

Service and Operation Guide

MAXARYA

RAY-1 and RAY-1X Recumbents -2013



Dear Rider,

Congratulations! Thank you for purchasing your new Maxarya recumbent. We are sure that you will enjoy riding and owning this great machine for many memorable years to come.

Maxarya recumbents are designed and manufactured using latest bicycle technology and several years of development and tests. Like any other sophisticated product your bike needs certain care, maintenance and attention.

Your bike is created with rider's needs in mind. We meticulously tested all technical and safety aspects which, would ensure safe and enjoyable rides. We are seriously concerned about your safety and satisfaction. Please take the time to read this guide carefully and keep it for future reference. It will help you to maintain a safe, trouble-free use and also assist you to keep your bike in perfect shape and condition.

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ATTENTION!- Always wear a helmet when riding any bicycle.

-Follow the instructions and safety tips of this leaflet.

-Avoid any risk-taking and hazardous actions while riding.

-Use proper reflectors and lights if you ride after dusk.

-Check your bike periodically for any sign of malfunctions or damaged parts. Stop riding your bike if you detect any trouble or mechanical failure. Contact your authorized dealer or a professional bicycle shop for assistance.

Contact us for any question or concern you may have:

Email: tech@maxarya.com Phone: (001) 416-737-5745

General introduction to recumbents

Recumbent bicycles offer great comfort, visibility and performance. You will have wonderful vision and wide view angle. Meantime, your rear vision will be limited than a conventional bike. It is safe and recommended that you use a rear mirror.

Because of special geometry and function, they are different from conventional bicycles and need some additional skills and training. If you are new to recumbents or don't have enough experience with this type of bikes, we strongly recommend you follow the following simple steps to make yourself ready for regular use of your new recumbent.

Before your first ride adjust your seat and handlebar stem for your height and reach. Your knees should not hit the handlebar. Make sure the bike is fully checked.

For your first rides choose a less crowded area and have some short rides. Sit comfortably and put one pedal in a starting position to create enough momentum to start. Use an easy gear to start. Your knee should be slightly bent when the pedal is at the farthest point. It means that your leg should not stay fully stretched.

Because of the new posture, your knees may not be able to adapt easily to the higher pressure you possibly put on them for the first days. So keep your rides short and avoid any extreme push or long uphill rides at the beginning. Start slowly and carefully. It would be really helpful to stretch between rides. If you develop unusual pain or need to learn more about the muscles involved in riding a recumbent contact your doctor or chiropractor.

Ray-1 and Ray-X recumbents offer great visibility in traffic which is a good advantage to see and being seen. However, you need extra caution when entering a congested traffic. Practice how to maneuver and brake properly before riding in city traffic.

Weight distribution in recumbent bikes is more on the rear wheel. It makes the use of front brake more sensitive than conventional bikes. The front wheel also has tendency to slip easier on slippery surfaces and while passing an edge or curb.

Riding your new bike on gravel and off-road needs some additional training as well. You need to have full control of the handlebar when riding. Never try to ride your recumbent like a mountain bike on off road. Avoid any stunt or aggressive ride on loose sandy or gravel road.

Put safety first and always follow the safe riding rules.

Discover your bike

Your bike is the result of painstaking professional work from computer modeling to model making, prototyping and thousands of miles of road test. They meet and exceed all bicycle industry standards. Recumbents are great way to maintain a healthy life style. Our bikes are a sophisticated combination of technology, science and art. You ride your bike in ultimate comfort with peace of mind of being trouble-free and reliable and you ride in style!

Your bike is made to serve you for many years. It directly depends on how it will be maintained and serviced. We encourage you to know your new bike and read all the manuals and service instructions come with your bike.

The parts and components assembled on your bikes are selected from several different options. They are what we believe would be the best /optimum configuration. Please don't replace or alter them. It may make your bike unsafe and also may void its warranty. If you plan to change an original part or component of your new bike please contact us for more information.

