

Otto Bock[®]

QUALITY FOR LIFE



ECO
Service-Manual

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1 Preface

Regular maintenance is important – it increases the safety and service life of the product.

All rehab products should be checked and serviced once a year.

When using a product often, however, or when a product is being used by children or adolescents who are still growing or by patients whose clinical picture changes, it is recommended to check, readjust and possibly service the product at an interval of 6 months.

For all service and maintenance works use only original spare parts.

The service and maintenance works described in this manual should be performed by skilled specialist staff only and not by the user of the product.

This service and maintenance manual refers to the respective spare parts catalogues and instructions for use manuals of the described products; therefore, please use all documents together.

Please use the maintenance schedules (check list) for duplication. Keep the completed maintenance schedules and hand over a copy to the customer.

	Instructions for Use	Spare Parts Catalogue
Eco-Buggy	647H446	646K44

2 Safety

For all maintenance and repair works, there are a few points you should always observe:



Use appropriate tools (refer to pages 3 & 4).



Wear appropriate clothing as well as gloves and safety glasses, if necessary.



Secure the product to prevent it from tipping over or falling off the workbench, for example.



Study the service and maintenance instructions before beginning your work.



You should become familiar with the functions of the product first. If you do not know the product, please first study the instructions for use before inspecting the product.



If no instructions for use are available to you, please order them from the manufacturer (refer to the overview of all Otto Bock Branches "Otto Bock Worldwide" – alternatively you can download the document from our homepage under www.ottobock.de or www.ottobock.com).



Clean / disinfect the product before starting inspection. Please also refer to the Instructions for Use Manual regarding any care instructions or specific product inspection information.



Many of the screw fastenings use thread lock or nylock nuts. If you have to undo such screw fastenings please replace the respective nut or screw with a new thread lock and/or nut. If new screws or nuts with thread lock are not available use a liquid thread lock substance with medium strength (e.g. Loctite 241 or Euro Lock A24.20).

3 Maintenance Schedule and Required Tools

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



Reversible ratchet handle wrench and sockets, sizes 8 + 10



Allen wrenches, sizes 3 + 4



Wrenches, sizes 8 + 10



Pop rivet gun for rivets up to Ø 5mm



Water pump pliers DIN 8976, gripping width up to 32 mm



Phillips head screwdriver, size 2



Plastic hammer



Hammer, approx. 300 g



Pin punches Ø 3 mm + Ø 4 mm



Hand drill



Twist drills Ø 5 mm + Ø 6 mm



Stanley knife with sickle hooked blade and standard blade



Workbench as well as a vice with plastic jaws and rubber insert (e.g. HR11290048)



Liquid thread lock "medium strength"



Brush and standard grease

Maintenance Schedule for Regular Service		Eco-Buggy Pediatric Postural Positioning System		Customer:			
Item	Component (group)	Inspection (check list)					
	Serial no.:	1.) Function / setting (refer to 647H446 Instructions for Use)	2.) Damages/ deforma- tions	3.) Screw connections			
	Eco-Buggy	- Folding					
4.1	Anterior frame		x	x			
4.2	Front wheel attachment	- Caster swivel lock - Spring system - Tyres - Running behaviour of the wheels	x x x x				
4.3	Push handles	- Folding guards - Rubber hand grips	x x		x		
4.4	Posterior frame		x		x		
4.5	Rear wheel attachment	- Wheel lock mechanism - Elastomer spring system - Tyres - Running behaviour of the wheels	x x x x		x x		
4.6	Folding scissor construction for back	- Folding	x		x		
4.7	Folding scissor construction for seat bottom	- Folding	x		x		
4.8	Footrest assembly	- Footplate lock - Elevating and swing away functions	x x		x x		
4.9	Seat bottom	- Folding scissor construction - Nylon seat	x x		x x		
4.10	Backrest	- Folding scissor construction - Nylon back - Angle adjustment	x x x		x x x		
4.11	Storage bag	- Snap fasteners	x				
4.12	Pelvic belt	- Belt buckle	x				
4.13	Five-point belt	- Belt buckle	x				
4.14	Padding		x				
	Do the settings of the rehab buggy comply with the user's requirements?						
The maintenance was carried out by: _____ on: _____							

4 Adjustments / Retrofit / Replacement

4.1 Anterior Frame



Replacing the left or right Anterior Frame

First remove the footrest assembly as described under section 4.8 and the front wheel attachment as described under 4.2.



