



Invacare® Captain's Seat

en

Power Wheelchair Seat

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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1 General

1.1 Introduction

Thank you for choosing an Invacare product.

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

Before reading this manual, make sure you have the latest version. You can find the latest version as a pdf on the Invacare website (see back page of this manual). If you find that the font size in the print version of the user manual is difficult to read, you can download the pdf from the website. The pdf can then be scaled on screen to a font size that is more comfortable for you.

The decision whether the model is suitable for the user may only be taken by medical specialists with appropriate expertise. Some maintenance and settings can be performed by the user or his/her attendants. Certain adjustments do however require technical training and may only be carried out by your Invacare qualified service technician. Refer to the Inspection checklists in *Chapter 8 Maintenance, page 57*. Damages and errors caused by nonobservance of the user manual or as a result of incorrect maintenance are excluded from all warranties.

For more information about the product, contact your local Invacare representative. For address and website see the end of this manual.

1.2 Symbols in This Manual

Signal symbols and/or words are used in this manual and apply to hazards or unsafe practices which could result in personal injury or property damage. See the information below for definitions of the signal words.



DANGER!

-Danger indicates a imminently hazardous situation which, if not avoided, could result in death or serious injury.



WARNING!

-Warning indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION!

-Caution indicates a potentially hazardous situation which, if not avoided, may result in property damage or minor injury or both.



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.



Identifies required tools, components and items which are needed to carry out certain work.



Manufacturer

1.3 Type of Use

1.3.1 Prescription Statement

Per 21 CFR 801.109(b)(1) the device is labeled for prescription use.



CAUTION!

Federal Law (USA) restricts this device to sale by or on the order of a licensed physician.

1.4 Service Life

The expected service life is five years, presuming that the product is used daily and in accordance with safety instructions, maintenance instructions and intended use, stated in this manual.

2 Safety

2.1 General Guidelines

The safety section contains important information for the safe operation and use of this product.



WARNING!

Risk of Death, Injury or Damage

Improper use of this product may cause injury or damage.

- If you are unable to understand the warnings, cautions or instructions, contact a health care professional or Provider before attempting to use this equipment.
- DO NOT use this product or any available optional equipment without first completely reading and understanding these instructions and any additional instructional material such as user manual, service manuals or instruction sheets supplied with this product or optional equipment.



WARNING!

Risk of Death, Injury or Damage

Continued use of the product with damaged parts could lead to the product malfunctioning, causing injury to the user and/or caregiver.

- Check all product components and carton for damage and test components before use. In case of damage or if the product is not working properly, stop using the product and contact a qualified technician or Invacare for repair.



WARNING!

Risk of Serious Injury or Damage

Use of unapproved accessories may result in serious injury or damage.

- Invacare products are specifically designed and manufactured for use in conjunction with approved Invacare accessories. Unapproved accessories have not been tested by Invacare for use with Invacare products.
- DO NOT use unapproved accessories.
- To obtain approved Invacare accessories, contact Invacare by phone or at www.invacare.com.



DANGER!

Risk of Death, Serious Injury, or Damage

Use of incorrect or improper replacement (service) parts may cause death, serious injury, or damage.

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



WARNING!

Risk of Serious Injury or Damage

Hardware that is loosely secured could cause loss of stability resulting in serious injury or damage.

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



WARNING!

Risk of Serious Injury or Damage

Loss of power due to loose electrical connections could cause the wheelchair to suddenly stop resulting in serious injury or damage.

- ALWAYS** ensure that all electrical connections are tightly connected so they don't vibrate loose.



DANGER!

Risk of Death, Serious Injury, or Damage

Lighted cigarettes dropped onto an upholstered seating system can cause a fire resulting in death, serious injury, or damage.

Wheelchair occupants are at particular risk of death or serious injury from these fires and resulting fumes because they may not have the ability to move away from the wheelchair.

- DO NOT** smoke while using this wheelchair.



WARNING!

Risk of Injury, Damage or Death

Improper monitoring or maintenance may cause injury, damage or death due to ingestion or choking on parts or materials.

- Closely supervise children, pets, or people with physical/mental disabilities.



WARNING!

Risk of Injury

Operating the wheelchair with depleted batteries may lead to stranding of the wheelchair user.

- ALWAYS** check the battery charge level before using the wheelchair.
- Before using the power wheelchair, charge the batteries following the guidelines in this user manual.
- DO NOT** use the wheelchair with depleted batteries.

**WARNING!****Risk of Injury or Damage**

Improper mounting or maintenance of the Sip-n-Puff control including the mouthpiece and breath tube may cause injury or damage.

Water inside the Sip-n-Puff interface module may cause damage to the unit.

Excessive saliva residue in the mouthpiece/straw can reduce performance.

Blockages, a clogged saliva trap or air leaks in the system may cause Sip-n-Puff not to function properly.

-Ensure moving parts of the wheelchair, including the operation of powered seating, DO NOT pinch or damage the Sip-n-Puff tubing.

-Saliva trap MUST be installed to reduce risk of water or saliva entering the Sip-n-Puff interface module.

-Occasionally flush the mouthpiece to remove saliva residue.

-The mouthpiece/straw MUST be completely dry before installation.

-If Sip-n-Puff does not function properly, inspect system for blockages, clogged saliva trap or air leaks.

As necessary, replace mouthpiece, breath tube and saliva trap.



Contact your Invacare provider for more information about maintaining and troubleshooting the Sip-n-Puff system.

**WARNING!****Risk of Injury, Damage or Death**

Exposure to liquids may cause injury, damage or death.

-DO NOT expose electrical connections to sources of liquid or dampness. This includes, but is not limited to, water, body fluids or cleaning agents.

-DO NOT expose battery charger or other accessories to sources of liquid or dampness.

-Wheelchairs that are used by incontinent users and/or are frequently exposed to water/liquids may require replacement and inspection of electrical components more frequently than normal schedule dictates.

-Electrical components damaged by corrosion MUST be replaced immediately.



CAUTION!

Risk of Damage

Operating the wheelchair in rain or dampness may cause the wheelchair to malfunction electrically and mechanically, may cause the wheelchair to prematurely rust or may damage the upholstery.

- DO NOT leave wheelchair in a rain storm of any kind.
- DO NOT use wheelchair in a shower.
- DO NOT leave wheelchair in a damp area for any length of time.
- Check to ensure that the battery covers are secured in place, joystick boot is NOT torn or cracked where water can enter and that all electrical connections are secure at all times. DO NOT use if the joystick boot is torn or cracked. If the joystick boot becomes torn or cracked, replace IMMEDIATELY.



WARNING!

Risk of Injury or Damage

Use of the power wheelchair outside of specified operating conditions may cause unintended or erratic movement. This may include, but is not limited to impacts and sudden stops. To avoid injury or damage:

- Only use the power wheelchair in the operating conditions specified in the Technical Data chapter of this manual.



THE INFORMATION CONTAINED IN THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE.



As a manufacturer of wheelchairs, Invacare endeavors to supply a wide variety of wheelchairs to meet many needs of the end user. However, final selection of the type of wheelchair to be used by an individual rests solely with the user and his/her healthcare professional capable of making such a selection. Invacare recommends working with a qualified rehab technology provider, such as an ATP, (Assistive Technology Professional).

2.1.1 USB Charger



WARNING!

Risk of Injury

If you use mobile phone while operating mobility device, accidents could lead to injury or property damage.

- Only use mobile phone in conjunction with hands-free equipment to operate mobility device while driving.



Risk of property damage

Handle USB charger with care, otherwise damage could occur.

- Always keep the USB charger dry. If USB charger gets wet, let USB charger dry before use.
- Do not use or store USB charger in dusty or dirty areas.
- Do not insert sharp objects into the USB ports.

**WARNING!****Risk of Injury or Damage**

Erratic or unintended movement of the wheelchair may occur if wireless transmitters are connected to the wheelchair. To avoid injury or damage:

- DO NOT use the USB charger connector as a wireless transmitter.
- The USB Port is NOT intended for communication purposes or to upload information to the device.
- Only use the USB charger for the purposes described in the remote manual.

2.1.2 Safety Information on Using the Seating System

The user manual of the power wheelchair contains all relevant safety information about the use of the power wheelchair including the seating system. Be certain to read and follow these safety information.

**WARNING!**

- This seating system has been custom designed and will be assembled to the wheelchair base before delivery to the user. The information contained in this manual is for maintaining and adjusting the seating system. There are very few adjustments that can safely be made by the user. If there is a procedure or adjustment that needs to be performed on the seating system that is not in this manual, DO NOT perform that procedure. Have the seating system serviced by a qualified technician.
- Use caution when driving in a tilted position.
- DO NOT operate the seating system while on an incline.



WARNING!

Risk of Tipping

The power wheelchair may tip over when you change its stability characteristics by changing your seating position.

- Determine and establish your personal safety limits by practicing bending, reaching and transferring activities in the presence of a qualified healthcare professional before attempting active use of the wheelchair.
- Your seating system can be mounted onto the base in various forward and aft positions. Make certain that the position selected provides you with maximum stability over the full range of seating positions.
- Consider all personal gear and accessories (backpacks, vent systems, extra batteries, etc.) that will be carried on the wheelchair. For example, a loaded backpack, attached to the back of the seating system, can significantly reduce the rearward stability of your wheelchair.



WARNING!

Risk of Tipping (Continued)

The power wheelchair may tip over when you change its stability characteristics by changing your seating position.

- Always shift your weight in the direction you are turning. Shifting weight in the opposite direction of the turn may compromise stability of the wheelchair base, causing it to tip over.
- All systems are equipped with drive lockouts. Make certain this is set so as not to compromise your stability while driving (refer to [SafetyLockout_LimitSwitch_60101876_0000133864.htm](#)).
- The wheelchair has a programmable controller which allows adjustment of the maximum acceleration and deceleration of the wheelchair. Make sure that these are set to an appropriate level for the system and for you, the user.
- When operating in reduced speed drive, always travel on a smooth level surface to ensure the wheelchair's stability is not compromised.
- Ensure all medical conditions are considered when setting up your wheelchair. Involuntary muscle movement such as spasms may affect the stability of the wheelchair.

**WARNING!****Risk of Death or Serious Injury**

Operating the wheelchair with the seat back angle position beyond 30° can cause instability resulting in death or serious injury from the wheelchair tipping over.

-NEVER operate the wheelchair or elevate/lower the seat while in any back angle position over 30° relative to the vertical position. If the drive lock-out does not stop the wheelchair from operating or the seat from elevating/lowering in a back angle position over 30° relative to vertical, DO NOT operate the wheelchair or elevate/lower the seat. DO NOT attempt to adjust the drive lock-out. Have the wheelchair serviced by a qualified technician.

**WARNING!**

-Use only the controls listed in the remote manual to activate the functions. Specific actuator controls are noted for each function or combination throughout the remote manual. DO NOT USE any other actuator controls. Such devices may result in excess heating and cause damage to the actuator and associated wiring and could cause a fire, death, physical injury or property damage. If such devices are used, Invacare shall not be liable and the limited warranty is void.

-Specific actuator controls are noted for each function or combination throughout the remote manual. Refer to the remote manual for proper use.

-ALWAYS keep hands and feet out from underneath seat - otherwise serious injury may result.

-DO NOT tip the seating system/wheelchair without assistance.

-DO NOT store items under seat.

-Cables must be routed and secured properly to ensure that cables DO NOT become entangled and damaged during normal operation of seating system.

2.2 Pinch Points

**WARNING!****Risk of Minor to Serious Injury**

Pinch points can cause minor to serious injury.

-Be mindful of potential pinch points and use caution when using this product.



WARNING!

Risk of Injury

Pinch points can cause injury.

- Be aware that a pinch point (A) exists between the head tube cap and walking beam/rear swingarm.
- Be aware that a pinch point (B) exists between the walking beam/head tube cap and telescoping tube when the wheelchair is at the lowest seat to floor height.
- Be aware that a pinch point (C) may occur when rotating the center mount front rigging assembly.

