

Invacare® Modulite

en **Seating System**
Service Manual



PROVIDER: Keep this manual.
The procedures in this manual **MUST** be performed by a qualified technician.



Yes, you can.

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

1 General

1.1 Introduction

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.

Only use this product if you have read and understood this manual. Seek additional advice from a healthcare professional who is familiar with your medical condition and clarify any questions regarding the correct use and necessary adjustment with the healthcare professional.

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

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

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

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

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

In case of a serious incident with the product, you should inform the manufacturer and the competent authority in your country.

1.2 General Information

Service and maintenance work must be carried out taking this document into account.

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

The models and configurations available in your country can be found in the country-specific sales documents.

It is imperative that you observe safety information.

Information about operation or about general maintenance and care work on the product should be taken from service manual.

Assembly of accessories/options might not be described in this document. Refer to the manual delivered with the accessory/option. Additional manuals can be ordered from Invacare. See addresses at the end of this document.

You can find information about ordering spare parts in the spare parts catalogue.

Spare parts must match original Invacare parts. Only use spare parts which have been approved by Invacare.

The product may only be maintained and overhauled by qualified personnel.

The minimum requirement for service technicians is suitable training, such as in the cycle or orthopedic mechanics fields, or sufficiently long-term job experience. Experience in the use of electrical measuring equipment (multimeters) is also a requirement. Special Invacare training is recommended.

Alterations to the power wheelchair which occur as a result of incorrectly or improperly executed maintenance or overhaul work lead to the exclusion of all liability on the side of Invacare.

If you have any problems or questions contact your provider.

1.3 Notes on Shipping

- If the power wheelchair has to be shipped back to the manufacturer for major repairs, you should always use the original packaging for transport.
- Please attach a precise description of the fault.

1.4 Symbols in This Manual

Symbols and signal words are used in this document and apply to hazards or unsafe practices which could result in personal injury or property damage. This document is printed in greyscale. For your information, the safety messages have the following colour coding according to ANSI Z535.6: Danger (Red), Warning (Orange), Caution (Yellow) and Notice (Blue). See the information below for definitions of the signal words.



DANGER!

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



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.



NOTICE!

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



Tips and Recommendations

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.

1.5 Images in This Manual

The detailed images in this manual are given marks to identify various components. Component marks in text and operational instructions always relate to the image directly above.

2 Safety

2.1 Safety Information


WARNING!

Installation, Mounting, Maintenance or Repairs Made by Unqualified Persons can Result in Hazardous Situations to You and Others

- The procedures in this service manual, must be performed by a specialised provider or qualified service technician.
- Invacare expects that the qualified technician is familiar with the product, with good technical knowledge to understand and follow the steps of the described instructions in this manual, and equipped with proper tools.
- Do not handle this product or any available optional equipment without first completely reading and understanding these instructions and any additional instructional material such as user manuals, installation manuals or instruction sheets supplied with this product or optional equipment.



- The CE marking is invalidated if components or accessories/options are replaced or added that have not been approved for this product by Invacare.
- In this case, the company that adds or replaces the components or accessories/options is responsible for the conformity assessment/CE marking or for registering the scooter as a special design and for the relevant documentation.



The information contained in this document is subject to change without notice.

2.2 Safety and Fitting Instructions

These safety instructions are intended to prevent accidents at work, and it is imperative that they are observed.

Before any inspection or repair work

- Read and observe this repair manual and the associated user manual.
- Observe the minimum requirements for carrying out the work (see 1.2 General Information, page 3).

Personal Safety Equipment

Safety Shoes

The power wheelchair, and some of its components, are very heavy. These parts can result in injuries to the feet if they are allowed to drop.

- Wear standardized safety shoes during all work.

Eye Protection

It is possible that battery acid can be discharged when working on defective batteries or when handling batteries improperly.

- Always wear eye protection when working on any defective or possibly defective batteries.

Safety Gloves

It is possible that battery acid can be discharged when working on defective batteries or when handling batteries improperly.

- Always wear acid-proof safety gloves when working on any defective or possibly defective batteries.

General Safety Information and Information About Fitting / Removal


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. Power 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 power wheelchair.

- DO NOT smoke while using this power wheelchair.


WARNING!
Risk of Serious Injury or Damage

Storing or using the power wheelchair near open flame or combustible products can result in serious injury or damage.

- Avoid storing or using the power wheelchair near open flame or combustible products.


CAUTION!
Risk of Crushing

Various components such as the drive unit, batteries, seat etc are very heavy. This results in injury hazards to your hands.

- Note the high weight of some components. This applies especially to the removal of drive units, batteries and the seat.


CAUTION!
Injury Hazard if the Power Wheelchair Starts Moving Unintentionally During Repair Work

- Switch the power supply off (ON/OFF key).
- Engage the drive.
- Before lifting up, secure the power wheelchair by using chocks to block the wheels.


CAUTION!
Fire and Burn Hazard due to Electrical Short-circuit

- The power wheelchair must be completely switched off before removal of voltage-carrying components! To do this, remove the batteries.
- Avoid short-circuiting the contacts when carrying out measurements on voltage-carrying components.


CAUTION!
Risk of Burns from Hot Surfaces on the Motor

- Allow the motors to cool down before commencing work on them.

**CAUTION!****Injury Hazard and Risk of Damage to Power Wheelchair due to Improper or Incomplete Maintenance Work**

- Use only undamaged tools in good condition.
- Some moving parts are mounted in sockets with PTFE coating (Teflon™). Never grease these sockets!
- Never use "normal" nuts instead of self-locking nuts.
- Always use correctly-dimensioned washers and spacers.
- When reassembling, always replace any cable ties which were cut during dismantling.
- After completing your work / before renewed start-up of the power wheelchair, check all connections for tight fitting.
- After completing your work / before renewed start-up of the power wheelchair, check all parts for correct locking.
- Only operate the power wheelchair with the approved tyre pressures (see technical data in the power wheelchair user manual).
- Check all electrical components for correct function. Note that incorrect polarity can result in damage to the control system.
- Always carry out a trial run at the end of your work.

**CAUTION!****Any Changes to the Drive Program can affect the Driving Characteristics and the Tipping Stability of the Power Wheelchair**

- Changes to the drive program may only be carried out by trained Invacare providers.
- Invacare supplies all power wheelchairs with a standard drive program ex-works. Invacare can only give a warranty for safe power wheelchair driving behavior - especially tipping stability - for this standard drive program.

**CAUTION!****Risk of Injury**

Adaptions to the power wheelchair can influence the performance.

- When adaptions with third party products are made, this is only allowed within the scope of a valid combination agreement.
- The maximum values and restrictions of both products shall be observed.
- Machining, bending, welding, or bracing on any safety relevant components is not allowed.



Mark all current settings for the power wheelchair (seat, armrests, backrest etc.), and the associated cable connecting plugs, before dismantling. This makes reassembly easier. All plugs are fitted with mechanical locks which prevent release of the connecting plugs during operation. To release the connecting plugs the safety locks must be pressed in. When reassembling ensure that these safety locks are correctly engaged.

3 Hygiene

3.1 Handling of Returned Used Products

When reconditioning or repairing returned power wheelchairs:

- Take precautions for yourself and the product.
- Use protection equipment as specified locally.

Before Transport (According to Biological Agents Ordinance)

Treat product according to following process steps:

Process Step	Component	Application	Conditioning technique	Work Station
Manual cleaning	Surface of used device	Before repair or reconditioning	Use saturated towel to apply cleaning detergent and remove residues after impact.	Cleaning and disinfection
Disinfection	Surface of used device	Before repair or reconditioning	Use saturated disinfectant wipes and clean* the device surface.	Cleaning and disinfection

*Invacare uses detergent "Nücosept special" 1.5% in water ml/ml

Disinfection Tools

- Disposable wipes (fleece)
- Brushes to clean areas difficult to access

Further Information

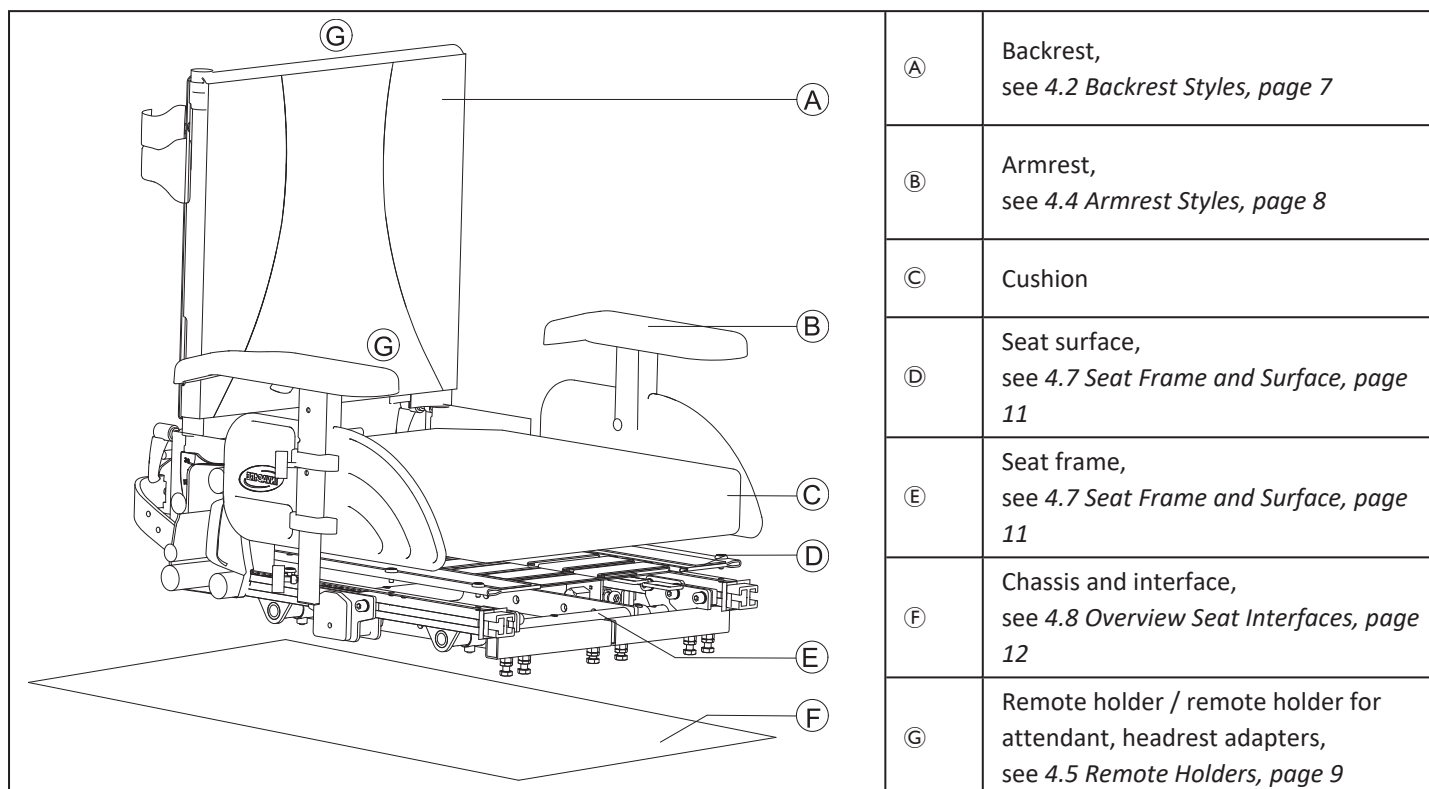


For more information contact your Invacare service department.

4 Overview Components

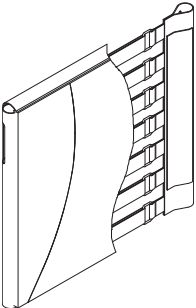
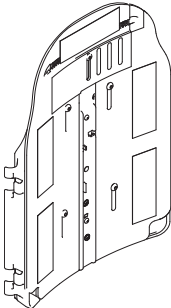
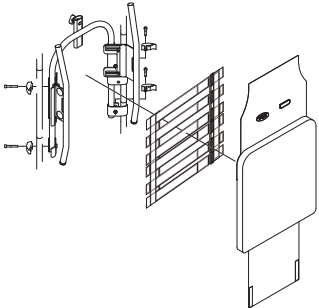
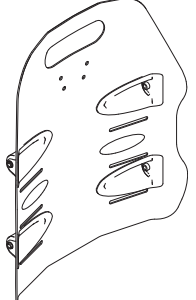
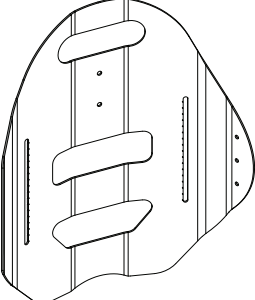
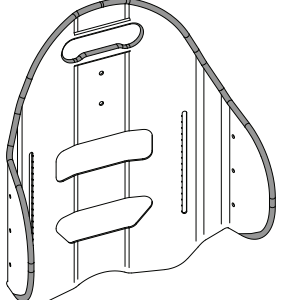
4.1 Overview Seating System

Modulite seat (example)



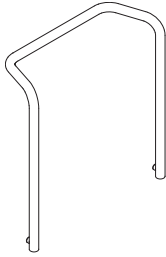
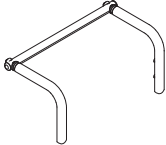
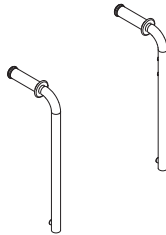
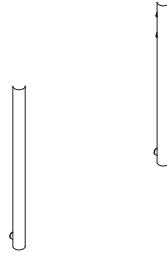
4.2 Backrest Styles

The Modulite seat is available with different backrest styles.

Tension Adjustable	Flex 3 Backrest Plates	Flex 3 Tension Adjustable
		
Matrix	Matrix Elite 2 Standard	Matrix Elite 2 Deep
		

4.3 Backrest Frames

Modulite is available with different backrest frames. For remote brackets that can be mounted to the backrest, see *4.5 Remote Holders, page 9*.

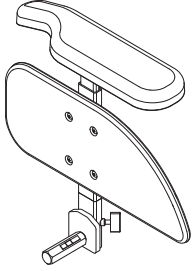
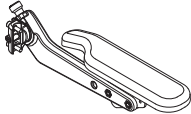
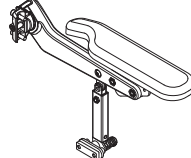
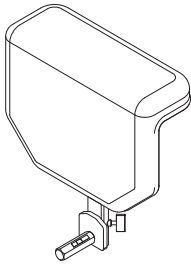
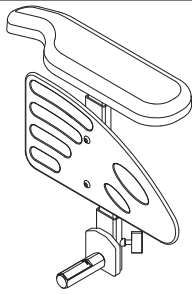
Standard backrest tube*	Push bar for backrest posts with push handles	Backrest posts with push handles	Backrest posts without push handles
			
Backrest height			
48 cm		48 cm / 54 cm	48 cm / 54 cm
Tube diameter			
22 mm	22 mm	25 mm	25 mm

* used with one-piece seat plate only.

Installation follows the same defined order of steps for all backrests.

4.4 Armrest Styles

Modulite seat is available with different armrest styles. For remote brackets that can be mounted to armrest, see *4.5 Remote Holders, page 9*.

T-Armrest	Flip-up	Following	Padded	Inrigged
				
Available armrest bracket length				
Regular or higher (+5 cm)	one size			

Armpad styles

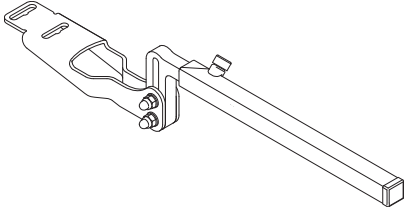
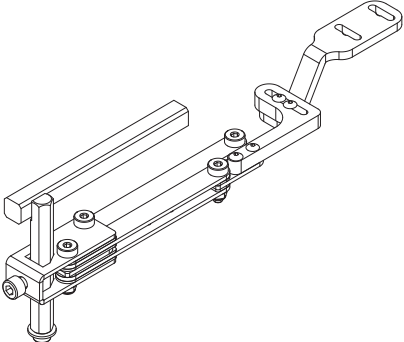
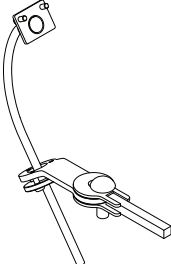
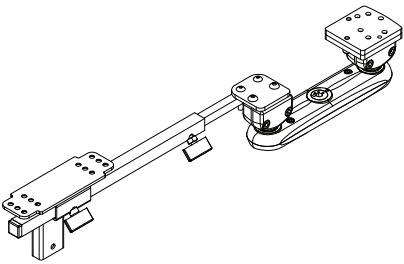
All Modulite armrests are available with the following armpads, except for padded armrest.

Short armpad	Long armpad	Long ergonomic armpad	Soft armpad
325 mm	375 mm	397 mm	468 mm

4.5 Remote Holders

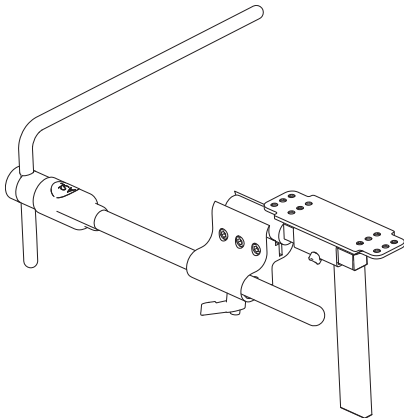
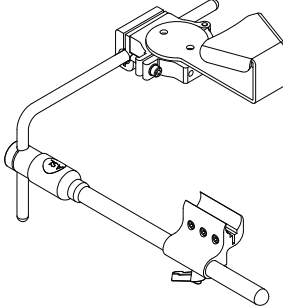
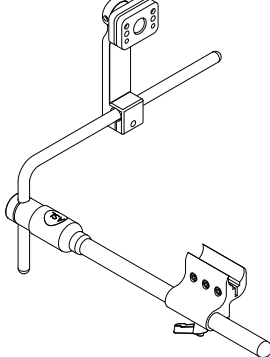
Modulite can be fitted with different holders for remotes.

Remotes for Wheelchair Users

Standard Remote Holder with Support Tube	Standard Swing Away Remote Holder
	
REM500 Swing Away Display Holder	Maxx Resolve Swing Away Remote Holder
	

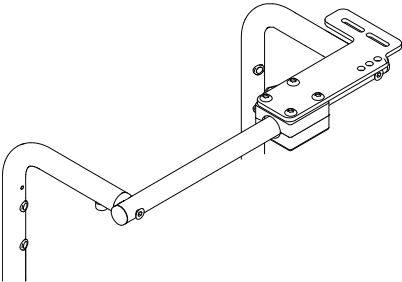
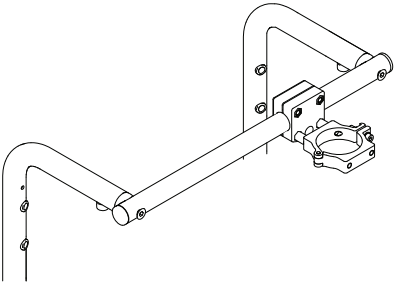
Remotes for the wheelchair user are mounted at a slot at the armrest or on nucleus midline holder.

