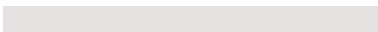


Invacare® Birdie® EVO

Birdie® EVO, Birdie® EVO COMPACT, Birdie® EVO PLUS,
Birdie® EVO XPLUS

en Mobile Patient Lift 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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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.

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. 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.



Tips and Recommendations

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

Other Symbols

(Not applicable for all manuals)



Triman

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



UKRP

Indicates if a product is not manufactured in the UK.

2 Safety

2.1 General Safety Information


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).


NOTICE!

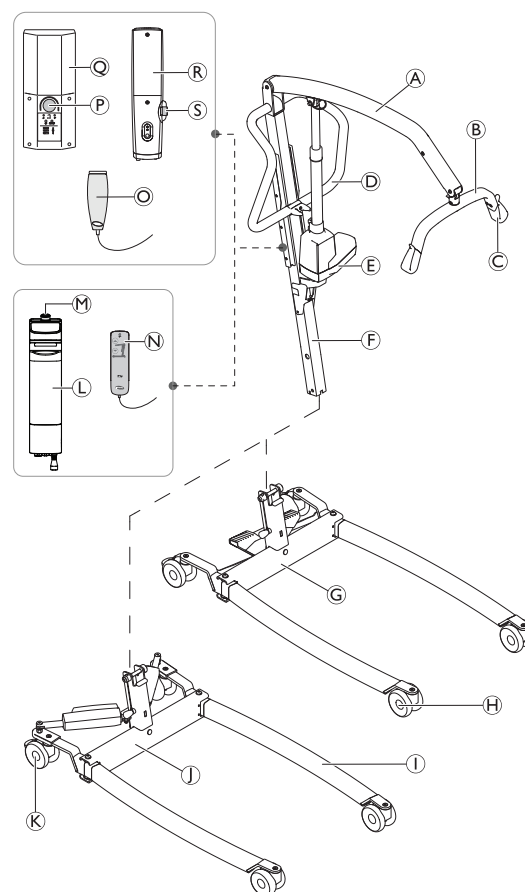
Refer to the user manual of this product for information on

- 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



Ⓐ	Boom
Ⓑ	Spreader bar – with or without SMARTLOCK™
Ⓒ	Hook for sling
Ⓓ	Push bar
Ⓔ	Lifting actuator
Ⓕ	Mast – foldable or fixed
Ⓖ	Base with foot pedal for manual leg spreader
Ⓗ	Front Castors
Ⓘ	Leg
Ⓙ	Base with actuators for electrical leg spreader — with or without actuator covers
Ⓚ	Rear castors with brake
Ⓛ	TC12AC control unit with detachable battery
Ⓜ	Emergency Stop — TC12AC control unit
Ⓝ	Hand control compatible with TC12AC control unit
Ⓞ	Hand control compatible with CBJ Care, CBJ1, CBJ2 and CBJ Home control units
Ⓟ	Emergency Stop — CBJ Care, CBJ1 and CBJ2 control units
Ⓢ	CBJ Care, CBJ1 or CBJ2 control unit with detachable battery
Ⓡ	CBJ Home control unit with integrated battery
Ⓢ	Emergency Stop — CBJ Home control unit

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 \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

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


	Model:	REF / SN number:	1/2
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NOTICE!

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® Birdie® EVO according to ISO 10535	✓	✗	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 spreader bar)			
No deformation, wear, sharp edges or other damages on the sling hooks			
No deformation or other damages on spreader bar holder, leg spreader lever and spreader bar release mechanism (SMARTLOCK® option).			
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)			

	Model:	REF / SN number:	2/2
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Checkpoints for Invacare® Birdie® EVO according to ISO 10535	✓	✗	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 maximum safe working load applied) 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			
Release mechanism of the spreader bar is working properly (release, smooth removal/insertion and self-locking) (SMARTLOCK® option)			
Dampening mechanism of the spreader bar is working properly (smooth swinging, effective dampening) (Slow'R® option).			
Folding mechanism of the mast is working properly (release, smooth folding/unfolding and self-locking) (option).			

Overall assessment☐ Pass

No safety or functional deficiencies were detected.

Date of next inspection: _____

Name: _____

☐ Fail

Safety or functional deficiencies detected and corrective action is required.

Comments:

Date / Signature: _____

4 Troubleshooting

4.1 Identifying and repairing faults

Symptoms	Faults	Solution
Patient lift feels loose	Mast/Base joint loose	Check and tighten the Mast/ Base connection. See "Installing the Mast" in the user manual or 5.1 <i>Disassembling a foldable mast</i> , page 9.
	Mast/Boom joint loose	Check and tighten the Mast/ Boom connection. See 5.11 <i>Replacing the boom</i> , page 14.
	Tie - Rods are loose.	Check and tighten the screws of the rods and/ or pedal. See 5.18 <i>Replacing the foot pedal and/or rods</i> , page 21.
Castors/Brakes noisy or stiff	Fluff or debris in bearings	Clean castors from fluff and debris
Noisy or dry sound from pivots	Pivots are worn or damaged	Replace the pivots. See 5.11 <i>Replacing the boom</i> , page 14, 5.19 <i>Replacing manual legs</i> , page 23, 5.16 <i>Replacing electrical legs without actuator cover</i> , page 19, 5.17 <i>Replacing electrical legs with actuator cover</i> , page 20.
Electric actuator fails to lift or legs fail to open when button is pressed.	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
	Battery not connected properly to control unit	Reconnect the battery to the control unit. See "Charging the battery" in the user manual
	The connecting terminals are damaged	Replace the hand control and/or control unit. See 5.20 <i>Replacing the CBJ Home control unit</i> , page 24, 5.21 <i>Replacing the CBJ Care, CBJ1, CBJ2 control unit</i> , page 25.
	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 5.10 <i>Replacing the boom actuator</i> , page 13, 5.14 <i>Replacing a leg actuator without cover</i> , page 16 or 5.15 <i>Replacing a leg actuator with cover</i> , page 17.
Unusual noise from actuator	Boom or leg actuator is worn or damaged or spindle is bent	Replace the 5.10 <i>Replacing the boom actuator</i> , page 13, 5.14 <i>Replacing a leg actuator without cover</i> , page 16 or 5.15 <i>Replacing a leg actuator with cover</i> , page 17.
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 5.11 <i>Replacing the boom</i> , page 14.
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)
Manual legs fail to open with the pedal or lever	The mechanical mechanism is damaged	Replace foot pedal and/or rods. See 5.18 <i>Replacing the foot pedal and/or rods</i> , page 21.
Damping of the spreader bar has lessened or disappeared completely.	Damper is damaged	Replace the damper. 5.12 <i>Replacing the damper</i> , page 14.
The detachable spreader bar does not fix to the connector on the boom	The locking mechanism is damaged	Replace the spreader bar connector. See 5.12 <i>Replacing the damper</i> , page 14.



Contact your Invacare provider or representative if the above does not solve your problems.

5 Instructions

5.1 Disassembling a foldable mast



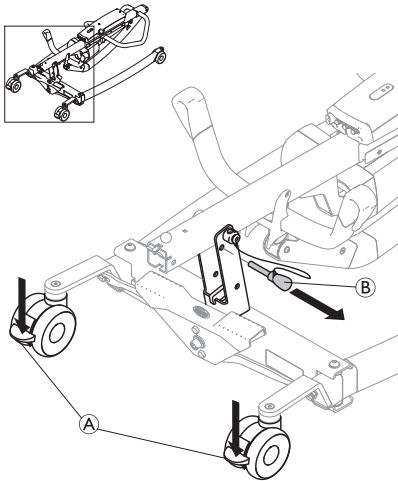
CAUTION!

Risk of injury or damage to property

Improper handling of heavy parts can cause injury or damage to property.

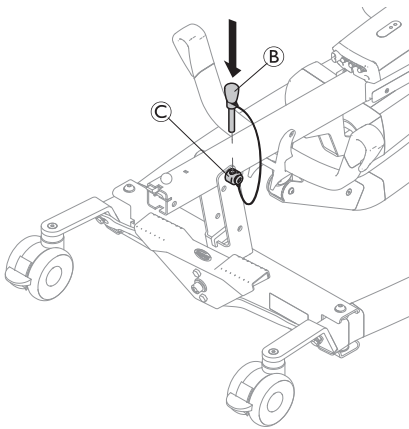
- Always perform the following procedures with the mast in folded position.
- Assistance may be required to handle heavy parts.

1.



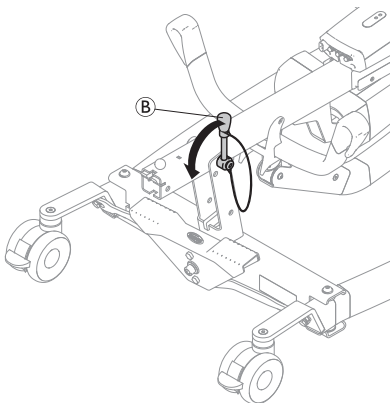
Lock both rear castors (A) and remove the locking pin (B).

2.



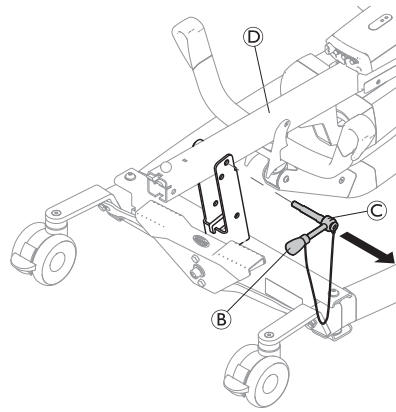
Insert the locking pin (B) into the hole on the pivot pin (C).

3.



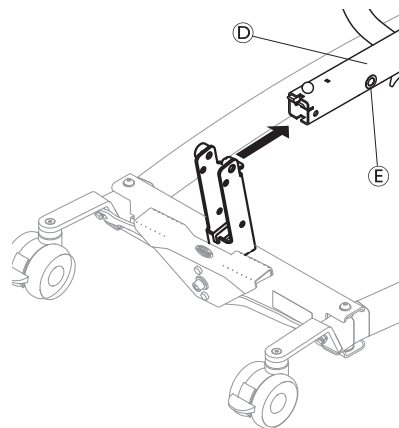
Rotate the locking pin (B) anti-clockwise to unlock the pivot pin (C).

4.



Hold the mast-boom assembly (D) in position and remove the pivot pin C with the locking pin (B).

5.



Remove the mast-boom assembly (D) from the base.



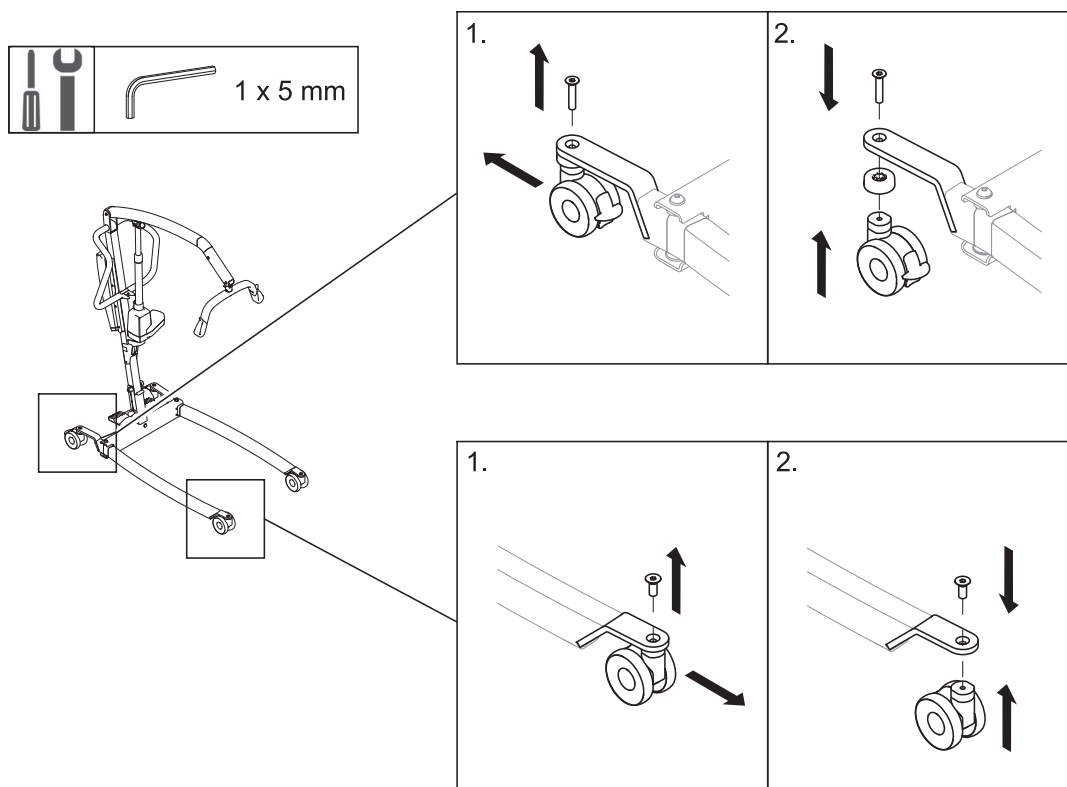
The bushings (E) are not fixed to the mast.

Store them in a safe place or fix them to the mast with tape during transport and storage.

