

*Otto Bock*<sup>®</sup>

QUALITY FOR LIFE



**Lisa**  
**Service Manual**



## Service Instructions for LISA Rehab Buggy/Stroller (Models from 2005, HR3213.../HR3214...)

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## 1 General Information

### 1.1 Preface

Regular maintenance is important. It increases safety and prolongs the service life of the product. All rehab products should be inspected and serviced once a year. If the product is used frequently, or if it is used by growing children or patients with changing clinical conditions, it should be readjusted and serviced every 6 months. The service and maintenance described in this manual should be performed by skilled specialists only and not by the user. This service and maintenance manual refers to the spare parts catalogs and instructions for use manuals for the products described here. For this reason, it is important to use these documents together. Use the maintenance plans (see section 3) as a template for making copies. Retain completed maintenance plans and provide the customer with a copy.

### 1.2 Warning Symbols



**Danger!**  
Warning messages regarding possible risks of accident or injury.



**Attention!**  
Warning messages regarding possible technical damages.



**Note!**  
Information for service staff.



**Note!**  
Please read the Instructions for Use first!

### 1.3 Information for Service Staff



- Use only original spare parts for all service and maintenance to maintain the warranty.
- Are you familiar with the functions of the product? If not, please read the Instructions for Use first! If you do not have them, you can order the Instructions for Use from Otto Bock or download them from our homepage at [www.ottobock.de](http://www.ottobock.de) (German version) or [www.ottobock.com](http://www.ottobock.com) (other languages).
- Clean and disinfect the product before starting inspection. Please observe the maintenance and cleaning instructions contained in the Instructions for Use!
- These service instructions will explain, among other things, how to dismantle individual components. For reassembly, please proceed in reverse order. If other or additional steps are required for reassembly, we will point out them separately in the corresponding section.

## 1.4 Technical Support

For technical questions, please contact our Customer Service (phone no.: ++49-5527-848-1590).

	Instructions for use	Spare parts catalog
Lisa rehab buggy/stroller	647H140	646K79

## 2 Safety Instructions

Observe the following guidelines for maintenance or repair work:



**Danger!**

Always wear adequate protective clothing (e.g. gloves, safety glasses, etc.) and use appropriate tools (refer to page 4)!



**Danger!**

**You may get injured** if the product tips over or falls off a work surface (e.g. workbench)! Secure the product to prevent it from **tipping over or falling** off any work surfaces!



**Danger!**

**Unsecured screw connections** can become loose while using the product. This can lead to accidents, resulting in a **risk of injury to the person being transported in the product!**

Always secure screws and nuts. If you have to undo such screw fastenings, replace self-locking nuts exclusively with new ones. To secure the screws, use a medium-strength liquid thread lock substance (such as Loctite 241 or Euro Lock A24.20).



**Danger!**

**Bald tires** can lead to accidents.

This results in a **risk of injury to the person being transported in the product!**

Wheels with EVA foam tires must be replaced if the material shows signs of cracking or damage, or when the tread becomes worn down to such an extent that there is only 5 mm of radius left on the outer edges of the tire.

Replace the casing of pneumatic tires if it is bald or shows signs of cracking or other damage.



**Danger!**

Always observe the following guidelines:

- Times needed for adhesives to set
- Torque indications for screw connections!

Non-compliance with these instructions can lead to malfunctioning of the product and accidents.

In such cases, there is a **risk of injury to the person being transported in the product!**

### 3 Maintenance Plan and Required Tools

The following list shows you the tools and auxiliaries mentioned in the text.



