

MOBILITY MADE SIMPLE!

PROACTIV[®]
REHA-TECHNIK



Operating instructions Service booklet

NJ1 el. Compact bike
FREAK el. Compact bike

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1 Preface

Dear Customer,

Congratulations on purchasing your new PRO ACTIV product. You have bought a quality product which has been especially 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.

Throughout these operating instructions, the operation of standard components is explained. If you have individual solutions or non-standard components on your product, your dealer or we at PRO ACTIV would be happy to deal with any questions you may have about handling it.

The only difference between the compact bikes NJ1 el. & FREAK el. are the design of the frame when ordering (or in the frame sizes that can be selected). The operating instructions are therefore identical.

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 operating instructions have the following meanings:



Manufacturer



Warnings and safety instructions



Serial number



Additional information



Assembly instructions for the dealer (see table of contents)

3 CE Declaration of Conformity / other information

3.1 Classification

The NJ1 el. & FREAK el. Compact bike (referred to as a "product" below) is classified as a class I product.

3.2 Declaration of Conformity

PRO ACTIV Reha-Technik GmbH declares in the context of an individual declaration of conformity that the respective product has been developed and manufactured according to the relevant provisions of EC Directive 93/42/EEC 2007.

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



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4 Scope of delivery

The scope of delivery includes the product configured in accordance with the order, battery pack, console / display, mains power charger, operating instructions including record of 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 e.g., lighting, safety pennon and hip strap.

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

The product is tested to ensure it is completely functional prior to shipping. If your product has been damaged during transit, please contact your dealer or PRO ACTIV immediately.

5 Introduction

 Before starting your journey for the first time, familiarise yourself with these operating instructions paying particular attention to the safety information and hazard warnings contained within them.

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

 The control software is programmed at the factory to ensure that the legal requirements for a pedelec drive are met. If changing the software, it must be ensured that these requirements are still met.

 Never leave the product unattended, either when it is switched on or switched off. If this cannot be avoided, removing the battery and the display can help prevent unauthorised use.

6 Product description / purpose

The product is a compact bike comprising a drive unit and a product frame that is designated as chassis. The user lies in the product and propels using crank movements with their hands and arms.

The product assists the user with their mobility. It is easier to cover longer distances with ergonomic movement processes (similar to using one's own wheelchair) and it is also possible to take bicycle tours with pedestrians. This expands the activity radius. The electric drive provides assistance when overcoming level surfaces and going uphill thus ensuring for fatigue-free driving.

Uneven terrain can also be travelled on due to the larger the product wheels. The downhill speed can be regulated via the product's braking systems and, if necessary, controlled via recuperation, so that downhill slopes can be travelled on safely.

When hand-biking, the seating posture in the wheelchair as well as the static straighten the

spinal column are promoted by a physiologically sensible and ergonomic training of your arms. Moreover, the shoulder joints are relieved sufficiently compared with the usual propulsion of a wheelchair using the handrims. In the medium term, the body musculature is built up and thus, possible consequential harm that may be caused by propelling only on the one side (only via the handrims) is counteracted effectively.

For safety reasons, the product may only be operated by persons who

- have been trained in its use by the dealer or PRO ACTIV.
- can move and control their hands and arms so that they are able to operate the controls and perform the full steering movement without restrictions while driving.
- are physically and mentally capable of safely operating the device in all operating situations and can meet the legal requirements for use on public roads.

7 Acceptable usage and operating conditions / places of use

Use the product on paved surfaces. Avoid driving on unpaved or loose surfaces (e.g. on loose gravel, in sand, mud, snow, ice or through deep puddles of water), as this may result in incalculable risks.

The product must be equipped in accordance with road traffic regulations when operated on public roads and spaces.

When driving downhill the maximum permitted speed must not be exceeded; if necessary operate the service brake. The appropriate value for your product can be found in the chapter "Technical Specifications".

The driving characteristics and speed parameters can be programmed using the display. The programming has been done at the factory and does not normally need to be adjusted. Changes to the programming may

only be carried out by your dealer or PRO-ACTIV.

The maximum permitted load of the product in its standard design is a 100 kg payload. Individual customisation can be made to accommodate a higher load; this will be indicated on the ratings plate. Please ensure that the load limit indicated on the ratings plate is not exceeded when transporting objects.

 We recommend: Always use the safety pennon or warning flag when participating in public traffic with the product otherwise there is an easy risk of being overseen due to the very low sitting position.



Figure 1: Safety pennon for improving safety in public traffic (fixing to the product frame)

 We recommend: The hip strap prevents the user from slipping forwards (slipping in the riding direction) when travelling and thus offers safe retention in the product



Figure 2: Hip strap for better fixing of the user in the product

8 Technical specifications

8.1 Drive system

The technical specifications, information and instructions about the drive system can be found in the operating instructions from the drive's manufacturer which are included.

The **range** of the drive system varies depending on the terrain driven across and the prevailing driving conditions. With optimum driving conditions (including maximum power transfer of the user via the pedal crank, level ground, fully charged batteries, ambient temperature of 20 °C, smooth driving, maximum tyre pressure, no headwind), the range indicated in the drive manufacturer's operating instructions can be achieved.

A continuously adjustable **speed** of up to 6 km/h can be achieved using the pushing aid or starting assistant – if fitted – without moving the crank. Motor support above this speed is only done with manual rotation of the pedal crank. Motor support is provided up to a maximum speed of 24.9 km/h.

A **maximum speed** (for non-motorised use) is defined on the drive side. If this maximum speed is exceeded, you endanger the electronic components. In a worst-case scenario, they may be damaged. The maximum speed is logged by the system and depends on the selected drive system and the wheel size:

- Neodrives: for wheel size 26" 75 km/h, for wheel size 24" 65 km/h and for wheel size 20" 55 km/h.
- BionX: for wheel size 26" 60 km/h, for wheel size 24" 55 km/h and for wheel size 20" 45 km/h.

8.2 Product weight

The total weight starts from 22.8 kg for the FREAK el. Compact bike and from 23.8 kg with the NJ1 el. Compact bike with the basic equipment.

8.3 Load weight

Maximum load weight:
Up to 100 kg payload

8.4 Ground clearance and turning circle

Ground clearance: from 9 cm for the FREAK Compact bike and from 11 cm for the NJ1 Compact bike

Turning circle:

- approx. 6.5 m without manoeuvring (highly dependent has to how far the leg permits the stop of the steering angle)
- approx. 4 m with manoeuvring (highly dependent on the number of manoeuvres and has to how far the leg permits the stop of the steering angle)

8.5 Basic equipment & dimensions

In the basic equipment, the product comprises a chassis and the drive unit, handles with switching brake fittings, chain shift or hub gear shift integrated in the drive system, infinitely adjustable backrest and rim brake including handbrake locking mechanism including hydraulic disc brakes and drive system.

Dimensions, FREAK el. Compact bike:

Product width: 56 cm (depending on the tyre width)

Product height: approx. 75 cm (depending on the length of the pedal bearing support)

Product length: approx. 185 cm (depending on the wheel size)

Seat width: 35 cm

Grip width: 40-45 cm

Crank length: 135-175 cm

Dimensions, NJ1 el. Compact bike:

Product width: approx. 56-60 cm (depending on the seat width and the tyre width)

Product height: approx. 85 cm (depending on the length of the pedal bearing support)

Product length: approx. 210-220 cm (depending on the chassis length and the tyre size)

Seat width: 39-43 cm

Grip width: 40-50 cm

Crank length: 155-195 cm

8.6 Service life

The service life of the product is 6 years in accordance with the medical products law.

9 Rating plate

The rating plate is located on the pedal bearing or on the product frame. The rating plate includes the precise model, the serial number and other technical specifications.

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

The rating plate includes the following data:



Manufacturer

CE marking

Operating instruction present for the product

Serial number

10 Commissioning

The product will be handed over to you ready for use by a PRO ACTIV dealer or a field representative or by a product consultant from PRO ACTIV. Moreover, the rechargeable batteries and display included in the scope of supply are installed.

Finally, you will be fully instructed in the use of the product based on the operating instructions included in delivery. If you wish (recommended by PRO ACTIV), you will be presented with a record of training and a hand-over certificate as written evidence and in addition the operating instructions and any other accessories for your own use. The form for the record of training and the hand-over certificate can be found in chapters 35 and 36.

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 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 the flat.

11 Hand-over

The hand-over must be done by your dealer or a field representative or by a product consultant from PRO ACTIV. During the hand-over, the record of training (chapter 35) and the hand-over certificate including the associated check list (chapter 36) must be filled in. The dealer should send a copy of the completed documents to PRO ACTIV for filing either as a scanned file via e-mail, by fax or in the post. These documents are available as pdf files which can be completed in the download area at www.proactiv-gmbh.com under the link "more documents >>".

12 Safety instructions – prior to driving / use

 Before every trip, check the condition of the wheels (e.g. visual inspection of the spokes and rims, check the tyres for damage, foreign bodies and crack formation). If you have any doubts about the serviceability of the product, stop using it. In this case, contact your dealer or PRO ACTIV.

 Check tyre pressures at regular intervals. Ensure that you comply with the manufacturer's specifications which can be found on the tyres. Tyre pressure which is too low has a detrimental effect on the driving behaviour and the range of the product.