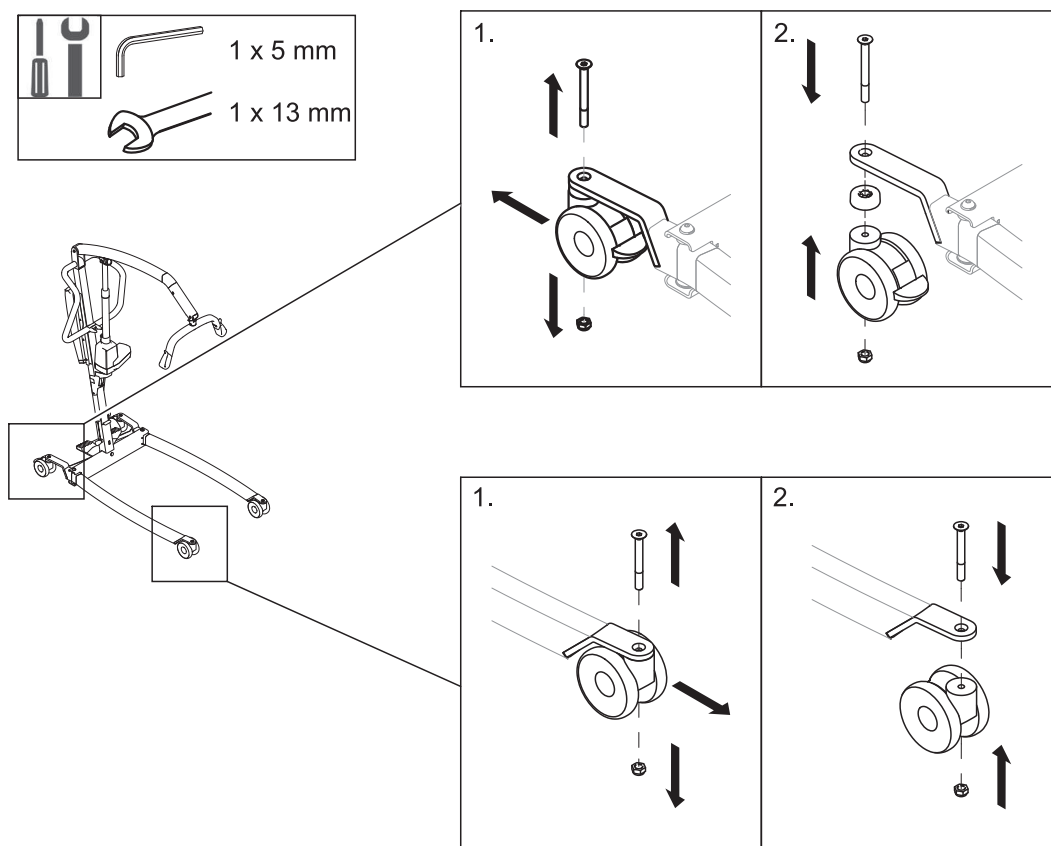
5.2 Assembling a foldable mast

1. Reverse the procedure described in 5.1 *Disassembling a foldable mast*, page 9.
2. Check that the pivot pin is completely inserted and properly secured.
3. The mast can now be folded upright for usage.

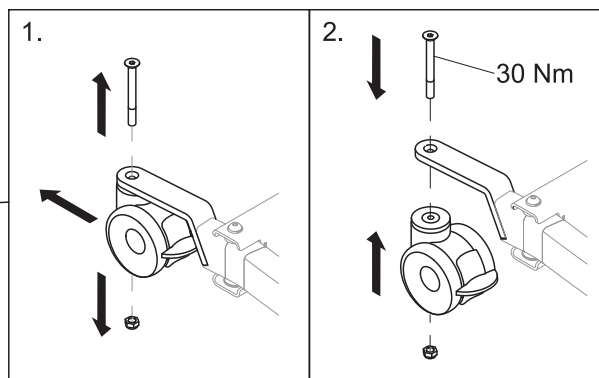
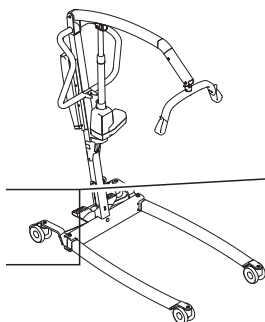
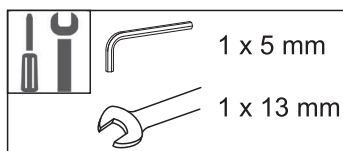
5.3 Replacing 75 mm castors



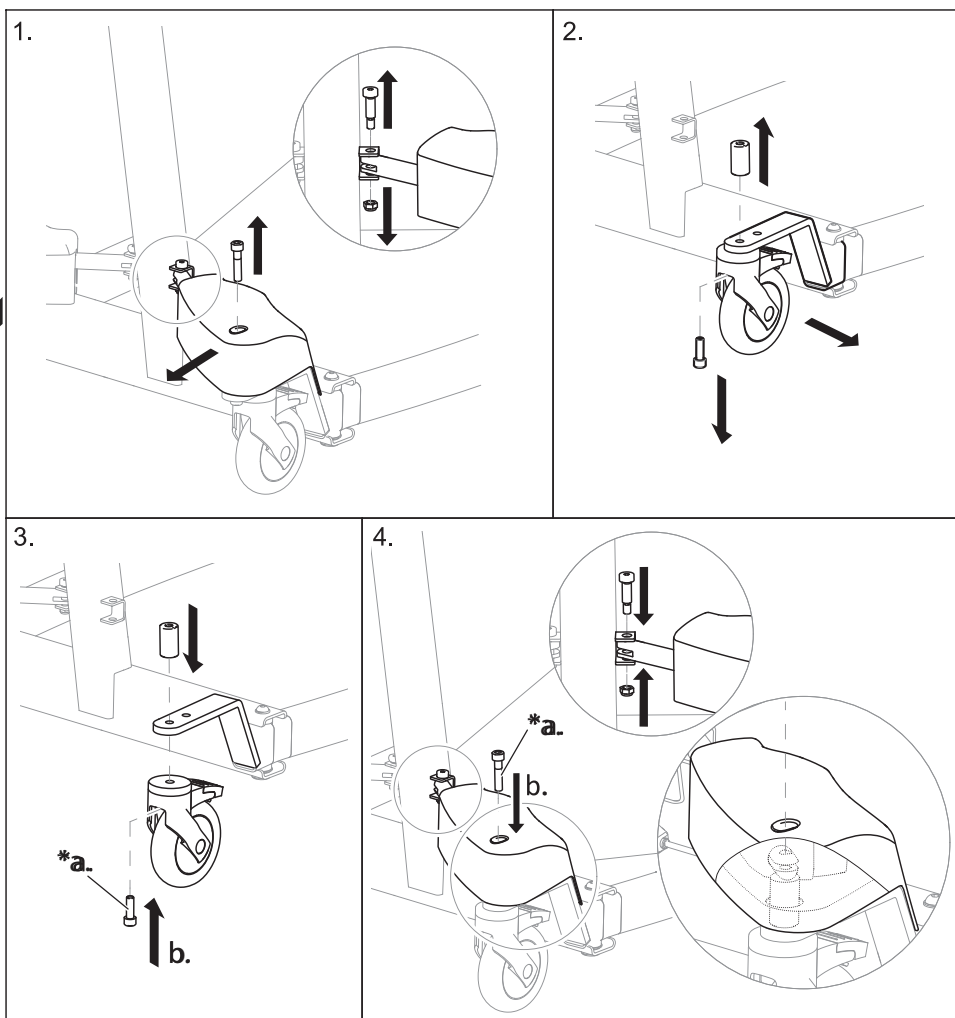
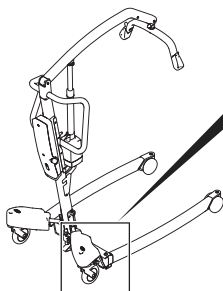
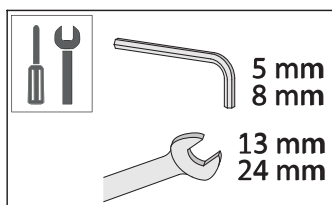
5.4 Replacing 100 mm castors



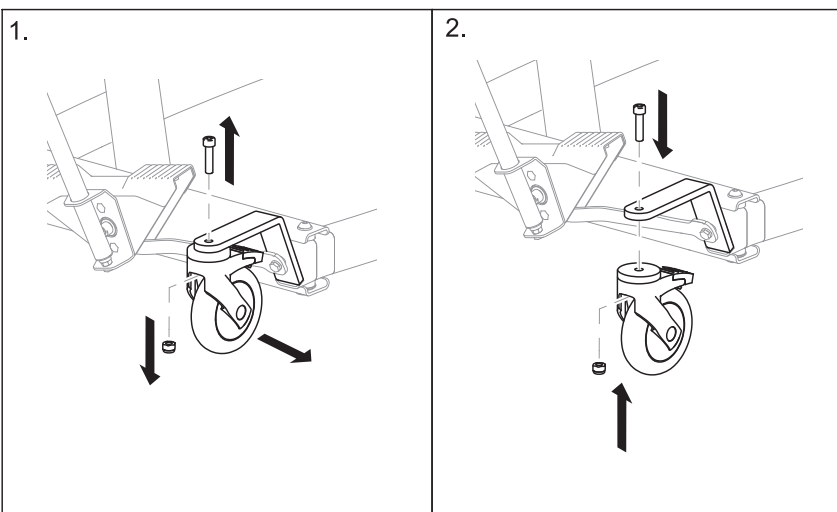
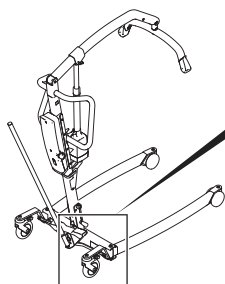
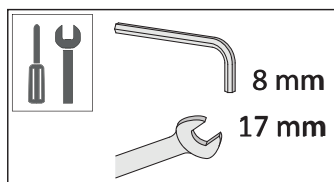
5.5 Replacing 100 mm rear castors with total lock



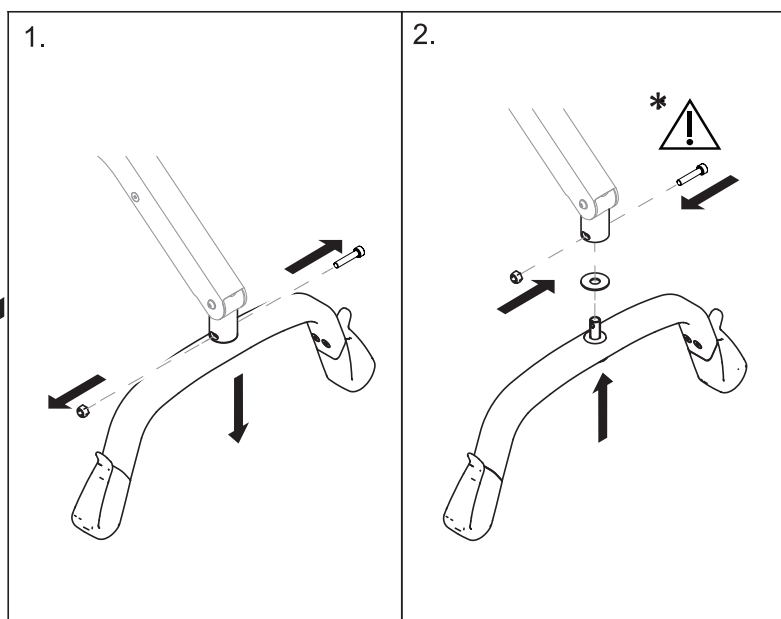
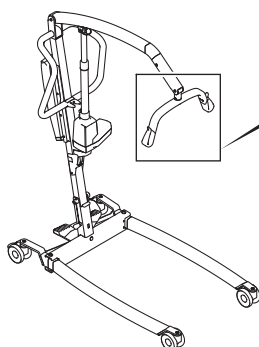
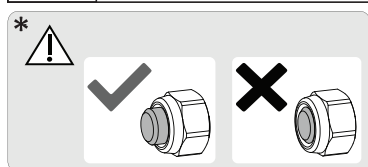
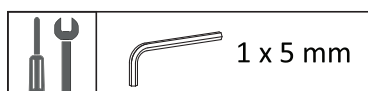
5.6 Replacing 125 mm castors



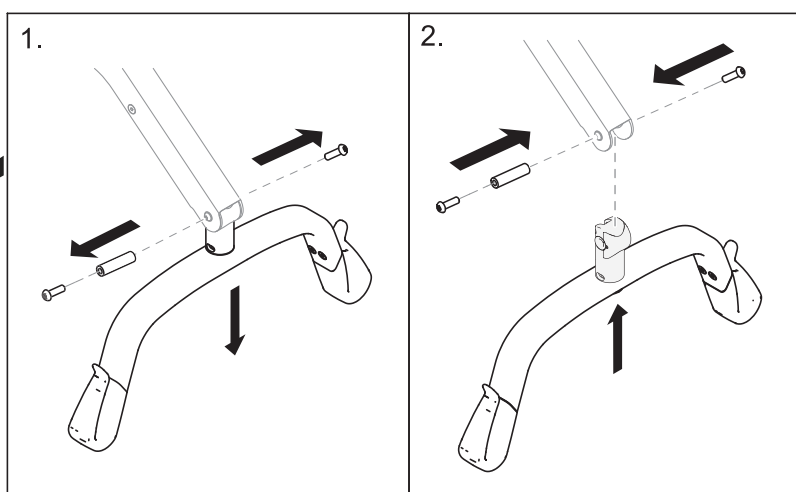
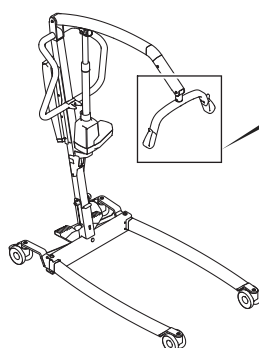
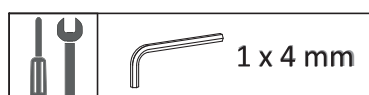
*a. Apply medium strength thread lock.