Modulite with nucleus midline holder can carry additional holders, remotes and switches. An adapter is needed to mount nucleus midline holder to slot at the armrest, see *10.1.4 Replacing Nucleus Midline Holder, page 38*.

Nucleus Midline Holder	REM400 Remote Holder	
		
	<th data-bbox="798 1568 1516 1617">REM500 Display Holder</th>	REM500 Display Holder
		

Remotes for Attendant

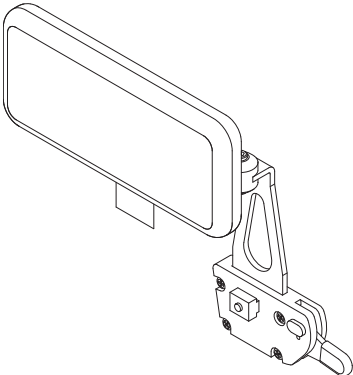
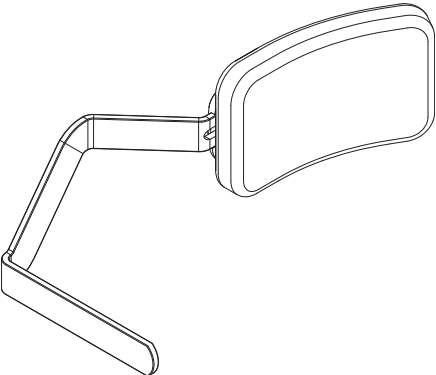
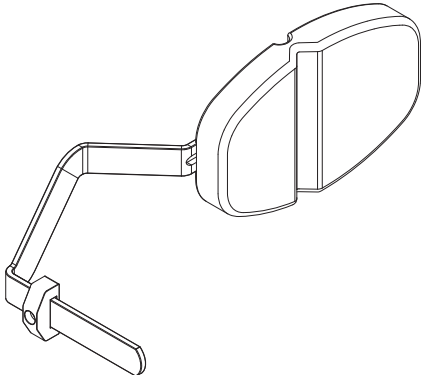
Remote holder for the wheelchair attendant is mounted at the push bar or at the push handles at the backrest frame of the power wheelchair.

Attendant Remote Holder for Primary Remotes / REM050	Attendant Remote Holder for Attendant Control Unit (DLX-ACU200) / Compact Remote (DLX-CR400)
	

Remote holders can be mounted in a variety of positions.

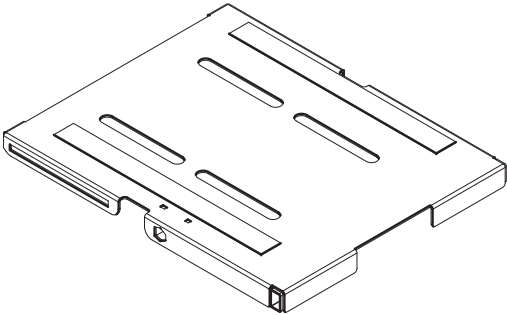
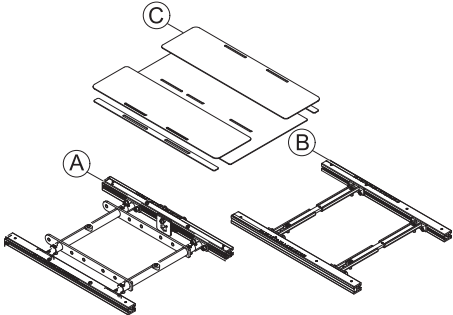
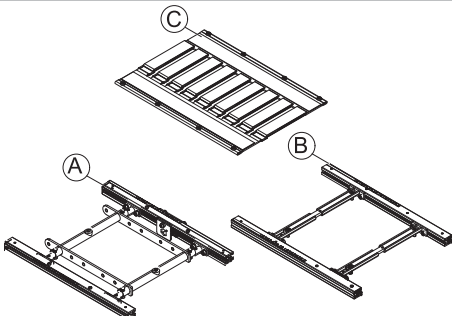
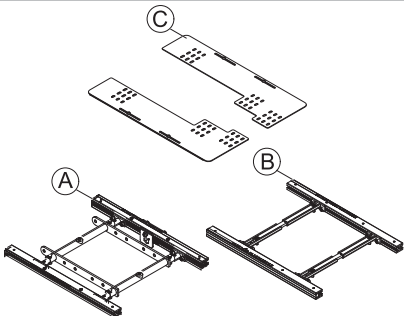
4.6 Support Options

Modulite seat is available with different support options.

Hip Support	Lateral Support with Extended Arm	
		
Pad Styles		
Short pad size 140 x 100 mm	Rigid pad	Multi-adjustable pad
Medium pad size 230 x 100 mm		
Long pad size 330 x 100 mm		

4.7 Seat Frame and Surface

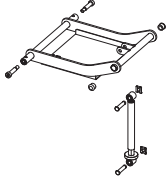
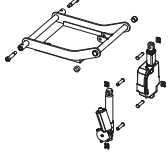


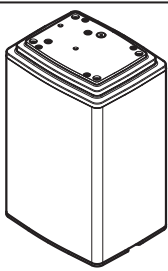
Modulite seat is available with different combinations of seat frame and surface.

One Piece Seatplate	Telescopic Seat Frame (A) or (B) with Seatplates (C)
	
Telescopic Seat Frame (A) or (B) with Sling Seat (C)	Telescopic Seat Frame (A) or (B) with Universal Adapter (C)
	

Telescopic seat frame (B) is used for powered tilt with CoG shift and lifter with powered tilt and CoG shift only, see 4.8 Overview Seat Interfaces, page 12.

4.8 Overview Seat Interfaces

Modulite seat is available for different seat interfaces depending on the model of the power wheelchair.

	Example	AVIVA FX	AVIVA RX	Fox	Storm ⁴ Series	TDX SP2 / FDX
Fixed, manual adjustable or settable angle		✓	✓	✓	✓	✓
Powered tilt, fixed pivot point			✓		✓	✓
Powered tilt with center of gravity shift		✓	✓			✓
Lifter with powered tilt and center of gravity shift		✓	✓			✓
Column lifter					✓	

5 Setup

5.1 Tightening Torques


CAUTION!

Risk of Damage to Power Wheelchair due to Improperly Tightened Screws, Nuts or Plastic Connections.

- Always tighten screws, nuts etc. to the stated tightening torque.
- Only tighten screws or nuts which are not listed here fingertight.

The tightening torques stated in the following list are based on the thread diameter for the nuts and bolts for which no specific values have been determined. All values assume dry and de-greased threads.

Thread	Tightening Torque in Nm $\pm 10\%$
M4	3 Nm
M5	6 Nm
M6	10 Nm
M8	25 Nm
M10	49 Nm
M12	80 Nm
M14	120 Nm
M16	180 Nm

5.2 Adjusting Seat Width / Backrest Width

- For seat frames and surfaces, see *4.7 Seat Frame and Surface, page 11*,
- for back posts and backrest frames, see *4.3 Backrest Frames, page 8* and
- for backrest styles, see *4.2 Backrest Styles, page 7*.

5.2.1 Adjusting Seat Width

You can only adjust the seat width for the telescopic seat frame.

The seat is available in different seat width ranges:

- 380 mm / 430 mm
- 480 mm / 530 mm
- 550 mm



The seat width of 550 mm cannot be retrofitted. Contact Invacare for more information.



When switching between the different seat width ranges, several parts of the seat such as legrest fixation or screwed connections must be replaced. Contact your provider or check the spare parts catalogue.



When modifying the seat width, the backrest width must also be correspondingly adapted, see *5.2.3 Adjusting Backrest Width, page 18*.



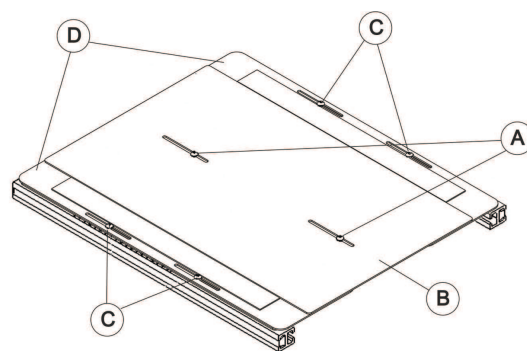
Backrest posts for Flex3 only adjust up to a seat width setting of 480 mm. The remaining 50 mm are adjusted via backrest plates.

Removing Seat Plate



- 3 mm Allen key

1. Remove backrest cushion and seat cushion.
2. Remove backrest from backrest mounting bracket, see 5.2.3 *Adjusting Backrest Width*, page 18.
3. Loosen and remove screws (A).
4. Remove middle seat plate (B).
5. Loosen and remove screws (C).
6. Remove lateral seat plates (D).
7. If fitted, remove spacer between plates and frame.

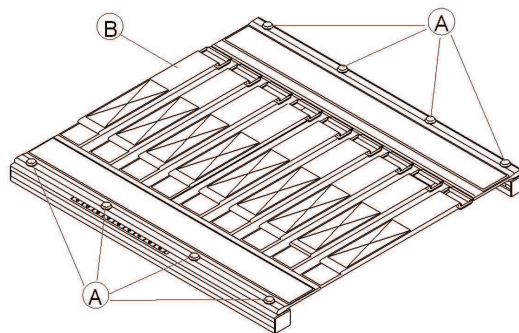


Removing Sling Seat



- TX25 Torx key

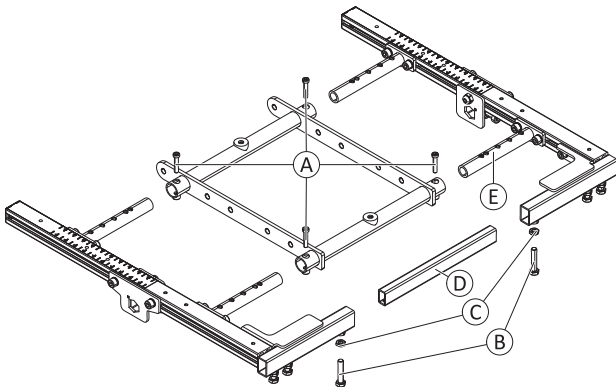
1. Remove backrest cushion and seat cushion.
2. Remove backrest from backrest mounting bracket, see 5.2.3 *Adjusting Backrest Width*, page 18.
3. Loosen and remove screws (A) on both sides.
4. Remove sling seat (B).



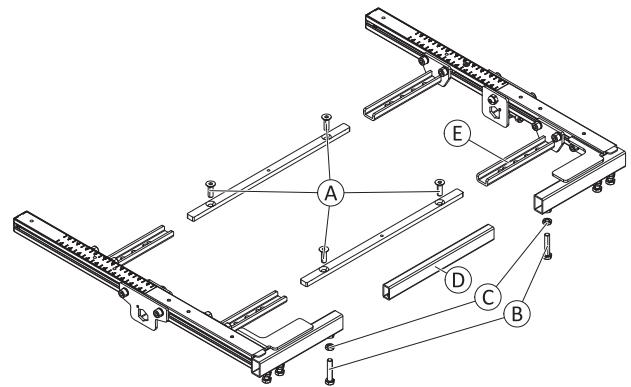
Adjusting Width



- 5 mm Allen key (without tilt- or lifter-tilt-module)
- TX40 Torx key (with tilt- or lifter-tilt-module)
- 2x 13 mm wrench



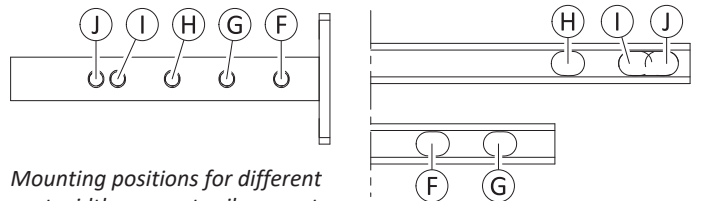
Seat frame of models without tilt- or lifter-tilt modules



Seat frame of models with tilt- or lifter-tilt modules

1. Loosen and remove screws **A**.
2. Loosen and remove screws **B** and nuts **C**.
3. If required, replace legrest fixation **D**.
4. Adjust seat rail connector **E** and legrest fixation to desired seat width according to table:

Screw Position	Seat Width
F	380 mm
G	430 mm
H	480 mm
I	530 mm
J	550 mm (optional)



*Mounting positions for different seat widths on seat rail connector **E**. Variant on model without tilt- or*

*lifter-tilt module serves as example. Mounting positions for different seat widths on legrest fixations **D**.*

Installing Parts

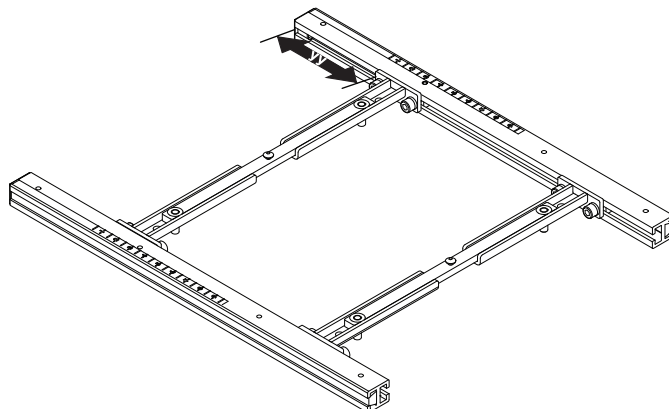
1. Install parts in reverse order.
2. Test all functions.

5.2.2 Adjusting Wheelbase Length

The following tables list the recommended module positions depending on the wheelbase length and the seat depth. The yy value is the distance between seat rail connector and rear edge of main frame.

For more information about adjusting the telescopic seat frame, see 5.2.1 *Adjusting Seat Width*, page 13.

For more information about the recommended xx value (distance between the rear edge of the height-adjustment bracket and the rear edge of the main frame) see chapter *Adjusting Wheelbase Length — Modulite Seat* in the service manual of the AVIVA RX.



Lifter / Tilt Module

Variant narrow base — Recommended positions of module

Wheelbase	Seat Depth	Distance yy	Comment
460 mm	410 mm/ 16 inch	N/A	N/A
	460 mm/ 18 inch	N/A	N/A
	510 mm/ 20 inch	N/A	N/A
490 mm	410 mm/ 16 inch	70.0 mm	Best performance
	460 mm/ 18 inch	70.0 mm	Best performance
	510 mm/ 20 inch	70.0 mm	Best performance
520 mm	410 mm/ 16 inch	70.0 mm	Performance considerations
	460 mm/ 18 inch	70.0 mm	Performance considerations
	510 mm/ 20 inch	70.0 mm	Performance considerations

Variant wide base — Recommended positions of module

Wheelbase	Seat Depth	Distance yy	Comment
490 mm	410 mm/ 16 inch	90.0 mm	Best performance
	460 mm/ 18 inch	90.0 mm	Best performance
	510 mm/ 20 inch	90.0 mm	Best performance
520 mm	410 mm/ 16 inch	90.0 mm	Performance considerations
	460 mm/ 18 inch	90.0 mm	Performance considerations
	510 mm/ 20 inch	90.0 mm	Performance considerations
550 mm	410 mm/ 16 inch	90.0 mm	Performance considerations
	460 mm/ 18 inch	90.0 mm	Performance considerations
	510 mm/ 20 inch	90.0 mm	Performance considerations
	580 mm/ 22 inch	90.0 mm	Best performance

Simple Tilt

Variant narrow base — Recommended positions of simple tilt

Wheelbase	Seat Depth	Distance yy	Comment
460 mm	410 mm/ 16 inch	70.0 mm	Best performance
	460 mm/ 18 inch	70.0 mm	Best performance
	510 mm/ 20 inch	70.0 mm	Best performance
490 mm	410 mm/ 16 inch	70.0 mm	Performance considerations
	460 mm/ 18 inch	70.0 mm	Performance considerations
	510 mm/ 20 inch	70.0 mm	Performance considerations
520 mm	410 mm/ 16 inch	70.0 mm	Performance considerations
	460 mm/ 18 inch	70.0 mm	Performance considerations
	510 mm/ 20 inch	70.0 mm	Performance considerations

Variant wide — Recommended positions of simple tilt

Wheelbase	Seat Depth	Distance yy	Comment
490 mm	410 mm/ 16 inch	90.0 mm	Best performance
	460 mm/ 18 inch	90.0 mm	Best performance
	510 mm/ 20 inch	90.0 mm	Best performance
520 mm	410 mm/ 16 inch	90.0 mm	Performance considerations
	460 mm/ 18 inch	90.0 mm	Performance considerations
	510 mm/ 20 inch	90.0 mm	Performance considerations
550 mm	410 mm/ 16 inch	90.0 mm	Performance considerations
	460 mm/ 18 inch	90.0 mm	Performance considerations
	510 mm/ 20 inch	90.0 mm	Performance considerations
	580 mm/ 22 inch	90.0 mm	Best performance

5.2.3 Adjusting Backrest Width



The backrest width of 550 mm cannot be retrofitted. Contact Invacare for more information.

Backrest width is adjusted by performing the following tasks:

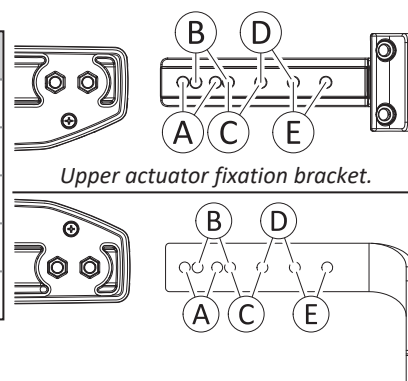
1. Adjusting backrest posts.
2. Adjusting backrest.
 - a. Tension-adjustable backrest, see 5.2.4 *Adjusting Tension-adjustable Backrest*, page 19.
 - b. Flex3 backrest, see 5.2.5 *Adjusting Flex3 Backrest*, page 19.
3. Replacing backrest cushion (these are available in various widths).
When modifying backrest width, seat width must also be correspondingly adapted, see 5.2.1 *Adjusting Seat Width*, page 13.



- 3 mm Allen key
- 5 mm Allen key
- 13 mm wrench

Screw position	Backrest width
Ⓐ	550 mm (optional)
Ⓑ	530 mm*
Ⓒ	480 mm
Ⓓ	430 mm
Ⓔ	380 mm

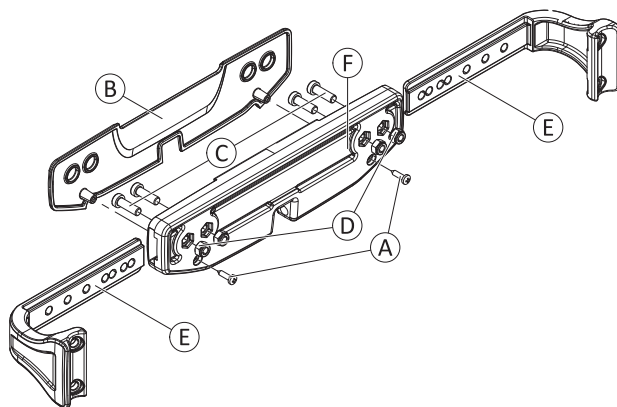
* Back posts for Flex3 seat only adjust up to a seat width setting of 480 mm. The remaining 50 mm are adjusted via the backrest plates.



