	Cushion thickness (mm)	N/A		Seat material Fire class	Nylon:M4 EN 1201 1/2

Manufacturer : Invacare® France Operations SAS - Route de Saint Roch - 37230 Fondettes - France



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