

Invacare® Modulite

Supplement to power wheelchair user manual

en Seating System 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 About This Manual

This document is a supplement to the power wheelchair's documentation.

The product itself does not bear a CE mark but is part of a product that complies with the Medical Device Regulation 2017/745, Class I concerning medical devices. It is therefore covered by the power wheelchair's CE marking. See the power wheelchair's documentation for more information.

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

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

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

1.2 Symbols in This Manual

Symbols and signal 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.



WARNING

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



CAUTION

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



IMPORTANT

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



Tips

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



Tools

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

1.3 Warranty Information

We provide a manufacturer's warranty for the product in accordance with our General Terms and Conditions of Business in the respective countries.

Warranty claims can only be made through the provider from whom the product was obtained.

2 Safety

2.1 Safety Information on Using the Seating System

Your seating system has been specially configured and assembled to the wheelchair base prior to delivery. Note that the final configuration and purchasing decision regarding the complete wheelchair system is the responsibility of the power wheelchair user, who is capable of making such a decision, and his/her healthcare professional. The contents of this manual are based on the expectation that a mobility device expert has fitted the power wheelchair to the user and has assisted the prescribing healthcare professional in the instruction and use of this device.

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!

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)**

- Consider the backrest being used. For example, a recessed back can shift your center of gravity backward and significantly reduce the rearward stability of the wheelchair. Conversely, a thick back cushion will shift you forward and reduce the wheelchairs forward stability.
- 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.
- Consider the seat cushion being used. A thick seat cushion will raise your center of gravity and reduce the wheelchairs stability in all directions.
- All seating systems are equipped with drive lockouts. Make certain this is set so as not to compromise your stability while driving (refer to *Safety Lockout and Limit Switches (DX System)*).
- 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.

**WARNING!****Risk of Tipping (Continued)**

- When operating in reduced speed drive or anti-tipper lockout, 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, especially when the seating system is in a tilted or reclined position.
- When a system is fully tilted or reclined, the front wheels of the wheelchair should never come off the ground. If this occurs, please contact your authorized Invacare dealer immediately to resolve the issue.

3 Components

3.1 Power Positioning Functions

The seating system offers the following functions:

FIXED PIVOT TILT

The tilt function slides the pivot axis and entire seat assembly forward as the seat tilts back. Typical tilt range is 0°-20°.

CoG-TILT

The CoG (center of gravity) tilt function compensates for weight shift by sliding the pivot axis and entire seat assembly forward as the seat tilts back. Typical tilt range is 0°-30°.

RECLINE

The recline function enables users to infinitely change the seat to back angle of their system within a set range. Typical recline angle range is 90°-120°.

LIFTER MODULE

The lifter module allows users to raise their power positioning system up to 300 mm above the lowest seat-to-floor height of their system. The lifter is combined with a tilt function.

LEGRESTS

Our wide range of power and manual legrests are available in an array of sizes and styles including individual legrests and center-mounted foot platforms to help secure and position clients' legs. In addition, we offer a multitude of

legrest hangers to accommodate your legrest choice. Power legrests may be programmed to operate in one of the two following configurations:

- Individual (legrests operate independently),
- Combined (legrests operate in unison)

3.2 Drive and Seating Limitations



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 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 lockouts and limits should only be performed by a qualified technician.
- Never exceed the maximum recommended limits. 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. tilt, recline, lifter) to verify the revised set-up is functioning properly and ensure that there are no resulting stability or interference issues.

i Additional limits and lockout switches may be required for more complicated/specialised seating systems. For information on limits/lockouts that are not identified in this manual, contact your provider.

For AVIVA RX, drive and seating restrictions are updated both while driving and while stationary.

Lifter Lockout

Lifter systems are equipped with a lifter lockout to prevent the lifter actuator from raising above a pre-determined height when the system is tilted or reclined above a pre-determined backrest angle.

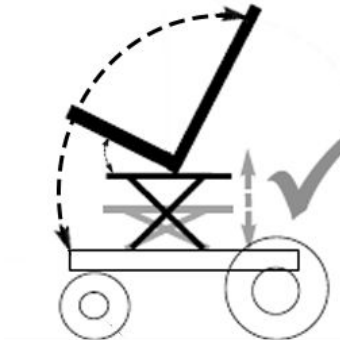


Fig. 3-1 <x°

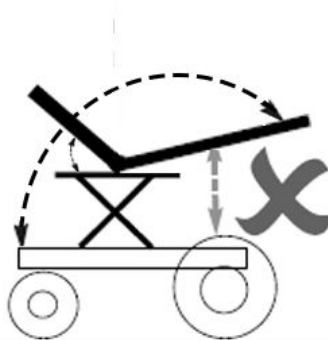


Fig. 3-2 >x°

| Wheelchair Model | Tilt Angle (x°) | Lifter Lockout |
|------------------|---|---|
| AVIVA RX | <ul style="list-style-type: none"> >20° | <ul style="list-style-type: none"> >50 mm |

Max. Back Angle Limit

The maximum back angle limits how far the backrest can be reclined using either the tilt or recline actuators. The seating systems are typically preset at the factory to the maximum allowable angle and do not require any further adjustment unless the maximum angle needs to be decreased (see hazard statement below).

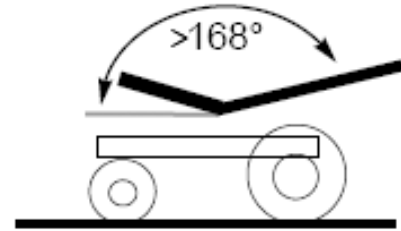


Fig. 3-3

Max. Back Angle Limit =

170° (AVIVA RX)



Risk of Damage to Wheelchair

- When establishing the maximum back limit, always consider the size and location of any personal gear that may be carried on the wheelchair, as it could cause interference between the backrest and the wheelchair base when fully tilted/reclined, and damage the actuator and/or wheelchair.

Drive Slowdown

Seating systems are configured/programmed with a drive slowdown. The drive slowdown utilises microswitches to trigger the system into reduced drive speed.

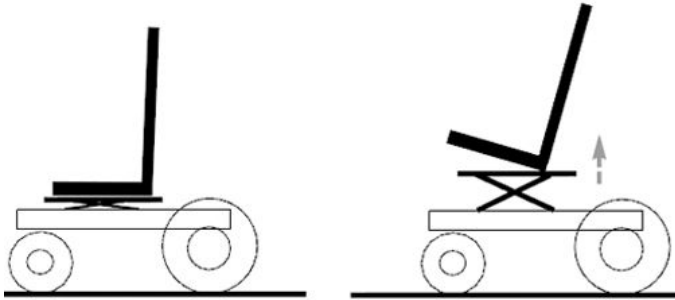


Fig. 3-4 Home position (left), drive slowdown due to height (right)

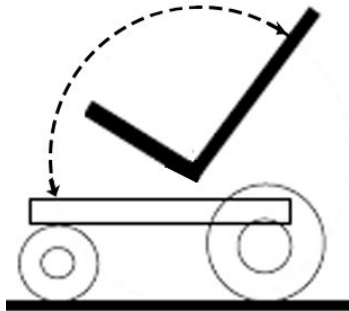


Fig. 3-5 Drive slowdown due to backrest angle

| Wheelchair Model | Height | Backrest Angle |
|------------------|----------|----------------|
| AVIVA RX | • >50 mm | • <130° |

Drive Lockout (DLO) Limit

All tilt and recline seating systems are equipped with a drive lockout (DLO) limit to prevent the wheelchair from being driven when the seating system is tilted or reclined beyond a pre-determined safe total angle and/or a pre-determined height. The total angle can be any combination of seat angle, backrest angle and/or surface angle.

| Wheelchair Model | Height | Backrest Angle |
|------------------|----------|----------------|
| AVIVA RX | • >50 mm | • >130° |

4 Setup

4.1 General Setup Information



WARNING!

Risk of Death, Serious Injury or Damage

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

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



WARNING!

Risk of Death, Serious Injury or Damage

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

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



WARNING!

Risk of Injury or Damage

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

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



CAUTION!

Damage to Mobility Device and Accident Hazard

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

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

! **IMPORTANT!**

The mobility device is manufactured and configured individually to the specifications of the order. The assessment must be performed by a healthcare professional according to the user's requirements and health conditions.

- Consult a healthcare professional if you intend to adapt the mobility device configuration.
- Any adaption should be performed by a qualified technician.

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

Electrical Adjustment Options

i Refer to the user manual for your remote for more information on operating electrical adjustment options.

4.2 Adjustment Possibility for Remote

The following information is valid for all seating systems.



CAUTION!

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 if the position of the remote is adjusted and all screws are not completely tightened

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

- When adjusting the position of the 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, for example, transfer.

4.2.1 Adjusting Remote for Length of User's Arm

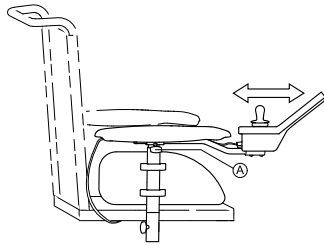


Fig. 4-1

1. Loosen wing screw (A).
2. Adjust component to desired position.
3. Tighten wing screw.

4.2.2 Adjusting Remote Height



- 3 mm Allen key

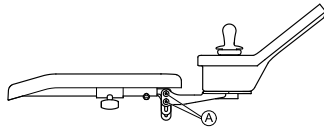


Fig. 4-2

1. Loosen screws (A).
2. Adjust component to desired position.
3. Tighten screws.

4.2.3 Adjusting Remote Height (only for Swing-Away Remote Supports)



- 6 mm Allen key

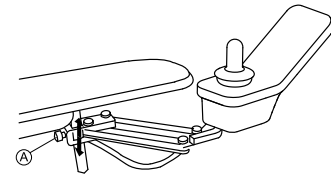


Fig. 4-3

1. Loosen screw (A).
2. Adjust component to desired position.
3. Tighten screw.

4.2.4 Adjusting Remote Offset

The remote can be adjusted by 20 mm sidewise.



- 3 mm Allen key

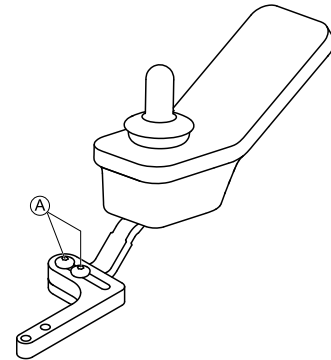


Fig. 4-4

1. Loosen screws (A).
2. Adjust component to desired position.
3. Tighten screws.

4.2.5 Adjusting Remote Position



- 3 mm Allen key
-

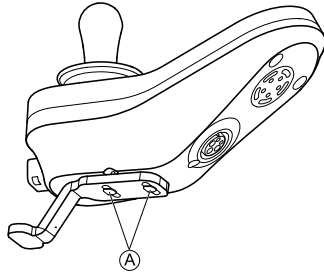


Fig. 4-5

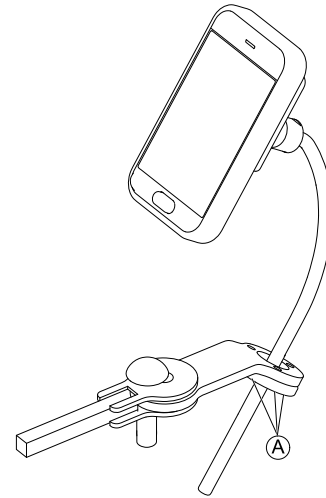
1. Loosen screws (A).
2. Adjust component to desired position.
3. Tighten screws.

