

# Invacare® ISA™

ISA™ COMPACT, ISA™ STANDARD, ISA™ PLUS, ISA™ XPLUS

en Stand assist patient lift Service Manual





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

### 1 General

### 1.1 Introduction

This document contains important information about assembly, adjustment and advanced maintenance of the product. To ensure safety when handling the product, read this document and the user manual carefully and follow the safety instructions.

Find the user manual on Invacare's website or contact your Invacare representative. See addresses at the end of this document.

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.

Previous product versions may not be described in this manual's current revision. If you require assistance, please contact Invacare.

For pre-sale and user information, see the user manual.

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

### 1.1.1 Symbols in this Document

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.



### 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.

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### **Tips and Recommendations**

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

### 2 Safety

### 2.1 General Safety Information

# $\dot{\mathbb{N}}$

### WARNING!

### Risk of injury or damage to property

- The procedures in this manual must only be performed by a qualified technician.
- Use only original accessories and spare parts.
- 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.
- After each assembly, check that all fittings are properly tightened and that all parts have the correct function.



### WARNING!

### **Risk of contamination**

— Clean and disinfect the product before servicing.

### **NOTICE**

Assembly of accessories might not be described in this service manual. Refer to the manual, delivered with the accessory.

 Additional manuals can be ordered from Invacare. See addresses at the end of this document.

#### NOTICE!

Some replacement parts are only available as a kit. Always use the complete new kit when replacing a part.

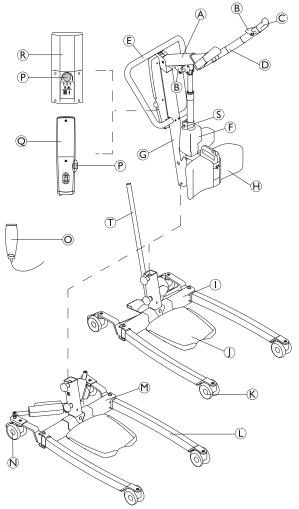
 Spare parts can be ordered from Invacare. Refer to your local Invacare website to access the electronic spare parts catalogue (ESPC).

#### I NOTICE

Refer to the user manual of this product for information on

- Technical data
- Product components
- Labels
- Additional safety instructions
- Cleaning and disinfection instructions
- The information contained in this document is subject to change without notice.

### 2.2 Main parts of the lift



A	Boom
B	Hook for sling
©	Hand grip
D	Lifting arm
E	Push bar
F	Lifting actuator
G	Mast
$\Theta$	Leg support (fixed or swiveling)
1	Base with foot pedal for manual leg spreader
1	Foot plate (high, low or inclined)
K	Front castors
(L)	Leg
M	Base with actuators for electrical leg spreader — with
	or without actuator covers
N	Rear castors with brake
0	Hand control
P	Emergency stop
Q	CBJ Home control unit with integrated battery
(R)	CBJ Care, CBJ1 or CBJ2 control unit with detachable
	battery
<u>(S)</u>	Mechanical emergency lowering
T	Lever for manual leg spreader

### 3 Servicing

### 3.1 Service Interval

Unless otherwise stated in local requirements, service must be performed at least every 12 months and according to the Service Inspection Checklist. When performing annual or regular service, all parts designed to carry load must be, as a minimum, tested with maximum load. All safety features must be checked according to ISO 10535.

### 3.1.1 LOLER Statement

The UK Health and Safety Executive's Lifting Operations and Lifting Equipment Regulations 1998, require any equipment that is used in the workplace to lift a load be subject to safety inspection on a six monthly basis. Please refer to the HSE web site for guidance www.hse.gov.uk.

The person responsible for the equipment must ensure adherence to LOLER regulations.

### 3.2 Tightening torques



### NOTICE!

Do not overtighten the mounting hardware as this might cause damage to the product.

If not otherwise stated in the specific instructions the following guidelines apply:

Thread	Tightening torque in Nm ± 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

### 3.3 Resetting the service counter

(CBJ Care control unit only)

To reset the service counter once you have completed a service:

- 1. Locate the hand control.
- 2. Press and hold the **UP** button and the **DOWN** button simultaneously for 5 seconds.
  - a. A sound is heard once the service counter is reset.

The service counter is now reset to indicate a service requirement after a 12 month period or 8000 cycles.

- The service light switches on either after a 12 month period or 8000 cycles (whichever occurs first).
- If the service counter is required to be set for a period shorter than 12 months, a special handset and further instructions are required. Contact Invacare to order this handset and instructions.

# 3.4 Service inspection checklist

INVACARE	Model:	REF / SN number:	1/2

NOTICE!	!
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Corrective actions must be performed by a qualified technician. Instructions for replacing and adjusting main parts are described in the service manual.

Checkpoints for Invacare® ISA™ according to ISO 10535:2006 Annex B	<b>√</b>	×	Comment
General inspection	'	•	
No unauthorized modifications			
All labels present and readable. (see full list of labels in the user manual)			
Safe working load visibly marked on product label and boom			
User manual available			
Visual inspection of mechanical parts			
No wear and deformation on pivot points and bolts (leg-base connection,			
mast-boom connection, actuator attachments )			
All connecting elements (screws and bolts) present and properly tightened or			
secured			
No deformation, cracks or other damages on welded joints			
Surfaces free of damages and corrosion			
No deformation on metal structure (legs, base, mast, boom and lifting arm)			
No deformation, wear, sharp edges or other damages on the sling hooks			
No deformation or other damages on lifting arm lever, leg spreader lever and leg			
support release handle			
No wear or damages on hand grips and shin cushions			
Castors free of damages, debris and dirt			
Visual inspection of electrical parts			
All cables undamaged and routed properly			
No leakage on the actuator(s)			
No cracks or other damages on housings (actuators, control unit, hand control)			



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REF / SN number:

2/2

Checkpoints for Invacare® ISA™ according to ISO 10535:2006 Annex B	<b>√</b>	×	Comment
Functional tests			
Castors smoothly swivel and roll			
Application and release of castor brakes is working properly			
Base fully opens and closes smoothly			
Emergency stop engages when pressed in and all electrical functions are disabled			
Emergency stop can be reset when button is turned clockwise			
Emergency functions on the control unit (emergency lowering and if applicable			
emergency lifting) are working properly			
Mechanical emergency release lowers the boom at safe speed			
Successful load test (full lifting cycle with 65% of maximum safe working load			
suspended at the two hooks of the fully extended lifting arm) with quiet and			
smooth operation of the actuator			
All buttons on the control unit and hand control are working and activate the			
correct function			
Battery indicator and LEDs on the control unit are working properly			
Adjustment mechanism of the lifting arm is working properly (release, smooth			
adjustment and self locking)			
Adjustment mechanism of the leg support is working properly (release, smooth			
adjustment and self locking)			

### **Overall assessment**

□ Pass	□ Fail
No safety or functional deficiencies were detected.	Safety or functional deficiencies detected and corrective action is required.
	Comments:
Date of next inspection:	
Name: Da	te / Signature:

