

# Owner`s Manual

## Recumbent bike series\* Toxy

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\* Valid for models Toxy-CL, Toxy-CR, Toxy-LT, Toxy-TT and Toxy Flite (printed 10/2019).).

## 1. Introduction

**Dear Customer,**

Purchasing your Toxy recumbent bike, you have decided cycling its most relaxing and comfortable way. We are sure that you will enjoy it when commuting, travelling and for recreational purposes.

However, before you make yourself comfortable in the seat of your new recumbent for the first time, it is necessary to read these operating instructions carefully. In addition to important safety and maintenance information, it also contains useful recommendations for optimal, individual tuning of your bike. You will also receive interesting information about the wide range of accessory options and their possible purposes. You should therefore keep these operating instructions safe as a permanent reference and service manual.

This not only ensures that the bike will work reliably for many years and that it will retain its value, but you will also have the option of adapting your Toxy according to your future requirements and purposes.

These operating instructions correspond to the development status at the time of printing. If you find any information incomprehensible or inaccurate, please contact us or your Toxy dealer immediately so that you can handle your recumbent bike safely and we can adapt the operating instructions accordingly if necessary.

The original instructions of suppliers enclosed, such as for gearshift, brakes, front & rear suspension, light system and pedelec motor system as well as other manufacturers` components belong to this manual. The operation and maintenance of these components are explained in these instructions in detail. Please read all these component manufacturers` instructions as carefully. Also pass all instructions to any other user of your bike.

Current information and offers are available from your specialist dealer or on the Internet at [www.toxy.de](http://www.toxy.de). Our Toxy online shop offers you a uniquely detailed and illustrated overview of all accessories and equipment components.

Do not start any ride without having carried out the "Checks before every ride" (pls. see service and maintenance schedule) and have all inspections carried out regularly by your bicycle workshop and confirmed in this owner's manual.

For any questions, please contact your bike specialist workshop immediately or contact us directly. Your bicycle dealer has the necessary experience and all the appropriate tools to carry out all maintenance and service work on your Toxy safely.

With all this in mind, we wish you a lot of joy with your new recumbent bike and a comfortable and safe ride at all times!

And if you are satisfied with us and our products, please recommend us to others.

## 2. Your safety (General safety instructions)

### Purpose of use

The Toxy recumbent bike is a single-track bicycle for one person (also with an additional electric drive). It is intended for use on roads and paved paths.

### Prohibited use

Use for competition purposes, in rough terrain and for artistic exercises such as jumps, freehand driving or driving over stairs and curbs is not permitted. It is also not permitted to carry people on seats that are not expressly approved for this purpose, to transport animals, to take loads that are unsecured, insufficiently secured, overhanging or restricting the driver, and to exceed the permissible total weight of 150kg (125kg for folding frames). In case of misuse, assembly errors or intent, we reject any guarantee and liability for damage. Components damaged or potentially damaged by a fall, accident or other influences must be replaced before continuing the ride due to the risk of breakage. Otherwise, further use is not permitted.

### Legal provisions for use on public roads (in Germany)

- According to Germany prescribes the following features for bicycles to be used on public roads (Only valid for use in Germany. This may vary for other countries; please find out more about this at the appropriate place before use at your location!)
- Two functional, independent brakes. We use mechanical (so-called V-brakes) or hydraulic rim or disc brakes for this.
- Approved lighting system with test mark ("K" marking), consisting of headlights and rear lights with a common, permanently installed energy source (or battery driven), in our case rim dynamo or hub dynamo with double-wire cables. Both light sources must work at the same time and be properly adjusted.
- Two approved large-area reflectors (white at the front / red at the back), which may be integrated in the headlight or rear light. In addition, two yellow, forward and backward directed reflectors per pedal.
- Two yellow side reflectors per wheel or approved closed, reflective white rings, attached to both sides of the rim or tire.
- A ringing bell.
- Alternatively to the lighting system mentioned above, this may also be powered by the Pedelec battery or consist of approved battery lighting, which must also have the official test mark.

If the Toxy delivered to you does not meet these regulations, you must equip it accordingly before using it on public roads

## Symbols and warnings used in this manual



**Danger!** This symbol indicates a possible danger or damage to persons, the bike or the environment, if not following the corresponding instructions



**Note:** This symbol indicates helpful information and tips on handling and dealing with your bike.

### Riding under poor road conditions

When riding in poor road conditions (wet, ice, potholes, bumps, etc.), the wheels can lose traction. The vehicle could then no longer be steerable and the braking distance could increase considerably, which could lead to dangerous accidents. If the road conditions are poor, be sure to reduce your driving speed and ride carefully.

### Tipping and Overturning

A recumbent bike has a relatively low center of gravity due to the low seating position compared to an upright riding position. Rollover or tipping is still possible and can cause injury to the driver or other people. The tendency increases with one-sided loading and moving the vehicle's center of gravity forwards or upwards, for example through unfavorable attachment of luggage, but also on steeper inclines. Hectic steering movements or abrupt braking, especially when turning, also increases the tendency to tip over. With each new loading situation, familiarize yourself with the changed driving and braking characteristics of the bike on a traffic-free area before you ride on public roads. Wear a bike helmet for your personal safety

### Braking

The brakes work on the front and rear wheels. Please make sure, which lever works on which wheel and, if necessary change to make you feel comfortable with brake position. The brakes assembled are very powerful and easy to dose. Nevertheless, both or one of both wheels may lock, especially if load is placed unevenly.



**Danger!** Locking of wheels while braking can lead to overturning or the wheels` slipping on the road and thus to a fall with considerable risk of injury!

Therefore, before riding on public roads for the first time and before riding with additional or changing loads, familiarize yourself with the corresponding braking behavior by testing the brakes in a traffic-free area. On longer downhill rides, use brakes in time and controlled manner and, if necessary, stop several times to prevent the brake components from overheating.

### Parking

Always park your recumbent bike on a designated, plain and wind-protected surface. Please note the risk of moving or falling over on uneven or sloping parking areas and exposure to wind, especially when loaded with additional luggage. Check that the bike cannot move or fall over, which could cause damage to property and possible injuries to people. Also secure the recumbent bike against unauthorized use with a suitable bicycle lock and, in case of a pedelec, switch off the power supply at the battery switch after use so that the electric drive cannot accidentally start.

### **Appropriate clothing and bicycle helmet**

Wear close-fitting clothing, so that it cannot get caught in the wheels or drivetrain, which can lead to dangerous falls. Also look out for hanging items of clothing such as jacket ties or scarves. Wear a tested, suitable bicycle helmet to avoid head injuries in the event of any fall.

### **Risk of injury from rotating parts**

Do not reach into the spokes of the wheels, disc brakes or the drivetrain. This can lead to dangerous injuries.

### **Feet slipping off the pedals**

The recumbent sitting position makes it particularly easy for your feet to slip off the pedals. There is a risk of an accident, if your feet touch the ground while the bike is moving. The result can be a fall and serious injuries. There is a risk of your foot slipping off the pedal, especially when driving fast or on bumpy roads or potholes. Therefore, make sure that your feet do not slip off the pedals. Wear shoes that your foot cannot slip out of and that have a non-slip sole. Avoid hectic pedalling, which can cause the shoe to lose contact with the pedal, and make sure you have sufficient pedal pressure. Better, please use system pedals with fixation mechanism and the appropriate bicycle shoes. Riders who cannot control or coordinate their legs and/or feet at all times are not allowed to ride any recumbent for safety reasons.

### **Be visible to others**

Due to the low seating position and relatively high driving speed, your recumbent could be harder to see by other traffic, or its speed could be underestimated. Therefore, always ride with foresight and with your headlights on, even during the day. Before each ride, please switch on the lighting system on the headlight or on the switch of the pedelec control accordingly. Increase your visibility in traffic by attaching a colored pennant.

### **Riding in the dark**

Always ride with your lights on in the dark and dusk. Check the lighting system for correct function before every ride. Never ride without lights. You could be overlooked by other road users, which can lead to serious or even fatal accidents.

### **Luggage transportation on the recumbent bike**

Two luggage racks are available as an option for transporting luggage on the Toxy recumbent bike. Ensure that the load is as even as possible and that the center of gravity is low so as not to have a negative impact on handling.

Secure the load effectively against falling, sticking out, tipping over and slipping in order to protect yourself and other people from the corresponding hazards. Make sure that you are not restricted in your perception or movement by the load and that the load cannot block the steering or be drawn into the drivetrain or wheels. Note that loading can significantly increase the susceptibility to tipping and wind. Braking and steering behavior is also adversely affected.

### **Total load of Toxy recumbent**

Please note that the permitted total weight of 150kg (125kg for folding frames) must not be exceeded. Total weight includes bicycle, rider and luggage.

## **Technical conditions**

Before each ride, carry out a visual inspection for any damage. Have your recumbent regularly serviced by a specialist workshop. For information on maintenance, please read the "Maintenance" chapter.

## **Approved spare parts and accessories**

Your recumbent bike, especially delivered as a pedelec, may only be equipped with original spare parts and accessories that we offer or approve. Using other parts will void the warranty. We assume no liability for any resulting damage. If in doubt, please contact your specialist workshop or contact us directly.

## **Emergency on Pedelec-drive**

In case of emergency, if the vehicle starts up or continues to run uncontrolled or during maintenance work, switch off the battery immediately at the battery switch and apply the brakes until the vehicle comes to a standstill! In an emergency during the charging process, immediately interrupt the power supply to the charger!

