

Owner`s Manual Recumbent bike Toxy-ZR*

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* Valid for model Toxy-ZR only (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 as well as fitness 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. 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 use. It is intended for fitness, recreational and touring use on roads and paved paths.

Prohibited use

Use 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 120kg (260 lbs). 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 bike 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, sliding 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 slide or 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 seating 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 Toxy-ZR recumbent bike

An aerodynamic luggage box is available as an option for transporting luggage on the Toxy-ZR recumbent bike. Ensure that heavy load is placed in front of the box and that the center of gravity is low to avoid negative impact on handling. Please notice, that maximum load of the box is 15kgs (32 lbs) and make sure, that the top of your luggage box is locked safely while riding.

Alternatively, we also offer a smaller luggage bag, which is slipped over the top of the bike seat in order to carry light luggage. Make sure that it is closed and fits tight and safe to the seat while riding.

It is not allowed to attach luggage or other parts outside of the box or to use any bicycle carrier rack. 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 120kg (260 lbs) 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 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 optional 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

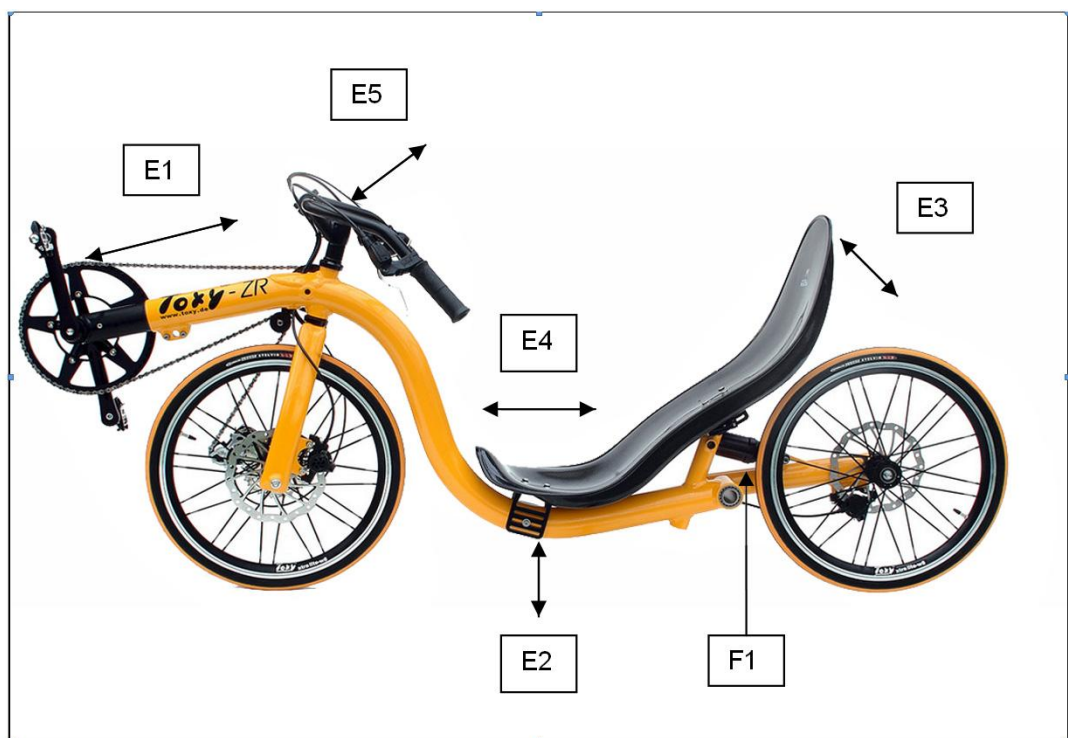
Obey all traffic rules and ride defensively and considerately. Use a rear-view mirror to get a better view on traffic.

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-ZR

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.



Individual adjustment options on Toxy-ZR

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 with a professional chain tool according to the length difference. The chain length difference is roughly equal twice the stride length difference.



Attention! Make sure, that under no circumstances crank arms od pedals could contact the front wheel. This would instantly stop steering ability and lead to heavy accident with injury or death. Be aware, that you shoes would contact the front wheel when pedaling while steerer turning.



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 140mm remain in the main frame tube. 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 knees should not touch the handlebar at any time of pedaling.



Attention! Above all, also in conjunction with seat adjustment (E4) and handlebar/stem adjustment (E5), make sure, that at no time, even when making turns, your knees would touch the handlebar or shifter/brake levers (risk of blocking or falling!).