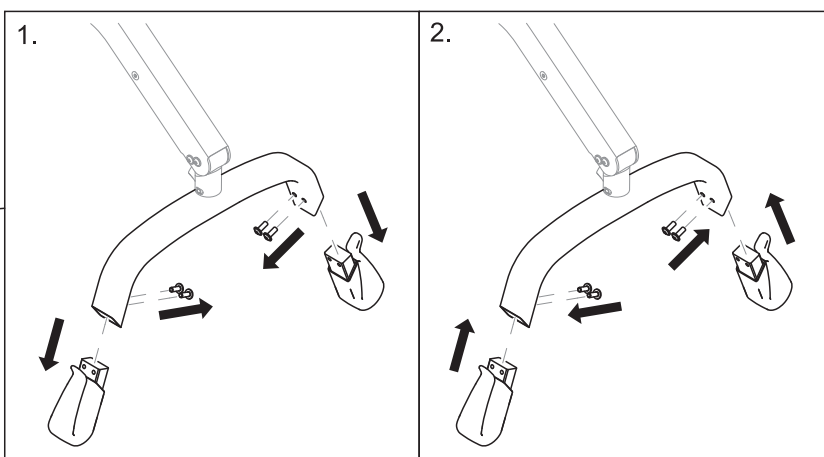
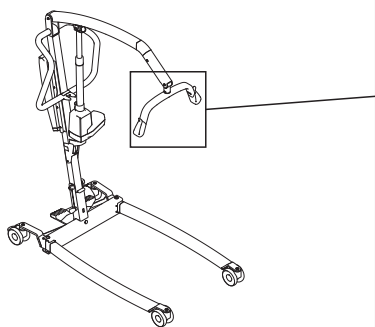
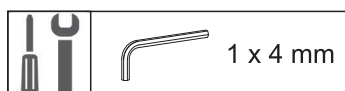
5.7 Replacing the spreader bar



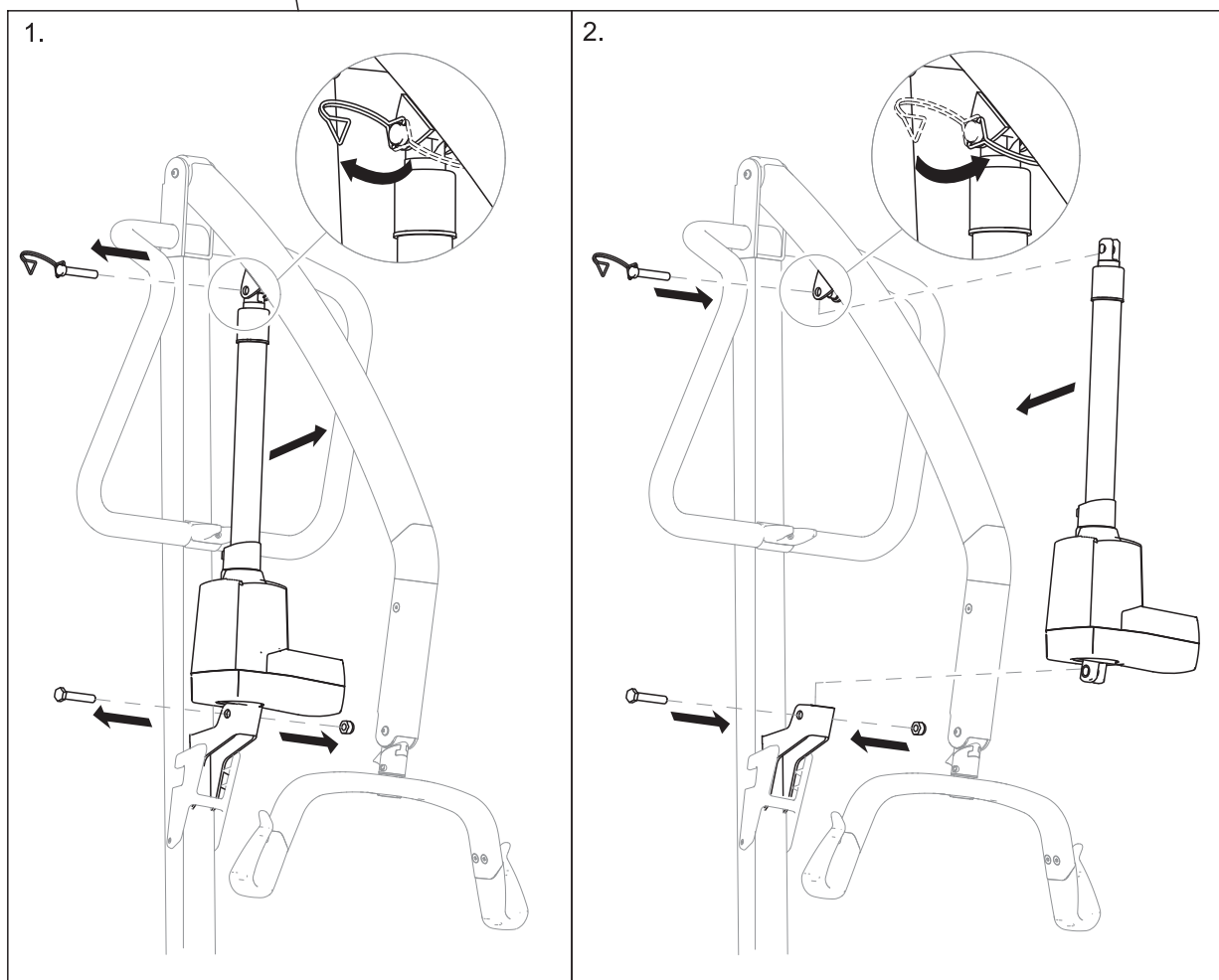
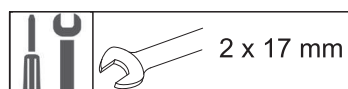
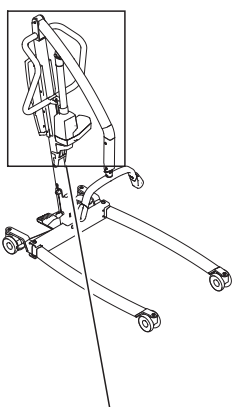
5.8 Replacing the spreader bar with fixation pin



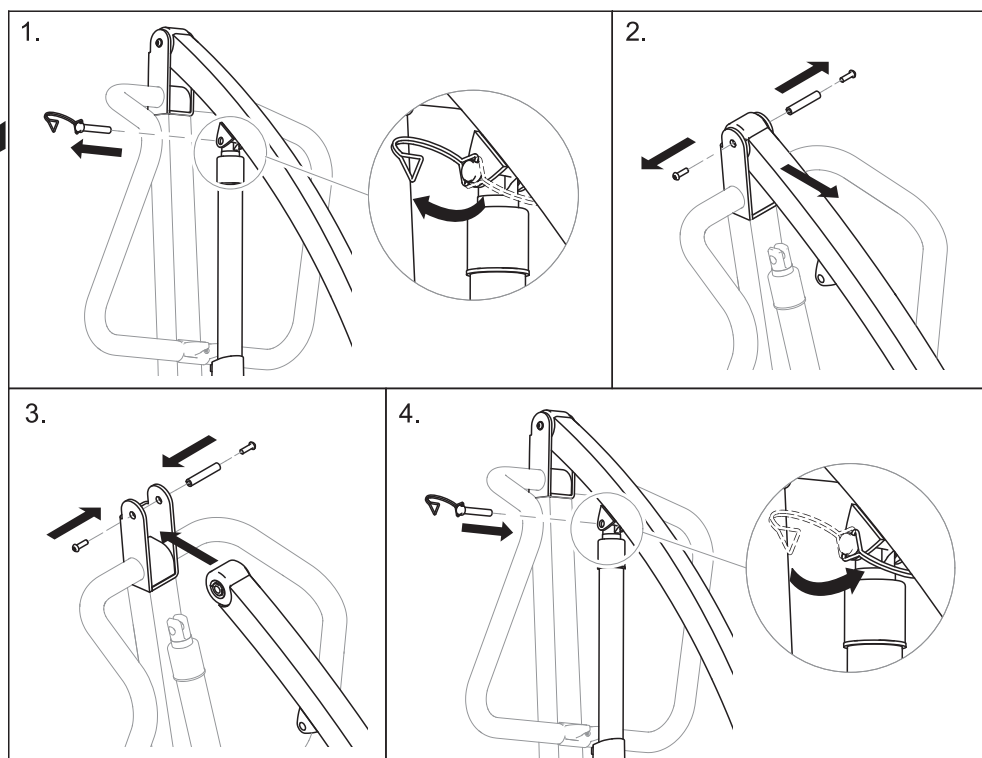
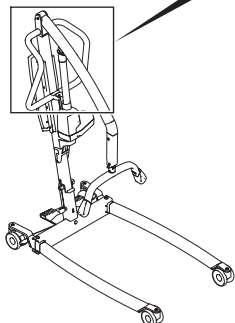
5.9 Replacing the hooks



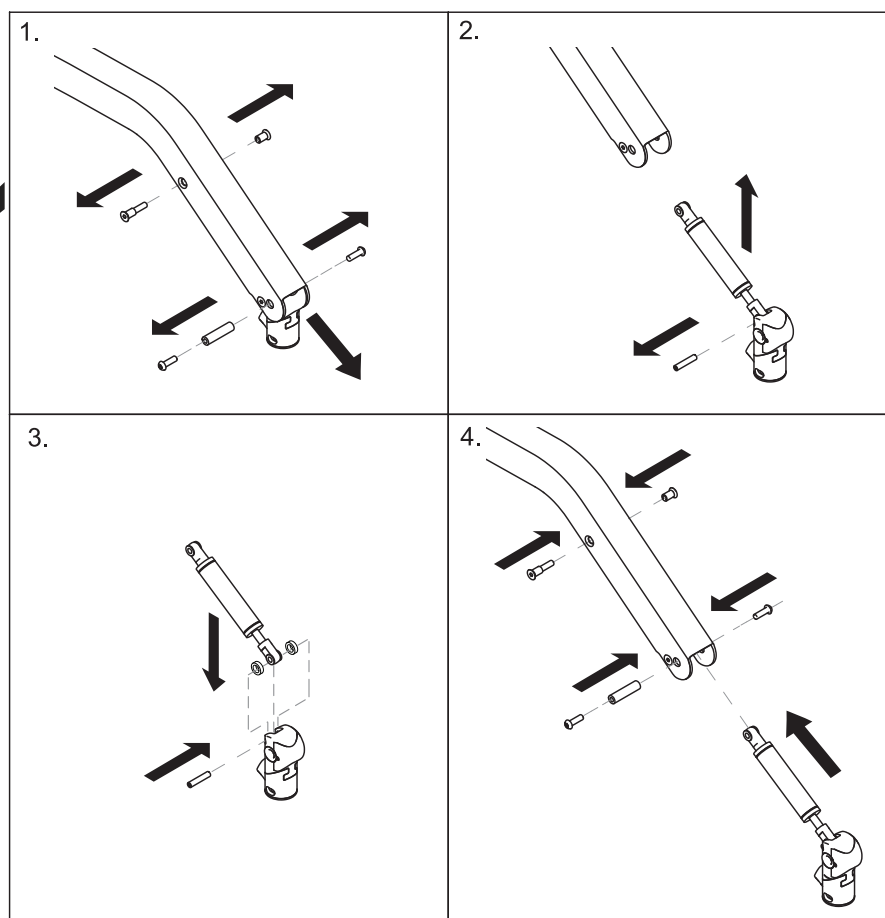
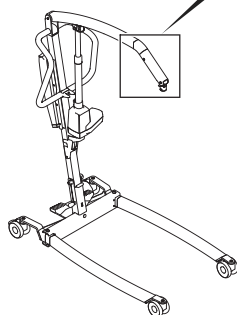
5.10 Replacing the boom actuator