## **Further information**

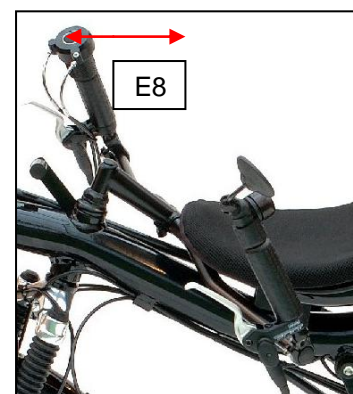
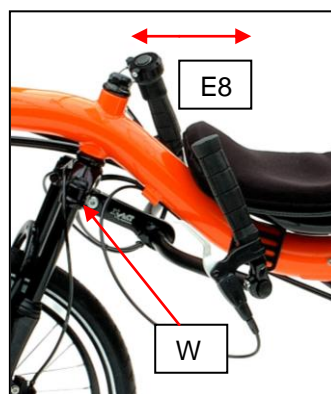
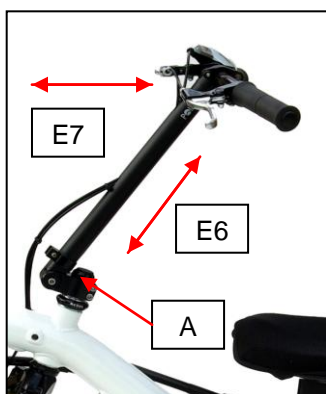
Obey all traffic rules and ride defensively and considerately. Use a rear-view mirror to get a better view of traffic.

In addition, it is important for the operation and your riding safety, that your Toxy is ergonomically adapted to your personal anatomy. Please read Chapter 3 "Adjusting your recumbent" in this manual. Of course, this also applies if the recumbent bike is rented and driven by someone else!

Constant, 100% road safety of the bicycle and its components is just as important. Please be sure to carry out the relevant checks regularly in accordance with our "Service and maintenance plan" including the first inspection after 300 kilometers. The first inspection is a prerequisite for the usability of the bike and the validity of your warranty and guarantee claims, since loosening and settling of connections or operating elements of your recumbent bike due to running-in must be eliminated and readjusted here. Continue to have all inspections carried out in order to be safe on the road at all times, to avoid serious damage by timely checks and to meet the warranty conditions.

### 3. Adjustig your Toxy

For perfect riding comfort as well as for your safety, the personal adjustment of your recumbent bike is indispensable. It may cause a feeling of insecurity if, for example, brake levers are not easily reached or if the foot hardly touches the road surface when stopping. If the bottom bracket tube is set too short or too long, this usually leads to disproportionately high effort when riding. So find out your favorite position. In the illustrations you can see the corresponding setting options E as well as the tuning options of the suspension F.



The leg length adjustment E1 is carried out by means of a telescopic bottom bracket tube. Loosen the two left clamping screws (or quick release levers if assembled) and carefully (risk of scratching) push the bottom bracket tube into the desired position and ensure the horizontal alignment of the bottom bracket. If the bottom bracket tube cannot be moved smoothly, spread the clamping sockets below the main pipe a little with the help of a rounded tool. Tighten the two clamping screws again\*. Within certain limits, a chain length change is not required. However, if the shifting does not longer works smoothly or the chain is apparently too short or too long, adjust it according to the length difference. The chain length difference is roughly equal twice the stride length difference.



**Attention!** Be sure to note the maximum extension of the bottom bracket tube. It is generally half of its total length. However, under no circumstances may a length of less than 170mm remain in the main pipe. If a further excerpt is not possible in individual cases, please ask for special lengths that can be delivered at short notice.

You can vary the seat height E2 by removing the lower seat mounting screws or the quick release and screwing them back in another slotted hole\*. If you do not make any changes to the upper seat attachment, the seat inclination will change at the same time, which you can compensate accordingly (E3). In this context, it is important that you can easily put your foot on the floor when stopping. In addition, the thigh should not rest on the handlebars at any time of kicking.



**Attention!** Above all, also in conjunction with handlebar spacing (E4) and inclination (E5), make sure that neither the handlebar collides with the seat at an early stage when making turns, nor that it is possible to squeeze between the handlebar and the seat. When using bar end handlebars, positioned above the main tube, in the standard position (right picture), the highest seating position must generally be selected.

Change the seat inclination E3 analogously to adjusting the seat height by removing and reinserting the upper mounting screws or the quick release or by moving the seat within a slotted hole in conjunction with the handlebar spacing (E4).

The handlebar spacing E4 is adjusted after loosening all four seat mounting screws by moving the seat. Then the screws are tightened again\*.

The handlebar inclination E5 is adjusted by twisting the handlebar in the stem clamp. To do this, the clamping screws must be loosened and then tightened tightly again. With the angle-adjustable stem ("W"), this is also possible by angle adjustment. At the same time, the handlebar height can also be adjusted here. When tightening the central clamping screw, make sure that the gear is snapped into place precisely.



**Attention!** Especially when mounting the down tube handlebar (middle picture), a collision of the front wheel and / or mudguard (see arrow) as well as frame tube with the stem or handlebar must be avoided (risk of blocking or falling!)

**The grip inclination** (of the barends) (right picture) can be tilted flatter or steeper (E8) rotating around the handlebar. For this purpose, the external clamping of the connecting element must first be released and then tightened after again\*. All control elements (shift and brake lever as well as bell and mirror) can be rotated horizontally with the handlebar squirrel to adjust the wrist position (clamping screw at the bottom of the clamping element) or can also be individually twisted in their orientation when their respective clamping is loosened. Under no circumstances must they collide with other parts or riders body (risk of falling!).

**The foldable handlebar** (special option) can be folded forward towards the main frame on both sides towards the fork for transport of your recumbent bike after loosening the four M5 clamping screws and fixed there again afterwards. It also offers the possibility to individually change the arm position or the handlebar angle due to the adjustable angle in the riding position. After adjustment, tighten the four M5 screws again safely.



**Warning!** Under no circumstances must the controls or steerer collide with other parts of the bike or riders body. All clamping elements must be clamped tightly again after adjustment (risk of falling!).

With the adjustable high steerer (left picture), both, the height (E6) and the distance (E7) to the body, can be adjusted individually. For the height adjustment, the quick release of the stem isto be loosened, the desired height is adjusted by moving the telescopic stem tube (maximum



height up to the marking or 50mm overlap), the handlebar bracket is aligned again perpendicular to the direction of travel and the quick release or damping screw is tightened or tightened again. The handlebar distance to the body is adjusted by means of a stop screw M6 ("A") inside the stem shaft, which is turned against the attachment surface of the stem clamp. In general, the stem should only be folded forward for comfortable entering or for more compact transport of the bike. Riding position is generally the rear steering position, limited by the stop screw.



**Attention!** When riding, any part of the handlebars must not collide with legs or knees or upper body at any time (risk of falling!). If this cannot be sufficiently achieved by adjusting, a corresponding stem extension must be inserted, which you can obtain from bicycle retailers.



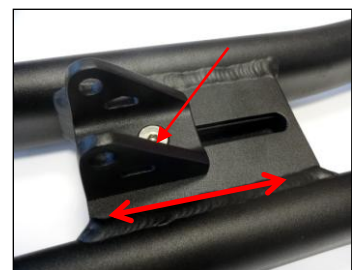
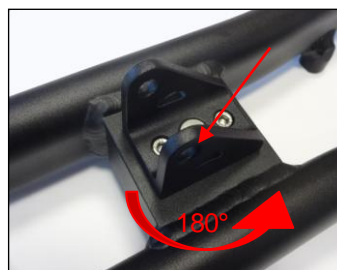
**Attention!** In case of sudden braking or collision with an obstacle, the handlebar can fold forward, which can significantly impair steering (risk of falling!).



**Danger!** The high handlebar shaft may only be pulled out up to the mark or with an overlap of at least 50mm between the stem shaft and the stem tube (otherwise there is a risk of breakage!). Finally, all screw connections of the steering elements (including joint bolts and stem clamp on the steerer tube) must be tightened firmly\* or the quick-release skewers tightened\* (otherwise there is a risk of falling due to twisting!).

An adjustable rear wheel spring element is installed on the Toxy in order to adapt the spring preload to changing road conditions or luggage loads. If you screw the knurled nut in the direction of the spring (F2), it will be pretensioned. The opposite is true for relaxing the spring; however, it must not be fully relaxed as minimal preload is required to avoid rattling noises and to secure the knurled nut. It is advisable to lower the preload on uneven stretches of road in order to increase the sensitivity of the suspension system and to increase the preload on short journeys with heavier luggage loads. If the bike is permanently ridden with higher loads than usual, e.g. on a bike journey, the suspension should be adjusted accordingly by switching the lower damper mount (not possible with the Toxy-CL) or by replacing the spring by a harder one in order to avoid a spongy ride and bottoming out of the suspension and thus also a safety risk.

On all Toxy models with a damper mount screwed on, just loosen the central M6 countersunk screw (see arrow in the graphic below) below the damper until you can rotate the mount horizontally by 180° over the two heads of the fitting screws. If the damper axle is in the front position in relation to the swingarm pivot point, you will achieve greater spring deflection and lower spring stiffness; if it is in the rear position, you will get approximately 20% stiffer suspension. With the Toxy-CR (picture on the right), after slightly loosening the same screw, you can move the damper mount steplessly in its guide and thus change the spring hardness or the spring deflection by a maximum of 30%. After adjustment, tighten each M6 bolt securely.