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 seat position (E4).

The seat position 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.



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!).

An adjustable rear wheel coil spring shock is installed on the Toxy-ZR 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 (F1), 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 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 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.

If your Toxy-ZR is equipped with an air shock, you can easily adjust spring rate by inflating higher pressure (max. 15bar) into the shock or reduce pressure. Make sure to use a special bicycle shock pump. Other pumps may damage the air shock!

Toxy-ZR 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-ZR assembly options:

- 0) When your Toxy-ZR is delivered folded**, please swing the rear lever to the back and fix the rear shock to the seat tube hole with its M8 screw. Make sure, that alignment is smooth in order not to bend the rear shock. Then fix the screw and secure fixation by M8 nut. For rear wheel mount, pull out the rear wheel axle and insert into both, rear lever as well as rear wheel hub. Make sure, that brake disc is placed in center of caliper and the spacer is positioned in between rear lever and wheel bearing. When this is fine, use tools to fix axle screws with 15 to 20Nm. Notice: When using a SON-M hub dynamo in the rear wheel, you have to remove the brake caliper before plugging in the rear wheel axle and fix it correctly again when rear wheel inserted. Fix the M6 screw with 8-10Nm. Then connect the light cable securely to the light wire and check the functionality of your lighting system. All above is the same when unfolding your Toxy-ZR.
- 1)** Align the front wheel in the center of the drive fork and clamp firmly* using the quick release (position the lever to the rear) or tool for rigid axle. Please make sure, that the brake disc is inserted centrally between the brake pads in the brake caliper. Then check the brake for its effectiveness. At maximum force, the brake lever must not touch the handlebars.
- 2)** Loosen the M6 clamping screws or quick-release lever for installing the telescopic bottom bracket tube, firmly connect the plug-in connections of the lighting cables (if light system is equipped; 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.). Finally fix your pedals to the cranks.
- 3)** Slide the handlebars into the stem clamp and clamp the thickened part of the bracket into the center of the stem so that the handlebar ends point lower then horizontally to the rear. 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 with the appropriate allen key*.
- 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), align and tighten firmly*.

Before starting your ride, please check, that all connections are secure and that all components are aligned correctly, work 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 in writing. We hope that you will enjoy your new Toxy recumbent bike!



Attention! Before riding, all the components involved must be correctly adjusted and function of all components must be tested. Please also check personal adjustment of all parts according to your convenience and in order to allow safe ride before riding in traffic.

4. Before your first ride

After you have just individually adjusted your 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 "common upright 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 smoothly, please adjust the seat and handlebar position accordingly.

Familiarize yourself with the relatively high braking power of the disc brakes 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 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 reach higher speed and may only be noticed later by other road users according to low seating position. 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 feet 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 when steering.

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.

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 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.

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-ZR

For luggage transport, only use the rear luggage box or bag we offer and mount it according to our explanation below.

Do not exceed the maximum total weight of your recumbent bike of 120kg (260 lbs) and the maximum load of the rear box (15kg / 32 lbs). Be sure to test the changed center of gravity. 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. 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! A bicycle trailer must not be attached to the Toxy-ZR due to single side rear wheel mount!

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.

Transport of the recumbent bike on the motor vehicle

The safest way to transport a recumbent is *inside* the vehicle. With the seat removed, if necessary, the Toxy-ZR 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. 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..