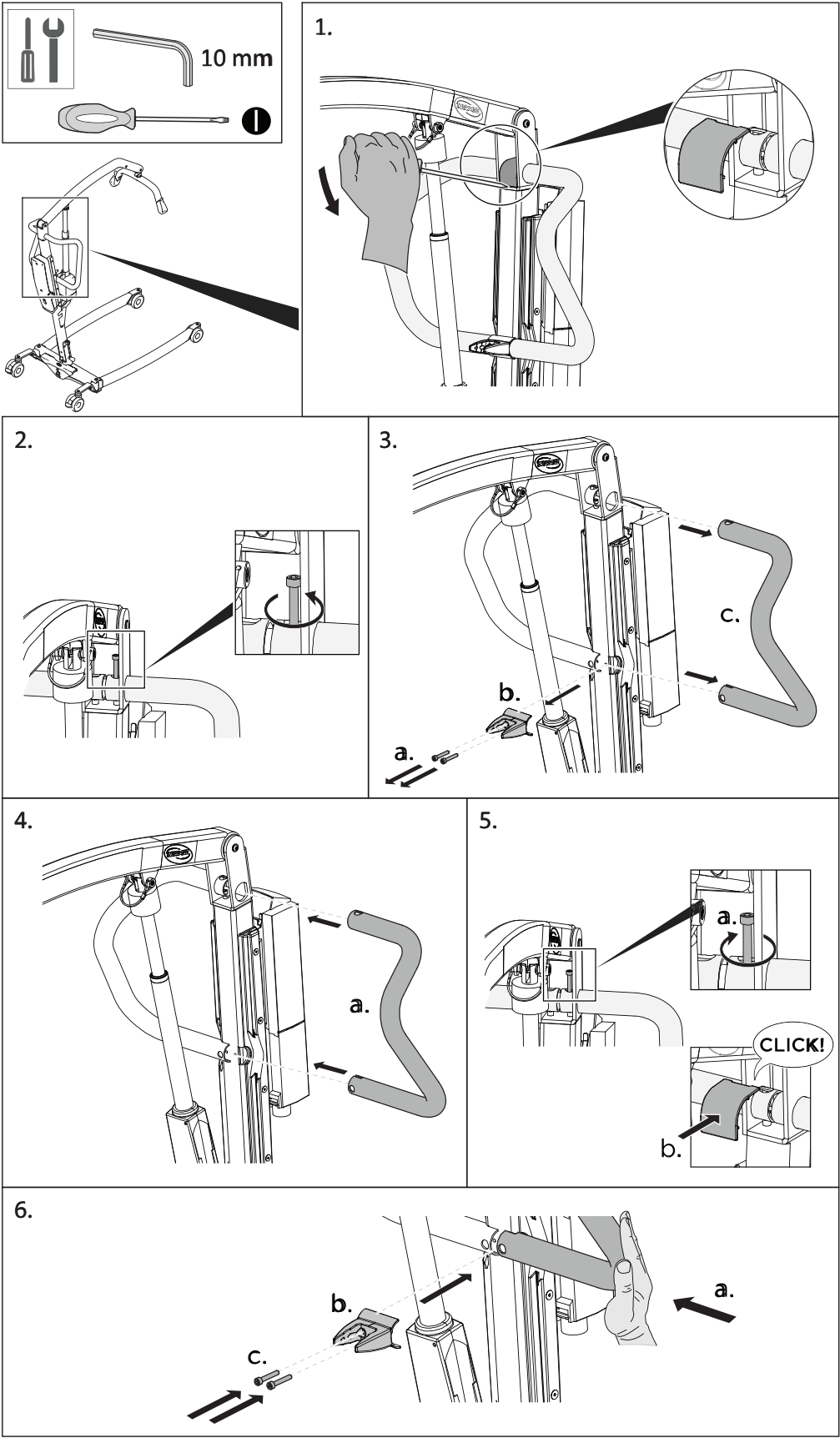
5.11 Replacing the boom



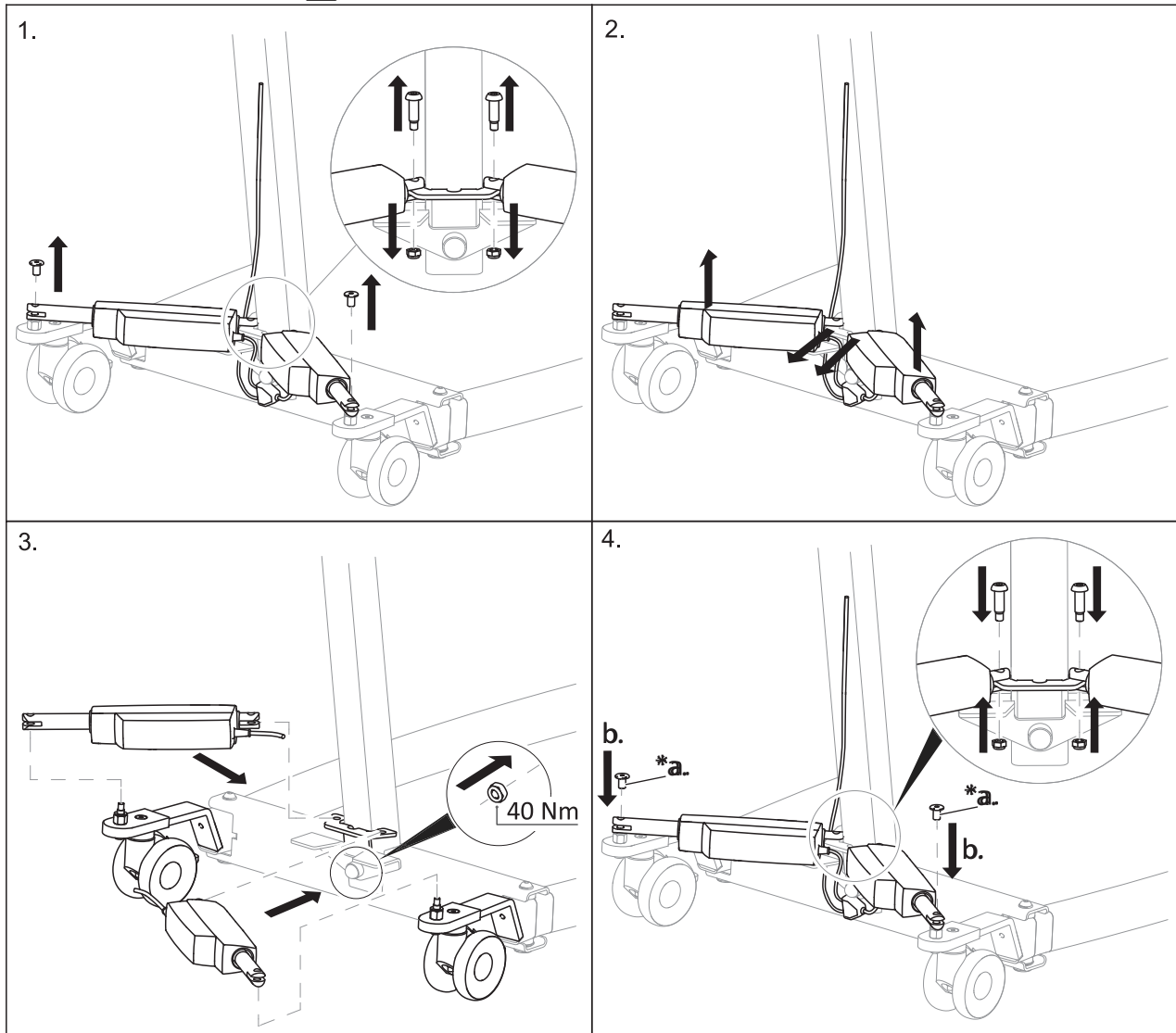
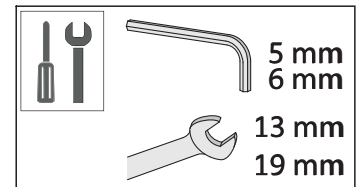
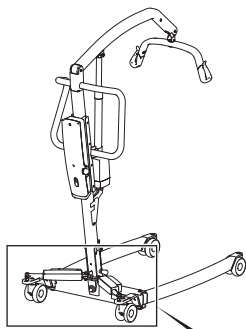
5.12 Replacing the damper



5.13 Replacing the push bars

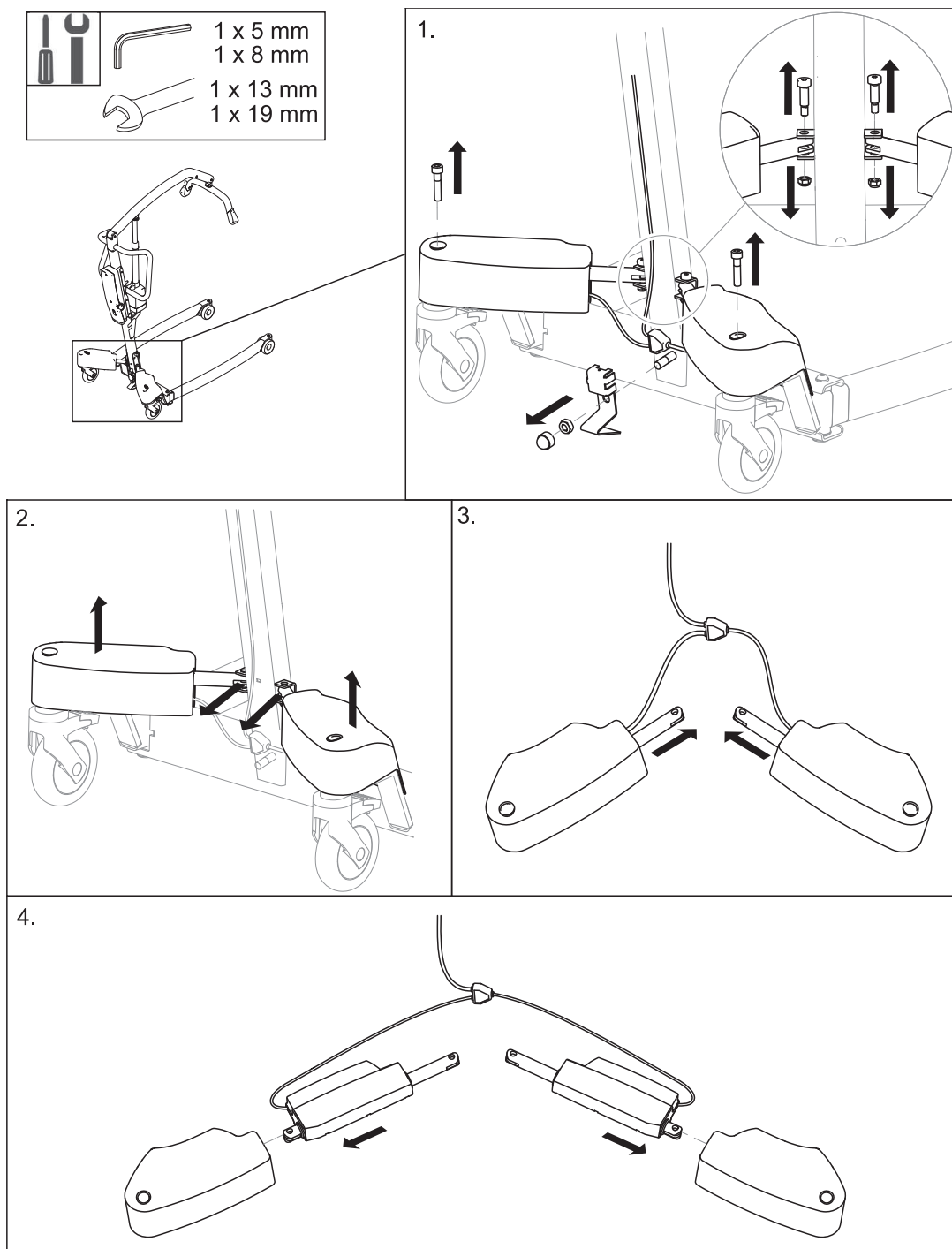


5.14 Replacing a leg actuator without cover



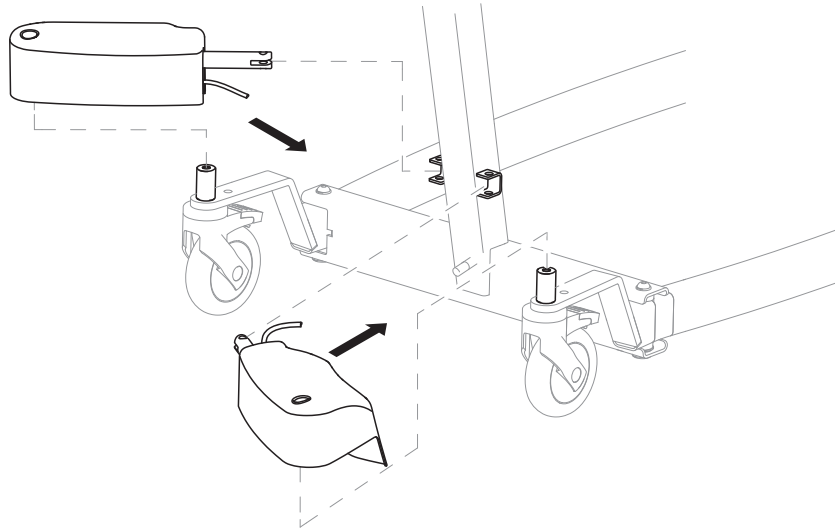
*a. Apply medium strength thread lock.

5.15 Replacing a leg actuator with cover

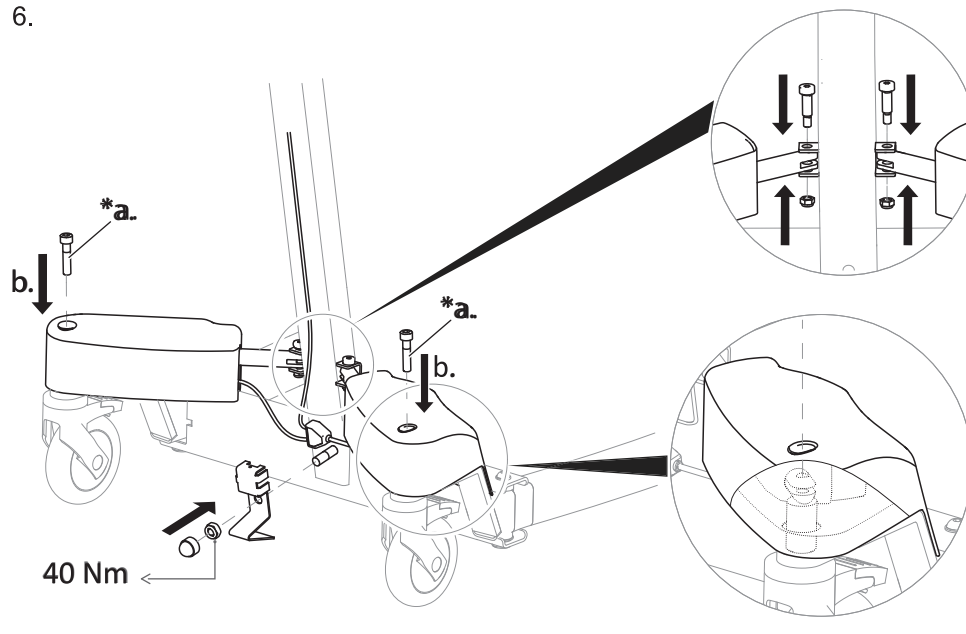




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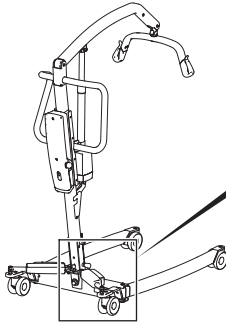
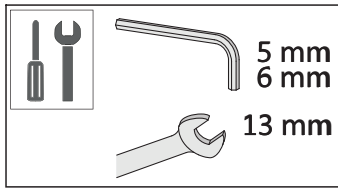


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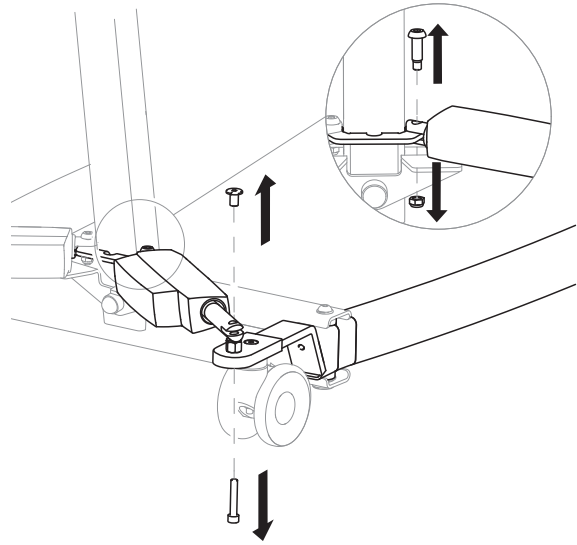


***a.** Apply medium strength thread lock.

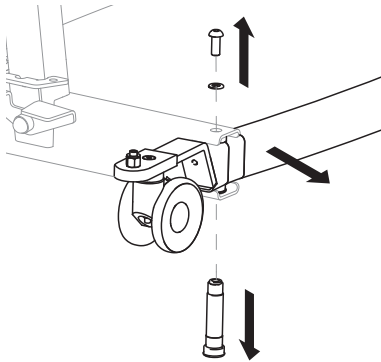
5.16 Replacing electrical legs without actuator cover



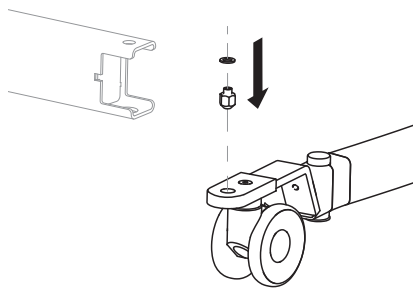
1.