Loosen and remove the screw connections between the anterior frame and the folding scissor construction.



Next, loosen and remove the screw connections (Arrowed) between the anterior frame and the seat as well as between the anterior frame and the push handle.

For re-assembly, please proceed in reverse order.

Use new, self-locking nuts.

4.2 Front Wheel Attachment

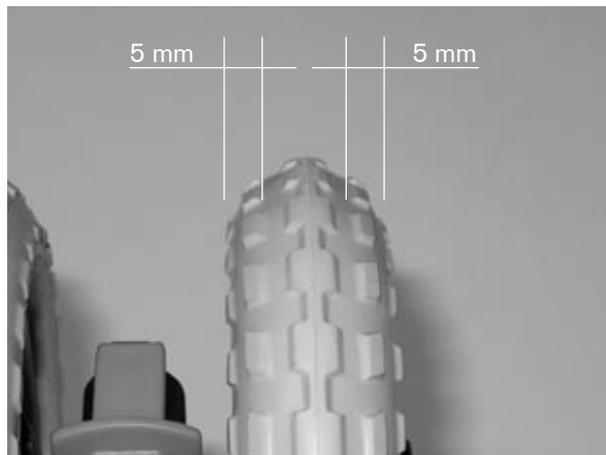


Replacing the Front Wheels

Press on the wire bow in the wheels' hub and pull the wheel off the axle. Repeat this process for the opposite wheel. Pay attention to the spacers on the axle, which provide for a distance between the wheel and the housing.

For re-assembly, put the wheel onto the axle while holding the wire bow depressed.

Attention: Slightly pull at the wheel to check if the quick-lock has engaged and the wheel is securely seated on the axle.



Attention:

Wheels with EVA foam tyres must be replaced, if the material shows signs of cracking or damage and 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 tyre.



Replacing the Lower Swivelling Part of the Front Wheel Attachment

After having removed the front wheels press together the hooks under the lower swivelling part using pliers and slide the lower swivelling part downwards off the upper swivelling part.

For re-assembly, please proceed in reverse order.



Replacing the Swivel Lock

After having loosened the lower swivelling part you can easily pull the swivel lock (arrowed) out of the rail guide and replace it with a new swivel lock.



Replacing the Upper Swivelling Part of the Front Wheel Attachment

Carefully drill out the rivet head using a new drill bit (Ø 6 mm).

If the nail in the rivet protrudes above the head of the rivet, use a pin punch to drive the nail inwards so you can use the rivet hole for guidance of the drill bit.



Drive the rivet into the anterior frame using a pin punch (Ø 4 mm).



Repeat the process for the removal of the other rivets, so the upper swivelling part can be removed.

When replacing the upper swivelling part do not forget to reinsert the solid core into to the upper swivelling part before attaching it with rivets.



For re-assembly, plug all elements together and fasten the upper swivelling part using two rivets.

4.3 Push Handles



Replacing the left or right Push Handle

First loosen and remove the screw connections between the push handle and the folding scissor construction as well as between the push handle and the tilt mechanism of the backrest.



Next, loosen and remove the screw connections between the push handle and the posterior frame as well as between the push handle and the anterior frame.

Remove the push handle.

For re-assembly, please proceed in reverse order.

Use new, self-locking nuts.