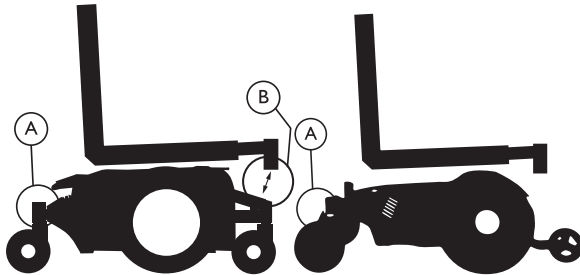


Fig. 2-1 Pinch Points — Head Tube Cap/Walking Beam and Telescoping Tube

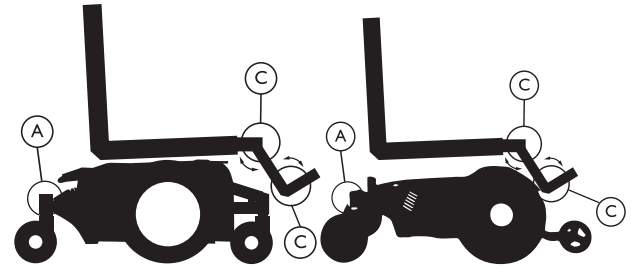


Fig. 2-2 Pinch Points — Center Mount Front Rigging



WARNING!

Risk of Injury

Pinch points can cause injury.

A pinch point (C) exists between the center mount footrest and casters.

There is limited clearance between centermount footrest and casters.

- The user's feet **MUST** remain on the center mount footrest while operating the wheelchair. If the user's feet are allowed to rest off the side of the center mount footrest they may come in contact with the caster possibly resulting in injury.

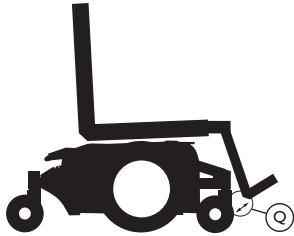


Fig. 2-3 Pinch Points — Head Tube Cap/Walking Beam and Telescoping Tube



WARNING!

Risk of Injury

Pinch points may occur when lowering the elevating seat.

Pinch points can cause injury.

- Make sure the hands and body of the occupant, attendants and bystanders are clear of all pinch points before lowering seat.
- DO NOT operate the elevate function near or under a fixed object such as a table or desk.



Fig. 2-4 Pinch Points — Head Tube Cap/Walking Beam and Telescoping Tube

2.3 Footplates and Front Rigging



WARNING!

Risk of Serious Injury or Damage

Operating the wheelchair with a clearance of less than 75 mm (3 inches) between the footplates and the ground/floor may cause serious injury or property damage.

- ALWAYS maintain a minimum of 75 mm (3 inches) between the bottom of the footplates and ground/floor to ensure proper clearance while the wheelchair is in motion. If necessary, adjust the footplates height to achieve proper clearance. After footplates height adjustment, if the wheelchair dips forward and the footplates touch the ground while in



motion, please contact your provider for an inspection and avoid use of the wheelchair if possible.



CAUTION!

Risk of Damage

Interference between footrests and front casters may cause damage.

- When determining the depth of the telescoping front frame tubes, make sure the rear of the footrests do not interfere with the movement of the front casters. Otherwise damage to the wheelchair may result or may impede proper operation.

2.4 Storage



WARNING!

Risk of Injury, Damage or Death

Storage or use near heat sources and combustible products may result in injury or damage.

- DO NOT store or use wheelchair near open flames or other heat sources.
- DO NOT store or use wheelchair near combustible products.

3 Components

3.1 Component Overview



Fig. 3-1 AVIVA FX with Captain's Seat

ITEM	DESCRIPTION
A	Back Cushion
B	Armrest
C	Remote (Joystick)
D	Seat Cushion
E	Drive Wheel
F	Fork
G	Caster
H	Front Rigging
J	Headrest
K	Anti-tipper

3.2 Remotes

Remotes include joysticks and other devices used to drive the power wheelchair, operate the powered seating system or operate other functions. Your power wheelchair may be equipped with one of several different remotes. For information on the different functions and how to operate a particular remote, refer to its corresponding user manual (enclosed).

3.3 The Powered Seating System

The powered seating system is operated from the remote. Refer to the remote manual for more information. The powered seating system may include the following functions, depending on the modules installed:

- Elevating Seat



Information regarding operation of the elevating seat at temperatures of less than 0 °C

- Invacare mobility devices are equipped with safety mechanisms that prevent capacity overload of the electronic components. At operating temperatures below freezing point this can, in particular, lead to the elevating seat actuator being shut down after approximately 1 second operating time.
- The elevating seat can be raised or lowered gradually by repeatedly operating the joystick. In many cases this generates sufficient heat for the actuator to operate as normal.



Drive Slow-Down

The drive slow-down reacts in different ways, depending on the mobility device's configuration.

- The elevating seat is equipped with sensors which reduce the mobility device's speed as soon as the elevating seat is raised above a certain point. The wheelchair is also equipped with a sensor that reduces speed when the seat is tilted or reclined past a specific angle.
- The drive slow-down takes place to guarantee the tipping stability of the mobility device and to avoid personal risk and damage to the mobility device.
- To reapply normal speed, lower the elevating seat down or return the seat back to an upright position until the drive slow-down switches off.



CAUTION!

Risk of Injury or Damage

There is a risk of tipping if the drive slow-down sensors fail when the elevating seat is raised.
-If you find that the drive slow-down function is not working when the elevating seat is raised, do not drive with the elevating seat raised and immediately contact an Invacare provider.

3.4 Labels on the Product



DANGER!

Risk of Injury, Damage or Death

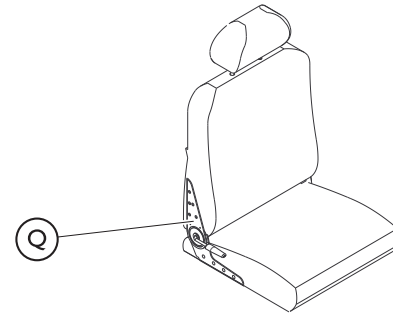
Missing or damaged labels may contribute to injury, damage or death.


-Ensure ALL labels are present and legible.

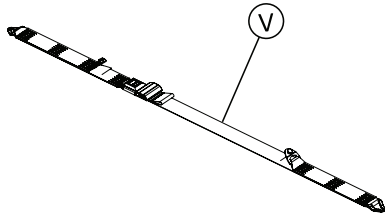


Labels are subject to change without notice.

Wheelchairs with the Transport Ready Option



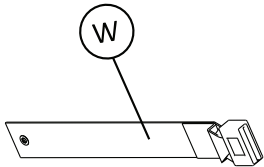
ITEM	PART NUMBER	DESCRIPTION
Q	60101879	 <p><i>Fig. 3-2 WC19 Compliance Label</i></p>



ITEM	PART NUMBER	DESCRIPTION
V	N/A	

Fig. 3-3 TRRO Belt Label

Wheelchairs with Transport Brackets (TRBKTS)






ITEM	PART NUMBER	DESCRIPTION
W	1134811 or	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>⚠ WARNING</p> <p>This seat/chest positioning strap is NOT intended for occupant restraint in a moving motor vehicle, and DOES NOT conform with ANSI/RESNA WC/19. If signs of wear appear, positioning strap MUST be replaced IMMEDIATELY. 1134811-C-01</p> </div> <p style="text-align: center;">or</p>
	1195716	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>ISO 7176-19</p> </div>

3.4.1 Symbols on the Labels


Refer to the following table for an explanation of the symbols on the labels.

Symbol	Description
	Read Manual Symbol is on a BLUE mandatory action background.

	<p>WC19 Compliance Label</p>
 <p>ISO 7176-19</p>	<p>ISO 7176 — 19 Compliance Refer to 7.2 <i>Transport Ready Option (TRRO)</i>, page 49.</p>
 <p>ISO 7176-19</p>	<p>ISO 7176 — 19 Non-Compliance Refer to 7.1 <i>Wheelchair Transport Brackets (TRBKTS)</i>, page 49.</p>

4 Setup

4.1 Setup/Delivery Inspection Information

-  Setup/delivery inspection should be performed by provider at time of delivery/set up.
- PROVIDERS** — Refer to *9.1 Setup/Delivery Inspection, page 61* for a setup/delivery inspection checklist. Initial adjustments should be made to suit your personal body structure needs and preference. Thereafter weekly, monthly and periodic inspections should be performed by user/attendant between the six month service inspections. Refer to *Chapter 8 Maintenance, page 57*.

4.2 Adjusting the Remote

The following information is valid for all seating systems.



CAUTION!

Risk of injury or damage

If screws are not completely tightened during adjustments, there is a risk of the remote being pushed backwards during an accidental collision with an obstacle, such as a doorframe or table, and the joystick being jammed against the armpad. This may cause the mobility device to drive forward uncontrollably and potentially lead to injury to the user and bystanders or damage to the wheelchair and surrounding objects.

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



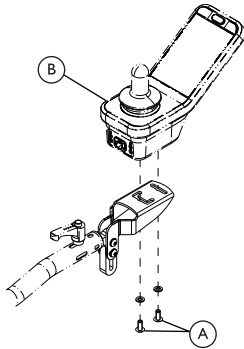
CAUTION!

Risk of injury

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

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

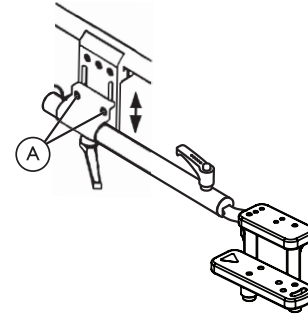
4.2.1 Adjusting Remote Width



1. Loosen the screws **(A)**.
2. Adjust remote **(B)** to desired width.
3. Re-tighten the screws.

4.3 Adjusting the Quad Link Remote Support

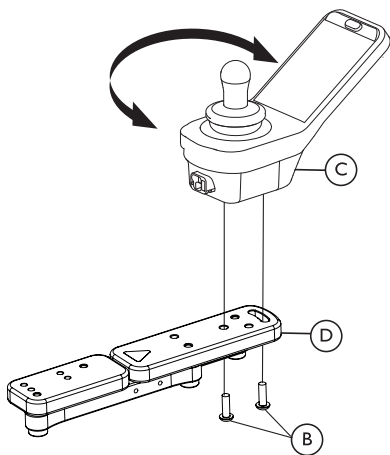
4.3.1 Adjusting Remote Height



1. Loosen the two set screws **(A)** on the remote mount.
2. Push or pull the remote mounting tube up or down to the desired height.
3. Tighten the two set screws on the remote mount.

4.3.2 Adjusting Remote Position

Perform this procedure to adjust the position of the remote on the Quad Link.



1. Loosen screws (B) securing the remote (C) to the Quad Link (D).
2. Rotate remote to desired position.
3. Tighten screws to secure the remote to the Quad Link.

4.3.3 Adjusting Lock Tension

By default, the Quad Link is equipped with two magnets locking the Quad Link in extended position. Removing a magnet reduces the tension and makes it easier to release the Quad Link.



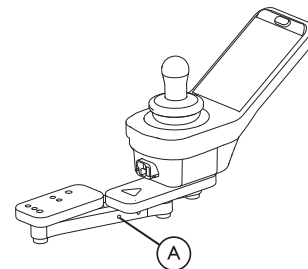
CAUTION!

Risk of Injury or Damage to Wheelchair

Removing both magnets leaves Quad Link without lock. Quad link could retract unintentionally.
-Always leave at least one magnet.



Small pointed tool such as paper clip



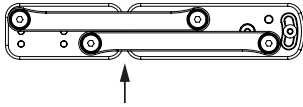
1. Swivel Quad Link to side to access magnets.
2. Insert tool in hole (A) and push out magnet on other side.

4.3.4 Swivelling the Remote to the Side

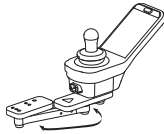


WARNING!

-Make sure fingers are not between the linkage bars when locking the Quad Link retractable remote mount into position. Pinch points will occur between the linkage bars when locking the Quad Link retractable remote mount into position.

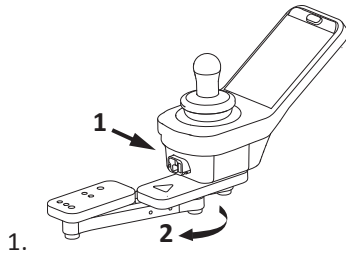


About the Quad Link




If your mobility device is equipped with a Quad Link, then the remote can be moved away to the side, for example, to drive up close to a table.

Swivel Remote to the Side

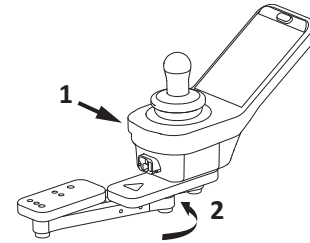


To retract the remote from the normal extended position, push outward on the inside surface of the remote until the Quad Link is free.