Generally, the front wheel suspension (F1) does not have to be adjusted if the bike has been assembled and delivered according to your weight specifications. The suspension fork is then adjusted at the factory. Changing luggage loads, only slightly affects the fork, since the rear carrier is positioned directly above the rear wheel axle (and thus has a neutral effect on the fork) and the low-rider distributes its load (max. 25 kg) equally to both wheels. If you still want to adjust or replace the springs, follow the manufacturer's instructions enclosed or have this work done out by your specialist workshop. We supply fork springs of different hardness at short notice. If you are equipped with an adjustable suspension fork, please turn the adjusting wheel in the "+" direction of the marking for increased preload, and in the "-" direction to reduce it. Your Toxy dealer will have handed over the Toxy to you fully assembled and ready to ride. If this is not so, please follow the assembly instructions below for the final assembly of your recumbent bike:

### **Assembly instructions after shipping**

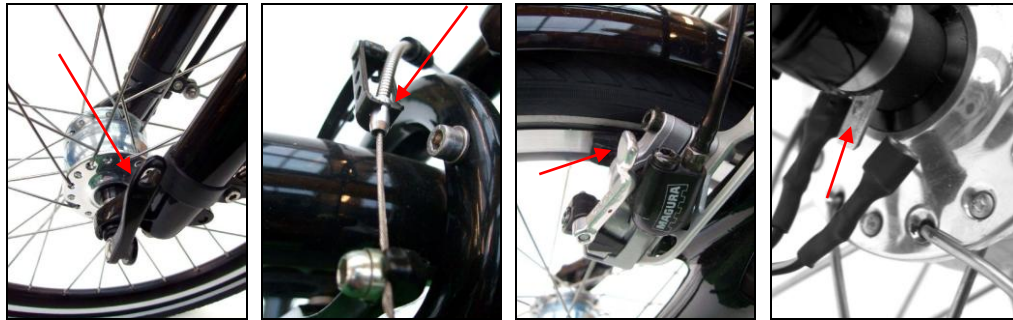
In order to avoid any shipping damage, we have designed boxes that allow a minimum package size and thus a maximum form fit on the recumbent bike. However, this requires the disassembly of a few components before packaging. For this reason, before starting the first ride, the following steps are required, depending on the Toxy model:



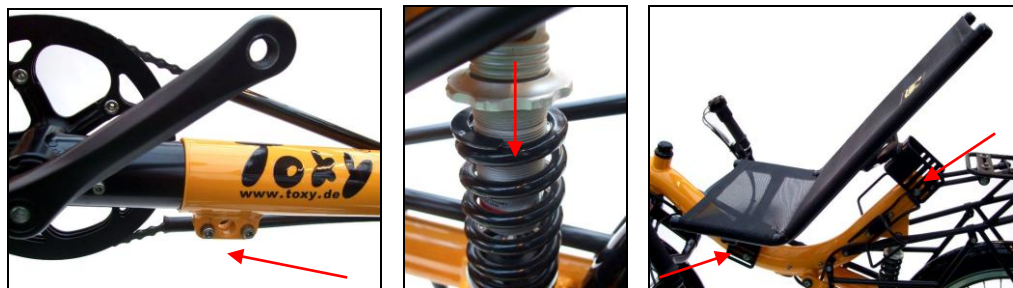
Slide the handlebars into the stem clamp and clamp the thickened part of the bracket in the center of the stem so that the handlebar ends point horizontally (see broken line) to the rear. Then push the bar ends (incl. controls) flush on the left and right of the handlebar ends, align them for easy access (usually slightly forward, see line), screw tight and press in the end plugs. After assembling the bike, be sure to check again that the steering angle is sufficient and that all controls are easy to reach (readjust if necessary) and then tighten all screws (see red arrows) with the appropriate allen key\*.



- 1) **Align the front wheel** in the center of the suspension fork and clamp firmly\* using the quick release (position the lever to the rear). Then snap the attachment of the flexible metal brake sleeve into the abutment of the metal clip on the front wheel brake. (With disc brakes, please make sure that the brake disc is inserted centrally between the brake pads in the brake caliper; with hydraulic rim brakes, align the unadjusted brake pad in the middle and parallel to the brake flank of the rim according to the manufacturer's instructions and fix it with the clamping lever.) Then check the brake for its effectiveness. At maximum force, the brake lever must not touch the handlebars. When using a hub dynamo in the front wheel, connect the two cables securely to the hub dynamo using the attached plug contacts. Make sure that the two conductors do not touch (short circuit) and then check the functionality of your lighting system. The same may apply to pedelec sensor cables.



- 2) Loosen the M6 (M8) clamping screws or quick-release lever for installing the telescopic bottom bracket tube, firmly connect the plug-in connections of the lighting cables (pay attention to the white wire markings) and insert the bottom bracket tube in the desired length°, align it with the bike and clamp it\*. Then put on the chain and, if necessary, guide it through the front derailleur clip. (°We have already adjusted and preset the chain length according to the delivery note to your body size - see marking on the bottom bracket tube - so that a change in length - for optimal shifting - can usually be omitted.)



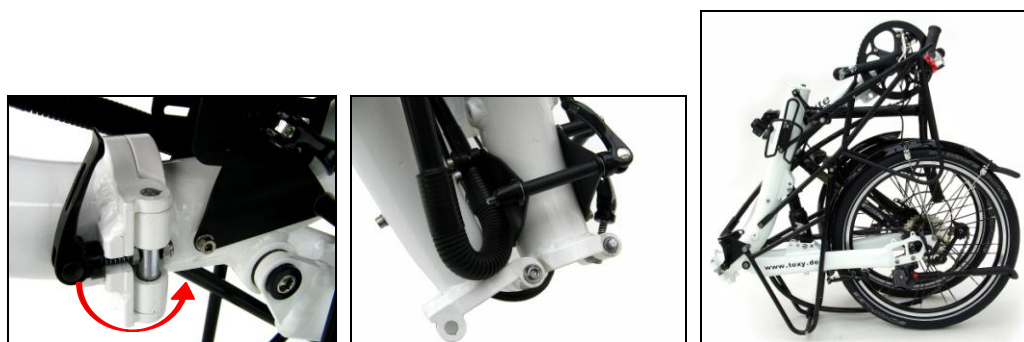
- 3) Turn the rear suspension knurled nut clockwise until the spring begins to compress. Increase the pressure (special pump!) on the air shock absorber, if assembled, to 6 to 12 bar (depending on the load). An individual fine adjustment of the preload or the air pressure can possibly be done as described above during the „first ride“.
- 4) Fix the seat (mesh or rigid seat) at the 4 attachment points, using the Allen screws in there, or the two quick-release clamps in the desired position (seat angle; handlebar distance; seat height: with a combination of bucket seat/low handlebars, always the highest position), align and tighten firmly\*.
- 5) Before starting your journey, please check, that all connections are secure and that all components are aligned correctly, function and are not damaged. We have carefully pre-assembled and packed your bike, but shipping damage can never be completely avoided. In case of defects or if you are in doubt, please contact your retailer and, if the worst comes to the worst, report the damage immediately to the forwarding agent or DHL / Deutsche Post AG in writing. We hope that you will enjoy your new Toxy recumbent bike!

## Folding instruction for Toxy folding frames

- 1) These folding instructions describe how to fold a Toxy Flite fully equipped for travel and with standard high handlebars. It also applies in an analogous manner - with a few deviations (see below) - to all other folding frame models with horn handlebar position and models with a lower level of equipment. If the minimum packing size is required, before folding, dismantle the seat by the two quick-releases and, if necessary, also the pedals.



- 2) Loosen the two quick-release fasteners of the telescopic bottom bracket clamp (1st picture) and push the bottom bracket tube as far as possible into the main frame tube. Then clamp this again with the two quick release skewers and turn the crank arms into a favorable position.
- 3) Loosen the quick release on the stem shaft (see 2nd picture), push the stem down as far as possible and turn the handlebars about 90° in the direction of travel. Then turn the front wheel slightly to the right and swivel the handlebars onto the front wheel (see 3rd picture) so that the tire lies between the handlebar grip and the brake lever. Make sure that the brake and shift housings are in a relieved, friction-free position and then fix this position with the quick release that you just opened..
- 4) 4) Now stand to the left of your Toxy in direction of travel. Open the quick-release lever of the folding joint in the main frame and turn it backwards horizontally by about 180°. Then move it vertically against a slight spring pressure in order to push the safety pin of the folding joint out of its hole (1st picture).



- 5) Now lift the rear part of the wheel slightly and slowly fold it forwards to the right by about 180° until it is directly next to the front wheel. When folding, make sure that the pants protection tubes with the chains, shift and brake cables and hoses as well as the lighting cables are placed between the frame halves without tension and kinks or in wide bends (2nd picture).
- 6) Position the frame halves in such a way, that they are close together and, if possible, do not touch any metal components, but each protected by a plastic component (tyre, handlebar grip, pants protection tube...). Then use the Velcro strap to tighten the bottom bracket tube and the luggage rack (if no luggage rack is mounted, the two halves of the main frame) and fix the strap on its Velcro surfaces. Now your Toxy is ready for transport or "parks" on its Lowrider (3rd picture).

### **For all Toxy folding models (except Toxy Flite):**

- 1)** Before folding, the seat must be removed using the two quick-release clamps and transported separately. (With the Toxy Flite, the seat can remain attached when folding, depending on the seat adjustment and the desired pack size).
  
- 2)** A. With low steering position, the handlebar must always be removed from the stem clamp before folding. To do so, the two handlebar ends are loosened using an allen screw on the clamping element, removed from the handlebars and (if possible with some protection material) fixed to the bottle holder or below the swingarm.  
  
B. If your Toxy is equipped with the optional, foldable low handlebar, loosen the screw connections of the two folding elements on the right and left using an allen key and fold the handlebar ends including the barends with controls to the front parallel to the main frame tube and fix them in this position again with the 4 clamping screws. So that they cannot damage the main frame during transportation.

In any case, the pedals should be unscrewed to minimize pack size. So-called plug-in pedals, which are fixed without tools after initial assembly, are suitable for frequent disassembly.