The first service is very important because experience shows that all bikes will need a general adjustment/tuning as most new bolts, chains, cables and so on will slightly stretch, loosen after an initial period of use. Your dealer would be happy to assist you for any help and usually they offer all initial services free of charge.

Consult your dealer for any question or concern you may have. Also feel free to contact our technical support. We always would be glad to hear from you. Your feedbacks will assist us to upgrade and refine our bikes.

Please look for our wide range of original options/upgrades and also the newly developed accessories.

Enjoy your ride.

Assembly

ATTENTION! Any incorrect assembly, modifications or manipulation may cause serious damages to your bike and make it unsafe. It also may void the warranty. Your bike must be assembled, adjusted and tested by an Authorized Maxarya Dealer before being delivered to you. Be sure to receive the bike in perfect conditions.

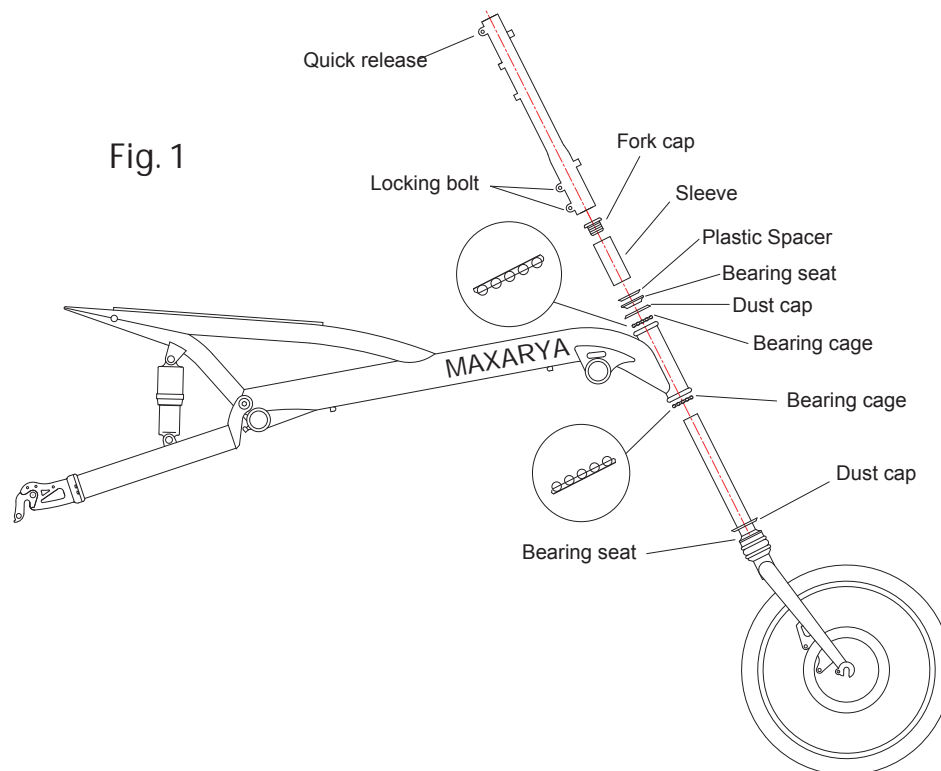
All Maxarya recumbents are about 80% assembled at Maxarya facilities in Concord, Canada and come in a single box. All necessary items to finalize the assembly are included.

We strongly recommend that your new bikes being assembled, adjusted and tested by our dealers before delivering to you. However, if for any reason such as transportation you need to disassemble from wheel or seat please make sure that all the parts are reassembled correctly before any ride.

Follow the headset parts order as shown in Figure 1. Reapply grease if needed.

Before riding your bike make sure the locking bolts and also the top quick release of the stem are tightened to 75-95 In/Lbs. and stem and handlebar are aligned.

Riding a bike with loose or improperly tightened wheel quick releases can be extremely dangerous and may cause serious or fatal accidents. Always check the quick releases, rear shock bolts and seat attachments before riding your bike. Rear shock bolts should be tightened to 90-120 In/Lbs.