 The Quad Link works the best when the remote is pushed outward on the inside surface of the remote, near the armrest pad.

2. Push the remote outward and rearward until the Quad Link moves through its complete range into its fully retracted position.

Return Remote to Extended Position



1. To return the remote to the normal extended position, push outward on the inside surface of the remote.
2. Push forward and inward until the Quad Link moves through its complete range and clicks into its fully extended position.

4.4 Manual Center Mount Footrests



Risk of Serious Injury or Damage

Operating the wheelchair with a clearance of less than 75 mm (3 inches) between the footplates and the ground/floor may cause serious injury or property damage.

-ALWAYS maintain a minimum of 75 mm (3 inches) between the bottom of the footplates and ground/floor to ensure proper clearance while the wheelchair is in motion. If necessary, adjust the footplates height to achieve proper clearance. After footplates height adjustment, if the wheelchair dips forward and the footplates touch the ground while in motion, please contact your provider for an inspection and avoid use of the wheelchair if possible.



Risk of Injury

Pinch points can cause injury.

A pinch point © exists between the center mount footrest and casters.

There is limited clearance between center mount footrest and casters.

-The user's feet MUST remain on the center mount footrest while operating the wheelchair. If the user's feet are allowed to rest off the side of the center mount footrest they may come in contact with the caster possibly resulting in injury.

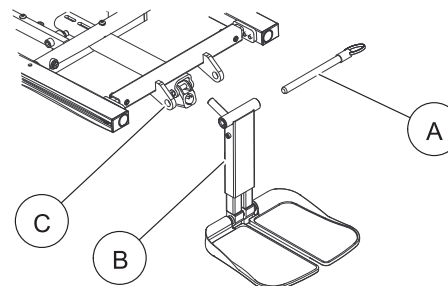
Fig. 4-1 Pinch Points—Center Mount Footrest



The manual center mount footrests have the following features:

- Adjustable knee angle
- Adjustable height
- Flip up footplates (adjustable width and angle) or footboard

4.4.1 Removing/Installing the Manual Center Mount Footrest



Release lever is not shown. It is located towards the front or center of seat frame.

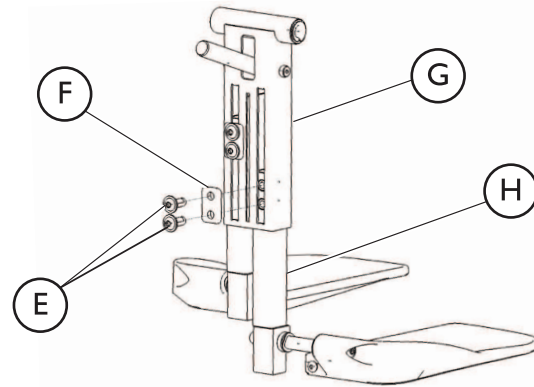
Removing

1. Remove the rigging pivot pin (A) that secures the footrest (B) to the mounting bracket (C) of the seat frame.
2. Hold the footrest with one hand and engage the release lever with the other while simultaneously pulling the center mount footrest out of the mounting bracket of the seat frame.

Installing

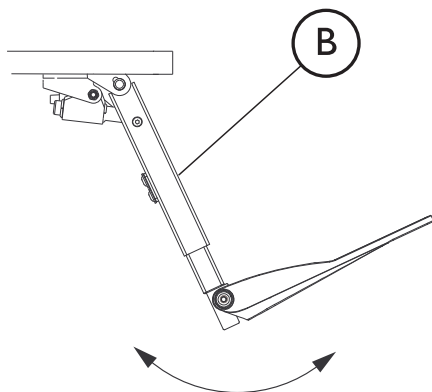
1. Engage the release lever (not shown) with one hand, hold the center mount footrest (B) with the other, and insert the center mount footrest into the mounting bracket (C) of the seat frame.
2. Reinstall the rigging pivot pin (A) to secure the center mount footrest to the mounting bracket of the seat frame.
3. Review the safety information in and ensure the footrest is adjusted properly.


4.4.2 Adjusting the Height of the Manual Center Mount Footrest



1. Review the safety information in .
2. Remove the two mounting screws (E) that secure the button head cleat (F) to the extension housing (G).
3. Adjust the footrest extension tube (H) to the desired height.
4. Secure the extension tube to the desired height with the button head cleat and mounting screws. Securely tighten.
5. Repeat steps 2-4 for the other extension tube.

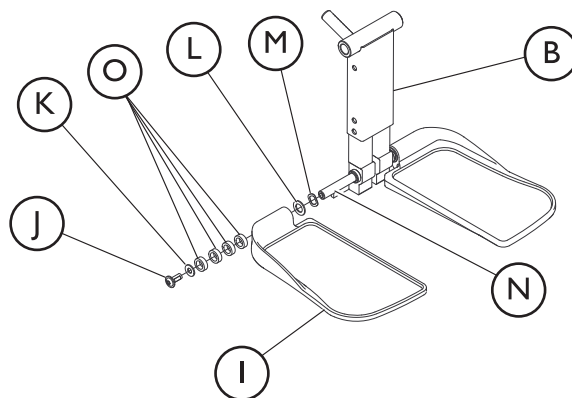
4.4.3 Adjusting the Angle of the Manual Center Mount Footrest



 Release lever located towards the front or center of seat frame.

1. Review the safety information in *4.4 Manual Center Mount Footrests*, page 25.
2. Engage the release lever with one hand (not shown) and move the center mount footrest **B** to the desired angle with the other hand.
3. Disengage the release lever (not shown) to lock the center mount footrest in the new position.

4.4.4 Adjusting the Footplate Width of the Center Mount Footrest



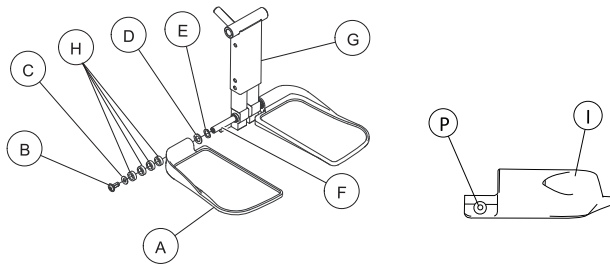
 Narrow configuration shown (No Spacers)


1. Flip footplate **I** down
2. Remove the mounting screw **J**, nylon washer **K**, washer **L** and wave washer **M** securing the footplate to the extension tube **N** of the center mount footrest **B**.
3. Reposition the four 1/4 inch spacers **O** between the footplate and washer as necessary to achieve the desired footplate width
4. Using the mounting screw, nylon washer, washer and wave washer, secure the footplate to the extension tube.
5. Repeat STEPS 1 and 4 for the other footplate.

Fig. 4-2 Medium Narrow (One Spacer) Fig. 4-3 Medium (Two Spacers)

Fig. 4-4 Medium Wide (Three Spacers) Fig. 4-5 Wide (Four Spacers)

4.4.5 Adjusting the Footplate Angle

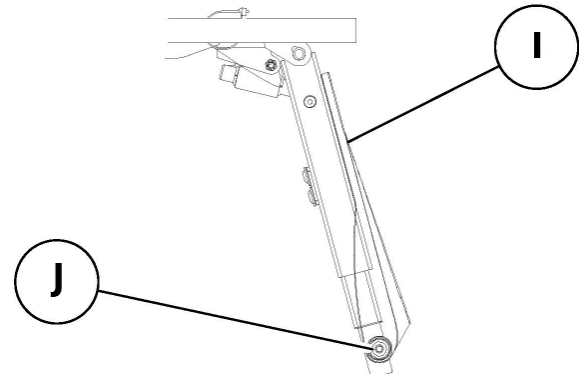



 Manual Center Mount Footrest is shown for reference **B**.

Rear view of footplate **I** is shown for clarity.


1. Flip footplate up.
2. Rotate the adjustment screw **P** in or out until the desired angle is achieved.
3. Repeat STEPS 1 and 2 for the other footplate.

4.4.6 Adjusting the Tension of the Flip Up Footplate



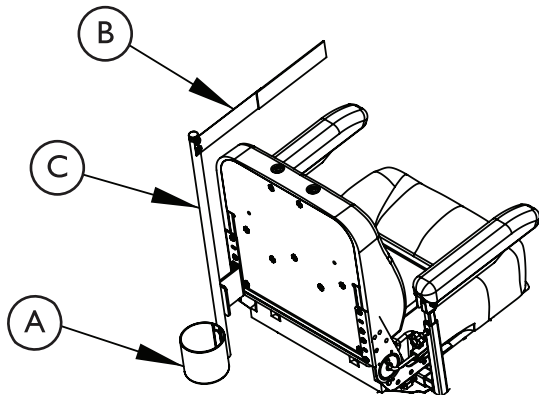
 The tension can be adjusted to increase or decrease the rotation effort of the flip up footplates **I**.

1. Loosen the mounting screw **I** on the front rigging angle hinge to decrease the rotation effort.

 DO NOT remove the footplate mounting screw.
2. Tighten the front rigging angle hinge mounting screw to increase the rotation effort.
3. Repeat STEPS 1 and 2 for the other footplate.

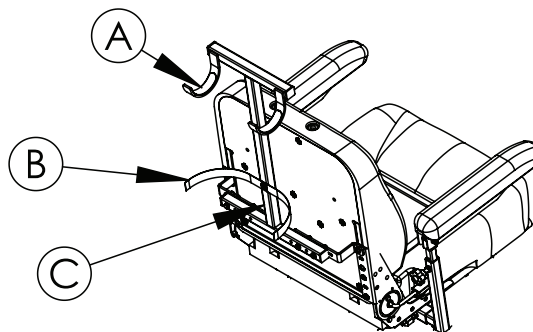
5 Accessories

5.1 Using the Crutch and Cane Holder



1. Place the cane or crutch (not shown) into the crutch and cane holder Ⓐ.
2. Use the strap Ⓑ to secure the cane or crutch to the tube Ⓒ on the holder.

5.2 Using the Walker Holder



1. Fold the walker. Refer to the walker user manual.
2. Hang the top of the walker (not shown) on the hooks of the walker holder Ⓐ.
3. Use the strap Ⓑ to secure the walker to the tube Ⓒ on the holder.

5.3 Using the Oxygen Holder



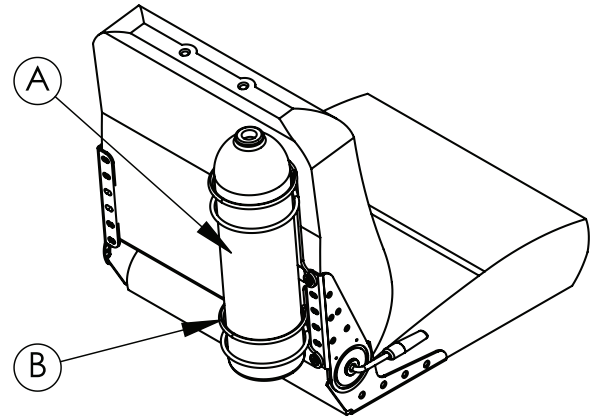
WARNING!
Risk of Injury or Damage

To avoid injury or damage caused by improper use of the oxygen holder:

-Contact your oxygen supplier for instructions in the use of oxygen. EXTREME care MUST be exercised when using oxygen in close proximity to electric circuits.



- The oxygen holder is designed to be used in conjunction with oxygen cylinder models MD15 and ME24 ONLY.
- To maintain safety, use ONLY Invacare oxygen cylinder accessories (i.e. regulator, oxygen demand devices).
- DO NOT use the oxygen holder for anything other than the intended purpose of supporting an oxygen cylinder—otherwise, injury or damage may occur.
- The installation of the oxygen holder onto the back of the wheelchair seat significantly increases the length of the wheelchair. When turning the wheelchair it is important to take note of this increased length—otherwise injury or damage may occur.
- When using nasal or masked type administering equipment, oxygen or air tubing MUST be routed and secured properly to ensure that the tubing does NOT become entangled, kinked or severed.



1. Place the oxygen cylinder into the oxygen holder (A).
2. Ensure the oxygen cylinder is seated properly in the holder.
3. Route the oxygen tubing so it does not become entangled, kinked or severed.

6 Usage

6.1 Safety Lockout and Limit Switches



DANGER!

