



**PROACTIV<sup>®</sup>**





# Usage instructions Service booklet

---

NJ1 adaptive bike

## Contents

|        |  |    |
|--------|--|----|
| 1      | Preface .....  | 3  |
| 2      | Legend.....  | 3  |
| 3      | Conformity/other information .....   | 3  |
| 3.1    | Classification.....  | 3  |
| 3.2    | Conformity.....  | 3  |
| 3.3    | Manufacturer.....  | 3  |
| 4      | Scope of delivery and testing the product on receipt .....   | 3  |
| 5      | Introduction.....  | 4  |
| 6      | Purpose and indication .....   | 5  |
| 7      | Proper use .....   | 5  |
| 8      | Technical specifications .....   | 6  |
| 8.1    | Product weight .....   | 6  |
| 8.2    | Load weight.....   | 6  |
| 8.3    | Obstacle height and turning circle .....   | 6  |
| 8.4    | Basic equipment and dimensions .....   | 6  |
| 8.5    | Service life .....   | 6  |
| 9      | Rating plate & markings on the product .....   | 7  |
| 10     | Commissioning and handover.....  | 7  |
| 11     | Introduction to the product and the surroundings.....  | 7  |
| 12     | Safety instructions – prior to driving/use .....   | 7  |
| 13     | Safety instructions – while driving/using .....  | 8  |
| 14     | Safety instructions regarding obstacles .....  | 10 |
| 15     | Safety instructions regarding dangerous locations and dangerous situations .....   | 10 |
| 16     | Ending the driving operation.....  | 11 |
| 17     | Adapter and adaptation .....   | 11 |
| 18     | Drive wheel and tyre pressure.....   | 11 |
| 19     | Functional elements .....  | 12 |
| 19.1   | Parking stand.....   | 12 |
| 19.1.1 | Active and passive positions.....  | 12 |
| 19.1.2 |  Parking stand height adjustment.....   | 12 |
| 19.2   |  Bottom bracket support and crank ..... | 13 |
| 19.2.1 | Seating position .....   | 13 |
| 19.2.2 | Bottom bracket position .....  | 14 |
| 19.2.3 | Crank length and grip width .....  | 15 |
| 19.3   | Grips .....  | 16 |
| 19.4   | Gear shift .....   | 16 |

|        |  |    |
|--------|--|----|
| 19.4.1 | Derailleur .....   | 16 |
| 19.4.2 | Hub gear .....   | 17 |
| 19.4.3 | Bottom bracket gearshift .....                                 | 19 |
| 19.5   | Brakes .....   | 20 |
| 19.5.1 | Rim and disc brakes .....                                      | 20 |
| 19.5.2 | Back-pedal brake for hub drives .....                          | 20 |
| 19.5.3 | Parking brake .....  | 20 |
| 19.5.4 | PRO ACTIV back-peddalling brake & crank release function ..... | 21 |
| 19.6   | Lights .....   | 22 |
| 19.7   | Bell .....   | 22 |
| 19.8   | Manufacturer instructions .....                                | 22 |
| 20     | Storage .....  | 23 |
| 21     | Transport .....  | 23 |
| 21.1   | Securing handling of the product .....                         | 23 |
| 21.2   | Passenger transport in vehicles .....                          | 23 |
| 21.3   | Securing the product in a vehicle (without a person) .....     | 23 |
| 22     | Malfunctions .....   | 24 |
| 23     | Cleaning and care .....  | 24 |
| 24     | Maintenance .....  | 24 |
| 24.1   | General instructions .....                                     | 24 |
| 24.2   | Service schedules .....  | 25 |
| 24.3   | Proof of maintenance .....                                     | 26 |
| 25     | Disposal and recycling .....                                   | 26 |
| 26     | Re-use .....   | 26 |
| 27     | Warranty .....   | 27 |
| 28     | Liability .....  | 27 |
| 29     | Appendix: Tightening torques and securing details .....        | 28 |
| 30     | Appendix: Medical product passport/record of training .....    | 29 |
| 31     | Appendix: Hand-over certificate .....                          | 30 |
| 31.1   | Required compliance criteria to authorise use .....            | 30 |
| 31.2   | Check list for training the user .....                         | 31 |
| 32     | Appendix: Inspection lists .....                               | 32 |



The following instructions are intended for and may only be carried out by the rehabilitation specialist dealer or PRO ACTIV.



This document is available in PDF format at [www.proactiv-gmbh.com](http://www.proactiv-gmbh.com) for visually impaired people. Using the zoom function, the font can be increased as desired.

## 1 Preface

Dear Customer,

Congratulations on purchasing your new PRO ACTIV product. You have bought a quality product that has been specially customised to meet your requirements. We have put together some instructions about its proper and safe use in the following document. Please read these instructions before using the product.

The standard components are explained in these usage instructions. If you have individual solutions or non-standard components on your product, your rehabilitation specialist dealer or PRO ACTIV would be happy to deal with any questions you may have about using it.

You can always download the latest version of the usage instructions as a PDF document in our download area at [www.proactiv-gmbh.com](http://www.proactiv-gmbh.com).

If you have any further questions about this or any of our other products, we would be glad to be at your disposal.

Enjoy your trips and the best possible mobility.

Your PRO ACTIV team

## 2 Legend

The symbols used in these usage instructions have the following meanings:



Manufacturer



Note




Serial number

## 3 Conformity/other information

### 3.1 Classification

The NJ1 adaptive bike (referred to as a "product" below) is classified as a class I product.

### 3.2 Conformity

 As the manufacturer, PRO ACTIV Reha-Technik GmbH declares that the respective product is a class I product and meets the requirements of the EU Medical Devices Directive (2017/745).

If the product is adapted in a manner which has not been agreed by PRO ACTIV Reha-Technik GmbH, this declaration becomes void.

### 3.3 Manufacturer



**PRO ACTIV Reha-Technik GmbH**

Im Hofstätt 11

D-72359 Dotternhausen

Phone +49 7427 9480-0

Fax +49 7427 9480-7025

e-mail: [info@proactiv-gmbh.de](mailto:info@proactiv-gmbh.de)

web: [www.proactiv-gmbh.com](http://www.proactiv-gmbh.com)

## 4 Scope of delivery and testing the product on receipt

The product may only be operated with an adapter supplied by PRO ACTIV which is suitable for the wheelchair.

Delivery includes the product, configured as per the purchase order, with the usage instructions including the training/hand-over certificate and inspection lists. You can view the basic equipment in chapter "Technical specifications". As per your order, the product is equipped with additional recommended accessories, such as special handles or manoeuvring rollers.

Please check that the delivery is complete after you have received your product.

The product is tested to ensure it is completely functional before shipping and packed in special boxes.

However, please check the product immediately upon receipt, preferably in the presence of the freight company, for any damage which may have occurred in transit. If you are of the opinion that damage has occurred during transit, please do the following:

1. Record a statement of facts in the presence of the freight company - photo documentation of the packaged product and the unpacked product with detailed images of product damage
2. Preparation of a declaration of assignment - you assign all claims from this damage to the freight company.
3. Statement of facts/photo documentation, delivery note, and declaration of assignment are sent to PRO ACTIV.


Failing to observe these instructions, or reporting damage after acceptance, means that the damage cannot be acknowledged.

PRO ACTIV will subsequently review the damage and discuss the further procedure with you (shipment of replacement parts, returning the product to PRO ACTIV for a complete repair, etc.).


## 5 Introduction


Before starting your first trip, familiarise yourself with these usage instructions and the usage instructions for the coupled wheelchair, paying particular attention to all the safety information and hazard warnings they contain.


Allow your therapists and doctors to advise you, your carers, and assistants on how to use the product and what you are safe to do with the product based on your current ability.


 Under no circumstances should you do anything with or in the product which you have not learnt to do and have not mastered.


You, your carers, and assistants should also seek advice from your therapists and doctors as well as the rehabilitation specialist dealer about the use and settings of your product as well as all the safety accessories available (e.g. chest belt and waist-belt).


 It is then vital that the advice from doctors, therapists and the rehabilitation specialist dealer on the necessary safety accessories should be followed.


 If you are not sure how to handle the product or if technical faults occur, please contact your rehabilitation specialist dealer or PRO ACTIV before using it.


 When operating the product, the wheelchair usage instructions must also be observed. Information on limit values must not be exceeded. If the values in the two sets of usage instructions differ, the lower limit is the one which applies.


 Never leave the product unattended.

 Secure the product against unauthorised use and theft.

 When combining your product with equipment made by other manufacturers, make sure that the individual components and the unit made up of them still work appropriately. You can get information on the suitability of a combination from the manufacturer of the third-party components or from your rehabilitation specialist retailer.

 The product contains small parts that may pose a choking hazard for children.

 The wheelchair with the adapted product must be equipped in accordance with road traffic regulations when operated on public areas, roads paths and spaces.

 The product may be used only in conjunction with the approved adapter. Weight limitations must be observed while doing so. The Heavy Duty version of the product may be used only with the Heavy Duty version of the adapter.

## 6 Purpose and indication

This product is a manual adaptive bike that is coupled to a human-powered wheelchair with the aim of preserving or increasing the independent mobility of an active wheelchair user to the greatest extent possible. The active crank movement of the arms extends the user's radius of action.

Indications: Walking impediment or limited ability to walk due to paralysis, limb loss, limb defect/deformation, joint contractions/joint damage, neurological and muscular diseases.

Contraindications: Progressive muscle diseases, the course of which is accelerated due to fatigue of the arm and core muscles used (e.g. muscle dystrophies and atrophies) and accompanying epilepsy disorders (legal stipulations on freedom from seizures for a permit for use on public roads apply here).

In addition - for safety reasons - the product may only be operated by people who

- can move and coordinate their hands, arms, and head (when using the chin to operate the gears if manual function is unavailable) so that they can operate all control elements and conduct full, unrestricted steering movements during the trip.
- are physically and mentally capable and have the visual ability to safely operate the product in all operating situations and can meet the legal requirements for use on public roads. For children or people with mental, significant motor or visual impairments, the attendants can ensure the required traffic safety as a substitute and as a companion.
- have been trained in its use by the rehabilitation specialist dealer or PRO ACTIV.