# 4 Troubleshooting

# 4.1 Identifying and repairing faults

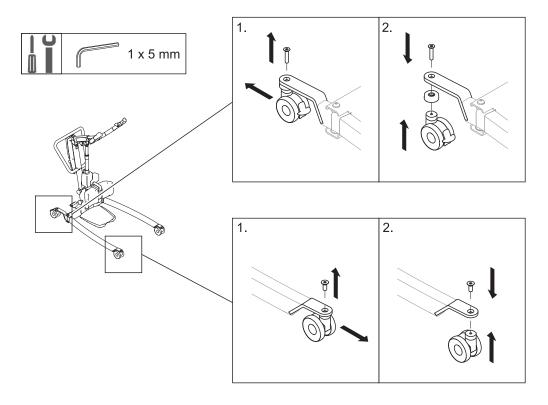
Symptoms	Faults	Solution
	Mast/Base joint loose	Check and tighten the Mast/ Base connection. See "Installing the Mast" in the user manual.
Patient lift feels loose	Mast/Boom joint loose	Check and tighten the Mast/ Boom connection. See 5.4 Replacing the boom with lifting arm, page 12
	Manual leg spreader mechanism loose	Check and tighten the screws of the rods and/ or pedal. See 5.10 Replacing the foot pedal and/or rods, page 19
Castors/Brakes noisy or stiff	Fluff or debris in bearings	Clean castors from fluff and debris.
	Castors / brakes are damaged	Replace the castors. See 5.1 Replacing 75 mm castors, page 10 or 5.2 Replacing 100 mm castors, page 10 or 5.3 Replacing 125 mm castors, page 11
Noisy or dry sound from pivots	Pivots are worn or damaged	Replace the pivots. See 5.4 Replacing the boom with lifting arm, page 12, 5.11 Replacing manual legs, page 21, 5.8 Replacing electrical legs without actuator cover, page 17 or 5.9 Replacing electrical legs with actuator cover, page 18.
	Hand-control or actuator connector loose	Connect hand control or actuator connector. Ensure connectors are seated properly and fully connected.
	Battery low	Charge batteries. See "Charging the battery" in the user manual.
	RED emergency stop button pressed IN	Rotate RED emergency stop button CLOCKWISE until it pops out.
Electric actuator fails to raise or lower	Battery not connected properly to control unit	Reconnect the battery to the control unit. See "Charging the battery" in the user manual.
the boom or legs fail to open or close when button is pressed	The connecting terminals are damaged	Replace the hand control and/or control unit. See 5.12 Replacing the CBJ Home control unit, page 22 or 5.13 Replacing the CBJ Care, CBJ1, CBJ2 control unit, page 23.
	Power cord connected to power outlet	Disconnect power cord from power outlet.
	Boom or leg actuator is worn or damaged or spindle is bent	Replace the actuator. See 5.5 Replacing the boom actuator, page 13, 5.6 Replacing a leg actuator without cover, page 14 or 5.7 Replacing a leg actuator with cover, page 15.
Unusual noise from actuator	Boom or leg actuator is worn or damaged or spindle is bent	Replace the actuator. See 5.5 Replacing the boom actuator, page 13, 5.6 Replacing a leg actuator without cover, page 14 or 5.7 Replacing a leg actuator with cover, page 15.
Boom will not lower in uppermost position	Boom requires a minimum weight load to lower from the uppermost position	Pull down slightly on the boom.
Boom will not lower during a power retraction	Shoulder bolt at the junction of the boom and mast may not be properly installed	Check Mast/ Boom connection. See 5.4 Replacing the boom with lifting arm, page 12.
The control unit emits a beeping sound during lifting, and the motor stops	Max. load is exceeded	Reduce the load (and the lift will function normally).

Symptoms	Faults	Solution
Manual legs fail to open with the pedal or lever	The mechanical mechanism is damaged	Replace foot pedal and/or rods. See 5.10 Replacing the foot pedal and/or rods, page 19.
Lifting arm can not be adjusted	The adjustment mechanism is damaged	Replace the boom and lifting arm. See 5.4 Replacing the boom with lifting arm, page 12
Leg support can not be installed or	Leg band is clogging the back of the leg support	Clear the back of the leg support.
adjusted	The adjustment mechanism is damaged	Replace the leg support. See 5.18 Replacing the leg support, page 27.

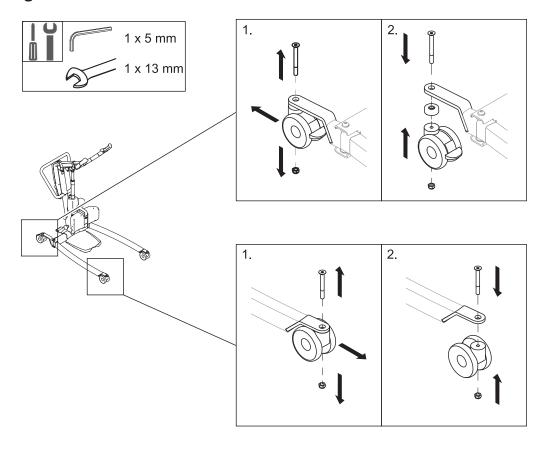
 $\label{eq:contact} \mathring{\mbox{\bf \fontfamily contact your Invacare provider or representative if the above does not solve your problems.}$ 