4.3 Adjusting Swing-Away Display Holder

Adjusting Holder Height



- 3 mm Allen key
-



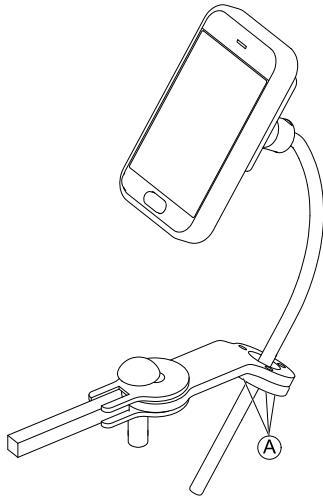
1. Loosen screws (A).
2. Position holder to desired height.
3. Tighten screws.

Adjusting Holder Orientation

The holder can be turned through 360 degrees.



- 3 mm Allen key
-



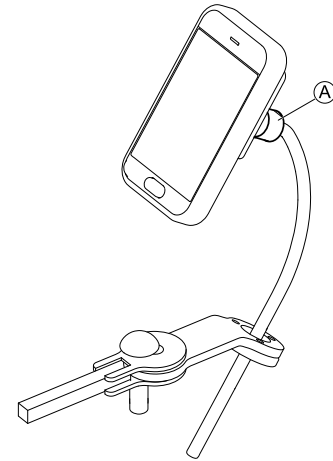
1. Loosen screws Ⓐ.
2. Adjust holder orientation.
3. Tighten screws.

Adjusting Display Orientation

The display can be turned through 360 degrees.



- 18 mm wrench



1. Loosen clamping bush Ⓐ.
2. Adjust display orientation.
3. Tighten clamping bush.

4.4 Adjustment Possibilities for Nucleus Midline Holder



WARNING!

Risk of Injury or Death

Loose small parts can lead to choking hazard that may result in injury or death.

- Do not remove any small parts except to replace the joystick knob.
- Do not leave removed joystick knob unattended.
- Closely supervise children, pets or people with physical/mental disabilities.



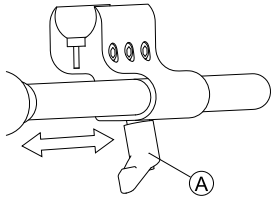
CAUTION!

Risk of Injury and Damage

Remaining burrs and missing end caps after modifications on rods, such as shortened rod, can lead to injury or damage.

- Deburr cut after cutting excessive length.
- Re-install end cap after deburring.
- Check end cap for tight fitting.

4.4.1 Adjusting Depth of Midline Holder



1. Loosen lever (A).
2. Shift midline holder to desired position.
3. Tighten lever.

4.4.2 Adjusting Height of Nucleus Midline Holder

You can adjust the height of the nucleus midline holder in two ways:

- Adjust it together with the armrest height. Refer to corresponding armrest chapters.
- Adjust the height of the nucleus midline holder only. Refer to section below.



- 3/16 inch Allen key

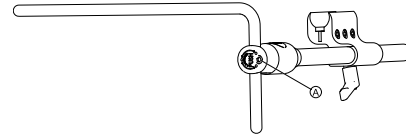


Fig. 4-6

1. Loosen screw (A).
2. Adjust nucleus to desired height.
3. Tighten screw.

4.4.3 Adjusting Joystick/Display Position on Nucleus Midline Holder

DLX-REM110, DLX-REM2XX, DLX-REM400



- 4 mm Allen key
- 8 mm wrench

Tilting Remote

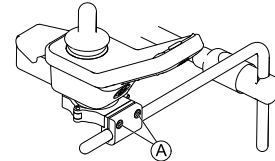


Fig. 4-7 Example of DLX-REM400 adjustment. DLX-REM110, DLX-REM211 and DLX-REM216 are adjusted the same way.

1. Loosen screws (A).
2. Position remote on nucleus.
3. Tighten screws.

Rotating Remote

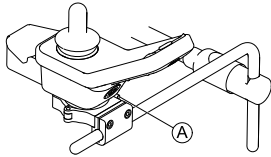



Fig. 4-8 Example of DLX-REM400 adjustment. DLX-REM110, DLX-REM211 and DLX-REM216 are adjusted the same way.

1. Loosen screw Ⓐ.
2. Rotate remote in clamp to desired position.
3. Tighten screw.

DLX-REM500

-  • 3/16 inch Allen key

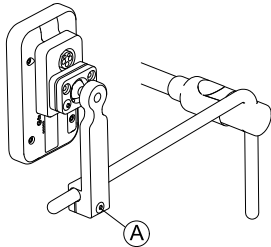



Fig. 4-9

1. Loosen screw Ⓐ.
2. Position display on nucleus.
3. Tighten screw.

DLX-CR400 and DLX-CR400LF

Tilting Remote

-  • 4 mm Allen key

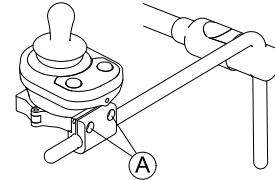




Fig. 4-10

1. Loosen screws Ⓐ.
2. Position remote on nucleus.
3. Tighten screws.

Rotating Remote

-  • 4 mm Allen key
 • 8 mm wrench

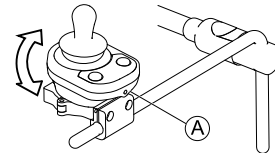



Fig. 4-11

1. Loosen screw Ⓐ (not shown in picture).
2. Rotate remote in clamp to desired position.
3. Tighten screw.

ASL Components on Nucleus Tray

-  • 3/16 inch Allen key

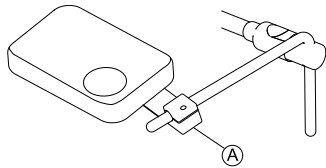


Fig. 4-12 Graphic serves as an example.

1. Loosen screw (A).
2. Position joystick on nucleus.
3. Tighten screw.

ASL Components on Nucleus Only



- 5/32 inch Allen key

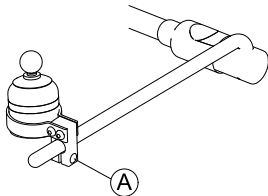


Fig. 4-13 Graphic serves as an example.

1. Loosen screw (A).
2. Position joystick on nucleus.
3. Tighten screw.

4.5 Adjusting Armrest Height

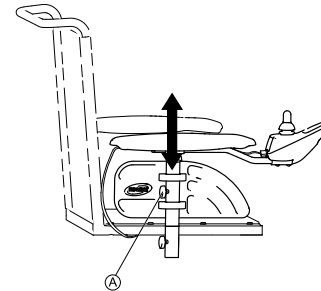


Fig. 4-14

1. Loosen wing screw (A).
2. Adjust component to desired position.
3. Tighten wing screw.

4.6 Adjusting Armrest Width



WARNING!

Serious injury hazard if one of the armrests falls out of its bracket because they have been adjusted to a width which exceeds the permissible value

- The width adjustment is fitted with red markings (A) and the word "STOP". The armrests must never be pulled out further than the point at which the word "STOP" is completely legible.
- Always tighten the fixing screws properly once adjustments have been completed.

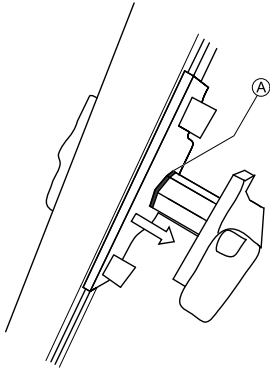


Fig. 4-15



Depending on the side, the screw is accessible from the front or the rear.



- 8 mm Allen key

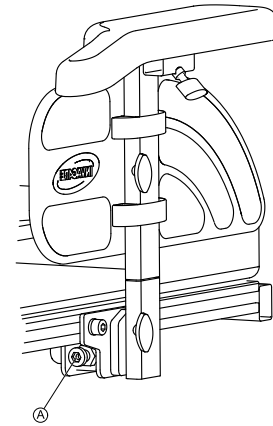


Fig. 4-16

1. Loosen screw Ⓐ.
2. Adjust component to desired position.
3. Tighten screw.

4.7 Adjusting Armrest Depth



- 6 mm Allen key

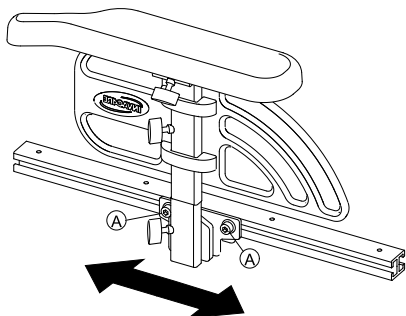


Fig. 4-17

1. Loosen screws (A) .
2. Adjust component to desired position.
3. Tighten screws.

4.8 Adjusting Manual Chin Control



WARNING!

Risk of Injury or Death

Small parts can lead to choking hazard that may result in injury or death.

- Do not remove any small parts.
- Closely supervise children, pets or people with physical/mental disabilities.



CAUTION!

Risk of Injury and Damage

Remaining burrs and missing end caps after modifications on rods, such as shortened rod, can lead to injury or damage.

- Deburr cut after cutting excessive length.
- Re-install end cap after deburring.
- Check end cap for tight fitting.

4.8.1 Adjusting Extremity Control Joystick

Adjusting Joystick Orientation

The joystick can be turned through 360 degrees. A slot on the side allows you to angle the joystick at 90 degrees.

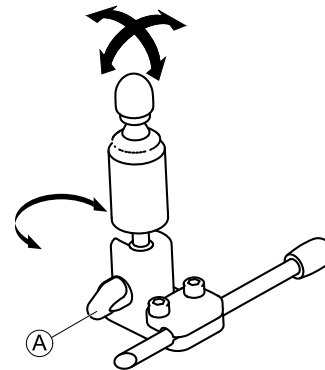



Fig. 4-18

1. Loosen hand screw (A) .
2. Turn underpart of joystick to position slot.

- Adjust joystick orientation. If desired, lock joystick in 90 degree angle in slot.
- Tighten hand screw.

Adjusting Position on Holder

-  • 5/32 inch Allen key

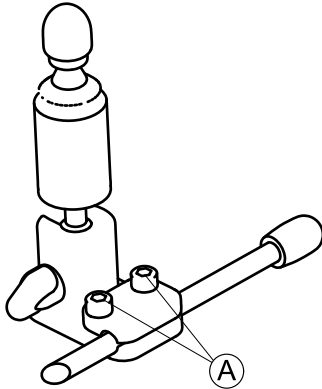


Fig. 4-19

- Loosen screws **A**.
- Position joystick on holder.
- Tighten screws.

Adjusting Depth and Height


Refer to *Adjusting Swing-Away Mechanism*.

4.8.2 Adjusting Egg Switch

Adjusting Switch Orientation

The egg switch can be turned through 360 degrees.

1656515-B

-  • 7/16 inch wrench

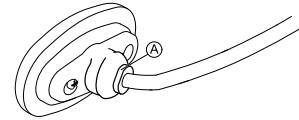


Fig. 4-20


- Loosen nut **A**.
- Adjust egg switch orientation.
- Tighten nut.

Adjusting Depth and Height

Refer to *Adjusting Swing-Away Mechanism*.

4.9 Adjusting Head Array

Adjusting Pad Position

-  • 5/32 inch Allen key

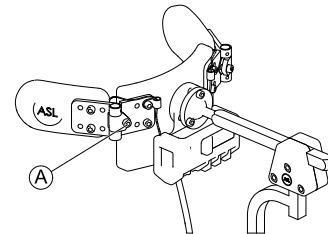


Fig. 4-21

- Loosen screw **A**.
- Adjust pad position.
- Tighten screw.

Adjusting PROTON Wings

Refer to *Adjusting Swing-Away Mechanism*.

Adjusting Headrest Position

Refer to *Adjusting multi-axis headrest hardware*.