## 7 Proper use

This adaptive bike is designed to be used outdoors on tarmac and adequately paved roads that ensure traction and stability of the product when driving and braking. When used indoors, there must be enough space for manoeuvring. Avoid driving in poor weather conditions (e.g., storms) since this can lead to incalculable risks.

The maximum permitted load of the product in its standard design is 120 kg towed capacity and 10 kg payload. The heavy-duty version and individual customisations can be designed for a higher load; this is then indicated on the rating plate. Please ensure that the load limit indicated on the ratings plate is not exceeded when transporting objects.

### Recommended equipment:

The wheelchair should be equipped with a wheelbase extension; the maximum permissible load for the wheelbase extension must be then be observed. Before driving with the traction system, the wheelchair wheels should then be positioned in the wheelbase extension. This allows better distribution of the weight between the drive wheel of the product and the wheelchair wheels to be achieved. This minimises the risk of the product wheel slipping on slopes.



Figure 1: Removable wheelbase extension

### Recommended equipment:

The wheelchair can be equipped with an anti-roll back device that can be activated before driving on slopes. The anti-roll back device can also be used if the wheelbase extension is used on the wheelchair.



Figure 2: Anti-roll back device

Proper use of the product is a basic requirement of safe operation. The product may generally be used only for applications that are listed and described in these usage instructions. This includes storage, transport, maintenance/inspection, and repair, as well as the safety information in each chapter of these usage instructions.

## 8 Technical specifications

### 8.1 Product weight

The total weight starts from 8.3 kg with the basic equipment.

### 8.2 Load weight

#### Maximum load weight:

120 kg towing capacity and 10 kg payload

The heavy-duty version and individual customisations can be designed for a higher load; this is then indicated on the rating plate. In this case, an adapter is required for heavier loads. The Heavy Duty version of the adapter is approved for 120 kg - 200 kg.

When operating the product, the wheelchair usage instructions must also be observed. Information on limit values must not be exceeded. If the values in the two sets of usage instructions differ, the lower limit is the one which applies.

### 8.3 Obstacle height and turning circle

**Maximum drive-over/negotiable obstacle height:** 10 cm (must be ensured through an appropriate adapter assembly/setting, caster wheels must be removed (→ recommended equipment of the wheelchair: caster forks with quick-release axle))

This value can, however, be reduced due to the specifications of the type of wheelchair or its settings. Therefore, you should observe the values given in the wheelchair's usage instructions or the restrictions dependent on the settings.

#### Turning circle:

- approx. 4 m without manoeuvring back and forth
- approx. 2.6 m with manoeuvring back and forth (strongly dependent on the number of manoeuvres)

### 8.4 Basic equipment and dimensions

In the basic equipment, the product comprises a drive unit with docking plate, handles with switching brake fittings, chain shift or hub gears shift, rim brake including handbrake locking mechanism and hydraulic disk brakes or back-pedal brake. Furthermore, there is a light set and a mudguard on the product.

#### Dimensions, NJ1 adaptive bike:

Product height: approx. 75 - 110 cm (depending on the wheel size and length of the bottom bracket support)

Product width: approx. 45 - 63 cm (depending on the grip width, parking stand in passive position)

Grip width: 40 - 58 cm

Crank length: 155 - 195 cm

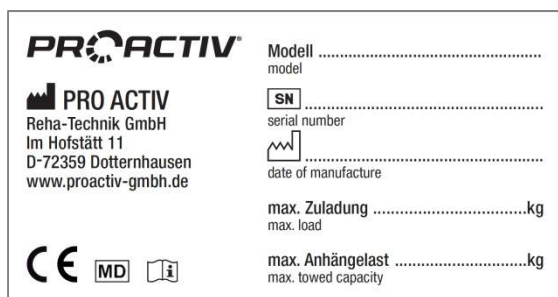
### 8.5 Service life


The service life of the product is 6 years.

## 9 Rating plate & markings on the product

The **rating plate** is located on the bottom bracket. The rating plate includes the precise model, the serial number and other technical specifications.


When contacting your rehabilitation specialist dealer or PRO ACTIV with regard to your product, please always have the serial number and year of construction on the rating plate at hand.




 CE marking  
"European conformity"

 Medical device

 Manufacturer

 Follow the usage instructions

 Serial number

 Date of manufacture

## 10 Commissioning and handover

The product will be handed over to you ready for use by a rehabilitation specialist dealer or a field representative or by a product consultant from PRO ACTIV. They will fit, if not already done, the required fastening elements to your wheelchair to hold the adapter and, if required, any other accessories. The height of the parking stand is also adjusted correctly.

Finally, you will be fully instructed in the use of the product based on the usage instructions included in delivery. You will be handed over a record of training and handover certificate as written proof. In addition, you will be handed

the usage instructions and, if necessary, further accessories for your own use. It is recommended that you take along an assistant to the training so that, if required, they can assist you later when handling the product.

During the hand-over, the record of training (chapter 30) and the hand-over certificate including the associated check list (chapter 31) must be filled in. The rehabilitation specialist dealer should send the completed documents to PRO ACTIV for filing as a file by e-mail or in the form of a copy by fax or in the post.


## 11 Introduction to the product and the surroundings

During the initial commissioning of the product, drive at minimum speed and become accustomed to the driving characteristics of the product. Always adapt the speed and driving manoeuvres to match your own abilities, the external circumstances and the legal regulations. You will get a feel for how to use the product safely after a short time. Before driving up or down slopes or hills with the product, you should be proficient in the safe handling of the product on level ground. Get familiar with the braking distance at different speeds.


Get to know the environment in which you wish to use the product. Look out for obstacles and learn how to overcome or avoid them.


Get familiar with the road traffic regulations, since these must be observed when driving on public roads.


## 12 Safety instructions – prior to driving/use


 If your wheelchair is operated in combination with the product, any existing anti-tipping supports must be put into their passive position or removed (see the wheelchair's usage instructions). If the wheelchair is then used without the product, the anti-tipping supports must be brought back into their operating position again to ensure tipping stability.





 Before every trip, check the condition of the wheels of the wheelchair-product combination (e.g. visual inspection of the spokes and rims, check the tyres for damage, foreign bodies and crack formation). If you have any doubts, the wheelchair-product combination must not be operated any further. In this case, contact your rehabilitation specialist dealer or PRO ACTIV.


 Check the air pressure in the tyres of the wheelchair-product combination at regular intervals. Ensure that you comply with the manufacturer's specifications which can be found on the tyres. When the tyre pressure is too low, it has a detrimental effect on the driving behaviour and the braking reaction of the product. Moreover, there is an increased risk of a flat tyre.


 Before starting your trip, check the functioning of the product's brake. If all existing brakes are not fully functional, no trips may be taken.


 Before every trip, check that the product is firmly attached to the adapter and that the adapter is firmly attached to the wheelchair. The product may not be operated on the wheelchair if any of the connections are not tight and secure. In this case, contact your rehabilitation specialist dealer or PRO ACTIV.

 Always ensure that your feet cannot slip off the footplate support of the wheelchair when using the product.

 Depending on the equipment, the product may have folding/closing mechanisms that pose a risk of crushing injuries (e.g. pinching your fingers). For this reason, please allow your rehabilitation specialist dealer to explain how to work these mechanisms and then have a go yourself under instruction.


 Check the function of the front and rear lights as well as the effectiveness of the side and rear reflectors before every trip. Lights and reflectors must be clearly visible during the trip and must not be covered by objects.


 To minimise the risk of suffering serious head injuries in the event of a fall, a helmet should always be worn when driving with the product.


 When travelling, always carry a repair kit and tyre pump for repairs in event of punctured/flat tyre. An alternative to this is an emergency puncture repair spray that fills your tyre with a foam that hardens in the tyre.


### 13 Safety instructions – while driving/using


---


 The usage instructions of the connected wheelchair must be strictly observed when using the product.

 Please note that some parts of your product can become extremely hot in high ambient temperatures. This means that above 50°C, the product may be damaged and above 40°C there is already the risk of burns for the user, which should not be underestimated, particularly for people with impaired sensitivity. For this reason, the product should not be exposed to such extreme temperatures. PRO ACTIV cannot accept any liability or provide any warranty for personal injury and material damage caused by such stresses. Similarly, there are also certain risks at extremely low temperatures.


 Always hold onto the crank handles with both hands while driving, braking, and manoeuvring. If a driving situation requires you to take one hand off the crank handle, make sure the speed has been reduced to the minimum possible beforehand.


 When driving in curves, reduce your speed to a minimum and if possible, lean your upper body towards the curve.


 Do not ride parallel to slopes and inclinations due to the risk of tipping.


 You may only drive on slopes where the wheelchair-product combination can be safely


controlled by steering and braking of the product.


 Do not stop on a steep slope, otherwise there is a risk of losing control of the product. If possible, do not turn on a slope or change your direction.


 Due to the increased turning circle, it can be difficult to turn in buildings, in front of or in lifts or other buildings, as the standard in such buildings assumes a maximum turning circle of 1.5 m.


 Do not attach objects (carrier bags, etc.) to the product. These could prevent safe operation of the product while driving.


 At twilight and in the dark and in bad lighting and weather conditions, always switch on the lights on the product and on the coupled wheelchair.


 When driving in areas that are approved for pedestrians, keep to the maximum permitted speed (walking speed 6 km/h) and maintain sufficient lateral distance (at least the width of a wheelchair) from obstacles and other road users.


 When driving on public areas, roads, paths, and spaces, the provisions of the road traffic regulations must be observed.


 Avoid driving on unpaved or loose surfaces (e.g. on loose gravel, in sand, mud, snow, ice or through deep puddles of water).


 When travelling on poorly maintained paths (e.g. coarse gravel, potholes), there is an increased risk of puncturing your tyres as well as tipping.


 You must not make telephone calls while driving.


 The product can affect other devices, for example theft protection barriers in department stores.