## 5 Instructions

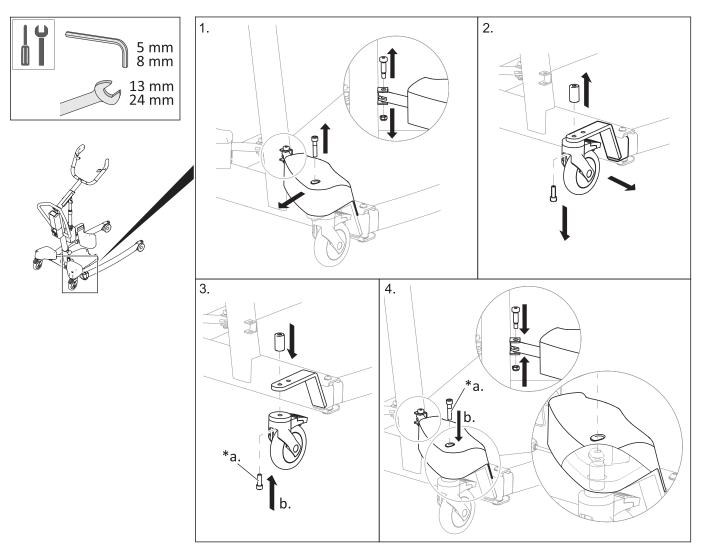
# 5.1 Replacing 75 mm castors



## 5.2 Replacing 100 mm castors

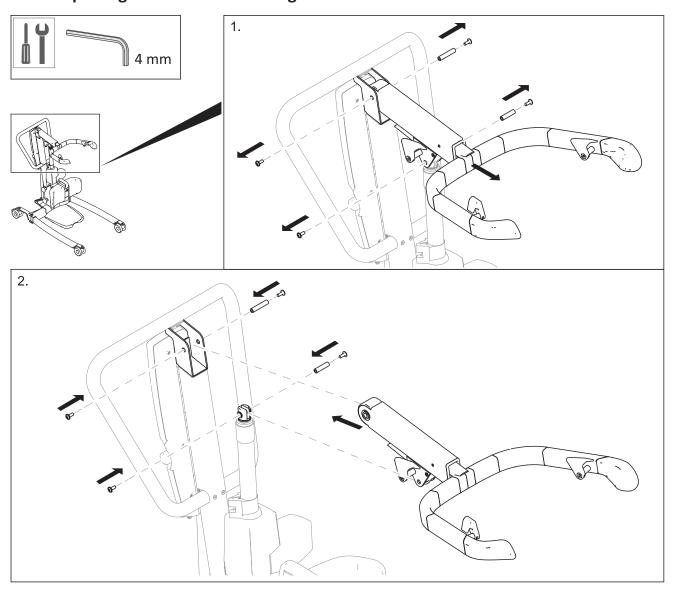


## 5.3 Replacing 125 mm castors

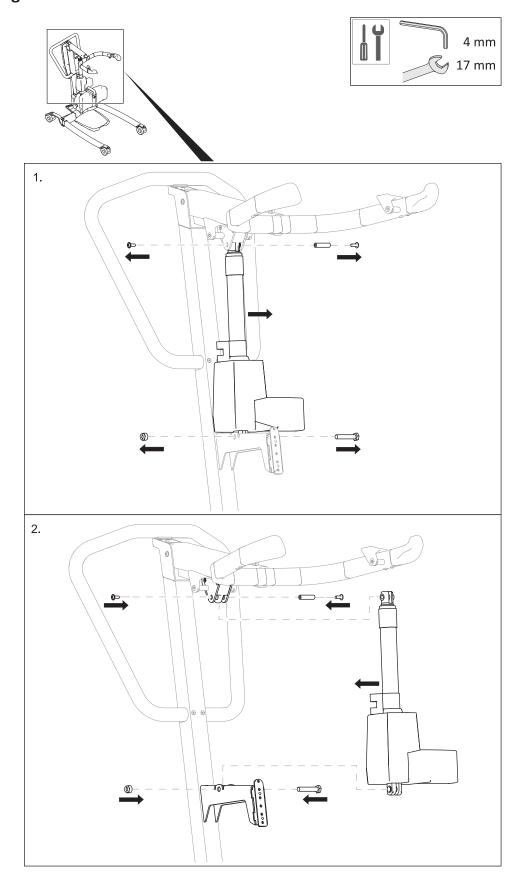


\*a. Apply medium strength thread lock.

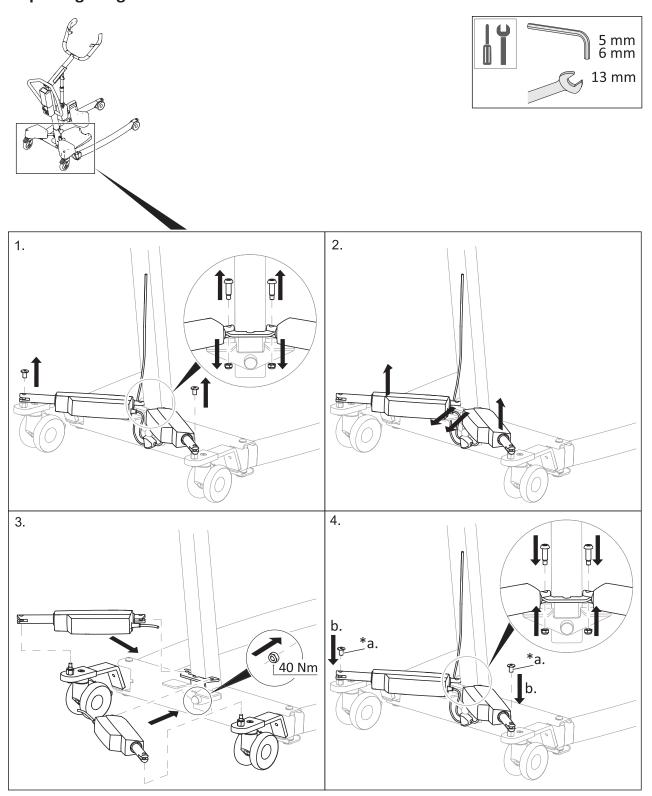
# 5.4 Replacing the boom with lifting arm



# 5.5 Replacing the boom actuator

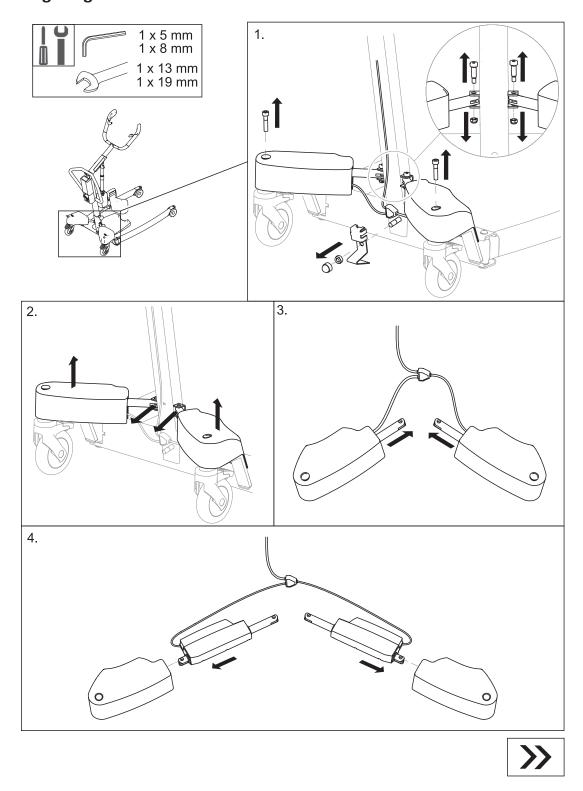


# 5.6 Replacing a leg actuator without cover

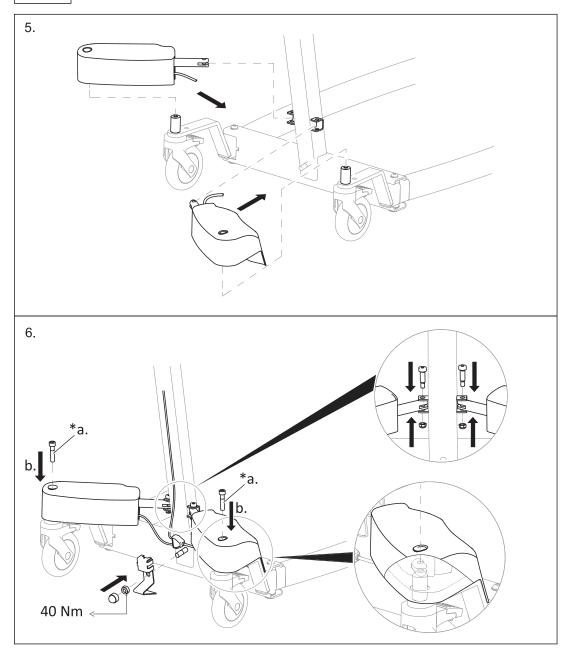


 ${f *a.}$  Apply medium strength thread lock.