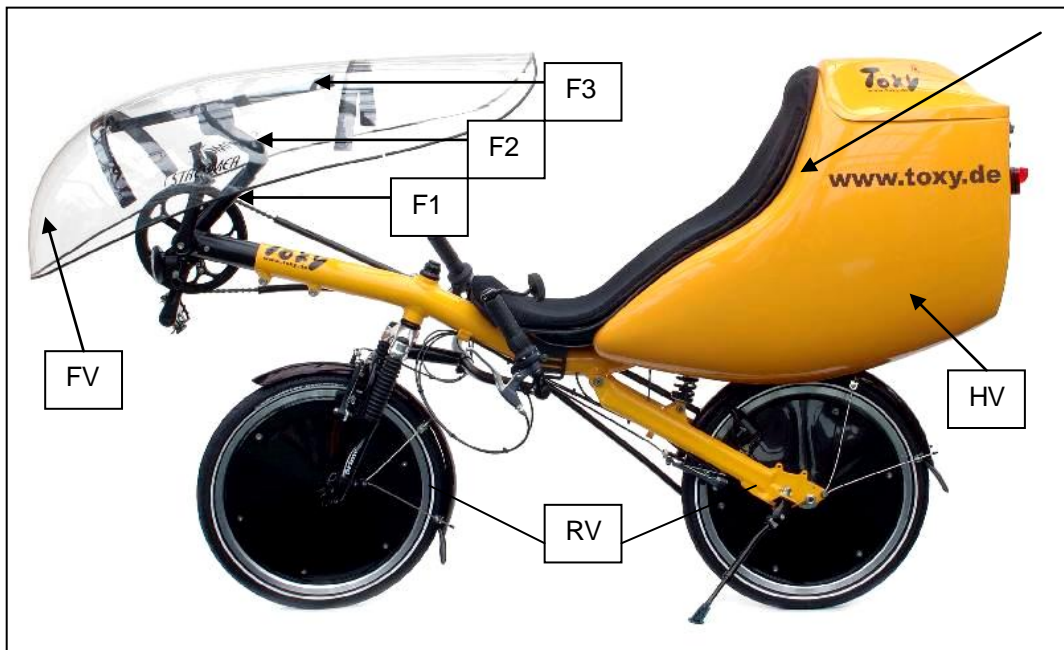
Danger! No matter how you transport your bike on the vehicle, stop regularly and check that all attachments are secure and tighten them if necessary. Drive at a reasonable speed for the safety of all road users. It is essential that you observe the operating instructions for the respective transport 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 fairing before starting your ride.



Fairings on Toxy recumbents, similar to all Toxy models available

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 your ride, ensure that all components are securely connected and that there is sufficient visibility and freedom of movement under the fairing. 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 (32 lbs) 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.

1. Light system

The optional factory-fitted LED lighting system meets the requirements of German regulations (see also Chapter 2: Legal provisions). 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 activate the lighting or the twilight sensor using the switch directly on the front wheel lamp. (see referring manufacturers instruction enclosed).

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. Disc Brakes

Your Toxy ZR only works with disc brakes. Please let them be assembled or maintained by bicycle mechanic only for your own and others' safety.



Caution: There is a risk that if the brake pad is positioned incorrectly and/or if there is too much abrasion, 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. 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 maintenance intervals. The bearings can only be replaced by specialists using pressing tools.

7. 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 drive fork, 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!



Note: Rear fenders will not allow folding rear mono lever at Toxy-ZR.

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 from 350 to 1050 lbs to suit any rider weight and luggage loads. 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 locked.

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, drive fork 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 pulleys and swivel roll used on the Toxy-ZR should be checked regularly for correct position, sufficient distance to all frame parts, free rilling 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

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 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.

Recommended tightening torques (in Nm)

Component	Connection	torque
Rear derailleur	mounting bolts	6-8
	cable clamp screw	4-6
	Idler Bolts	3-4
Front derailleur	mounting screw	5-7
	cable clamp screw	5-7
Shifter	Fixing screw M6	6-8
Twist shifter	mounting screw	2-3
Brake lever MT	Magura MT clamp screw	4
Front Hub	Quick release lever	8-10
	Axle nuts (hub gear)	25-30
	Cassette locking ring	30-40
Crankset	Crank Bolt (grease free mating surfaces))	35-40
	chainring bolt	8-10
Bottom bracket	Plastic threaded socket	25-30
Pedal	Pedal thread	30-35
Disc Brake	Magura Caliper Screws M6	8-10
	Disc screws M5	5
Mono Rear wheel Axle	Hex bolt M8 / M12	15-20
	Brake shoe fixing screw M6	7-8
Aluminium stem	According to manufacturer Handlebar mounting screws M6	8-10
	Clamping spindle in cone M8	15-20
Frame clamping	Clamping screws for bottom bracket tube M6	8-10
Seat attachment	Fixing screws M5 (with screw locking glue)	5-6

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

M4 – 2,7 Nm	M5 – 5,5 Nm	M6 – 9,5 Nm	M8 – 23 Nm	M10 – 46 Nm	M12 – 71 Nm
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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	Visual inspection		X	
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 & attchement		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, 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 for the 6th inspection.

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 for the 7th inspection.

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 for the 8th inspection.

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 for the 9th inspection.

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 for the 10th inspection.

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

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

**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.*