 Before each trip, check the safe locking of the wheels and adaptation of the drive unit.

 Secure the safety cord to the lever of the eccentric pin. The use without the safety cord attached is not permitted (see chapter 23).

 Before starting your trip, check that all electric plug connectors have a tight fit.

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

 Check the stable condition of the seat and back upholstery at regular intervals and in case of doubt, have your dealer assess its condition.

 Always ensure that your feet cannot slip out off the leg rest and make contact with the drive wheel when using the product, if necessary by using a special fixation device (e.g., using the hook-and-loop straps included in the scope of supply).

 If present, 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 journey and must not be covered by other objects. Especially trips that take place in the dark or in the twilight, the lighting must be functional and visible. For longer trips in the

dark, we recommend that you also take along extra batteries.

 It is recommended that you only take a trip with completely charged batteries. If this recommendation is not followed, you must take into account that the range will be restricted when planning your route.

 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. A alternative to this is a pump spray that fills your tyre with a foam that hardens in the tyre.

13 Safety instructions – while driving / using

 Always hold onto the crank handles with both hands while driving. If the driving situation requires you to take one hand off the crank handles, this is only permitted when the speed has been reduced to the minimum possible beforehand.

 Increase the speed slowly up to the desired speed.

 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.

 When driving round a bend, reduce your speed to a minimum.

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

 You may only drive on slopes where the product can be safely controlled by steering and braking of the product.

 When the drive system is switched on, the smallest movement on the crank handle is converted into a drive command. 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 and keep the crank handles in a vertical position downwards.

 In rooms, tight or dangerous areas or when manoeuvring, the product may only be used with the drive inactive and turned off to prevent unintentional drive signals.

 Do not attach objects (carrier bags, etc.) to the product. These could cause an unwanted drive impulse when stationary and prevent safe operation of the product while driving.

 When driving on areas which are used for pedestrians, observe the maximum permitted speed (walking speed 6 km/h) and keep a sufficient distance (at least the width of the product) from the kerbs or other obstacles and other road users.

 When driving on public roads and paths, the provisions of the German road traffic regulations and road traffic licensing 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., large gravel, potholes) there is an increased risk of puncturing your tyres as well as tipping.

 If you encounter new driving situations which are unknown to you, approach them with great care. If you consider that the risk is too high, you must immediately abort the driving manoeuvre and, if required, call for help to assist you in extracting yourself from this situation.

 You must not make telephone calls while driving. You should also avoid driving near to strong electrical interference fields.

-  The driving characteristics of the product can be influenced by electromagnetic fields which can be produced by mobile phones or other radiating devices. The power supply to the product should be switched off when operating such devices.
-  Operating the product can affect other devices, for example theft protection barriers in department stores.
-  When driving, never jerk the handlebars to the left or the right, as this may cause the product to tip over sideways in certain circumstances.
-  Never turn the product off on upwards or downwards slopes. This could result in dangerous situations to which you can only react with a delay in terms of electrical assistance or virtually not at all by manual means.
-  While driving, never grab onto the area of the 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 and the drive of the product may heat up. Therefore, do not touch the brakes or the drive during or immediately after the trip (e.g., when detaching the drive unit or loading the product).
-  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.
-  The product is only designed to be used to transport persons with limited mobility and must not be used for any other purpose, e.g. by playing children or to transport goods.
-  If the weight load on the drive wheel falls (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.

-  Always check the tight fit of the eccentric pin and the securing cord.
-  Make sure that cables and lines are not kinked or caught up 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.
-  Smoking when riding is forbidden as the seat and back system may be damaged from ash falling down.
-  When the product is exposed to direct sun radiation or low temperatures for longer periods, take note that the parts of the product may become very hot (>41°C) or very cold (<0°C).

14 Safety instructions regarding obstacles

-  Driving on steps with the product is forbidden.
-  Obstacles like curbs, for example, should always be negotiated driving forwards and always using the minimum speed required.
-  The ground clearance is decisive with regard to negotiable obstacle heights. You will find ground clearance in chapter 8.4.
-  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 falling 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. If you approach them at an angle, or only have one rear wheel on the obstacle, there is an increased risk of tipping over to the side which can result in serious injuries to the

user and third-parties as well as damage to the product.

15 Safety instructions regarding dangerous locations and dangerous situations

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

The personal driving skills are particularly important in the following dangerous locations which are provided as examples; the product's 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 which are covered in leaves, snow or ice.
- ramps and lifting equipment on vehicles.

 When driving in a circle 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. Always perform these driving manoeuvres with increased caution and only at slow speed. If required, the driving manoeuvre must not be performed or only with the help of an assistant.

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

 When driving on ramps and lifting equipment on vehicles, extreme caution is needed. During the lifting or lowering operation of the ramp or the lifting equipment, the drive system should be switched off and the service brake operated. In this way rolling away due to unintentional drive commands, for example, can be prevented.

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

16 Safety instructions – after driving / use

 Always turn off the drive system immediately when it is not in use to prevent accidental triggering of a drive signal by touching the crank handle and to prevent the batteries being discharged.

 Always observe the instructions and recommendations in the drive manufacturer's operating instructions concerning charging the batteries.

17 Functional elements

17.1 Pedal bearing support & crank

17.1.1 Seating position

The seating position and therefore the pedal position and the crank length depend on the upper-body stability or the core musculature as well as the body size. A suitable adjustment will have been made during the consultation / measurement procedure.

The pedal position should be selected as low as possible where the cranks however, must not touch the users thigh when it is turning. Moreover, the elbows should not be completely extended when the crank handles point completely forward away from the body and the shoulders should rest against the backrest.

With weak core musculature, the seating position and the crank length should normally

be chosen so that the upper body remains still and always has a fixed contact with the backrest when operating the crank while driving. This is particularly important if you have low seating stability due to missing or weak core musculature. A rocking motion (forwards and backwards) of the upper body or the head should be avoided where possible. For this, the correct setting of the backrest (see chapter 18) and the correct choice of the crank length as well as the pedal position is decisive. If necessary, you should also use a hip strap or chest strap for stabilising.



Figure 3: Elbows are not stretched completely



Figure 4: Distance between the crank and the thigh

⚠ The cranks must not touch the thigh when they are being turned.

⚠ The elbows should not be completely extended when the crank handles point completely forward away from the body and the shoulders should rest against the backrest.

17.1.2 Pedal bearing position

When equipping the product with a **pedal bearing support that cannot be adjusted**, a subsequent adjustment of the pedal bearing position can only be achieved by exchanging the pedal bearing support.

The pedal bearing support can be exchanged by loosening the four M6 fastening screws (AF 5 mm) on the tip fork bridge and the four M6 fastening screws (AF 4 mm) on the pedal bearing housing. Then the new pedal bearing support with another length can be inserted and the 8 fastening screws tightened up to 7 Nm and secured with thread lock fluid.



Figure 5: M6 fastening screws on the top fork bridge

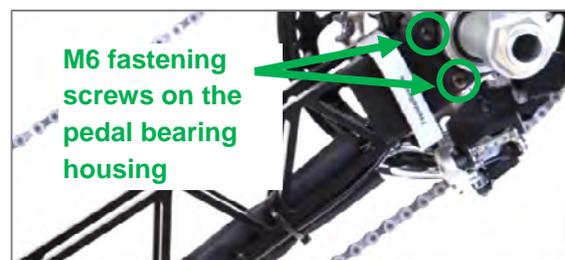


Figure 6: M6 fastening screws on the pedal bearing housing

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

- The angle adjustment is done at the top fork bridge. To do this, loosen the four M6 clamp screws (AF 5 mm), on the clamp slightly so that the pedal bearing 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.

- To adjust the height, two M6 fixing screws (AF 5 mm) must be loosened on the pedal bearing housing. Then the pedal bearing housing can be moved along the pedal bearing 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.



Figure 7: M6 clamp screws for angle and height adjustment of the pedal bearing position

If you want to make a change to the pedal bearing position, please contact your dealer or PRO ACTIV.

⚠ Please note that, after a large adjustment to the chain pedal bearing position, the lines and the cable lengths must be adjusted.

17.1.3 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 pedal bearing shafts and spacers between the crank handles and the rotary axes of the hand grips are available to adjust the **grip width**.

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

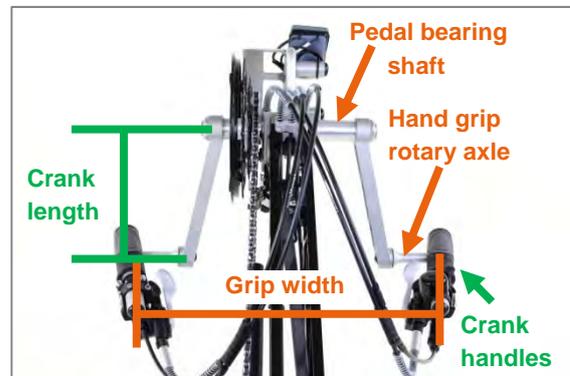


Figure 8: Crank length and grip width

17.2 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 9: Correct grip hold

17.3 Gear shift

17.3.1 Chain shift

For the chain shift, shifting procedures can only occur 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 controls for the gear change are normally designed so that they can be operated using **thumb / index finger switching fittings**. With the 9-speed cassette at the bottom, switching to the next largest sprocket means a lower or easier gear, and to the next smallest sprocket to a larger or more difficult gear. For the 3-speed chain wheels at the top, the behaviour is exactly the opposite.