Upper actuator fixation bracket.

Lower actuator fixation bracket.

1. Remove backrest cushion.
2. Loosen straps of sling backrest or remove plates of Flex3 backrest.
3. Remove backrest from backrest mounting bracket.
4. Loosen and remove both screws Ⓐ of both fixation brackets Ⓕ.
5. Remove shrouds Ⓑ of both fixation brackets Ⓕ.
6. Loosen and remove bolts Ⓒ and nuts Ⓓ of both fixation brackets Ⓕ.
7. Adjust backrest fixation Ⓔ for new backrest width according to table above.
8. Insert bolts Ⓒ and tighten with nuts Ⓓ.
9. Install shrouds Ⓑ.
10. Insert and tighten screws Ⓐ.
11. Install backrest to mounting bracket.
12. Adjust straps of sling backrest to new width or install adjusted Flex 3 backrest.
13. Install backrest cushion.
14. Test all functions.

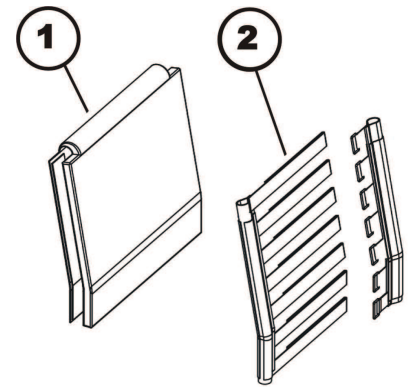


Top actuator fixation bracket serves as an example.

5.2.4 Adjusting Tension-adjustable Backrest

The tension-adjustable backrest can be individually adapted to the user's back shape.

1. Pull front and rear faces of backrest upholstery (1) apart and remove. Backrest upholstery front and rear faces are held together using hook-and-loop straps.
2. Open hook-and-loop straps of backrest belt (2) and adjust to required length.
3. Re-install backrest upholstery and fix it with hook-and-loop straps.

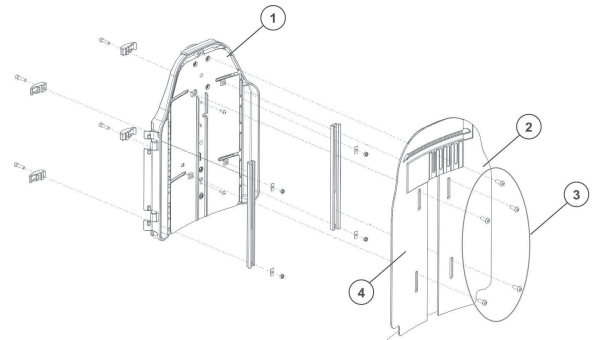


5.2.5 Adjusting Flex3 Backrest

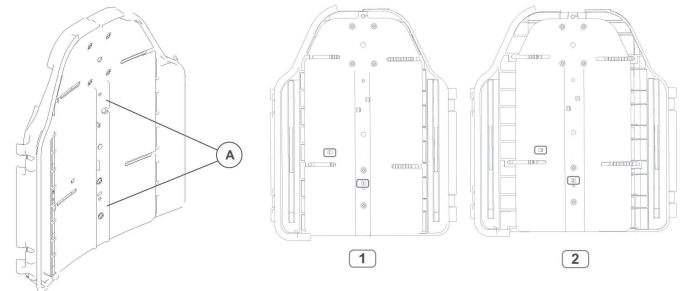


- Phillips screwdriver
- 5 mm Allen key

1. Loosen and remove screws (3).
2. Remove front lateral plates (2 and 4) from backrest (1).



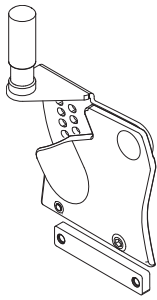
3. Remove both Phillips screws (A) on middle plate.
4. Shift position of rear plate halves (three settings are possible using drill holes).
 - Before pulling Flex3 backrest apart, a "1" will be visible in the small, rectangular cut-out.
 - After pulling Flex3 backrest apart, a "2" will be visible in the small, rectangular cut-out.
5. Re-insert two screws (A) into middle plate.
6. Retighten front lateral plates (2 and 4).



Adjusting Flex3 Manual Recline



- 6 mm Allen key

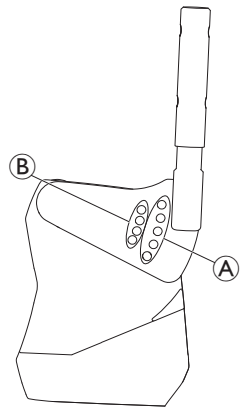


Bracket for seat width 53 is inrigged.



A second inner hole line ② allows fine adjustments of 3.75°.

1. Loosen screw in position ① or ②.
2. Adjust recline to desired angle.
3. Tighten screws in position ① or ②.



Adjusting Flex3 Tension Adjustable Backrest



For adjustment of Flex3 tension adjustable backrest, see user manual.

5.2.6 Adjusting Matrix Backrests

Adjusting Seat Depth



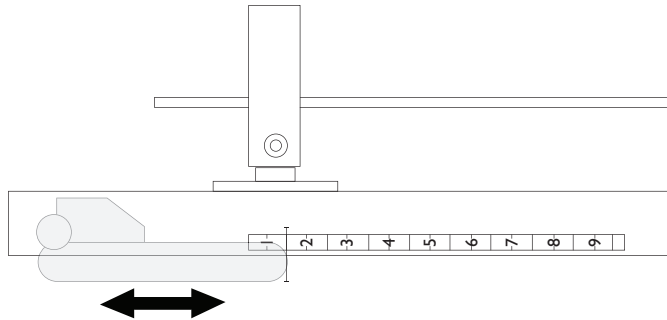
- 6 mm Allen key

1. Loosen screws **A** to adjust backrest mounting bracket **B** to the desired seat depth.

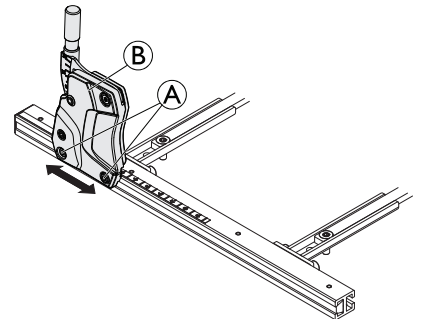


The action need to be performed on both sides equally.

See tables below for adjusting the seat depth of different Matrix Backrests and seat components according to the scale.



In this example the scale for the seat depth is set to 1.5.



MatrX PB-Back / Elite Back with Seat Plate for Seat Width 38 / 43 / 48 cm (53 cm not offered)			
	Length of Profile [cm]	Seat Depth [cm]	Setting Value on Scale
	51	41	7
	51	46	4.5
	51	51	2
only available for TDX SP2	60	51	6.5
only available for TDX SP2	60	56	4

MatrX PB-Back / Elite Back with Sling Seat for Seat Width 38 / 43 / 48 cm (53 cm not offered)			
	Length of Profile [cm]	Seat Depth [cm]	Setting Value on Scale
	51	41	6
	51	46	3.5
	51	51	1
only available for TDX SP2	60	51	5.5
only available for TDX SP2	60	56	3

MatrX Elite TR Back with Seat Plate for Seat Width 38 / 43 / 48 cm (53 cm not offered)			
	Length of Profile [cm]	Seat Depth [cm]	Setting Value on Scale
	51	41	5.5
	51	46	3
	51	51	1
only available for TDX SP2	60	51	5
only available for TDX SP2	60	56	2.5

MatrX Elite TR Back with Sling Seat for Seat Width 38 / 43 / 48 cm (53 cm not offered)			
	Length of Profile [cm]	Seat Depth [cm]	Setting Value on Scale
	51	41	4.5
	51	46	2
	51	51	0
only available for TDX SP2	60	51	4
only available for TDX SP2	60	56	1.5

MatrX Elite Deep Back with Sling Seat for Seat Width 38 / 43 / 48 cm (53 cm not offered)			
	Length of Profile [cm]	Seat Depth [cm]	Setting Value on Scale
	51	41	6.5
	51	46	3
	51	51	1.5
only available for TDX SP2	60	51	6
only available for TDX SP2	60	56	3.5

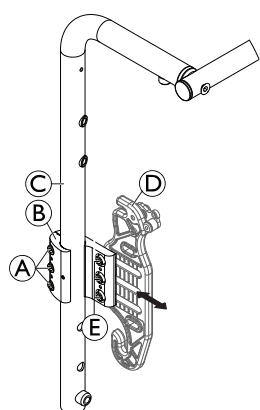
MatrX EliteDeep Back with Sling Seat for Seat Width 38 / 43 / 48 cm (53 cm not offered)			
	Length of Profile [cm]	Seat Depth [cm]	Setting Value on Scale
	51	41	5.5
	51	46	4
	51	51	0.5
only available for TDX SP2	60	51	5
only available for TDX SP2	60	56	2.5

Adjusting Cane Clamps

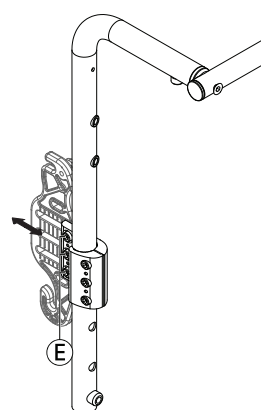


- 5 mm Allen key

The cane clamp ⑥ can be installed in two directions to offer a bigger range of seat depths.



*Rearmost seat depth.
Standard configuration ex works.*

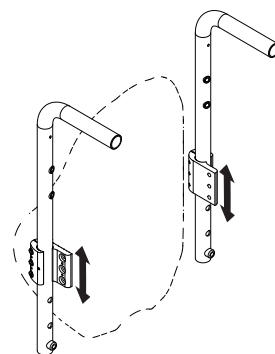


*Forwardmost seat depth.
Changes the seat depth, mentioned in the tables above, up to
two cm forward.*

1. If the cane clamp ⑥ is installed to the backrest post ③, loosen screws ① to remove cane clamp and plastic inserts (not shown) from backrest post.
2. Loosen screws ⑤ to remove mounting plate ④ from cane clamp ⑥.
3. Rotate cane clamp ⑥ 180° and re-install mounting plate ④.
 - a. Before tightening screws ⑤, you can adjust the seat depth by moving the mounting plate ④ back or forth.
4. Install cane clamp ⑥ with mounting plate ④ and plastic inserts to backrest post ③ as described above.

Adjusting Backrest Height

The height of the Matrix backrests can be adjusted by changing the position of the cane clamps on the backrest posts. For more information about assembly and disassembly of the cane clamps, see 6.3 *Replacing Matrix Elite / MAC Backrest*, page 28.

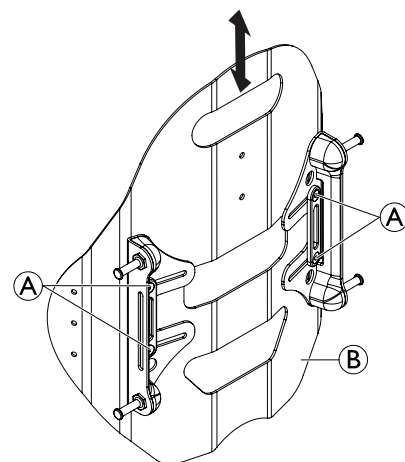


Adjusting Backrest Height (only for Matrix Elite 2)



- 5 mm Allen key

1. Loosen but not remove screws (A), to move backrest plate (B) up or down.
2. Tighten screws, when backrest plate (B) is in desired position.

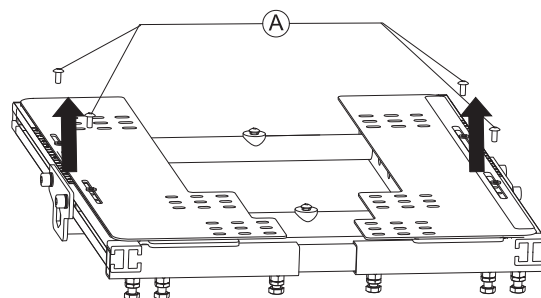


5.3 Adjusting Universal Seat Adapter Width



- 3 mm Allen key
- 10 mm wrench

1. Loosen and remove four screws (A).
2. Put seating plate on top of adapter plates.



3. Fasten adapter plates (A) to seat plate of seat (B) in area (C).



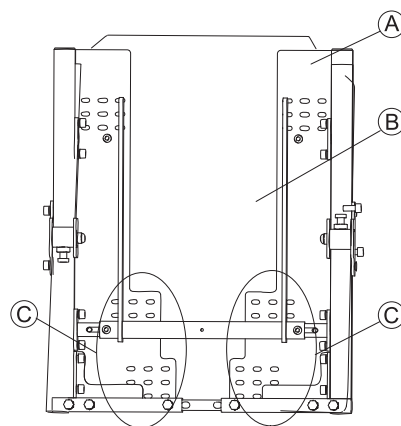
For smoothness of adjustment you can use button head screws.



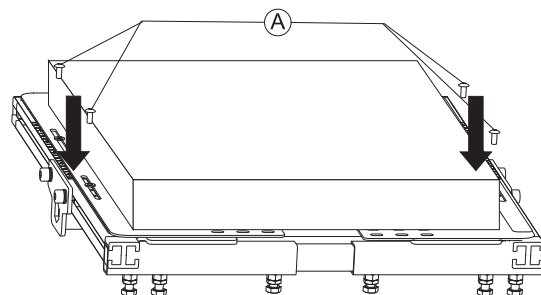
Make sure rubber straps on back of adapter plates face the frame.



To optimize seating position move element back or forth in slot before fastening to frame.



4. Insert four screws (A).
5. Tighten four screws.



5.4 Changing Mounting Side of Primary Remote

When adjusting the power wheelchair to a new user, it might be necessary to change the position of the primary remote. The programming must also be adapted to the requirements of the new user, see LiNX service manual.

There are several possibilities how a primary remote can be fitted to the wheelchair:

- by standard remote holder, or
- by standard swing-away remote holder, or.
- by Maxx Resolve swing away remote holder.

If a change of mounting site is required when setting up the primary remote for a new user, the remote holder must be altered to the new mounting site.

The alteration of a standard swing-away remote holder is only possible using the correct spare parts. The required spare parts are available in the spare parts catalogue.

- Standard swing-away holder RH: SP1496248
- Standard swing-away holder LH: SP1496249



When using a REM400 or REM500 remote, the user interface of display must be changed to left— or right-handed as well. See user manual of remote.

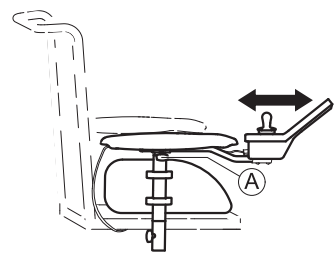


When changing the mounting site of the remote from right-handed to left-handed, in the most cases a one-step longer bus cable is required (e.g. from 1.5 m length to 1.7 m length). Bus cables are also available in the spare parts catalogue.



- Available bus cable lengths:
 - LiNX bus cable 1.0 m (GLM-BUS100): SP1602891
 - LiNX bus cable 1.2 m (GLM-BUS120): SP1603489
 - LiNX bus cable 1.5 m (GLM-BUS150): SP1602892
 - LiNX bus cable 1.7 m (GLM-BUS170): SP1602893
 - LiNX bus cable 2.0 m (GLM-BUS200): SP1602894
 - LiNX bus cable 2.5 m (GLM-BUS250): SP1602904
- 3 mm Allen key (Standard swing-away remote holder only)

Modifying standard remote holder / Maxx Resolve swing away remote holder	Modifying standard swing-away remote holder
<ol style="list-style-type: none"> 1. Take note of positions of cables and sockets. Mark plugs and sockets or take a photo with digital camera. 2. Unplug cable of remote on both sides. 3. Loosen and remove wing screw (A). 4. Remove remote in forwards direction. 5. Install remote holder to desired mounting site. 6. Adjust remote to requirements of user. See user manual of seating system. 7. Install and tighten wing screw. 8. Install brackets for cables mirror-inverted to their original position. 9. Install cable. <div> <p>The cable must be routed so that it does not rub or get trapped.</p> </div> 10. Plug in cable of remote on both sides. 11. Test all functions. 	<ol style="list-style-type: none"> 1. Take note of positions of cables and sockets. Mark plugs and sockets or take a photo with digital camera. 2. Unplug cable of remote on both sides. 3. Loosen set screw (A). Do not remove screw. 4. Remove remote in backwards direction. 5. Install new remote holder to desired mounting site. 6. Adjust remote to requirements of user. See user manual of seating system. 7. Tighten set screw. 8. Install brackets for cables mirror-inverted to their original position. 9. Install cable. <div> <p>The cable must be routed so that it does not rub or get trapped.</p> </div> 10. Plug in cable of remote on both sides. 11. Test all functions.



6 Backrests

For backrest options, see *4.2 Backrest Styles, page 7*.

6.1 Replacing Standard Backrest



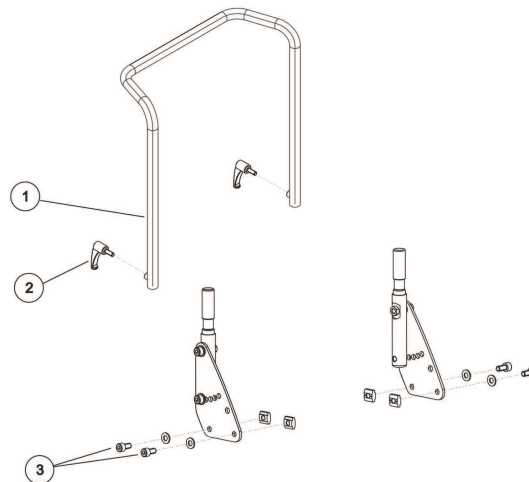
- 5 mm Allen key

Removing Backrest Unit

1. Remove backrest cushion
2. Loosen fixation lever (2) of backrest tube (1).
3. Remove backrest tube.
4. Remove screws (3) including nuts and washers on the left and right side.