4.10 Adjusting Armrest Height (Flip-Up Armrest)

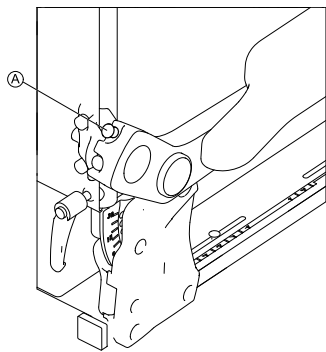


Fig. 4-22

1. Loosen thumb screw (A).
2. Adjust component to desired position.
3. Tighten thumb screw.

4.11 Adjusting Armrest Height (Following Armrest)



Tools:

- 5 mm Allen key
- 13 mm wrench

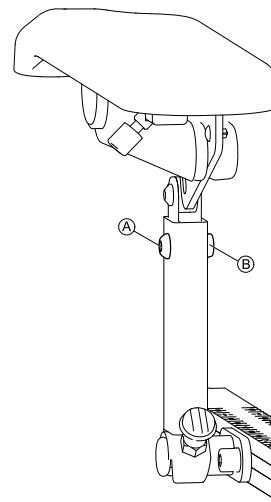


Fig. 4-23

1. Loosen and remove screw (A) and nut (B) .
2. Adjust component to desired position.
3. Insert and tighten screw and nut.

4.12 Changing Resistance (Flip-Up/Following Armrest)

The movement of the flip-up and following armrests can be set to have greater or less resistance.



Tools:

- 5 mm Allen key

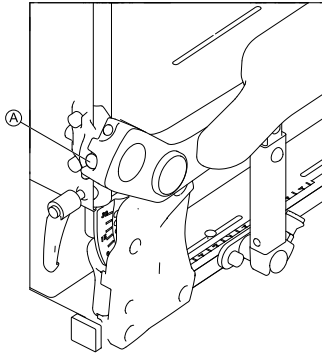


Fig. 4-24

1. To make armrest easier to move, loosen screw (A).
2. To make armrest more difficult to move, tighten screw (A).

4.13 Adjusting Arm Pad Angle (Flip-Up/Following Armrest)



Tools:

- 5 mm Allen key

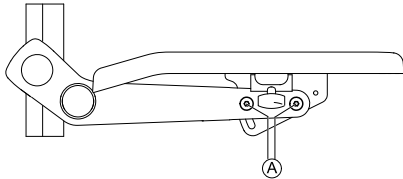


Fig. 4-25

1. Loosen screws (A).



Do not remove screws (A).

2. Adjust component to desired position.
3. Tighten screws.

4.14 Adjusting Arm Pad Position (Flip-Up Armrest)



- 5 mm Allen key

- 1.

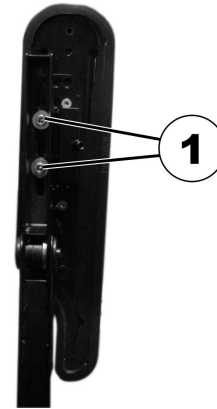


Fig. 4-26

- Put component in vertical position.
2. Loosen interior screws (1).

3.

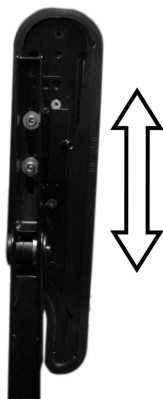


Fig. 4-27

Adjust component to desired position.

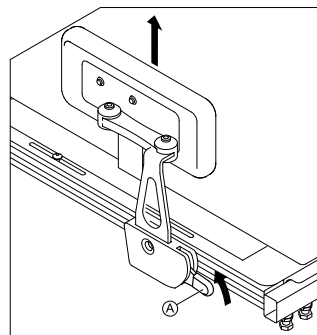
4. Tighten screws.

Make sure Nordlock washers used are re-inserted.

4.15 The hip support

The hip support can be combined with the flip-up armrest only.

Removing hip support



1. Pull lever Ⓐ upwards.
2. Remove hip support from holder.

Inserting hip support

1. Insert hip support in holder.
2. Push lever Ⓐ downwards.
Ensure that hip support locks with an audible click.

Adjusting position of hip support



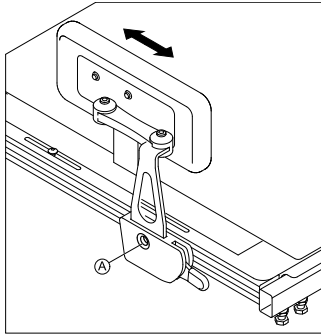
Risk of damage

If the hip support is adjusted too far to the back, there is a risk of collision between hip support and walking beam.

- Adjust hip support as far as possible to the front.
- Check for collisions between hip support and walking beam, especially when stepping down obstacles.



- 5 mm Allen key

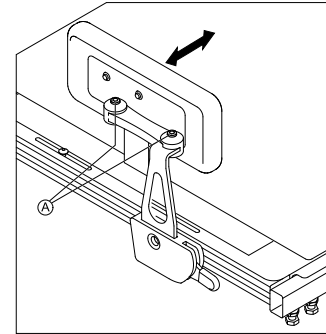



1. Loosen screw (A).
Do not remove it.
2. Adjust hip support to desired position.
3. Tighten screw.

Adjusting width of hip support



- 2 x 5 mm Allen key

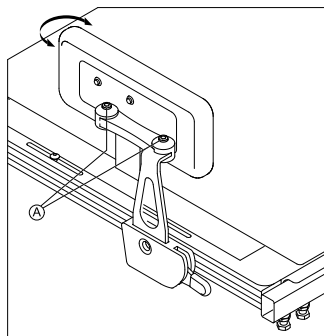


1. Loosen screws (A).
2. Adjust hip support to desired width.
 -  You can adjust the width only smaller than the seat width but not wider.
3. Tighten screws.

Adjusting angle of hip support




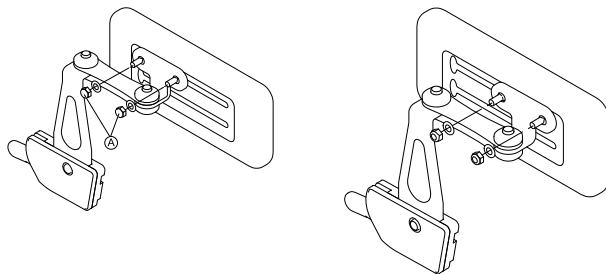
- 5 mm Allen key



1. Loosen screws (A).
2. Adjust hip support to desired angle.
3. Tighten screws.

Adjusting hip pad depth

-  • 10 mm wrench
-




1. Loosen the two screws (A).
2. Adjust hip pad to desired depth.
3. Tighten screws.

Adjusting hip pad height

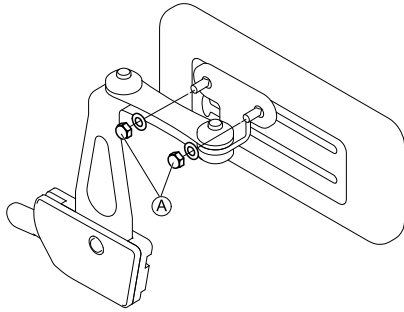
You can adjust the hip pad height in two ways:

- Via its mounting slots.
- Via its bracket.

Via mounting slots

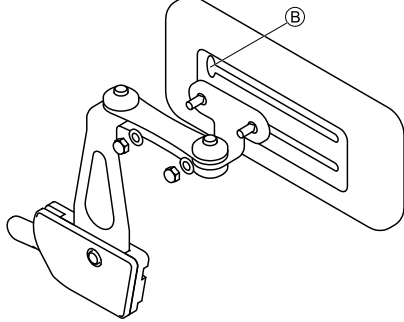
-  • 10 mm wrench
-

1.



Loosen the two screws (A).

2.



Remove hip pad bracket from mounting slot via cut-out (B).

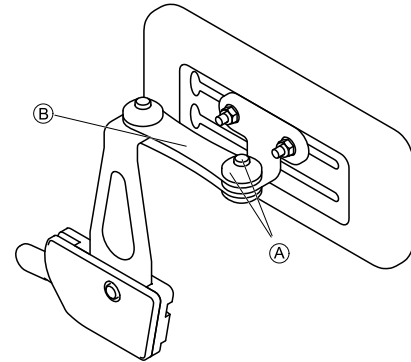
3. Insert hip pad bracket in other mounting slot.
4. Tighten screws.

Via bracket



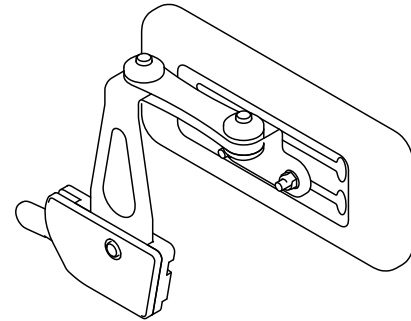
- 5 mm Allen key

1.



Remove upper screw and friction cap (A).

2. Remove small friction link (B).
- 3.



Remove hip pad with bracket, turn upside down and reinstall.

4. Insert friction link, friction cap, screw and tighten.

4.16 Adjusting Seat Width

The telescopic seat support can be adjusted in four stages. The seat width can thus be adjusted together with the adjustable seat plate or the adjustable sling seat.

The description of how the width is adjusted is contained in the service manual for this mobility device. The service manual can be ordered from Invacare. However, they contain instructions for specially trained service technicians and describe operations that are not intended for the end user.

4.17 Adjusting Seat Depth



The seat depth has a major influence on the selection of the centre of gravity of the seat. This impacts its dynamic stability. If you make a major change to the seat depth the centre of gravity of the seat must also be adjusted. See "Adjusting the centre of gravity of the seat" in the service manual for this mobility device. The service manual can be ordered from Invacare. However, they contain instructions for specially trained technicians and describe operations that are not intended for the end user.



The numbers on the scale on the seat serve as a guide. They do not stipulate any dimensions such as seat depth in centimeters.



- 6 mm Allen key

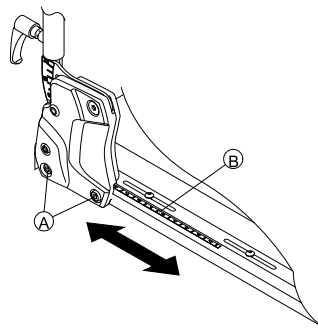


Fig. 4-28

1. Loosen bottom backrest screws (A) on both sides.
 - Do not remove screws (A).
2. Adjust component to desired position. You can adjust seat depth steplessly. Use scale (B) on seat as a guide. Ensure that same seat depth is set on both sides.
3. Tighten screws.

4.18 Adjusting Backrest



CAUTION!

Adjusting the seat tilt or the backrest angle changes the geometry of the mobility device and directly influences its dynamic stability!

– For details regarding dynamic stability, negotiating gradients and obstacles and the correct adjustment of seat tilt or backrest angle, refer to *Taking Obstacles* and *Driving up and down Gradients*.

4.18.1 Adjusting Backrest Height

The following section describes the procedures for adjusting the height of the backrest plate.



The sling back is only available in fixed heights of 48 and 54 cm.



- 5 mm Allen key

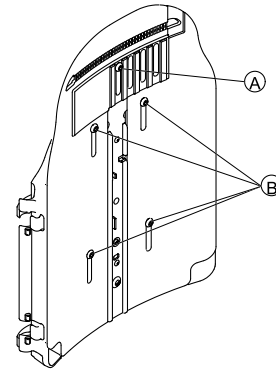


Fig. 4-29

1. Loosen screws Ⓐ and Ⓑ.



Do not remove screws Ⓐ and Ⓑ.

2. Adjust component to desired position.
3. Tighten screws.

4.18.2 Adjusting Backrest Width

You can adjust the backrest plate width to a certain degree by adjusting the front plate, e.g. in order to adjust the backrest plate in line with the seat cushion. Fairly large adjustments must be made by a service technician to the rear plate and are outlined in the service manual for this mobility device.



The sling back is only available in two widths of 38-43 cm and 48-53 cm and, under certain circumstances, must be replaced for a width adjustment. For a replacement description, see the service manual for this mobility device. The service manual can be ordered from Invacare. However, they contain instructions for specially trained service technicians and describe operations that are not intended for the end user.