Risk of Severe Injury or Death

The angle at which the limit switches/lockouts are set is critical to the safe operation of the seating system.

- Invacare will not be liable for any injuries or damage sustained when adjustments are made beyond the factory recommended settings.
- To ensure proper set-up, adjustments to safety lockouts and limits should only be performed by a qualified technician.
- Never exceed the maximum recommended limits. Safety lockouts and limit switches should be set up to best meet the needs of the user without compromising the overall stability of the wheelchair.
- Following any limit or lockout adjustments, always test the seating system over the full range of motion (i.e. elevating seat) to verify the revised set-up is functioning properly and ensure that there are no resulting stability or interference issues.

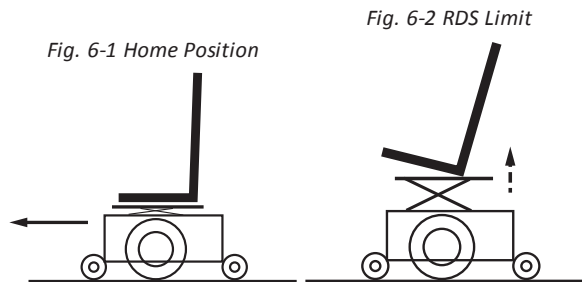


Additional safety limits and lockout switches may be required for more complicated/specialized seating systems. For information on limits/lockouts that are not identified in this manual, please contact our Technical Service Department for assistance.

6.1.1 Reduced Drive Speed (RDS) Limit

Seating systems are configured/programmed with a Reduced Drive Speed limit. The limit utilizes a microswitch to trigger the seating system into reduced speed drive as soon as:

- the seating system is raised to a pre-determined height (4 in [100 mm]) beyond the home (fully retracted) position.



6.2 Power Positioning Functions

The seating system offers the following functions:

6.2.1 Elevating Seat/Elevating Seat Module

The elevating seat module allows users to raise their power

positioning system up to 12 in (300 mm) above the lowest seat-to-floor height of their system. The elevating seat is combined with a tilt function.

6.3 Safety and Handling



Refer to wheelchair base user manual for additional safety and operation information.



DANGER!

Risk of Death, Serious Injury, or Damage

Misuse of the wheelchair may cause component failure and/or the wheelchair to start smoking, sparking, or burning. Death, serious injury, or damage may occur due to fire.

-DO NOT use the wheelchair other than its intended purpose. If the wheelchair starts smoking, sparking, or burning, discontinue using the wheelchair and seek service IMMEDIATELY.



DANGER!

Risk of Death or Serious Injury

Not wearing your seat positioning strap could result in death or serious injury.

-ALWAYS wear your seat positioning strap. Your seat positioning strap helps reduce the possibility of a fall from the wheelchair. The seat positioning strap is a positioning belt only. It is not designed for use as a safety device withstanding high stress loads such as auto or aircraft safety belts. If signs of wear appear, seat positioning strap MUST be replaced IMMEDIATELY.



WARNING!

Risk of Injury, Damage or Death

Use of the wheelchair while judgement or ability is impaired may result in injury, damage or death.

-DO NOT operate the wheelchair under the influence of alcohol, medications or other substances that impair judgement or function.

-Changing medications may affect your ability to operate the wheelchair. Discuss the impact on your ability to operate the wheelchair with a health care professional when changing medications.

-DO NOT operate the wheelchair under conditions where judgement or function may be impaired. This may include but is not limited to lack of sleep or poor sight.

-Always be aware of your surroundings.



WARNING!

Risk of Injury, Damage or Death

Misuse of wheelchair may result in injury, damage or death.

- Use care when operating the wheelchair on roads, streets or other roadways.
- Use care when operating the wheelchair when vision is impaired by poor lighting such as unlit rooms, during the night or similar situations.
- ALWAYS be aware of motor vehicles and your surroundings.



WARNING!

Risk of Injury, Damage or Death

Conditions such as restlessness, mental deterioration, dementia, seizure disorders (uncontrolled body movement) or sleeping problems may cause injury, damage or death.

- Monitor patients with these conditions frequently.
- Close supervision and attention is needed when operating the wheelchair near children, pets or people with physical/mental disabilities.



WARNING!

Risk of Injury or Damage

To avoid injury or damage from moving parts:

- ALWAYS keep hands and fingers clear of moving parts.
- Closely supervise children, pets, or people with physical/mental disabilities.



WARNING!

Risk of Injury or Damage

Improper operation may change the normal balance, center of gravity or weight distribution of the wheelchair causing injury or damage.

- Determine and establish your particular safety limits. Practice bending, reaching and transferring activities in several combinations in the presence of a qualified healthcare professional before attempting active use of the wheelchair.
- ALWAYS shift your weight in the direction you are turning. Shifting your weight in the opposite direction of the turn may cause the inside drive wheel to lose traction.



WARNING!

Risk of Serious Injury

Impacting objects in the surrounding environment can cause serious injury.

- When maneuvering the wheelchair around, ALWAYS have assured cleared distance with all objects in environment.

**WARNING!****Risk of Injury or Damage**

Unintended movement or operation of wheelchair may cause injury or damage.

- Turn power OFF BEFORE entering or exiting the wheelchair.
- Close supervision and attention is needed when operating the wheelchair near children pets or people with physical/mental disabilities. Turn power off.

**WARNING!****Risk of Injury, Damage or Death**

Damaged parts due to collision or impact may result in injury, damage or death.

- Seek immediate attention and service if wheelchair is involved in a collision or impact event. This includes, but is not limited to, vehicle accidents, mishandling and impact events where the wheelchair strikes something or is struck by something that may cause damage.
- Ensure your wheelchair is working properly and is inspected by a qualified Invacare technician if the wheelchair is involved in a collision or impact event.

6.4 Stability and Balance

To assure stability and proper operation of your wheelchair, you **MUST** at all times maintain proper balance. Your 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 wheelchair any further than the length of the armrests.

The drive behavior initially experienced by the user may be different from other wheelchairs previously used. This power wheelchair has Invacare's SureStep® technology, a feature that provides the wheelchair with optimum traction and stability when driving forward over transitions and thresholds. Refer to *Chapter 10 Technical Data, page 70* for maximum height of transitions and thresholds. For more information about approaching obstacles refer to *Safety Information When Approaching Obstacles, page 1* and *Chapter The Correct Way to Approach Obstacles, 1*.



WARNING!

Risk of Injury, Damage or Death

Improper use of wheelchair may cause instability and may result in injury, damage or death. The stability of the wheelchair is adversely affected by additional weight that shifts the center of gravity.

- This wheelchair has been designed to accommodate one individual. DO NOT operate with additional person(s).
- DO NOT carry heavy objects on your lap while operating the wheelchair.



WARNING!

Risk of Injury or Damage

Improper position and activity, such as reaching, bending or transferring may change the normal balance, center of gravity or weight distribution of the wheelchair causing injury or damage.

- Observe and follow all instructions and warnings regarding reach, weight, balance and positioning.
- Determine and establish your particular safety limits. Practice bending, reaching and transferring activities in several combinations in the presence of a qualified healthcare professional before attempting active use of the wheelchair.
- DO NOT move beyond the center of gravity.
- DO NOT lean forward out of the wheelchair 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.
- DO NOT shift your weight or sitting position toward the direction you are reaching.
- DO NOT stand on the frame of the wheelchair.
- DO NOT lean over the top of the back of the wheelchair.

6.4.1 Reaching, Leaning and Bending - Forward

Many activities require the wheelchair user to reach, bend and transfer in and out of the wheelchair. These movements will cause a change to the normal balance, center of gravity, and weight distribution of the wheelchair. To determine and

establish your particular safety limits, practice bending, reaching and transferring activities in several combinations in the presence of a qualified healthcare professional before attempting active use of the wheelchair



1. Engage motor locks.
2. Turn power off.
3. Position the casters so that they are parallel to the drive wheels to create the longest possible wheelbase.
4. Reach, lean or bend only as far as your arm will extend without changing your sitting position.

6.4.2 Reaching, Leaning and Bending - Backward



1. Position wheelchair as close as possible to the desired object.
2. Position the casters so that they are parallel to the drive wheels to create the longest possible wheelbase.
3. Engage the motor locks.
4. Turn power off
5. Reach back only as far as your arm will extend without changing your sitting position.

6.4.3 Transferring To and From Other Seats



WARNING!

Risk of Serious Injury or Damage

Improper transfer techniques may cause serious injury or damage.

-Before attempting transfers, consult a health care professional to determine proper transfer techniques for the user and type of wheelchair.



WARNING!

Risk of Injury or Damage

Misuse of footplate may cause injury or damage.

- DO NOT stand on footplates.
- Ensure the footplates are in the upward position or swung outward when getting in or out of the wheelchair.

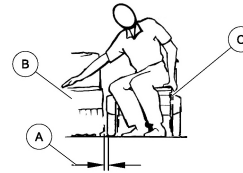


Fig. 6-3 Front View

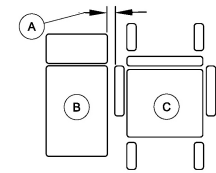



Fig. 6-4 Top View



Adequate mobility and upper body strength is required to perform this activity independently.

1. Transfer to and from the wheelchair in the presence of a qualified healthcare professional to determine individual safety limits.
2. Turn power button OFF BEFORE entering or exiting the wheelchair.
3. Reduce gap between transfer surface (B) and wheelchair seat (C) to the minimum distance (A) necessary to perform transfer.
4. ALWAYS engage both motor locks and wheel hubs (if equipped) to prevent the wheels from moving before transferring into or from the wheelchair.
5. Align casters parallel to the drive wheels to improve stability during transfer.
6. Invacare strongly recommends ordering the optional

wheel locks as an additional safeguard if not present.

7. Flip up footplates or swing footrests outward.
8. Shift body weight into seat with transfer
 -  During independent transfer, little or no seat platform will be beneath you. Use a transfer board if at all possible.

6.5 Weight Training and Other Activities



WARNING!

Risk of Injury or Damage

Invacare DOES NOT recommend the use of its wheelchairs as a weight training apparatus. Invacare wheelchairs have NOT been designed or tested as a seat for any kind of weight training. Using said wheelchair for weight training could result in serious bodily injury to the user, damage to the wheelchair and surrounding property. Also, if occupant uses said wheelchair as a weight training apparatus, Invacare shall NOT be liable for bodily injury and the warranty is void.

-DO NOT use the wheelchair as a weight training apparatus.



WARNING!

Risk of Injury or Damage

Misuse of the wheelchair may result in injury or damage.

- DO NOT use the wheelchair for stretching exercises.
- DO NOT use the wheelchair to perform wheelies.

6 Transport - ANSI/RESNA WC-4 Section 19

This chapter covers products that adhere to ANSI/RESNA WC-4 Section 19. Refer to the labeling on your product to determine the applicable standard and proper instructions to follow.

6.6 About Transport Ready Packages



WARNING!

Risk of Injury, Damage or Death

- Failure to observe and follow transport warnings and instructions may result in injury, damage or death.
- Wheelchair occupants should transfer into the vehicle seat and use the OEM (Original Equipment Manufacturer) vehicle-installed restraint system.
 - Ensure wheelchair is secured using proper restraint systems. Use **ONLY** Wheelchair Tie-down and Occupant Restraint Systems (WTORS) which meet the requirements of the SAE (Society of Automotive Engineers) J2249 Recommended Practice during travel in a motor vehicle.
 - Wheelchair-mounted accessories, including but not limited to IV poles, trays, respiratory equipment, backpacks, and other personal items should be removed and secured separately.**
 - Spill proof batteries, such as “gel cells”, should be installed on wheelchair to be used during travel in a motor vehicle.**
 - Contact Invacare Corporation with any questions**



about using this wheelchair for seating in a motor vehicle.



WARNING!

Risk of Injury, Damage or Death

Failure to observe and follow transport warnings and instructions may result in injury, damage or death.

- For heavy wheelchairs, transportation in larger vehicles is recommended, when the option exists.**



WARNING!

Risk of Injury, Damage or Death

Improper installation or service may result in injury, damage or death.

- Transport ready packages are not retrofittable to existing models and are not field serviceable.
- DO NOT** overtighten hardware.



WARNING!

Risk of Injury, Damage or Death

Alteration or substitution may result in injury, damage or death.

- DO NOT** alter or substitute product parts, components or systems.