Installing Backrest Unit

1. Install parts in reverse order.
2. To conclude, carry out a trial run to test vehicle functions.




6.2 Replacing Flex3 Tension Adjustable Backrest



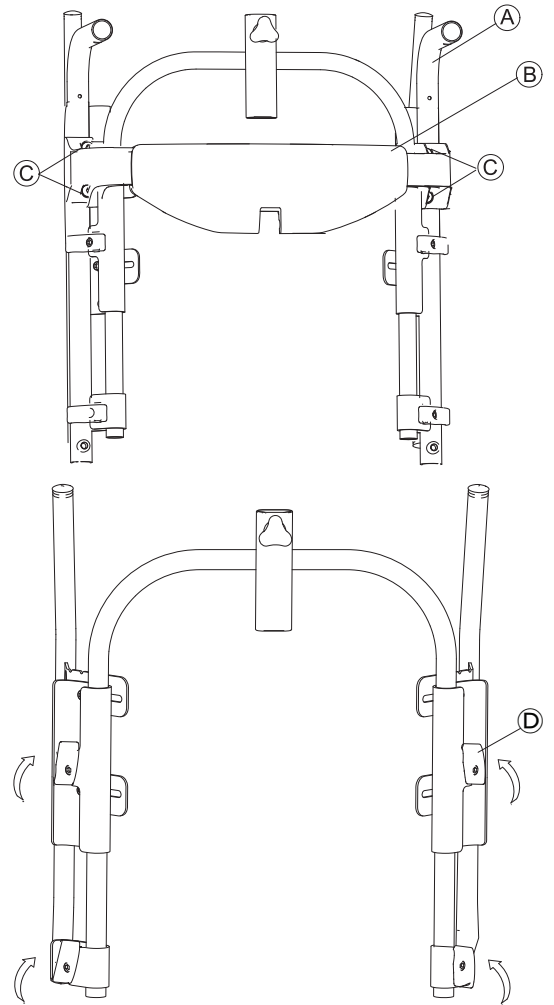
- 5 mm Allen key
- 6 mm Allen key

Removing

1. Loosen push handle screws.
 Push handles are on hinges, fastened from below.
2. Take off backrest from hinges of the seat.
3. Remove four screws ③ and take off back recliner stabilization bracket ② from push handles ①.
4. Loosen four screws on four clamps ④.
5. Turn clamps to vertical position.
6. Take off back.
7. Remove seat cover.


Installing

1. Install parts in reverse order.
2. Tighten screws.



6.3 Replacing Matrix Elite / MAC Backrest

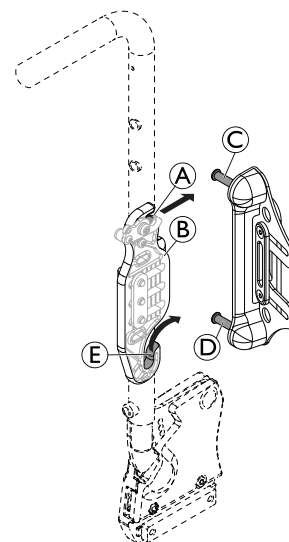
Removing Matrix Elite / MAC Backrest Mounting Hardware

 The mounting hardware is removed and installed in the same way for all Matrix Elite / MAC backrests.



- 5 mm Allen key
- Tape measure or similar


1. Lift cord upward, to unlock latch mechanism **A**.
2. Remove upper mounting pin **C** from latch mechanism **A** at the top of each mounting plate **B**.
3. Slide lower mounting pin **D** out of hooked slots **E** at the bottom of each mounting plate **B**.
4. Loosen screws **G** to remove cane clamp **F** with mounting plate **B** from backrest post **I**.
5. Remove plastic inserts **H** from backrest post **I**.

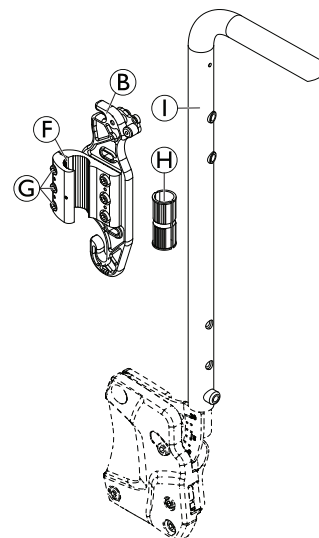


Backrest plate not shown in the graphic

Installing Matrix Elite / MAC Backrest Mounting Hardware

1. Install plastic inserts **H** on backrest post **I**.
2. Loosely install cane clamp **F** with mounting plate **B** onto each backrest post **I**.
3. Starting on one side:
 - a. Position cane clamp **F** and plastic inserts **H** at desired height on the backrest post **I** and tighten screws **G** enough to hold cane clamp in place.

 Screws **G** will be fully tightened after the backrest is installed and all final adjustments have been made.
 - b. Measure the exact height of the installed cane clamp **F** from a fixed point on the wheelchair (for example from seat frame).
 - c. Install second cane clamp **F** at exact same height on opposite backrest post **I**.
 - d. Make sure cane clamps **F** and mounting plates **B** are mounted parallel with each other.
4. Slide lower mounting pin **D** into hooked slots **E** at the bottom of each mounting plate **B**.
5. Snap upper mounting pin **C** into latch mechanism **A** at the top of each mounting plate **B**.



Removing Matrix Elite 2 / MAC Backrest

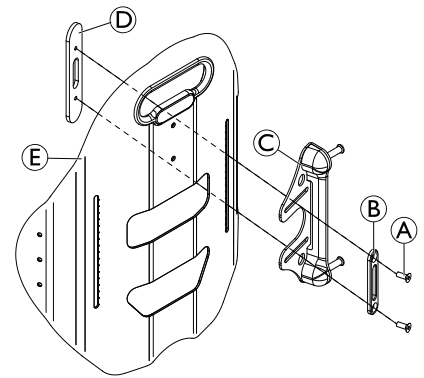


- 4 mm Allen key

1. Remove mounting pin interface © from mounting hardware, see description above.
2. Remove screws (A) securing flat washer (B), mounting pin interface © and backrest nut plate (D) to backrest (E).



For adjusting the MAC backrest to the user, see the user manual of the seating system.



6.4 Replacing Backrest Mounting Bracket



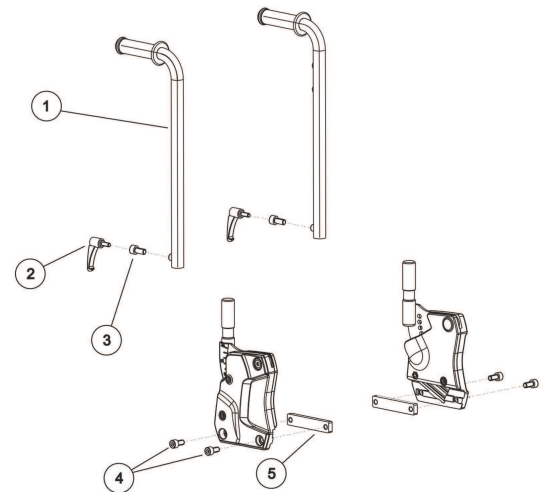
- 6 mm Allen key



The mounting brackets for the Flex3 backrest and a seat width of 530 mm are irriged. The course of action is the same.

Removing Bracket

1. Remove backrest cushion.
2. Loosen fixation of corresponding backrest posts (1), depending on version.
There are two versions of fixations:
 - (2) Fixation lever: for manual backrest
 - (3) Screw: for powered backrest
3. Remove backrest posts.
4. Loosen and remove two screws (4) to T-nut (5) on both sides.



Installing Bracket

1. Install parts in reverse order.
2. Test all functions.

6.5 Replacing Bag Hooks



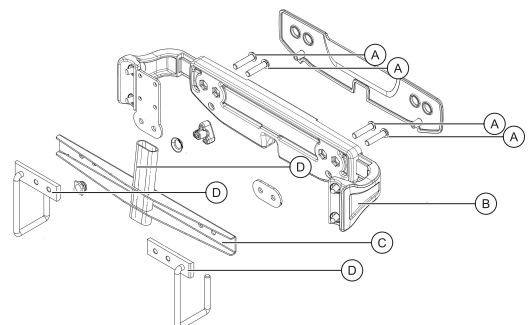
- 6 mm Allen key

Removing

1. Remove screws (A) .
2. Remove bag hooks (D), © and the distance spacers from backrest (B).

Installing

1. Install parts in reverse order.
2. Tighten screws to 22 Nm.

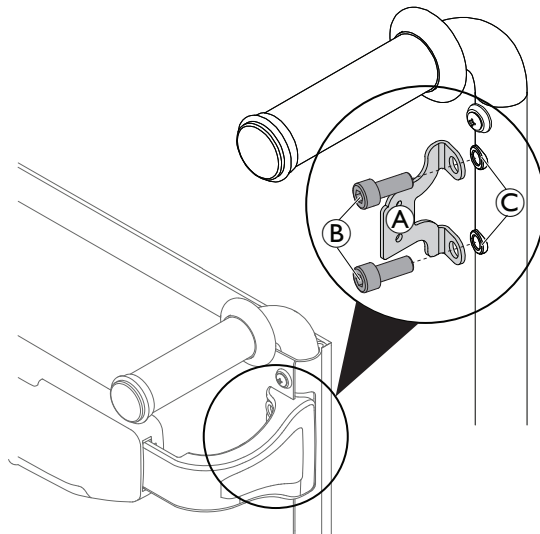


6.6 Installing Angle Sensor to Backrest



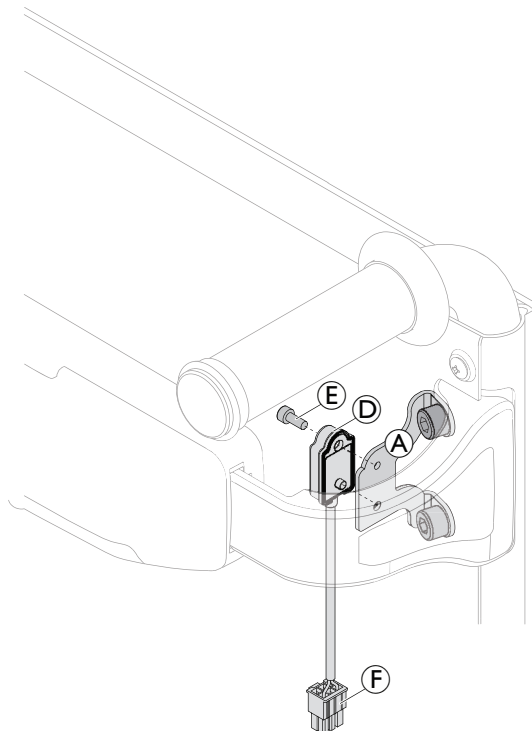
- 6 mm Allen key
- 3 mm Allen key
- Torque wrench 0 - 20 Nm (or similar)

1. Install bracket **A** with screws **B** to backpost **C**.



For better overview, only the backposts are shown in the detailed view.

2. Install angle sensor **D** with screw **E** to bracket **A**.
3. Tighten screw **E** to 2 Nm.
4. Connect plug **F** with depending module.



7 Headrests / Neckrests

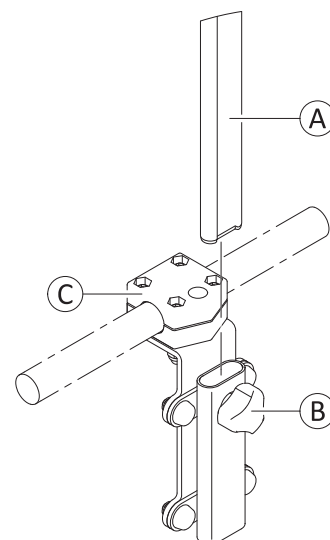
7.1 Replacing Rea Headrest

Removing Headrest

1. Loosen hand screw ⑥.
2. Pull headrest ① out of bracket ③.

Installing Headrest

1. Install parts in reverse order.
2. Tighten hand screw ⑥ hand-tight.
3. Test all functions.



7.2 Replacing Rea Headrest Mounting Bracket (Sling Backrest)



- 4 mm Allen key



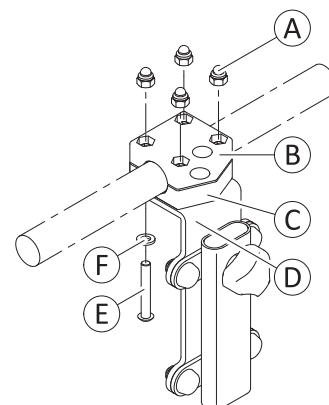
Not all bolts and washers are shown in illustration.

Removing Bracket

1. Loosen and remove bolts ⑤ including washers ⑥, mounting plate ④ and bottom side of bracket ③.
2. Remove top side of bracket ② including nuts ①.

Installing Bracket

1. Install parts in reverse order.
2. Test all functions.




7.3 Installing Elan Headrest to Flex3 Backrest

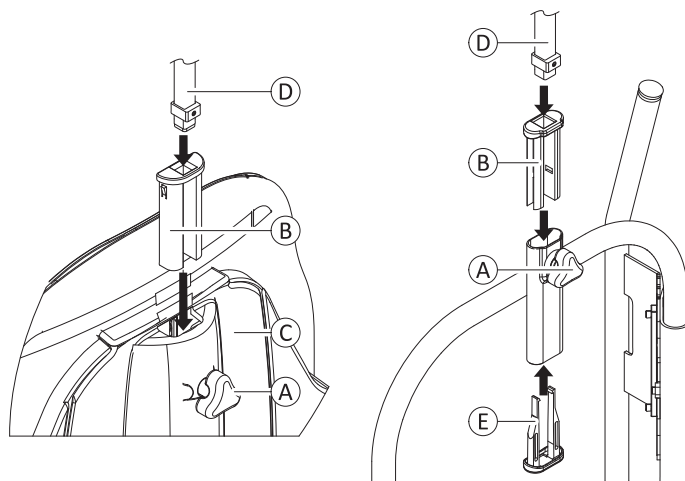
The Elan headrest can only be mounted to a Flex3 backrest via an adapter.

- ! NOTICE!**
Risk of Damage to Property
 After mounting parts of adapter, parts are difficult to separate again.
- Mount parts only within headrest housing.
 - To dismount, use small Allen key or paperclip to disengage locking clips on inside while pulling parts apart.
 - Mount parts completely to headrest mounting and ensure that parts engage with audible click.



- Rubber mallet
- Elan headrest adapter(s) for Modulite

1. Loosen and remove handscrew (A).
 2.  Curved side of adapter must face away from backrest frame.
- Install adapter:
- Backrest plates: Insert adapter (B) into slot of backrest plate (C).
 - Tension-adjustable backrest: Insert upper adapter (B) and lower adapter (E) into slot until it clicks.
3. Insert Elan headrest tube (D) into adapter.
 4. Attach and tighten handscrew (A).

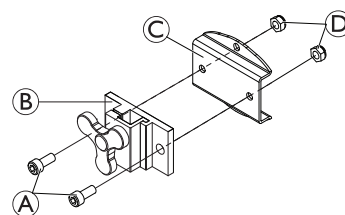


7.4 Installing Headrest Adapter for Elite 2 / MAC Backrest

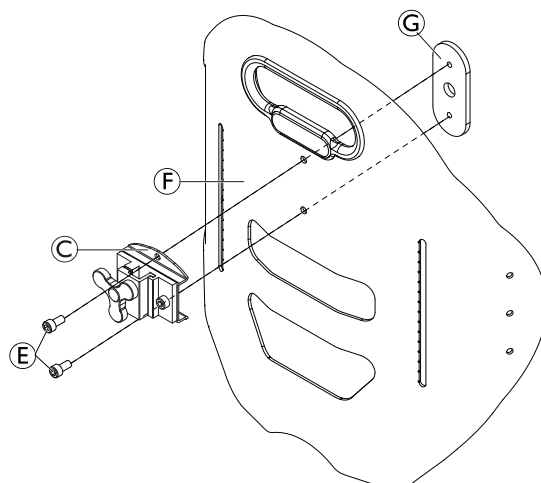


- 5 mm Allen key
- 10 mm wrench

1. Install headrest clamp (B) to headrest adapter (C) with screws (A) and nuts (D).



2. Install headrest adapter (C) to backrest plate (F) with screws (E) and headrest nut plate (G).



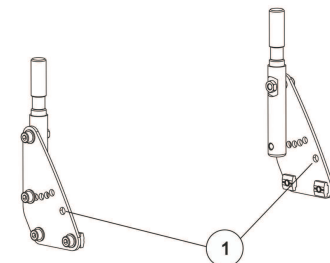
8 Posture Belts

8.1 Installation on Backrest Mounting Bracket (Backrest Frame)



- 13 mm socket spanner
- 5 mm Allen key

1. Attach posture belts via drill hole (1) on the top right.

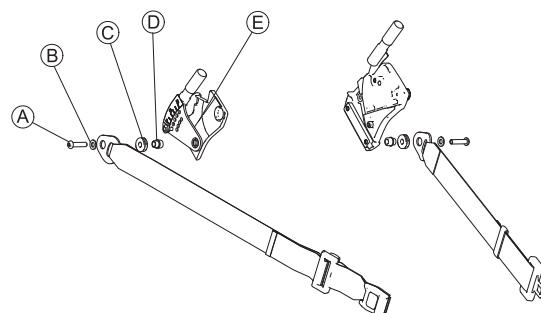


8.2 Installation on Backrest Mounting Bracket (Telescopic Seat Frame)



- 5 mm Allen key

1. Loosen screw (A).
2. Remove screw (A), corresponding washer (B), seat belt, stopper (C) and belt winder (D) from backrest mounting bracket (E).
3. Replace posture belt.
4. Install parts in reverse order.

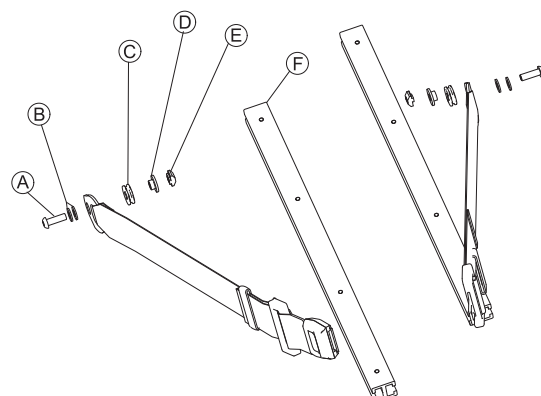


8.3 Installation on Seat Frame Profile (Telescopic Seat Frame)



- 5 mm Allen key

1. Loosen screw (A).
2. Remove screw (A), washers (B), seat belt, stopper (C), sliding bushing (D) and T-nut (E) from seat frame profile (F).
3. Replace posture belt.
4. Install parts in reverse order.




8.4 Replacing H-belt (Telescopic Seat Frame)



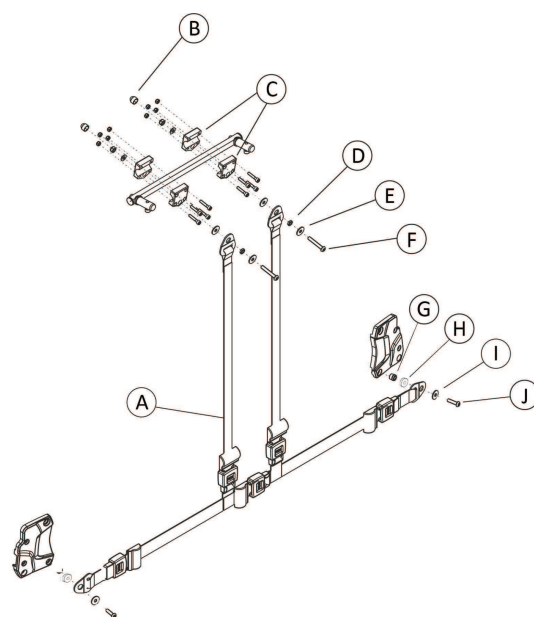
- 13 mm socket wrench
- 5 mm Allen key

Removing H-belt

1. Remove protective cap (B).
 2. Loosen and remove screw (F), associated washers (E) and nuts (D) (in front of / behind the gripper clamp (C)).
 3. Loosen and remove screw (I), associated washer (I), stopper (H), belt winder (G) in the lower part of the H-belt (A).
-  A belt winder is installed, so that the belt bracket can move freely.
4. Replace H-belt (A).