### **Unfold**

Unfolding is done in reverse order as described in the above folding instructions. With regard to the safe assembly and adjustment of the seat, bottom bracket tube and steering elements, please follow the relevant instructions in this manual.



**Attention!** Before riding, all the components involved must be correctly adjusted and clamped and the folding joint must be fully closed. The safety bolt must be engaged and the quick-release must be firmly closed - lying flat on its abutment. It must not impede the steering.

## 4. Before your first ride

After you have just individually adjusted the recumbent bike, please familiarize yourself with the seating position that may be new to you and the correspondingly unfamiliar viewing angle.

The controls on the recumbent are also positioned differently and therefore unfamiliarly compared to your "normal bike". Even if you have chosen familiar components for your recumbent bike, you may initially react with some delay, for example when braking.

Try out the operation of shift and brake levers as well as the bell. If this does not work without smoothly, please adjust the seat and handlebar position accordingly.

Familiarize yourself with the relatively high braking power of the modern V-brakes or hydraulic brakes that we generally install before setting off for the first time (risk of falling over the front wheel and risk of the rear wheel locking!). Also make sure you know which brake lever works on the front wheel brake and which one on the rear wheel brake. Practice slow braking! If the arrangement of the brakes does not suit you, please have this changed by your specialist dealer.

Note: If you intend to use stepless pedals on your recumbent bike, please familiarize yourself with how they work on a bike you know. Set the release force of the binding to a very low level (according to the manufacturer's instructions). Also note that the release movement on the recumbent bike is slightly different than on the "normal bike" due to the different leg position.



**Danger!** In general, carry out the checks according to our service and maintenance plan "before every ride". A "shake test" is also highly recommended: Lift the bike approx. 5 cm off the road and then let it fall onto the front and rear wheels one after the other. This is a simple way of determining whether components, connections or bearings have come loose. In such cases, you will hear clanking or rattling noises. Do not start your ride until the cause has been found and corrected. If in doubt, consult your bicycle dealer. Remember that a loose pedal or fender strut, for example, can lead directly to a fall. Instruct other people who use the bike in detail how to operate it and also pass them these operating instructions and the enclosed documents. **Do not use the bicycle, until you have read and understood these operating instructions completely.**

This user manual assumes that you can ride a bike. It is not a guide to learn to ride a bike. Likewise, it is not intended to provide content for assembling or repairing the bicycle. Always be aware that riding a bike is inherently dangerous. As a cyclist you are at risk. Always be aware that you are not protected as you are e.g. in the car. Nevertheless, you are traveling faster than a pedestrian. Therefore, pay particular attention to other road users. Never ride with headphones, don't talk on the phone while cycling. Never ride it, if you are not able to fully control your driving. This is especially true if you have consumed medication, alcohol or other drugs.

## 5. Your first Toxy ride

Now that your bike is optimally adjusted, it's finally time for your first ride.

Always make sure that you wear clothing and shoes that are suitable for cycling. Clothing that is too loose carries the risk of getting caught in the moving parts (wheels or drive) of the bicycle or impeding the steering. The shoes should ensure a secure grip on the pedals. Always ride with a suitable, tested and colored helmet.

Although you have a higher level of passive safety compared to the upright riding position on a recumbent bike, you might beat higher speed and may only be noticed later by other road users. Therefore, watch the traffic with even more foresight and ride defensively.

Before you get on your bike, please make absolutely sure that the standard side kick stand is folded in and locked in its uppermost position. Otherwise, there is a risk of falling if the rear wheel "levers out" when cornering.

Due to the design of the Toxy recumbent bike, it is possible to touch the front wheel or the mudguard with your heel when cornering. If in doubt, prevent such a collision, which could lead to a fall, by adjusting the pedals accordingly or turning your foot out.

Begin your first ride on a traffic-free or low-traffic, well-maintained route, even if you have ridden other recumbents before. Gradually get used to the steering-related turning circle and the relatively low seating position. Also, practice looking over your shoulder if you don't have a rear-view mirror installed (we strongly recommend using a rear-view mirror).

Carefully get used to the braking performance and braking behavior of your new bike. You brake effectively and safely, if you can achieve a short braking distance without the rear wheel lifting off the ground, swerving sideways or locking up. The higher the load on the rear wheel, the more you can - and should - use the rear wheel brake.

### **Recommendation for your first recumbent rides:**

Prevent overuse of individual muscle groups due to habituation. Start riding a recumbent bike, especially if you are a trained cyclist, initially on shorter distances with a higher pedaling frequency and lower pedaling power and gradually increase. Give your body time and simply enjoy the comfortable sitting position; it can take a few weeks or months to permanently reach your usual average everyday speed or travel speed.

## 6. Using your Toxy

For the vast majority of recumbent cyclists, their vehicle is not only the perfect companion in everyday life and leisure, but also their favorite way of mobility and transportation. As a rule, significantly more luggage is then transported than in normal operation.

On the other hand, if you want to transport your Toxy recumbent bike in or on the vehicle when traveling for certain distances, you may need special holding devices.

In no case may the road safety of the recumbent be impaired by the transport. This is done in addition to the respective operating instructions.

### Luggage transportation at your Toxy

For luggage transport, only use the carriers and fastening systems we offer and please let us or a specialist retailer carry out the retrofitting. A carrier system for up to four bags, consisting of a rear carrier and low rider, is available for this purpose. The Low-Rider can only be used in conjunction with the rear carrier.

The carriers are used to hold standard bicycle panniers with fastening hooks on the top and hooks or straps on the bottom. For optimum adjustment and attachment, please use the manufacturer's instructions. With regard to the selection and attachment of the bags, the following points must be observed:

Do not exceed the maximum total weight of your recumbent bike of 150kg (folding frame 125kg) and the maximum load of the carrier (rear carrier as well as low-rider 25kg, each). Be sure to test the changed center of gravity of the entire wheel. Make sure that the bike cannot tip over backwards, neither when stationary nor when riding uphill or when accelerating hard. Also pay attention to an even lateral weight distribution and take advantage of the fact that loading the centrally placed Low-Rider affects the handling of the recumbent the least.

Carrying loads can significantly change the handling of the bike. If you want to transport a lot of luggage, we recommend that you first get used to the changed riding behavior and safe stopping outside of public traffic..



**Danger!** Make sure your luggage is secure and secured to the carrier. Also, no loose parts such as straps and belts may collide with the wheels, drive or suspension or cover the lighting equipment. Make sure the bags cannot be pulled into the wheels. With the Low-Rider, care must be taken to ensure that the bags cannot touch the road when cornering and compressing the springs, and do not impair the steering angle (danger of falling!).

Parking the bike with luggage, please lean your bike securely against a fixed object or a wall. When the bike is loaded, the side kick stand usually does not provide optimal support and the bike could fall over or be damaged.

A trailer can be used to transport luggage and children in particular. Almost all commercially available trailer and coupling systems can be securely attached to the left dropout of the Toxy swingarm. Depending on the swing arm and coupling model, use the wheel axle itself or the trailer node (see arrow A) at the side kick stand. We recommend the universal coupling system from Weber company, which is available for almost every drawbar diameter. Axle adapters for hub gears (e.g. "SRAM DualDrive") and quick-release axles are also available for single-track trailers.





**Danger!** Check that the swing arm, coupling and trailer drawbar are securely connected. If in doubt, contact your trailer manufacturer or specialist dealer. In any case, carefully familiarize yourself with the changed riding and braking behavior when towing a trailer.

**The maximum trailer load is 40kg, the Toxy folding frames are not approved for towing a trailer!**



Luggage transportation at Toxy recumbent.



The maximum permissible total weight (bike including all components + rider + luggage) is 150kg, with a folding frame 125kg. The luggage loads may need to be adjusted accordingly.

### **Transport of the recumbent bike on the motor vehicle**

The safest way to transport a recumbent is *inside* the vehicle. With the seat removed and the front wheel removed, if necessary, the Toxy fits into almost any 3 or 5-door car.

If it is not possible to store it in the vehicle, we recommend using a rear bicycle rack. Placed in the wheel guide and properly fixed according to the manufacturer's instructions, the wheel is conveniently and practically accommodated at the rear of the trolley. Transport on the car roof is also possible. For roof transport, we offer a special, suitable carrier module for standard roof rack trusses (also suitable for coupling carriers), which quickly and lockably fixes the Toxy frame. In any case, the seat must be removed from the recumbent bike when transporting it on the roof, otherwise the holding system could fail due to the strong wind pressure and the bike could fall down..