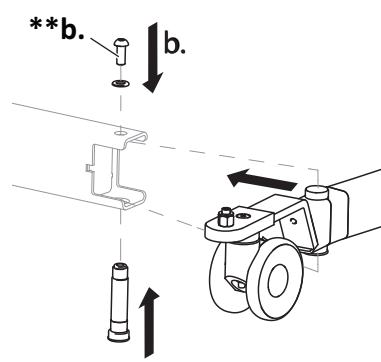
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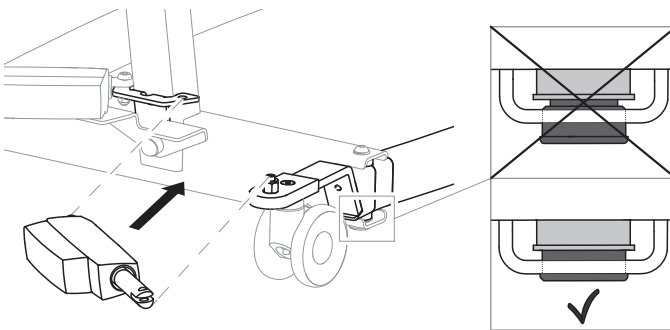
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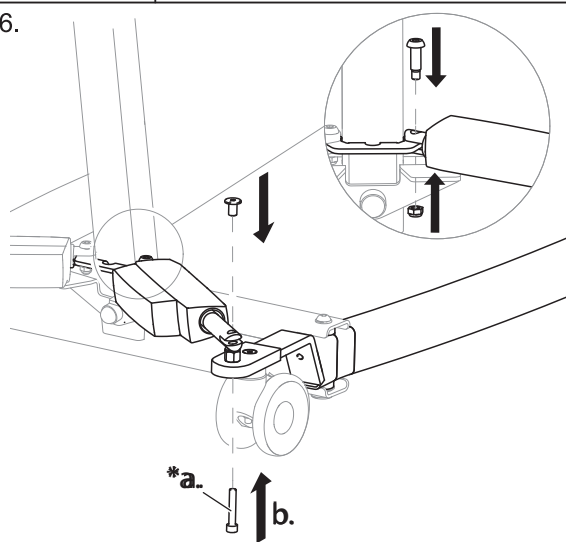
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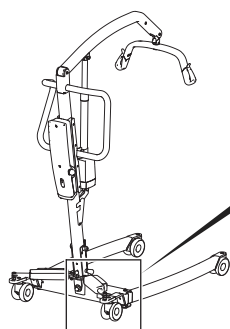
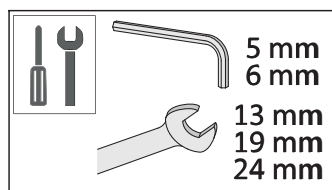
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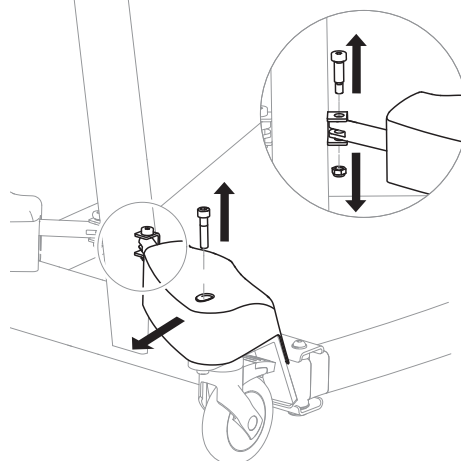
*a. Apply medium strength thread lock.

**b. Apply high strength thread lock.

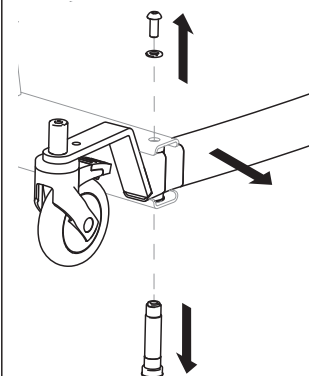
5.17 Replacing electrical legs with actuator cover



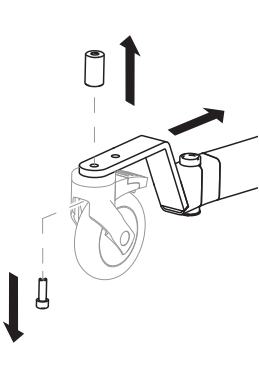
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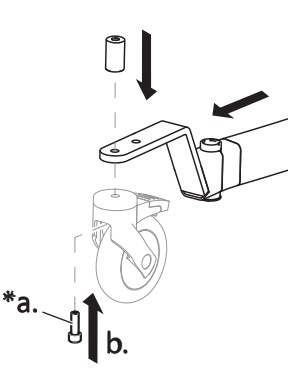
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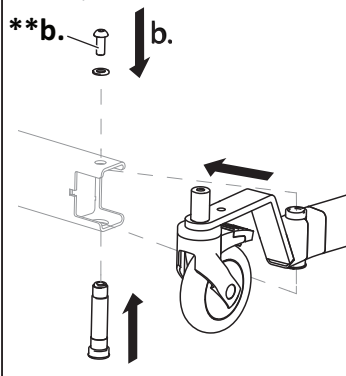
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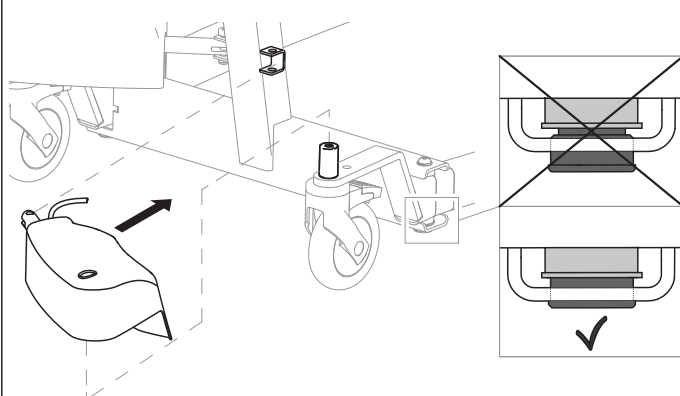
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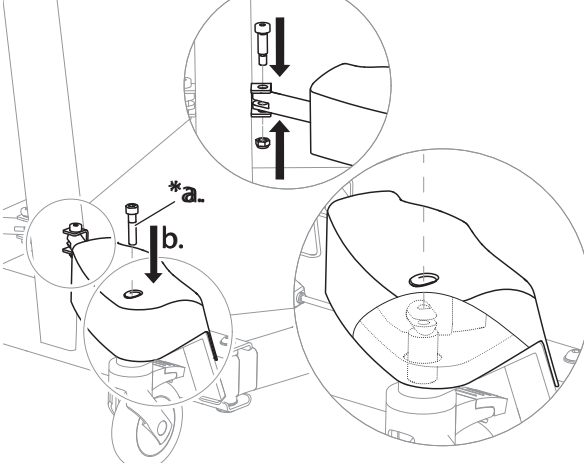
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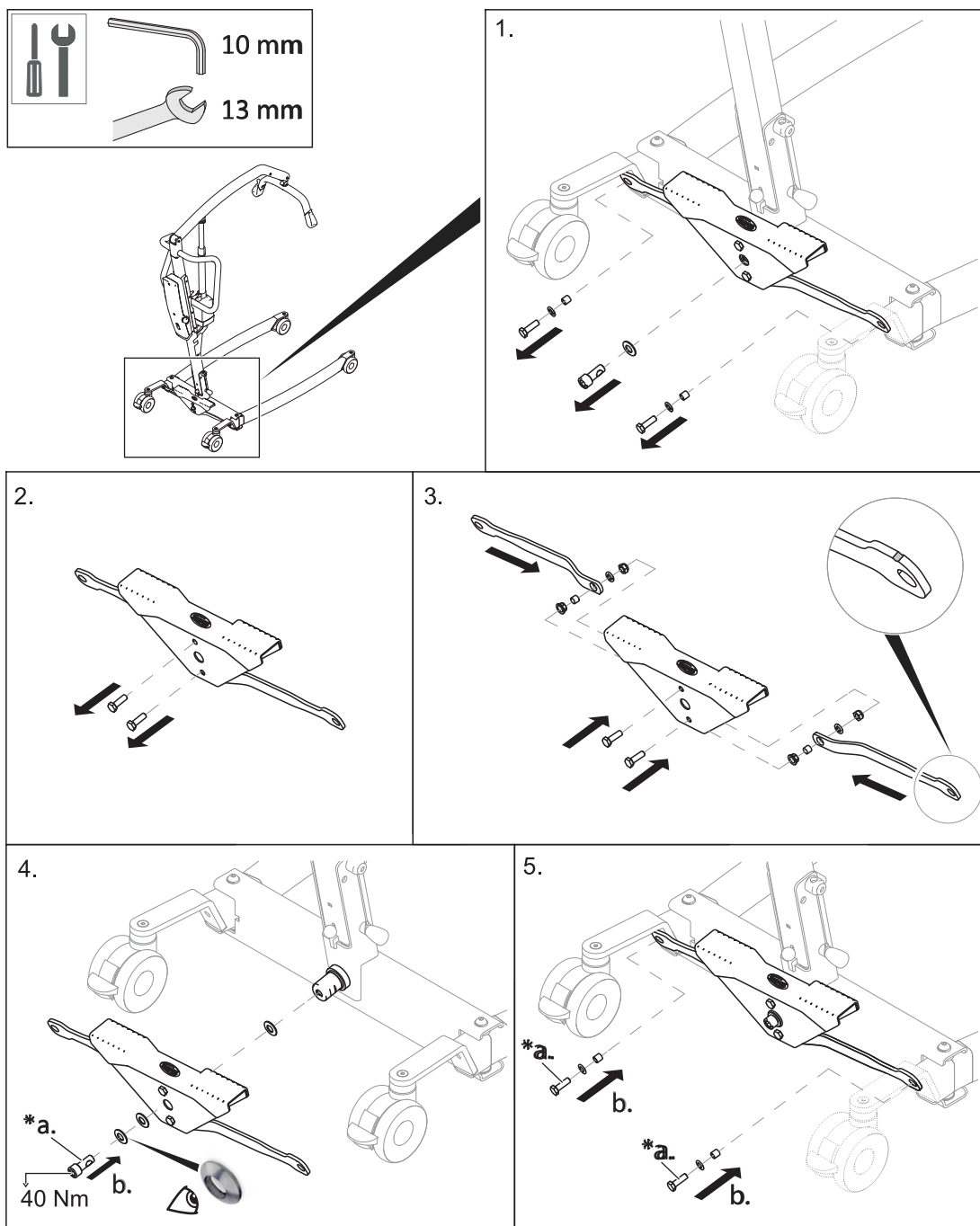
7.



***a.** Apply medium strength thread lock.

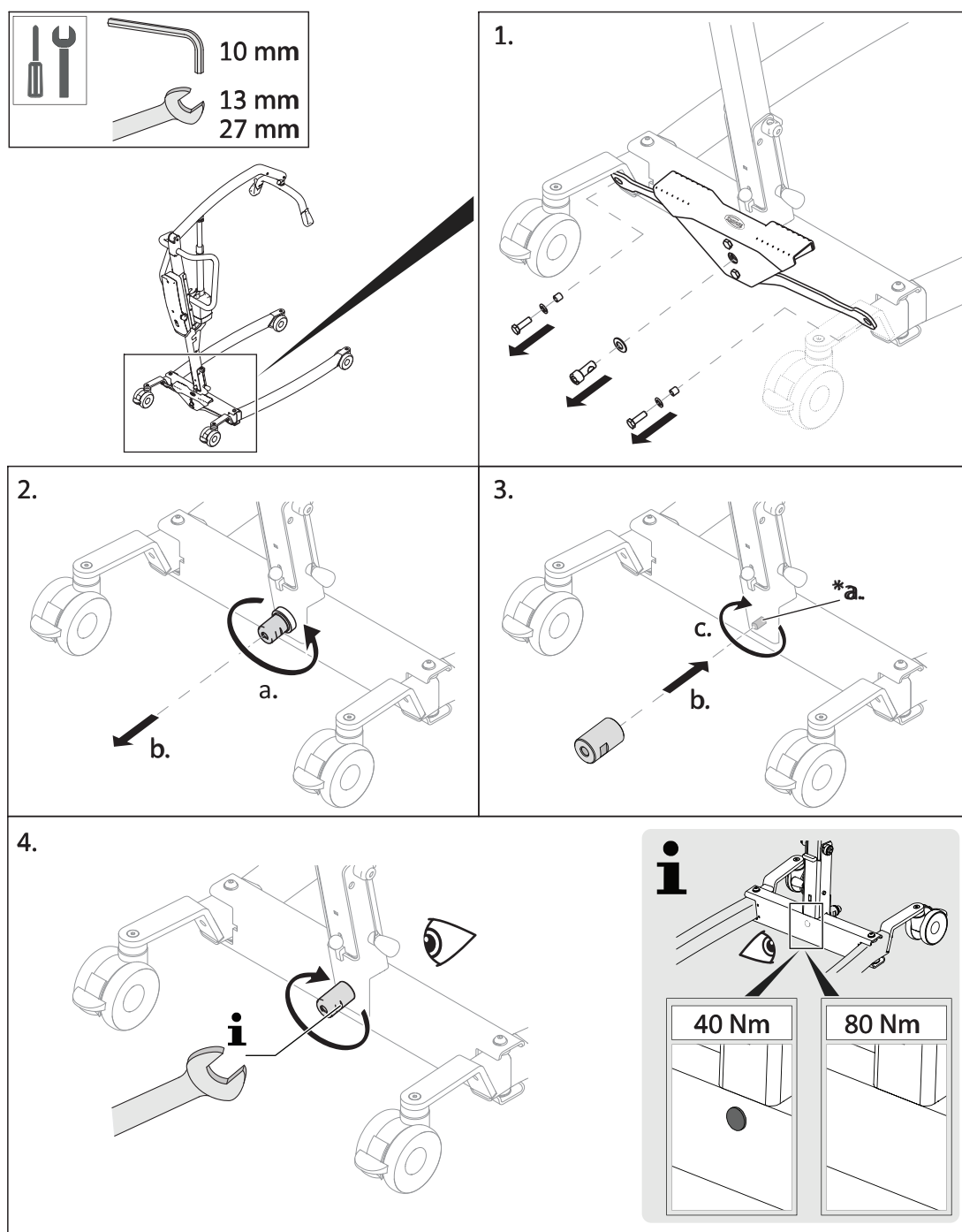
****b.** Apply high strength thread lock.