Installing H-belt

1. Install parts in reverse order.




8.5 Replacing H-belt (Backrest Frame)



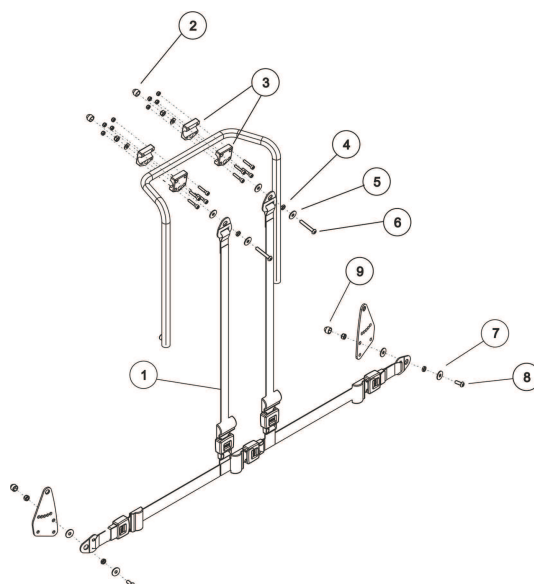
- 13 mm socket wrench
- 5 mm Allen key

Removing H-belt

1. Remove protective cap (2).
 2. Loosen and remove screw (6), associated washers (5) and nuts (4) (in front of / behind the gripper clamp (3)).
 3. Remove protective cap (9).
 4. Loosen and remove screw (8), associated washers (7) and nuts in the lower part of the harness belt (1).
-  Another nut is installed between washers as a spacer, so that the belt bracket can move freely.
5. Replace harness belt (1).

Installing H-belt

1. Install parts in reverse order.



9 Armrests and Upper Body Support Options

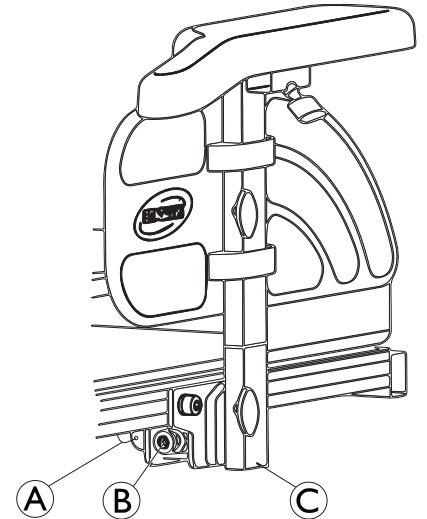
For armrests and upper body support options, see *4.4 Armrest Styles, page 8* and *4.6 Support Options, page 10*

9.1 Removing / Installing Armrest (Telescopic Seat Frame)



- 8 mm Allen key
- Torque wrench

1. If necessary, disconnect remote.
2. Remove spring cotter Ⓐ (if present).
3. Loosen screw Ⓑ.
4. Pull armrest Ⓒ out of mounting bracket.
5. If necessary, replace armrest including mounting bracket.
6. Install parts in reverse order. Tighten screw Ⓑ to 25 Nm.

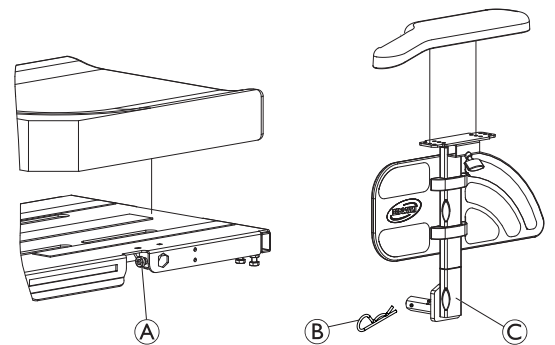


9.2 Removing / Installing Armrest (One Piece Seat Plate)



- 8 mm Allen key
- Torque wrench

1. If necessary, disconnect joystick.
2. Remove spring cotter Ⓑ (if present).
3. Loosen screw Ⓐ.
4. Pull armrest Ⓒ out of seat plate.
5. If necessary, replace armrest including mounting bracket.
6. Install parts in reverse order. Tighten screw Ⓐ to 25 Nm.



9.3 Replacing Skirt Guard on Inrigged Armrest

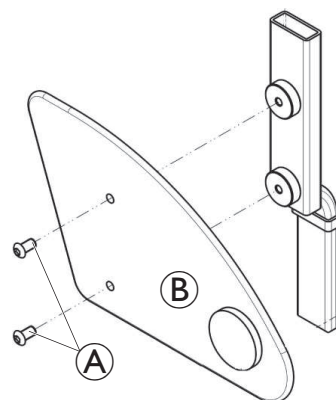


- 4 mm Allen key



Use the smaller skirt guard for seat depth (41 cm) and above.

1. Loosen and remove two screws (A).
2. Take off skirt guard (B).
3. Replace skirt guard with smaller skirt guard.
4. Retighten two screws.

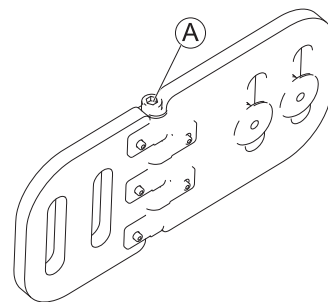


9.4 Adjusting / Fixing Angle of Lateral Supports



- 6 mm Allen key

1. Remove cover.
2. Loosen screw (A) that allows angle adjustment of lateral supports.
3. Adjust supports to desired angle.
4. Replace cover.
5. Re-tighten screws.



10 Remote Holders

For remote holder options, see *4.5 Remote Holders, page 9*.

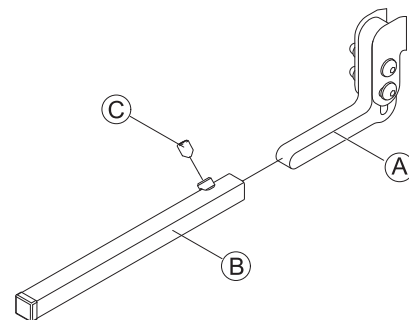
10.1 Remote Holders for Wheelchair User Remotes

10.1.1 Installing Standard Remote Holder



- 3 mm Allen key

1. Insert standard remote holder (A) into armrest tube (B).
2. Insert and tighten screw (C).

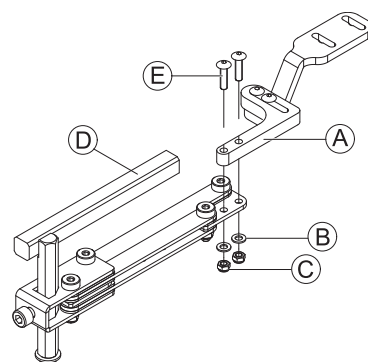


10.1.2 Installing Swing-Away Remote Holder

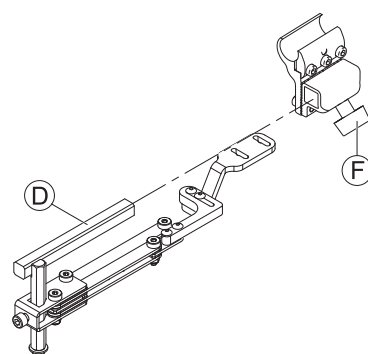


- 3 mm Allen key
- 8 mm wrench

1. Insert screws (E), washers (B) and nuts (C) into adapter (A) and swing-away remote holder (D) and tighten.



2. Insert swing-away remote holder (D) into armrest bracket and tighten screw (F).

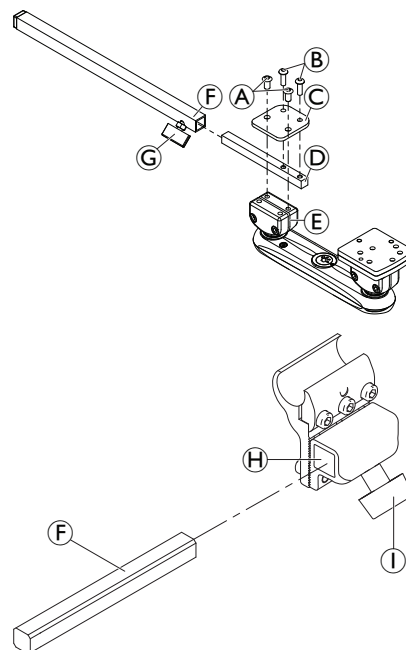


10.1.3 Installing Maxx Resolve Remote Holder



- 3 mm Allen key
- 4 mm Allen key

1. Use screws (A) to install adapter plate (C) on Maxx Resolve remote holder (E).
2. Use screws (B) to install adapter plate to support tube adapter (D).
3. Insert support tube adapter into support tube (F) and tighten screw (G).
4. Insert support tube into armrest bracket (H) and tighten screw (I).



10.1.4 Replacing Nucleus Midline Holder



CAUTION!

Risk of Injury or 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 mm Allen key
- 3/16" (5 mm) Allen key
- Torque wrench



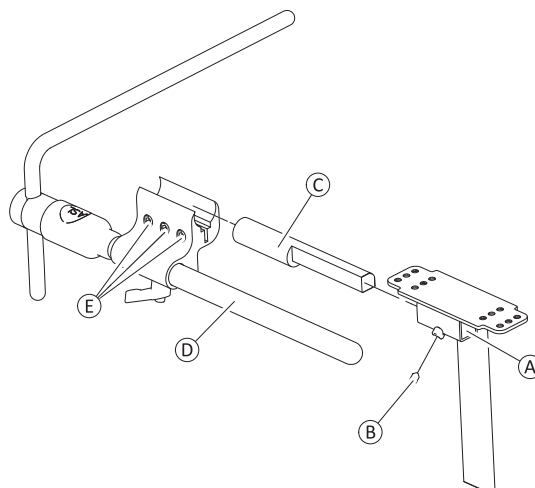
The bracket can be mounted either on the left- or right-hand side of the power wheelchair via a slot (A) under the armrest bracket.

Removing Holder

1. Loosen screw (B).
2. Remove adapter (C) including nucleus (D) from slot (A) under armrest bracket.
3. Loosen screws (E).
4. Remove adapter.
5. Replace nucleus.

Installing Holder

1. Install parts in reverse order. Tighten screw (B) to 6 Nm.
2. Test all functions.



10.2 Remote Holders for Attendant Remotes

10.2.1 Replacing Remote Holder for Primary Remotes / REM050



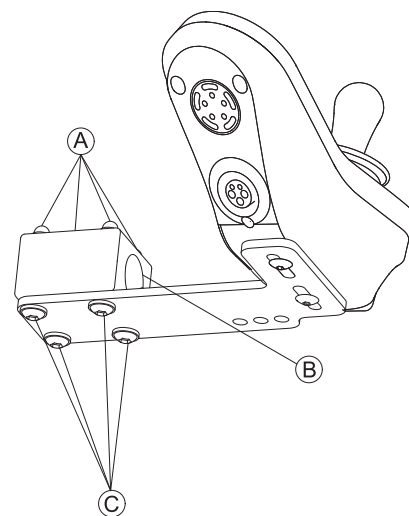
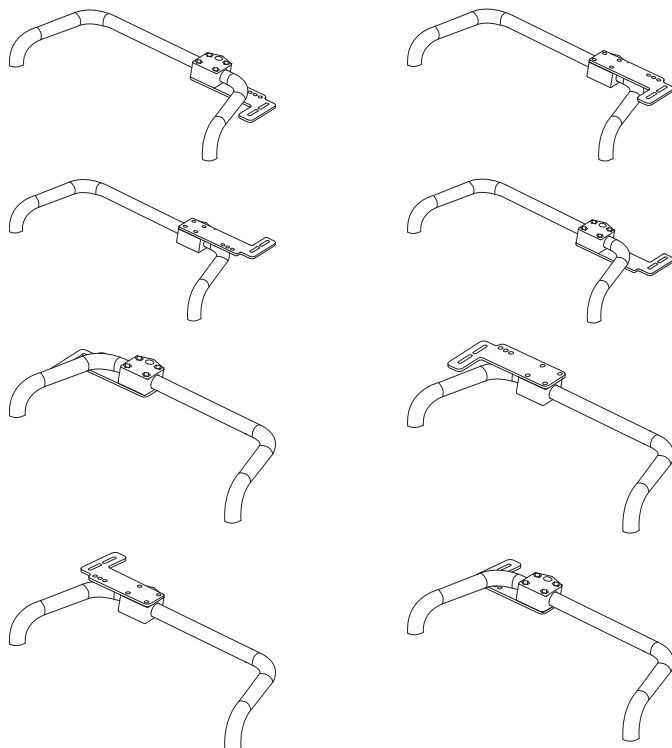
- 3 mm Allen key
- 4 mm Allen key

Removing

1. Loosen screws ③ and nuts ①.
2. Remove bracket ②.

Installing

- 1.



Mount bracket to tube in desired position.

2. Tighten screws ③ and nuts ①.

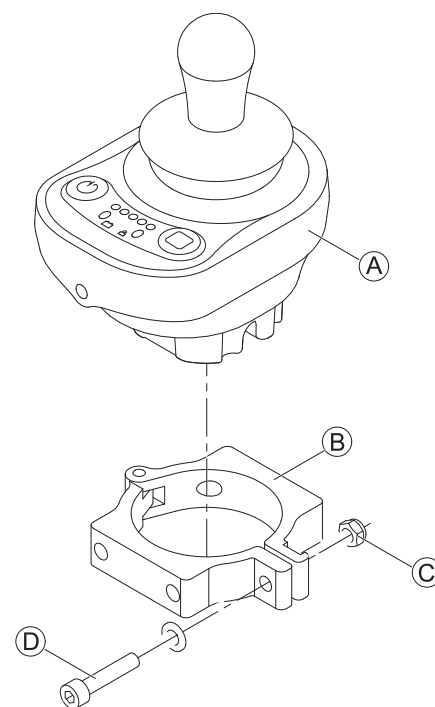
10.2.2 Replacing Remote Holder for DLX-ACU200 / DLX-CR400



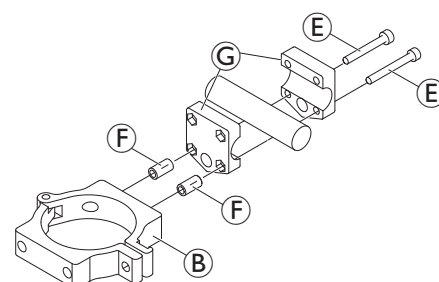
- 3 mm Allen key
- 5 mm Allen key
- 10 mm wrench

Removing

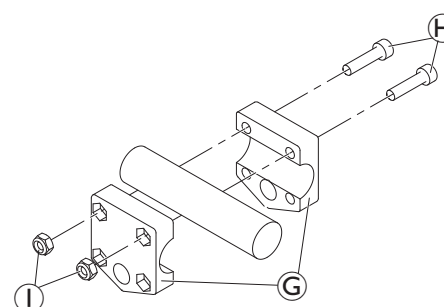
1. Loosen screw ④ and nut ③.
2. Remove remote ① from clamp ②.



3. Remove screws ⑤ and spacers ⑥ and clamp ② from gripper clamp ⑦.



4. Loosen screws ⑧ and nuts ⑨ on gripper clamp ⑦.
5. Remove gripper clamp ⑦.



Installing

1. Install parts in reverse order.

11 Chin Control

11.1 Maintenance

- Keep all electronic components free of dust, dirt and liquids. To clean the product, use a cloth dampened with warm soapy water. Do not use chemicals, solvents or abrasive cleaners, as this may cause damage to the product.
- Once a month, check all vehicle components for loose, damaged or corroded components, such as connectors, terminals or cables. Ensure that all connectors are fully mated. Restrain all cables to protect them from damage. Replace damaged components. Check for and remove any foreign objects or material.
- Every 6 months, test all functions on the controls system to ensure they function correctly.



NOTICE!

Risk of Damage to the Remote

There are no user-serviceable parts in any electronic component.

- Do not attempt to open any case or undertake any repairs, else warranty will be voided and the safety of the system may be compromised.



If any component is damaged in any way, or if internal damage may have occurred (for example by being dropped), have it checked by qualified personnel before operating.

Where any doubt exists, consult your nearest Invacare provider.

11.2 Replacing Components

11.2.1 Replacing Joysticks / Switches



NOTICE!

Risk of Damage to Screws

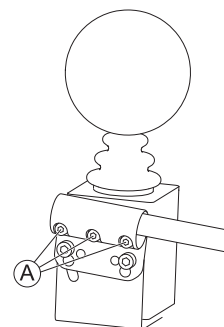
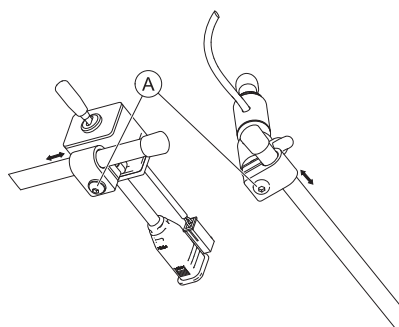
If you tighten screws to an improper torque, they might either come loose or get damaged.

- Tighten the screws to a torque of 3 Nm \pm 10 %.



- 3 mm Allen key (RJM/RJM—LF remote)
- 4 mm Allen key (all other components)
- Torque wrench 0 Nm — 20 Nm (or similar)

1. Remove end caps.
2. Loosen screws (A).
3. Remove joystick / switch from linkage.
4. Install parts in reverse order.
5. Test all functions.



11.2.2 Replacing Linkage



NOTICE!

Risk of Damage to Screws / Clamping Lever

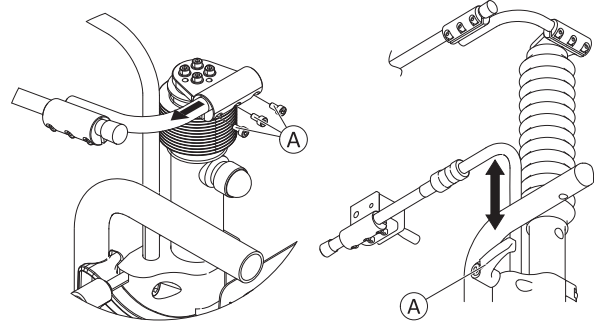
If you tighten screws or lever to an improper torque, they might either come loose or get damaged.

- Tighten the screws to a torque of 3 Nm \pm 10 %.
- Tighten the lever to hand-tight only.



- 3 mm Allen key

1. Remove components that are installed on linkage, such as joysticks and switches, see 11.2.1 *Replacing Joysticks / Switches*, page 41.
2. Loosen screws / clamping lever (A).
3. Replace linkage.
4. Install parts in reverse order.
5. Test all functions.