Note that if the sling back width is adjusted the backrest cushion must also be replaced.



- 5 mm Allen key

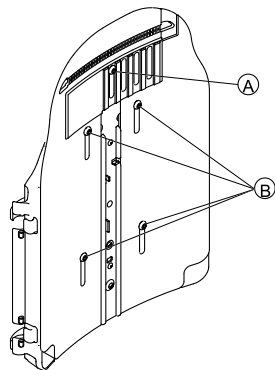


Fig. 4-30

1. Loosen and remove screw **A**.
2. Loosen screws **B**.



Do not remove screws **B**.

3. Adjust component to desired position.
4. Insert screw **A**.
5. Tighten screws.

4.18.3 Adjusting Backrest Angle



CAUTION!

Every change to the seat angle and the backrest angle alters the geometry of the power wheelchair and affects its dynamic stability

- For more information on stability, overcoming obstacles correctly, driving along inclines and slopes and the correct position of the backrest and seat angles, see the section *Taking Obstacles and Driving up and down Gradients*.



CAUTION!

Risk of falling out of the wheelchair

- When adjusting the backrest, it might move backward unexpectedly and you might fall out of the wheelchair.
- Do not rest against the backrest while adjusting it.



If the backrest is fitted with knobs instead of Allen screws, you do not need tools.

Width-Adjustable Backrest



- 6 mm Allen key

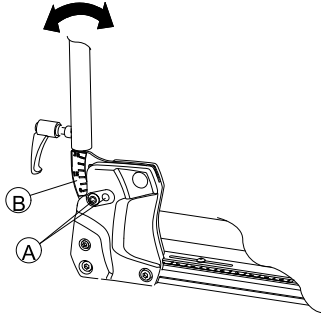


Fig. 4-31

1. Loosen and remove upper backrest screw **A** on both sides.
2. Adjust desired backrest angle in 3.8° steps. Use scale **B** on backrest for this purpose. Ensure that you set same angle on both sides.
3. Insert and tighten screw. Ensure you insert screw through one of holes of backrest bracket. Screw must be visible on inside of bracket and screw head must be flush with bracket.

Simple Backrest



- 6 mm Allen key

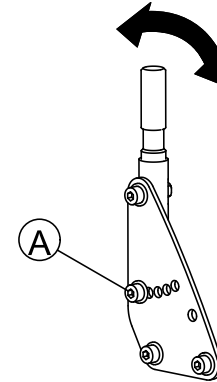


Fig. 4-32

1. Loosen and remove middle backrest screw **A** on both sides.
2. Adjust desired backrest angle in 7.5° steps. Ensure that you set same angle on both sides.
3. Insert and tighten screw.

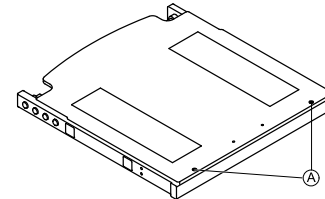
4.18.4 Adjusting the backrest angle (Max seat)



Tools:

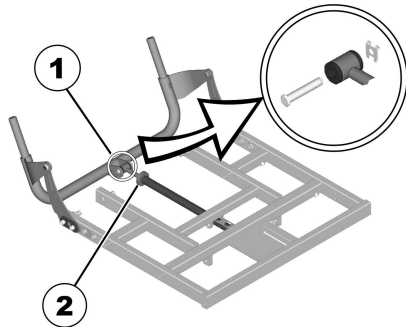
- Crosstip screwdriver

1. Remove the backrest cushion and the seat cushion.
- 2.



Loosen the screws (1) and remove the seat plate.

3.



Remove the spindle and the bolt (1).

4. Flip the backrest forward.

5. Loosen the knurled nut (2).

6. With the spindle, adjust the desired angle of the backrest.

Turning the spindle clockwise and inwards inclines the backrest backwards. Turning the spindle anti-clockwise and outwards inclines the backrest forwards.

7. With the bolt, reattach the spindle to the backrest tube and secure the bolt.

8. Mount the seat plate and replace the seat cushion.

4.18.5 Adjusting Tension Adjustable Backrest Upholstery

1.



Fig. 4-33

Remove backrest cushion (attached with hook-and-loop straps) by pulling it up and off to access adjustment straps.

2.



Fig. 4-34

Adjust tension of individual straps as desired.

3. Replace backrest cushion.

4.18.6 Adjusting the backrest bend

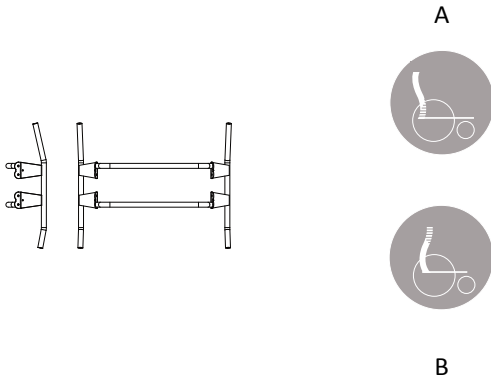
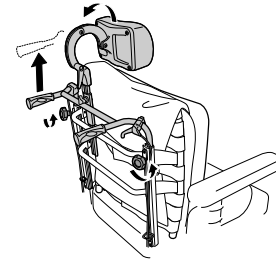


Figure 1

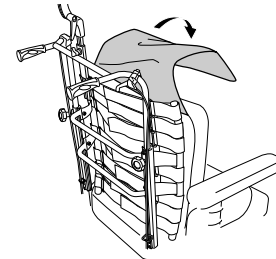
The backrest is designed with different angles as shown in figure 1. This allows for different adjustments according to how the backrest is mounted. Position A (the part of the backrest with the longer angle turned upwards) gives the user more room for the shoulder area while position B gives more room for the bottom.

1.



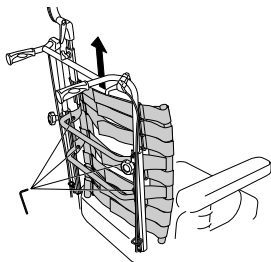
Loosen the handwheels (A) and raise the push handles as far as possible.

2.



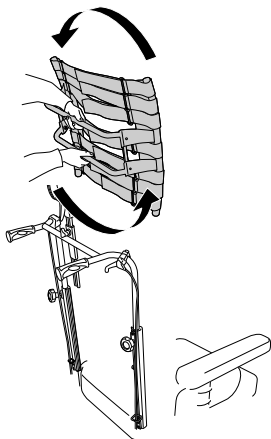
Remove the cushion.

3.



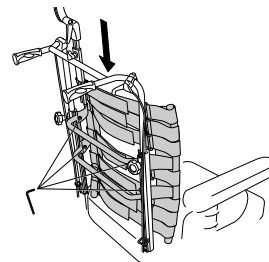
Loosen the screws **Ⓑ** and remove the backrest by lifting upwards.

4.



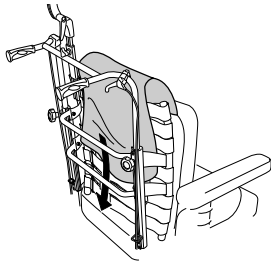
Turn the backrest 180°.

5.



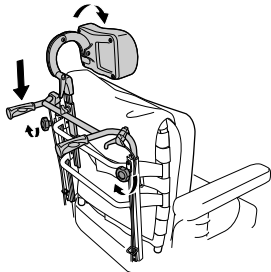
Put the backrest back by fitting it to the receivers on the tubes. Tighten the screws.

6.



Put the cushion and cover back.

7.



Lower the push handles and tighten the hand wheels.

4.19 Adjusting Rea Headrest

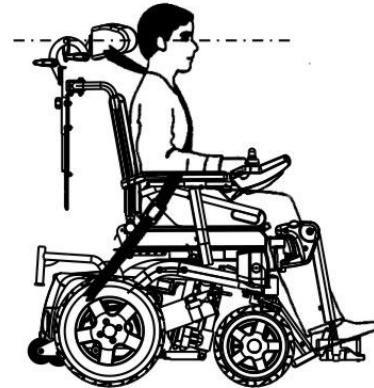


CAUTION!

Risk of injury during use of the mobility device as a vehicle seat if a headrest is wrongly 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.

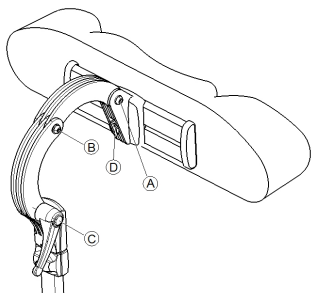


4.19.1 Adjusting Position of Rea Headrest or Neckrest

The adjustment of the position is the same for all Rea headrests and neckrests.



- 5 mm Allen key



1. Loosen the screws **A** , **B** or the clamping lever **C**.
2. Adjust the headrest or neckrest to the required position.
3. Retighten screws and clamping lever.
4. Loosen the Allen screw **D**.
5. Slide the headrest left or right to the required position.
6. Retighten the Allen screw.

4.19.2 Adjusting Height of Rea Headrest or Neckrest

The adjustment of the height is the same for all Rea headrests and neckrests.

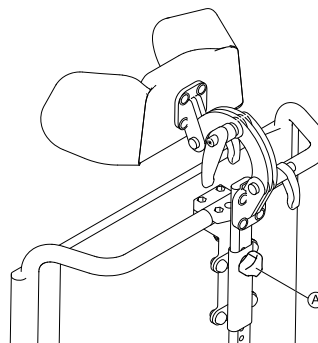


Fig. 4-35

1. Loosen hand screw **A**.
2. Adjust component to desired position.
3. Tighten hand screw.

4.19.3 Adjusting Cheek Supports



Fig. 4-36

1. Push components inwards or pull components out to desired position.

4.20 Adjusting Elan Headrest

The headrest clamp hardware is designed to install into existing mounting holes in the backrest pan.



CAUTION!

Risk of injury during use of the mobility device as a vehicle seat if a headrest is wrongly 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.

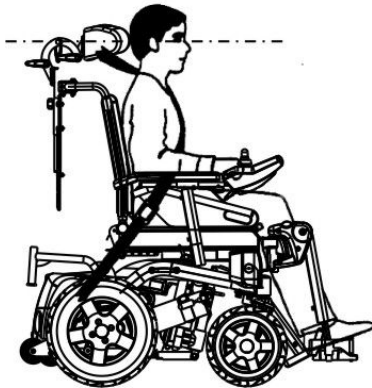


Fig. 4-37



- It may be necessary to remove and modify the back cushion cover in order to access the headrest mounting holes on the back pan.
- An optional shim plate is available. It may be installed between the clamp assembly and the back pan to provide additional spacing/clearance on Posture Back and Deep Back.

4.20.1 Adjusting Elan Headrest Hardware

Elan headrest hardware is highly adjustable. The illustration below shows the possible adjustment ranges of the joints.

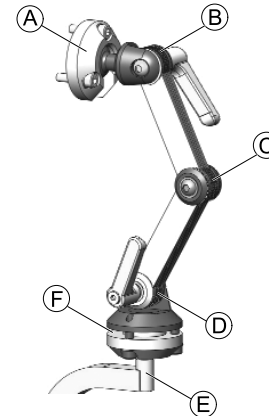



Fig. 4-38

| | | |
|-----|------------------------------------|---|
| (A) | Upper multi-angle rotational pivot | <ul style="list-style-type: none"> • 360° rotation • 80° tilt |
| (B) | Upper linkage | <ul style="list-style-type: none"> • 180° rotation |

| | | |
|---|------------------------------------|---|
| Ⓒ | Middle linkage | <ul style="list-style-type: none"> • 100° rotation |
| Ⓓ | Lower linkage | <ul style="list-style-type: none"> • 180° rotation |
| Ⓔ | Mounting post | <ul style="list-style-type: none"> • 360° rotation in 90° increments |
| Ⓕ | Lower multi-angle rotational pivot | <ul style="list-style-type: none"> • 360° rotation • 50° tilt |

Installing

- 
 - 2.5 mm Allen key
 - 4 mm Allen key
 - 5 mm Allen key

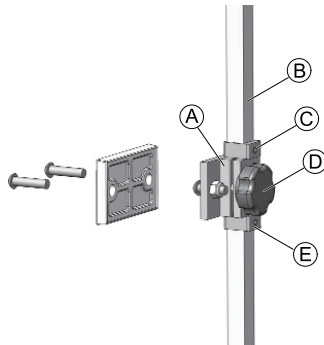



Fig. 4-39

- Using hardware provided, align and install headrest clamp assembly into existing mounting holes in backrest pan Ⓐ.
- Install headrest pad (not shown) to headrest rod using mounting hardware provided.