## 5.7 Replacing a leg actuator with cover

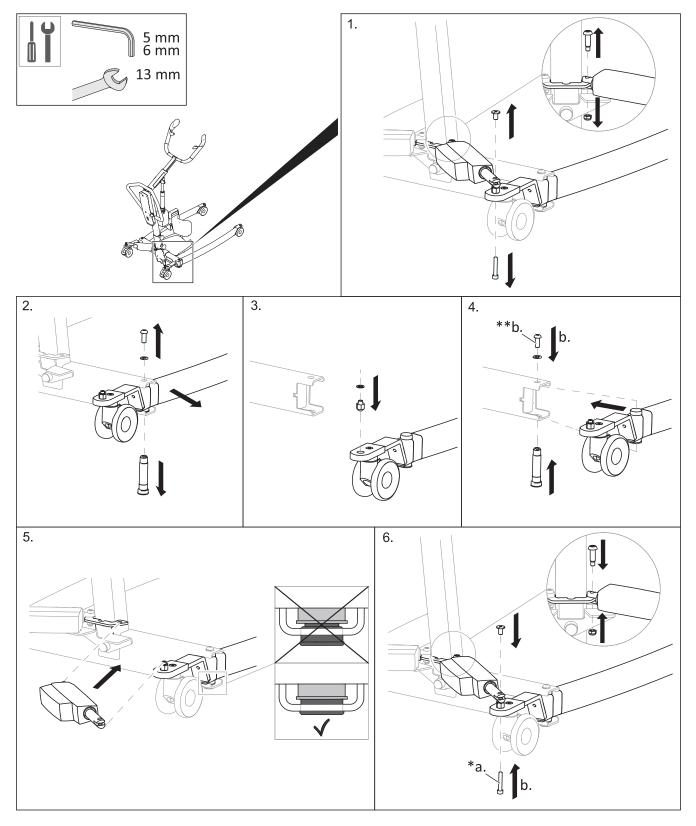






\*a. Apply medium strength thread lock.

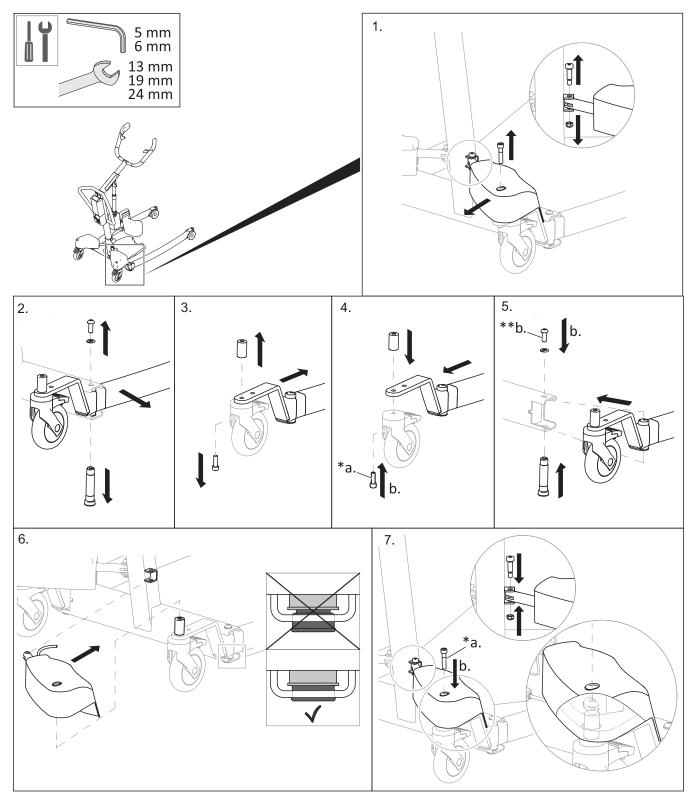
## 5.8 Replacing electrical legs without actuator cover



\*a. Apply medium strength thread lock.

<sup>\*\*</sup>b. Apply high strength thread lock.

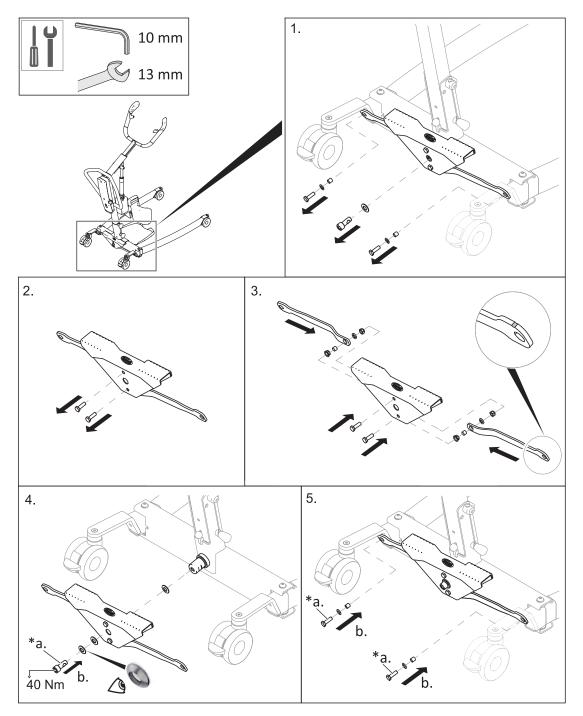
## 5.9 Replacing electrical legs with actuator cover



\*a. Apply medium strength thread lock.

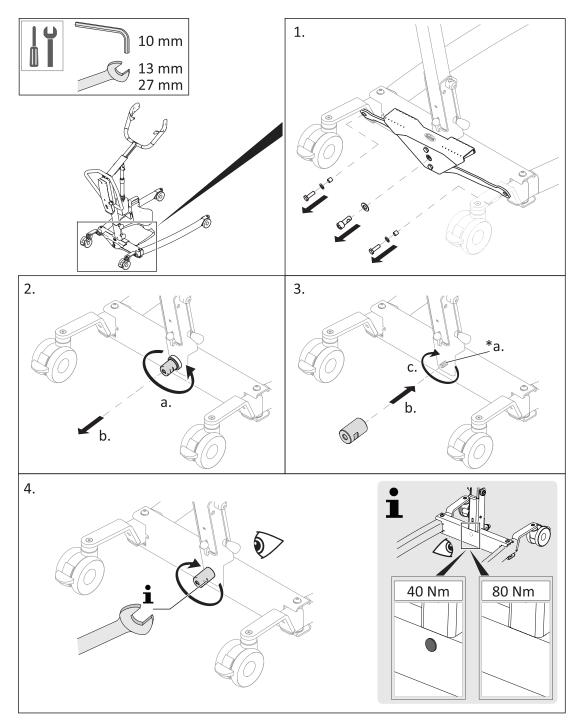
<sup>\*\*</sup>b. Apply high strength thread lock.