Figure 10: 9-speed cassette and 3-speed chain wheels

With the thumb / index finger switching fittings, gear changes are achieved by:

- "Thumb switch" – operation by pressing in the direction of travel with the thumb
- "Index finger switch" – operation normally by pulling in the opposite direction to travel with the index finger (alternatively can also be operated with the thumb by pressing against the direction of travel).

There is no display for the gear selected available. There is only an orientation as to which chain wheels / sprocket is currently being used via a display above the handle.

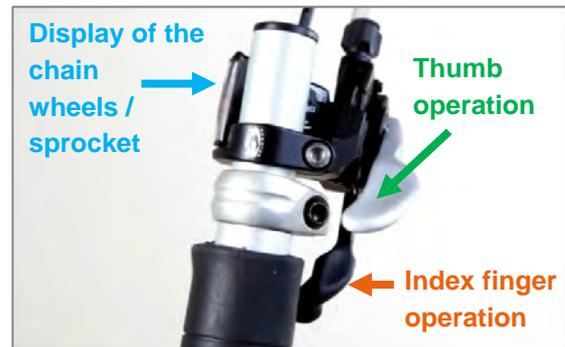


Figure 11: Operation of the thumb / index finger switching fittings

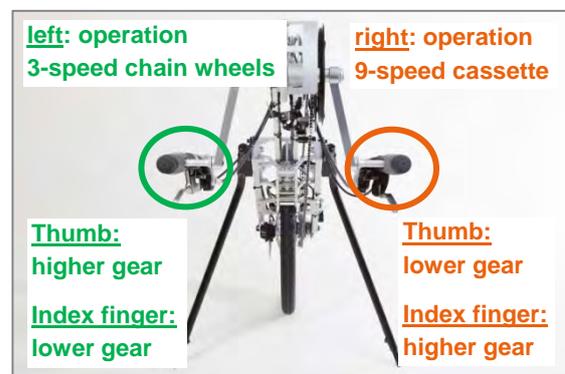


Figure 12: Switching using the thumb / index finger switching fittings

Operation of the chain shift is also possible using a **grip shift** (optional). Here, you can change between the 3-speed chain wheels by turning the left-hand twist grip. On the right-hand grip, you can change between the sprockets in the 9-speed cassette.

There is no display for the gear selected available. You can only read-off which chain wheel / sprocket is currently being used on the twist grips.



Figure 13: Shifting using the twist grip

⚠ When driving up a hill, it should be noted that it is only possible to change using the 9-speed cassette under heavy loads on the chain. Changing using the top three chain wheels is no longer possible if there is heavy tension on the chain. It is therefore important to switch to a smaller chain wheel as a precaution.

⚠ Try to avoid selecting cross gears, as the efficiency and service life of the chain will fall significantly (more information can be found in chapter 33).

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

17.3.2 Hub gears

The hub gears integrated into the **IGH3 3-speed 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. Normally, the hub gears are operated by **turning the twist grip**. The gear selected is shown in the display on the control panel.



Figure 14: Shifting via the twist grip with the IGH3 3-speed hub drive

It is also possible to operate the **IGH3 3-speed hub drive** using the **operating machine** which allows gear changes to be made using the chin (optional). To change up move the gear lever 45° up and to change down move it 45° down. After completing the gear change, the gear lever moves back to its starting position. There is no display for the gear selected available.

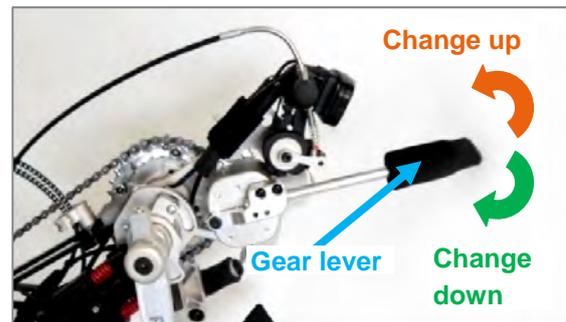


Figure 15: Shifting via the PROACTIV operating machine with the IGH3 3-speed hub drive

With the **IGH2 automatic 2-speed hub drive** integrated in the drive, the shifting is carried out between the gears **automatically**. The shifting is active with the drive system switched on and off. You drive up to 15 km/h in first gear. From 15 km/h, you shift to second gear automatically. There is no display for the gear selected available.

Please refer to the gear or drive manufacturers' instructions for more information about the hub gears.

17.3.3 Pedal bearing gearshift

The pedal bearing gearshift ("Mountaindrive" gear reduction for hills) is switched on by pressing the control buttons on the left and right of the pedal bearing. 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).

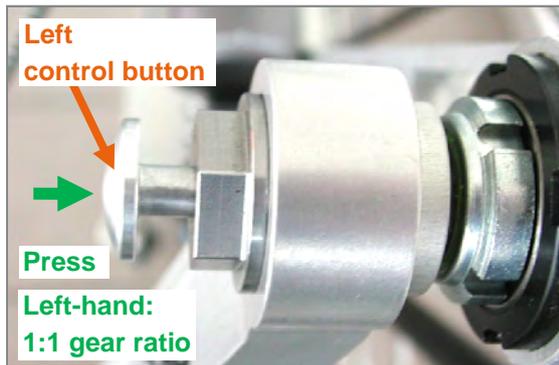


Figure 16: Left control button of the pedal bearing gearshift

The pedal bearing 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 17: Slotted screw to lubricate



Figure 18: Original semi-fluid grease in the syringe

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

17.4 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.

17.4.1 Rim and disc brakes

The brakes are operated using the brake lever.



Figure 19: 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.

⚠ Please make sure that the braking surfaces on the rim, the brake disks and the brake pads on the rim breaks do not come into contact with oils or greases which could otherwise impair the braking effect. If rims, brake discs or brake pads do come into contact with oils or greases, the brake pads must be replaced and the brake disc and rim must be professionally cleaned with brake cleaner (e.g., Weicon surface cleaner).

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

17.4.2 Parking brake

Using the **aluminium bracket** which is attached to the pedal bearing support, 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 20: Aluminium bracket as a parking brake

As an option, the **parking brake** can be selected via the **operating handle operated**. The parking brake is implemented via the mounted rim brake. The operation of the parking brake is carried out using an operating lever on the pedal bearing support. If the operating lever is pressed to the left, the rim brake is activated. When pressed further to the left, the brake force increases even more. If the operating lever is pressed to the right, the rim brake is opened again.



Figure 21: Parking brake can be operated from the operating lever (opened)

17.5 PRO ACTIV back-pedal brake & crank release function

17.5.1 Operation

The PRO ACTIV back-pedal 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.

To adapt the system to your body weight and the physical limitations of the driver, the springs of the system are available in three strengths. These can also be replaced retrospectively. Contact your dealer immediately who will arrange the replacement of the springs by PRO ACTIV.

The back-pedal brake is delivered with a crank release function which allows reverse driving and manoeuvring via the running wheel or by supporting on the ground. As: For functional reasons, the back-pedal brake always acts as soon as the product moves backwards. Therefore, the driver must first unlock the reverse movement 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.



Figure 22: Generator unit PRO ACTIV back-pedal brake

17.5.2 Operation

The **brake** is operated by pushing the cranks backwards. The brake force applied is adjusted by the strength of the backwards movement of the cranks.

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-pedal brake, the right-hand pressure plate must be operated.

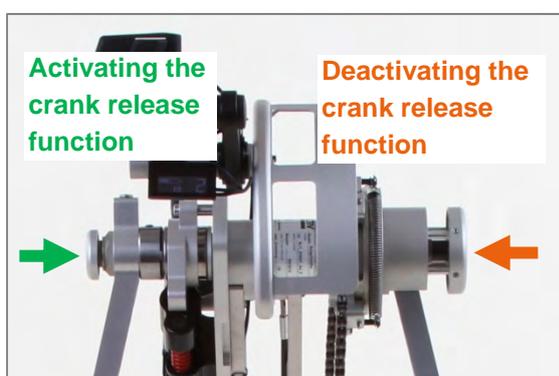


Figure 23: Left- and right-hand pressure plates

17.5.3 Safety instructions

Before every trip, perform a brake test while stationary by moving the cranks with the normal operating force in the opposite direction 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. Measure the pad thickness at the thinnest point.

Do not drive if your brake system is faulty in one of the previously listed points. Contact your dealer immediately who will arrange maintenance by PRO-ACTIV.

17.6 Battery pack

17.6.1 General instructions

Please refer to the accompanying documentation from the drive manufacturer concerning the handling as well as the insertion and removal of the battery.

Improper handling of the battery can cause electrolyte fluid to leak. This can cause skin injuries or damage to clothing. If skin or eyes come into contact with the electrolyte fluid, they must be rinsed with pure water and a doctor consulted immediately.

The batteries may not be exposed to fire or burned. This could cause them to explode.

The contacts of the batteries must not be short-circuited. A short-circuit causes very high currents which could damage the batteries and / or the product.

The product's batteries may only be charged using the original charger from the manufacturer which was supplied. They can be charged in any position.

After the end of the journey, the batteries should be fully charged.