Reversible ratchet handle wrench and sockets, sizes 8 mm to 19 mm



Torque wrench, measurement range 10 Nm to 50 Nm



Wrenches, sizes 8 mm to 19 mm



Allen wrenches, sizes 3 mm to 6 mm



Screw driver, blade width 2.5 mm



Phillips head screwdriver, size 2



Plastic hammer



Stanley knife with sickle hooked blade and standard blade



Liquid thread lock "medium strength"

Maintenance Plan for Regular Service		Lisa rehab buggy/stroller	Customer:	
Item	Component (group)	Inspection (check list)		
	Serial no.:	1.) Function / setting (refer to 647H140 Instructions for Use)	2.) Inspected for damages/deformations	3.) Screw connections inspected
	<b>LISA</b>			
4.1	Anterior frame	- Frame		
4.2	Posterior frame	- Frame - Rubber hand grips		
4.3	Folding scissor construction	- Folding mechanism		
4.4	Back	- Frame - Folding mechanism - Upholstery		
4.5	Back adjustment mechanism	- Angle adjustment mechanism		
4.6	Seat base	- Frame - Folding mechanism - Upholstery - Depth setting		
4.7	Footrest	- Frame - Footplate - Lower leg length - Depth setting		
4.8	Wheel lock / tip-assist	- Wheel locks		
4.9	Front wheel	- Tires - Air pressure (with pneumatic tires) - Running behavior of the wheels - Swiveling of the wheel forks		
4.10	Rear wheel	- Tires - Air pressure (with pneumatic tires) - Running behavior of the wheels		
	<b>Accessories</b>			
4.11	Abductor	- Fold-down mechanism - Depth adjustment - Cover		
4.12	Armrest	- Flip-down mechanism - Height setting - Rubber hand grips		
4.13	Grabrail	- Locking function by engaging tripod springs		
4.14	Caster swivel lock	- Locking function		
Notes:				
	Do the settings of the rehab buggy/stroller comply with the user's requirements?			
Maintenance performed by:		on:		

## 4 Settings / Retrofit / Replacement

### 4.1 Anterior Frame



#### Replacing an Anterior Frame (right/left)

First place the unfolded rehab buggy/stroller on its back.

Remove the front wheels and wheel forks as described in section 4.8.



Loosen and remove the screws (arrowed) from the anterior frame.



Pull the front wheel attachment out of the anterior frame.

Open the footrest lock and pull the pivot bearing of the respective side down from the anterior frame.



Loosen and remove the screw connections (arrowed) on the slide and on the seat tube and pull the anterior frame out of the loops of the lateral upholstery.

Use new, self-locking screws and nuts.

## 4.2 Posterior Frame



### Replacing one side of the Posterior Frame (right/left)

Place the unfolded buggy/stroller on its side.

First loosen and remove the screw connections between the frame side to be replaced and the...:

- rear wheel (refer to section 4.10)
- wheel lock (refer to section 4.8)
- folding scissor construction (refer to section 4.3)
- backrest (refer to section 4.4)



Loosen and remove the screw connection between the back adjustment mechanism and the guiding slot in the gusset plate.

Pay attention to the order of washers and bushings for later reassembly.



Loosen and remove the screw connection (arrowed) between the seat tube and the gusset plate of the posterior frame.



Loosen and remove the screw connections (arrowed) on the slide. Remove the inner half of the slide and pull the posterior frame down out of the loop of the lateral upholstery.

Use new, self-locking screws and nuts.





### Replacing the Rubber Hand Grips

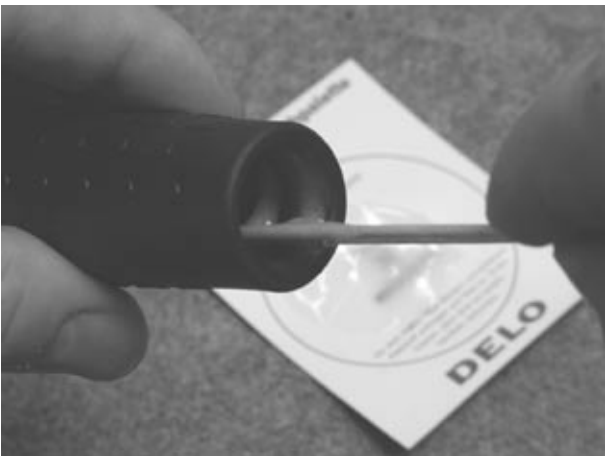
Carefully cut open the rubber hand grip using a Stanley knife and remove the old rubber hand grip.

Remove the residue of the old glue or rubber from the tube.