 By performing regular checks, ensure that the safety bolts of the adapter are always in the correct position while driving (see usage instructions "Adapter and adaptation").


 When driving, never jerk the handlebar, as this could possibly cause the wheelchair-product combination to tip over sideways.


 While driving, never grab onto the wheelchair wheels, in the area of the product wheel, in the area of the chain / sprockets / chain wheels, or into other rotating parts; if you do, you may cause injuries.


 Only brake the product using the service brakes.

 During long trips the brakes of the product may heat up. Therefore, do not touch the brakes immediately after the trip.


 If the situation allows it, the speed should be reduced by carefully applying the service brake. Abrupt braking can cause the upper body to fall forwards which can thereby result in injuries or loss of vehicle control.


 If the weight load on the drive wheel decreases (e.g. when driving on slopes) or when driving on loose/slippery surfaces, the braking action of the wheel may be considerably reduced. The driving style and speed should be adjusted so that the product can be safely stopped at all times using the brakes.


 Towing or using a trailer is not permitted.


 Make sure that cables and lines are not kinked or tangled somewhere. This could cause them to be damaged which could lead to the brakes and gear shift not working correctly. In this case, the product must no longer be operated.

## 14 Safety instructions regarding obstacles

 Driving on steps and escalators with the product is forbidden.

 The maximum obstacle height which can be negotiated is 10 cm. This value can, however, be reduced due to the specifications of the type of wheelchair or its settings. Therefore, you should observe the values given in the wheelchair's usage instructions or the restrictions dependent on the settings.

 When driving over or passing obstacles, it is important that you avoid any product or body parts catching on the obstacle as this may lead to falls causing serious injuries to the user and third parties as well as damage to the product.

 Always drive over curbs or other obstacles so that you cross them to the front or at right angles and at the minimum required speed. If you approach them at an angle or pass over an obstacle with just one rear wheel, there is an increased risk of tipping over to the side.


## 15 Safety instructions regarding dangerous locations and dangerous situations


The operator of the product determines the route to be driven themselves, taking the usage instructions, their driving knowledge, and physical abilities into consideration.


Personal driving skills are particularly important in the following dangerous locations that are provided as examples; the product user must use their judgement before driving in such locations:


- quay walls, landing and berthing locations, paths and locations close to water, unsecured bridges and dykes.
- narrow paths, slopes (e.g. ramps and driveways), narrow paths on a slope, mountainous routes.


- narrow and/or steeply sloping paths along main roads or near cliffs.
- routes that are covered in leaves, snow or ice.
- ramps and lifting equipment on vehicles.


 When driving in a curve or turning on hills or downward slopes, there may be an increased tendency to tip over to the side due to the changes in the centre of gravity. Avoid such driving manoeuvres. If these cannot be avoided, perform these driving manoeuvres with increased caution and only at a very slow speed. If necessary, the driving manoeuvre must not be performed or only with the help of an assistant.

 Use particular caution when approaching stairs, edges, drops or other hazard areas.

 When waiting at potential hazard areas (e.g. while waiting at a pedestrian crossing, on hills or slopes or at ramps of any type), always hold down the service brakes.

 Extreme caution is needed when crossing main roads, intersections and level crossings. Crossing rails in the road or at level crossings must never be undertaken while driving parallel, otherwise the wheels could become caught which would result in the wheelchair and the product being unable to manoeuvre.

 Before driving on a ramp and lifting equipment on vehicles, ensure that they are wide enough so that you do not risk one of the product or wheelchair wheels slipping off the ramp. When lifting or lowering a ramp or lifting equipment, the service brake of the product should be applied. Always keep the product in the middle of the ramp.

 The grip of the tyres on the ground is reduced under wet conditions. There is an increased risk of slipping. Adjust your driving, braking and steering behaviour accordingly.


## 16 Ending the driving operation


To make getting out of the wheelchair more simple, the product can be disconnected from the wheelchair (see usage instructions "Adapter and adaptation").

## 17 Adapter and adaptation

Where necessary and ordered, a suitable adapter for your wheelchair is included with the delivery.


Please read the usage instructions and assembly usage instructions "Adapter and adaptation" before using the product.


 The product may only be adapted and detached on dry, stable and flat surfaces.


 The adapter must at least have the same user weight approval as the product.

## 18 Drive wheel and tyre pressure

Check the tyre inflation pressure at regular intervals as well as after extreme temperature effects. The **recommended tyre pressure is printed on the side of the tyre**. This should be observed.

 Insufficient tyre pressure has a negative effect on the handling. Apart from that, there is an increased risk of a flat tyre.

 If the pressure is too high, the tyre may burst. For this reason, product tyres may not be exposed to unusually high temperatures such as under glass in the summer.

 When inflating the tyres, make sure that the prescribed air pressure is not exceeded.

**To check or correct the tyre pressure**, proceed as follows:

1. Secure the product to prevent it rolling away.
2. The drive wheel is normally fitted with a car tyre valve. Unscrew the valve cap.



Figure 3: Valve with cap

3. Place the valve attachment of the compressed air device or the compressor onto the valve and, if a clamp lever is available, secure the connection by applying the clamp lever.
4. Now check the tyre pressure. If the tyre pressure does not match the specifications, correct it.
5. Finally release the clamp lever (if present), pull the valve attachment off the valve and replace the valve cap.



Figure 4: Compressor

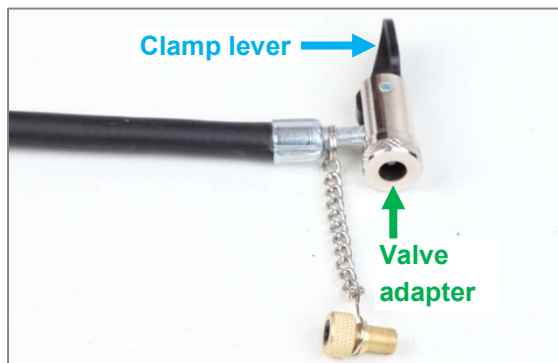


Figure 5: Valve adapter and clamp lever of the compressor

## 19 Functional elements

### 19.1 Parking stand

#### 19.1.1 Active and passive positions

By pressing down and turning the operating lever outwards or inwards, the parking stand position can be changed from the passive to the active position or vice versa. The passive position can also be called the travel position. The parking stand is then folded in to save space.

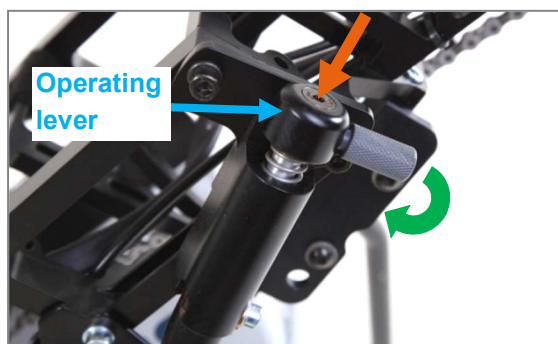


Figure 6: Press down and turn the operating lever



Figure 7: Parking stand in the active position



Figure 8: Parking stand in the passive position

#### 19.1.2 Parking stand height adjustment

The following instructions are intended for and may only be carried out by a rehabilitation specialist dealer or PROACTIV

The height adjustment of the parking stand is important in order to bring the docking plate of the product to the correct (height) position relative to the adapter.

For setting the height of the parking stand, the following must be observed: the dimension from the floor to the lower edge of the front of

the insertion maul (on the wheelchair side) should correspond with the dimension from the ground to the upper edge of the insertion bolt (on the product side). As soon as there is a deviation from these two dimensions due to the hole pattern, the dimension from the ground to the upper edge of the insertion bolt may be up to max. 1 cm larger. In this case, the product can be inserted into the adapter by tipping slightly to the rear (via the parking stand).

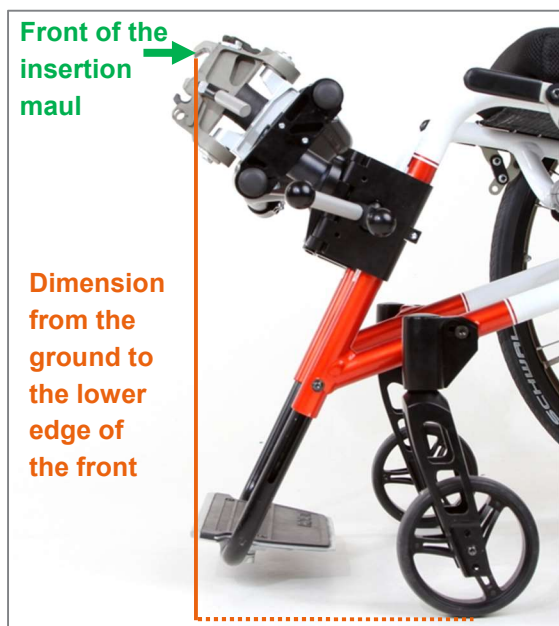


Figure 9: Measurement from the ground to the lower edge of the front of the towing attachment

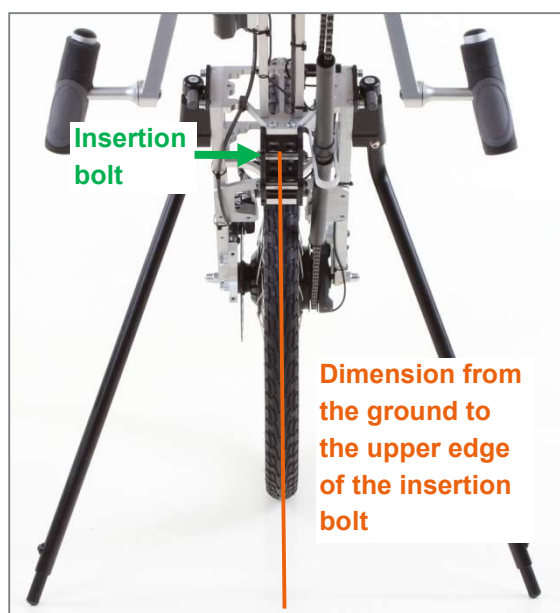


Figure 10: Dimension from the ground to the lower edge of the insertion bolt

The **height of the parking stand** is adjusted by unscrewing the M6 oval head screw (AF 4 mm) with the radius disc and repositioning the adjustment inlet along the specified row of holes in the parking stand and inlet. Finally, re-tighten the M6 oval head screw (AF 4 mm) up to 11 Nm of torque.