 The headrest pad can be adjusted to any desired angle via the pivot ball at the end of the headrest rod by loosening and tightening the mounting hardware.


- Loosen and remove lower D-Ring Ⓔ from hardware.
- Slide vertical mounting post Ⓑ into clamp assembly and adjust overall height of headrest pad to desired position. Tighten knob Ⓓ.

For proper set-up headrest should be adjusted to user's ear height.

- Adjust upper D-Ring Ⓒ as required.
- Once final height position is set, adjust lower D-Ring Ⓔ so that it rests flush with bottom of clamp assembly (to prevent slipping).

Adjusting Depth and Angle

The headrest can be further adjusted for depth and angle via the articulating hardware.

- 
 - 4 mm Allen key
 - 5 mm Allen key

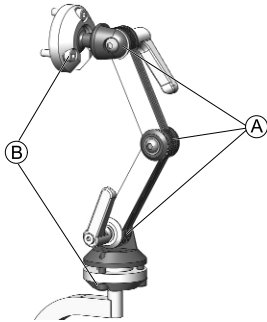


Fig. 4-40

1. Loosen screws and clamping levers of dual link adjustment assembly **A** and screws of upper and lower rotational pivots **B**.
2. Adjust component to desired position.
3. Tighten screws and clamping levers.

4.21 Adjusting Trunk Supports

4.21.1 Adjusting Width

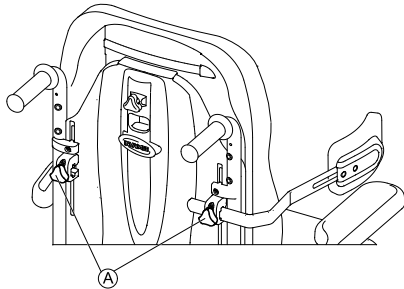


Fig. 4-41

1. Loosen knobs **A** that hold lateral supports.
2. Adjust component to desired position.
3. Tighten knobs.

4.21.2 Adjusting Height



- 5 mm Allen key

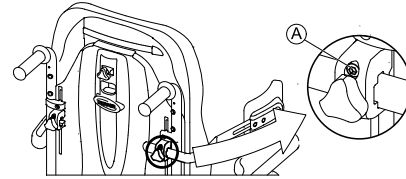


Fig. 4-42

1. Loosen screws **A**.
2. Adjust component to desired position.
3. Tighten screws.

4.21.3 Adjusting Depth



- 5 mm Allen key

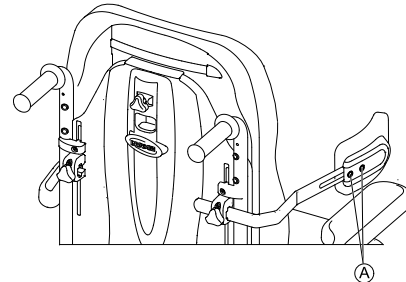


Fig. 4-43

1. Loosen screws (A).
2. Adjust component to desired position.
3. Tighten screws.

4.22 Adjusting/Removing Tray



CAUTION!

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

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



Fig. 4-44

4.22.1 Adjusting Tray Laterally

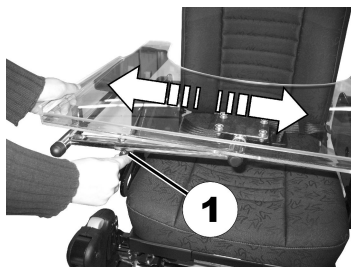


Fig. 4-45

1. Loosen wing screw (1).
2. Adjust component to desired position.
3. Tighten wing screw.

4.22.2 Adjusting Depth of Tray/Removing Tray

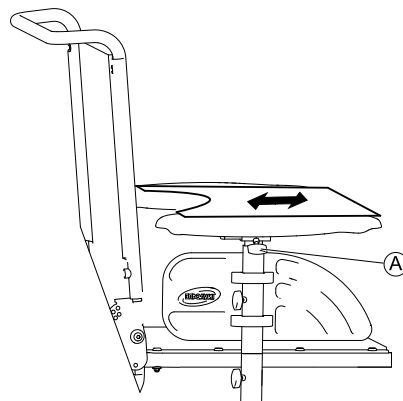


Fig. 4-46

1. Loosen wing screw (A).
2. Adjust component to desired position (or remove it entirely).
3. Tighten wing screw.

4.22.3 Swinging Tray Away to Side

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



CAUTION!

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

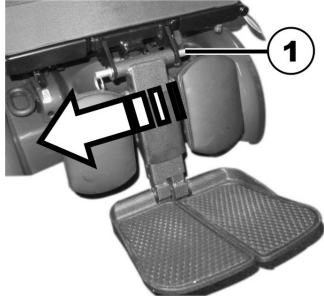
- Do not tilt the tray up and leave it leaning in this position.
- Never attempt to drive with the tray tilted up.
- Always lower the tray in a controlled manner.

4.23 Center-mounted legrests — manually adjustable

4.23.1 Removing the legrest

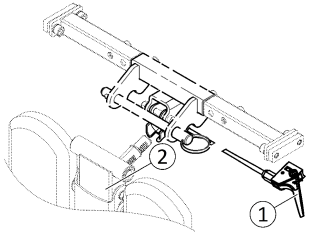
You can remove central, manually adjustable legrest completely.

1.



Remove removable axle (1).

2.



Hold legrest securely and pull lever (1).

3. Remove legrest from holder (2).

4.23.2 Setting the angle of the leg rest



CAUTION! **Risk of injury**

If the leg rest is not secured and the lever (1) is removed, the leg rest will drop suddenly, which could cause an injury.

– Secure the leg rest before you remove the lever to adjust the angle of the leg rest.



1. Hold the leg rest securely.
2. Pull the lever (1).
3. Push the leg rest into the required position.

4.23.3 Setting Length of Legrest



- 3/16 inch Allen key

You can adjust the length of the legrests independently of one another.

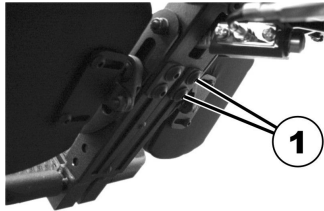


Fig. 4-47

1. Release the bolts (1) on the rear of the legrest using the Allen key.
2. Set the desired length.
3. Retighten the bolts.

4.23.4 Setting Angle of Foot Plate



- 5/32 inch Allen key



Fig. 4-48

1. Fold the foot plates up in order to access the adjusting screws (1).
2. Set the adjusting screws using the Allen key.
3. Fold the foot plate down again.

4.23.5 Setting Angle and Height of Calf Pad



- 3/16 inch Allen key

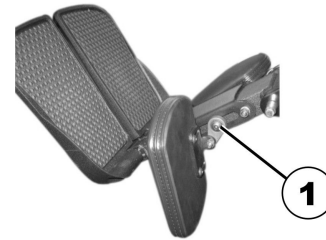


Fig. 4-49

1. Fold the calf pad forward in order to access the bolt (1).
2. Loosen the bolt using the Allen key and adjust the calf pad to the required angle and height.
3. Retighten the bolt.
4. Fold the calf pad back.

4.24 LNX legrest

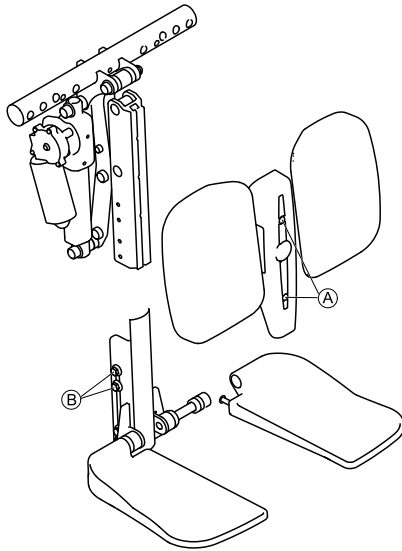
4.24.1 Setting the length of the legrest

If needed, the legrest can be pre-set to 83° or 97° instead of 90°. Contact your Invacare provider.



- 4 mm Allen key
- 10 mm open-ended wrench

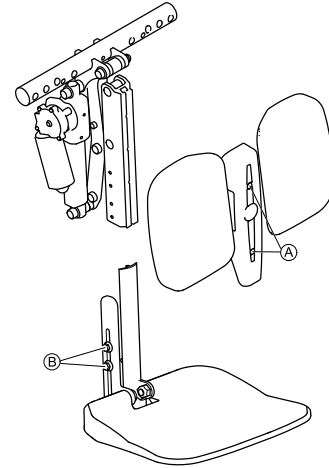
You can adjust the length of the legrests independently of one another.



1. Remove screws **A** at the front of legrest.
2. Remove cover together with calf pads.
3. Loosen nuts **B** at the side of legrest.
It may be necessary to remove the nuts and move them from one slot to the other.
4. Set desired length.
5. Retighten nuts.
6. Refit the calf pads and cover and retighten screws.



The legrest with foot platform is adjusted the same way.



4.24.2 Setting Angle of Foot Plate



- 5/32 inch Allen key



Fig. 4-50

1. Fold the foot plates up in order to access the adjusting screws (1).
2. Set the adjusting screws using the Allen key.
3. Fold the foot plate down again.

4.24.3 Setting Angle of Footboard



- 5/32 inch Allen key

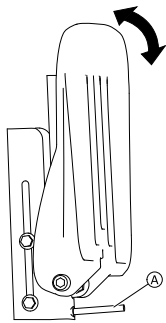


Fig. 4-51

1. Fold the foot platform up in order to access the adjusting screw (A).
2. Set the adjusting screw using the Allen key.
3. Fold the foot platform down again.

4.24.4 Setting Height and Width of Calf Pad

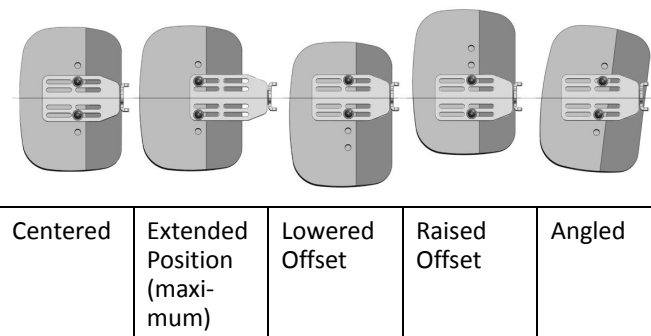


Risk of damage to the mobility device

– After changing the configuration of the calf pads make sure that the calf pads contact neither the casters nor the seat plate when adjusting the legrest angle.

Calf pads may be adjusted independently on their respective mounting bracket using the mounting screws at the rear of the calf pads. Calf pads may be adjusted (for depth, height & angle) to achieve a variety of different configurations. The independent pad adjustments provide optimal positioning and comfort for end users - sample configurations are illustrated below.