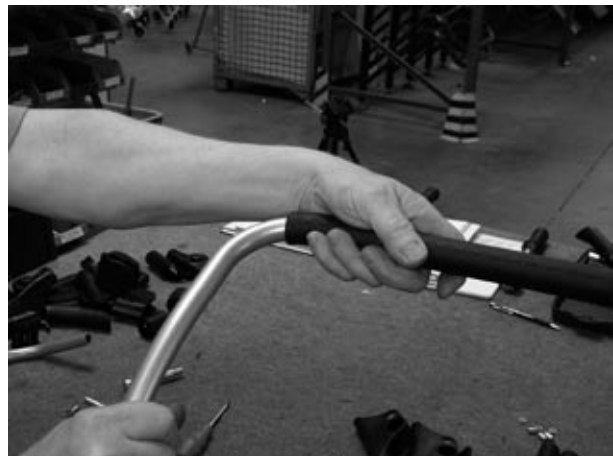
Using a clean cloth and solvent, fully degrease the end of the push handle tube.



Open the two part adhesive sachet. Use the spatula to squeeze out all the contents of the sachet into the centre of the mixing card and mix the components thoroughly (approx. 30 seconds).



Apply half of the adhesive into each of the rubber hand grips using the spatula. Evenly distribute the adhesive in the rubber hand grip up to a depth of approx. 4-5 cm.



Slide the rubber hand grip onto the push handle rotating it through 180° as it is pushed on.



The push handle should not be used for at least 24 hours so as to allow full curing of the adhesive!

### 4.3 Folding Scissor Construction



#### Replacing the Folding Scissor Construction

Place the unfolded buggy/stroller in front of you.

First loosen and remove the lower screw connections between the joint forks and the right and left posterior frame.



Next loosen and remove the screw connections between the tube ends of the folding scissor construction and the upper joint forks and thread out the loop of the lateral upholstery.

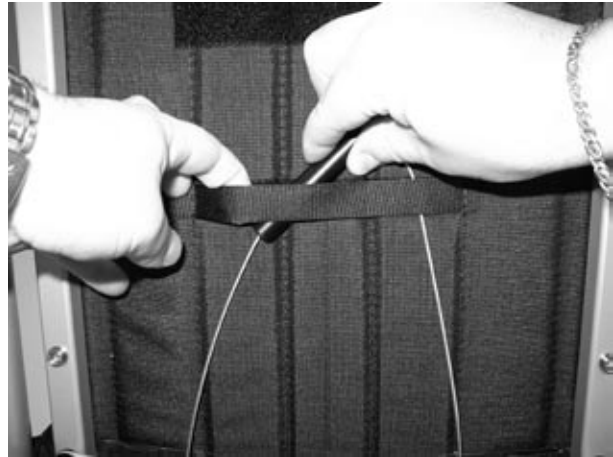
Loosen and remove the screw connection between the joint fork and the slide.

## 4.4 Back



### Replacing the Back

First remove the **back cover**. To do this, undo the hook and loop straps on the folding scissor construction and the snap fasteners on the back tubes.



Undo the hook and loop closure on the back upholstery and thread out the handle and cable downwards.



Next loosen and remove the four screws on the left and right side of the back upholstery and remove the back upholstery.



Loosen and remove the screw connection between the back adjustment mechanism and the guiding slot in the gusset plate.

Pay attention to the order of washers and bushings for later reassembly.



Loosen and remove the screw connection on either side between the back tube and the gusset plate of the posterior frame and remove the backrest.

Pay attention to the order of the washers, bushings and the metal ring with plastic loop. Proceed in reverse order for reassembly.

Use new, self-locking nuts.

Finally, disassemble the back adjustment mechanism as described in section 4.5.



### Replacing the Complete Upholstery

The complete upholstery consists of the seat upholstery (refer to section 4.6), the back upholstery, the lateral upholsteries and the back cover.

To **replace the back cover and the back upholstery**, first proceed as described in "Replacing the Back".

After unscrewing the back upholstery, pull the four battens out of the back upholstery and insert them into the new back upholstery.



### Replacing a Lateral Upholstery

An elastic cord holds the lateral upholstery taut. First pull the plastic clip off the posterior frame tube and thread out the elastic cord.