Replacing a Rubber Hand Grip

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

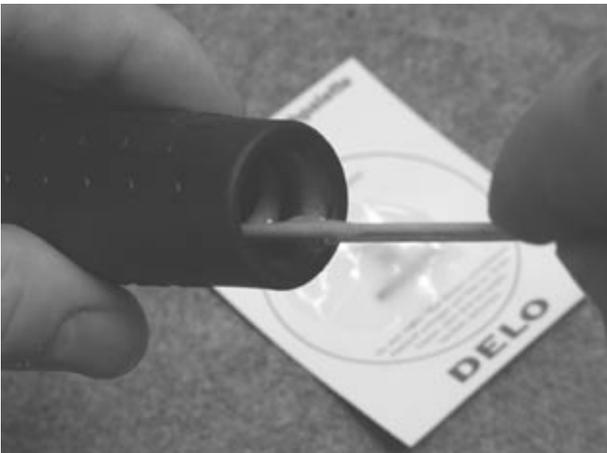




Using a knife remove the residue of the old glue or rubber from the handle surface and from inside the tube.
Using a clean cloth and solvent, fully degrease the end of the push handle tube.



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 for approx. 30 seconds.



Apply half of the adhesive into the rubber hand grip 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.

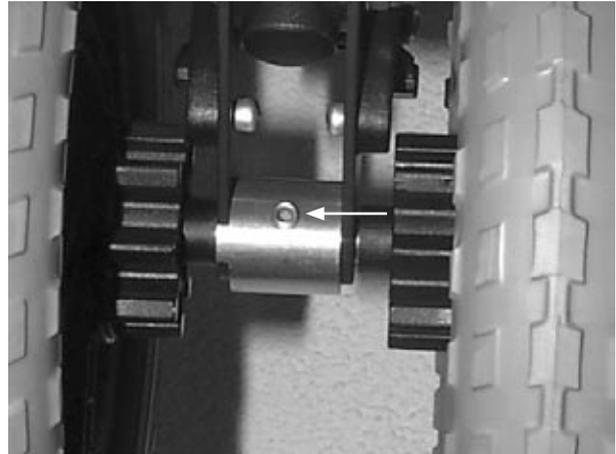
Important: The push handle should not be used for at least 24 hours so as to allow full curing of the adhesive!

4.4 Hinterrahmen



Replacing the left or right Posterior Frame

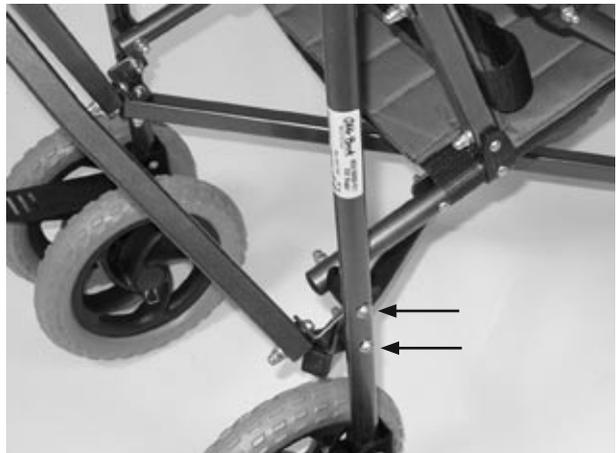
First remove the rear wheels as described under section 4.5 and pull the rear axle out of the rear wheel attachment.



With a few models, the rear axle is additionally fixed with a set screw. Loosen this set screw and then pull the axle out of the rear wheel attachment.



Loosen and remove the screw connections between the posterior frame and the push handle.



Next, loosen and remove the screw connections between the the posterior frame and the folding scissor constructions as well as between the posterior frame and the seat tubes.

Remove the posterior frame.

For re-assembly, please proceed in reverse order.

Use new, self-locking nuts.