Calf Pad Adjustment — Sample Configurations



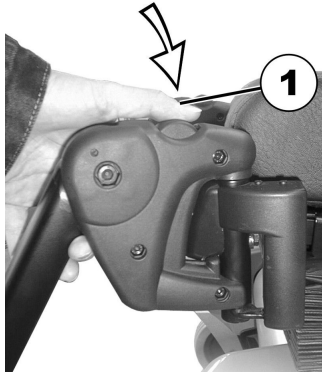
- 4 mm Allen key

1. Fold the calf pad forward in order to access the bolts.
2. Loosen the bolts and remove them if necessary.
3. Adjust the calf pad to the required height and width.
4. Retighten the bolts.
5. Fold the calf pad back.

4.25 Vari-F footrest

4.25.1 Swivelling the footrest/legrest outward and/or removing

The small unlocking button is located on the upper section of the footrest/legrest. When the footrest/legrest is unlocked, it can be swivelled inward or outward when getting into the wheelchair as well as being removed completely.



1. Press the unlocking button (1) and swivel the footrest/legrest outward.
2. Remove the footrest/legrest in an upward direction.

4.25.2 Setting the angle



CAUTION!

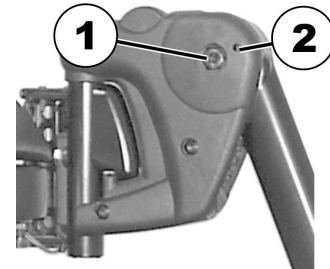
Risk of injury due to incorrect adjustment of the footrests and legrests

- Before and during every journey it is imperative to ensure that the legrests contact neither the castor wheels nor the ground.



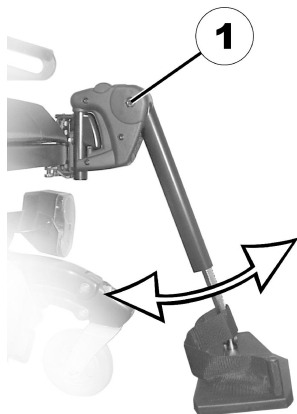
- 6 mm Allen key

1.



1. Loosen the screw (1) using the Allen key.
2. If the footrest cannot be moved after loosening the screw, position a metal pin in the designated borehole (2) and use a hammer to knock on this lightly. The clamping mechanism in the interior of the footrest will be released by this. Repeat the procedure from the other side of the footrest if necessary.

3.



Loosen the screw (1) using the Allen key.

4. Set the desired angle.

5. Re-tighten the screw.

4.25.3 Setting the end stop of the footrest



- 6 mm Allen key
- 10 mm wrench

1.

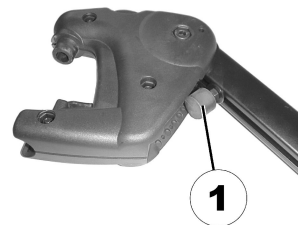


Fig. 4-52

The end position of the footrest is determined by means of a rubber stop (1).

2.

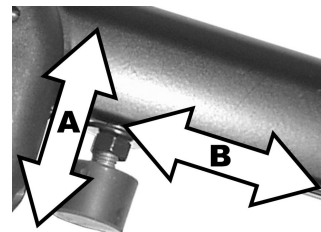


Fig. 4-53

The rubber stop can be screwed in or out (A) or pushed up or down (B).

3.

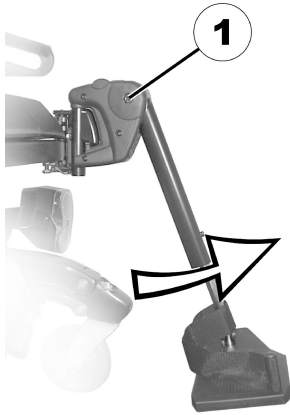


Fig. 4-54

Use the Allen key to loosen the screw (1) and swivel the footrest upward in order to access the rubber stop.

4.



Fig. 4-55

Use the open-ended spanner to loosen the counter nut (1).

5.

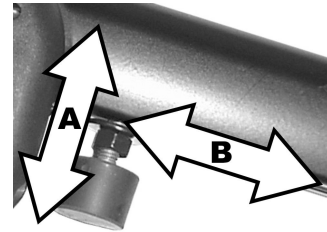


Fig. 4-56

Move the rubber stop to the desired position.
6. Re-tighten the counter nut.

7.

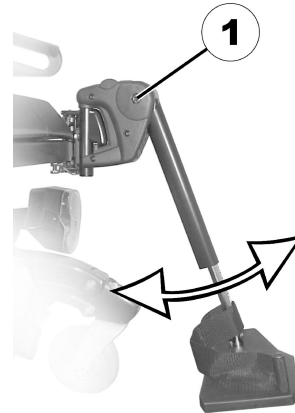


Fig. 4-57

Move the footrest to the desired position.
8. Re-tighten the screw.

4.25.4 Adjusting the length of the legrest



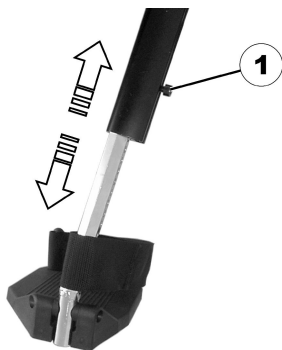
CAUTION!

Risk of injury due to incorrect adjustment of the footrests and legrests

– Before and during every journey it is imperative to ensure that the legrests contact neither the castor wheels nor the ground.



- 5 mm Allen key

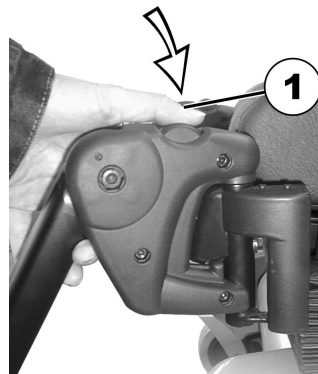


1. Use the spanner to loosen the screw (1).
2. Adjust to the desired length.
3. Re-tighten the screw.

4.26 Vari-A legrests

4.26.1 Swivelling the footrest/legrest outward and/or removing

The small unlocking button is located on the upper section of the footrest/legrest. When the footrest/legrest is unlocked, it can be swivelled inward or outward when getting into the wheelchair as well as being removed completely.



1. Press the unlocking button (1) and swivel the footrest/legrest outward.
2. Remove the footrest/legrest in an upward direction.

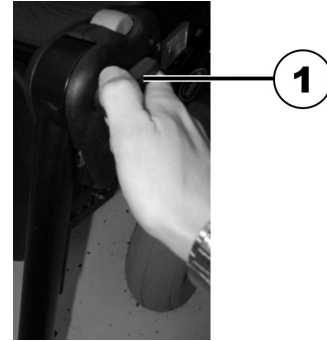
4.26.2 Setting the angle

**CAUTION!**

Risk of injury due to incorrect adjustment of the footrests and legrests

- Before and during every journey it is imperative to ensure that the legrests contact neither the castor wheels nor the ground.

1.



Loosen the locking knob (1) counter-clockwise at least one turn.

2.



Hit the knob to release the locking mechanism.

3.



Set the desired angle.

4.



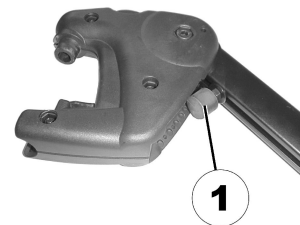
Turn the knob clockwise to tighten it.

4.26.3 Setting the end stop of the legrest



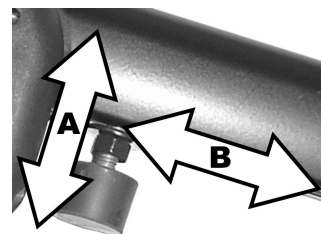
- 10 mm wrench

1.



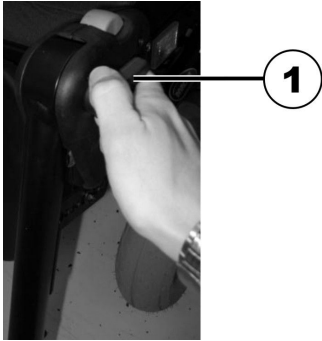
The end position of the legrest is determined by means of a rubber stop (1).

2.



The rubber stop can be screwed in or out (A) or pushed up or down (B).

3.



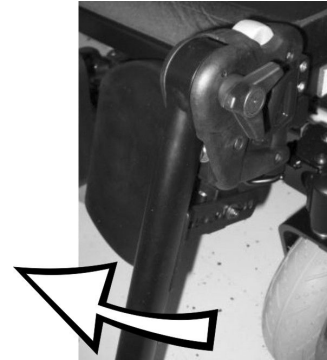
Loosen the locking knob (1) counter-clockwise at least one turn.

4.



Hit the knob to release the locking mechanism.

5.



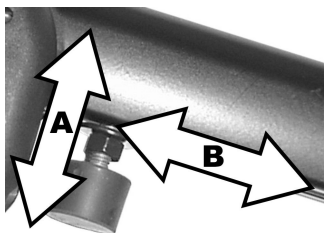
Swivel the legrest upward in order to access the rubber stop.

6.



Use the wrench to loosen the counter nut (1).

7.



Move the rubber stop to the desired position.

8. Re-tighten the counternut.

9.



Move the legrest to the desired position.

10. Re-tighten the locking knob.

4.26.4 Adjusting the length of the legrest



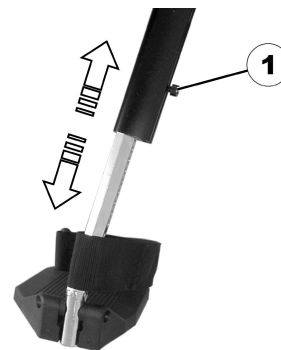
CAUTION!

Risk of injury due to incorrect adjustment of the footrests and legrests

– Before and during every journey it is imperative to ensure that the legrests contact neither the castor wheels nor the ground.



- 5 mm Allen key



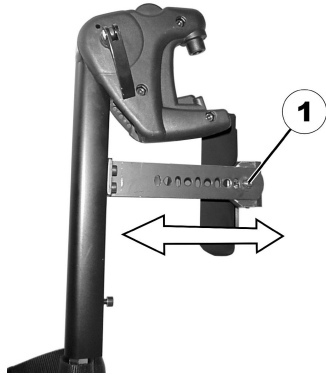
1. Use the spanner to loosen the screw (1).
2. Adjust to the desired length.
3. Re-tighten the screw.

4.26.5 Adjusting the depth of the calf pad

The depth of the calf pad can be adjusted via the holding plate. The holding plate hole combinations allow 5 different depth settings.



- 10 mm wrench



1. Use the wrench to loosen the nut (1) and remove.
2. Adjust to the desired depth. Observe that the round holes are intended for the calf pad retaining screw and the oblong holes for the aglet without thread.
3. Screw the nut back on and tighten.

4.26.6 Adjusting the height of the calf pad



- 4 mm Allen key



1. Use the Allen key to loosen the screws (1).
2. Adjust to the desired position.
3. Re-tighten the screws.

4.26.7 Unlocking and swivelling the calf pad backward when alighting

- 1.



Press the calf pad straight down.

- 2.



Unlock the legrest and swivel outward.
The calf pad swivels backward on its own.

3.

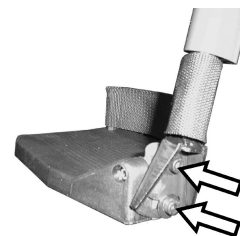


Lift leg over the heel strap and place on the ground.

4.26.8 Adjusting the angle-adjustable foot plate



- 5 mm Allen key



1. Use the Allen key to loosen both set screws on the foot plate.
2. Adjust to the desired angle.
3. Re-tighten the screws.

4.26.9 Adjusting the angle- and depth-adjustable foot plate



- 5 mm Allen key

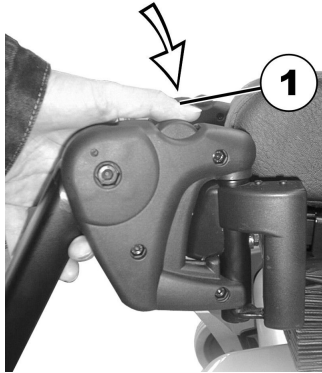


1. Use the Allen key to loosen the set screw on the foot plate (1).
2. Adjust the foot plate to the desired angle or depth.
3. Re-tighten the screw.