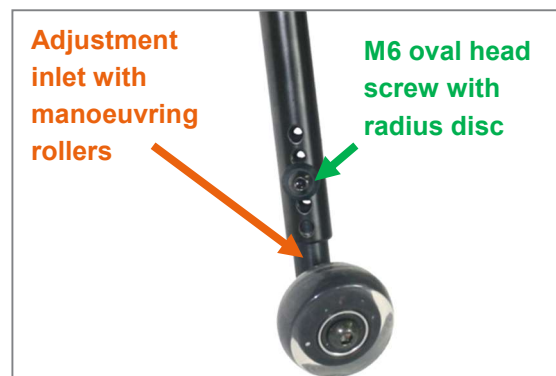



Figure 11: M6 oval head screw with radius disc and adjustment inlet to adjust the height of the parking stand or manoeuvring rollers

**Information when equipping with manoeuvring rollers:** After adjusting the height of the parking stand, the manoeuvring roller must be positioned in the active position outside on the parking stand.

## 19.2 Bottom bracket support and crank

 The following instructions are intended for and may only be carried out by a rehabilitation specialist dealer or PROACTIV

### 19.2.1 Seating position

The seating position and therefore the bottom bracket position and the crank length depend on the upper body stability or the core strength. A suitable adjustment to the arm length will have been made during the consultation / measurement procedure.


**With weak core strength**, the seating position should normally be chosen so that the upper body remains still in an upright position when operating the crank while driving. Rocking motion of the upper body or the head should be avoided where possible. The height of the

bottom bracket in this case is selected to be slightly higher (chest height or higher).

**Sporty users with the appropriate trunk stability** relieve their arm muscles by moving their trunk at the same time. The height of the bottom bracket in this case can be selected to be slightly lower (chest height or lower).

The following points must be fulfilled for the proper seating position:

- The cranks must not touch the knee or thigh when they are being turned.
- The elbows should not be completely extended when the crank handles point completely forward away from the body.

 A suitable restraint system must be used if you have poor seating stability due to a lack of or weak core strength. The selection of the suitable system must be made in conjunction with your doctor or therapist and/or defined and implemented by your rehabilitation specialist dealer. There are various systems available such as chest straps or four-point safety belts. Rehabilitation specialist dealers can also often create a customised system or adapt commercially available systems.

#### Recommended equipment:

PRO ACTIV also offers restraint systems such as hip straps with belt and Velcro fastener and chest straps of various lengths.

#### 19.2.2 Bottom bracket position

In a product equipped with a **non-adjustable bottom bracket support**, a subsequent adjustment of the bottom bracket position can only be achieved by exchanging the bottom bracket support, the angle adjustment possible on the steering head as well as the length adjustment and the spacing of the adapter tube on the adaptation points on the wheelchair frame (see usage instructions "Adapter & adaptation").

The bottom bracket support can be exchanged by loosening the four M6 fixing screws (AF 5 mm) on the top fork bridge and the four M6 fixing screws (AF 4 mm) on the bottom bracket housing. Then the new bottom bracket support with another length can be inserted and the 8 fixing screws tightened up to 7 Nm and secured with thread lock fluid. Finally, check the chain length and the cable lengths and adjust them if necessary.



Figure 12: M6 fixing screws on the top fork bridge



Figure 13: M6 fixing screws on the bottom bracket housing

If your product is fitted with an **adjustable bottom bracket support (optional)**, the bottom bracket position can be adjusted in angle and height:

- The **angle** is adjusted at the top fork bridge. To do this, loosen the four M6 clamp screws (AF 5 mm), on the clamp slightly so that the bottom bracket support's angle can be adjusted using minimal force. The angle adjustment is continuous (as a guide, there is a 12° scale fitted). When you have finished adjusting the angle, tighten up the four M6 clamp screws

(AF 5 mm) to 7 Nm torque and secure them with thread lock fluid.

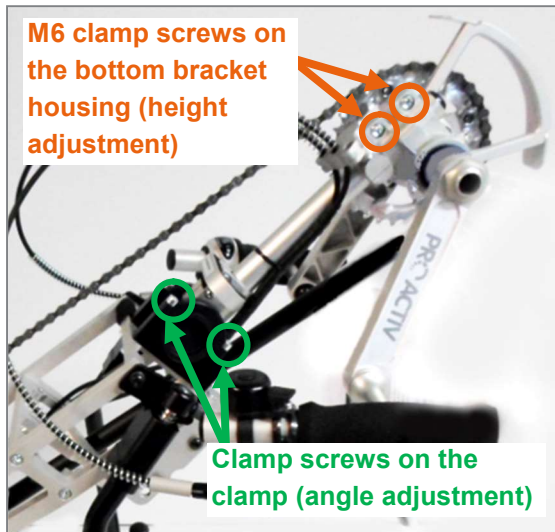


Figure 14: M6 clamp screws for angle and height adjustment of the bottom bracket position

- To **adjust the height**, two M6 clamp screws (AF 5 mm) must be loosened on the bottom bracket housing. Then the bottom bracket housing can be moved along the bottom bracket support to the desired position. Then tighten up the four M6 clamp screws (AF 5 mm) to 7 Nm torque and secure them with thread lock fluid.

For smaller adjustments to the height, infinitely variable adjustments of +/- 25 mm can be made on the bottom bracket support. To adjust the height, the two M6 clamp screws (AF 5 mm) must be loosened on the bottom bracket support. Then the bottom bracket support can be moved in its mount to the desired position. Then tighten the four M6 clamp screws (AF 5 mm) to 7 Nm torque and secure them with thread lock fluid.



Figure 15: M6 clamp screws for adjusting the height of the bottom bracket position

If you want to make a change to the bottom bracket position, please contact your rehabilitation specialist dealer or PRO ACTIV.

**!** Please note that, after a large adjustment to the chain bottom bracket position, the lines and the cable lengths must be adjusted.

### 19.2.3 Crank length and grip width

The **crank length** can be chosen from different lengths individually to suit the length of the arms and mobility of the user. Different widths of bottom bracket shafts and spacers between the pedal cranks and the rotary axes of the handles are available to adjust the **grip width**.

If you want to make a change to the crank length or grip width, please contact your rehabilitation specialist dealer or PRO ACTIV.

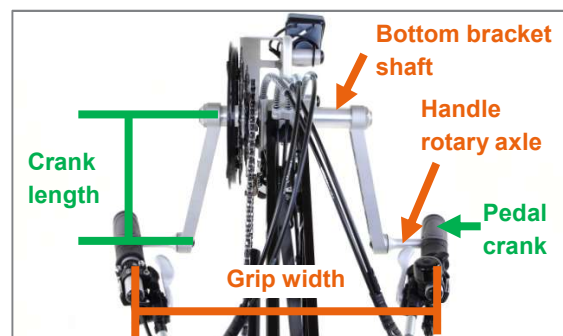


Figure 16: Crank length and grip width



### 19.3 Grips

The grips must be held firmly with both hands whilst driving and always held so that the cables and lines are oriented upwards.




Figure 17: Correct grip hold

The cables for the Rohloff hub gear are an exception for this. If the handles are held correctly they point forwards into the direction of travel.



Figure 18: Correct hold of the handle for the Rohloff hub gear

 Always hold onto the crank handles with both hands while driving, braking, and manoeuvring. If a driving situation requires you to take one hand off the crank handle, make sure the speed has been reduced to the minimum possible beforehand.

### 19.4 Gear shift

#### 19.4.1 Derailleur

With the derailleur, the gears can only be changed while the crank is moving. Changing the gear with the cranks stationary is not possible. In general, the torque applied to the cranks should be reduced briefly while changing the gear so that the gear change can happen more quickly.

The gearshift control elements are normally designed so that they can be operated using thumb / index finger shift control (for mechanical gear systems) or buttons (for electronic Di2 gear systems). With the cassette at the bottom, switching to the next largest sprocket means a lower or easier gear and to the next smallest sprocket a larger or more difficult gear.

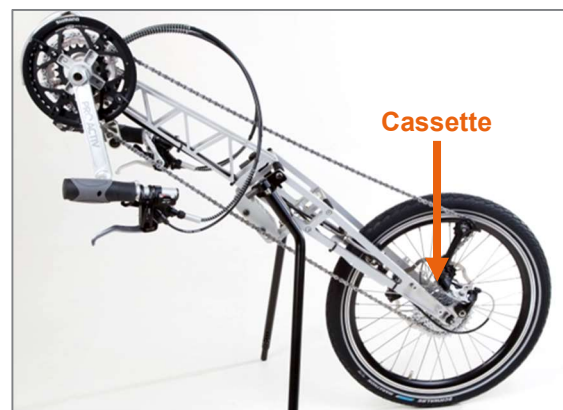


Figure 19: Cassette

With the **thumb / index finger shift control**, gear changes are achieved by:

- "Thumb shifter" – operation by pressing in the direction of travel with the thumb
- "Index finger shifter" – operation by pulling in the opposite direction of travel with the index finger or using the thumb to press against the direction of travel.

The mechanical gearshifts do not provide a display for the gear selected. There is only an orientation as to which sprocket is currently being used via a display above the handle.

In electronic Di2 gearshift, you can shift up or down by pressing the **button**.



Figure 20: Operation via the button

On an electronic Di2 gearshift, gear changes are achieved by:

- Pressing the small button with your thumb to shift up.
- Pressing the large button with your thumb to shift down.