# 5.10 Replacing the foot pedal and/or rods



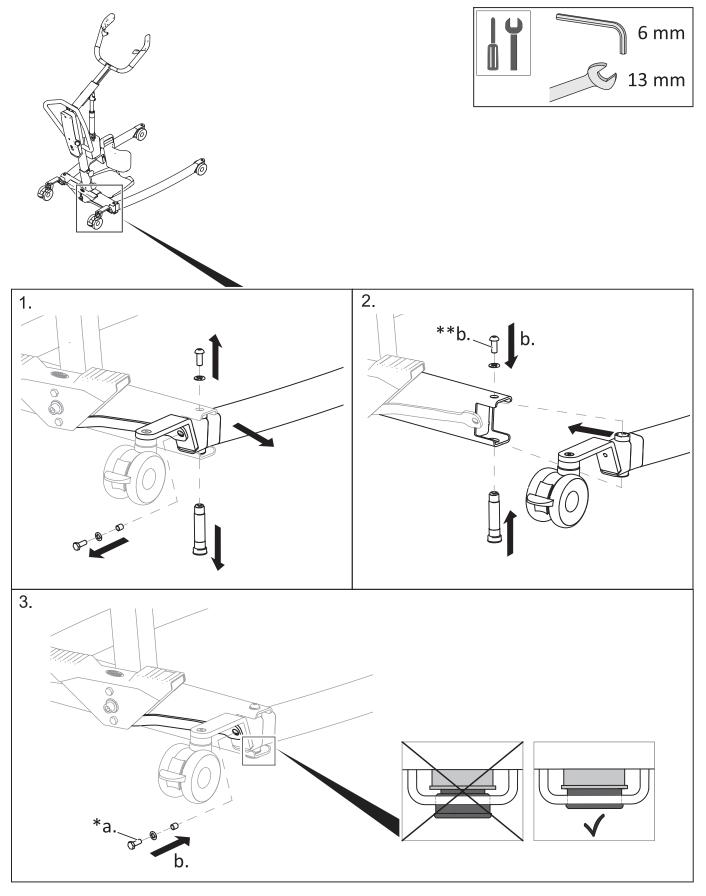
\*a. Apply medium strength thread lock.

### 5.10.1 Replacing the pedal axle



\*a. Apply medium strength thread lock.

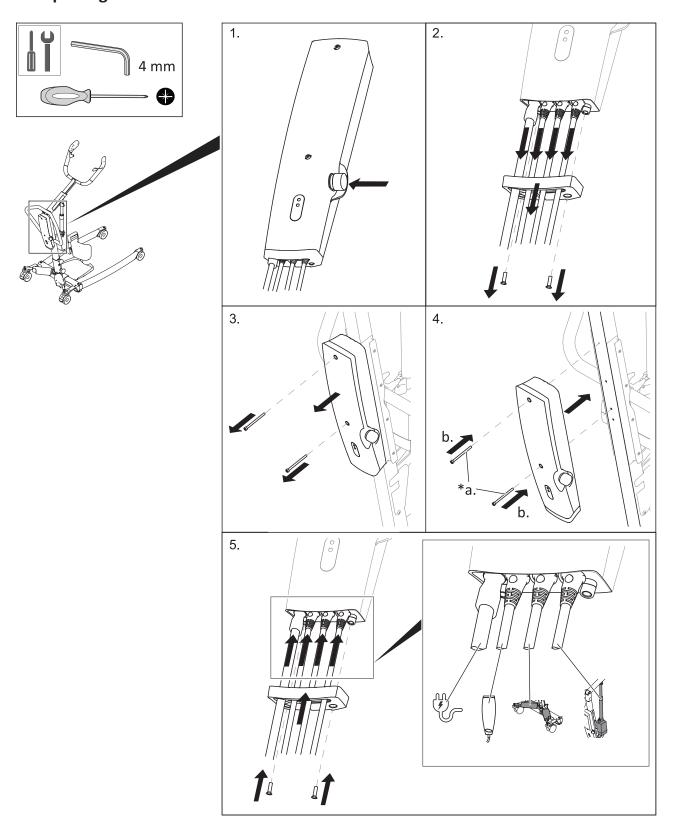
## 5.11 Replacing manual legs



\*a. Apply medium strength thread lock.

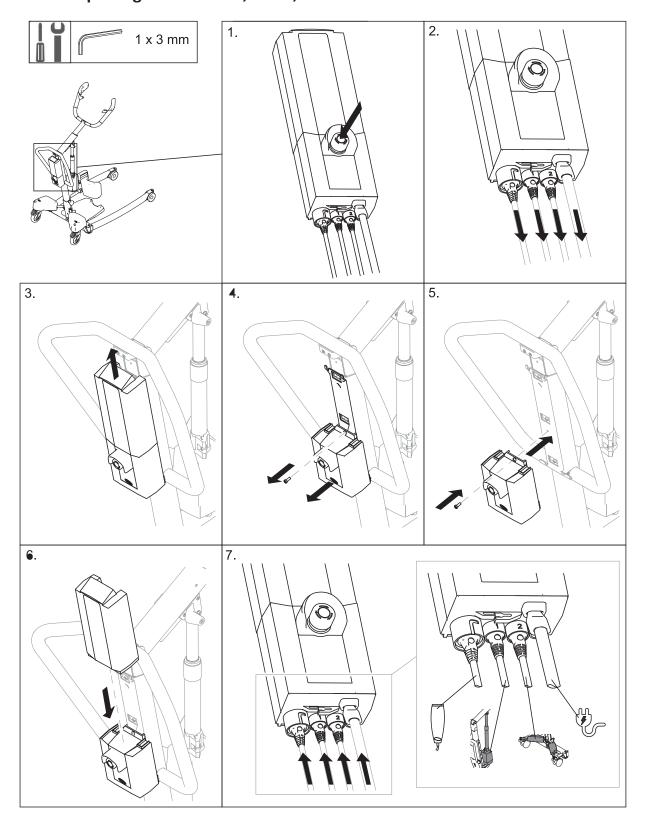
<sup>\*\*</sup>b. Apply high strength thread lock.

# 5.12 Replacing the CBJ Home control unit

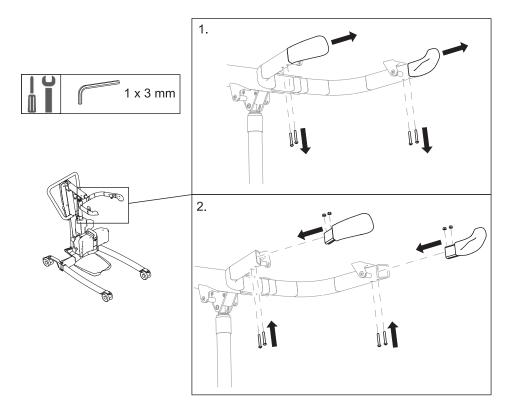


 ${f *a.}$  Apply medium strength thread lock.