**WARNING!****Risk of Injury, Damage or Death**

Damaged parts due to collision or impact may result in injury, damage or death.

- Seek immediate attention and service if wheelchair is involved in a collision or impact event. This includes, but is not limited to, vehicle accidents, mishandling and impact events where the wheelchair strikes something or is struck by something that may cause damage.
- Ensure your wheelchair is working properly and is inspected by a qualified Invacare technician if the wheelchair is involved in a collision or impact event.



ANSI = American National Standards Institute, RESNA= Rehabilitation Engineering and Assistive Technology Society of North America.

6.7 Wheelchair Transport Brackets (TRBKTS)

As of this date, the Department of Transportation has not approved any tie-down systems for transportation of a user while in a wheelchair, in a moving vehicle of any type. It is Invacare's position that users of wheelchairs should be transferred into appropriate seating in vehicles for transportation and use be made of the restraints made available by the auto industry. Invacare cannot and does not recommend any wheelchair transportation system.

TRBKTS includes four factory-installed wheelchair transport brackets.

**WARNING!****Risk of Injury, Damage or Death**

Improper use of wheelchair transport brackets (TRBKTS) may result in injury, damage or death. The wheelchair or its parts may become airborne during a sudden vehicle stop or accident and injure vehicle occupants or cause damage.

- Use these transport brackets only to secure an unoccupied wheelchair during transport.
- Ensure wheelchair is secured using proper restraint systems. Wheelchair transport brackets have not been crash-tested in accordance with ANSI/RESNA WC-4 Section 19 Frontal Impact Test requirements for wheelchairs.
- Only use the transport brackets for the purposes described in this manual.



ANSI = American National Standards Institute, RESNA= Rehabilitation Engineering and Assistive Technology Society of North America.

6.8 Transport Ready Option (TRRO)

As of this date, the Department of Transportation has not approved any tie-down systems for transportation of a user while in a wheelchair, in a moving vehicle of any type. It is Invacare's position that users of wheelchairs should be transferred into appropriate seating in vehicles for transportation and use be made of the restraints made

available by the auto industry. Invacare cannot and does not recommend any wheelchair transportation system.



WARNING!

Risk of Injury, Damage or Death

Failure to observe and follow transport warnings and instructions may result in injury, damage or death.

- Use **ONLY Wheelchair Tie-down and Occupant Restraint Systems (WTORS)** which meet the requirements of the SAE (Society of Automotive Engineers) J2249 Recommended Practice during travel in a motor vehicle.
- The wheelchair **MUST** be in a forward facing position during travel in a motor vehicle.
- Only use the transport brackets included with TRRO for the purposes described in this manual.
- This wheelchair is equipped, and has been dynamically tested to rely on WHEELCHAIR-ANCHORED pelvic belts. If desired, VEHICLE-ANCHORED pelvic belts may be used.
- Use **both pelvic and upper-torso belts.**



WARNING!

Risk of Injury, Damage or Death

Lack or improper use of wheelchair transport systems may result in injury, damage or death.

- Use **both pelvic and upper torso belts.**
- The pelvic belt that is provided by Invacare has been tested for use in a motor vehicle on this wheelchair only. Do not replace the pelvic belt with a different style pelvic belt.



ANSI = American National Standards Institute, RESNA= Rehabilitation Engineering and Assistive Technology Society of North America.

TRRO includes four factory-installed transport brackets and a wheelchair anchored pelvic belt.



WARNING!

Risk of Injury

-This wheelchair has been dynamically tested in a forward-facing mode with the specified crash test dummy restrained by BOTH pelvic and upper-torso belt(s) (shoulder belts), and that BOTH pelvic and upper torso belt(s) should be used to reduce the possibility of head and chest impacts with vehicle components.

- The wheelchair has been tested for seating in a motor vehicle with the factory installed seating system only.
- TRRO has been crash-tested in accordance with ANSI/RESNA WC-4:2017, Section 19 Frontal Impact Test requirements for wheelchairs with a 225 lb (102 kg) crash dummy, which corresponds to over 300 lbs (136 kg) for Adult seat sizes.

6.9 Compliance Information

This wheelchair complies with the requirements of the ANSI/RESNA WC-4:2017, Section 19 (Frontal Impact Test)



ANSI = American National Standards Institute, RESNA = Rehabilitation Engineering and Assistive Technology Society of North America.

This wheelchair has been dynamically tested in a forward-facing mode with the specified crash test dummy, which corresponds to a person with a weight of over 300 lbs (136 kg) restrained by Both pelvic and shoulder belts in accordance with ANSI/RESNA WC-4:2017, Section 19. Both pelvic and upper torso belts should be used to reduce the possibility of head and chest impacts with vehicle components.

6.10 Positioning the Wheelchair in the Vehicle



WARNING! **Risk of Injury**

- **This wheelchair MUST be in a forward facing position during travel in a motor vehicle.**
- **The recommended clear zones for wheelchair seated occupants restrained by both pelvic and upper torso belt(s) and only by a pelvic belt are shown in the diagrams and described below.**
- **Frontal Clear Zones (FCZ) need to be LARGER when upper torso belt(s) are NOT used.**



WARNING! **Risk of Injury**

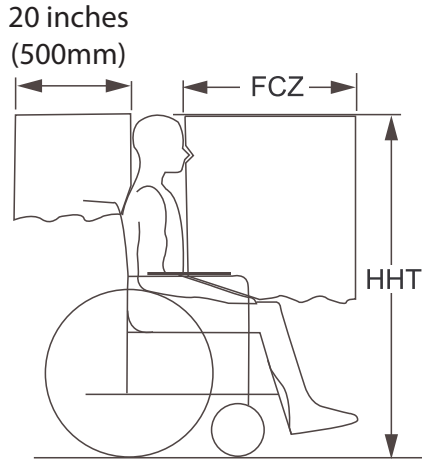
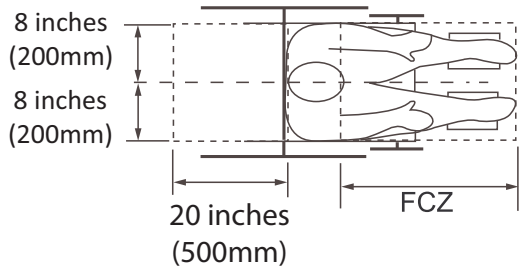
-Vehicle interior components that cannot be removed from the clear zones or that are near the wheelchair occupant may contact the wheelchair occupant's head during side-impact collision or vehicle rollover. These components should be padded with material that complies with FMVSS201.

The rear clear zone of 20 inches (500 mm) is measured from the rearmost point on an occupant's head.

The frontal clear zone is measured from the frontmost point on an occupant's head and is 26 inches (66 cm) with pelvic and upper-torso belt(s) and 37 inches (94 cm) with ONLY a pelvic belt.

The frontal clear zone may not be achievable for wheelchair-seated drivers.

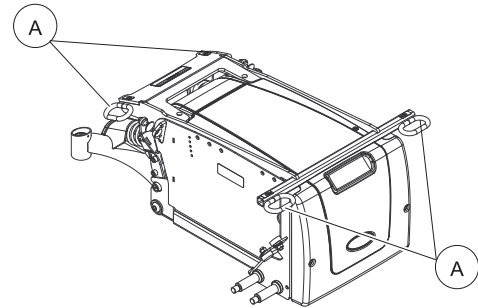
The estimated seated height (HHT) from the ground or floor to the top of the wheelchair-seated occupant's head ranges from approximately 47 inches (119 cm) for a small adult female to about 61 inches (155 cm) for a tall adult male.



6.11 Securement Points


ITEM	DESCRIPTION
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A	TIE DOWN BRACKETS
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6.12 Securing the Wheelchair

This wheelchair is to be used only with Wheelchair Tie-down and Occupant Restraint Systems (WTORS) that have been installed in accordance with the manufacturer's instructions and SAE J2249.

-  A copy of SAE J2249 Wheelchair Tie-down and Occupant Restraint Systems (WTORS) for use in Motor Vehicles can be obtained from: SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, (877) 606-7232 or (724) 776-4970.

Attach WTORS to the tie-down brackets in accordance with the manufacturer's instructions and SAE J2249.

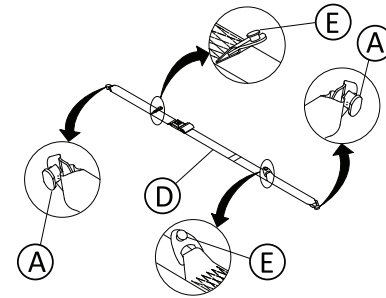
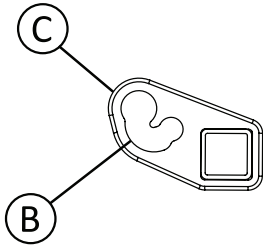
6.13 Securing the Occupant

6.13.1 Wheelchair-Anchored Belts




WARNING!

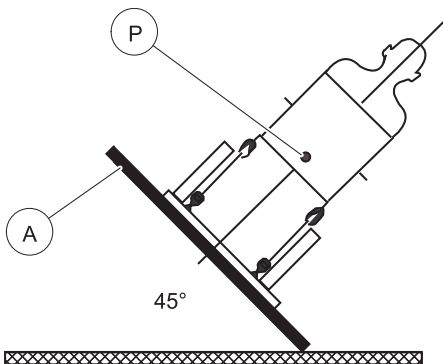
Risk of Injury, Damage or Death
 Lack or improper use of wheelchair transport systems may result in injury, damage or death.
 -Use both pelvic and upper torso belts.
 -The pelvic belt that is provided by Invacare has been tested for use in a motor vehicle on this wheelchair only. Do not replace the pelvic belt with a different style pelvic belt.




The wheelchair has been provided with a pelvic belt which meets the requirements of ANSI/RESNA WC/19. The pelvic belt provided by Invacare has been designed to accommodate use on either side of the vehicle.

1. Install the pelvic belt pin **A** into large end of slot **B** in the belt mounting bracket **C**. Pull upwards until it snaps into place. Rotate downward and forward until it snaps into place into the small end of the slot.
 -  There are two pin locations **E** on the pelvic belt that are used to secure the vehicle-anchored torso belt.
2. Repeat step 1 for the opposite belt mounting bracket.
3. Install the vehicle-anchored upper torso belt onto the two pin **E** locations on the pelvic belt.

6.13.2 Vehicle-Anchored Belts



 Rear view of wheelchair and human surrogate secured on test platform (A) and tilted to 45°.

With regard to accommodating the use and fit of vehicle-anchored belts, this wheelchair has an overall rating of:

- TDXSP2V - “A”
- TDXSP2V-HD - “A”

This rating is scored as follows:

RATING	DESCRIPTION
A	Excellent
B	Good

RATING	DESCRIPTION
C	Fair
D	Poor

The test for Lateral Stability Displacement for Point P is shown in:



- TDXSP2V with Two GP24 Batteries - 0.54 in (13.7 mm)
- TDXSP2V-HD with Two GP24 Batteries - 0.75 in (19.2 mm)

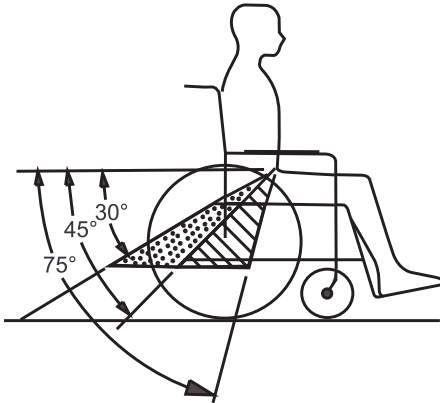
6.13.3 Seating System

The wheelchair has been tested for seating in a motor vehicle with the factory installed seating system only.

Ensure that the factory installed seating system is secured to the wheelchair frame before operation. Refer to the seating system user manual.

6.13.4 Positioning Belts

	Preferred Zone
	Optional Zone



The angle of the pelvic belt should be within the preferred zone of 30 to 75 degrees to the horizontal OR within the optional zone of 45 to 75 degrees to the horizontal.