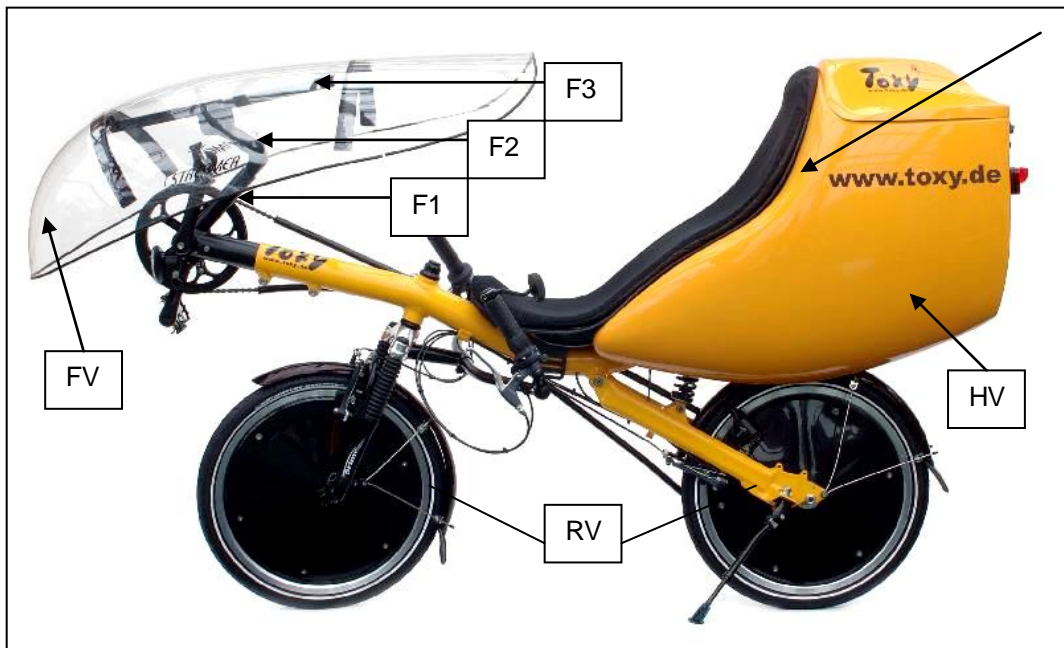
**Danger!** No matter how you transport your bike on the vehicle, stop regularly and check that all attachments are secure and tighten them if necessary. Drive at a reasonable speed for the safety of all road users. It is essential that you observe the operating instructions for the respective transport equipment manufacturer and always remove the recumbent seat when transporting on the roof. We exclude liability based on our recommendations.

## Fairings on the recumbent bike

In addition to mudguards, you will find three other types of fairings in our extensive range of accessories. For packaging and transport reasons, these are not assembled on the recumbent bike, but are delivered individually ready for assembly. Please refer to the following section for information on safe installation and trouble-free operation.



Note: Please note that installing fairings generally increases the recumbent bike's susceptibility to side winds. Unsafe riding situations can arise in strong winds or gusts of wind. In such weather conditions, remove the paneling before starting your ride.



### Front fairing

The front fairing is primarily used for weather protection. Thanks to our special mount, it can be mounted or dismounted on the Toxy (e.g. recumbent bikes) with a flick of the wrist.

A bottom bracket telescope with a welded-on derailleur tube F1 is required to attach a front fairing to your recumbent bike. If your bike is equipped with gears without a front derailleur, this is not fitted as standard and must be retrofitted. Using a commercially available 1 1/8" stem F2 (outer diameter 25.4 mm; with compensating bush if necessary), the fairing bracket is clamped in the derailleur tube.

The bracket consists of the approx. 600mm long fairing support, two ellipses and two cheeks. First, the two ellipses are attached to the last hole in the fairing support using the hexagon head screws, washers and self-locking nuts provided, as shown in the illustration. Using two allen screws and the appropriate accessories, the cheek with the 25mm socket is now pushed into the open stem clamp, then fixed in two adjacent bores\* of the fairing support and screwed to the second cheek. Then the short screw is screwed centrally through the second cheek into the socket.

Finally, the transparent molded part is fixed precisely to the ellipses using velcro strips and the entire fairing with the variables stem height, stem inclination (in the case of an angle-adjustable stem), clamping angle (in the stem clamp) and position of the cheeks on the fairing carrier (\*if necessary, loosen and repeat according to the instructions position) adjusted. This adjustment

is carried out once and does not have to be repeated again for the same rider, even after the fairing has been removed and reassembled on the recumbent bike..



**Danger!** Before starting the journey, ensure that all components are securely connected and that there is sufficient visibility and freedom of movement under the paneling. It is important that no parts of the fairing can collide with legs, knees, feet or steering while pedaling, otherwise there is a risk of falling. In addition, your view should generally be made possible above the fairing and not through it.



**Caution!** When using fairing components from other suppliers, please be sure to observe the relevant assembly and operating instructions and ensure compatibility with your Toxy.

Finally, check that all fairing connections are secure and tighten. However, you have the option of designing the clamp connection between the stem and the socket in such a way that you can swivel the entire fairing up and then down again to get on/in by pulling up on the upper end of the fairing.

However, make absolutely sure that the clamping force is large enough to effectively prevent the fairing from lowering in the event of vibrations or strong headwinds!

To prevent cut injuries, the cladding must have edge protection, at least in the upper area. If possible, avoid scratching the fairing, as this makes it difficult to see through the fairing onto the area of the road directly in front of the front wheel. Only clean the fairing with water and glass cleaner.

## Rear Fairing

The rear fairing is designed as an aerodynamic luggage box. It has excellent speed potential and allows luggage to be transported dry and safely. The current models are equipped with a lock. The maximum load of the rear fairing is 15kg and should be positioned in the front, lower area if possible in order to avoid an unfavorable shift in the center of gravity.

The rear fairing can only be fitted to our rigid ergo glass fibre seats or such of the same construction, as the seat and fairing must fit together closely. When the fairing is delivered, the four fastening holes in the front, upper area (see arrow) are already drilled or marked. With the help of a second person, fit the panel in a form-fitting and centered manner to the assembled seat and mark the four drilling points onto the back of the seat. Drill the four holes in the seat with a high-speed 6mm wood drill bit. File the resulting holes in the seat so that you have squares with an edge length of 6-6.5mm. Guide the enclosed 6mm carriage bolts from the seat into the holes and pull the fairing over them. Then first slide the rubber washer and then the metal washer onto the screw and then tighten the nuts "crosswise" and carefully and then lock them with the enclosed cap nuts. There is sufficient tension when there is no movement between the seat and the paneling and the washer has pressed about half its thickness into the rubber washer.

Make sure that the rear fairing cannot collide with rotating or vibrating components of the recumbent at any time. If necessary, readjust them or adjust the inclination of the seat. The fairing can be dismantled again at any time in a correspondingly simple manner. If there are creaking noises between the seat and the paneling when driving, these can be eliminated by placing rubber pads or double-sided adhesive strips on the contact surface.

## Wheel Fairings

We do not recommend wheel fairings (RV), since they often cause noise and assembly is complicated.



**Danger!** When installing any wheel fairings, it is essential to ensure that concentric rotation is guaranteed and that they cannot get into the area of the braking surfaces of the rims or any other braking parts (disc brake, disc, eg). A fall would be the result!!

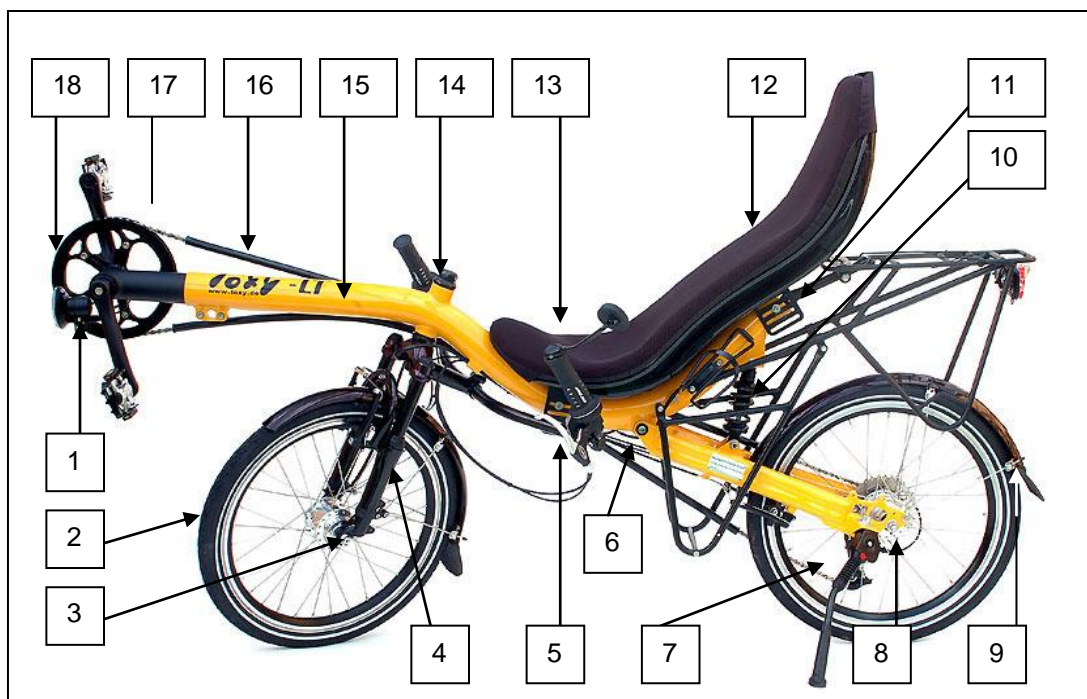
## 7. Operating and maintenance instructions

Please do not start any ride without having carried out the "Checks before each ride". Also keep to the regular maintenance intervals, which you can find in our service and maintenance schedule.

In doing so, you contribute to your own safety and that of all other road users. In addition, you ensure long-term operational readiness and maximum value retention of your bike with the least possible effort.

Essentially, the same usual bicycle tools are required for the maintenance of your recumbent bike as are required for the service of corresponding sports or touring bikes.

Before replacing components, please make sure that they are compatible with the other parts assembled. Observe all corresponding manufacturer information. If anything is unclear or you have any questions, please contact your specialist retailer or contact us. When doing maintenance and repair work yourself, please note that your experience with common "standard bikes" cannot necessarily be transferred to a full-suspension recumbent bike. So don't expect too much. Your specialist bicycle dealer has the necessary routine and all the appropriate tools to carry out any service on your Toxy quickly and safely. If in doubt, leave all work on your recumbent to a suitably equipped workshop.