4.5 Rear Wheel Attachment

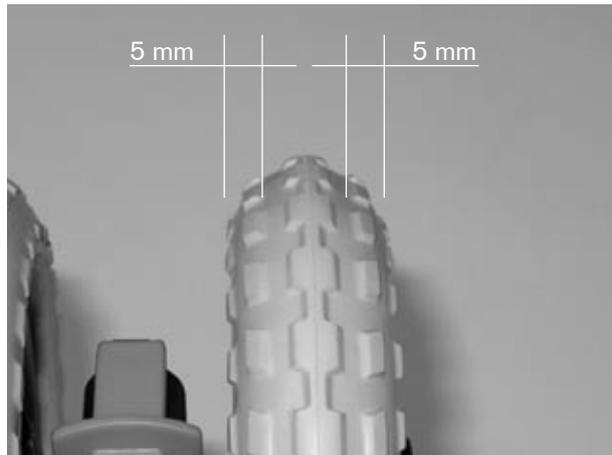


Replacing the Rear Wheels

Press on the wire bow in the wheels' hub and pull the wheel off the axle. Repeat this process for the opposite wheel. Pay attention to the spacers on the axle, which provide for a distance between the wheel and the housing.

For re-assembly, put the wheel onto the axle while holding the wire bow depressed.

Attention: Slightly pull at the wheel to check if the quick-lock has engaged and the wheel is securely seated on the axle.



Attention:

Wheels with EVA foam tyres must be replaced, if the material shows signs of cracking or damage and 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 tyre.



Replacing the Rear Wheel Attachment

Loosen and remove the screw connection between the rear wheel attachment and the posterior frame. Remove the rivets as described under **Replacing the Upper Swivelling Part of the Front Wheel Attachment**. However, use a drill bit \varnothing 5 mm and a pin punch \varnothing 3 mm.

For re-assembly, please proceed in reverse order.

Use new, self-locking nuts.



Replacing the Wheel Lock Lever Extension

Loosen and remove the screws on either side of the wheel lock lever extension using a Phillips head screwdriver and remove the wheel lock lever extension.

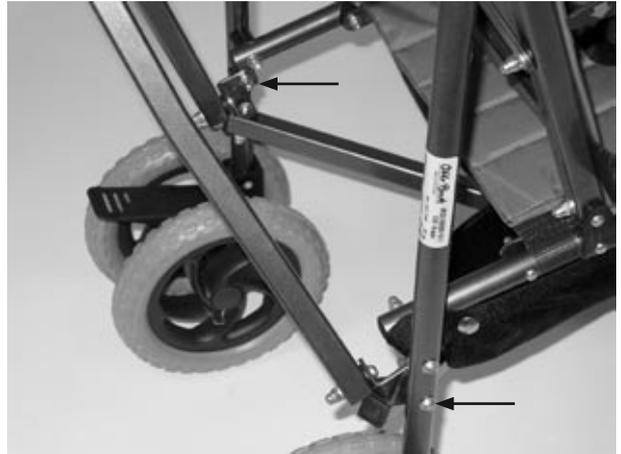
For re-assembly, please proceed in reverse order.

4.6 Folding Scissor Construction for Back



Replacing the Folding Scissor Construction for Back

First loosen and remove the screw connections between the folding scissor construction and the push handles.

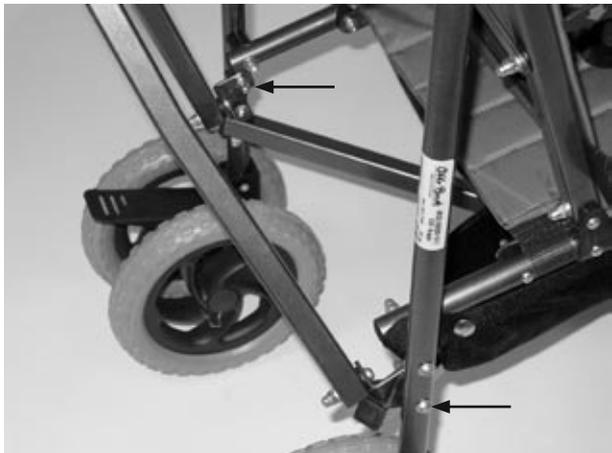


Next, loosen and remove the screw connections between the folding scissor construction and the posterior frame and remove the folding scissor construction.

For re-assembly, please proceed in reverse order.