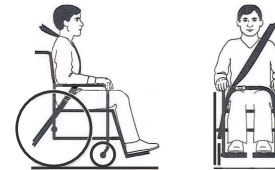
Steeper side-view pelvic belt angles are especially important if the pelvic belt is intended to be used for postural support in addition to occupant restraint in a frontal crash. Steeper angles will reduce the tendency for a vertical gap to develop between the user and the belt due to compliance of seat cushions and belt movement, thereby reducing the tendency for the user to slip under the belt and for the belt to ride up on the soft abdomen during normal use

Steeper belt angles also reduce the tendency for upper-torso belts to pull the pelvic belt onto the abdomen during frontal impact loading.

DO NOT position belts OUTSIDE of armrest, wheels, etc.



DO position belts INSIDE of armrests, wheels, etc.



1. The pelvic belt should be worn low across the front of the pelvis in contact with the tops of the thighs near the thigh-abdominal junctions.
2. Upper-torso belts should fit directly over, and in contact with, the middle of the shoulder.
3. The junction of the shoulder belt and pelvic belt of the three-point belts should be located near the hip opposite

the shoulder over which the diagonal belt crosses and not near the midline of the occupant.

4. The belt(s) should not be held away from the body by wheelchair components or parts, including but not limited to wheelchair armrests or wheels.
5. Ensure the belt(s) are not twisted.
6. Adjust belts as snugly as possible, being mindful of user comfort.

7 Transport - ISO 7176-19

This chapter covers products that adhere to ISO 7176-19. Refer to the labeling on your product to determine the applicable standard and proper instructions to follow.

7.1 Wheelchair Transport Brackets (TRBKTS)

As of this date, the Department of Transportation has not approved any tie-down systems for transportation of a user while in a wheelchair, in a moving vehicle of any type. It is Invacare's position that users of wheelchairs should be transferred into appropriate seating in vehicles for transportation and use be made of the restraints made available by the auto industry. Invacare cannot and does not recommend any wheelchair transportation system.

TRBKTS includes four factory-installed wheelchair transport brackets.

TRBKTS wheelchair models and configurations may not be used as a vehicle seat and are identified by the following label on the device:



WARNING!

Risk of Injury, Damage or Death

Improper use of wheelchair transport brackets (TRBKTS) may result in injury, damage or death. The wheelchair or its parts may become airborne during a sudden vehicle stop or accident and injure vehicle occupants or cause damage.

- Use these transport brackets only to secure an unoccupied wheelchair during transport.
- Ensure wheelchair is secured using proper restraint systems. Wheelchair transport brackets have not been crash-tested in accordance with ISO 7176-19.
- Only use the transport brackets for the purposes described in this manual.

7.2 Transport Ready Option (TRRO)

As of this date, the Department of Transportation has not approved any tie-down systems for transportation of a user while in a wheelchair, in a moving vehicle of any type. It is Invacare's position that users of wheelchairs should be transferred into appropriate seating in vehicles for transportation and use be made of the restraints made available by the auto industry. Invacare cannot and does not recommend any wheelchair transportation system.



WARNING!

Risk of Injury, Damage or Death

Failure to observe and follow transport warnings and instructions may result in injury, damage or death.

-Only use the transport brackets included with TRRO for the purposes described in this manual.

There are two Transport Ready Options available:

- TRRO — For wheelchairs without the elevate option. TRRO includes four factory-installed transport brackets.
- TRRO-E — For wheelchairs with the elevate option. TRRO-E includes six factory-installed transport brackets.

Both Transport Ready Options rely on vehicle anchored pelvic and upper-torso belts.

- The wheelchair has been tested for seating in a motor vehicle with the factory installed seating system only.
- This wheelchair has been dynamically tested in a forward-facing mode with the specified crash test dummy restrained by BOTH pelvic and upper-torso belt(s) (shoulder belts), and that BOTH pelvic and upper torso belt (s) should be used to reduce the possibility of head and chest impacts with vehicle components.

- Transport Ready Options have been crash-tested in accordance with ISO 7176–19.
- The wheelchair is identified by the following label:



ISO 7176-19

7.3 Transport—General information



WARNING!

Risk of Injury, Damage or Death

Alteration or substitution may result in injury, damage or death.

-DO NOT alter or substitute product parts, components or systems.



CAUTION!

Risk of Injury or Damage

Transporting a mobility device in a vehicle with a tray installed may cause injury or damage.

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

7.4 Transferring Mobility Device to Vehicle



WARNING!

The mobility device is at risk of tipping over if it is transferred to a vehicle while the user is still seated in the mobility device

- Transfer the mobility device without the user whenever possible.
- If the mobility device with the user has to be transferred to a vehicle using a ramp, ensure the ramp is properly secured. Refer to the ramp instructions. Ensure that the ramp does not exceed the rated slope (refer to *Chapter 10 Technical Data, page 70*).
- If the mobility device has to be transferred to a vehicle using a ramp that does exceed the rated slope (refer to *Chapter 10 Technical Data, page 70*), a winch (a chain or wire rope attached to a drum with a crank) must be used to transfer the wheelchair into the vehicle. Ensure the winch has a rated weight capacity greater than the weight of the wheelchair. Refer to the winch instructions. An attendant can then safely monitor and assist the transfer process.



WARNING!

The mobility device is at risk of tipping over if it is transferred to a vehicle while the user is still seated in the mobility device

- Alternatively, a platform lift may be used.
- Ensure that the total weight of the mobility device including the user does not exceed the maximum permitted total weight for the ramp or platform lift.
- The mobility device should always be transferred to a vehicle with the backrest in an upright position, the seat lifter lowered and the seat tilt in the upright position.



WARNING!

Risk of injury and damage to the mobility device

- If the mobility device is to be transferred to a vehicle via a lift, when the remote is turned on, there is a risk that the device may act erratically and fall off the lift.
- Before transferring the mobility device via a lift, turn off the product and disconnect either the bus cable from the remote or the batteries from the system.

1. Drive or push your mobility device into the transport vehicle using a suitable ramp.

7.5 Use of the Mobility Device as a Seat in a Vehicle



The following section does not apply to models or configurations which may not be used as a vehicle seat. These are identified by the following label on the mobility device:



WARNING!

Risk of death or serious injury

If a mobility device is secured using a 4-point (non-elevate systems) or 6-point (elevate systems) tie-down system available from a third party supplier and the curb weight of the mobility device exceeds the maximum weight for the system, death or serious injury to the user and potential nearby occupant.

- The actual weight of this mobility device can exceed 309 lb (140 kg). Make sure to use a 4-point or 6-point tie-down system checked and approved in accordance with ISO 10542 and certified for the actual weight of the mobility device. Consult the tie-down system manufacturer's documentation.



WARNING!

Risk of injury

Safety restraint devices must only be used when the wheelchair user's weight is 14 lb (22kg) or more.

- When the user weight is lower than 14 lb (22kg), do not use the wheelchair as a seat in a vehicle.



CAUTION!

There is a risk of injury if the mobility device is not properly secured during use as a vehicle seat.

- If possible, the user should always leave the mobility device to use a vehicle seat and the safety belts provided with the vehicle.
- The mobility device should always be anchored facing in the transport vehicle's intended direction of travel.
- The mobility device must always be secured in accordance with the mobility device and anchoring system manufacturers' user manual.
- Always remove and secure any accessory parts fixed to the mobility device such as chin controls or tables.
- If your mobility device is equipped with an angle adjustable backrest, then it must be placed in an upright position.
- Fully lower elevated legrests, if equipped.
- Fully lower the seat lifter, if equipped.

**CAUTION!**

Risk of injury exists if a mobility device that is not equipped with leak-proof batteries is transported in a vehicle.

-Only ever use leak-proof batteries.

**CAUTION!**

Risk of injury or damage to the mobility device or to the transporting vehicle, if the legrests are in a raised position while the mobility device is used as a vehicle seat.

-Always completely lower height-adjustable legrests, if equipped.

This mobility device complies with the requirements of ISO 7176-19 and may be used as a vehicle seat in connection with an anchoring system that has been checked and approved in accordance with ISO 10542. The transporting vehicle must be professionally converted to anchor the mobility device. Contact your vehicle's manufacturer for more information. The mobility device has undergone a crash test in which it was anchored in the transporting vehicle's direction of travel. Other configurations were not tested. The crash test dummy was secured using pelvic and upper body safety belts. Both types of safety belt should be used in order to minimize the risk of injuries to head or upper body.

It is imperative that the mobility device is inspected by an Invacare provider before being used again after being involved in a crash. Alterations to the mobility device anchoring points may not be carried out without the manufacturer's permission.

7.5.1 How the Mobility Device is Anchored in a Vehicle

The mobility device is equipped with tie-down points. Snap hooks or belt loops can be used for fixation. If the wheelchair can be used as a vehicle seat, these tie-down points are labelled with the symbol shown on the right.

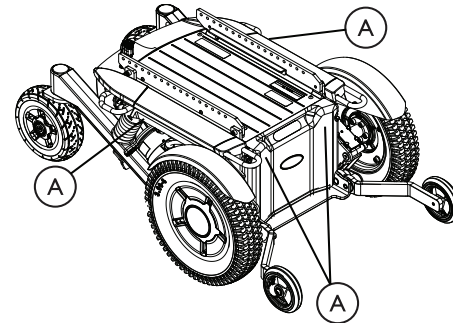



Fig. 7-1 Base Tie-Down Points—All Wheelchairs

1. Secure the mobility device with the tie-down system belts

at the following locations:

All Wheelchairs — four tie down points  on the wheelchair base (two at the front and two at the rear).

2. Secure the mobility device by tensioning the belts in accordance with the tie-down system manufacturer's user manual.

7.5.2 How The User is Secured Within the Mobility Device



CAUTION!

Risk of injury if the user is not properly secured within the mobility device

- Even if the mobility device is equipped with a posture belt, this is no substitute for a proper safety belt which complies with ISO 10542 in the transport vehicle. Always use the safety belt installed in the transport vehicle.
- Safety belts must be in contact with the user's body. They must not be held at a distance from the user's body using parts of the mobility device such as armrests or wheels.
- Safety belts must be pulled as tightly as possible without causing the user discomfort.
- Safety belts must not be positioned while twisted.
- Ensure that the third seat belt anchorage point is not fixed directly to the vehicle floor, but to one of the vehicle uprights.

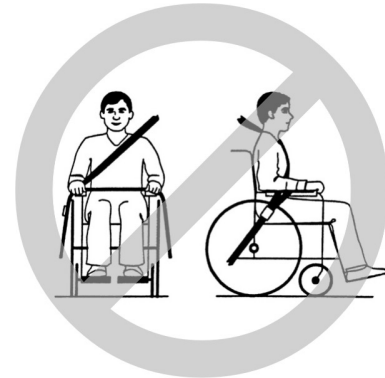


CAUTION!

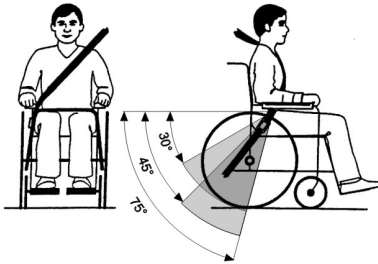
Risk of injury during use of the mobility device as a vehicle seat if a headrest is improperly adjusted or not installed

This can cause the neck to be hyperextended during collisions.

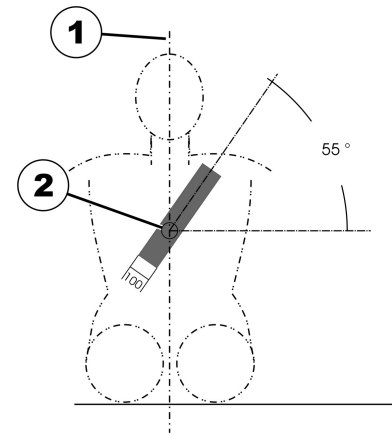
- A headrest must be installed. The headrest optionally supplied for this mobility device by Invacare is perfectly suitable for use during transport.
- The headrest must be adjusted to the user's ear height.



Seat belts may not be held at a distance from the user's body using parts of the mobility device such as armrests or wheels.



The pelvic belt should be positioned in the area between the user's pelvis and thighs so that it is unobstructed and not too loose. The ideal angle of the pelvic belt to the horizontal is between 45° and 75°. The maximum permissible angle is between 30° and 75°. The angle should never be less than 30°!



The safety belt installed in the transporting vehicle should be applied as shown in the illustration above.

- 1) Center line of the body
- 2) Center of the sternum

7.6 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 disconnect or remove the batteries.

- Invacare strongly recommends securing the mobility device to the floor of the transporting vehicle.