Toxy recumbent bike with the essential assemblies and components

## 1. Light system

The optional factory-fitted LED lighting system meets the requirements of German regulations (see also Chapter 2: Legal provisions). The lighting system is switched on when the dynamo is activated. The entire surface of the friction wheel should rest on the sidewall of the tire, with the dynamo axis pointing towards the center of the hub. All cables are laid with two wires. Make sure the connections are tight and the contacts are clean. If the bike is delivered with a hub dynamo, please read the enclosed manufacturer's operating instructions and activate the lighting or the twilight sensor using the switch directly on the front wheel lamp. If your Toxy is delivered as a pedelec without a dynamo, the lighting system is powered by the pedelec drive battery and is activated by switching on the battery and the corresponding display function (see referring manufacturers instruction enclosed).



**Danger!** A discharged attery will cause your lighting system to switch off. You are no longer noticed when it is dark and are therefore exposed to life-threatening situations. If the battery gets empty (shown on display symbol), do not continue riding until the battery is charged again!!

## 2. Wheels

A tight fit and good tension of spokes is crucial for the concentricity and stability of the wheel. Loose spokes must be tightened, broken spokes replaced immediately. The rims should be checked regularly for brake wear, especially after driving in the mountains. If the wall thickness is too small, there is a risk of the wheel suddenly warping and locking, which can lead to a fall. Never delay a necessary replacement. The tires also need to be checked regularly for air pressure and profile. Only inflate the tire to the amount specified on the sidewall of the tire as allowable. A higher pressure can result in bursting or damage to the rim. Do not fall below the specified pressure, otherwise the handling of your bike will be imprecise and the tire will be damaged. In general, the tire pressure should be increased as the load increases. If the tire shows cracks or blisters or if it appears very porous, it must be changed. When replacing the tube or tire, also check the rim tape.

## 3. Quick release levers

The wheel should be firmly\* clamped in the dropouts to prevent loosening or falling out. Check the clamping force and make sure that the lever is aligned in such a way that it cannot come loose by touching objects when driving past.

## 4. Suspension fork

The standard mounted suspension fork requires very little maintenance and usually only needs to be greased once a year. However, make sure that the bellows or dust protection caps and wiper rings are intact and have a precise, tight fit. If cracks or porosity are found, these must be replaced immediately by a bicycle repair shop so that neither dust nor water can get onto the sliding surfaces and cause enormous wear there. Please do not grease the sliding surfaces yourself, but have this done by a specialist workshop with a special lubricant! If you are equipped with an adjustable suspension fork, please turn the adjusting wheel in the "+" direction of the marking for increased preload, and in the "-" direction to reduce it. If a special suspension fork, e.g. with oil damping and/or lockable suspension ("LockOut") is installed, please note the enclosed manufacturer's instructions. To replace the fork spring, set the minimum fork preload and loosen the corresponding screw connection below the adjusting knob for setting the preload with a suitable open-end wrench and unscrew the complete unit. Then press the fork down, remove the spring and replace it with the new one. When assembling the fork, make sure that the adjustment unit is firmly screwed into the standpipe thread. Then test the functionality of the fork while stationary (constant immersion without "bottoming out"). When replacing the fork springs, also observe the enclosed manufacturer's instructions..



**Warning!** The oil damper cartridge of the corresponding forks are under pressure and must not be removed, opened or damaged! There is a risk of injury!!

## 5. Brakes

The brake play, which has increased due to wear on the brake pads and possible stretching of the cables, must be readjusted from time to time. A small amount of brake pad wear can be adjusted on the brake handles. To do this, loosen the lock nut on the respective brake lever, unscrew the abutment screw slightly and fix it again with the lock nut. The distance between the rim and the brake pad should then be about 1-2mm on each side. The wear limit has been reached when the vertical profile of the brake pads is no longer visible. The brake pads must then be replaced by a specialist with new (compatible!) ones. The coarse adjustment of the brakes in the case of greater wear or after replacing the pads is carried out at the clamping screw of the cable. To do this, press the brake pads together by hand and, after loosening the clamping screw, pull the brake cable out a little further. Tighten the cable clamping screw again when there is a gap of 1 - 2 mm between the brake pad and the rim.



**Caution:** There is a risk that if the brake pad is positioned incorrectly and/or if there is too much abrasion, the brake pad will slip into the spokes, causing the wheel to lock up and causing a fall!!



**Attention:** Also make sure that the brake pads are correctly positioned on the rim. Damaged or worn brake parts must be replaced before continuing to ride. Pay attention to the correct pairing of rims/brake pads and brake levers/brake arms. If you are unfamiliar with brake system maintenance, be sure to hire a professional to perform these tasks. This applies in any case to all work on hydraulic and/or disc brakes..

## 6. Rear lever bearing

All Toxy recumbent bikes use long-lasting dimensioned, multiply sealed and standardized industrial bearings as bearing elements. Coarse dirt particles are also kept out by another stainless steel seal. This bearing principle ensures absolute freedom from play with sensitive response, high rear end rigidity and a long service life. The tight fit of the axle bolts must be checked regularly and, if necessary, secured with 25 Nm. The bearings can only be replaced by specialists using pressing tools.

## 7. Rear derailleur

During the adjustment process, turn the crank forward and turn the right shifter all the way to the right. If the setting is correct, the chain must now be on the smallest sprocket. If this is not the case, loosen the adjusting screw "HI" until the chain can be shifted to the smallest sprocket. If the chain threatens to jump off the smallest sprocket, tighten the adjusting screw "HI" further. The chain guide rollers of the rear derailleur cage must be aligned with the smallest sprocket. Now slightly tighten the shifter cable with the help of the adjustment wheel on the shifter. Then turn the shifter as far as possible in the other direction until the last number of gears engages. The chain should now have reached the largest sprocket. If this is not possible, loosen the "LO" screw until the largest sprocket is reached and the rear derailleur cage sprockets are aligned with the largest sprocket. If the chain jumps out of the largest sprocket, tighten the "LO" screw further. Perfect shifting and engagement of all other gears can now be adjusted with the adjustment wheel on the shifter or on the rear derailleur. After a long period of driving, the decreasing tension of the gear cable can be compensated for by turning out the adjusting

wheel and in this way the gear shift can be readjusted. Please pay particular attention to the enclosed manufacturer's instructions for the setting..



**Danger!** If the chain moves beyond the smallest or largest sprocket while riding, the chain can come off, bind or damage the spokes, which can lead to a serious fall and injury!

## 8. Gear hubs, combined gear hubs & bottom bracket shifting

When using gear hubs (e.g. Shimano Nexus/Alfine, Enviolo/Nuvinci, Rohloff Speedhub, Sram DualDrive or Sturmey Archer Triple Shift) as well as the Pinion bottom bracket gearshift, the enclosed manufacturers`instructions must be followed. Basically, the pedaling force should be reduced during the shifting process. Due to the movement of the suspension rear lever, the use of a derailleur or a corresponding chain tensioner to compensate for the swing arm movement is essential.

## 9. Fenders

To avoid dangerous situations, the mudguards and their struts must be checked for breakage and loosening, and replaced if necessary. Especially when riding in snow, make sure there is sufficient distance between the tires and the mudguard to avoid the wheels suddenly locking up.



**Danger!** Loose or incorrectly adjusted mudguards or their components can lead to serious accidents!

## 10. Rear shock

The rear shock is maintenance-free and must not be dismantled. The hydraulic damper springs are replaceable. We can supply you with springs in different firmnesses to suit rider weight and luggage loads from 350 to 1050. The respective spring rate is marked on the spring (in pounds per inch). The spring can be preloaded without tools (see chapter Adjusting the recumbent). After riding through extreme dirt, please clean the piston rod to increase the life of the element. When using our ultra-light air spring elements, you can regulate the hardness individually and steplessly via air pressure. Depending on the model, they also allow hydraulic damping adjustment and locking. The corresponding manufacturer's instructions are enclosed with these shocks. To regulate the air pressure (depending on the weight and area of use approx. 5 to 12 bar), please only use appropriate high-pressure air shock pumps, specially designed for spring elements with a small stroke volume and an exact manometer. Otherwise there is a risk of damage!!



**Danger!** The oil damper cartridges of the shock absorbers and the air chamber of the air suspension element are under pressure and must not be opened or damaged! There is a risk of injury!



Note: If oil leaks from the shock absorber (even small amounts), the spring element must be replaced immediately. The rear wheel can uncontrollably "jump" due to the impaired damping.

## 11. Seat Fixings

The elongated hole attachments allow a variety of adjustments to the seat position, inclination and height. For adjustments, please refer to the chapter "Adjusting your recumbent bike". Please always ensure that all screw connections or the quick-release lever are firmly seated.

## 12. Seat Variants

Depending on your Toxy model and body size, your recumbent bike is equipped with an anatomically shaped ergo glass fibre seat or a mesh seat. For the rigid ergo seats, we also offer



a headrest including pad (Velcro fastening), which is mounted from behind on the upper end of the seat - depending on the seat adjustment with the curvature forwards or backwards - using the two enclosed carriage bolts. To do this, transfer the holes in the headrests into the seat and use a file to adjust the holes to the squares of the carriage bolts.



**Danger!** In carbon fiber seats (also "carbon"/"CFRP") in particular, no additional holes or other perforations may be made apart from the holes for the headrest, as they weaken the material structure and can lead to the seat breaking. Therefore, mounting aero rear boxes on carbon fiber seats is expressly not permitted. Pushing the bike on the optional headrest can also damage the seat.

The seat cushions corresponding to the three seat sizes enable long-lasting and relaxed riding and traveling on your recumbent. The standard overlay is made of closed-cell foam that does not absorb water. This pad is generally glued on, but can also be attached with Velcro strips. The optional comfort cushions made of textile/synthetics offers significantly improved cushioning, optimal sweat dissipation and a certain ventilation of the back. The comfort pad is generally attached to the seat with the attached Velcro strips and can then be removed at any time to protect against moisture or theft. The outer cover of this pad is machine washable at 30° C.