The elastic cord runs below the backrest's screw connection and through between the gusset plate and the seat tube.

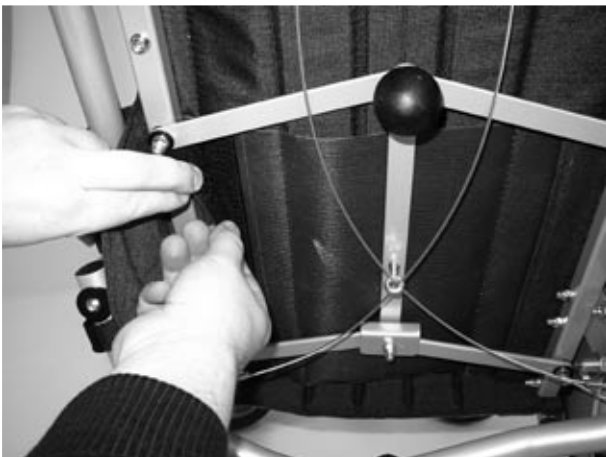
Pull out the elastic cord completely.



Pull the loop of the lateral upholstery up and off the folding scissor construction, as described in section 4.3 and off the anterior frame, as described in section 4.1.



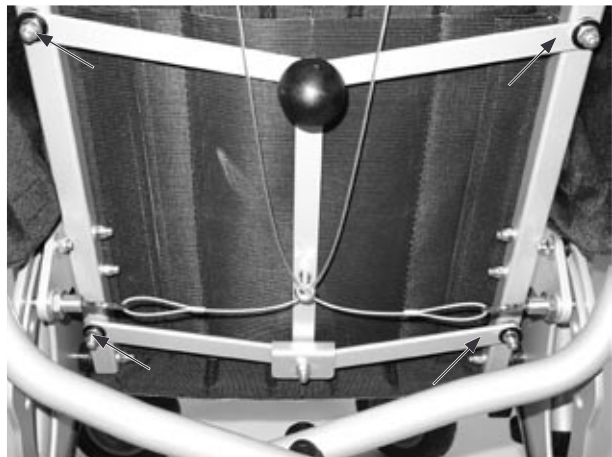
Finally, remove the lateral upholstery by pulling it up and over the posterior frame and push handle.



### Readjusting the Tension of the Back Upholstery

Release the tension on the backrest as shown in the photo. Loosen the four lower screws of the back upholstery. Undo the hook and loop closure of the back upholstery and readjust the tension of the back upholstery. Firmly re-tighten the four lower screws of the back upholstery.

Make sure that the back upholstery is evenly taut on both sides.



### Replacing the Folding Levers

First disassemble the back upholstery and the back adjustment cable (see section 4.5).

Loosen and remove the screw connection between the folding levers and the back tubes and remove the folding levers.



## 4.5 Back Adjustment Mechanism



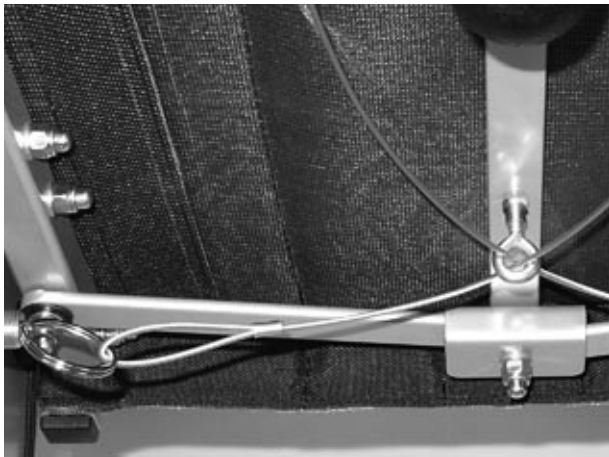
### Replacing the Back Adjustment Mechanism

First completely disassemble the back as described in section 4.4. The back upholstery does not need to be disassembled when replacing the back adjustment mechanism.

Thread the cable out of the back upholstery.



Thread the cable out of the right and left key ring.