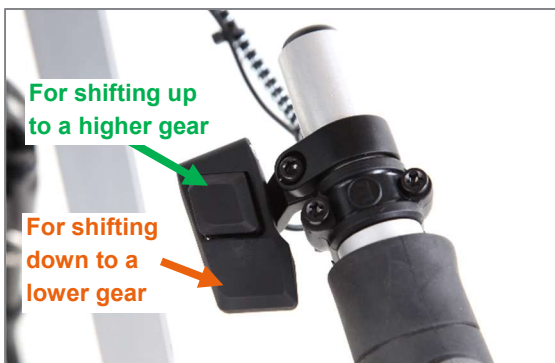


Figure 21: Buttons for shifting up and down

On an electronic gearshift with buttons, the current gear is shown on the gearshift display.

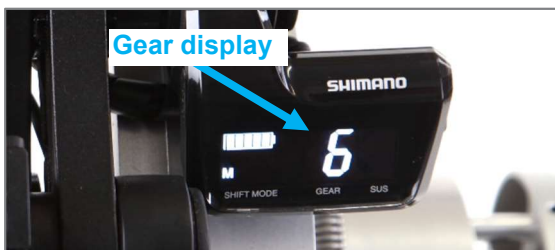


Figure 22: Displaying the current gear on the display

For more information on derailleur gear systems, please see the instructions provided by the gear manufacturer.

### 19.4.2 Hub gear

The hub drive can be changed while driving and also when stationary. No crank movement is needed to change or only a small reduction in torque is needed while driving.

The **Rohloff** hub gear and **Shimano Nexus** hub gears are operated by **turning the grip shift**. The gear selected is shown in the display on the control element.



Figure 23: Shifting using the grip shift for the Rohloff hub gear



Figure 24: Shifting using the grip shift for the Shimano Nexus hub gear

The **Shimano Alfine** hub gear is shifted via a **thumb-forefinger switch fitting**. The shifting is achieved as follows:

- "Thumb shifter" – operation by pressing in the direction of travel with the thumb
- "Index finger shifter" – operation by pulling in the opposite direction of travel with the index finger or using the thumb to press against the direction of travel.

The gear selected is shown in the display above the handle.



Figure 25: Shifting using the thumb-forefinger switch control for the Shimano Alfine hub gear

With the electronic **Shimano Alfine di2** hub gear, **two electronic buttons** are used for switching. Press one button to switch on. The drive switches off automatically if it is not operated after a while.

Use the Di2 button to change gears:

- Pressing the small button (right) with your thumb to shift up.
- Pressing the large button (left) with your thumb to shift down.

The gear engaged is shown on the display.

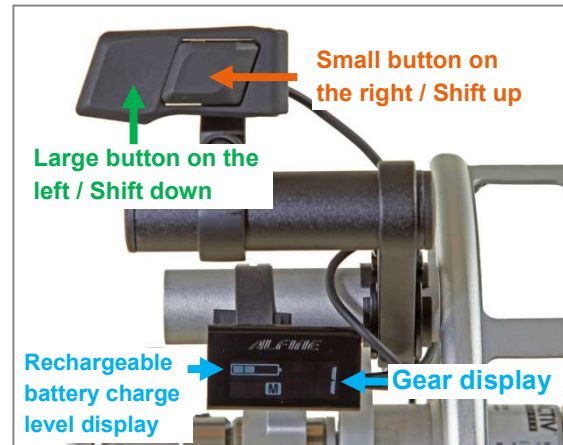


Figure 26: Switching using the electronic button with Shimano Alfine di2 hub gear

The rechargeable battery charge level of the electronic gearshift is also visible on the display. When the charge state is low (thus when only one rechargeable battery bar is shown), the rechargeable battery must be recharged.



Figure 27: Alfine Di2 electronic gearshift battery

For this purpose, the rechargeable battery is removed as follows: the flap on the side is opened and the push button is pressed-in (figure 28). Now the rechargeable battery can be pulled out along the retaining rail and charged using the charger included in the scope of supply. During the charging procedure, an orange lamp is visible (figure 29).

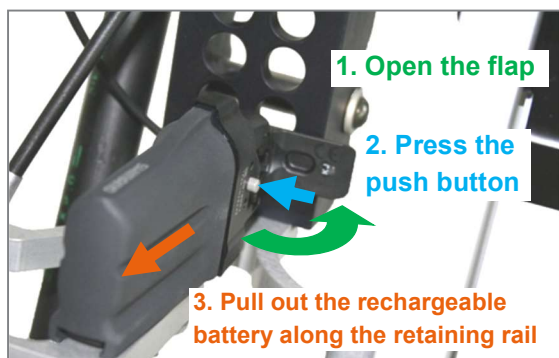


Figure 28: Remove the rechargeable battery for charging



Figure 29: Rechargeable battery and charger

The fully charged rechargeable battery (visible on the charger when the orange lamp goes out) is pushed back along the retaining rail until you can feel a slight resistance. When closing the flap on the side, the rechargeable battery is completely secured and is connected fixed. Now the gears are ready for use again.

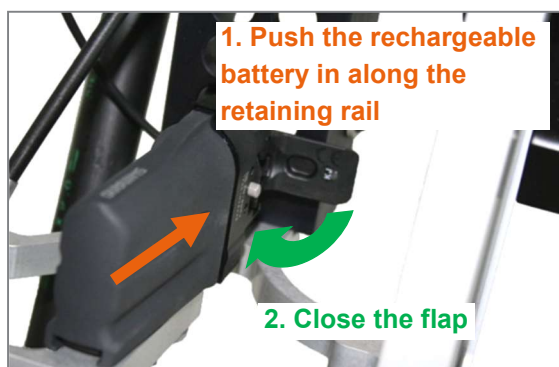


Figure 30: Reconnect the rechargeable battery after charging

For more information on hub gears, please see the instructions provided by the gear manufacturer.

### 19.4.3 Bottom bracket gearshift

The bottom bracket gearshift ("Mountaindrive" gear reduction for hills) is switched on by pressing the control buttons on the left and right of the bottom bracket. Here, you can choose between a 1:1 gear ratio (the left control button in the direction of travel) or a 2.5:1 gear ratio (the right control button in the direction of travel).

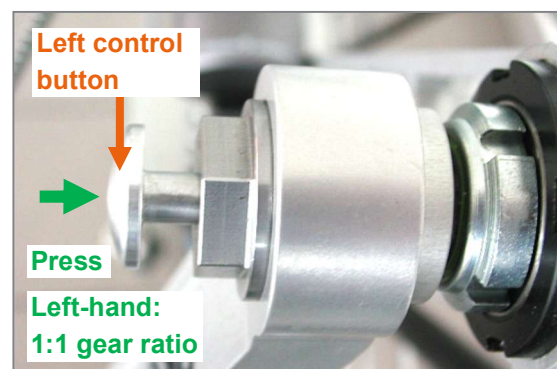


Figure 31: Left control button of the bottom bracket gearshift

The bottom bracket gearshift should be lubricated once or twice a year with the supplied original semi-fluid grease using the syringe. The semi-fluid grease is filled through the slotted screw.



Figure 32: Slotted screw to lubricate



Figure 33: Original semi-fluid grease in the syringe

For more information, please see the instructions provided by the manufacturer.

## 19.5 Brakes

Normally there is one disc and one rim brake fitted to the product. Where possible, both brakes should be operated simultaneously and the braking requirement reduced by driving in a way that anticipates the requirement to reduce speed if necessary.

Please note that the braking effect can be strongly reduced by one or all of the following conditions:

- Worn tyre profile
- Soiled and wet tyres
- Wet, soiled, loose and uneven ground
- Dirt and wetness on the brakes and brake surfaces
- Decreasing weight load

### 19.5.1 Rim and disc brakes

The brakes are operated manually using the brake lever.



Figure 34: Brake lever

**⚠** In the event of abrupt hard braking, there is a risk that you might fall forward with your upper body and thereby cause injuries to yourself.

**⚠** With rim brakes: Please make sure that the braking surfaces on the rim and the brake pads on the rim breaks do not come into contact with oils or greases which could otherwise impair the braking effect.

**⚠** With disc brakes: At regular intervals, check that the brake pads and discs are free from grease, oil or other contamination. In

addition, check the thickness of the brake disc. The minimum thickness is printed on the brake disc. In addition, the brake pad thickness must be checked with a measuring calliper. The minimum pad thickness plus support material is 2.5 mm.

**⚠** If equipped with V-brake rim brake as service brake: The setting screw on the brake lever of the V-brake rim brake must be well locked. In addition, this setting screw on the brake lever must always be checked for tightness.



Figure 35: Setting screw on the brake lever

You can find further information in the brake manufacturer's instructions.

### 19.5.2 Back-pedal brake for hub drives

A back-pedalling brake is already integrated into the Shimano Nexus hub gears. This brake is operated by moving the cranks against the acceleration direction. The brake force applied is adjusted by the strength of the backwards movement of the cranks.

For more information, please see the instructions provided by the brake or gear manufacturer.

### 19.5.3 Parking brake

An **aluminium bracket** is attached to the bottom bracket support as a parking brake. With it, one of the two brakes can be used as a parking brake. For this purpose, the aluminium bracket is clamped over the grip and the brake lever while the brake lever is depressed.



Figure 36: Aluminium bracket as a parking brake

A **mechanical disc brake with a locking lever** is possible as an option for the parking brake. The brake is lifted or released by turning the lever. The lever always maintains the set position. If the brake was applied while stationary, it must be released before starting the trip.



Figure 37: Parking brake via locking lever

#### 19.5.4 PRO ACTIV back-peddalling brake & crank release function

The PRO ACTIV back-pedal brake can be used for chain gears or hub drives with a free-wheel.

The PRO ACTIV back-peddalling brake is a closed hydraulic system consisting of a generator unit and a disc brake calliper. The system has automatic wear compensation for the brake pads.

The back-peddalling brake is delivered with a crank release function that allows reverse driving and manoeuvring via the hand rims. As: For functional reasons, the back-peddalling brake always acts as soon as the product moves backwards. Therefore, the user must “unlock” the reverse movement first by operating the crank release function.

The braking function via the backward movement (crank movement against the direction of acceleration) is always guaranteed – with the crank release function activated or deactivated.

The **braking force applied** is adjusted by the strength of rotating the cranks backwards. The braking force applied is adjusted by the strength of rotating backwards.