4.27 ADM legrests

4.27.1 Swivelling the footrest/legrest outward and/or removing

The small unlocking button is located on the upper section of the footrest/legrest. When the footrest/legrest is unlocked, it can be swivelled inward or outward when getting into the wheelchair as well as being removed completely.



1. Press the unlocking button (1) and swivel the footrest/legrest outward.
2. Remove the footrest/legrest in an upward direction.

4.27.2 Setting the angle



CAUTION!

Risk of crushing

- Do not reach inside the swivelling range of the legrest.



CAUTION!

Risk of injury due to incorrect adjustment of the footrests and legrests

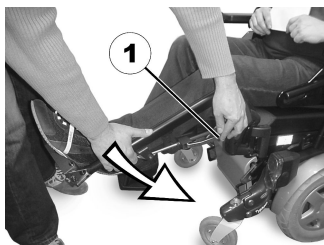
- Before and during every journey it is imperative to ensure that the legrests contact neither the castor wheels nor the ground.

Raising



1. Pull the legrest upward until the desired angle has been achieved.

Lowering



1. Keep the legrest in the foot plate area, pull the lateral adjusting lever (1) and lower the legrest slowly.

4.27.3 Adjusting the length of the legrest



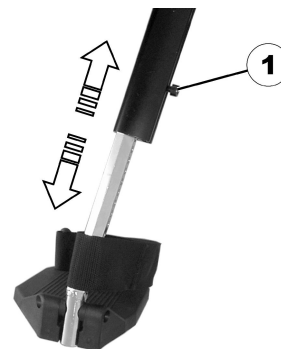
CAUTION!

Risk of injury due to incorrect adjustment of the footrests and legrests

– Before and during every journey it is imperative to ensure that the legrests contact neither the castor wheels nor the ground.



- 5 mm Allen key



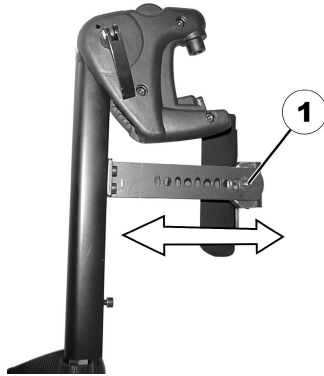
1. Use the spanner to loosen the screw (1).
2. Adjust to the desired length.
3. Re-tighten the screw.

4.27.4 Adjusting the depth of the calf pad

The depth of the calf pad can be adjusted via the holding plate. The holding plate hole combinations allow 5 different depth settings.



- 10 mm wrench



1. Use the wrench to loosen the nut (1) and remove.
2. Adjust to the desired depth. Observe that the round holes are intended for the calf pad retaining screw and the oblong holes for the aglet without thread.
3. Screw the nut back on and tighten.

4.27.5 Adjusting the height of the calf pad



- 4 mm Allen key



1. Use the Allen key to loosen the screws (1).
2. Adjust to the desired position.
3. Re-tighten the screws.

4.27.6 Unlocking and swivelling the calf pad backward when alighting

- 1.



Press the calf pad straight down.

- 2.



Unlock the legrest and swivel outward.
The calf pad swivels backward on its own.

3.

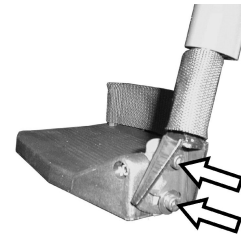


Lift leg over the heel strap and place on the ground.

4.27.7 Adjusting the angle-adjustable foot plate



- 5 mm Allen key



1. Use the Allen key to loosen both set screws on the foot plate.
2. Adjust to the desired angle.
3. Re-tighten the screws.

4.27.8 Adjusting the angle- and depth-adjustable foot plate



- 5 mm Allen key

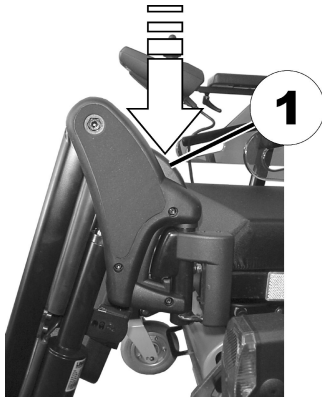


1. Use the Allen key to loosen the set screw on the foot plate (1).
2. Adjust the foot plate to the desired angle or depth.
3. Re-tighten the screw.

4.28 Powered elevating legrests (ADE legrests)

4.28.1 Swivelling the legrest outward and/or removing

The small unlocking button is located on the upper section of the legrest. When the legrest is unlocked, it can be swivelled inward or outward when getting into wheelchair as well as being removed completely.



1. Press the unlocking button (1) and swivel the legrest outward.
2. Remove the legrest in an upward direction.

4.28.2 Setting the angle



CAUTION!

Risk of crushing

- Do not reach inside the swivelling range of the legrest.



CAUTION!

Risk of injury due to incorrect adjustment of the footrests and legrests

- Before and during every journey it is imperative to ensure that the legrests contact neither the castor wheels nor the ground.

The electrically height-adjustable legrests are operated using the remote. Refer to the separate user manual for your remote for more information.

4.28.3 Adjusting the length of the legrest



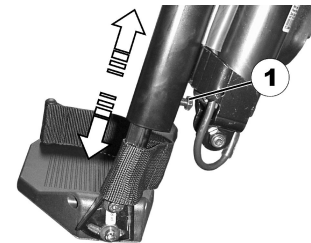
CAUTION!

Risk of injury due to incorrect adjustment of the footrests and legrests

- Before and during every journey it is imperative to ensure that the legrests contact neither the castor wheels nor the ground.




- 10 mm wrench

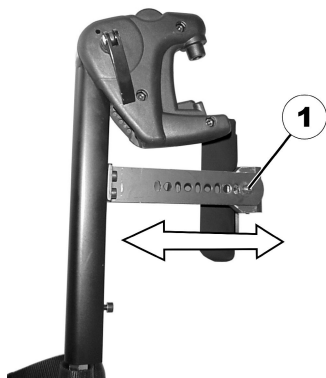


1. Use the wrench to loosen the screw (1).
2. Adjust to the desired length.
3. Re-tighten the screw.

4.28.4 Adjusting the depth of the calf pad


The depth of the calf pad can be adjusted via the holding plate. The holding plate hole combinations allow 5 different depth settings.

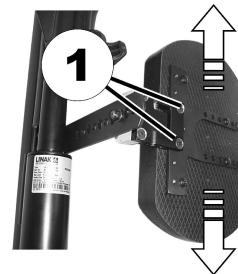
-
- 
- 10 mm wrench
-



1. Use the wrench to loosen the nut (1) and remove.
2. Adjust to the desired depth. Observe that the round holes are intended for the calf pad retaining screw and the oblong holes for the aglet without thread.
3. Screw the nut back on and tighten.

4.28.5 Adjusting the height of the calf pad

-
- 
- 4 mm Allen key
-



1. Use the Allen key to loosen the screws (1).
2. Adjust to the desired position.
3. Re-tighten the screws.

4.28.6 Unlocking and swivelling the calf pad backward when alighting

- 1.



2. Press the calf pad straight down.



Unlock the legrest and swivel outward.
The calf pad swivels backward on its own.

3.

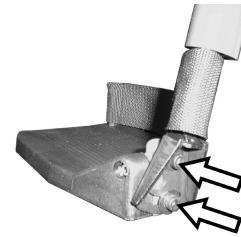


Lift leg over the heel strap and place on the ground.

4.28.7 Adjusting the angle-adjustable foot plate



- 5 mm Allen key



1. Use the Allen key to loosen both set screws on the foot plate.
2. Adjust to the desired angle.
3. Re-tighten the screws.

4.28.8 Adjusting the angle- and depth-adjustable foot plate



- 5 mm Allen key



1. Use the Allen key to loosen the set screw on the foot plate (1).
2. Adjust the foot plate to the desired angle or depth.
3. Re-tighten the screw.

4.29 Standard 80° Legrest

4.29.1 Swivelling and/or Removing Legrests (Standard 80° Legrest)

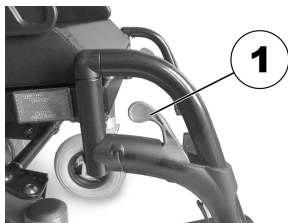


Fig. 4-58

The small release lever is to be found in the upper part of the legrest (1). When the legrest is released it can be swivelled inward or outward to facilitate access and also be removed completely.



Fig. 4-59

1. Push release lever inward or outward.
2. Adjust component to desired position.
3. Pull upward to remove component .


4.29.2 Adjusting Length (Standard 80° Legrest)



- 5 mm Allen key



Fig. 4-60

1. Loosen screw (1).
 -  Do not remove screw (1).
2. Adjust component to desired position.
3. Tighten screw.

4.30 Imperial to metric conversion chart

You can use this chart as an orientation to find the right tool size.

| IMPERIAL | METRIC |
|-----------------|---------------|
| inch | mm |
| 5/64 | 1.9844 |
| 3/32 | 2.3813 |
| 7/64 | 2.7781 |
| 1/8 | 3.1750 |
| 9/64 | 3.5719 |
| 5/32 | 3.9688 |
| 11/64 | 4.3656 |
| 3/16 | 4.7625 |
| 13/64 | 5.1594 |
| 7/32 | 5.5563 |
| 15/64 | 5.9531 |
| 1/4 | 6.3500 |
| 17/64 | 6.7469 |
| 9/32 | 7.1438 |
| 19/64 | 7.5406 |
| 5/16 | 7.9375 |
| 21/64 | 8.3344 |
| 11/32 | 8.7313 |
| 23/64 | 9.1281 |

| IMPERIAL | METRIC |
|-----------------|---------------|
| inch | mm |
| 3/8 | 9.5250 |
| 25/64 | 9.9219 |
| 13/32 | 10.3188 |
| 27/64 | 10.7156 |
| 7/16 | 11.1125 |
| 29/64 | 11.5094 |
| 15/32 | 11.9063 |
| 31/64 | 12.3031 |
| 1/2 | 12.7000 |
| 33/64 | 13.0969 |
| 17/32 | 13.4938 |
| 35/64 | 13.8906 |
| 9/16 | 14.2875 |
| 37/64 | 14.6844 |
| 19/32 | 15.0813 |
| 39/64 | 15.4781 |
| 5/8 | 15.8750 |
| 41/64 | 16.2719 |
| 21/32 | 16.6688 |

| IMPERIAL | METRIC |
|-----------------|---------------|
| inch | mm |
| 43/64 | 17.0656 |
| 11/16 | 17.4625 |
| 45/64 | 17.8594 |
| 23/32 | 18.2563 |
| 47/64 | 18.6531 |
| 3/4 | 19.0500 |
| 49/64 | 19.4469 |
| 25/32 | 19.8438 |
| 51/64 | 20.2406 |
| 13/16 | 20.6375 |
| 53/64 | 21.0344 |
| 27/32 | 21.4313 |
| 55/64 | 21.8281 |
| 7/8 | 22.2250 |

5 Usage

5.1 Removing Armrest for Side Transfer

Flip-Up Armrest

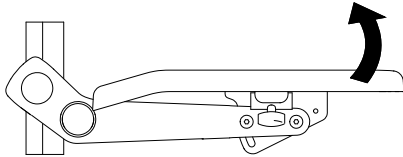


Fig. 5-1

1. Flip up armrest for side transfer.

Following Armrest

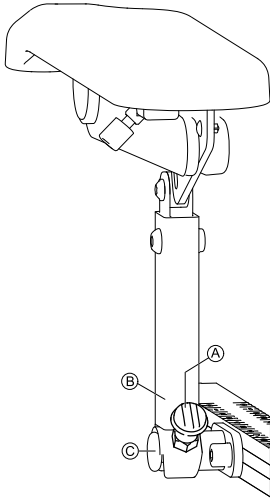


Fig. 5-2

1. Pull knob **A** to unlock armrest support **B** from bearing plate **C**.
- 2.

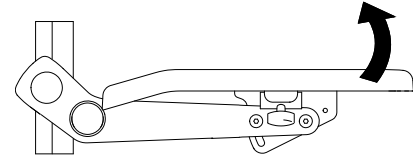


Fig. 5-3

Flip up armrest for side transfer.