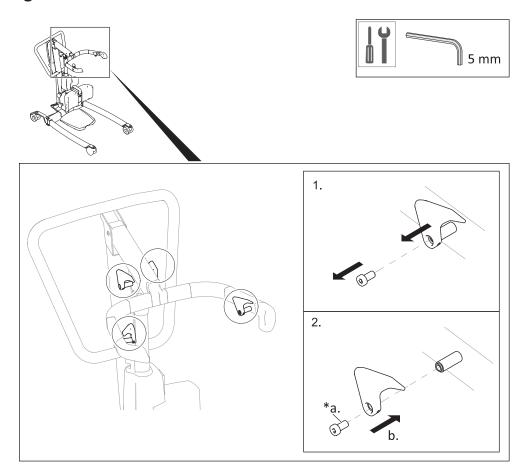
# 5.13 Replacing the CBJ Care, CBJ1, CBJ2 control unit



# 5.14 Replacing the hand grips

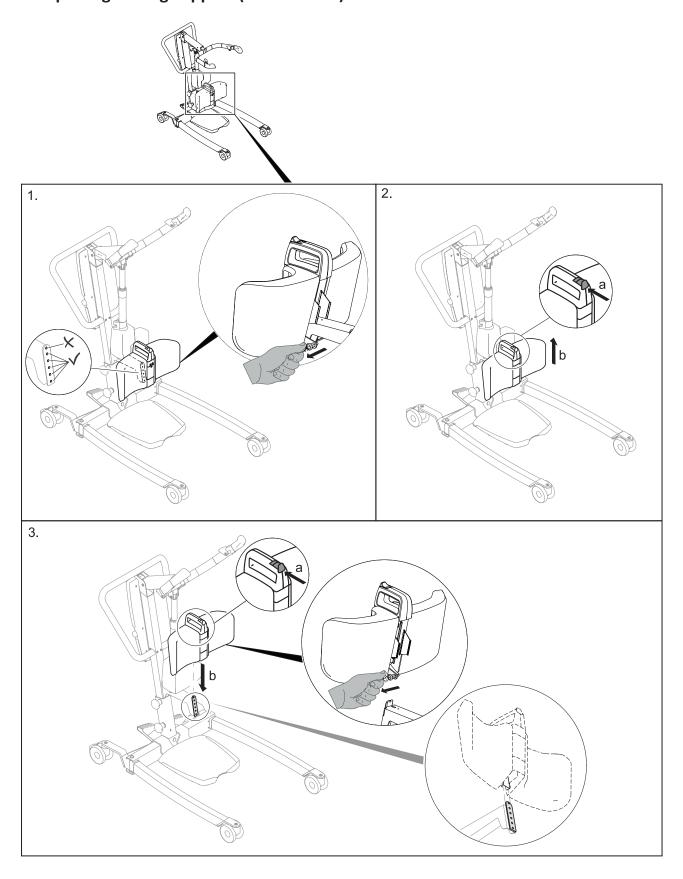


## 5.15 Replacing the hooks

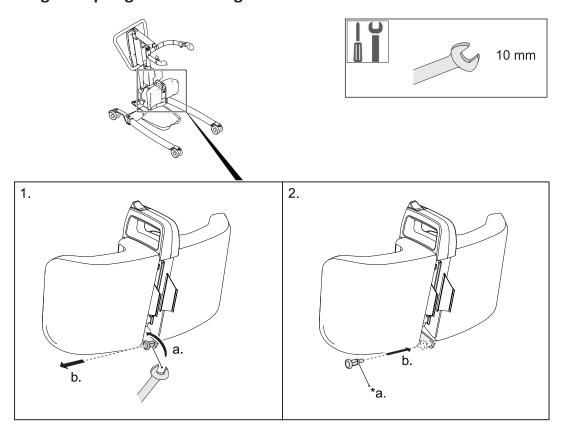


\*a. Apply medium strength thread lock.

# 5.16 Replacing the leg support (new models)

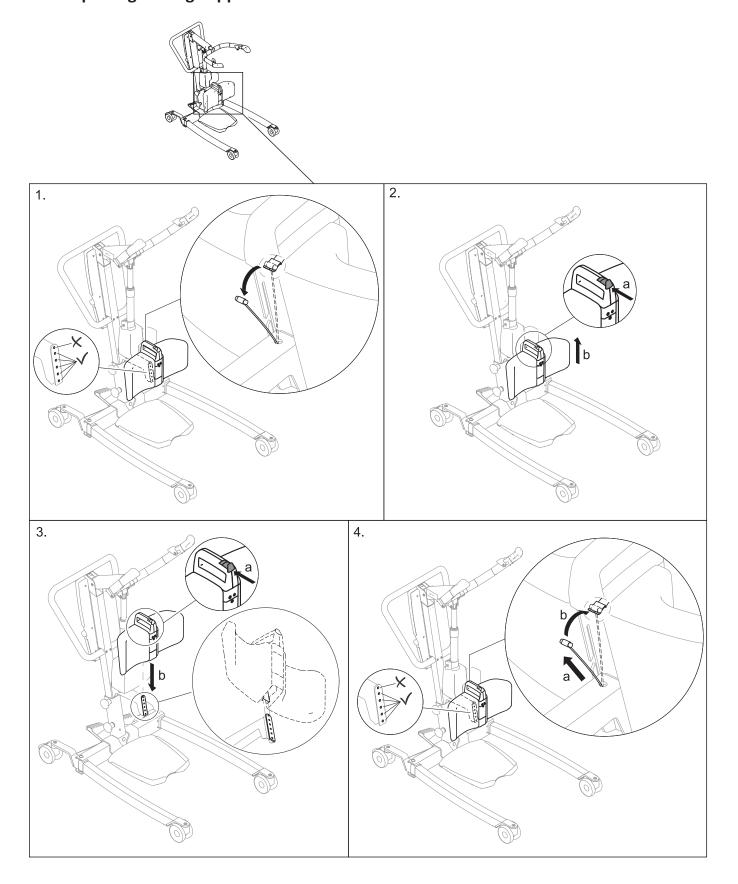


# 5.17 Replacing the Spring Loaded Plunger Pin

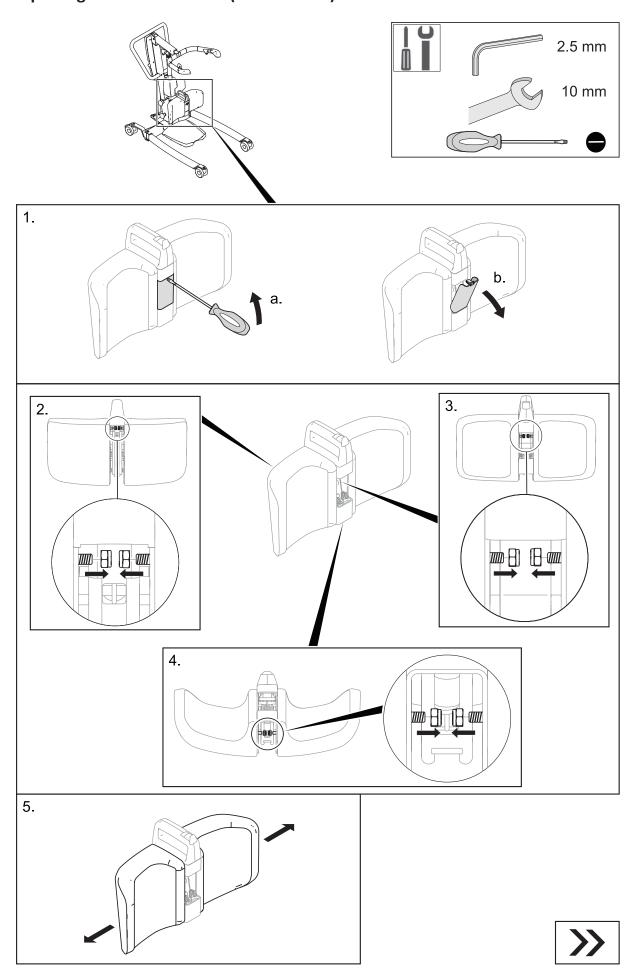


\*2a. Apply thread lock.