Top Linkage

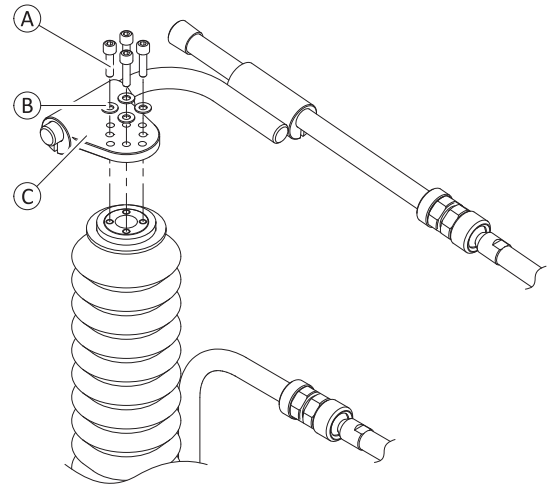
Bottom Linkage

11.2.3 Replacing Connection Bracket



- 3 mm Allen key
- Medium-strength thread locking adhesive (Loctite 242 or similar)

1. Remove top linkage, see 11.2.2 *Replacing Linkage*, page 42.
 It is possible to remove this component without removing any parts installed on the component such as joysticks and switches. When removing, take care of cable connections and installed parts.
2. Loosen and remove screws (A) and washers (B).
3. Replace bracket (C).
4. Apply thread locking adhesive to screws (A). Install and tighten screws.
5. Re-install linkage.



Connection bracket and top linkage.
Linkage variant with ball joints served as example.

11.2.4 Replacing Actuator



- 5 mm Allen key

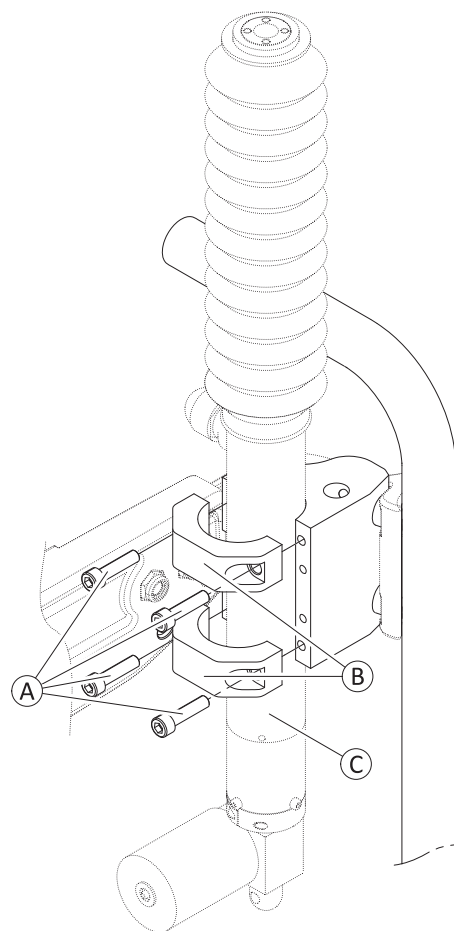
1. Remove top linkage including bracket, see *11.2.2 Replacing Linkage, page 42* and *11.2.3 Replacing Connection Bracket, page 42*.



It is possible to remove this component without removing any parts installed on the component such as joysticks and switches.

When removing, take care of cable connections and installed parts.

2. Secure actuator. Loosen and remove screws **A**.
3. Remove brackets **B**.
4. Replace actuator **C**.
5. Install parts in reverse order.
6. Re-install top linkage including bracket.
7. Test all functions.



11.3 Servicing Linkage of Chin Control

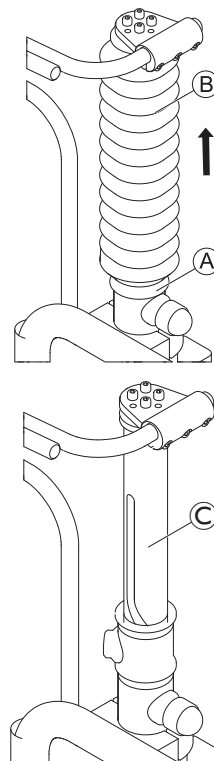
The linkage of the Chin Control should be greased once a year.



- Pliers
- Grease
- Cable tie

1. Remove cable tie (A).
2. Push up bellows (B).

3. Clean linkage (C).
4. Apply thin layer of grease to linkage.
5. Pull down bellows.
6. Secure with new cable tie.




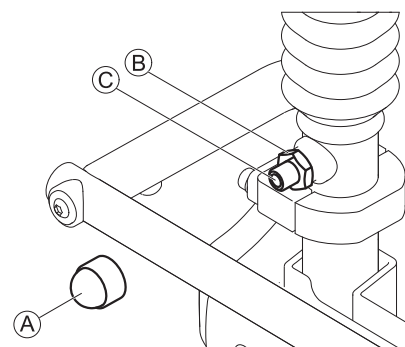
11.4 Tightening Powered Linkage

Check the powered linkage of the Chin Control once a year for play.



- Slotted screwdriver
- 6 mm Allen key
- 19 mm wrench

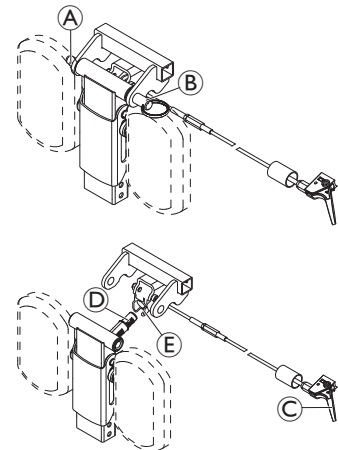
1. Remove cap (A).
2. Loosen counter nut (B).
3. Tighten grub screw (C) until linkage is free from play.
4. Tighten counter nut.
5. Move linkage up and down to check for increased actuator noise.
 -  If grub screw is too tight, this damages the actuator, recognizable by increased actuator noise.
6. If grub screw is too tight, repeat steps 1 to 4 and tighten it a bit less.
7. Reattach cap.



12 Legrests

12.1 Removing Central Manually Adjustable Legrest

1. Press knob (A) to remove axle (B).
2. Hold legrest (D) securely and pull lever (C) located on the side rail of the seat.
3. Remove legrest from holder (E).



12.2 Replacing Powered Legrest Actuator



WARNING!

Risk of Crushing

The legrest is very heavy. Risk of injury to hands and feet.

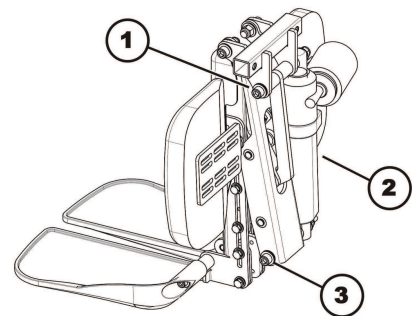
— Pay attention to the heavy weight.



- 1/2" (13 mm) socket wrench
- 3/8" (10mm) Allen key
- Side cutting pliers
- Cable ties

Removing Powered Legrest

1. Turn OFF electronics.
2. Remove seat plate of telescopic seat frame (see 5.2.1 *Adjusting Seat Width*, page 13) to make actuator module accessible.
3. Unplug legrest actuator from actuator module.
4. Loosen screw (3).
5. Loosen screw (1).
6. Remove nuts including washers, but leave screw inserted in screw hole, do not pull it completely out.
7. Pull actuator (2) toward the side of screws (1) and (3) off.
8. Replace actuator.



Installing Powered Legrest

1. Install parts in reverse order.
2. Test all functions of power wheelchair.

12.3 Replacing Footboard of Vari Legrests

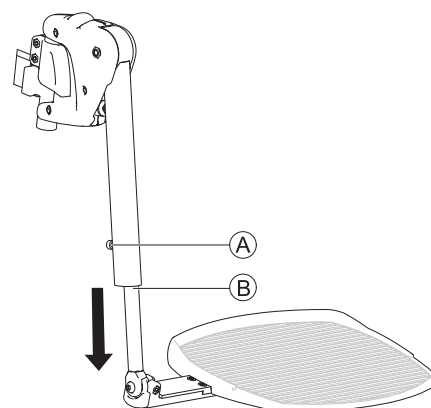


- 5 mm Allen key

1. Loosen screw (A) on hanger, left and right side.
2. Pull out footboard (B) and replace.
3. Install parts in reverse order.



For adjusting footboard, see user manual of seating system or power wheelchair.



12.4 Replacing LNX Powered Center-mounted Legrest



WARNING!

Risk of Crushing

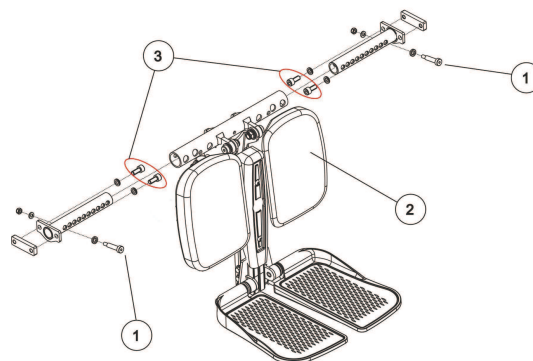
The legrest is very heavy. Danger of injury to hands and feet.
— Pay attention to the heavy weight.



- 4 mm Allen key
- 6 mm Allen key
- 10 mm wrench

Removing LNX Powered Center-mounted Legrest

1. If possible, raise the lifter to highest position.
2. If possible, tip wheelchair with tilt module as far backwards as it will go.
3. Turn OFF electronics.
4. Pull plug of legrest actuator out of actuator module.
5. Remove protective caps from profile.
6. Loosen screws (3). Pull entire legrest (2) forwards out of seat frame profile.
7. Loosen and remove screws (1) including nuts and washers.
8. Replace legrest (2).



Installing LNX Powered Center-mounted Legrest

1. Install parts in reverse order.
2. Test all functions of the wheelchair.

12.5 Replacing LNX Powered Center-mounted Legrest with Telescoping Footboard

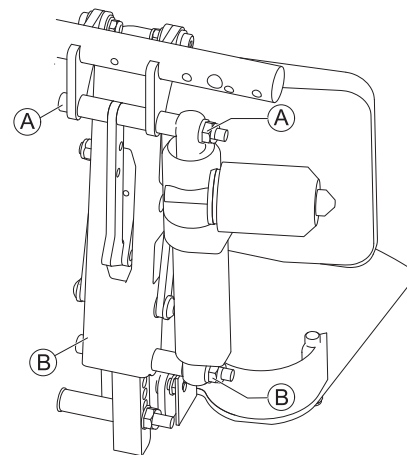
Replacing the complete legrest must be done by Invacare. There are several settings to observe to ensure correct functioning. Contact Invacare for details.

12.5.1 Replacing Legrest Actuator



- 6 mm Allen key
- 8 mm Allen key
- 16 mm wrench

1. Turn OFF electronics.
2. Remove seat plate of telescopic seat frame (see 5.2.1 *Adjusting Seat Width, page 13*) to make actuator module accessible.
3. Unplug legrest actuator from actuator module.
4. Remove screws and nuts at top (A) and bottom (B) of actuator.
5. Replace actuator with new one.
6. Re-insert screws and nuts and tighten.

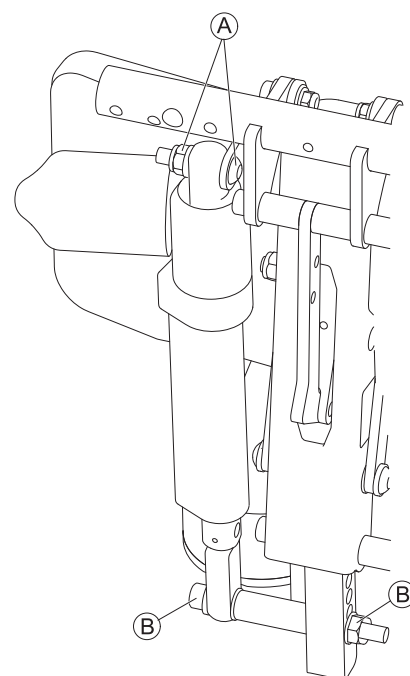


12.5.2 Replacing Footboard Actuator



- 8 mm Allen key
- 16 mm wrench

1. Turn OFF electronics.
2. Remove seat plate of telescopic seat frame (see 5.2.1 *Adjusting Seat Width, page 13*) to make actuator module accessible.
3. Unplug actuator from actuator module.
4. Remove screws and nuts at top (A) and bottom (B) of actuator.
5. Replace actuator with new one.
6. Re-insert screws and nuts and tighten.

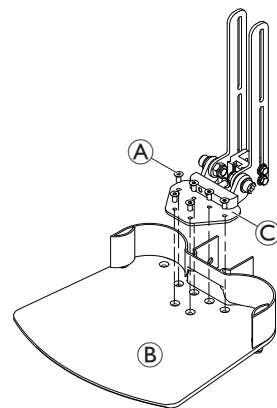


12.5.3 Replacing Footboard



- 8 mm Allen key

1. Loosen screws (A) on footboard (B).
2. Remove footboard (B) from pivot interface (C).
3. Insert and tighten screws (A).



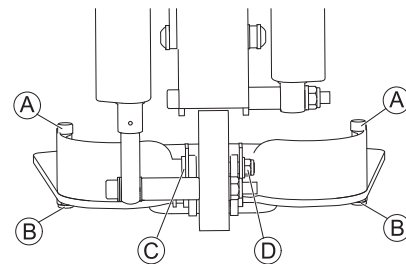
12.5.4 Replacing Heel Straps / Felt Pads



- 6 mm Allen key
- 8 mm Allen key
- 13 mm wrench
- 16 mm wrench

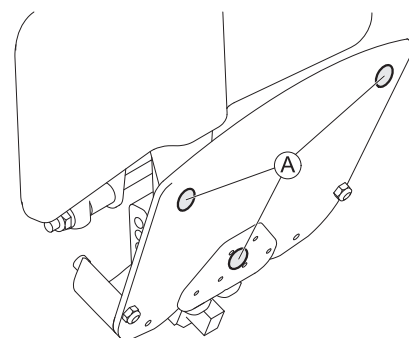
Replacing Heel Strap

1. Loosen and remove screws (A) and nuts (B).
2. Loosen and remove screw and washer (C) and nut and washers (D).
3. Remove heel strap and replace by new one.
4. Re-insert and tighten screws and nuts.



Replacing Felt Pads

1. Replace worn felt pads (A) on bottom of footboard to avoid damage to the floor.

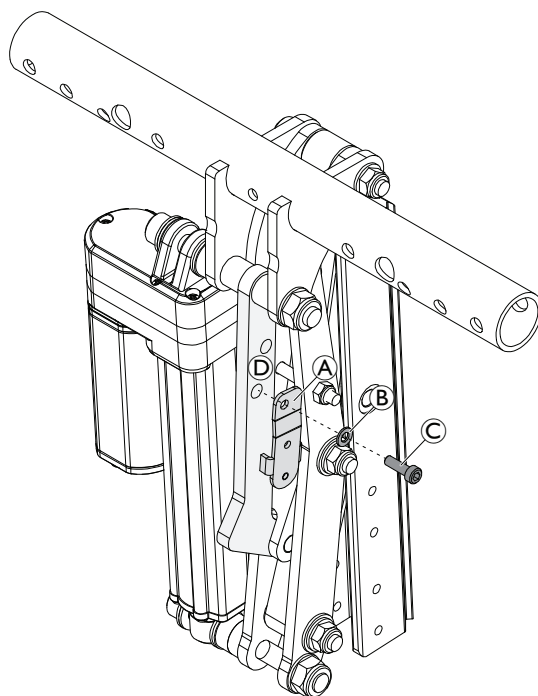


12.5.5 Installing Angle Sensor on LNX

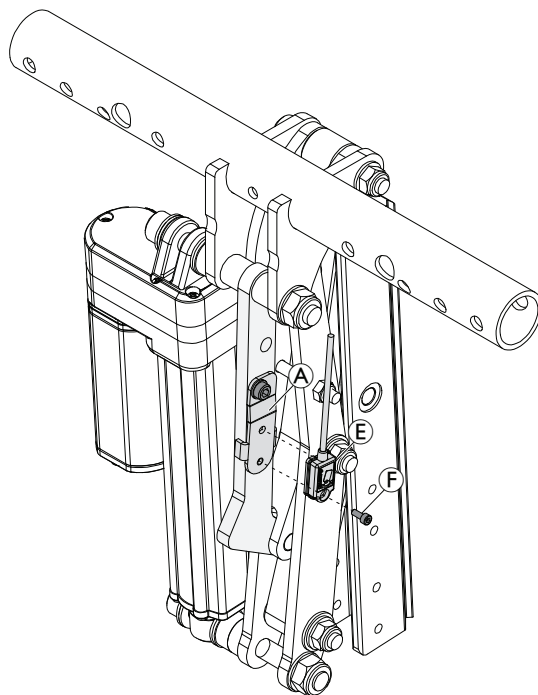


- 4 mm Allen key
- 3 mm Allen key
- Torque wrench 0 - 20 Nm (or similar)

1. Install bracket **A** with washer **B** and screw **C** to legrest **D**.



2. Install angle sensor **E** with screw **F** to bracket **A**. Tighten screw **F** to 2 Nm.
3. Connect angle sensor plug to depending module.



12.6 Replacing Calf Plate on Center-mounted Legrest (Powered and Manual)



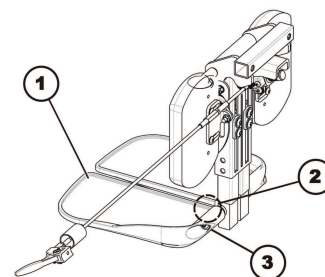
- 13/64" (5 mm) Allen key

Removing Calf Plate

1. If possible, raise lifter to highest position.
2. If possible, tip wheelchair with tilt module as far backwards as it will go.
3. Switch controls system off.
4. Remove both screws (2).
5. Remove calf plate (1).

Installing Calf Plate

1. Install parts in reverse order.
2. Using different adjustment holes (3) in calf plate and in calf plate brackets, calf plates can be mounted at different heights and widths. This must be adjusted to fit needs of the user.



A manual legrest can be seen in the illustration. The method of fixation to the seat is almost identical for both legrests.

12.7 Replacing Foot Plate on Center-mounted Legrest (Powered and Manual)



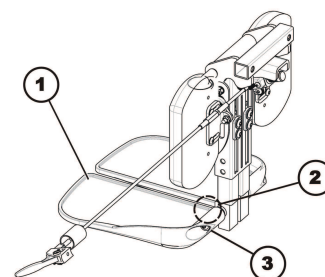
- 11/64" (4 mm) Allen key
- 1/4" (6 mm) Allen key

Removing

1. If possible, raise lifter to highest position.
2. If possible, tip power wheelchair with tilt module as far backwards as it will go.
3. Switch controls system off.
4. Remove both screws (3).
5. Replace foot plate (1).

Installing

1. Install parts in reverse order.
2. Tighten screws (3) till they are tight enough that footplate can barely be moved.
3. In area denoted by (2) there is an adjustment screw that can only be reached when footplate is swivelled upwards. Adjust angle of footplate to needs of user with this screw.



A manual legrest can be seen in the illustration. The method of fixation to the seat is almost identical for both legrests.

13 Setting Anterior Tilt

The seating system can be set to a predefined anterior tilt.