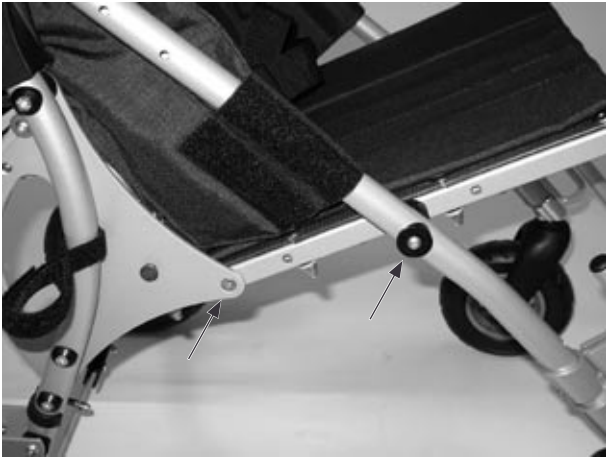


Unscrew the eye bolt out of the folding lever.



Loosen and remove the screw connections between the back tube and the bracket and remove the back adjustment mechanism.

## 4.6 Seat Base

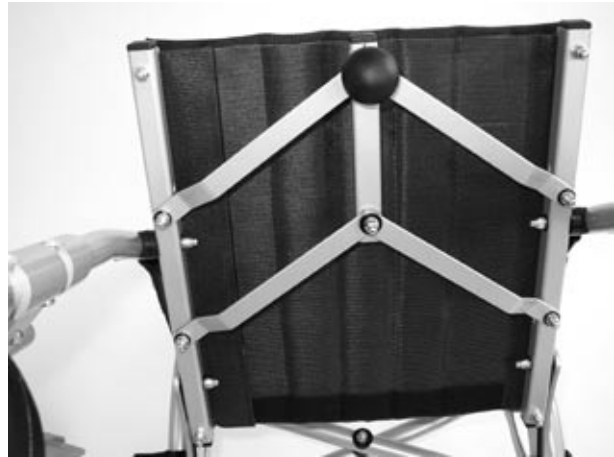


### Shifting / Replacing the Seat Base

Loosen and remove the screw connections (arrowed) between the seat tubes and the anterior frames, and the seat tubes and the gusset plates of the posterior frames.



You can select two **depths** when assembling the seat base.



### Replacing the Seat Upholstery and the Seat Braces

Loosen and remove the four screw connections on both the left and right seat tubes and remove the seat upholstery and the seat braces.

Pay attention to the order of the washers and bushings.



### Readjusting the Tension of the Seat Upholstery

Loosen the four screw connections on the right side of the seat base.



Undo the hook and loop closure and readjust the tension of the seat upholstery.

Firmly re-tighten the screw connections.

## 4.7 Footrest



### Replacing the Footrest

Place the unfolded rehab buggy/stroller on its back.

Remove the front wheel attachments as described in section 4.1.

The casters and forks, however, do not need to be disassembled.

Open the footrest lock as described in the Instructions for Use.

Pull the pivot bearings with the attached footrest halves down off the anterior frame.



#### Attention!

To ensure safe use of the product, make sure that the footrest has the same height setting on the left and right side.



### Setting the Lower Leg Length

Loosen the screw connections in the clamp pieces and move the footrest tubes to the desired height. The **footrest tubes** can be pulled down out of the clamp pieces and **can be replaced**.

From a lower leg length of 34 cm the pivot bearing must be set in the lower position. Firmly re-tighten the screw connections.

### Shifting / Replacing the Pivot Bearings

To replace the pivot bearings, please proceed as described in "Replacing the Footrest".

For shifting the pivot bearings, observe the instructions given in the Instructions for Use.





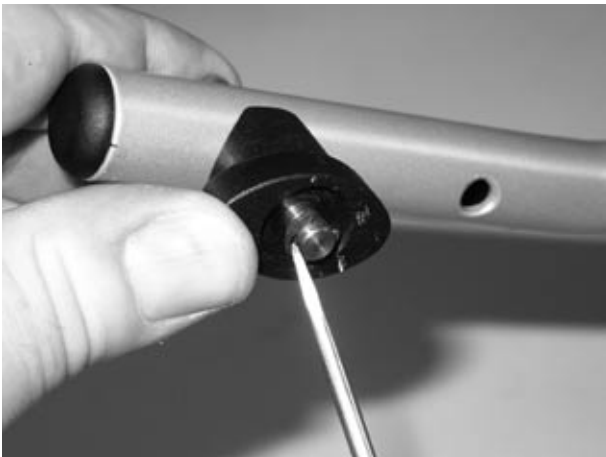
### Shifting / Replacing the Footplate

Open the footrest lock as described in the Instructions for Use.  
Loosen and remove the screw from the footrest tube and pull the footplate off the footrest tube.