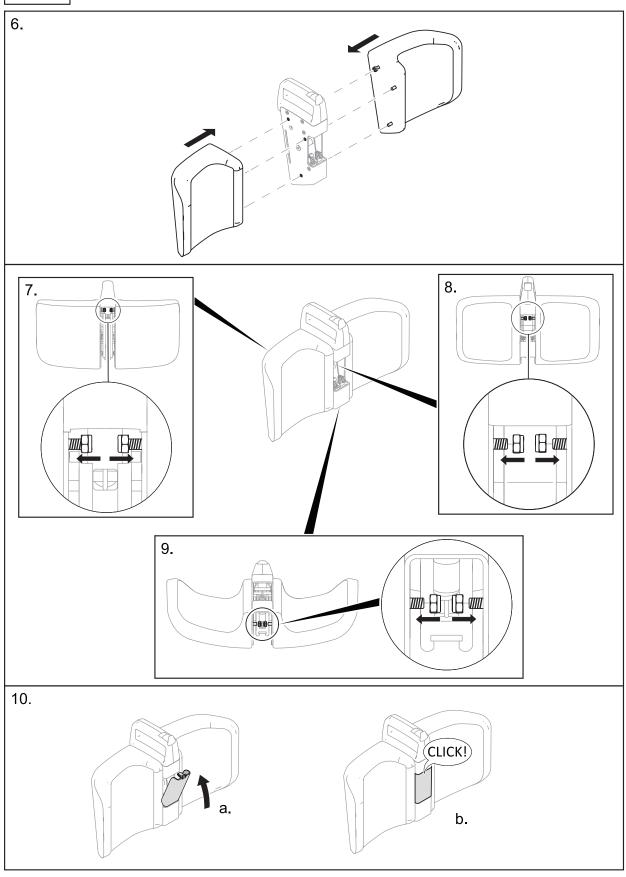
# 5.18 Replacing the leg support



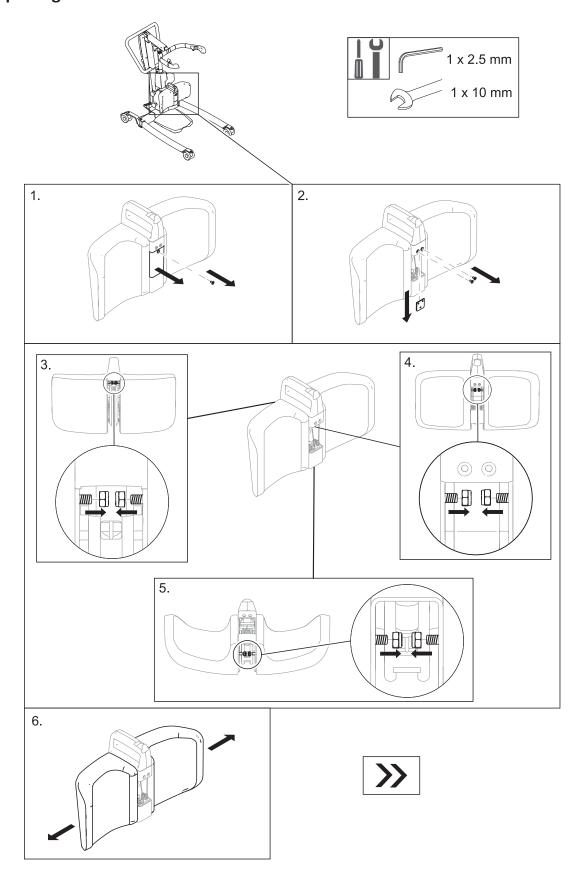
# 5.19 Replacing the shin cushions (new models)