For TDX SP2 and TDX SP2 Low-Rider:

- 5° anterior tilt wedge which reduces the maximum possible tilt by 5°

Replacing Tilt Wedge

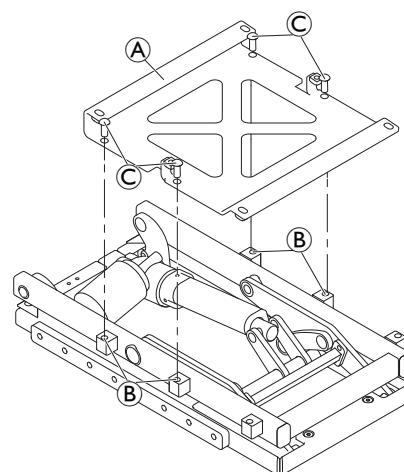


CAUTION!
Risk of Strains from Lifting Heavy Parts!
— Use proper lifting techniques.



- 6 mm Allen key

1. Remove seat.
2. Align tilt wedge **A** with holes on module **B** and in the desired orientation.
3. Insert screws **C** and tighten.
4. Align seat with holes on tilt wedge and install.



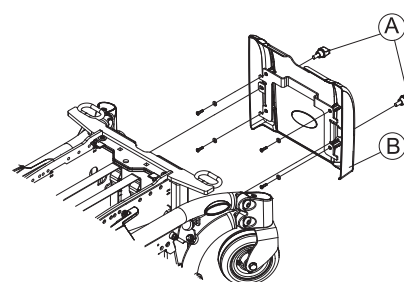
5° anterior tilt

Replacing Front Shroud

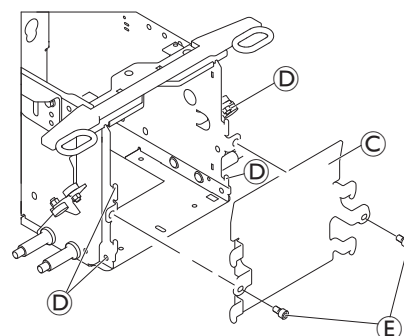


- 5/8" (16 mm) Allen key

1. Remove screws **A** on front shroud **B**.
2. Pull front shroud upwards and remove it.





3. Push recessed front shroud **C** down on hooks **D**.
4. Tighten screws **E** finger-tight.



14 Actuators


14.1 Replacing Actuator / Spindle — Tilt with Fixed Pivot Point


 When an electrical adjustment option is retrofitted, then this option needs to be activated in the driving program as well.

-  • Flat screwdriver
• Jacking device

Example AVIVA RX

Removing Actuator

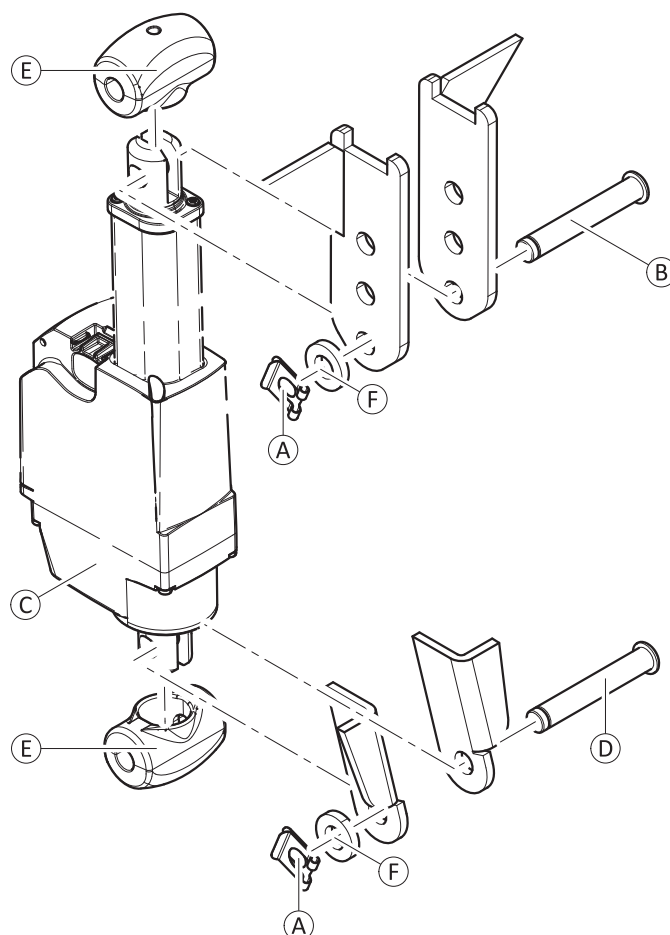
 When removing, take care of small parts such as spacers. Put all small parts down so that they can be installed in the correct sequence.

 **CAUTION!**
Risk of Crushing
Seat comes down when actuator is removed.
— Hold the seat in position while removing the actuator.
— Move the seat into service position and place a wooden block under the backrest, or lower it carefully to the chassis.

1. Unplug actuator cable directly on actuator.
2. Remove SL retainer clips (A) and spacers (F) on actuator at top and bottom.
3. Remove upper pin (B). Hold seat in position.
4. Move seat into service position. Alternatively, lower it carefully to chassis.
5. Remove lower pin (D) and actuator (C) with mounting hardware (E).

Installing Actuator

1. Install parts in reverse order.
2. Test all functions.

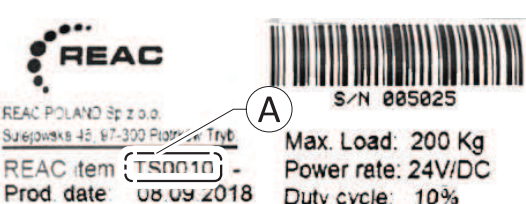



For better view only the actuator, pins, spacers and SL retainer clips are shown.

14.2 Identifying Type of Actuator (Modules With CoG Shift)

This power wheelchair can be fitted with different types of modules. Before replacing an actuator you must identify the type of the fitted module. The different module types including the actuators are not compatible with each other.

See the following table how to identify the different types using the serial label on the module itself. The type of the module is highlighted by Ⓐ on the examples:

	Type TS	Type NL
Serial Label	 <p>REAC POLAND Sp. z o.o. Sulejowska 48, 97-300 Piotrków Tryb. REAC item: TS0010 - Prod. date: 08.09.2018</p> <p>S/N 005025</p> <p>Max. Load: 200 Kg Power rate: 24V/DC Duty cycle: 10%</p> <p>Ⓐ</p>	 <p>MML Polano Sulejowska 48 97-300 Piotrków Tryb.</p> <p>REF 1642581 SN 7</p> <p>Tilt Lift 30deg 300mm NL0200 Rev A Power: 24DC 6A Max Load: 227kg 500lbs Duty cycle: 10% (2 min work 18 min rest)</p> <p>27kg</p> <p>Ⓐ</p> <p>(240)1642581(13)180307(21)7</p>
Variants	TS: Tilt	NL01: Tilt
	LTS: Lifter-Tilt	NL02: Lifter-Tilt
Tilt Actuator	See 14.3.1 Replacing Actuator in Tilt Module (Type TS), page 54 or 14.3.2 Replacing Actuator in Lifter / Tilt Module (Type TS), page 55.	See 14.4.1 Replacing Tilt Actuator (Type NL), page 57.
Lifter Actuator	See 14.3.3 Replacing Lifter Actuator (Type TS), page 56.	See 14.4.2 Replacing Lifter Actuator (Type NL), page 58.

14.3 Replacing Actuators (Type TS)

Different types of modules can be fitted to this power wheelchair. Due to compatibility reasons, you must identify the type of the module first before replacing an actuator, see *14.2 Identifying Type of Actuator (Modules With CoG Shift)*, page 53.

14.3.1 Replacing Actuator in Tilt Module (Type TS)

The actuators of this type are fitted with a bolt and a nut on bottom fixation and a bolt secured by a snap ring on top fixation.

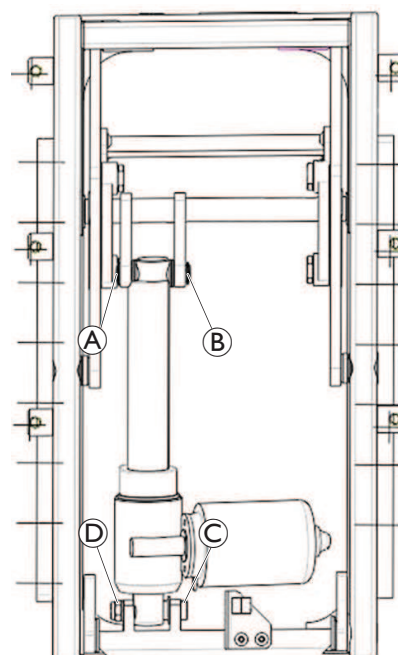


- Flat screwdriver, width 6 mm
- 13 mm wrench (2x)
- Grease (LT-43 or similar)



When removing, take care of small parts such as screws and washers. Put all small parts down so that they can be installed in correct sequence.

1. Remove legrests.
2. Turn OFF electronics.
3. Disconnect actuator cable from cable harness.
4. Loosen and remove nut ④ and bolt ③ on bottom fixation.
5. Remove snap ring ① on top fixation.
6. Loosen and remove bolt ②.
7. Replace actuator.
8. Install parts in reverse order.
9. Connect actuator cable to cable harness.
10. Test tilting function.



14.3.2 Replacing Actuator in Lifter / Tilt Module (Type TS)

The actuators of this type are fitted with a bolt secured by a snap ring on bottom fixation and snap rings on top fixation.

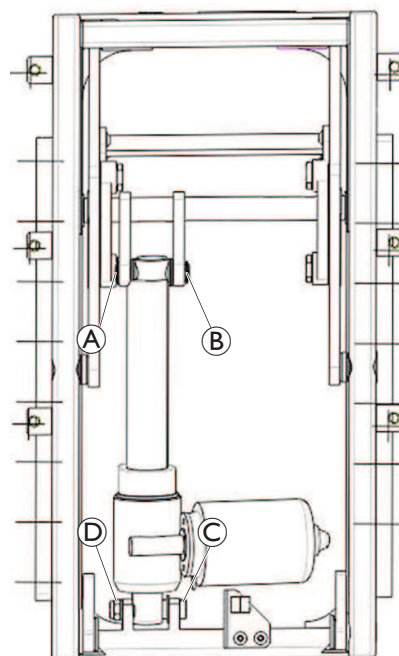


- Flat screwdriver, width 6 mm
- Grease (LT-43 or similar)



When removing, take care of small parts such as screws and washers. Put all small parts down so that they can be installed in correct sequence.

1. Remove legrests.
2. Turn OFF electronics.
3. Disconnect actuator cable from cable harness.
4. Remove snap ring ④ on bottom fixation.
5. Loosen and remove bolt ③.
6. Remove one snap ring ① and pin ② on top fixation.
7. Replace actuator.
8. Install parts in reverse order.
9. Connect actuator cable to cable harness.
10. Test tilting function.



14.3.3 Replacing Lifter Actuator (Type TS)




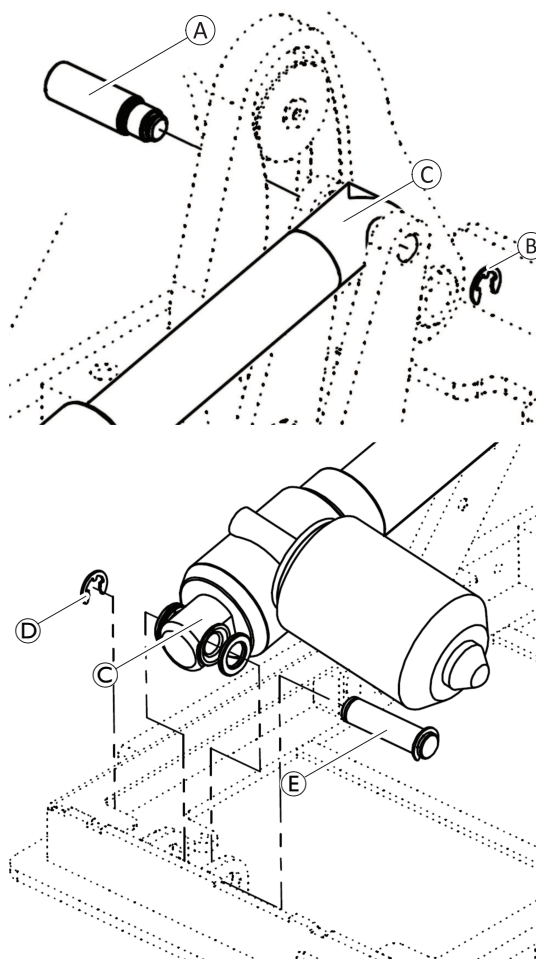
- Screwdriver flat, width 6 mm
- Large screwdriver
- Flat screwdriver

- Medium-strength thread locking adhesive (Loctite 243 or similar)
- Grease (LT-43 or similar)



When removing, take care of small parts such as screws and washers. Put all small parts down so that they can be installed in correct sequence.

1. Remove legrests.
2. Run the lifter up to top position, if possible.
 -  If the lifter cannot be raised, a shroud can be removed from the upper rear side of the module. This way it is possible to reach the lower fixation of the actuator.
3. Turn OFF electronics.
4. Secure seat.
5. Remove cable ties.
6. Unplug actuator cable.
7. Remove snap ring **ⓑ**.
8. Secure actuator **ⓒ**. Loosen and remove screw **Ⓐ**.
9. Remove one snap ring **ⓓ** and pin **ⓔ** on bottom fixation.
10. Replace actuator.
11. Install parts in reverse order.
12. Plug in actuator cable.
13. Install cable ties.
14. Test lifting functions.



14.4 Replacing Actuators (Type NL)

Different types of modules can be fitted to this power wheelchair. Due to compatibility reasons, you must identify the type of the module first before replacing an actuator, see *14.2 Identifying Type of Actuator (Modules With CoG Shift)*, page 53.

14.4.1 Replacing Tilt Actuator (Type NL)

The actuators of this type are fitted with snap rings on both fixations. The procedures are the same for all type of modules.

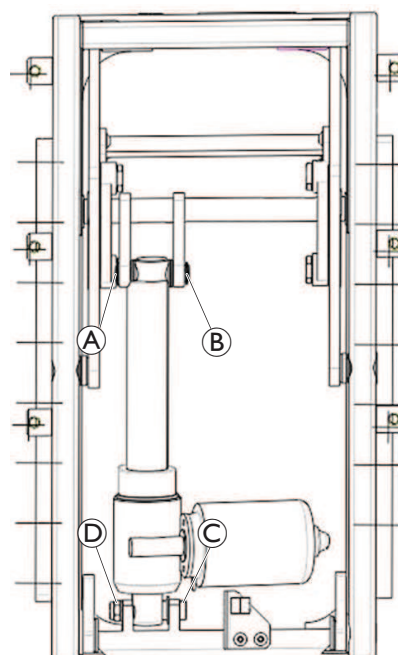


- Flat screwdriver, width 6 mm
- 5.5 mm torque wrench 0.5 Nm — 4.5 Nm (or similar)
- Grease (LT-43 or similar)



When removing, take care of small parts such as screws and washers. Put all small parts down so that they can be installed in correct sequence.

1. Remove legrests.
2. Turn OFF electronics.
3. Secure seat.
4. Disconnect actuator cable from cable harness.
5. Remove one snap ring (A) and pin (B) on top fixation.
6. Secure actuator.
7. Remove one snap ring (D) and pin (C) on bottom fixation.
8. Replace actuator.
9. Adjust end switches of new actuator, see *14.4.3 Setting Limits of Actuator (Type NL)*, page 58.
10. Install parts in reverse order.
11. Connect actuator cable to cable harness.
12. Test tilting function.




14.4.2 Replacing Lifter Actuator (Type NL)

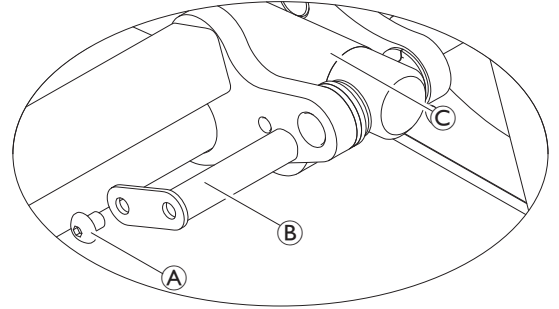


- Flat screwdriver
- 2 mm Allen key
- 5.5 mm torque wrench 0.5 Nm - 4.5 Nm (or similar)
- Grease (LT-43 or similar)

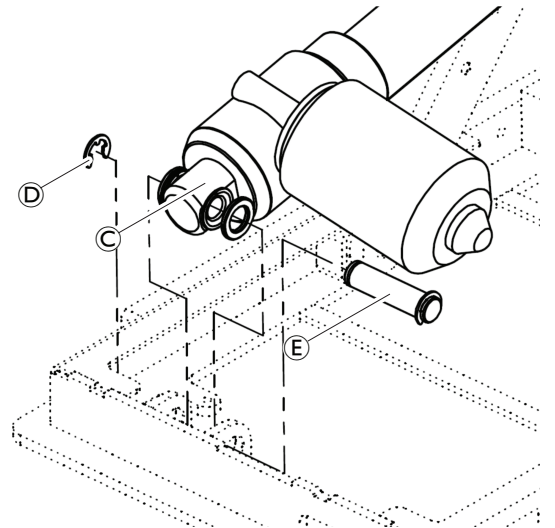


When removing, take care of small parts such as screws and washers. Put all small parts down so that they can be installed in correct sequence.

1. Remove legrests.
2. Run the lifter up to top position, if possible.
 If the lifter cannot be raised, a shroud can be removed from the upper rear side of the module. This way it is possible to reach the lower fixation of the actuator.
3. Turn OFF electronics.
4. Secure seat.
5. Remove cable ties.
6. Unplug actuator cable.
7. Loosen and remove screw ①.
8. Secure actuator ②. Pull pin ③ out off fixation.



9. Remove one snap ring ④ and pin ⑤ on bottom fixation.
10. Replace actuator.
11. Adjust end switches of new actuator, see 14.4.3 *Setting Limits of Actuator (Type NL)*, page 58.
12. Install parts in reverse order.
13. Plug in actuator cable.
14. Install cable ties.
15. Test lifting function.



14.4.3 Setting Limits of Actuator (Type NL)

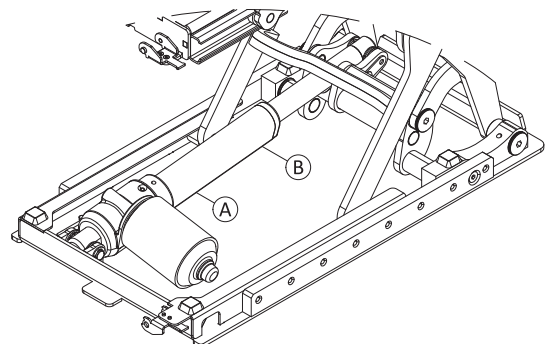
The actuators of type NL are fitted with two end switches. The switches allow to change both end positions of the actuator in a range of approximately 3 mm. This helps to reduce the risk of collisions and damage to the actuator and the module.

The setting screws to position the switches are located on the lower side of the actuator.