17.6.2 BionX drive systems: Exchange plug connector as switching solution

On the BionX drive system, the exchange plug can be switched between both rechargeable batteries "Battery 1" and "Battery 2".

The following figure shows the initial position of the exchange plug connection when Battery 1 is connected. In doing so, the slider is at position "Battery 1". This position is visible when the arrow on the rail points to "Battery 1". The eccentric lever is in the locked position.

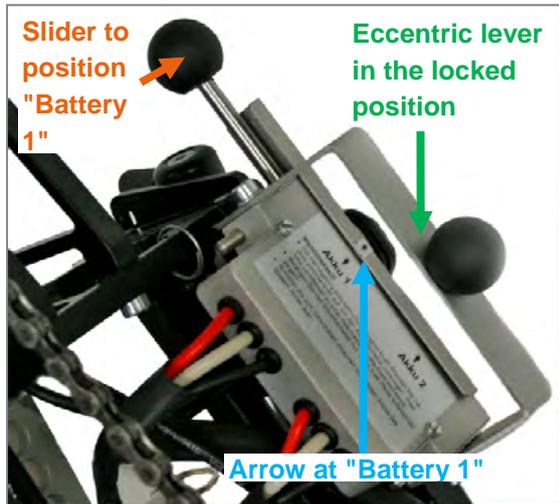


Figure 24: Initial position "Battery 1" connected with eccentric lever in locked position

In order to switch from Battery 1 (when it is empty) to Battery 2, first switch off the drive system in the display and then move the eccentric lever over to the switching position (or unlocked position).

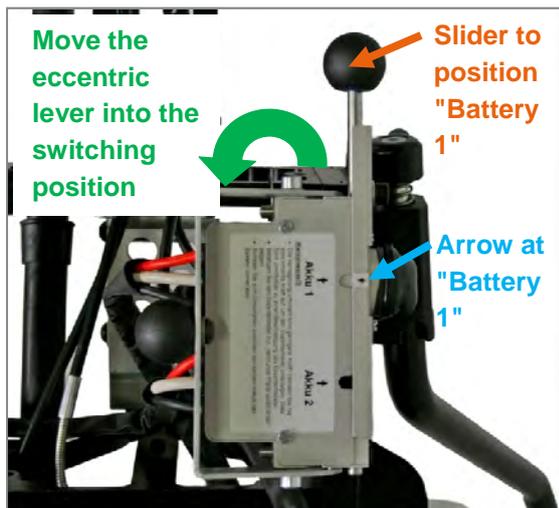


Figure 25: Eccentric lever in the switching position

When the eccentric lever is moved over, now you can move the slider to position "Battery 2". Move this until you can feel it at the end stop. Now the arrow on the rail accurately points to "Battery 2".

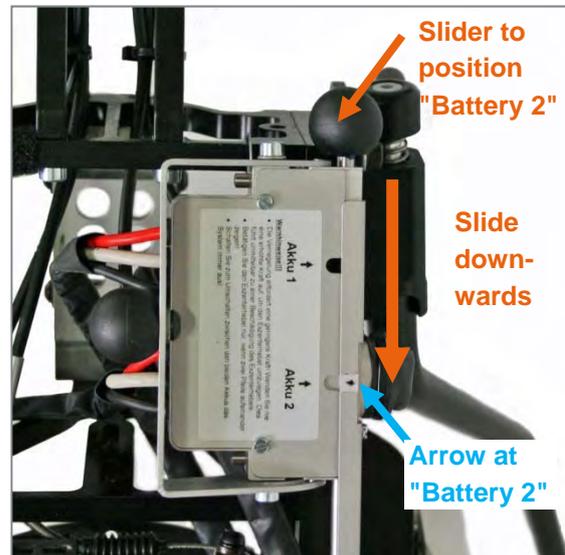


Figure 26: Slider to position "Battery 2"

At the end stop, you can lock the eccentric lever again. Apply a little force to lock it. If increased force is required, the slider is not in the correct position. In this case, correct the position of the slider before locking the eccentric lever.

⚠ Never apply an increased force to move over the eccentric lever. This would lead to immediate damage to the eccentric lever.

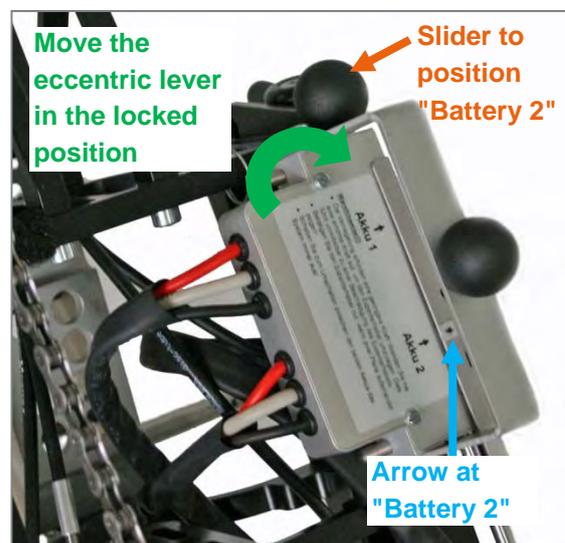


Figure 27: Position "Battery 2" connected

Then switch the drive system back on via the display.

In order to switch from Battery 2 to Battery 1, follow the following description:

- Switch off the drive system
- Move the eccentric lever into the switching position
- Move the slider to position "Battery 1"
- Move the eccentric lever in the locked position
- Switch on the drive system

 Operate the eccentric lever only when the arrow on the rail points precisely the position "Battery 1" or "Battery 2".

 When switching between the batteries, always switch the drive system off.

17.7 Drive system & components

17.7.1 Starting assistant for BionX drive systems

The starting assistant up to 6 km/h is activated via an operating switch. The operating switch is either mounted on the handle or below the display for operating with your thumb, or on the pedal bearing housing for operating with your chin. In doing so, the operation is carried out by pressing the operating switch with your thumbs, or by pressing the chin control upwards. The further the operating switch is pressed in, the stronger the starting is assisted.



Figure 28: Thumb control on the handle



Figure 29: Thumb control underneath the display

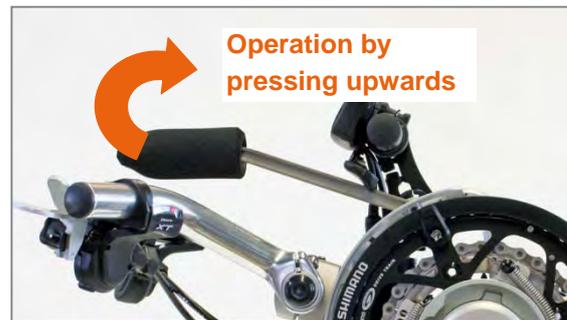


Figure 30: Chin control

As opposed to the standard settings that are specified in the operating instructions of the drive manufacturer, the starting assistant can be activated at the following speeds:

- With BionX IGH3 and IGH2 Automatic:
from 1 km/h
- With all other BionX drives:
from 0.5 km/h

This basic speed for the activation of the starting assistant is a safety factor in order to avoid unwanted drive signals when standing in front of hazardous locations, such as for example, on a junction or at traffic lights.

17.7.2 Starting assistance (pushing aid) with neodrive drive systems

Pushing aid forwards up to 6 km/h is activated by keeping the upper arrow button  pressed for >2 seconds.

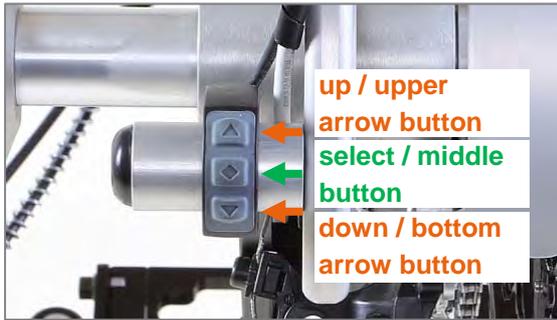


Figure 31: Buttons of the operating satellites

The **Pushing aid backwards up to 1.5 km/h** can be activated via the menu of the display. For this purpose, keep the button in the middle (rhombus ◊) of the operating satellites pressed for three seconds. By pressing the arrow buttons (arrow downwards ▽ and upwards △) you access the **"Menu"** – this can also be selected by pressing the button in the middle (rhombus ◊).

By navigating with the arrow buttons (arrow downwards ▽ and upwards △), you can access the menu item **"Pushing aid"** – this is also selected by pressing the button in the middle (rhombus ◊).

Now the pushing aid can be activated where **"On"** can now be selected (arrow downwards ▽ and upwards △ > rhombus ◊).

In order to return to the start display, **"Back"** must be selected twice in the menu and confirmed each time with the button in the middle (rhombus ◊).

Now the **Pushing aid is active** and can be activated backwards by pressing the bottom arrow button (arrow downwards ▽). During the assistance, the bottom arrow button must be kept pressed. The pushing aid can be activated from 0 km/h. If the bottom arrow button is no longer pressed, there is no assistance any more.

 When you operate the pushing aid backwards, observe the following:

- one hand must guide the cranks backwards in order to prevent the crank from falling downwards or to the back, and to specify the correct direction of travel.

- the hand that guides the crank must always be ready for braking.
- if the product is equipped with a back-pedal brake, the crank release function must be activated otherwise the brake blocks when travelling backwards.