For more information about side transfer, see the user manual of the mobility device.

5.2 Swivelling Remote to Side

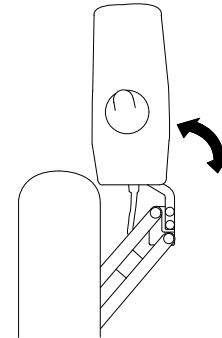
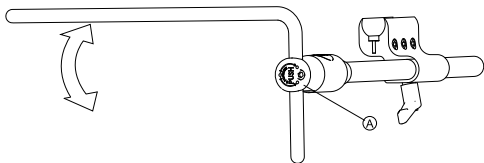


Fig. 5-4


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

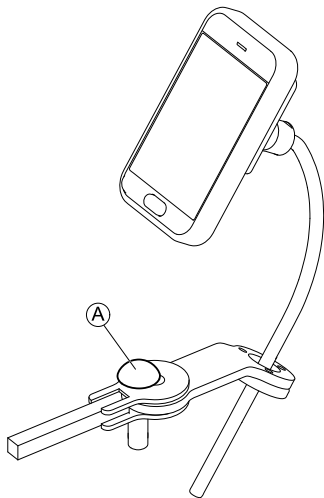
5.3 Swivelling Nucleus Midline Holder to Side



1. Push button **A** and swivel up or down nucleus.

5.4 Swivelling Swing-Away Display Holder to Side

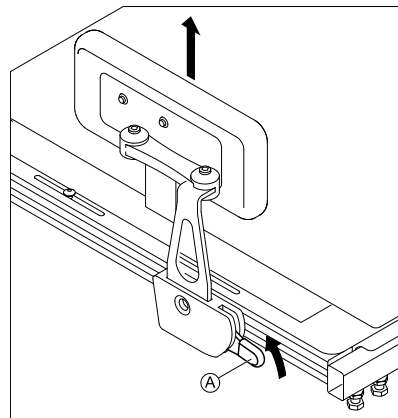
 The swing-away display holder only locks in place when swivelled to its default position.



1. Push knob **A** and swivel display holder to side.

5.5 Removing/inserting hip support with quick release

Removing hip support



1. Pull lever **A** upwards.
2. Remove hip support from holder.

Inserting hip support

1. Insert hip support in holder.
2. Push lever **A** downwards.
Ensure that hip support locks with an audible click.

5.6 Using LNX powered center-mounted legrest with telescoping footboard

Adjusting angle

**WARNING!****Pinch point**

Risk of pinching when adjusting legrest angle.
– Keep top of legrest clear when adjusting legrest angle.

Lowering footboard

**Risk of damage to floor**

Lowering footboard until preset point could damage floor.
– Stop lowering footboard when it touches the floor.

You can lower the telescoping footboard until a preset point. Depending on the wheelchair configuration, this point might not exactly fit the seat-to-floor height but end a few millimeters above or push a few millimeters into the floor.

Drive lockout

**Risk of damage to wheelchair**

Driving the wheelchair with lowered footboard could damage the legrest.
– As soon as you move the footboard, a drive lockout engages.

1. To disengage drive lockout, retract footboard to top position.

6 Maintenance

6.1 Maintenance schedule

To ensure the optimal safety and reliability of your power positioning system, adhere to the maintenance schedule/table below. In addition to the maintenance schedule, note the following maintenance tasks and safety warnings that should be incorporated into your daily routine.



WARNING!

Any sudden or gradual deterioration in the function/performance of your power positioning system (i.e. increased actuator motor/gearbox noise, rattling, sloppiness, etc.) must be reported to your dealer immediately

– A complete wheelchair inspection by a qualified technician is recommended to ensure there is no unusual wear and tear, or physical damage that requires servicing and/or repair.



To ensure your power positioning system is operating properly and safely, Invacare recommends a complete dealer inspection be performed on your power positioning system every six (6) months by a qualified technician.



Be certain to read and follow all maintenance and safety information specific to your wheelchair power base. Refer to your wheelchair's user manual (provided separately).

Daily maintenance:

- Check that all switches (push buttons/toggles) that operate your power positioning system are functioning properly.
- Charge batteries (refer to your wheelchair's user manual for important information on battery charging and proper battery care).

Monthly inspection checklist:

- Electrical / Wiring harnesses:
 - Check for pinches or pulls in wiring (over full range of seating system)
 - Inspect for wear & tear damage to wires
 - Ensure connections are secure
- Hardware and components:
 - Inspect mounting hardware (seating system to base)
- Limit switches:
 - Check limit switch settings
 - Ensure DLO functions correctly

7 After Use

7.1 Disposal

Be environmentally responsible and recycle this product through your recycling facility at its end of life.

Disassemble the product and its components, so the different materials can be separated and recycled individually.

The disposal and recycling of used products and packaging must comply with the laws and regulations for waste handling in each country. Contact your local waste management company for information.

7.2 Reconditioning

This product is suitable for reuse. To recondition the product for a new user, carry out the following actions:

- Inspection
- Cleaning and disinfection
- Adaptation to the new user

For detailed information, see *6 Maintenance, page 68* and the service manual for this product.

Make sure that the user manual is handed over with the product.

If any damage or malfunction is detected, do not reuse the product.

8 Troubleshooting

8.1 Performance Troubleshooting



For additional troubleshooting information regarding the power wheelchair & electronics, refer to the Troubleshooting section of the power wheelchair and remote user manuals (provided separately).

| Symptom | Probable cause | Solutions |
|---|---|---|
| Wheelchair power is ON, but system does not drive | System tilted and/or elevated beyond the drive lockout (DLO) angle Drive motors not engaged LNx powered center-mounted legrest with telescoping footboard lowered | Return seating system to neutral (home) position. Engage drive motors. Retract footboard to top position. |
| Seating system not functioning | Low batteries Loose/faulty electrical connection Blown fuse Interference/obstructions, pinched wires | Check/charge/replace batteries. Contact your provider. Check cable connections/check cable ties (too tight/too loose). Contact your provider. Inspect/replace fuse. Contact your provider. Check for sources of interference or obstructions/inspect cables for pinch points. Contact your provider. |


| Symptom | Probable cause | Solutions |
|--|--|--|
| Intermittent seating system functions (day to day, during tilt, during recline...) | Loose/faulty electrical connection Faulty power harness Faulty limit switch Nearly exhausted battery (fluctuating charge) | Check cable connections/check cable ties (too tight/too loose). Check/replace power harness. Contact your provider. Check/replace limit switch. Contact your provider. Check/replace battery. Contact your provider. |
| Drive lockout (DLO) is not functioning | Loose/faulty electrical connection DLO limit switch/mechanical switch is not set properly Faulty DLO limit switch | Check connections. Contact your provider. Contact your provider. Contact your provider. |
| Limit switch not functioning properly | Loose/faulty electrical connection Faulty limit switch Limit switch is not set-up properly | Check connections. Contact your provider. Check/replace limit switch. Contact your provider. Contact your provider. |

| Symptom | Probable cause | Solutions |
|---------------------------------------|--|---|
| System only operates in one direction | Limit is exceeded (DLO, RDS, back angle, elevating seat lockout) Faulty limit switch Limit switch is not set-up properly Low voltage Battery not charged | Come within limit ranges. Check/replace limit switch. Contact your provider. Contact your provider. Contact your provider. Charge batteries. |
| Remote will not function | Remote not plugged in Remote not turned on Blown base fuse | Inspect cable connection. Turn on power to the remote via the keypad. Inspect/replace fuse. Contact your provider. |
| Actuator keeps running | Pinched switch harness | Inspect/adjust harness position to prevent pinching. Contact your provider. |

9 Technical Data

9.1 Technical Specifications

The technical information provided hereafter applies to a standard configuration or represents maximum achievable values. These can change if accessories are added. The precise changes to these values are detailed in the sections for the respective accessories.

 Note that in some cases the measured values may vary up to ± 10 mm.

 For more technical data of the power wheelchair see the user manual of your wheelchair.

Dimensions Modulite Seating System

| Dimensions According to ISO 7176-15 | Power Wheelchair | |
|--|--|---|
| | TDX SP2 | AVIVA RX |
| Seat Width (Armrest Adjustment Range in Parentheses) | <ul style="list-style-type: none"> • 380 mm (380 - 430 mm) • 430 mm (430 - 480 mm) • 480 mm (480 - 530 mm) • 530 mm (530 - 580 mm) | <ul style="list-style-type: none"> • 330 mm (330 - 380 mm) • 380 mm (380 - 430 mm) • 430 mm (430 - 480 mm) • 480 mm (480 - 530 mm) • 530 mm (530 - 580 mm) |
| Seat Depth | <ul style="list-style-type: none"> • 410 - 560 mm | <ul style="list-style-type: none"> • 410 – 510 mm |
| Seat Cushion Thickness | <ul style="list-style-type: none"> • 50/ 75/ 90/ 100 mm | |
| Backrest Height ¹ | <ul style="list-style-type: none"> • 480/ 540 mm (sling back) • 560 - 660 mm (telescopic seat frame, moving the backrest plate) | <ul style="list-style-type: none"> • 480/ 540 mm (sling back) • 560 - 660 mm (telescopic seat frame, moving the backrest plate) • 400/ 500 mm (Matrix back) |
| Backrest Angle | <ul style="list-style-type: none"> • 90° - 120° | |

| Dimensions According to ISO 7176-15 | Power Wheelchair | |
|---|---|---------------|
| | TDX SP2 | AVIVA RX |
| Armrest Height | Telescopic seat frame: <ul style="list-style-type: none"> • 245 - 310/ 295 - 360 mm (T-armrest) • 230 - 360 mm (flip-up armrest) • 230 - 300/ 300 - 360 mm (following armrest) One piece seat plate: <ul style="list-style-type: none"> • 275 - 340/ 325 - 390 mm (T-armrest) | |
| Armrest Depth | • max. 440 mm | • 325 mm |
| Armrest Length | • 325 - 397 mm | |
| Seat Angle, Electrical Adjustment (30°) | <ul style="list-style-type: none"> • 0° - +30° • -5° - +25° (with 5° fixed anterior mount) | • 0° - +30° |
| Seat Angle, Electrical Adjustment (20°) | • 0° - +20° | |
| Seat Angle, Manual Adjustment | • 0° - +8° | • 0° ... +15° |

| Footrests and Legrests | | |
|------------------------|--------|-------------------|
| Vari F | Length | • 290 mm - 460 mm |
| | Angle | • 70° - 0° |
| Vari A | Length | • 290 mm - 460 mm |
| | Angle | • 70° - 0° |
| ADE (powered) | Length | • 290 mm - 460 mm |
| | Angle | • 80° - 0° |

| Footrests and Legrests | | |
|-------------------------------|--------|---|
| ADM (manual) | Length | • 290 mm - 460 mm |
| | Angle | • 80° - 0° |
| Standard 80° | Length | • 350 mm - 450 mm |
| | Angle | • 80° - 0° |
| Centre-Mounted (manual) | Length | • 280 mm - 385 mm |
| | Angle | • 90° - 0° |
| Centre-Mounted Powered LNX | Length | • 340 mm - 410 mm |
| | Angle | • 97° - 7° • 90° - 0° • 83° - -7° |

1 Measured without seat cushion

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