8 Maintenance

8.1 Wear and Tear Information

General Information

Normal wear and tear items and components include but are not limited to: all upholstery items including seat and back upholstery, arm and calf pads, cushions, wheels, tires and casters, all types of batteries, joystick overlays and inductive rubberized protective boots.

Invacare reserves the right to ask for any item back that has an alleged defect in workmanship. Refer to the Warranty section in this manual for specific warranty information.

Refer to the Inspection Checklists for proper preventative maintenance schedule.

This is just a general guideline and does not include items damaged due to abuse and misuse.

Product Type	Product Wear and Tear
Wheelchairs	Wheels, Brake Assembly, Hand Grips

Mobility Hardware and Electronics	Rubber Urethane Tires and Casters, Handgrips, Joystick Inductive Tops, Joystick Overlays, Motors and Gearboxes (if exposed to prolonged moisture, urine, etc.), Stability Lock, Pneumatic Tires and Tubes
Upholstery and Seating	Arm pads, Seat Cushion Foam, Seat Cushion Covers, Back Cushion Foam, Back Cushion Covers, Headrest Foam, Headrest Covers, Footplate Covers, Calf Pad (if applicable) Foam and Cover
Batteries	Lead acid/Lithium, Coin cell (watch type), Gel (6 months)

8.2 User/Attendant Inspection Checklists



Initial adjustments should be made to suit your personal body structure needs and preferences. Thereafter, weekly, monthly and periodic inspections should be performed by user/attendant between the six month service inspections.

Every six months, and as necessary, take your wheelchair to a qualified technician for a thorough inspection and servicing.

Weekly, monthly, and periodic inspections should be performed by user/attendant between the six month service inspections.

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. Routine maintenance will extend the life and efficiency of your wheelchair.

Refer to wheelchair base user manual for additional safety inspection and troubleshooting information..

8.2.1 Inspect/Adjust Weekly

- Inspect all fasteners.
- Ensure seat is secured to wheelchair frame.

- Ensure seat and/or back upholstery have no rips and do not sag. Replace if necessary.
- Ensure arm pivot points are not worn and/or loose. Replace if necessary.

8.2.2 Inspect/Adjust Monthly

- Clean upholstery and armrests.
- Inspect seat positioning strap for any signs of wear. Ensure buckle latches. Verify hardware that attaches strap to frame is secure and undamaged. Replace if necessary.

8.2.3 Inspect/Adjust Periodically

- Inspect all fasteners.
- Ensure arms are secure but easy to release and adjustment levers engage properly.
- Ensure adjustable height arms operate and lock securely.
- Ensure upholstery does not have any rips or tears.
- Ensure armrest pad sits flush against arm tube.
- Check center mount front riggings for loose fasteners. Replace/tighten if necessary.
- Make sure drive lock-out operates properly.
- Inspect foam handgrips for damage. If damaged, have

them replaced by a qualified technician.

- Check center mount front riggings for loose fasteners. Replace /tighten if necessary.
- Check that all labels are present and legible. Replace if necessary.

8.3 Service Inspection Information



Every six months take your wheelchair to a qualified technician for a thorough inspection and servicing. Service inspections **MUST** be performed by a qualified technician.

Refer to wheelchair base user manual for additional safety inspection and troubleshooting information.

TECHNICIANS — Refer to *9.2 Service Inspection, page 61* for service inspection checklists and more information.

8.4 Cleaning



WARNING!

Risk of Injury, Damage or Death

- Electrical shock may cause injury, damage or death.
- Always unplug the product from the electrical outlet before cleaning.
 - Always unplug accessories from the electrical outlet before cleaning.



CAUTION!

Risk of Damage

- Cleaning or maintenance may cause damage to carpeting or flooring.
- Place the wheelchair in a well ventilated area where cleaning or maintenance can be performed without risk of damage to carpeting or flooring.



CAUTION!

Risk of Damage

- Exposure to liquids may damage components or accessories of wheelchair and electronics.
- DO NOT spray with any type of water or liquid.
 - Electrical components damaged by corrosion **MUST** be replaced immediately.



WARNING!

Risk of Injury, Damage or Death

- Excessive moisture or cleaning may reduce the flame retardancy of the upholstery and may result in injury, damage or death.
- Follow all cleaning instructions.
 - Avoid excessive moisture or cleaning.



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 Invacare for further information.

1. Use the following instructions to clean this product unless otherwise specified.
 - Upholstery — Warm water and mild non-abrasive soap.
 - Metal — Hot water and mild non-abrasive soap. Car polish and soft wax may be used to remove abrasions and restore gloss.
 - Plastic — Hot water and mild non-abrasive soap.
2. Dry the surface with dry cloth.
3. DO NOT use solvents or kitchen cleaners.

9 Service

9.1 Setup/Delivery Inspection



Setup/delivery inspection should be performed by provider at time of delivery/set up. Initial adjustments should be made to suit your personal body structure needs and preference. Thereafter weekly, monthly and periodic inspections should be performed by user/attendant between the six month service inspections. Refer to *Chapter 8 Maintenance, page 57*.

- Check all parts for shipping damage. In case of damage, DO NOT use.
- Ensure wheelchair rolls straight (no excessive drag or pull to one side).
- Ensure arms are secure but easy to release and adjustment levers engage properly.
- Ensure adjustable height arms operate and lock securely.
- Ensure axle nut or bolt and wheel mounting nuts are secure on drive wheels.
- Ensure caster/anti-tipper wheels are free of debris, and all mounting hardware is secure and not damaged/missing.

- Check that cables are routed and secured properly to ensure that cables do NOT become entangled and damaged during normal operation of seating system.
- Ensure proper operation of powered functions (Example: drive, seating and legrests).

9.2 Service Inspection



Every six months the wheelchair should be thoroughly inspected and serviced by a qualified technician. Service inspections MUST be performed by a qualified technician. Refer to wheelchair base user manual for additional safety inspection and troubleshooting information.



DANGER!

Risk of Injury, Damage or Death

Overinflation of tires may cause tires to explode.
 -Inflate tire to the proper tire pressure (P.S.I. / kilopascals) listed on the side wall of the tire.
 -Only use wheelchair with tires at proper pressure.
 -The wheels and tires should be checked periodically for cracks and wear and should be replaced if necessary.

**WARNING!****Risk of Serious Injury or Damage**

Hardware that is loosely secured could cause loss of stability resulting in serious injury or damage.

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


The following are recommended items to inspect during regular service inspections performed by a qualified technician. Actual items to be inspected during the service inspection may vary according to the specific wheelchair.

9.2.1 Six Month Inspection

- Ensure arm pivot points are not worn and/or loose. Replace if necessary.
- Ensure seat and/or back upholstery have no rips and do not sag. Replace if necessary.
- Ensure seat release latch is functional.
- Ensure seat is secured to wheelchair frame.
- Ensure adjustable height arms operate and lock securely.
- Ensure arms are secure but easy to release and adjustment levers engage properly.
- Inspect seat positioning strap for any signs of wear. Ensure buckle latches. Verify hardware that attaches strap to frame is secure and undamaged. Replace if necessary.
- Check center mount front riggings for loose fasteners. Replace /tighten if necessary. Torque to 166 in-lbs (14 ft-lbs, 18 Nm).
- Cables shall be inspected periodically to ensure that they are routed and secured properly. Periodic inspection is recommended as it may reveal loose and/or damaged cables. Re-secure all loose cables and replace by following the recommendations outlined in the LiNX Controls System Service Manual.
- Ensure proper operation of powered functions (drive, seating, legrests, etc.).
- Inspect electrical components for signs of corrosion. Replace if corroded or damaged.
- Clean upholstery and armrests.
- Check that all labels are present and legible. Replace if necessary.
- Ensure clothing guards are secure.
- Ensure upholstery does not have any rips or tears.
- Ensure armrest pad sits flush against arm tube.

- Inspect all fasteners including the back pan, back cane and angle adjustment fasteners, and the arm support, flip back and height adjustment fasteners. Ensure fasteners are securely tightened. Refer to the seating system service manual for torque specifications and tightening instructions.
- Make sure drive lock-out operates properly.
- Check limit switch position.

9.3 Troubleshooting

 For troubleshooting information and explanation of error codes, refer to the wheelchair base user manual and the individual electronics manual supplied with each wheelchair.

9.4 Installing/Removing 70NHD Footrest

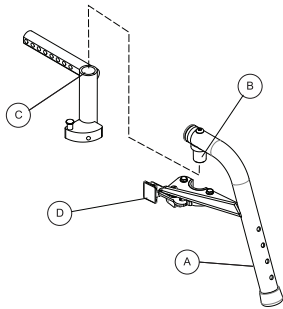
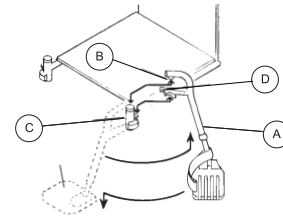




 Illustration reflects right side footrest.



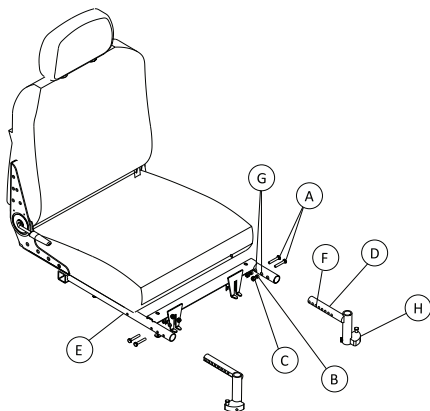
 This illustration is for reference only. It accurately shows how the footrest installs and rotates in place, however, it does not reflect a captain's style seat. Illustration reflects left side footrest.

1. Turn the footrest **A** to the side (open footplate is perpendicular to the wheelchair).
2. Insert footrest mounting pin **B** into mounting tube **C**.
3. Push the footrest towards the inside of the wheelchair until it locks in place.

 The footplate will be on the inside of the wheelchair when locked in place.

4. Repeat steps 1 – 3 for other footrest assembly.
5. To remove the footrest, push the footrest release lever **D** inward, rotate footrest outward.

9.5 Adjusting/Replacing Telescoping Front Rigging Supports



When adjusting the telescoping front rigging support depth, ensure the footplate does not interfere with the caster wheel rotation.

Telescoping front rigging supports may be extended up to 2-inches from the wheelchair frame in 1-inch increments. This adjustment does not affect seat depth.

1. Remove the two socket bolts (A), spacers (B), and locknuts (C) that secure telescoping front rigging support (D) to the seat frame (E).

2. Perform one of the following:

- Adjusting - Align the appropriate mounting hole (F) of the telescoping front rigging support with the front mounting hole (G) in the seat frame tubes to achieve the desired depth as shown in the illustration.

- Replacing - Perform the following steps:

- A. Remove the existing telescoping front rigging support from the wheelchair frame.



When installing the front riggings support tubes, ensure that the sector blocks (H) are on the outside of the wheelchair facing away from the seat frame.

- B. Insert the new telescoping front rigging support into the seat frame.
- C. Align the appropriate mounting hole of the telescoping front rigging support with the front mounting hole in the seat frame tubes to achieve the desired depth as shown in the illustration.



The footplate will be on the inside of the wheelchair when locked in place.

3. Using the two socket bolts and locknuts, secure the

telescoping front rigging support to the seat frame as shown in the figure.

- If necessary, repeat steps 1-3 on remaining telescoping front rigging support.

	18 inches wide	20 inches wide	22 inches wide
Standard Position	Holes 2 and 3	Holes 2 and 3	Holes 3 and 4
1 Inch Out	Holes 3 and 4	Holes 3 and 4	Holes 5 and 6
2 Inches Out	Holes 4 and 5	Holes 4 and 5	Holes 6 and 7

9.6 Footrest Height Adjustment



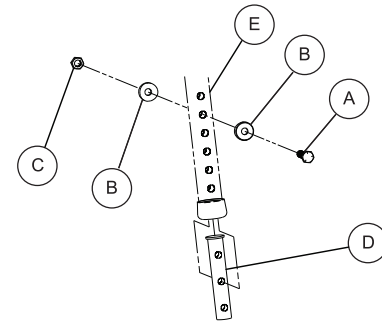
WARNING!