### Replacing the Footrest Tubes

Disassemble the footplate and pull the footrest tubes out of the pivot bearings' clamp pieces.  
Remove the lamellar plugs from the tube ends. Pull the threaded insert out of the right footrest tube and use it in the new footrest tube.  
Disassemble the footrest lock from the left footrest tube and replace the footrest tube.



### Shifting / Replacing the Footrest Lock

Using a small screwdriver, loosen the retaining ring from the lock bolt and pull the turning bolt out of the lock bolt.



Pull the lock bolt together with the compression spring out of the footrest tube.

For the **reassembly** you can select two depths of the footplate.

## 4.8 Wheel Lock / Tip-assist

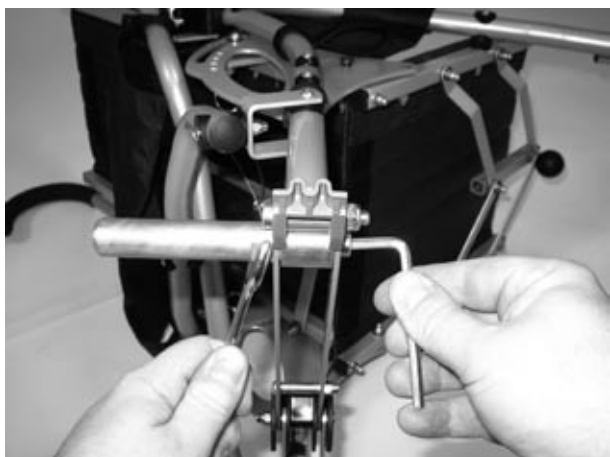


### Replacing the Wheel Lock

First disassemble the two rear wheels as described in section 4.10.



As a complete unit the wheel lock can be pulled down out of the posterior frame tubes.



### Shifting / Replacing the Tip-assist

Loosen and remove the tip-assist's screw connection and remove the tip-assist from the frame.



To change the mounting side, loosen and remove the corresponding screw connection on the opposite side of the wheel lock and exchange the screw connections with each other.

Firmly re-tighten the screw connections.

## 4.9 Front Wheel



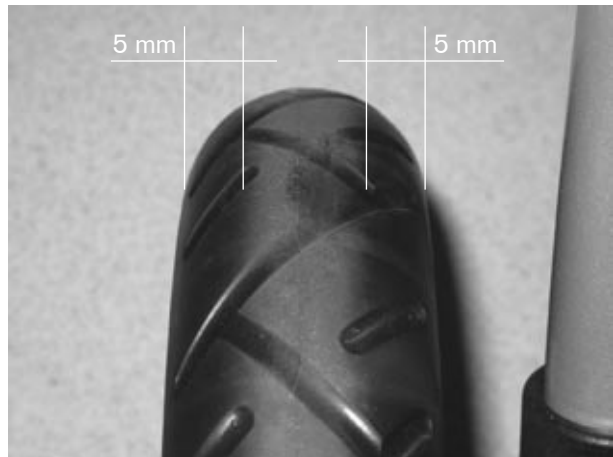
### Danger!

To ensure safe use of the product, wheels with EVA foam tires must be replaced if the material shows signs of cracking or damage, or when the tread becomes worn down to such an extent that there is only 5 mm of radius left on the outer edges of the tire.



### Attention!

To ensure safe use of the product, use new, self-locking nuts! Tighten the bolts with a **torque of 10 Nm**.



### Replacing the Front Wheels

Loosen and remove the screw connection of the front wheel and take the front wheel out of the wheel fork.