5.18 Replacing the foot pedal and/or rods



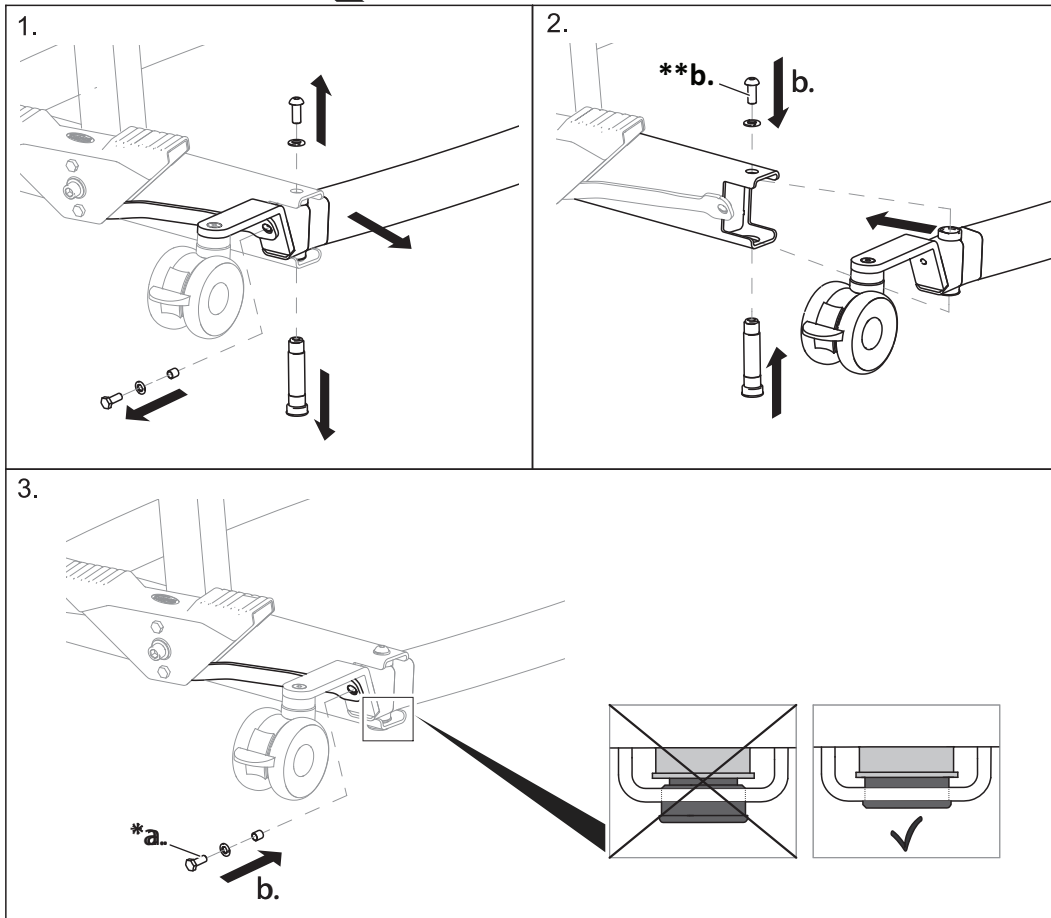
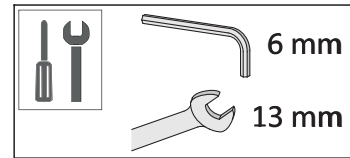
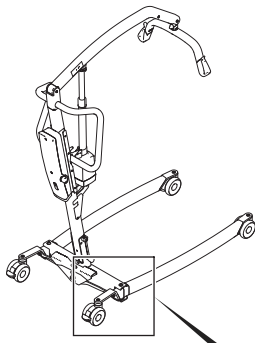
*a. Apply medium strength thread lock.

5.18.1 Replacing the pedal axle



*a. Apply medium strength thread lock.

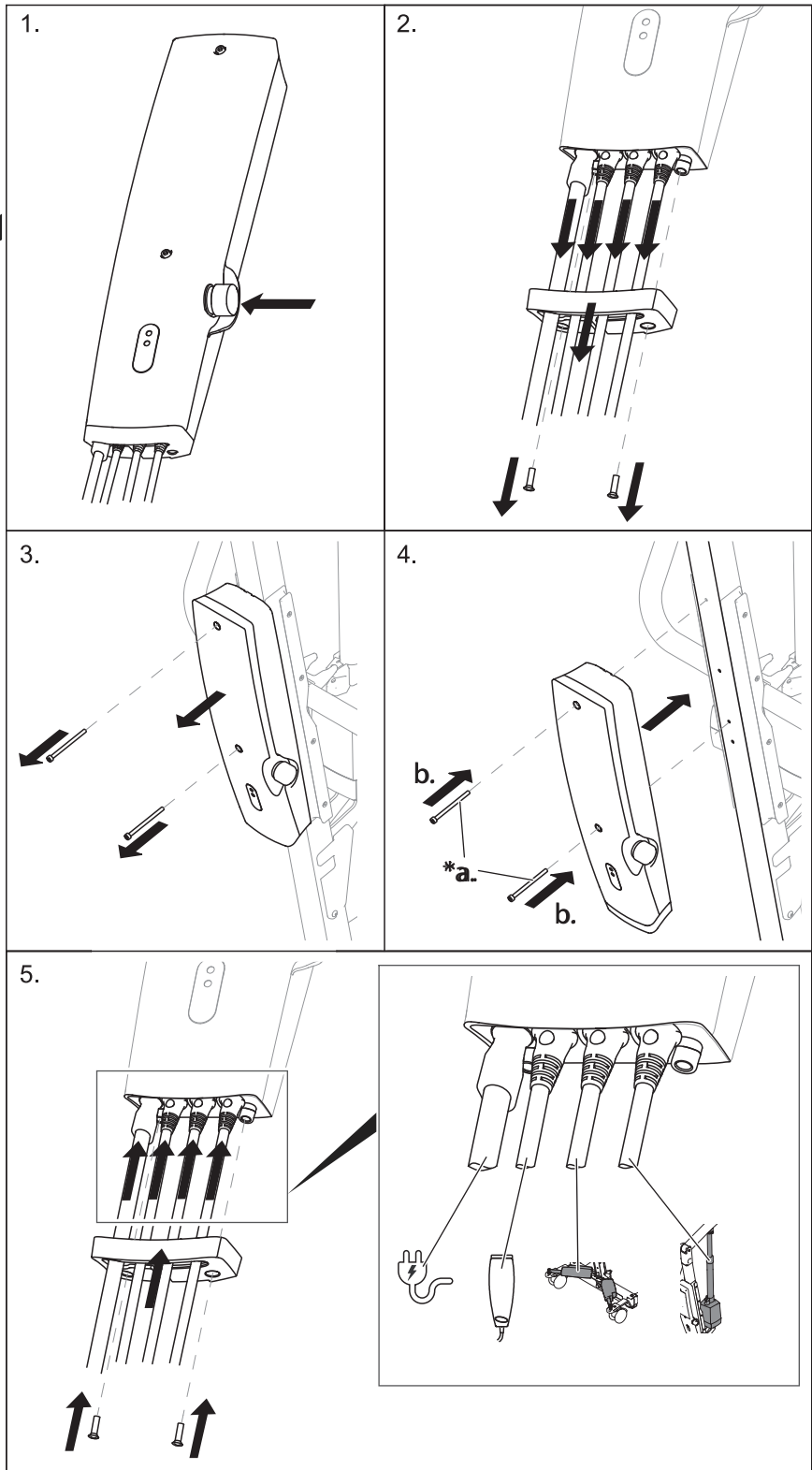
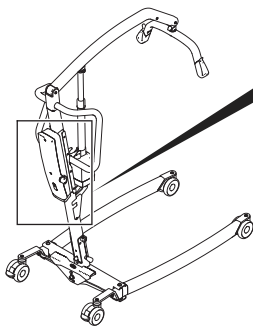
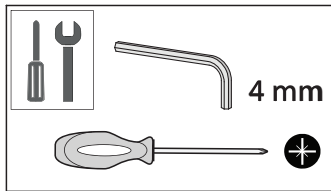
5.19 Replacing manual legs



***a.** Apply medium strength thread lock.

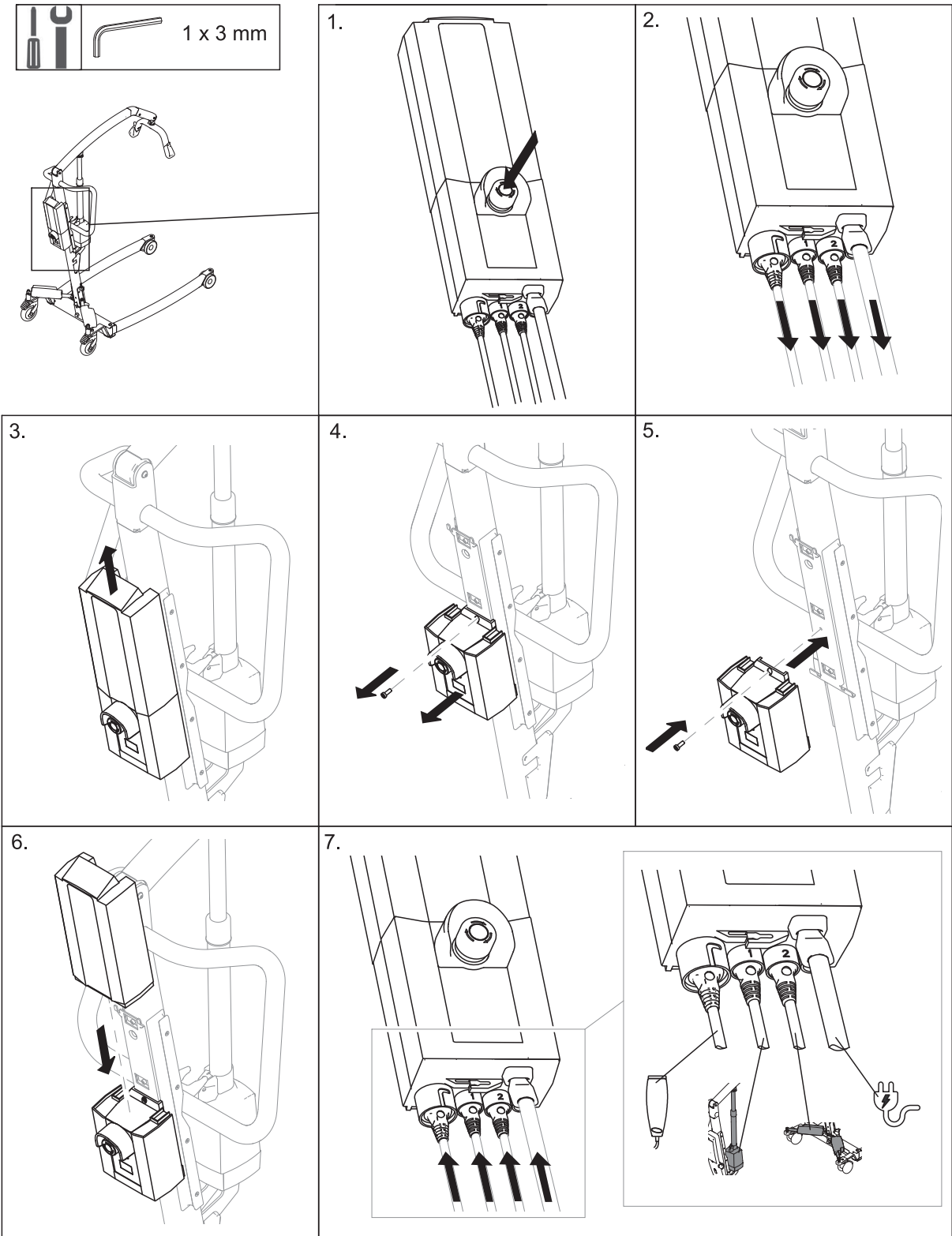
****b.** Apply high strength thread lock.

5.20 Replacing the CBJ Home control unit

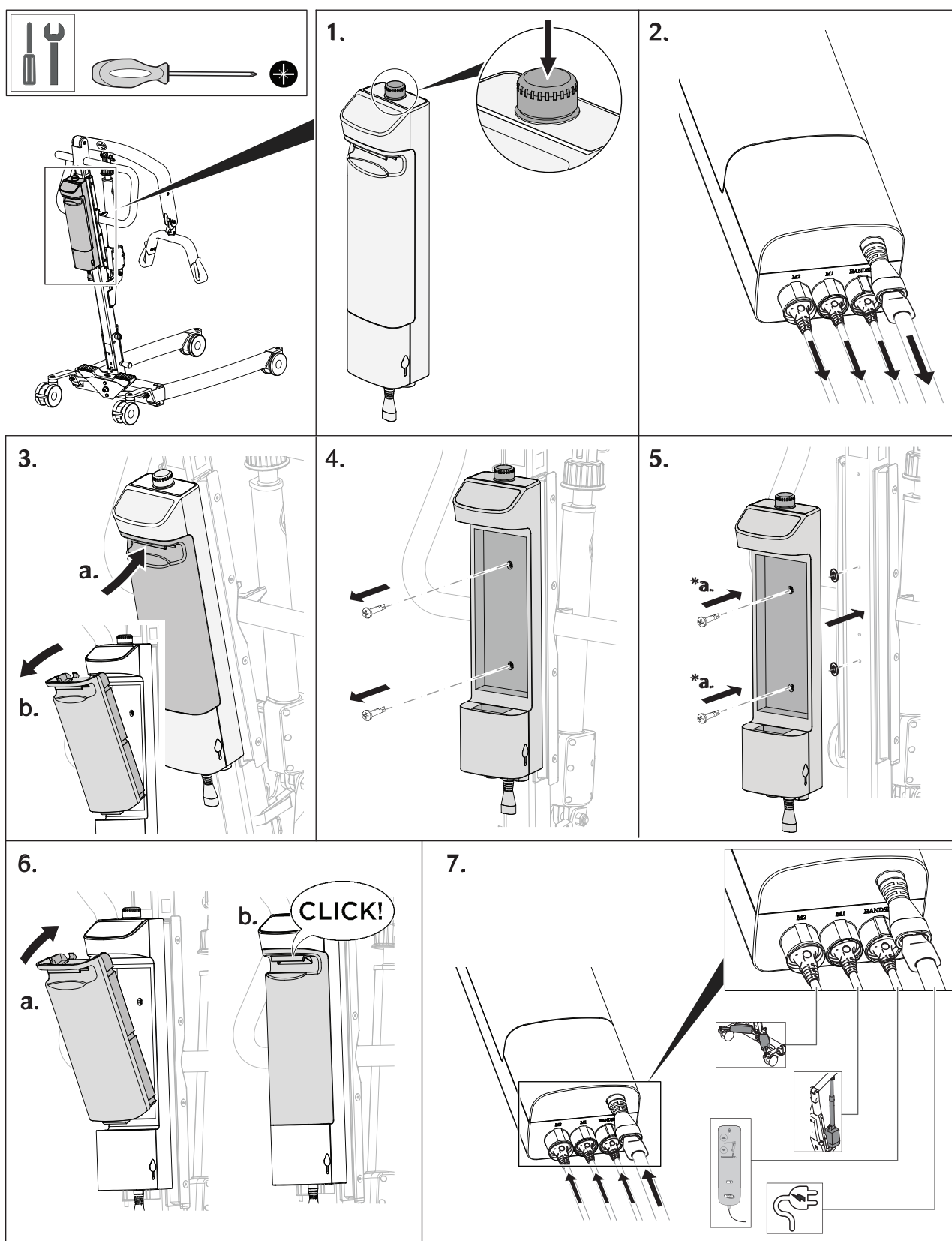


*a. Apply medium strength thread lock.