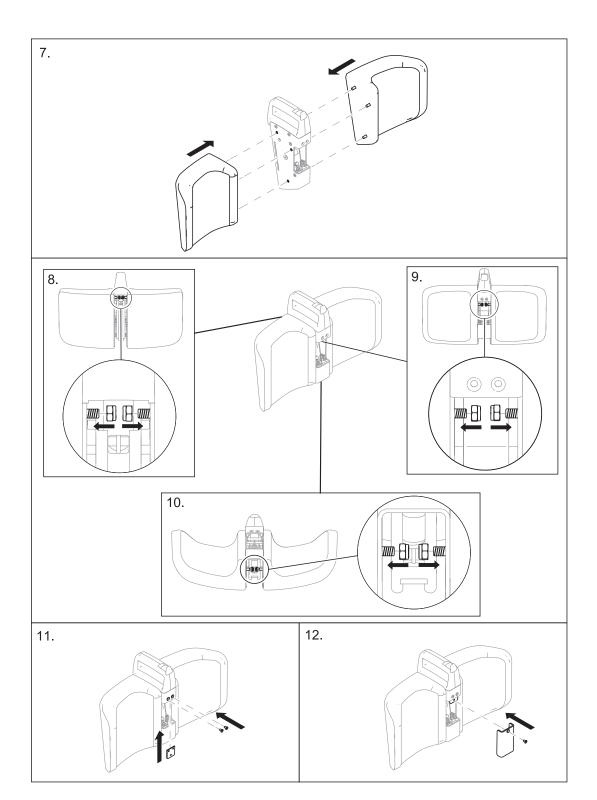




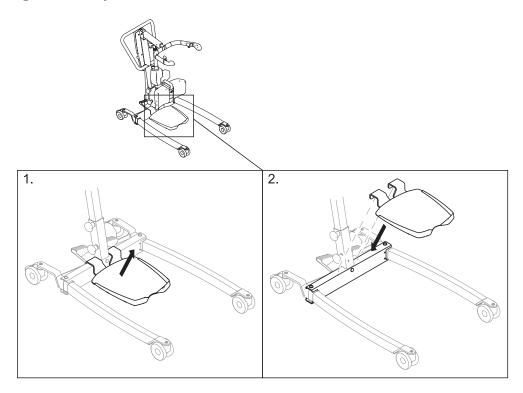


# 5.20 Replacing the shin cushions

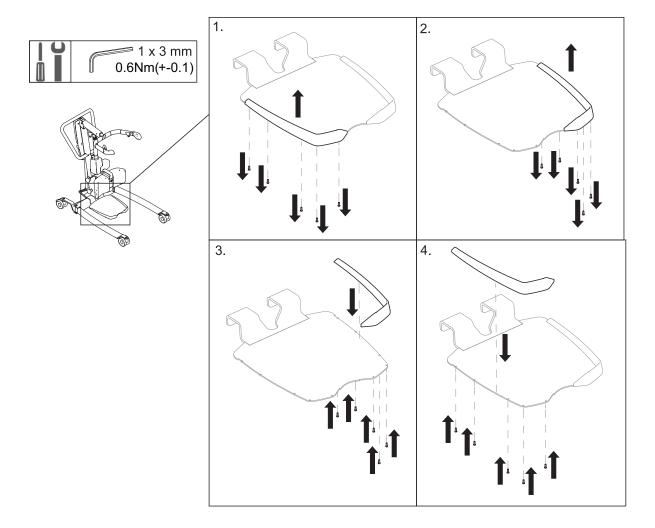




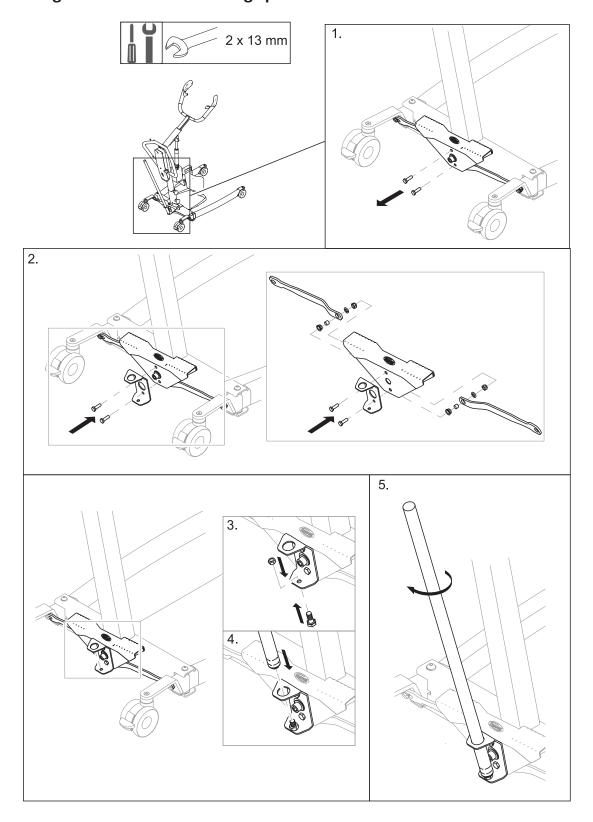
# 5.21 Replacing the foot plate



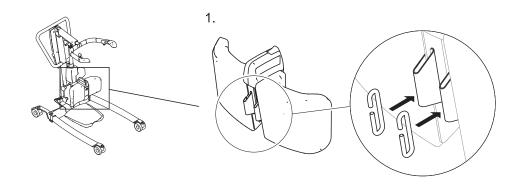
# 5.22 Replacing the heel block

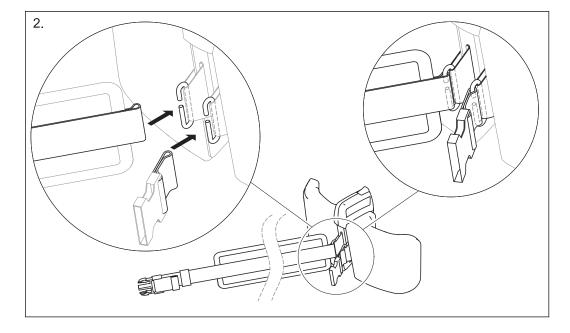


# 5.23 Installing the lever for manual leg spreader



# 5.24 Installing the leg band







#### **United Kingdom & Ireland:**

Invacare Limited
Pencoed Technology Park, Pencoed
Bridgend CF35 5AQ
Tel: (44) (0) 1656 776 200
uk@invacare.com
www.invacare.co.uk

#### Belgium & Luxemburg:

Invacare nv Autobaan 22 B-8210 Loppem Tel: (32) (0)50 83 10 10 Fax: (32) (0)50 83 10 11 marketingbelgium@invacare.com www.invacare.be

### Danmark:

Invacare A/S Sdr. Ringvej 37 DK-2605 Brøndby Tel: (45) (0)36 90 00 00 Fax: (45) (0)36 90 00 01 denmark@invacare.com www.invacare.dk

### Deutschland:

Invacare GmbH Am Achener Hof 8 D-88316 Isny Tel: (49) (0)7562 700 0 kontakt@invacare.com www.invacare.de

#### Österreich:

Invacare Austria GmbH Herzog-Odilo-Straße 101 A-5310 Mondsee Tel: (43) 6232 5535 0 Fax: (43) 6232 5535 4 info-austria@invacare.com www.invacare.at

### Schweiz / Suisse / Svizzera:

Invacare AG
Neuhofweg 51
CH-4147 Aesch BL
Tel: (41) (0)61 487 70 80
Fax: (41) (0)61 488 19 10
switzerland@invacare.com
www.invacare.ch

### España:

Invacare S.A.U Avenida del Oeste, 50 – 1º-1a Valencia-46001 Tel: (34) 972 493 214 contactsp@invacare.com www.invacare.es

#### France:

Invacare Poirier SAS Route de St Roch F-37230 Fondettes Tel: (33) (0)2 47 62 64 66 contactfr@invacare.com www.invacare.fr

### Italia:

Invacare Mecc San s.r.l., Via Marco Corner, 19 I-36016 Thiene (VI) Tel: (39) 0445 38 00 59 servizioclienti@invacare.com www.invacare.it

#### Nederland:

Invacare BV Galvanistraat 14-3 NL-6716 AE Ede Tel: (31) (0)318 695 757 nederland@invacare.com www.invacare.nl

### Norge:

Besøksadresse: (Office adresses) Invacare AS Brynsveien 16 0667 Oslo Tel: (47) 22 57 95 00 norway@invacare.com

www.invacare.no

### Norge:

Vareleveringsadresse: (Storrage / Teknical dep) Østensjøveien 19 0661 Oslo eknisk@invacare.com www.invacare.no

### Portugal:

Invacare Portugal II, Lda Rua Estrada Velha, 949 P-4465-784 Leça do Balio Tel: (351) (0)225 193 360 portugal@invacare.com www.invacare.pt

### Suomi:

Camp Mobility
Patamäenkatu 5, 33900 Tampere
Puhelin 09-35076310
info@campmobility.fi
www.campmobility.fi

### Sverige:

Invacare AB Fagerstagatan 9 S-163 53 Spånga Tel: (46) (0)8 761 70 90 Fax: (46) (0)8 761 81 08 sweden@invacare.com www.invacare.se

#### Australia:

Invacare Australia Pty. Ltd. Building 5, Unit F, 161 Manchester Rd Auburn, Sydney, NSW 2144 Australia Phone: 1800 460 460

Phone: 1800 460 460 Fax: 1800 814 367 orders@invacare.com.au www.invacare.com.au

### New Zealand:

Invacare New Zealand Ltd 4 Westfield Place, Mt Wellington 1060 New Zealand Phone: 0800 468 222

Filone: 0800 408 222 Fax: 0800 807 788 sales@invacare.co.nz www.invacare.co.nz

Invacare Portugal Unipessoal, Lda Rua Estrada Velha 949 4465-784 Leça do Balio Portugal