- 5.5 mm torque wrench 0.5 Nm - 4.5 Nm (or similar)

1. Loosen both screws ① and ② slightly.
2. Move lifter to both end positions.
3. Move lifter to a position where you can reach both screws.
4. Tighten screws to 0.5 Nm.

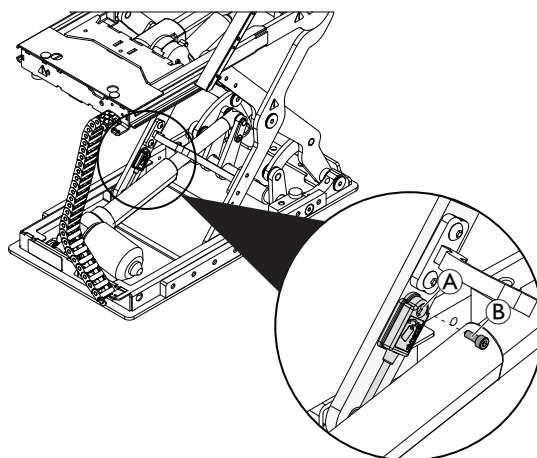


14.4.4 Installing Angle Sensor to Actuator (Type NL)



- 3 mm Allen key
- Torque wrench 0 - 20 Nm (or similar)



1. Install angle sensor ① to actuator with screw ②. Tighten screw ② to 2 Nm.
2. Connect angle sensor plug with depending module.

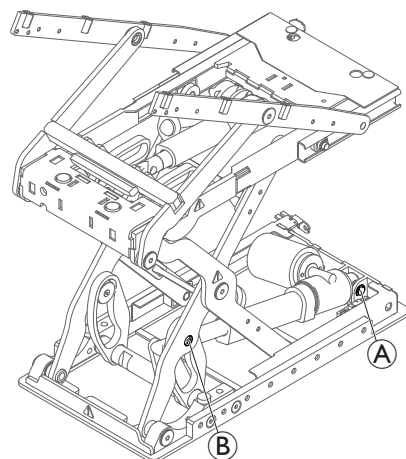


14.5 Replacing Lifter Actuator (45° Module / 50° Module)



- Flat screwdriver

1. Remove legrests.
2. Run the lifter up to top position, if possible.
 -  If the lifter cannot be raised, a cover can be removed from the upper rear side of the module. This way it is possible to reach the lower fixation bolt of the actuator.
3. Switch electronics OFF on remote.
4. Secure seat.
5. Disconnect actuator from actuator module.
 -  Take note of how the actuator is connected. Make sure to connect the new actuator the same way.
6. Bottom fixing bolt ① secured with snap rings: Remove a snap ring using a screwdriver and remove bolt.
7. Top fixing bolt ② with slot: Loosen fixing bolt with screwdriver.
8. Remove bolt.
9. Replace actuator.
10. Reassembly takes place in reverse order.
11. Connect actuator to actuator module.
12. To complete, check all seat tilting functions.



14.6 Replacing Recline Actuator



- 8 mm Allen key
- Open-ended spanner, 10 mm
- Open-ended spanner, 13 mm

Remove Recline Actuator

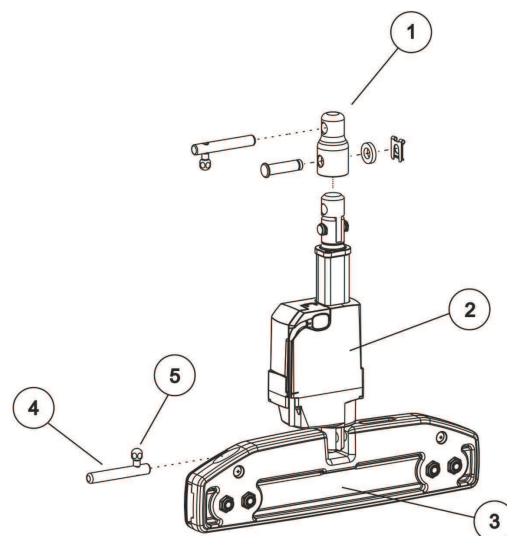
1. Pull cable off directly where it is connected to actuator (2).
2. Detach bracket from actuator at top and bottom; to do this, slide bolts (4) to the side using the lever (5) and tilt the actuator (2) out of backrest clamp (3).
3. Replace actuator.



To increase the angle of the backrest, you can remove the adapter (1), see 14.7 Recline Actuator - Removing Adapter, page 60.

Install Recline Actuator

1. Install parts in reverse order.



14.7 Recline Actuator - Removing Adapter

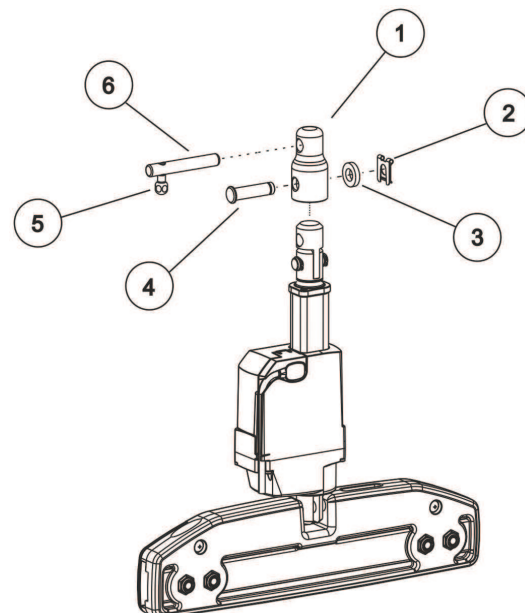
The Modulite seat is shipped ex works with an adapter on the backrest actuator, which allows a backrest angle of 75 to 105 degrees. This is done for safety reasons, in order to ensure tipping stability in cases of heavy user weight or tall users with a corresponding shift in their center of gravity. Smaller or lighter users can use the full range of backrest angles from 90 to 120 degrees.

1. The adapter (1) must be removed to allow this.



The tipping stability must be checked afterwards, to determine the safety and stability of the power wheelchair. See service manual, "Checking tipping stability".


2. Slide bolts (6) to the side using the lever (5) and tilt actuator out of the upper bracket.
3. Remove SL retainer clip (2) incl. washers (3) from the fixation bolt (4).
4. Pull fixing bolt (4) out.
5. Remove adapter (1).



15 Seat Interface / Frame

For seat interface and frame options, see 4.7 *Seat Frame and Surface*, page 11.

15.1 Replacing Seat / Seat Frame with Manually Settable Tilt

 This chapter describes how to replace the seat frame on a power wheelchair with a manually settable tilt (8°). To replace a lifter or tilt module, follow the procedures explained in “Replacing lifter / tilt module”.



WARNING!

Risk of Crushing


The seat is very heavy. Risk of injury to hands and feet.

- Use proper lifting techniques.






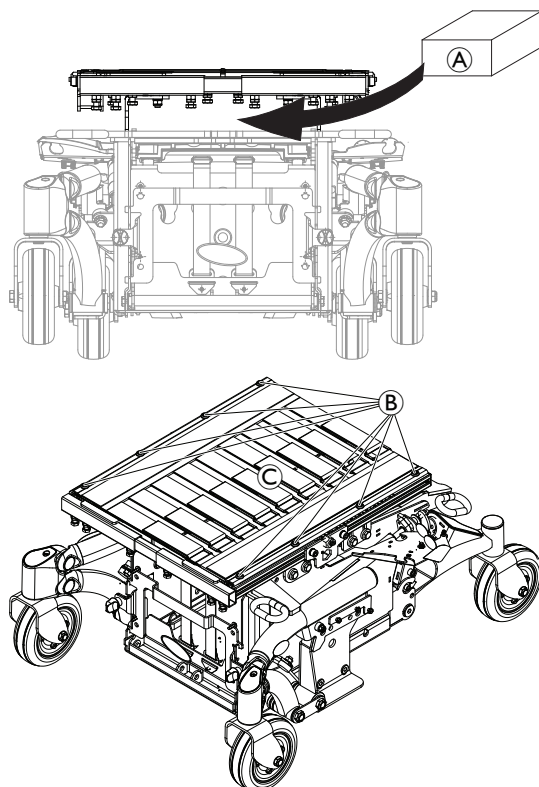
- | | |
|--|-----------------------|
| • 13 mm wrench | • Side cutting pliers |
| • 6 mm Allen key | • Cable ties |
| • Torque wrench 5 – 30 Nm (or similar) | • Jacking device |
| • Protractor | |

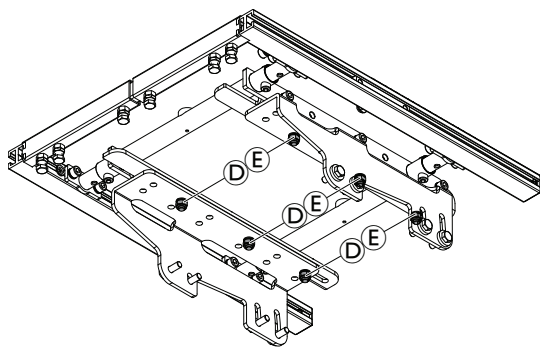
The assembly of the TDX SP2 with telescopic seat plate and sling seat serves as an example. For a better view, some components of the power wheelchair are not shown in the graphics.

 Take careful note of the exact position of the seat. Mark the position it is mounted in, the angle and so on. If necessary, make photographs with a digital camera. Any modification of the adjustment of the seat affects the centre of gravity of the wheelchair.

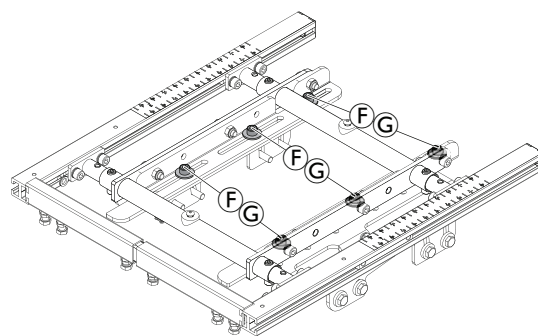
Removing Seat

1. Turn OFF electronics.
2. Remove front shroud and rear shroud, as described in the depending service manual of the power wheelchair base.
3. Take exact note of the positions of all cables and sockets that they are connected to. Mark connectors and sockets or take a photograph with a digital camera.
4. Detach all cables from the electronic modules which run from seat to chassis.
5. Insert a suitable jacking device  between seat support and chassis. This will prevent the seat from falling down when you remove the screws.
6. Remove screws  to take off sling seat .





Bottom view



Top view

7. Hold seat securely while removing nuts (D) and washers (E) from bottom side of seat.
8. Hold seat securely while removing screws (F) and washers (G) from top side of the seat.
9. Lift seat off.



WARNING!
Risk of Crushing

The seat is very heavy. Risk of injury to hands and feet.
— Use proper lifting techniques.

Removing Seat Support (Telescopic Seat Frame / One-piece Seat Plate)




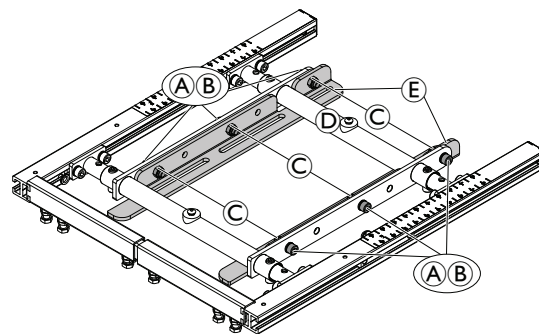
- 6 mm Allen key
- 13 mm wrench

The telescopic seat frame serves as an example.

1. Remove screws (A), washers (B) and nuts (C).
2. Pull seat frame (D) up and off from seat frame adapters (E).

Installing Seat and Seat Support

1. Install parts in reverse order.
 When installing the seat, pay attention to its heavy weight.
2. Tighten screws to 25 Nm.
3. Check all vehicle functions and go for a test drive.



15.2 Replacing Seat Support (Modules With CoG Shift)

This chapter deals with replacing the seat support for a seat with lifter or tilt modules with Centre of Gravity shift function. Proceed as described in to replace lifter or tilt modules.

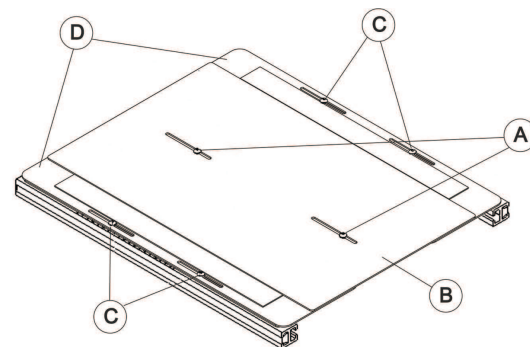
Telescopic seat frame served as an example.

Removing on Variants With Seat Plate

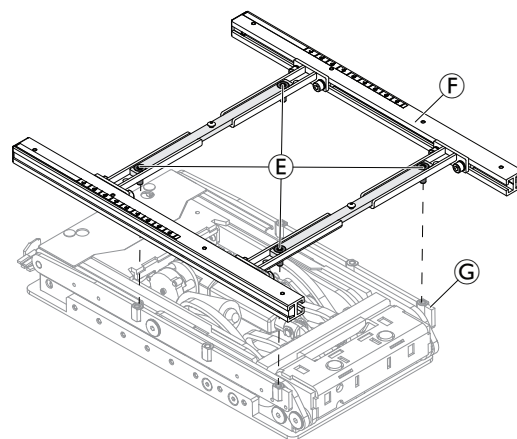


- 3 mm Allen key
- TX40 Torx key

1. Remove legrests and backrest cushion.
2. Turn OFF electronics.
3. Remove screws (A).
4. Remove middle seat plate (B).
5. Remove screws (C).
6. Remove lateral seat plates (D).



7. Remove screws (E).
8. Remove seat frame (F) from lifter or tilt module (G).

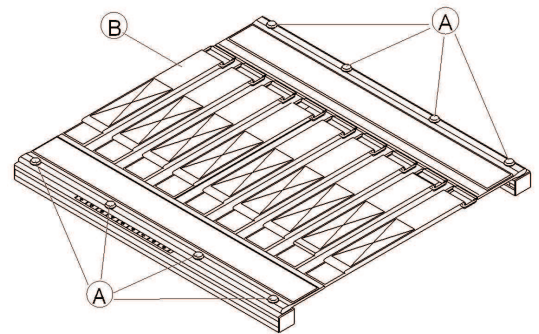


Removing on Variants With Sling Seat

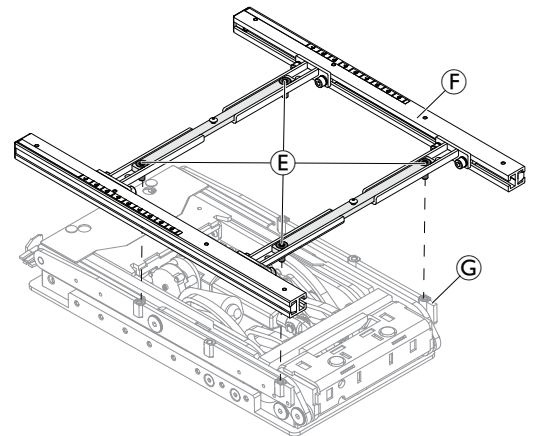


- TX25 Torx key
- TX40 Torx key

1. Remove legrests and backrest cushion.
2. Turn OFF electronics.
3. Loosen and remove screws **A** on both sides.
4. Remove sling seat **B**.



5. Remove screws **E**.
6. Remove seat frame **F** from lifter or tilt module **G**.



Installing Seat Support

1. Install parts in reverse order. Tighten screws to 25 Nm.
2. Test all functions.

15.3 Replacing Modules (CoG Shift Modules)

This chapter deals with the replacing of modules with CoG shift, or changing the type of the module in case of retrofitting.



Risk of crushing

The seat is very heavy. Danger of injury to hands and feet.

— Use proper lifting techniques.



- 4 mm Allen key (AVIVA RX series)
- 5 mm Allen key (AVIVA FX)
- TX30 Torx key (TDX SP2 Low-Rider)
- 10 mm wrench (TDX SP2 / TDX SP2^{NB} / FDX)

The procedures are the same for all power wheelchairs and type of modules. However, the brackets differ for the different models. For details on the brackets see following table:

Bracket for ...		Bracket for ...	
AVIVA FX for Seat to Floor Height: <ul style="list-style-type: none"> • 470 mm • 495 mm • 520 mm 		AVIVA FX for Seat to Floor Height: <ul style="list-style-type: none"> • 440 mm 	
AVIVA RX series		FDX	
TDX SP2 / TDX SP2 ^{NB}		TDX SP2 Low-Rider	

Replacing Height Adjustment Bracket

The assembly on the AVIVA RX serves as an Example.



CAUTION!

Risk of Crushing to Hands and Feet by Weight of Power Wheelchair

- Pay attention to hand and feet.
- Use proper lifting techniques.



CAUTION!

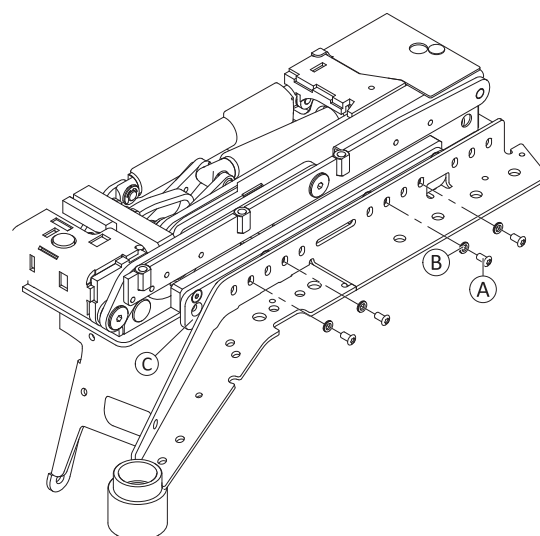
Risk of Uncontrolled Movement of Power Wheelchair

- Turn OFF electronics.
- Engage drive.
- Before raising power wheelchair, secure wheels by blocking them with wedges.
- Prevent the power wheelchair from tipping, by propping it upon a jacking device which is long and wide enough under the battery case. If the jacking device is too short or too high, the power wheelchair can still tip.

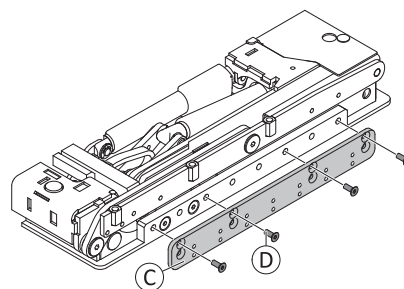


- 4 mm Allen key
- Jacking device

1. Unplug all cables from the electronic modules which run from seat to chassis.
2. Loosen and remove screws ① and washers ② on both sides.
3. Remove seat including brackets ③ from chassis.
4. Place seat on jacking devices.



5. Loosen and remove screws ④ on both sides.
6. Replace brackets ③ on both sides.
7. Re-install screws. Tighten screws.
8. Place seat including brackets on chassis.
9. Change position of seat according to required seat depth, see the corresponding service manual of the power wheelchair.
10. Install screws ① and washers ②. Tighten screws.
11. Plug in all cables.
12. Test all functions.



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