The mesh seat fits universally for all heights from approx. 145 to 205 cm and has a simple principle for re-tensioning the seat upholstery: continuous loops sewn on the sides are pushed into the side slots of the seat frame. Inside the frame tubes, these loops are filled with wood rods of different diameters and thus secured against being pulled out. If the tension drops noticeably, the rods can be pulled out with needle-nose pliers after removing the plastic tube plugs and replaced with rods with a larger diameter (supplied as standard). As a rule, replacing one side with a rod that is 2 mm larger in diameter is sufficient. If the meshseat is too "airy" in the back area when riding in winter time, we now also offer very comfortable winter cushions for our mesh seats, analogous to the comfort cushions for rigid ergo seats.

### **13. Shifters**

The shift levers and twist grip shifters are indexed and thus enable precise gear selection. They have an adjusting wheel with which the switching components can be fine-tuned. In the case of high handlebars in particular, it is important to ensure that the shifter does not slip towards the (fixed) handlebar and thus lose its function. As is generally the case with all shift and brake cables, the ease of movement of the cables and the integrity of the housing should be checked. For all other shifters (e.g. for the Rohloff 14-speed Speedhub hub, Nuvinci or Shimano Rapidfire or bar-end shifters), please observe the relevant operating, assembly and maintenance instructions from their manufacturer.

### **14. Steering**

For safety reasons, all components involved should be checked regularly for cracks and replaced immediately in the event of an accident or fall. The steering head bearing is sealed and requires little maintenance. However, there must be no noticeable play. Checking the bearing is easy: when the front wheel brake is pulled, move the bike back and forth. There should not be any play and the front wheel, when raised, should swing easily from one side to the other without locking into any place. Replacement and adjustment itself should be carried out by a specialist workshop

### **15. Frame and rear lever**

Clean the frame with clear water and a soft sponge or with a soft brush. Please do not use a high-pressure cleaner or similar devices. Treat the coating only with commercially available care products such as hard wax or similar without abrasive additives. Also preserve the bright metallic component surfaces with hard wax..



Note: All Toxy recumbent bike frames are made of aluminum and powder-coated several times, so that minor scratches can only be regarded as blemishes. However, make sure that what you think is a scratch is not a life-threatening hairline crack!



**Danger!** Do not make any changes to the frame or swingarm. You risk damage to the frame and serious injury. Any modification to the frame components will void warranty.

## 16. Chain drive & tubes

The chain should be treated with a small amount of thin lubricant at regular intervals, especially after riding in the rain. We offer a special dry lubricant that prevents dirt particles from adhering and thus keeps the chain and protection tubes clean. The chain must be replaced depending on the degree of wear. The wear limit should be assessed by your specialist dealer. Changing the chain too late can result in the expensive replacement of other parts (chainrings and sprockets). The deflection pulley used on the Toxy-TT should be checked regularly for correct position, sufficient distance to all frame parts and tight fit. In order to ensure a smooth, low-friction and quiet chain run, the chain runs on a rubber ring, which should be replaced when worn. The protection tubes are very wear-resistant, even over thousands of kilometers, but can "mud" when using viscous chain lubricants (see above) in connection with dusty operating conditions. This can easily be determined by the increased power requirement when turning the cranks backwards by hand. The tubes should then be cleaned or replaced. If the tube ends are too close to the chainrings or rear derailleur, they can be pulled into drive train and damaged and the drive suddenly blocked. Therefore, make sure that the chain protection tubes are at least 5 cm away from the rear derailleur, front derailleur, sprocket and chain ring, even when the chain is fully tensioned, and that the tubes are always firmly seated in the brackets. If necessary, the pipes are to be shortened..

## 17. Derailleur (not shown in picture)

There are two adjustment screws "HI" and "LO" on the front derailleur for adjusting the derailleur cage. The shifting travel of the derailleur cage is limited by turning these screws in or out. This shift limitation is intended to prevent the chain from being moved beyond the chainrings and jumping off the chainrings, which could block the drive and cause a fall. With the screw "HI" the cage is limited on the largest outer chainring and with the screw "LO" on the inner smallest chainring. Adjust in such a way that the chain reaches all chainrings and runs freely there without touching the cage. You can make fine adjustments - even while driving slowly - using the adjusting wheel on the left shifter. When adjusting the bottom bracket telescopic tube to adjust the leg length, also ensure that the shift cable has sufficient freedom and, if necessary, replace it by a longer one..

## 18. Crankset, bottom bracket and pedals

A maintenance-free, sealed cartridge inner bearing is assembled as a standard in your Toxy. This bottom bracket cannot and does not need to be adjusted during its lifetime. If there is gradually increasing play over the course of use, the entire cartridge unit must be replaced using a special tool. The pedal cranks are attached to the slightly conical square shoulders of the bearing axle using allen screws. These screws are tightened with about 35-40Nm. However, since the material settles after a while, i.e. it can give way, the fit of the pedal cranks should be checked from time to time, but the first time after 50 km. If loosening of the press connection is not eliminated immediately, permanent deformation of the connection profiles can result. In such a case, a permanent attachment of the cranks can no longer be achieved. The cranks and possibly also the axle together with the bottom bracket cartridge must then be replaced with new parts by a specialist workshop. In the case of axle/crank systems with a multi-tooth profile or other systems, please refer to the respective manufacturer's specifications, also with regard to the deviating tightening torques, and, if in doubt, ask your specialist workshop for assembly. When mounting the pedals on the crank arms, pay attention to the screwing direction: right pedal - right-hand thread, left pedal - left-hand thread. When using system pedals with bindings, be sure to follow the manufacturer's instructions and set a low release force first.

## 19. Pedelec-System



**Caution!** The functions and information described below refer to the current Smart.E pedelec system at the time of printing. Innovations, modified components, programming or alternative drive systems can result in some important differences. In any case, please also observe the enclosed operating instructions for the system you have actually installed on your Toxy. If unclear or unsure, please contact us or your specialist dealer immediately for your own safety.

When the system is switched on, your Toxy Pedelec supports your pedaling performance up to a speed of 25 km/h. When this speed is reached, the motor switches off. As soon as you pedal forward, the motor accelerates to the speed selected using the different support levels. Due to the maximum nominal power of the motor of 250W, it is possible that the motor will not reach the speed reached on the flat when climbing. Here it is advisable to lower the support level accordingly in order to conserve battery capacity and prevent the motor from switching off due to thermal reasons.

The system is equipped with an LCD control panel with a tachometer. With this LCD console, you have the option of setting different support levels („+“ „-“ buttons) which are assigned to specific speeds of around 7 to 25 km/h, similar to a cruise control function. These can vary depending on the battery voltage and other influences.

In addition to the support level and current speed, the current battery status and the current support current are also displayed graphically. Depending on your selection, you can also read the daily kilometers driven or the total kilometers as well as riding time.

### Battery status

The display graphically shows the current charging status of the battery. It largely corresponds to the internal LED display of the battery, but can deviate and fluctuate, especially when the motor is subject to load changes. If in doubt, check the exact state of charge on the battery display. As soon as the last bar is reached or is already flashing, the full motor power can no longer be accessed due to the drop in voltage. At high support levels, the motor switches off for a few seconds and then starts up again. Lower the engine power by lowering the level of support and charge the battery as soon as possible.



**Danger!** Pay close attention to the state of charge, as your lighting system is powered by the battery (there is no dynamo). A fully discharged battery will cause your lighting system to switch off. You are no longer visible when it is dark and are therefore exposed to life-threatening situations. If the battery is empty (flashing battery symbol on the LCD display or short time motor stops), do not continue driving until the battery is charged and the lighting is working again!

### Speed indicator

The display shows your current speed when the system is switched on.

### Error-Codes

The system reports an error. Have the error read out and rectified in a bicycle repair shop.

### The functions of the control panel:

You activate the pedelec system by pressing the on button. To do this, the battery must have been switched on beforehand using the battery switch. With the button („+“ more) and the button („-“ less) you can set the level of support (speed levels) from „0“, which means no motor assist, up to highest speed level.



Note: The controller has a walking aid up to 6 km/h, which you activate by pressing the upper arrow button "more" or, depending on the system, the lower arrow button "less" for longer than two seconds. The drive then starts without pedaling movement with low power and stops when the button is released.



**Danger!** Do not activate the pushing aid accidentally, as unintentional starting of the wheel or the drive during maintenance work or in traffic could endanger or injure yourself or other people!



**Danger!** Also, be careful not to accidentally increase the assist level, which will result in unintentionally higher speed.

### Pedelec-Battery

Before your ride, the battery must be charged, especially if it also powers the lighting system.

The battery of your drive is provided with a voltage protection. You can therefore charge it at any time, even when it is only partially discharged. You can charge it directly on the Toxy or in another location by opening the lock and sliding the battery from its holder. The charging time for a completely discharged battery is approx. 6 to 8 hours. The charging environment temperature should be within 0° to 40°C. Only use the charger as specified in the enclosed operating instructions from the manufacturer or the battery manufacturer.



**Danger!** The battery may only be charged with the charger supplied by us. Other chargers could destroy the battery or greatly reduce the battery life. Charge the battery away from sources of fire and combustible objects. Stop charging and using it if it develops heat, deforms, has an unusual odor, or has any abnormality. If necessary, also observe the instructions for use provided by the battery and charger manufacturer. Incorrect handling of the battery can lead to serious malfunctions and dangerous situations, fire and explosion.



Only use the battery at temperatures between -10°C and 45°C. At low temperatures, the battery voltage also drops. This means that the range is then sometimes considerably lower. If you do not use the battery for a long period of time, make sure that it is recharged at least every 2 months. The best storage conditions are: cool and dry at temperatures between 5° C and 20°C.