In order to return to normal driving mode with crank movements, the pushing aid must be deactivated. This is also carried out in the same order via the specified menu items. **"Off"** then has to be selected in the menu under the pushing aid.

 The product must be stationary for switching the pushing aid on and off via the menu.

17.7.3 Components and manufacturer instructions

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

In the download area of www.proactiv-gmbh.com 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:
<http://si.shimano.com>

Magura components:
<http://www.magura.com/de/bicyclecomp/produkte/downloads.html>

Mountain Drive pedal bearing gear shift:
<http://www.haberstock-mobility.com/de/produkte/schlumpf-getriebe/schlumpf-mountain-drive.html>

BionX drive system:
<http://www.bionxinternational.com/de/service/downloads/>

neodrives drive system:

<http://www.neodrives.com/de/service/downloads.html>

Sigma:

<http://www.sigmasport.com>

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

18 Backrest

18.1 Angle adjustment of the backrest

For adjusting the angle of the backrest, open the clamp lever by turning counter-clockwise (a half to a complete rotation). Then the backrest can be moved forwards or backwards. The length of the backrest support changes during the movement of the backrest.

Once the desired angle of the backrest is set, hold the backrest in this position and then close the clamp lever again clockwise with a half to complete rotation.

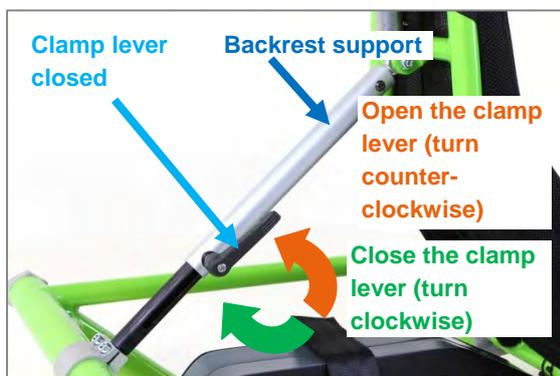


Figure 32: Angle adjustment of the backrest via the clamp lever

i If the clamp lever rests on the frame of the product when turning, you have the option of pulling the clamp lever out vertically to the rotating axis and to let go into another angled position via the integrated serration, and keep on turning.

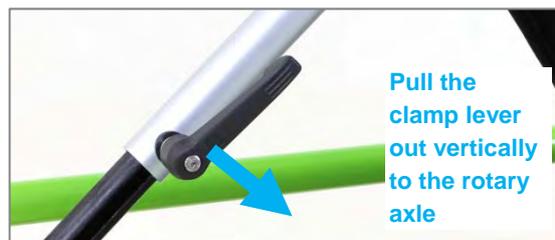


Figure 33: Put the clamp lever in another angled position by pulling out

! After every adjustment, check that the backrest is firmly attached in its position.

! When adjusting the angle of the backrest, make sure that the backrest does not rest against the rechargeable battery.

18.2 Longitudinal positioning of the backrest



Figure 34: Clamp for the longitudinal positioning of the backrest

The longitudinal positioning of the backrest (or distance for the backrest to the pedal bearing) can be carried out by undoing two M6 fixing screws (AF 5 mm) each on the right and left side of the product frame. After undoing a total of four M6 fixing screws (AF 5 mm), both clamps on the product frame can be moved to the desired position.

In doing so, take note:

- when the product is equipped with seat upholstery "Open belt system", the backrest can be pushed forwards and backwards. when equipped with seat upholstery "Body Contour", the backrest can only be pushed backwards so that the distance between the backrest and the pedal bearing is increased.
- The clamps on the right and left side must be positioned at the same height of the product frame.
- The wires must be routed in such a manner that these cannot be bent, crushed or damaged. Moreover, the wires must not protrude beyond the bottom edge of the frame otherwise damage being caused to the cable when overcoming obstacles cannot be ruled out.



Figure 35: Longitudinal adjustment of the backrest via M6 fixing screws and clamps on the frame of the product

Once the desired longitudinal position of the backrest has been found, the four M6 fixing screws (AF 5 mm) are tightened to 7 Nm again and secured using screw locking fluid.

⚠ After an adjustment of the longitudinal position of the backrest, a check should be made if the seat system should be changed with regard to the new dimension.

19 Seat system

The seat system generally either comprises a spring suspended Body Contour seat upholstery or an open belt system.

With a seating system from **Body Contour seat upholstery**, there is no adjustment option. The Body Contour seat upholstery has a springing effect and when seating., automatically forms a slack.



Figure 36: Body Contour seat upholstery

The **open belt system** can be subsequently adjusted. The slack of the seating surface can be changed using fleece hook-and-loop straps.



Figure 37: Open belt system with fleece hook-and-loop straps for adjusting the slack

⚠ With "Open belt system" seating system: when adjusting the slack of the belt system, take care that the slack does not protrude beyond the lower edge of the frame. Otherwise when overcoming obstacles, you may get caught the belt system and your bottom that may result in injury and damage to the belt system. The product may not be operated with damaged seating system.

i It is mandatory to use a seat cushion on the seating system. At cold temperatures, the seat cushion prevents lower abdomens from undercooling and protects against dirt and wetness. Moreover, the seat cushion also ensures for equal pressure distribution.

20 Neck rest

20.1 Neck rest height adjustment

To adjust the height of the neck rest, two M6 fixing screws (AF 5 mm) have to be loosened on the neck rest holding tube. Then the height of the neck rest holding tube can be adjusted. Once the desired height has been found, the two M6 fixing screws (AF 5 mm) are tightened to 7 Nm again and secured using screw locking fluid.



Figure 38: Height adjustment of the neck rest via two M6 fixing screws on the neck rest holding tube

20.2 Neck rest angle adjustment

The angle adjustment of the neck rest is carried out via the clamp lever on the neck rest holding tube. Open the quick release lever and set the neck rest padding to the desired angle. Then close the quick release lever again.



Figure 39: Quick release lever closed



Figure 40: Quick release lever opened for adjusting the neck rest angle

! After every adjustment, check that the neck rest is firmly attached in its position. If necessary the tension can be adjusted by turning the nut of the quick release lever clockwise until it reaches the end stop.



Figure 41: Nut of the quick release lever

21 Collision guard



Figure 42: Collision guard

21.1 Collision guard mount

To remove the collision guard, both M6 fixing screws (AF 4 mm) are undone on the right and left inlet. Now the collision guard can be removed from the inlet.



Figure 43: M6 fixing screws on the clamp on the axle tube



Figure 45: M6 fixing screws on the clamp on the axle tube

21.3 Adjusting the length of the collision guard

When mounting running wheels with another tyre size, the length of the collision guard may have to be adapted. For this purpose, undo both M6 fixing screws (AF 4 mm) on the right and left inlet. Now the collision guard can be pushed along the inlet and another borehole can be used for the fixing screws.

21.2 Mounting the collision guard

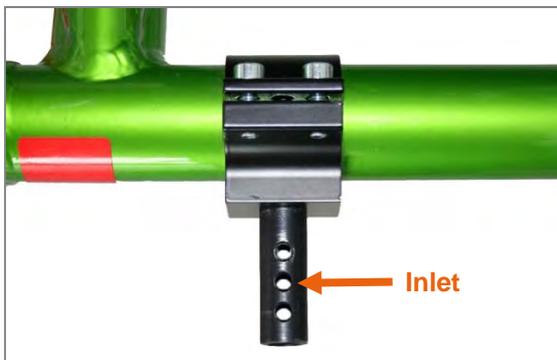


Figure 44: Inlet of the collision guard with several boreholes



Figure 46: Inlet with several boreholes

For mounting the collision guard, the collision guard is pushed onto both inlets. In doing so, ensure for the correct position of the collision guard on the inlet as there are several boreholes on the inlet. Then both M6 fixing screws (AF 4 mm) are tightened to 7 Nm and secured with thread lock fluid.

Once the correct position of the inlet has been found, both M6 fixing screws (AF 4 mm) are tightened to 7 Nm again and secured using screw locking fluid.

22 Running wheels

22.1 Removing and attaching the running wheels



Figure 47: Locking knob in the middle of the wheel axle

To **remove the running wheels** grip through the spokes around the wheel hub with your fingers. By pressing the locking knob in the middle of the wheel axle with your thumb, the wheels can then easily be removed.

When **attaching the running wheels** the locking knob also has to be pressed. Special attention should be paid here to ensure that the knob springs out again after attaching the wheel as otherwise it is not secured. You will know that if you can see the index groove.



Figure 48: Quick release axle with index groove

⚠ Before using the product, check if the running wheels are secured and that the quick release axles are locked.

22.2 Checking and setting the wheel tracking

Well adjusted wheel tracking significantly improves the easy running characteristics of the product. To **check** the tracking, proceed as follows:

Position the product on a flat surface and apply the parking brake.

Measure the axle heights (from the ground to the drive running wheel axle) and write this dimension onto both tyres at front and back (on the tread of the tyre).



Figure 49: Drawing the axle height on the front and back of both tyres of the running wheels

Afterwards measure the distance between the running wheels front and back at the height of the axles along the markers. Ideally, the distance between both running wheels should be the same size at the front and back. In general, it can be said that the distance between the running wheels at the front and back may not be larger 5 mm. If this is not the case, the wheel tracking needs to be corrected.