Operating the wheelchair with a clearance of less than 75 mm (3 inches) between the footplates and the ground/floor may cause serious injury or property damage.
 -ALWAYS maintain a minimum of 75 mm (3 inches) between the bottom of the footplates and ground/floor to ensure proper clearance while the wheelchair is in motion. If necessary, adjust the



footplate height to achieve proper clearance. After footplate height adjustment, if the wheelchair dips forward and the footplates touch the ground while in motion, please contact your provider for an inspection and avoid use of the wheelchair if possible.

9.6.1 Model 70NHD




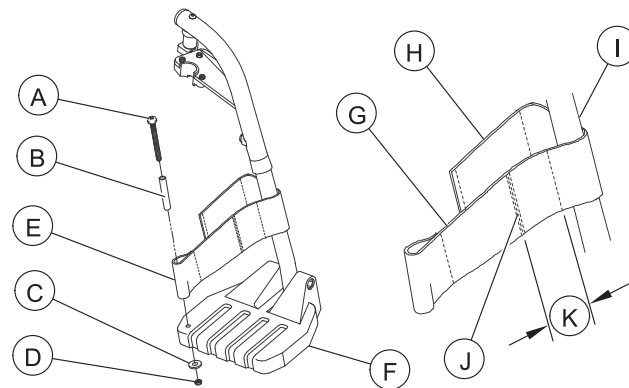
- Remove any accessory from the footrest(s).
 Lay the footrest on a flat surface to simplify this procedure.
- Remove the front rigging from the wheelchair.
- Remove the hex bolt (A), washers (B), and locknut (C) that

secure the footrest assembly ④ to the footrest support ⑤.

4. Reposition the lower footrest to the desired height.
5. Reinstall the hex bolt, washers and locknut that secure the lower footrest to the footrest support and tighten securely.
6. Repeat STEPS 1-5 for the opposite wheelchair footrest, if necessary.
7. Reinstall the front riggings onto the wheelchair.
8. Reinstall any accessory onto the footrest(s).

9.7 Removing/Installing/Adjusting the Adjustable Heel Loop


 If the user's physical or medical condition and health care provider allows, shoes should be worn when occupying the wheelchair.



9.7.1 Removing the Adjustable Heel Loop

1. Remove the mounting screw ①, spacer ②, washer ③ (not used on deluxe flip up footplate) and cap nut ④ securing the adjustable heel loop ⑤ to the footplate ⑥.
2. Pull to release the hook (G) and loop (H) strips securing the adjustable heel loop to the lower footrest tube (I).
3. Remove the adjustable heel loop from the front rigging.


9.7.2 Installing the Adjustable Heel Loop

 When installing the adjustable heel loop, wrap the hook and loop strips wrap around the front rigging tube as shown. This will ensure the hook strip is facing towards the rear of the wheelchair.

- Using the mounting screw (A), spacer (B), washer (not used on deluxe flip up footplate) (C) and cap nut (D) secure the adjustable heel loop (E) to the footplate (F).
- Secure the hook (G) and loop (H) strips around the lower footrest tube (I). Refer to Adjusting the Adjustable Heel Loop.

9.7.3 Adjusting the Adjustable Heel Loop

- If necessary, pull to release the hook (G) and loop (H) strips securing the adjustable heel loop (E) to the lower footrest tube (I).
- Determine the heel loop length and depth appropriate for the wheelchair user.

 A red line (J) is included on the hook strip to help indicate when the hook and loop strips overlap by 1-1/2 inches (38 mm) (K).

- Ensuring at least 1-1/2 (38 mm) (K) inches of the loop strip connects to the hook strip, firmly press the hook and loop strips together to secure the adjustable heel loop around the lower footrest tube.
- If necessary, repeat STEPS 1-3 to adjust the remaining adjustable heel loop.

9.8 Adjusting Armrests

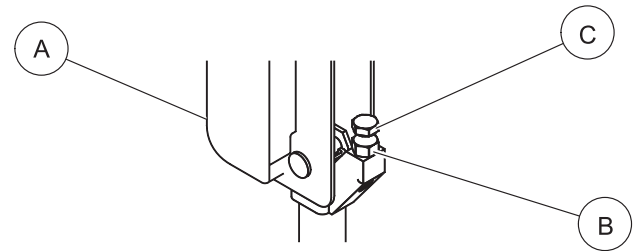


WARNING!

Risk of Minor to Serious Injury

Pinch points can cause minor to serious injury.
-Be mindful of potential pinch points and use caution when using this product.

9.8.1 Adjusting the Armrest Angle

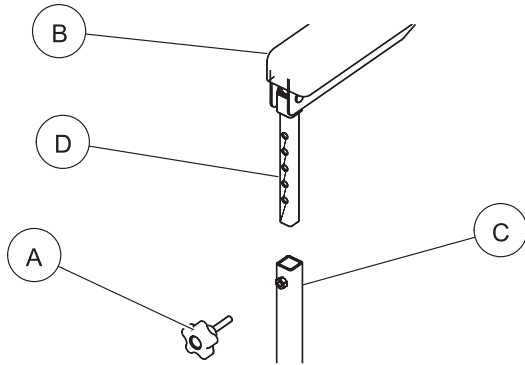


- Lift up the armrest (A).
- Loosen the jam nut (B).
- Adjust the socket screw (C) up or down to the desired arm angle position.
- Tighten the jam nut.
- To determine the same angle for the opposite armrest, count the exposed threads after the jam nut has been

tightened.

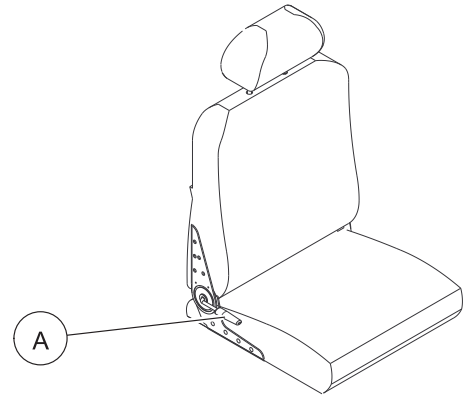
6. Repeat STEPS 1-4 for opposite armrest, if necessary.

9.8.2 Adjusting the Height



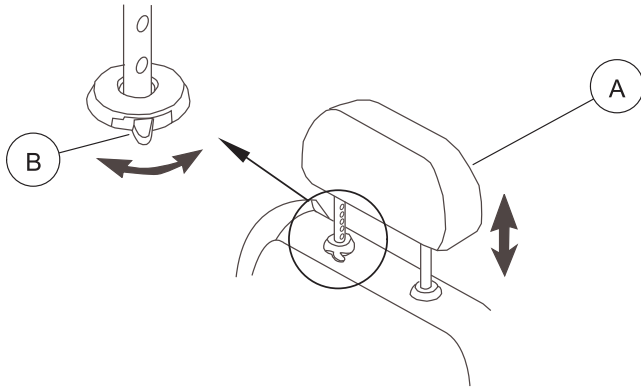
1. Remove the lock knob (A) that secures the armrest (B) to the seat frame assembly (C).
2. Adjust the armrest to one of four positions (D).
3. Reinstall the socket screw that secures the armrest to the seat frame assembly and tighten securely.

9.9 Adjusting the Back Angle




1. Lift up on the release handle (A) and adjust seat to desired angle.
2. Let go of the release handle to lock the back in position.

9.10 Adjusting the Headrest



1. To raise headrest **A**, lift headrest Up to desired position.

 Headrest is locked in position when an audible “click” is heard.

2. To lower headrest, push release tab **B** towards the inside of the wheelchair. Lower headrest to desired position.

10 Technical Data

10.1 Specifications

		Seat Width/Depth Compatibility						
		Seat Depth						
		16 in	17 in	18 in	19 in	20 in	21 in**	22 in**
Seat Width	16 in*	X	X	X				
	18 in	X	X	X				
	20 in			X	X	X		
	22 in			X	X	X		
	24 in**					X	X	X
* Not available with HD base models.		** Only available with HD base models.						

Back Height without Headrest:	18 inches
Back Angle Range - Semi-Recline:	35° to 115°
Armrests:	Adjustable Angle Depth and Width
Upholstery Options:	Grey Vinyl
Footrests/Legrests:	Flip Up or fixed, Depth and Height Adjustable, Footboard, Swingaway Front Rigging

11 Warranty

11.1 Limited Warranty—US

Except as otherwise set forth below, Invacare warrants that the following components of the mobility device (“product”) will be free from defects in materials and workmanship for a period of one (1) year from the date Invacare ships the product to the original purchaser or provider: base frame, electronics and electrical components (excluding batteries), motors, powered seating actuators, gearboxes, bearings and bushings, seat frame, fixed seat post, upholstered materials, padded materials, casters, tires, and tubes (excluding normal wear and tear).

Invacare warrants all product batteries will be free from defects in materials and workmanship for a period of six (6) months from the date Invacare ships the product to the original purchaser or provider. The warranties described above are referred to as the “Warranty”. A copy of the original product invoice is required for coverage under the Warranty.

11.2 Limited Warranty—Canada

Except as otherwise set forth below, Invacare warrants the base frame of the mobility device (“product”) will be free from defects in materials and workmanship for a period of five (5) years from the date Invacare ships the product to the original purchaser or provider. Invacare warrants that the seat frame and fixed seat post will be free from defects in materials and

workmanship for a period of three (3) years from the date Invacare ships the product to the original purchaser or provider. Invacare warrants that the following components of the product will be free from defects in materials and workmanship for a period of two (2) years from the date Invacare ships the product to the original purchaser or provider: electronics and electrical components (excluding batteries), motors, powered seating actuators, gearboxes. Invacare warrants that the following components of the product will be free from defects in materials and workmanship for a period of one (1) year from the date Invacare ships the product to the original purchaser or provider: bearings and bushings, upholstered materials (excluding normal wear and tear), padded materials (excluding normal wear and tear), brake pads (excluding normal wear and tear), casters (excluding normal wear and tear), tires and tubes (excluding normal wear and tear). Invacare warrants all product batteries will be free from defects in materials and workmanship for a period of six (6) months from the date Invacare ships the product to the original purchaser or provider. The warranties described above are referred to as the “Warranty”. A copy of the original product invoice is required for coverage under the Warranty.

11.3 Repair or Replacement

Invacare's sole obligation and the original purchaser's exclusive remedy under the Warranty is limited to Invacare's repair and/or replacement, at Invacare's option, of defective

components and batteries covered by the Warranty. Such repair or replacement does not include any labor or shipping charges incurred by Invacare in the replacement and/or repair of any such component or battery. For Warranty service, please contact the provider from whom you purchased your product. In the event you do not receive satisfactory Warranty service, please write directly to Invacare at the address on the bottom of the back cover. Provide provider's name address, date of purchase, indicate nature of the defect and, if the product is serialized, indicate the serial number. Do not return products to Invacare without Invacare's prior written authorization.

11.4 Limitations and Exclusions

The Warranty is extended only to the original purchaser who purchases the product new and unused from Invacare or a provider. The Warranty is not extended to any other person or entity and is not transferable or assignable to any subsequent purchaser or owner. Coverage under the Warranty will end upon any such subsequent sale or other transfer of title to any other person.

The Warranty does not apply to serial numbered products if the serial number has been removed or defaced, products subject to neglect, abuse, accident, improper operation, maintenance or storage, commercial or fleet use, products modified without Invacare's express written authorization (including, but not limited to, modification through the use of unauthorized parts or attachments), products damaged by reason of repairs made to any component without Invacare's express written authorization, or to a product damaged by circumstances beyond Invacare's control, and such evaluation will be solely determined by Invacare.

The Warranty does not apply to problems arising from normal wear and tear or failure to adhere to the product instructions. A change in operating noise, particularly relative to motors and gearboxes does not constitute a failure or defect and will not be repaired or replaced as all products are expected to exhibit changes in operating noise due to aging.

11.5 Disclaimers

The Warranty may not be modified or waived in any manner whatsoever without Invacare's express written authorization. THE WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE, INCLUDING WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

EXCEPT AND TO THE EXTENT AS MAY BE PROHIBITED BY STATE OR PROVINCIAL LAW, IN NO EVENT SHALL INVACARE BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM OR ARISING OUT OF OR RELATED TO A DEFECT IN ANY PRODUCT, OR INVACARE'S PERFORMANCE OR FAILURE TO PERFORM ANY OF ITS OBLIGATIONS UNDER THIS WARRANTY, WHETHER OR NOT INVACARE HAS BEEN ADVISED, KNEW OR SHOULD HAVE KNOWN OF THE POSSIBILITY OF SUCH DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOST PROFITS.

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