Maintenance note: Regularly check the components of the pedelec system (motor, battery, controller, display and bottom bracket sensor) as well as their cables and plug connections to ensure they are intact and secure.



**Caution!** In any case, observe the legal regulations as well as the operating instructions of the respective manufacturers in order not to endanger yourself and to be safe on the road.

### Recommended tightening torques (in Nm)

Component	Connection	torque
<b>Rear derailleur</b>	mounting bolts	<b>6-8</b>
	cable clamp screw	<b>4-6</b>
	Idler Bolts	<b>3-4</b>
<b>Front derailleur</b>	mounting screw	<b>5-7</b>
	cable clamp screw	<b>5-7</b>
<b>Shifter</b>	Fixing screw M6	<b>6-8</b>
<b>Twist shifter</b>	mounting screw	<b>2-3</b>
<b>Brake lever</b>	clamp screw	<b>6-8</b>
<b>Hub</b>	Quick release lever	<b>8-10</b>
	Axle nuts (hub motor axle M12: 35-40Nm)	<b>25-30</b>
	Cassette locking ring	<b>30-40</b>
<b>Crankset</b>	Crank Bolt (grease free mating surfaces))	<b>35-40</b>
	chainring bolt	<b>8-10</b>
<b>Bottom bracket</b>	Plastic threaded socket	<b>35-50</b>
<b>Pedal</b>	Pedal thread	<b>30-35</b>
<b>V-/Cantilever-Brake</b>	Socket in aluminium frame	<b>8-10</b>
	Fixing screw on the frame base M6	<b>5-6</b>
	Clamp nut M6	<b>7-8</b>
	Brake shoe fixing screw M6	<b>7-8</b>
<b>Aluminium stem</b>	Handlebar mounting screw M8	<b>15-20</b>
	Handlebar mounting screws M6	<b>8-10</b>
	Clamping spindle in cone M8	<b>15-20</b>
<b>Frame clamping</b>	Clamping screws for bottom bracket tube M6	<b>7-8</b>
	Clamping screws for bottom bracket tube M8 (Toxy-CL)	<b>13-15</b>
<b>Seat attachment</b>	Fixing screws M5 (with screw locking glue)	<b>5-6</b>

**General limit values for metric standard threads in lubricated condition (according to VDI guideline 2230):**

<b>M4 – 2,7 Nm</b>	<b>M5 – 5,5 Nm</b>	<b>M6 – 9,5 Nm</b>	<b>M8 – 23 Nm</b>	<b>M10 – 46 Nm</b>	<b>M12 – 71 Nm</b>
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Applicability for steel screws of strength 8.8. The following applies to threads in aluminum materials: Minimum screw-in depth = nominal thread diameter x 1.4

## Service- and maintenance intervals

Component	task	before every ride	monthly	other intervals
Light system	check funktion	X		
Tires	check air pressure, profile and flanks	X		
bowden cables	visual inspection	X		
Brakes	check lever travel, pad thickness &; brake test while stationary	X		
Rear suspension	check attachment		X	
Fork	check bellows; check play and suspension		X	
Rims or brake disc	check wall thickness			at the latest after the 2nd set of brake pads
Chain tubes	check & clean		X	
Chaindrive	control & lube		X	More often, depending on operating conditions
Crankset	control & tighten		X	
Powder coating	preserve		X	
Wheelset	check concentricity & spoke tension		X	
Steerer & stem	check for damage		X	
Headset	check bearing play		X	
Metal surfaces	preserve			half-yearly
Hubs	check bearing play		X	
Pedals	control & tighten		X	
Derailleur	clean & check		X	
QR levers	check & tighten	X		
Bolts & nuts	control and tighten; check clamps		X	
Rear lever bearing	check bearing play		X	
Rear shock	check play & leakage.		X	
Accessories	check		X	



**Caution!** If defects, incorrect settings, damage or wear and tear are found during checks, these must be rectified immediately by a specialist workshop in order to avoid the risk of serious accidents. For the maintenance and repair of any accessory, please follow the respective manufacturer's instructions.

Documents from the respective component manufacturers enclosed with these operating instructions are part of the operating instructions.

## 8. Warranty conditions

For all Toxy recumbents, we grant a ten-year warranty against breakage due to processing and material defects on the main frame and swingarm, which goes beyond the statutory warranty. This warranty is valid from the date of purchase and only for the original purchaser, and only if all inspections have been properly and timely performed and documented according to the enclosed service schedule.

In order to process a warranty claim, the corresponding assembly or component must be submitted to us or a Toxy dealer for assessment, along with the relevant recumbent pass, service records and proof of purchase.

In the event of a warranty claim, only the damaged component will be repaired or replaced with a suitable one, at our discretion. Labor and transport costs as well as consequential costs or loss of use caused by the defect are not covered by the guarantee.

Damage to the frame coating is excluded from the guarantee, as well as damage due to normal wear and tear, corrosion, lack of care and maintenance, aging, improper use, accident, fall, overload, improper modifications or work on the bike, competition use, artistry, jumps, intent or the like have occurred. Failure to comply with the instructions in the operating instructions or the inspection intervals will void the guarantee.

Any warranty service does not extend the original warranty period and does not result in a new warranty. In the event of rejection of the guarantee, a chargeable repair will only be carried out after prior agreement.

The prerequisite for the extended guarantee is the registration of the buyer using the enclosed registration form. This form must be completed and sent directly to us within 2 weeks of purchase.

The guarantee only applies if the following inspection pass is filled out upon purchase and all the inspections listed there have been continuously carried out and entered by a specialist.

This guarantee does not affect the buyer's rights under statutory warranty provisions..

**First inspection - after 300 kilometers or two months from the date of sale**

**Date:** \_\_ . \_\_ . \_\_\_\_ **km:** \_\_\_\_ **Stamp and signature of bicycle workshop:**

**Repaired or replaced parts:**

**9. Attachments****Service-Reports:**

**1st inspektion** (pls. see chapter 8 „warranty conditions“)

**2nd inspection - after 3000 kilometers or one year from the date of sale**

Date: \_\_ . \_\_ . \_\_\_\_ km: \_\_\_\_ Stamp and signature of bicycle workshop:

Repaired or replaced parts:

**3rd inspection - after 6000 kilometers or two years from the date of sale**

Date: \_\_ . \_\_ . \_\_\_\_ km: \_\_\_\_ Stamp and signature of bicycle workshop:

Repaired or replaced parts:

**4th inspection - after 9000 kilometers or 3 years from the date of sale**

Date: \_\_ . \_\_ . \_\_\_\_ km: \_\_\_\_ Stamp and signature of bicycle workshop:

Repaired or replaced parts:

**5th inspection - after 12000 kilometers or 4 years from the date of sale**

Date: \_\_ . \_\_ . \_\_\_\_ km: \_\_\_\_ Stamp and signature of bicycle workshop:

Repaired or replaced parts:



**6th inspection - after 15000 kilometers or 5 years from the date of sale**

**Date:** \_\_ . \_\_ . \_\_\_\_ **km:** \_\_\_\_ **Stamp and signature of bicycle workshop:**

**Repaired or replaced parts:**

Blank area for recording repaired or replaced parts and workshop stamp/signature.

**7th inspection - after 18000 kilometers or 6 years from the date of sale**

**Date:** \_\_ . \_\_ . \_\_\_\_ **km:** \_\_\_\_ **Stamp and signature of bicycle workshop:**

**Repaired or replaced parts:**

Blank area for recording repaired or replaced parts and workshop stamp/signature.

**8th inspection - after 21000 kilometers or 7 years from the date of sale**

**Date:** \_\_ . \_\_ . \_\_\_\_ **km:** \_\_\_\_ **Stamp and signature of bicycle workshop:**

**Repaired or replaced parts:**

Blank area for recording repaired or replaced parts and workshop stamp/signature.

**9th inspection - after 24000 kilometers or 8 years from the date of sale**

**Date:** \_\_ . \_\_ . \_\_\_\_ **km:** \_\_\_\_ **Stamp and signature of bicycle workshop:**

**Repaired or replaced parts:**

Blank area for recording repaired or replaced parts and workshop stamp/signature.

**10th inspection - after 27000 kilometers or 9 years from the date of sale**

**Date:** \_\_ . \_\_ . \_\_\_\_ **km:** \_\_\_\_ **Stamp and signature of bicycle workshop:**

**Repaired or replaced parts:**

Blank area for recording repaired or replaced parts and workshop stamp/signature.

## Warranty Card for TOXY® Recumbents

Please detach and return the completed form to us within two weeks of purchase.

I hereby confirm that I have received the recumbent described below today in new condition. I have already tried it and read the attached owner's manual. I am informed about the purpose, function and risks.

\_\_\_\_\_  
Buyer (first and last name)

\_\_\_\_\_  
Retailer

\_\_\_\_\_  
Street / No.

\_\_\_\_\_  
Street / No.

\_\_\_\_\_  
Postcode / City

\_\_\_\_\_  
Postcode / City

\_\_\_\_\_  
Telefon-No.

\_\_\_\_\_  
Telefon-No.

\_\_\_\_\_  
E-mail

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature Buyer

\_\_\_\_\_  
Stamp / Signature dealer

### Bicycle specification

<b>Model</b>	
<b>Frame-No.*</b>	
<b>Frame color</b>	
<b>Steerer type</b>	
<b>Seat type</b>	
<b>Fork type</b>	
<b>Gear shift</b>	
<b>Brake model</b>	
<b>Accesories</b>	
<b>Special marks</b>	

*\*The frame number is stamped into the gusset in front of the rear lever bearing or into the folding joint, on the underside of the frame, on the Toxy-ZR into the triangular gusset between the rear lever bearing housing and the seat tube.*