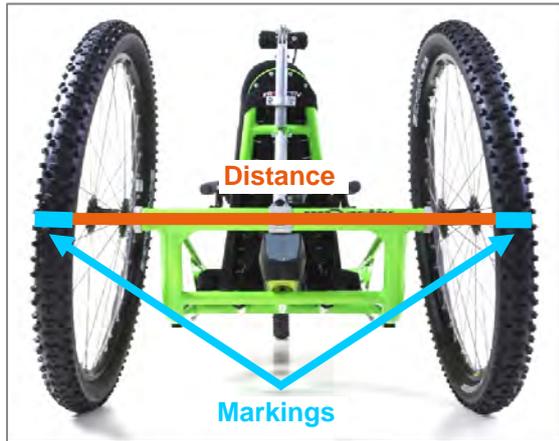


Figure 50: Distance between the markers on the tyres (at axle height), back

To **adjust the track** proceed as follows:

1. Loosen the aluminium locking nuts on both sides (AF 41 mm).

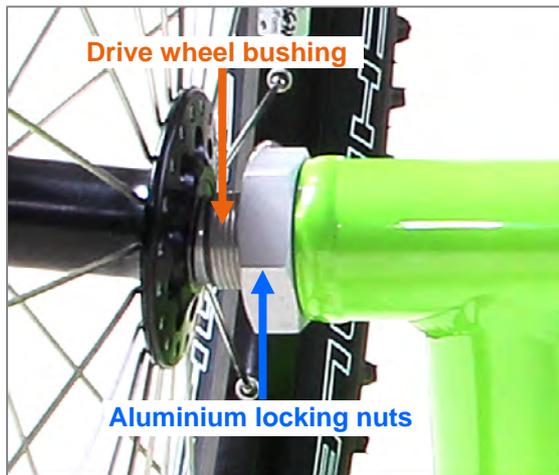


Figure 51: Drive wheel bushing and aluminium, locking nut, product view from behind

2. Correctly adjust the track by turning the drive wheel bushing (AF 24 mm). Here it can be said that: If you turn the drive wheel bushing in the direction of travel, the track at the front will become more narrow. When turning against the direction of travel, the behaviour is exactly the opposite.
3. Make sure that the distance at the front to the frame on the right and left is the same.

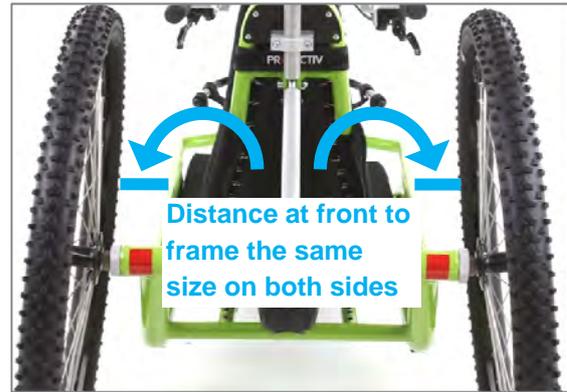


Figure 52: Distance at the front to the frame

4. Check by measuring the distance between the running wheels at the front and back again at the axle height (along the markers) so that the distance between the running wheels at the front than at the back is no more than 5 mm.

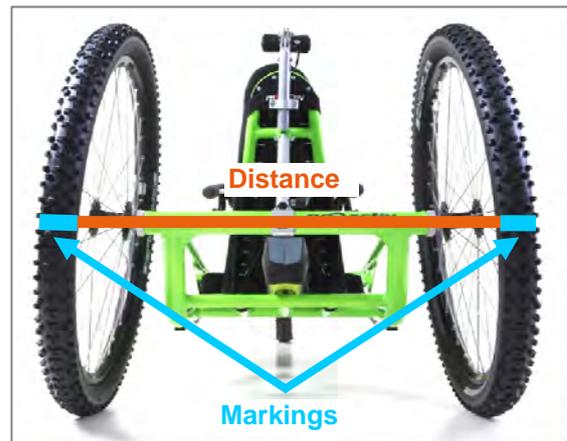


Figure 53: Distance between the markers on the tyres (at axle height), back

5. If all the distances are correct, then use an open-ended spanner (AF 22 mm) to hold the running wheel bushing in position and tighten the aluminium locking nut (AF 41 mm) with a tightening torque of 70 Nm.

23 Adaptation and decoupling the drive unit

23.1 Safety instructions

 The adaptation and uncoupling of the drive unit may only be performed when the drive system is switched off in order to prevent unintended drive signals.

 The drive system may only be switched on after completing the adaptation process.

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

23.2 Terminology

The product comprises drive unit and product frame. The product frame is also designated as chassis. The insertion shaft is located on the adapter plate of the chassis.



Figure 54: Insertion shaft on the chassis adapter plate

The insertion maul – the counter item for the insertion shaft – is located on the adapter plate of the drive unit.

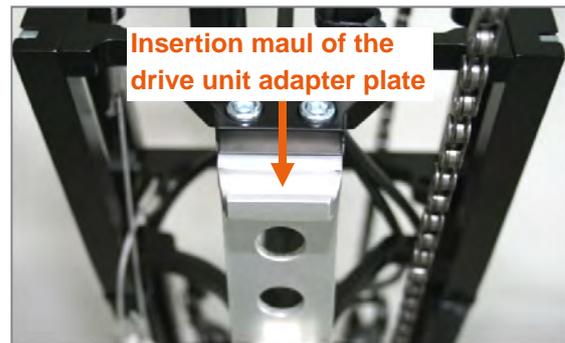


Figure 55: Insertion maul of the drive unit adapter plate

23.3 Adapting the drive unit

For adapting the drive unit to the chassis, first operate the parking brake. Hang the insertion maul of the drive unit adapter plate to the insertion shaft of the chassis adapter plate. In doing so, the drive shaft must be raised a little to allow the insertion maul of the drive unit to slip under the insertion shaft on the chassis.



Figure 56: Lifting the drive wheel



Figure 57: Insertion maul of the drive unit slips under the insertion shaft on the chassis

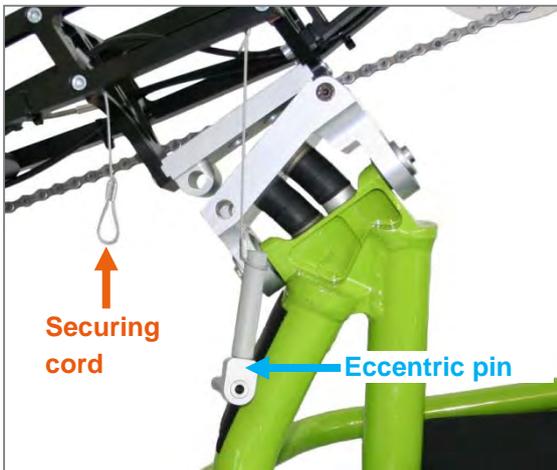


Figure 58: Insertion maul of the drive unit hung into the insertion shaft on the chassis, eccentric pin not inserted yet

Finally, the chassis is raised at the front or the drive unit is raised on the pedal bearing housing that the adapter plates of the drive unit and chassis can completely rest on top on one-another. In doing so, make sure that the insertion maul and the insertion shaft stay in position.

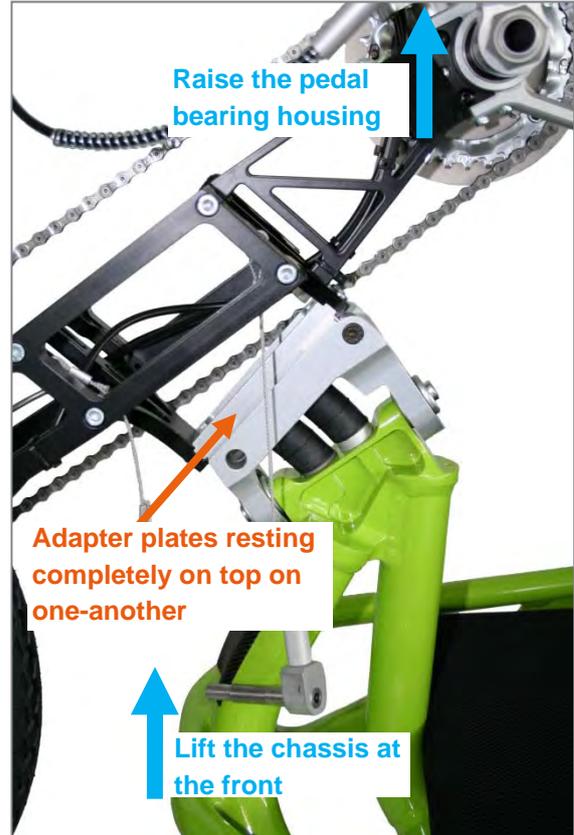


Figure 59: Adapter plates of the drive unit and chassis resting on top on one-another

Now the eccentric pin must be inserted on the left side in the direction of travel, and the lever of the eccentric pin must be turned upwards approx. 90° counter-clockwise. Finally, the securing cord is hung onto the lever of the eccentric pin.