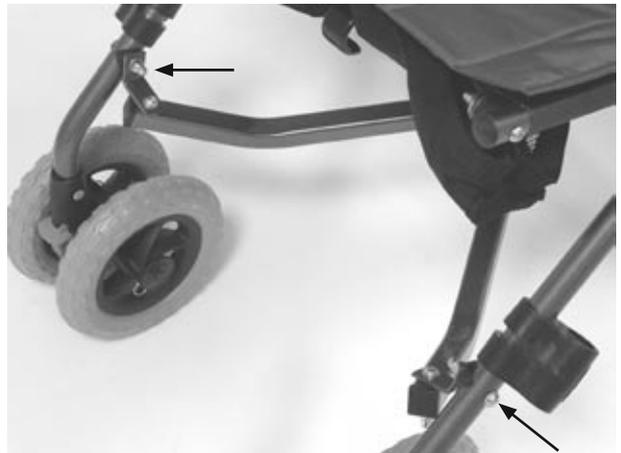
Use new, self-locking nuts.

4.7 Folding Scissor Construction for Seat Bottom



Replacing the Folding Scissor Construction for Seat Bottom

Loosen and remove the screw connections between the folding scissor construction and the posterior frame.



Next, loosen and remove the screw connections between the folding scissor construction and the anterior frame and remove the folding scissor construction.

For re-assembly, please proceed in reverse order.

Use new, self-locking nuts.

4.8 Footrest Assembly



Replacing the Footrest Assembly - Adjusting the Lower Leg Length

Loosen and remove the four plastic screws from the holders. Now you can remove the footrest or adjust the height by using other bore holes.

For re-assembly, snugly tighten the four screws.



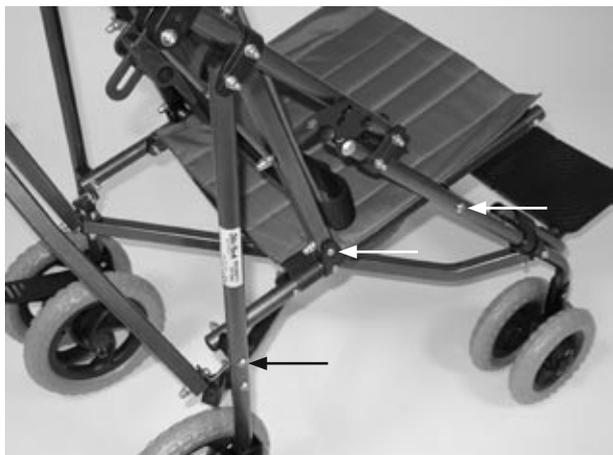
Replacing the Footplates

Loosen and remove the two screws (Arrowed) and remove the stop blocks. Now pull the footplates off the footrest bars.

For re-assembly, please proceed in reverse order.

For disassembly of the footplates the footrest bars need not be disassembled from the anterior frame.

4.9 Seat Bottom



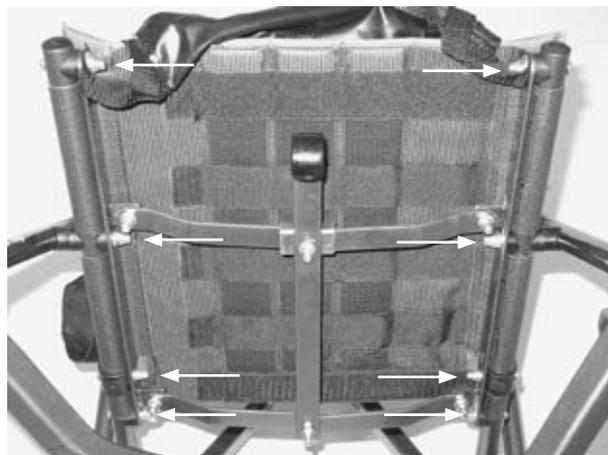
Replacing the Seat Bottom

Loosen and remove the screw connections (Arrowed) on either side between the seat tube and the anterior frame, between the seat tube and the backrest, and between the seat tube and the posterior frame.

Remove the seat.

For re-assembly, please proceed in reverse order.

Use new, self-locking nuts.