The **crank release function** is operated by pressing the side pressure plate. To activate the crank release function, the left-hand pressure plate must be operated (seen from the direction of travel). To return to normal driving operation with the back-peddalling brake, the right-hand pressure plate must be operated.

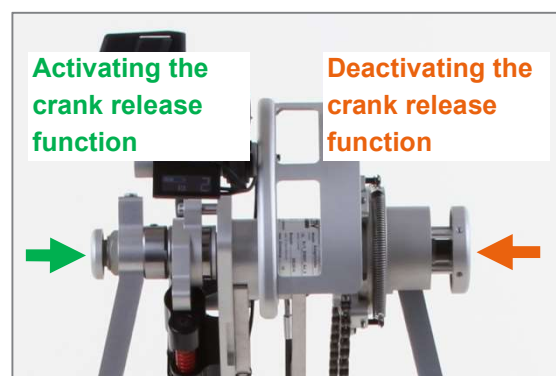



Figure 38: Left- and right-hand pressure plates

**Note:** The crank release function can also be selected in combination with the Shimano Nexus hub gears (which already have back-peddalling brakes) so that it is possible to reverse and manoeuvre via the handrims. The back-pedal brake is implemented here via the hub gear. In this case it must be ensured that the hub gear's back-pedal brake is not operational when the crank release function is activated. If you want to brake with the activated crank release function, this is only possible via the additional braking system such as a rim brake.

 Before every trip, test the brakes by moving the cranks with the normal operating force in the direction opposite to acceleration. The drive wheel must not be able to move when the system is operated.

⚠ At regular intervals, check that all of the connections, lines, bleed screws and the surface of the transmitter unit do not leak and that all the screw connections on the brake system are tightened securely.

⚠ At regular intervals, check that the brake pads and discs are free from grease, oil or other contamination. In addition, check the thickness of the brake disc. The minimum thickness is printed on the brake disc. In addition, the brake pad thickness must be checked with a measuring calliper. The minimum pad thickness plus support material is 2.5 mm.

⚠ Do not drive if your brake system is faulty in one of the previously listed points. Contact your rehabilitation specialist dealer immediately, who will arrange for maintenance by PROACTIV.

## 19.6 Lights

The basic equipment includes a **light set with a separate rechargeable battery including a charger**. The front lights are installed on the front of the product and the rear lights are generally installed on the back cross bar on the back of the coupled wheelchair. The lights are switched on and off using the respective actuation button on the lights.



Figure 39: Actuation button for the front lights



Figure 40: Actuation button for the rear lights

## 19.7 Bell

The bell can be actuated with the thumb or index finger without letting go of the handlebar.



Figure 41: Bell

## 19.8 Manufacturer instructions

You will be instructed about the functions and operation of the gears, brakes and other brand components during the hand-over / training. You can also get information later from the component manufacturers' enclosed usage instructions, or if needed, by asking your rehabilitation specialist dealer or PROACTIV.

In the download area of [www.proactiv-gmbh.de](http://www.proactiv-gmbh.de) under the links "more documents >>", we have put together the most important documents. More extensive information can be found on the manufacturers' websites:

Shimano components:

<https://si.shimano.com>

Magura components:

[www.magura.com/en/components/](http://www.magura.com/en/components/)

Rohloff components:

[www.rohloff.de/en/](http://www.rohloff.de/en/)

Mountain Drive bottom bracket gearshift:

[www.haberstock-mobility.com/index.php/home-en.html](http://www.haberstock-mobility.com/index.php/home-en.html)

Sigma:

[www.sigmasport.com/en/](http://www.sigmasport.com/en/)


Subject to changes to the links provided by the component manufacturers.


## 20 Storage

Store the product on an easy-to-clean surface in a dry environment, preferably at room temperature from +15°C to +25°C.

For storage please also comply with the notes in other sections of these usage instructions and the component manufacturers' usage instructions included with delivery.

To avoid corrosion and therefore malfunctions or breakages of components, the product may not be exposed to any aggressive environmental influences (especially salt) or to any strong solar radiation. Because of the effect of salt water in the winter and the humidity on rainy days, it is not recommended to store the product in the garage.

 If the product is not used or is stored over a longer period, if necessary, before using it again, we recommend having a rehabilitation specialist dealer give it a general function and safety check.

 For the electronic Shimano gearshift: Unused rechargeable batteries should preferably be stored somewhere between 10°C and 25°C.

## 21 Transport

### 21.1 Securing handling of the product

When loading or transporting, the product can be held on the bottom bracket support and on the wheel. As such, it is useful to actuate the parking brake to prevent the wheel from turning when loading the product.

### 21.2 Passenger transport in vehicles



When transporting in vehicles, it must be noted that the product is not approved for use as a seat in vehicles or disabled person's vehicles when combined with a manual wheelchair. The product must be uncoupled from the wheelchair and secured in the vehicle. For transporting the wheelchair user or other persons with their wheelchairs in vehicles, observe the instructions in the usage instructions of the wheelchair.

### 21.3 Securing the product in a vehicle (without a person)


To reduce the weight when loading, depending on the equipment, some components can be removed from the product and stored separately. The product and all associated components must be secured during transport so that they are not damaged and do not become a hazard to persons or other products. Before transport, check with your vehicle dealer about safely securing it using the existing fitted lashing rings or other securing devices. Suitable brackets are mostly available in the vehicle and are described in the operating manual of the vehicle.


When the product is in the transport vehicle, you or the person accompanying you should proceed as follows:


1. Operate the parking brake.
2. Secure and safely stow any components from the product which have been previously removed.



3. Objects that are installed to the product, but do not belong to the product, must be removed and securely stowed.
4. Secure the product with lashing straps. To do this, use the existing securing devices in the vehicle.  
After securing, the product may not roll, slip or tip over to the side any more.


 The lashing straps used to secure the product in the transport vehicle may only be fitted to the components of the vehicle provided for that purpose and onto the bottom bracket support of the product.

 Do not transport the product on the front passenger seat. The product could slip and impede the driver.

 When loading and securing, make sure that the cables and lines do not get tangled, become kinked or otherwise damaged. The product may not be used with damaged cables and/or lines.

## 22 Malfunctions

In the event of malfunctions that cannot be repaired by yourself based on the usage instructions included in the scope of delivery, please contact your rehabilitation specialist dealer or PRO ACTIV directly.

 Malfunctions must be repaired before any further use or, if they occur during the trip, it must be interrupted immediately.


All serious incidents that have occurred in connection with the product must be reported to the manufacturer and the responsible authority in the state in which the user resides.

## 23 Cleaning and care


Regular cleaning of the product is prescribed to prevent the components from becoming stiff due to soiling. In particular, the product should be carefully cleaned after every major use, e.g. summer or winter holidays.

To avoid corrosion and therefore malfunctions or breakages of components, the product may not be exposed to any aggressive environmental influences. If this cannot be avoided, the product should be cleaned immediately after such use and moving parts need to be greased. Regular cleaning prevents corrosion and increased wear.

In case the product becomes wet when using, please dry it after use.

 Clean your product with water, solvent or neutral cleaning agents. Do not use any abrasive cleaning agents or aggressive, acidic cleaners when cleaning.

The drive wheel should be regularly cleared of contamination. It is recommended that you use a soft sponge or a soft brush.

 The product must not be cleaned using steam or high pressure.


### Recommended care:


If you need care products for your product, please contact PRO ACTIV.


## 24 Maintenance


### 24.1 General instructions


The product is not a maintenance-free device. Therefore, please observe the following instructions about maintenance.


 If repairs are required or there are any defects on your product, you should contact your rehabilitation specialist dealer or PRO ACTIV before using it again and have the defect remedied in the interests of your own safety. Screws and other elements need to be secured properly again after repairs.

 For tyres with tread: As soon as there is one or more points with less than 1 mm of tread on the product or the adapted wheelchair, the tyres must be changed since otherwise there is an increased risk of an accident.

 For tyres without thread: As soon as there is one or more points where the tyre carcass or the accident protection is visible on the product or the adapted wheelchair, the tyres must be changed since otherwise there is an increased risk of an accident.

 When maintaining the brakes and the gear components, it is imperative that the usage instructions from the manufacturer which were included in delivery are followed.

 Only manufacturer's original parts may be used when ordering spare parts.


 Repairs and conversions to the product may only be carried out by your rehabilitation specialist dealer or PRO ACTIV.

Tightening torques and securing details for fastening elements as shown in the table in chapter 29 must be observed.

## 24.2 Service schedules

There is some **maintenance work or checks which should be carried out by the user themselves** at regular intervals (approximately every 4 weeks depending on the frequency of use):

- The chain should be cleaned and lubricated with chain oil (observe the manufacturer's instructions).
- Check the tyres for damage, foreign bodies and any cracks that form.
- Check that the cable housings are seated tightly in the gear cable brackets.
- Cables and lines should be checked for kinks and crushing.
- Check the brake pads.
- Check the tyre pressure and correct if needed (the tyre pressure should always be as printed on the tyre covers).

 If you should discover any problems during these checks, please immediately contact your rehabilitation specialist dealer or PRO ACTIV. Service and repair work on the product may only be carried out by your rehabilitation specialist dealer or PRO ACTIV.

In addition to these maintenance tasks/checks by the user, PRO ACTIV has prescribed **maintenance tasks to be carried out by the rehabilitation specialist dealer or PRO ACTIV** for safe operation of the product and to minimise the risk to the user or third-parties.

The initial inspection is performed after running 200 kilometres or 5 months after delivery (whichever comes first). The maintenance schedule can be found in the inspection lists in chapter 32.

Subsequent inspections are then always performed after 1,000 kilometres running or a period of 1 year after the last inspection (whichever comes first). The maintenance schedule can be found in the inspection lists in chapter 32.

After extreme stresses, such as during holidays where the product was exposed to sand, sea water or snow, an additional deep clean and inspection by your rehabilitation specialist dealer is recommended.

To maintain the warranty validity, the performance of the maintenance tasks must be documented. Any faults identified during maintenance work must be rectified and documented as such before further use of the product.