5.21 Replacing the CBJ Care, CBJ1 , CBJ2 control unit

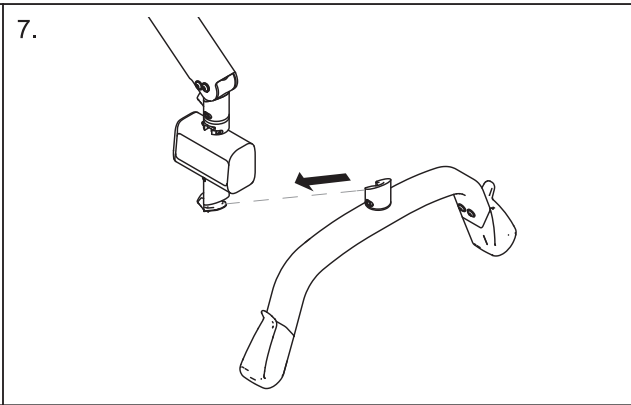
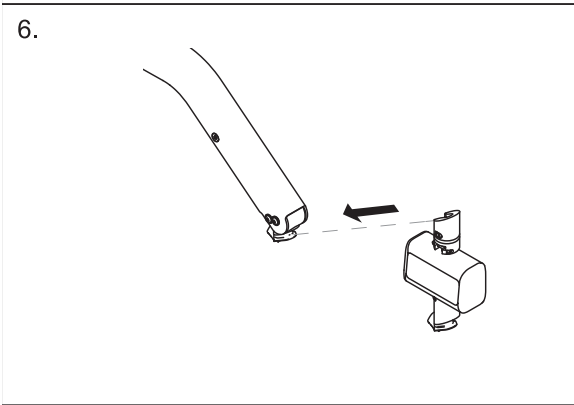
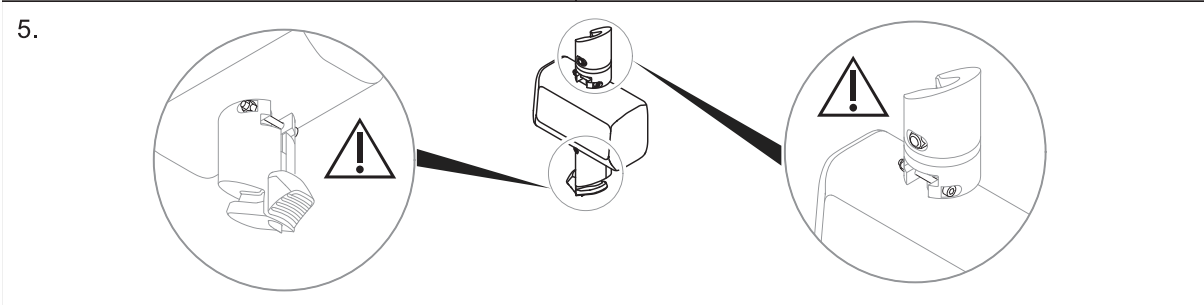
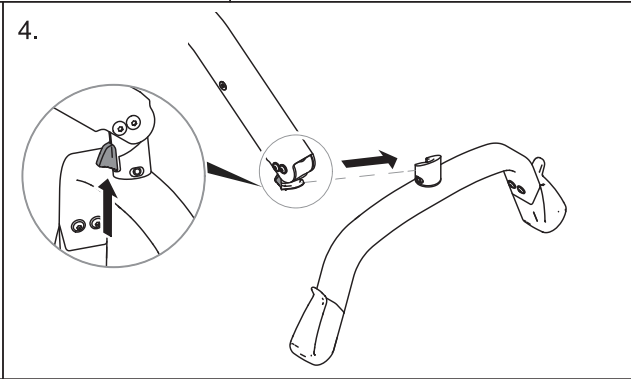
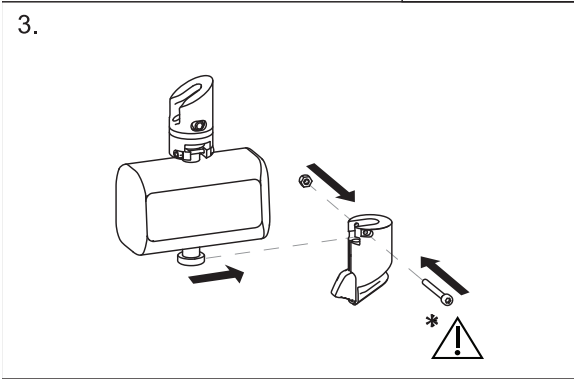
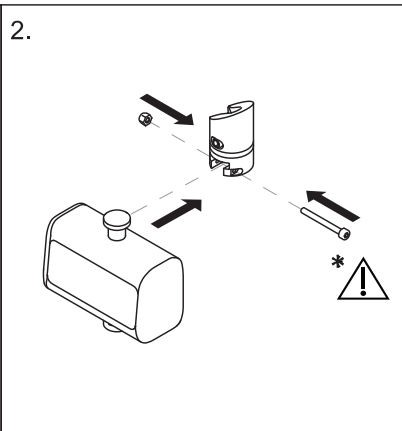
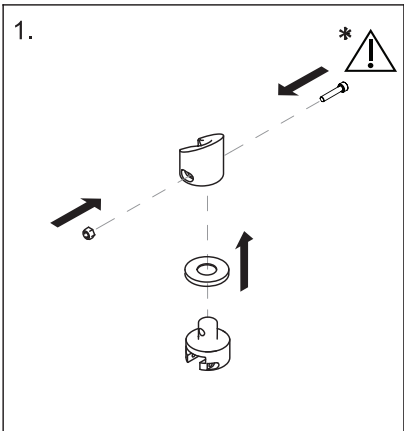
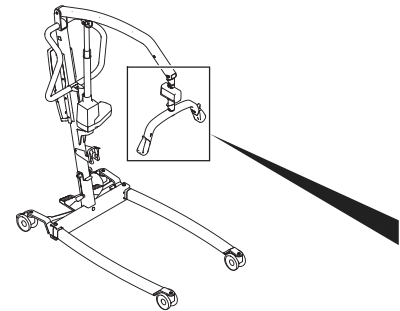
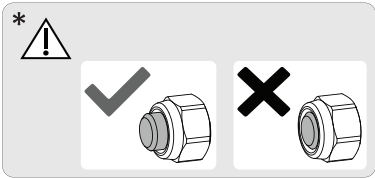
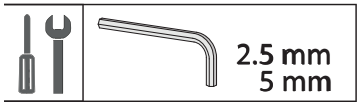


5.22 Replacing the TC12AC control unit

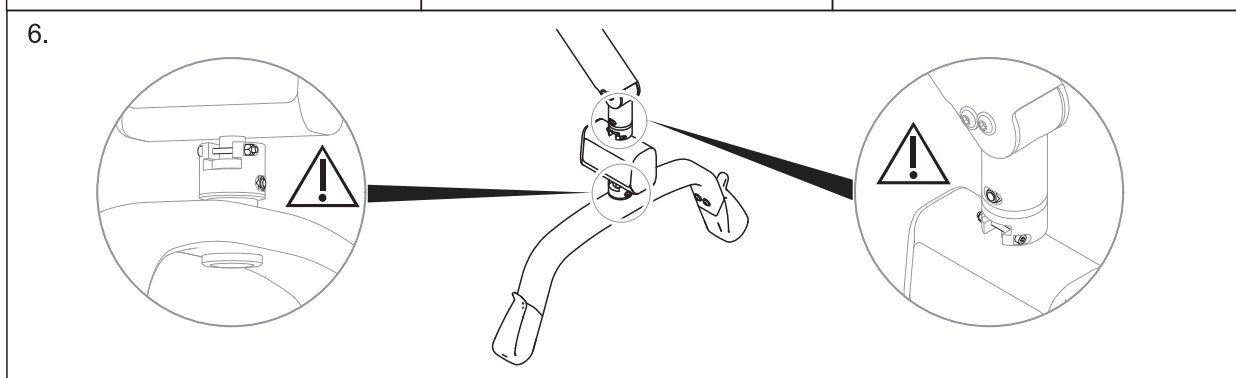
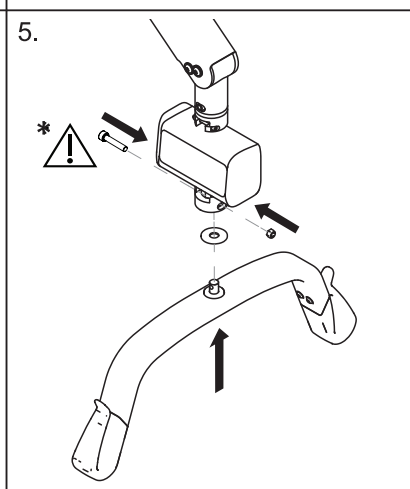
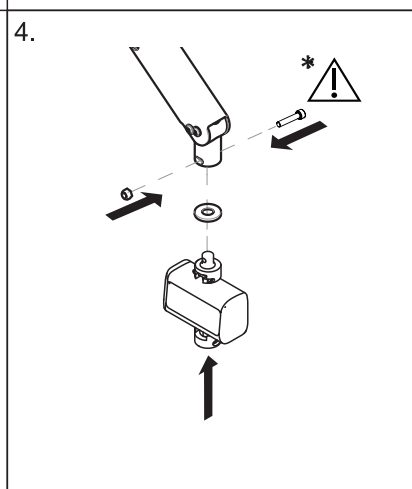
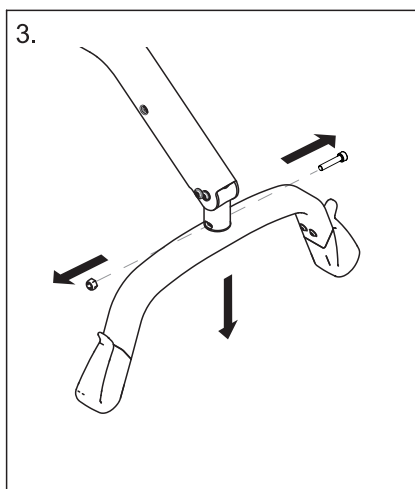
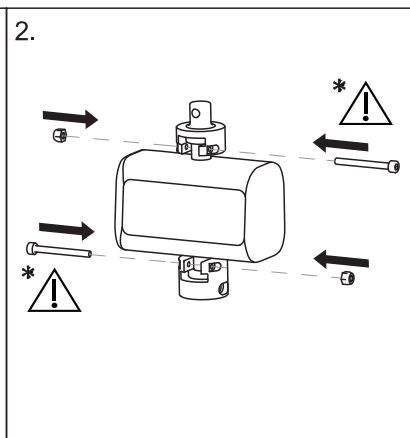
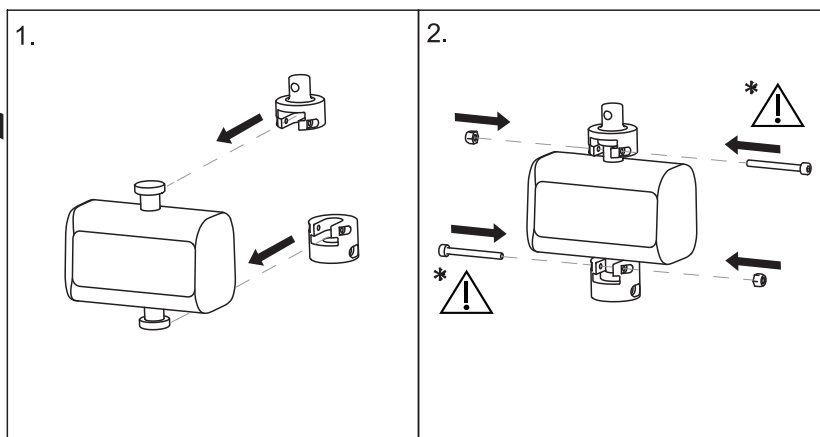
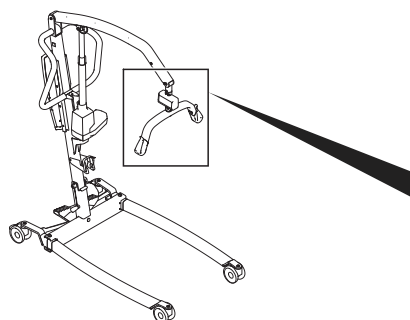
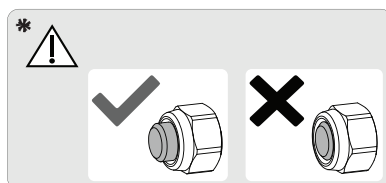
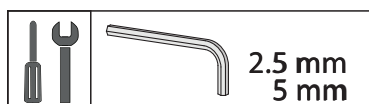


*a. Apply medium strength thread lock.