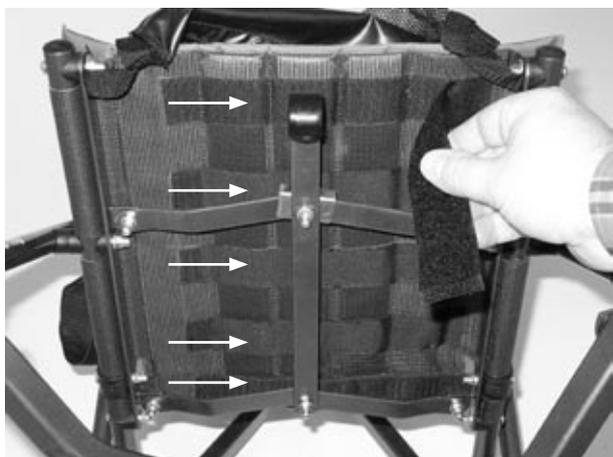


Replacing the Nylon Seat Upholstery

Loosen and remove the screw connections (Arrowed) on either side of the seat bottom and pull the seat tubes out of the nylon seat.

For re-assembly, please proceed in reverse order.

Use new, self-locking nuts.



Adjusting/Readjusting the Seat Upholstery

Models from approx. 10/03 (serial numbers 004-xxxxx) feature a readjustable seat upholstery.

First loosen the tensioning scissor construction under the seat bottom. Now open the hook & loop closures and adjust the tension as desired.

4.10 Backrest



Replacing the Backrest

Loosen and remove the screw connections (Arrowed) between the seat tube and the backrest as well as between the pushbar and the backrest adjustment, on either side of the backrest.

Remove the back.

For re-assembly, please proceed in reverse order.

Use new, self-locking nuts.



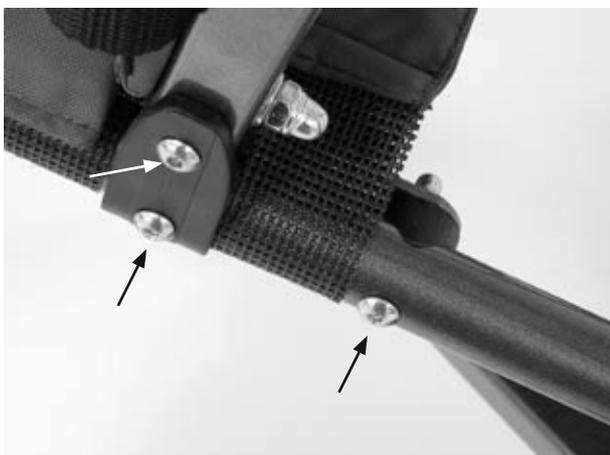
Replacing the Nylon Back Upholstery

Loosen and remove the four screw connections (Arrowed) on either side of the backrest and remove the back upholstery from the back tubes.

Pull the two plastic reinforcement splints out of the back upholstery and reuse them.

For re-assembly, please proceed in reverse order.

Use new, self-locking nuts.



Shifting the Backrest (seat depth)

After loosening and removing the screw connections (Arrowed) on either side of the backrest, you can shift the backrest by 5 cm and reattach the backrest there with the screw connections.

Use new, self-locking nuts.



Replacing an Angle Adjustment (Adjustment Kit)

Loosen and remove the screw connections (Arrowed) and remove the angle adjustment.

For re-assembly, please proceed in reverse order.

Use new, self-locking nuts.

4.11 Storage Bag



Replacing the Storage Bag

Undo the snap fasteners on either side of the storage bag.



Open and remove the nuts (Arrowed) and remove the storage bag.

For re-assembly, please proceed in reverse order.

4.12 Pelvic Belt



Replacing the Pelvic Belt

First slide the plug element of the belt buckle off the pelvic belt. Loosen the screw connections (Arrowed) and pull out the pelvic belt from between the back tube and the back upholstery.

For re-assembly, please proceed in reverse order.

4.13 Five-point Belt



Please observe the information given in the product's Instructions for Use Manual.

4.14 Padding



Please observe the information given in the product's Instructions for Use Manual.

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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)