### Danger!

To ensure safe use of the product, replace the casing if it is bald or shows signs of cracking or other damages.



### Replacing the Casing or Inner Tube of Pneumatic Tires

First let the air out of the tire. Using plastic tire levers, insert them under the wall of the tire and lever it over the wheel rim. Continue all the way around the tire wall until it is fully off the wheel rim.

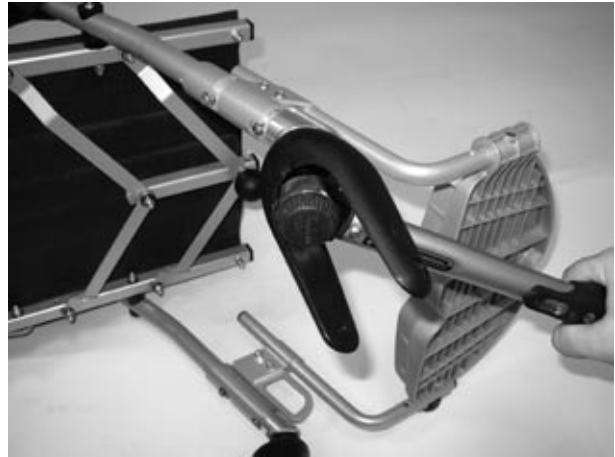
Check the inner of the tire for any sharp objects; repair the inner tube with a standard bicycle repair kit or replace it with a new one.



Fill the inner tube with a small amount of air before mounting in order to avoid damages and pinching.

### Tire Pressure

Always ensure that all tires are fully inflated to the maximum pressure indicated on the sidewall of the tire.



### Replacing the Caster Fork

Loosen and remove the screw connection in the caster fork on the anterior frame.



Tighten the screw with a **torque** of **13 Nm**.

## 4.10 Rear Wheel



### Replacing the Rear Wheels

Remove the hub cover.

If the casing or inner tube of pneumatic tires require replacement, refer to section 4.9.



Loosen and remove the screw connection and replace the wheel.

When **mounting**, make sure that the toothed ring for the wheel lock is on the inner side.



Tighten the nut with a **torque** of **20 Nm**.

Re-attach the hub cover by pressing it over the head of the bolt.

## 4.11 Abductor



### Retrofitting the Abductor

First remove the lamellar plug from the holding tube below the seat base.



Place the adapter over the two bore holes in the holding tube. Put the two screws through the holes and close the screw connection. The guiding slot allows for depth adjustment of the abductor.



### Replacing the Abductor Cover

The cover is held in place by a rubber band and can simply be pulled over the abductor.



### Replacing the Fold-down Mechanism

Loosen and remove the two screw connections to the wooden abductor wedge and the two screw connections to the adapter and replace the fold-down mechanism.



## 4.12 Armrest



### Retrofitting the Armrests

Place the armrest with holder onto the anterior frame tube as shown in the photo.

Select the upper or lower position.



Screw on the armrest using the provided attachment materials.

To **replace the armrest cover**, please observe the instructions in section 4.2.

## 4.13 Grabrail



### Retrofitting the Grabrail

First remove the lamellar plugs from the two seat tubes.



Loosen and remove the anterior screw connection.



Insert the grabrail receivers into the seat tubes and re-tighten the screw connection.

To **replace the grabrail receiver**, please proceed in reverse order.



After the screw connection has been tightened, the grabrail receiver can still be turned slightly. This is necessary to level any tolerances.

For inserting the grabrail, observe the instructions given in the Instructions for Use.



#### 4.14 Caster Swivel Lock



##### **Retrofitting the Caster Swivel Lock**

First remove the front wheels and caster forks (see section 4.9).

Next remove the distance plates from the caster attachment device.



Now screw the caster fork together with the caster swivel lock to the caster attachment device on either side.



Observe the reassembly instructions in section 4.9.

The dimensions of the bore hole in the plate of the caster swivel lock are such that the caster swivel lock can be moved in depth and thus adjusted to the caster fork.

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Otto Bock HealthCare GmbH has been certified by the German Society for the Certification of Quality Assurance Systems (DQS) in accordance with DIN EN ISO 9001 standard, reg. no. 779 (management system)