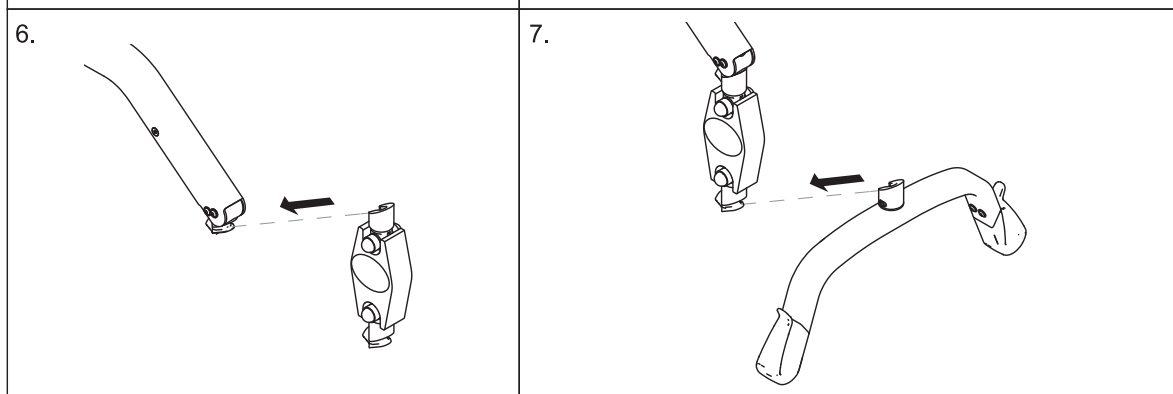
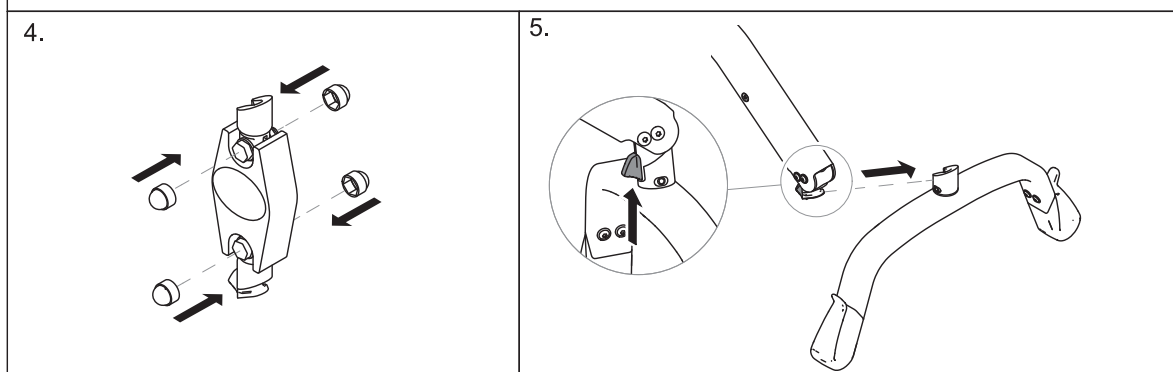
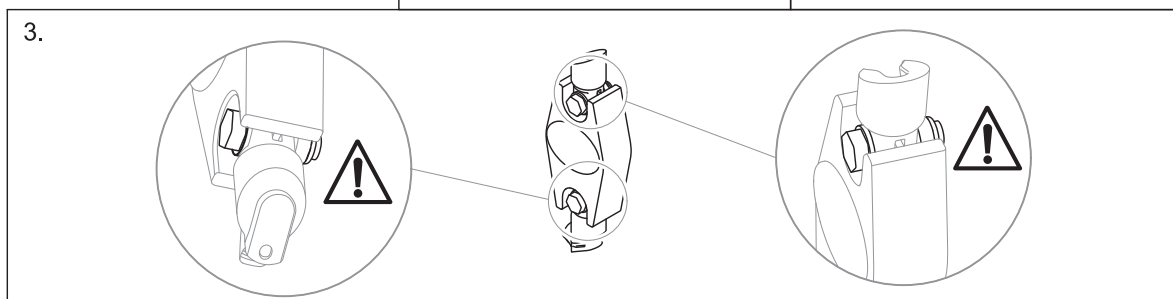
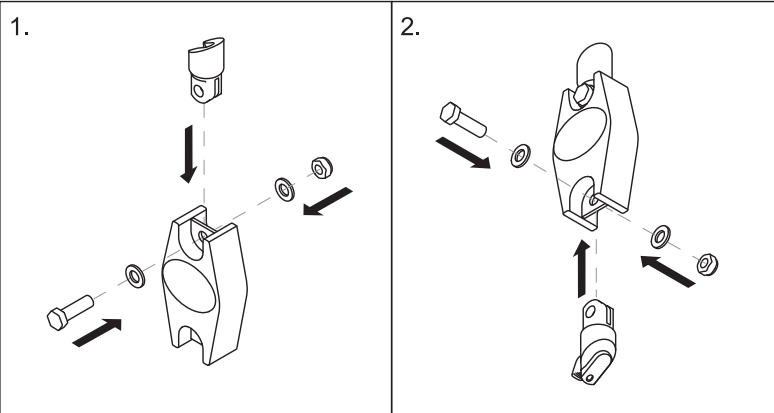
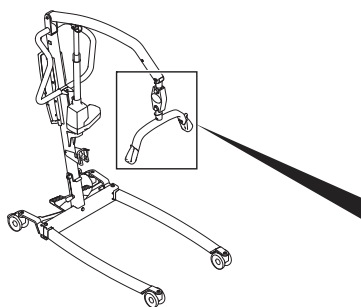
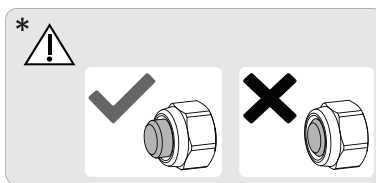
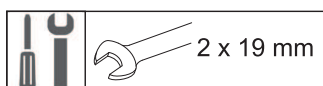
5.23 Installing the Wunder RS scale with SMARTLOCK®



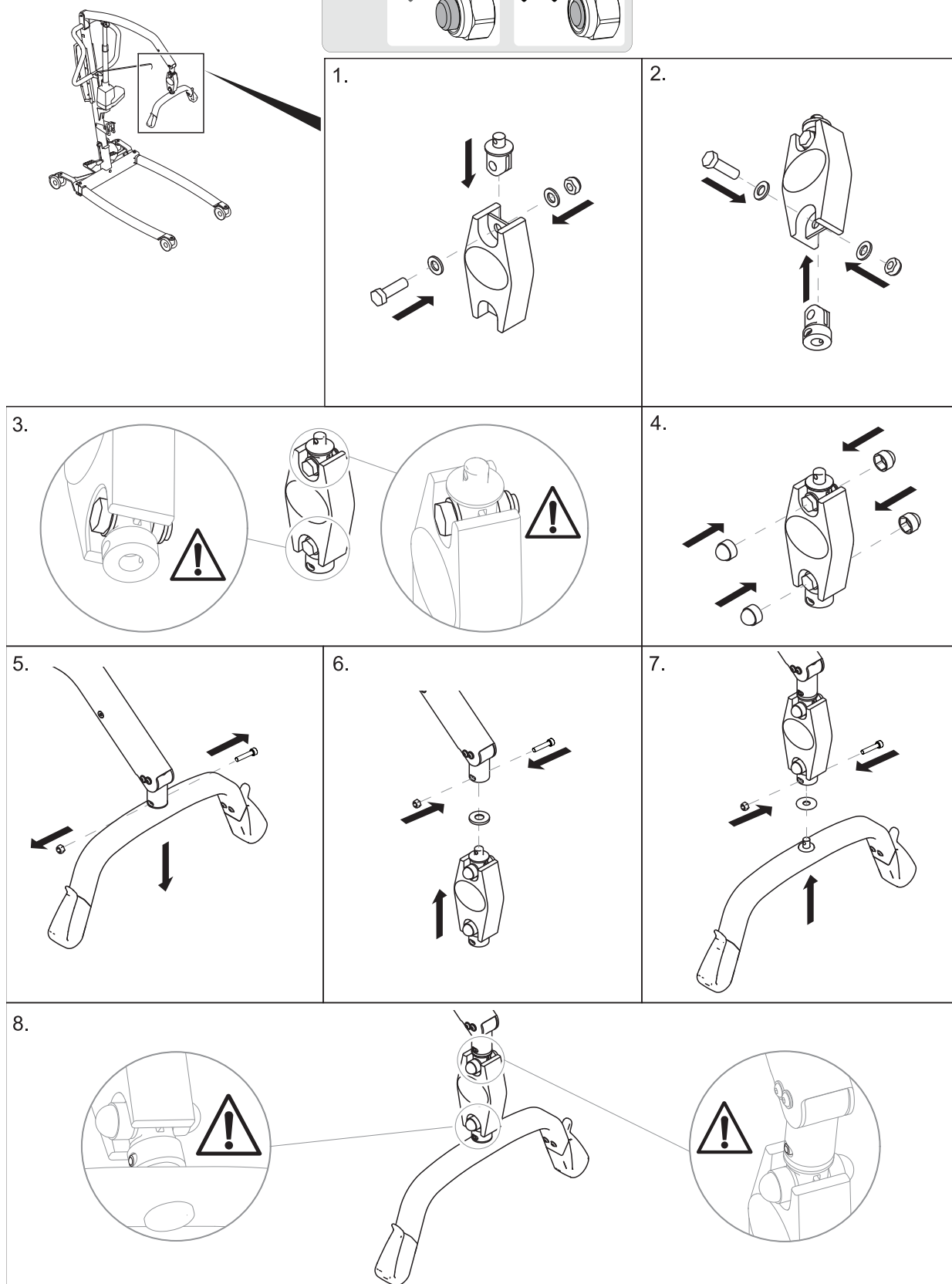
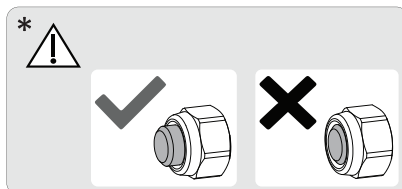
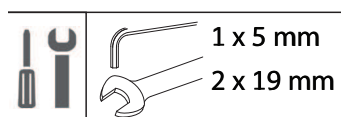
5.24 Installing the Wunder RS scale with a fixed spreader bar



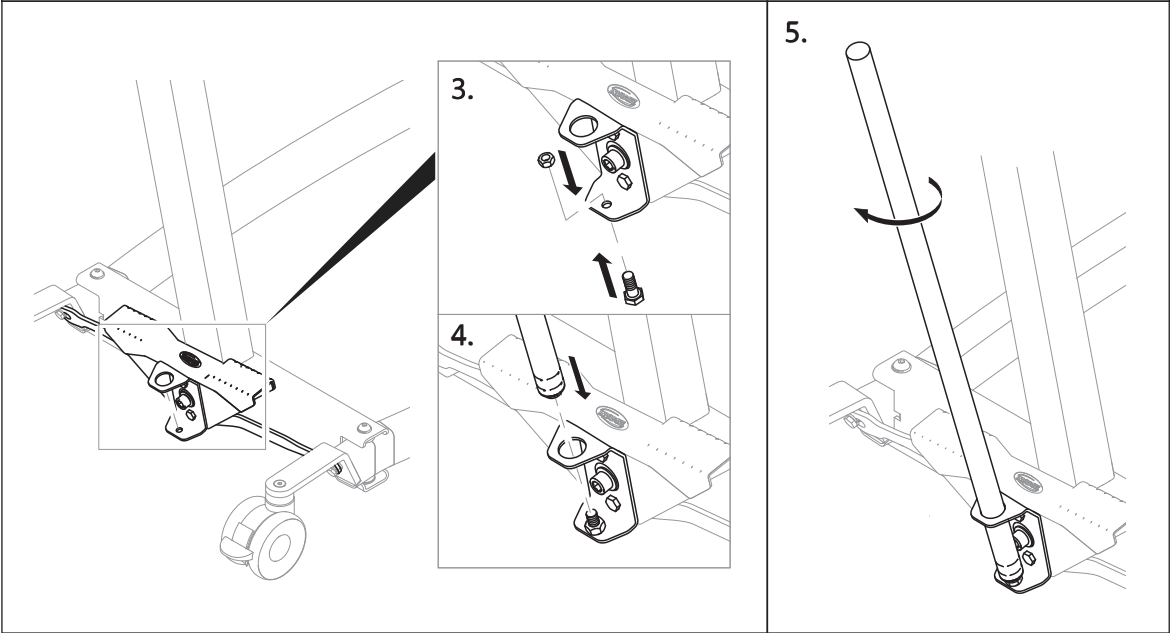
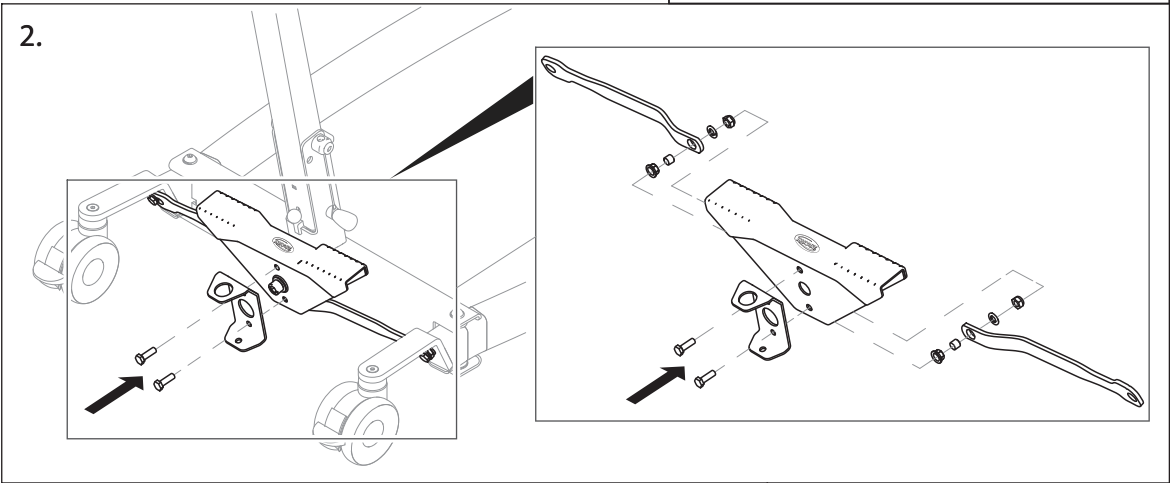
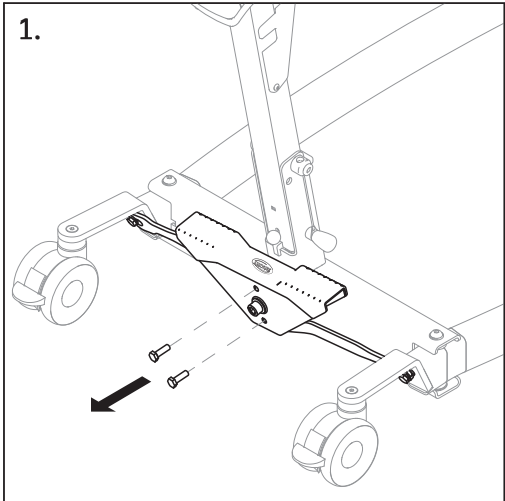
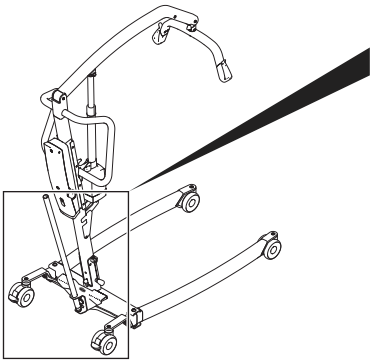
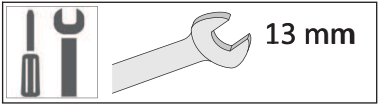
5.25 Installing the Wunder CR200 scale with SMARTLOCK®



5.26 Installing the Wunder CR200 scale with a fixed spreader bar



5.27 Installing the lever for manual leg spreader



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