Even if your product does not show any signs of wear, damage or malfunctions, the regular safety-related checks on your product must be carried out in accordance with the maintenance schedule.

### 24.3 Proof of maintenance

To provide proof of the maintenance, you can use the inspection lists in chapter 32. Always keep all receipts/service reports as proof, and have any service work that has not been carried out by the manufacturer documented.

**Please bring these usage instructions/the service booklet along with you each time maintenance is performed.**

## 25 Disposal and recycling

At the end of its service life, the product can be disposed of by PRO ACTIV or your rehabilitation specialist dealer in a proper, environmentally-friendly manner.

The disposal or recycling must be carried out by a waste disposal company or a municipal waste disposal centre.

Special guidelines may apply on-location with regard to the disposal or recycling. These must be clarified and considered when disposing (this may also include the cleaning or disinfection of the product before the disposal).

In the following text, you will find a description of the materials for the disposal and recycling of the product and its packaging:

**Aluminium:** Frame, rim

**Steel:** Fastening points, screws, nuts

**Plastic:** handles, tyres, bags for packing

**Cardboard/paper:** Packaging

## 26 Re-use

If your product has been provided to you by your funding provider and you no longer require it, you should report this fact to your health insurance company or your rehabilitation specialist dealer. Your product can then be simply and economically re-used.

Prior to each re-use, a technical safety check must be carried out on the product at PRO ACTIV or the rehabilitation specialist dealer. In addition to the instructions contained in chapter 23 (Cleaning and care), a thorough cleaning of the grips and all control elements must be carried out.

Before the product can be reused, it must be prepared with care. A disinfection agent that is suitable for medical products must be sprayed onto all surfaces that the user may come into contact with. A liquid, alcohol-based disinfectant for residue-free, quick disinfection (e.g. Exporit 4712) must be used for this, and the respective usage instructions for use of the disinfectant must be observed.

These preparations will be performed by PRO ACTIV or the rehabilitation specialist dealer as part of the technical safety check. This safety-related check **must** be initiated by the funding provider.

Moreover, in event of wear or due to adaptation to the new user, components can be adjusted or replaced using the modular system.

## 27 Warranty

---

PRO ACTIV guarantees that the product was free of any defects at the time it was handed over. This warranty expires 24 months after the product was delivered.

Further information can be found in PRO ACTIV's general terms and conditions at [www.proactiv-gmbh.com](http://www.proactiv-gmbh.com).

The warranty shall be null and void if the product or a part needs to be repaired or replaced due to the following reasons:

- Normal wear on components such as grips, tyres, brakes, etc.
- The product has not been maintained and serviced in accordance with the maintenance schedule laid down by PRO ACTIV.
- The product or a part of the product has been damaged due to neglect, accident, or improper use.
- The product has been commissioned and used in non-compliance with these usage instructions.
- Repairs or other work have been carried out by non-authorised persons.
- Third-party parts have been installed or connected to the product or the product was otherwise modified.



Any modifications to the product which have not been expressly approved by PRO ACTIV will invalidate the warranty. Such modifications can lead to unforeseeable safety risks and are therefore not permitted.

## 28 Liability

---

As the manufacturer of the product, PRO ACTIV is not responsible for its safety if:

- The product is handled improperly.
- The product is not maintained in accordance with the maintenance schedule laid down by PRO ACTIV.
- The product is commissioned and used in non-compliance with these usage instructions.
- Repairs or other work are carried out by non-authorised persons.
- Third-party parts have been installed or connected to the product or the product has otherwise been modified.

Further information can be found in PRO ACTIV's general terms and conditions at [www.proactiv-gmbh.com](http://www.proactiv-gmbh.com).

## 29 Appendix: Tightening torques and securing details

The following table shows the torques for shaft screws with a metric control thread (valid providing the drawing, assembly, or usage instructions do not state different values!):

| Dimension | Tightening torque Ma in Nm depending on the screw strength |  |
|-----------|--|--|
|           | Strength 8.8<br>(e.g., cylinder head screw)                | Strength 10.9<br>(e.g., oval head screw) |
| M4        | 2.1  | 3.1                                      |
| M5        | 4.2  | 6.1                                      |
| M6        | 7.3  | 11                                       |
| M8        | 17   | 26                                       |
| M10       | 34   | 51                                       |
| M12       | 59   | 87                                       |
| M10 x 1   | 36   | 53                                       |

Securing details: All screws on PRO ACTIV products should be secured with thread lock fluid "medium strength" (e.g. Weicon AN302-43), where there are no securing clamps on the screw connections present or there is a lubrication requirement with grease or copper paste.

In the following table you will find tools and care products for your PRO ACTIV product:

| Tool  | Order number |
|---|--------------|
| <b>Care kit for PRO ACTIV wheelchairs and handbikes</b><br>Assembly paste (dosing syringe 10 g), Neoval oil (spray 100 ml),<br>thread lock, medium strength (pen system 10 ml),<br>surface cleaner (spray 150 ml), terminal grease (tube 50 ml) | 8000 900 026 |

### 30 Appendix: Medical product passport/record of training

**Product specifications:**

Serial number: **SN** \_\_\_\_\_

**Customer data:**

Surname, forename: \_\_\_\_\_

Street: \_\_\_\_\_

Postcode, city: \_\_\_\_\_

Phone: \_\_\_\_\_

Paying organisation: \_\_\_\_\_

**Training carried out by:**

Rehabilitation specialist dealer

PRO ACTIV Field Representative/  
Product Adviser

\_\_\_\_\_  
Stamp / Date / Rehabilitation specialist dealer's signature

**Record of training**

I was/we were instructed in accordance with the associated hand-over certificate about the operation of the product listed and informed about possible operator errors. I was/we were also advised about situations where the assistance of another person is required. The usage instructions were handed to me/us.

**Instructor**

Name, date, signature \_\_\_\_\_

**1. Person being trained**

Name, date, signature \_\_\_\_\_

**2. Person being trained**

Name, date, signature \_\_\_\_\_

**3. Person being trained**

Name, date, signature \_\_\_\_\_

For minors, or persons who are not responsible for their actions, legal guardians/supervisors/responsible persons are to be trained in the use. This is confirmed by their signature. The data are recorded in the feedback system of PRO ACTIV Reha-Technik GmbH as the manufacturer of the above named product. It is managed in accordance with § 16 BDSG (German Data Protection Law).

### 31 Appendix: Hand-over certificate

#### 31.1 Required compliance criteria to authorise use

| Topics   | Completed/<br>fulfilled | Remarks |
|--|-------------------------|---------|
| The product is suitable for the customer based on their own judgement and the customer information received regarding the disability-related restrictions.   |                         |         |
| The use intended by the customer is fully consistent with the intended use as described in the usage instructions (see chapter "Purpose and indication").  |                         |         |
| The product's equipment is suitable to allow the customer safe use with maximum reduction of risks.  |                         |         |
| The customer was informed about the current / applicable regulations in accordance with the road traffic regulations.  |                         |         |
| The customer's driving ability was checked during a test drive in difficult driving situations and found to be appropriate (see the check list on the following page).   |                         |         |
| The user, according to their own statements, or those of the legal representative or guardian and the assessment of the person providing the training, is able to meet the requirements of public traffic in full and to act accordingly. This ability to act, which is the basis for reducing the risk for the user and other road users to an acceptable level, is also completely achievable taking current illnesses/disabilities into full account. |                         |         |
| The customer was informed that in the event of a change in the driving capability, further use of the product must be assessed by a medical professional.  |                         |         |
| The usage instructions - and explicitly all of the warning and safety instructions contained therein - were discussed during the training in detail and understood by the user. The user was then handed these operating instructions.   |                         |         |

**31.2 Check list for training the user**

| Topics   | Completed/fulfilled |
|--|---------------------|
| Advised of the applicable legal regulations when driving on public roads.  |                     |
| All mechanical function control elements were explained and their function demonstrated.   |                     |
| Adaptation of the adapter to the wheelchair and removing the adapter from the wheelchair have been demonstrated and then performed by the user themselves and/or an assistant.   |                     |
| Adaptation and uncoupling the product to/from the wheelchair have been demonstrated and then performed by the user themselves and/or an assistant.   |                     |
| Adaptation of the wheelbase extension on the wheelchair – if available – was demonstrated and then performed by the user themselves and/or their assistant.  |                     |
| Repositioning the wheelchair drive wheels from the standard position in the wheelbase extension sockets – if fitted – has been demonstrated and then performed by the user themselves and/or an assistant.                   |                     |
| Functioning of the parking stand was demonstrated and then tested by the user themselves and/or an assistant.  |                     |
| Use of the parking brake and the service brakes was demonstrated and then performed by the user themselves and/or an assistant.  |                     |
| The operation and function of the gearshift has been demonstrated and then performed by the user themselves and/or an assistant.   |                     |
| The operation and function of the bell – if fitted – has been demonstrated and then performed by the user themselves and/or an assistant.  |                     |
| The operation of the lights – if fitted – has been demonstrated and then performed by the user themselves and/or an assistant.   |                     |
| Test drive: Forward and - if necessary - backwards travel  |                     |
| Test drive: Driving on level ground and uphill and downhill in the direction of travel   |                     |
| Test drive: Emergency stop from maximum speed  |                     |
| Information for care, cleaning and maintenance of the product has been provided and understood by the user and/or an assistant.  |                     |
| Information on the wheel with regard to inflation pressure and tread depth has been provided and understood by the user and/or an assistant.   |                     |
| Information on regular checks of the brakes has been provided and understood by the user and/or an assistant.  |                     |
| Information on checking the gears including cables and lines and the maintenance of the chain has been provided and understood by the user and/or an assistant.  |                     |
| The content of the usage instructions from PRO ACTIV and the other component manufacturers (if available) were completely worked through based on the product training and were understood by the user and/or the assistant. |                     |

Use of the product is only permitted when all topics listed in "Required compliance criteria for those permitted to use" have been met by the user and all the points have been ticked off in the "Check list for training the user".