Figure 60: Eccentric pin inserted

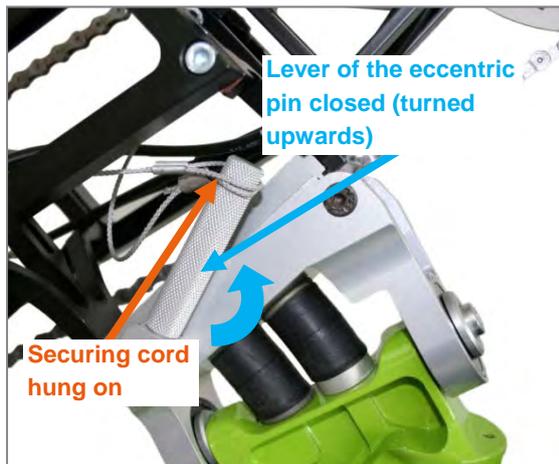


Figure 61: Drive unit adapted completely

Finally, route the wire along the guides of the drive unit and plug the electric connectors together.



Figure 62: Plug connections plugged together

23.4 Decoupling the drive unit

For decoupling the drive unit from the chassis, first operate the parking brake. Disconnect the plug connectors and remove the cable section that is connected to the rechargeable battery from the guides of the drive unit and place this on the chassis.



Figure 63: Disconnect the plug connection

Then remove the securing cord from the lever of the eccentric pin and turn the lever of the eccentric pin clockwise by approx. 90°.

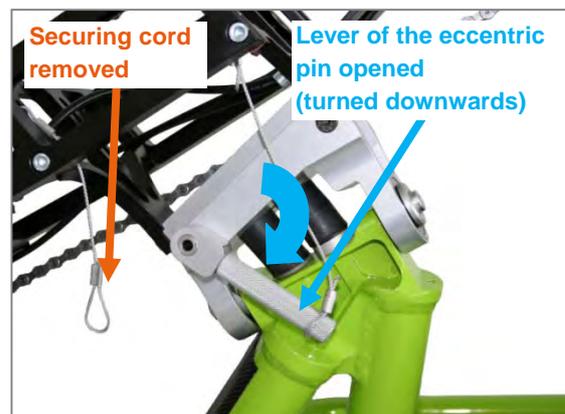


Figure 64: Lever of the eccentric pin opened and securing cord removed

Now the eccentric pin is removed from the adapter plates. For easier handling, raise the drive unit on the pedal bearing housing slightly in the process. After removing the eccentric pin, the chassis is lowered to the ground automatically.

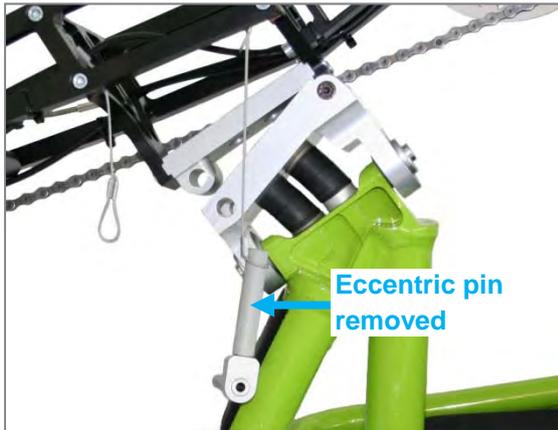


Figure 65: Eccentric pin removed from the adapter plate, chassis lowered to the ground

Now lift the drive wheel a little and hang the insertion maul of the drive unit adapter plate out of the chassis.



Figure 66: Lifting the drive wheel

Now the drive unit is separated from the chassis. This allows a favourable packing size for transporting the product.



Figure 67: Pack size: Chassis and drive unit separated and running wheels removed

24 Storage

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

For storage, please also observe the instructions in the other sections of these operating instructions and in the component and drive manufacturers' instructions included with the delivery, in particular the points about the batteries and the electrical drive.

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

⚠ When the batteries are stored or taken out of use, these may only be stored with a charge status of between 70 % and 100 %, they must be charged to 70 % at least every two months. Before re-use, the batteries must be completely charged.

25 Transport

When loading or transporting, the product can be held on the pedal bearing support and product frame.

⚠ To reduce the weight when loading, the batteries 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 (e.g. by falling over) and do not become a hazard to persons or other products.

 When loading make sure that the cables and lines are not caught up, become kinked or otherwise damaged. The product may not be used with damaged cables and / or lines.

The lithium batteries used are classified as hazardous goods for transport by air. It is not permitted to claim that there is a right to transport them by air. The decision about the transport is the sole responsibility of the airline and this should be discussed in advance of the flight or the booking.

26 Malfunctions

In the event of any malfunctions which cannot be solved by yourself based on the operating instructions included in the scope of delivery, please contact your specialist retailer or PRO ACTIV directly.

 Malfunctions must be solved before any further use or, if they occur during the journey, this must be interrupted immediately.

27 Cleaning and care

Regular cleaning of the product is prescribed to prevent the components becoming clogged up due to dirt. Moreover, regular cleaning prevents corrosion and increased wear. 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.

For all cleaning processes, only use commercially available, household cleaning agents. Do not use any abrasive cleaning agents or aggressive, acidic cleaners, to prevent scratching or fading of the coating or the anodised parts.

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

Drive and grip units, as well as the batteries, may only be cleaned by rubbing off with a damp (not wet) cloth. Always work with just a little water and keep water away from the electrical contacts.

The drive wheel should be regularly cleared of contamination. It is recommended that you use a soft sponge or a soft brush. The quick release axles should be cleaned approx. every 8 weeks and lubricated with a little lubricating oil with high corrosion protection properties (e.g., Neoval MTO 300).

Use only water and soap to clean the seat and back padding.

After cleaning, check to make sure that the plug connectors are not damp and, if required, allow them to dry before re-starting the product.

In addition, the plug connectors should be lubricated with petroleum jelly after cleaning to protect them against corrosion and moisture.

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

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

28 Maintenance

28.1 General instructions

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

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

⚠ When maintaining the brakes, the switching components and the gear components, it is imperative that the operating instructions of 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 dealer or PRO ACTIV.

Tightening torques and securing details for fastening elements as shown in the table in chapter 34 must be observed.

28.2 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 the function and ease of running of the quick release axles on the running wheels.
- Check the cable housings are seated correctly and tightly in the gear cable holders.
- Cables and lines should be checked for kinks and crushing.
- Check the brake pads.
- Check the plug contacts of the drive system; if required clean with a soft, dry brush and re-grease (using petroleum jelly).
- 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 dealer or PRO ACTIV. Service and repair work on the product may only be carried out by your 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 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 37.

Subsequent inspections are then always performed after 1,000 kilometres running or after a period of 1 year (whichever comes first). The maintenance schedule can be found in the inspection lists in chapter 37.

After extreme loads, e.g. during holidays where the product was used on sand, near sea water or in snow, it is recommended that an additional deep clean and inspection is performed by your dealer or PRO ACTIV.

To maintain the operating licence and 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.

28.3 Proof of maintenance

To provide proof of the maintenance, you can use the inspection lists in chapter 37. The inspection lists are also available as pdf files which can be filled in within the download area of www.proactiv-gmbh.com under the link "more documents >>". In any event, keep all documents / service reports as a means of

proof, and get any service work which was not carried out by PRO ACTIV documented.

Please bring these operating instructions / service booklet to every service.

29 Disposal & Recycling

At the end of the service life, the product can be disposed of by PRO ACTIV or your 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 section, you will find a description of the materials for the disposal and recycling of the product and its packaging:

Aluminium: frame, rims, leg rest, tube plugs

Steel: fixing points, quick-release / screwed axle, screws, nuts

Plastic: handles, quick release lever, tube plugs, tyres, bags for packing

Synthetic fibres and foam: padding, covers

Cardboard / paper: packaging

30 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 dealer. Your product can then be simply and economically re-used.

Before any re-use, a safety check must be carried out on the product by PRO ACTIV. In addition to the instructions contained in chapter 27 (Cleaning and care), a thorough cleaning of the grips, all controls as well as the battery housing must be carried out.

Before the product can be reused, it must be prepared with care. A disinfection agent must be sprayed onto all surfaces that the user may make contact with. For this purpose, a liquid disinfection agent based on alcohol must be used for the quick residue-free disinfection (e.g., Exporit 4712). Please observe the manufacturers instructions for use for the disinfection agent that you use. In general, a complete disinfection cannot be guaranteed on the seams. We therefore recommend that you dispose of the seat and rear padding.

This will also be done by PRO ACTIV as part of the safety check. The safety-related check must be initiated by the funding provider.

Moreover, in event of wear or due to adaptation to the user groups, such as the seat and back system, you can adapt or change using the modular system.

31 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.

With regard to the warranty and guarantee for the drive system, please refer to the operating instructions of the drive manufacturer.