### 32 Appendix: Inspection lists

**Initial inspection:** After 200 km or 5 months

|  |                            |                          |                          |
|--|----------------------------|--------------------------|--------------------------|
| Serial number: <b>SN</b> _____   |                            |                          |                          |
| Kilometre reading: _____   |                            |                          |                          |
|  | <b>OK/<br/>carried out</b> | <b>not OK</b>            | <b>resolved</b>          |
| Check that all screws/fastening elements are firmly seated   | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> |
| Functional and safety check of all lights (if fitted), steering and adaptation to the product and the adapted wheelchair/wheelchairs                             | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of the adapter   | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> |
| Functional and safety check of the brakes and, where necessary, replacement of the brake fluid, brake pads, brake cables and tyres on the product and wheelchair | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> |
| Check, adjust / set, clean and oil the gear components   | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> |
| Check the spoke tension of the drive wheel and, if required, correct the tension/re-centre   | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> |

OK / carried out = OK | not OK = not OK | resolved = the fault was corrected

**Comments:**

**Rehabilitation specialist dealer:**

\_\_\_\_\_

\_\_\_\_\_

**First name and last name of contact:**

\_\_\_\_\_

**Stamp:**

\_\_\_\_\_

Date/signature

To maintain the warranty rights, the completed inspection list must be sent by e-mail or post to PRO ACTIV within four weeks of the inspection.

**Subsequent inspection:** After another 1000 km or 1 year after the last inspection or after heavy use

| Serial number: <b>SN</b> _____<br>Kilometre reading: _____   | OK /<br>carried<br>out   | not OK                   | resolved                 |
|--|--------------------------|--------------------------|--------------------------|
| Check that all screws/fastening elements are firmly seated and replace, if necessary (particularly the following: M8x35 oval head screws (for the handle rotation axes on the cranks)) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Clean and oil/grease all pivot points and bearings   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a visual inspection of the frame and attachments for crack formations, deformations, etc.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of the brakes and, where necessary, replace the brake fluid, brake pads, brake cables  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Check, adjust, clean, and oil the gear components including bottom bracket gearshift (if fitted)   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Check the spoke tension of the drive wheel and, if required, correct the tension/re-centre   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of the drive wheel and, if required, replace the tyre on the product   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of all lights (if fitted), steering and adaptation on the product and the adapted wheelchair/wheelchairs                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of the adapter   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Test drive/functional test   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

OK / carried out = OK | not OK = not OK | resolved = the fault was corrected

**Comments:**

---



---



---

**Rehabilitation specialist dealer:**

---



---

**First name and last name of contact:**

---

**Stamp:**

---

Date/signature

To maintain the warranty rights, the completed inspection list must be sent by e-mail or post to PRO ACTIV within four weeks of the inspection.

**Subsequent inspection:** After another 1000 km or 1 year after the last inspection or after heavy use

| Serial number: <b>SN</b> _____<br>Kilometre reading: _____   | OK /<br>carried<br>out   | not OK                   | resolved                 |
|--|--------------------------|--------------------------|--------------------------|
| Check that all screws/fastening elements are firmly seated and replace, if necessary (particularly the following: M8x35 oval head screws (for the handle rotation axes on the cranks)) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Clean and oil/grease all pivot points and bearings   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a visual inspection of the frame and attachments for crack formations, deformations, etc.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of the brakes and, where necessary, replace the brake fluid, brake pads, brake cables  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Check, adjust, clean, and oil the gear components including bottom bracket gearshift (if fitted)   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Check the spoke tension of the drive wheel and, if required, correct the tension/re-centre   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of the drive wheel and, if required, replace the tyre on the product   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of all lights (if fitted), steering and adaptation on the product and the adapted wheelchair/wheelchairs                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of the adapter   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Test drive/functional test   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

OK / carried out = OK | not OK = not OK | resolved = the fault was corrected

**Comments:**

---



---



---

**Rehabilitation specialist dealer:**

---



---

**First name and last name of contact:**

---

**Stamp:**

---

Date/signature

To maintain the warranty rights, the completed inspection list must be sent by e-mail or post to PRO ACTIV within four weeks of the inspection.

**Subsequent inspection:** After another 1000 km or 1 year after the last inspection or after heavy use

| Serial number: <b>SN</b> _____<br>Kilometre reading: _____   | OK /<br>carried<br>out   | not OK                   | resolved                 |
|--|--------------------------|--------------------------|--------------------------|
| Check that all screws/fastening elements are firmly seated and replace, if necessary (particularly the following: M8x35 oval head screws (for the handle rotation axes on the cranks)) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Clean and oil/grease all pivot points and bearings   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a visual inspection of the frame and attachments for crack formations, deformations, etc.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of the brakes and, where necessary, replace the brake fluid, brake pads, brake cables  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Check, adjust, clean, and oil the gear components including bottom bracket gearshift (if fitted)   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Check the spoke tension of the drive wheel and, if required, correct the tension/re-centre   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of the drive wheel and, if required, replace the tyre on the product   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of all lights (if fitted), steering and adaptation on the product and the adapted wheelchair/wheelchairs                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of the adapter   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Test drive/functional test   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

OK / carried out = OK | not OK = not OK | resolved = the fault was corrected

**Comments:**

**Rehabilitation specialist dealer:**

\_\_\_\_\_

\_\_\_\_\_

**First name and last name of contact:**

\_\_\_\_\_

**Stamp:**

\_\_\_\_\_

Date/signature

To maintain the warranty rights, the completed inspection list must be sent by e-mail or post to PRO ACTIV within four weeks of the inspection.

**Subsequent inspection:** After another 1000 km or 1 year after the last inspection or after heavy use

| Serial number: <b>SN</b> _____<br>Kilometre reading: _____   | OK /<br>carried<br>out   | not OK                   | resolved                 |
|--|--------------------------|--------------------------|--------------------------|
| Check that all screws/fastening elements are firmly seated and replace, if necessary (particularly the following: M8x35 oval head screws (for the handle rotation axes on the cranks)) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Clean and oil/grease all pivot points and bearings   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a visual inspection of the frame and attachments for crack formations, deformations, etc.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of the brakes and, where necessary, replace the brake fluid, brake pads, brake cables  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Check, adjust, clean, and oil the gear components including bottom bracket gearshift (if fitted)   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Check the spoke tension of the drive wheel and, if required, correct the tension/re-centre   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of the drive wheel and, if required, replace the tyre on the product   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of all lights (if fitted), steering and adaptation on the product and the adapted wheelchair/wheelchairs                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of the adapter   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Test drive/functional test   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

OK / carried out = OK | not OK = not OK | resolved = the fault was corrected

**Comments:**

---



---



---

**Rehabilitation specialist dealer:**

---



---

**First name and last name of contact:**

---

**Stamp:**

---

Date/signature

To maintain the warranty rights, the completed inspection list must be sent by e-mail or post to PRO ACTIV within four weeks of the inspection.

**Subsequent inspection:** After another 1000 km or 1 year after the last inspection or after heavy use

| Serial number: <b>SN</b> _____<br>Kilometre reading: _____   | OK /<br>carried<br>out   | not OK                   | resolved                 |
|--|--------------------------|--------------------------|--------------------------|
| Check that all screws/fastening elements are firmly seated and replace, if necessary (particularly the following: M8x35 oval head screws (for the handle rotation axes on the cranks)) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Clean and oil/grease all pivot points and bearings   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a visual inspection of the frame and attachments for crack formations, deformations, etc.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of the brakes and, where necessary, replace the brake fluid, brake pads, brake cables  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Check, adjust, clean, and oil the gear components including bottom bracket gearshift (if fitted)   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Check the spoke tension of the drive wheel and, if required, correct the tension/re-centre   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of the drive wheel and, if required, replace the tyre on the product   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of all lights (if fitted), steering and adaptation on the product and the adapted wheelchair/wheelchairs                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of the adapter   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Test drive/functional test   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

OK / carried out = OK | not OK = not OK | resolved = the fault was corrected

**Comments:**

---



---



---

**Rehabilitation specialist dealer:**

---



---

**First name and last name of contact:**

---

**Stamp:**

---

Date/signature

To maintain the warranty rights, the completed inspection list must be sent by e-mail or post to PRO ACTIV within four weeks of the inspection.

**Subsequent inspection:** After another 1000 km or 1 year after the last inspection or after heavy use

| Serial number: <b>SN</b> _____<br>Kilometre reading: _____   | OK /<br>carried<br>out   | not OK                   | resolved                 |
|--|--------------------------|--------------------------|--------------------------|
| Check that all screws/fastening elements are firmly seated and replace, if necessary (particularly the following: M8x35 oval head screws (for the handle rotation axes on the cranks)) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Clean and oil/grease all pivot points and bearings   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a visual inspection of the frame and attachments for crack formations, deformations, etc.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of the brakes and, where necessary, replace the brake fluid, brake pads, brake cables  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Check, adjust, clean, and oil the gear components including bottom bracket gearshift (if fitted)   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Check the spoke tension of the drive wheel and, if required, correct the tension/re-centre   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of the drive wheel and, if required, replace the tyre on the product   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of all lights (if fitted), steering and adaptation on the product and the adapted wheelchair/wheelchairs                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carry out a functional and safety check of the adapter   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Test drive/functional test   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

OK / carried out = OK | not OK = not OK | resolved = the fault was corrected

**Comments:**

---



---



---

**Rehabilitation specialist dealer:**

---



---

**First name and last name of contact:**

---

**Stamp:**

---

Date/signature

To maintain the warranty rights, the completed inspection list must be sent by e-mail or post to PRO ACTIV within four weeks of the inspection.

Your rehabilitation specialist dealer:

**PRO**  **ACTIV**<sup>®</sup>



**PRO ACTIV Reha-Technik GmbH**

Im Hofstätt 11

D-72359 Dotternhausen – Germany

Phone +49 7427 9480-0

Fax +49 7427 9480-7025

Email: [info@proactiv-gmbh.de](mailto:info@proactiv-gmbh.de)

[www.proactiv-gmbh.com](http://www.proactiv-gmbh.com)