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

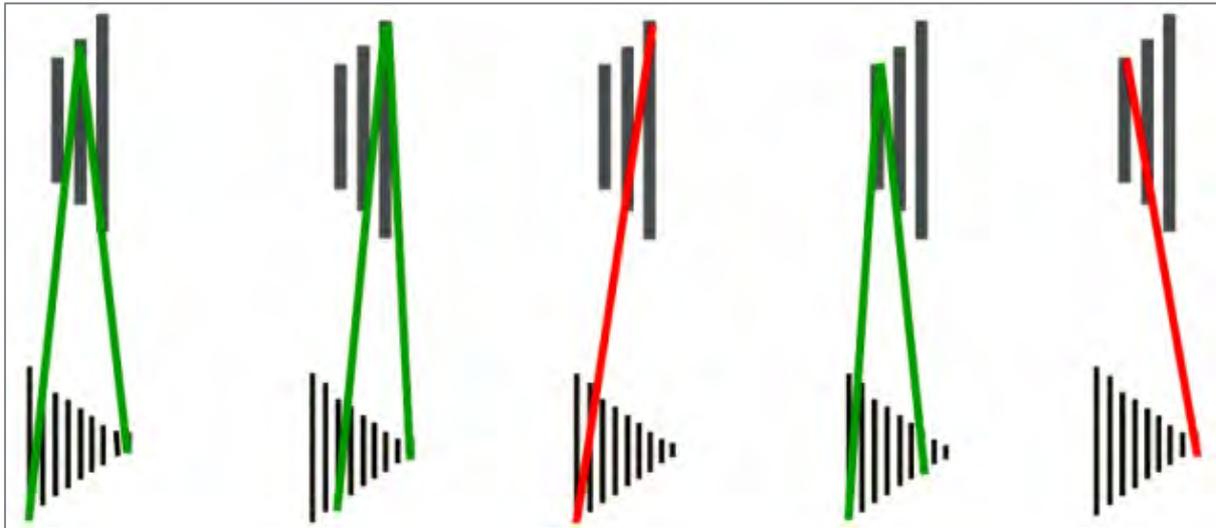
32 Liability

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 contrary to the instructions in these operating instructions
- repairs or other work are carried out by non-authorised persons
- third-party parts are installed or connected to the product
- changes are made to the software

Further information can be found in PRO ACTIV's general terms and conditions at www.proactiv-gmbh.com.

33 Appendix: Avoiding crossed gears with the chain shift



from the middle chain wheel, you can switch to all 9 sprockets

from the large chain wheel, you can switch to the small sprockets (1-7)

from the large chain wheel, you should **not** switch to the large sprockets (8+9) = **crossed gear**

from the small chain wheel, you can switch to the larger sprockets (9-3)

from the small chain wheel, you should **not** switch to the smallest sprockets (1+2) = **crossed gear**

34 Appendix: Tightening torques, securing details and tools

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

Dimension	Torque MA in Nm depending on how tight the screws are	
	Stability 8.8	Stability 10.9
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 AN302-42), 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
Special tool for setting the wheel position Open-ended spanner AF 22/24 mm + 41 mm	8000 900 025
Care kit for PRO ACTIV wheelchairs and handbikes Assembly paste (dosing spray 10 g), Neoval oil (spray 100 ml), Thread lock fluid, medium strength (Pen-System 10 ml), Surface cleaner (spray 150 ml), terminal grease (tube 50 ml)	8000 900 026

35 Appendix: Medical product passport / record of training

Product specifications:

Serial number: _____

Customer data:

Surname, forename: _____

Street: _____

Postcode, city: _____

Phone: _____

Paying organisation: _____

Training carried out by:

Medical supplies dealer

PRO ACTIV field representative

Stamp / Date / 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 operating 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 is recorded in the feedback system of PRO ACTIV Reha-Technik GmbH, as the manufacturer of the above named product. It will be managed in accordance with Section 16 BDSG (Federal Data Protection Law).

36 Appendix: Hand-over certificate

36.1 Required compliance criteria to authorise use

Topics	Completed / 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 operating instructions (see the Product description / intended use chapter).		
The product's equipment is suitable to allow the customer safe use with maximum reduction of risks (see check list on the following page).		
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 operating 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.		

36.2 Check list for training the user

Topics	Completed / fulfilled
Advised of the applicable legal regulations when driving on public roads.	
All mechanical and electrical functional controls were explained and their function demonstrated.	
Adaptation and uncoupling the drive unit to / from the chassis was demonstrated and then performed by the user themselves and / or their assistant.	
Use of the parking brake and the service brakes was demonstrated and then performed by the user themselves and / or their assistant.	
Operation and basic settings on the display / operating console were demonstrated and then performed by the user themselves and / or their assistant.	
How the starting assistant / pushing air – if fitted – was demonstrated and then performed by the user themselves and / or their assistant.	
Operation of the drive system and the reaction of the drive system to the various settings was demonstrated and then performed by the user themselves and / or their assistant.	
Removal and insertion of the operating console and the rechargeable batteries as well as operation of the exchange plug connection as switching solution – if fitted – was demonstrated and then performed by the user themselves and / or their assistant.	
Handling and charging the batteries as well as the charger functions were demonstrated and then performed by the user themselves and / or their assistant. The instructions about charging the batteries during a prolonged period of non-use / storage of the product are important here.	
The operation and function of the gears was demonstrated and then performed by the user themselves and / or their assistant.	
The operation of the lights – if fitted – was demonstrated and then performed by the user themselves and / or their assistant.	
Adjustment of the backrest, the seating system and the neck rest was demonstrated and then performed by the user themselves and / or their assistant.	
Removal and installation of the collision guard – if fitted – was demonstrated and then performed by the user themselves and / or their assistant.	
Removal and installation of the running wheels was demonstrated and then tested by the user themselves and / or their assistant.	
Test drive: Forwards and, if required, backwards travel through 4 cones spaced at 1.5 m or 2 m	
Test drive: Driving on the level, uphill and downhill in the direction of travel	
Test drive: Emergency stop from high driving speed	
Information for care, cleaning and maintenance of the product have been provided and understood by the user and / or assistant.	
Information on the wheels with regard to inflation pressure and tread depth and checking the quick release axles have been provided and understood by the user and / or assistant.	
Information on regular checks of the brakes have been provided and understood by the user and / or assistant.	
Information on checking the gears including cables and lines and the maintenance of the chain have been provided and understood by the user and / or assistant.	
The contents of the operating instructions from PRO ACTIV and the other component manufacturers were completely worked through based on the product training and were understood by the user and / or assistant.	

The 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".

Subsequent inspection: After a further 1000 km or 1 year after the last inspection or after heavy use

Kilometre reading: _____	OK / carried out	not OK	resolved
Check all screws / fastening elements are firmly seated	<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"/>
Visual inspection of the frame and attachments for crack formation, deformation, etc.	<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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check, adjusting, cleaning and oiling the gear components including pedal bearing gearshift (if fitted)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check the capacity of the battery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check the electrical connections	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check of the control parameters and functionality of the drive system, software update if necessary	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check the spoke tension of the drive wheel and, if required, correct the tension / re-centring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Functional and safety check of the running wheels and drive wheel, where necessary, replacement of the tyre on the product	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check the wheel track of the running wheels and that the drive wheel bearings are firmly seated (tightening torque 70 Nm)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Functional and safety check of the back and seating system including neck rest (if fitted)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Functional and safety check of the leg rest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Functional and safety check of all lights (if fitted), steering and adaptation of the drive unit to the chassis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test drive / functional test	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

resolved = the fault was corrected

Comments:

Stamp:

Date / Signature

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Functional and safety check of the running wheels and drive wheel, where necessary, replacement of the tyre on the product	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check the wheel track of the running wheels and that the drive wheel bearings are firmly seated (tightening torque 70 Nm)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Functional and safety check of the back and seating system including neck rest (if fitted)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Functional and safety check of the leg rest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Functional and safety check of all lights (if fitted), steering and adaptation of the drive unit to the chassis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Functional and safety check of the brakes and, where necessary, replacement of the brake fluid, brake pads, brake cables	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check, adjusting, cleaning and oiling the gear components including pedal bearing gearshift (if fitted)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check the capacity of the battery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check the electrical connections	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check of the control parameters and functionality of the drive system, software update if necessary	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check the spoke tension of the drive wheel and, if required, correct the tension / re-centring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Functional and safety check of the running wheels and drive wheel, where necessary, replacement of the tyre on the product	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check the wheel track of the running wheels and that the drive wheel bearings are firmly seated (tightening torque 70 Nm)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Functional and safety check of the back and seating system including neck rest (if fitted)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Functional and safety check of the leg rest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Functional and safety check of all lights (if fitted), steering and adaptation of the drive unit to the chassis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test drive / functional test	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

resolved = the fault was corrected

Comments:

Stamp:

Date / Signature

Subsequent inspection: After a further 1000 km or 1 year after the last inspection or after heavy use

Kilometre reading: _____	OK / carried out	not OK	resolved
Check all screws / fastening elements are firmly seated	<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"/>
Visual inspection of the frame and attachments for crack formation, deformation, etc.	<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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check, adjusting, cleaning and oiling the gear components including pedal bearing gearshift (if fitted)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check the capacity of the battery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check the electrical connections	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check of the control parameters and functionality of the drive system, software update if necessary	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check the spoke tension of the drive wheel and, if required, correct the tension / re-centring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Functional and safety check of the running wheels and drive wheel, where necessary, replacement of the tyre on the product	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check the wheel track of the running wheels and that the drive wheel bearings are firmly seated (tightening torque 70 Nm)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Functional and safety check of the back and seating system including neck rest (if fitted)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Functional and safety check of the leg rest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Functional and safety check of all lights (if fitted), steering and adaptation of the drive unit to the chassis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test drive / functional test	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

resolved = the fault was corrected

Comments:

Stamp:

Date / Signature

Your dealer:



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