All Maxarya recumbents must be assembled and adjusted by one of our Authorized Dealers to ensure highest function and safety.

If you have any problem with assembly or adjustments of your bike please contact your Authorized Maxarya Dealer or our technical support for assistance. The images and charts of this leaflet explain the most important and useful maintenance and service instructions. Please read and follow them carefully.

Your bike has an ergonomically approved and comfortable seat with great adjustability. To achieve the best posture, you need to apply some adjustments.

Never ride your bike if the seat is not secure and the quick releases are loose. The entire seat assembly can be moved forward and backward to fit your proper reach to pedals and handlebar.

The seat back has three positions you can choose. The clearance between the seat and backrest is also adjustable. It may bring more comfort for heavier riders. After adjusting the seat be sure all three quick release clamps are securely tightened. After a period of time you may need to tighten the seat back mesh which may stretch after first months of use. To tighten the mesh simply tighten the plastic ties equally.

Adjust the shifters at a position you can view the gear shifting windows comfortably. For details of service information refer to SRAM shifters, DualDrive and brake levers instruction manuals supplied with your bike.

The handlebar can be adjusted to your best comfort. First using a 5mm Hex key loosen the two handlebar bolts and twist the handlebar the way you feel comfortable. After adjusting the handlebar you may need to adjust handlebar components as well. All cables will stretch after a period of time. For better function you can adjust the tension of brakes and shifters cables by turning the adjusting nuts of each one.

You can adjust the height of your handlebar by sliding the upper part of the stem up and down inside the main tube.

The best position is when your knees and handlebar have enough clearance while you are pedaling specially when you do turns. Tighten the two locking bolts to 95-75 In/Lbs. before riding your bike. When mounting a water bottle cage don't use long bolts and excessive force. You can break the water bottle bosses.

The seat can be adjusted individually. Using two 5mm Hex keys from both sides and loosen the bolts. The seat can move 1 1/4" fore/aft from the seat back. Also it can be tilted through 8 degrees. Tighten the two locking bolts to 75 In/Lbs.

RAY1-X Model: The front suspension fork has preload adjustment feature.

The preload spring is adjusted for a rider weighing 175 Lbs. (78 kg). It can be adjusted based on your weight. To adjust remove the handlebar stem. Enter a 6mm Hex key into the center hole of the fork stem and apply 5-1 turns clockwise; each turn for any higher 20 pounds and 5-1 turn counterclockwise for any 20 pounds lower rider's weight from 175 Lbs.

Correct adjustment of the rear derailleur ensures a smooth and safe ride. Contact your dealer if you have problem shifting gears or hear noise.

WARNING!

For a safer ride keep the air pressure on the rear tire %60 of your weight in PSI. If you weigh 100 pounds keep the pressure 60 PSI. If you weigh 200 pounds keep the pressure 100 PSI. Don't exceed 100 PSI.

Despite the reversed crankset, the pedals must be installed like regular bikes. Before installing the pedals control the signs "L" and "R" on both pedals and crankset arms.

Using a light and quality oil lubricate both left and right chains regularly. After a period of time you may need to adjust the tension of the left chain. With a 5mm Hex keys loosen the two bolts back of the bottom bracket shell. Using a two pointed spanner slightly twist the inner shell clockwise. Control the tension and also smooth movement of the chain.

WARNING! For a safer and better ride keep the air pressure on front tire %35 of your weight in PSI. If you weigh 100 pounds keep the pressure 35 PSI. If you weigh 200 pounds keep the pressure 60 PSI. Don't exceed 60 PSI.

Maintenance

Bicycles are considered as vehicles and because of direct connection with human health and safety, they always must be kept well maintained and secure. Please inspect and service your bike regularly. It extends its life and ensures great function and safety.

ATTENTION! We strongly recommend a general check up after first 200 km. As a fact during this period all cables, chains and spokes will stretch and need adjustment. Bolts and nuts may bed in and get loose. Brakes, chainrings, pedals, front fork assembly and seat back mesh need inspection and possible adjustments. Please take the bike to your dealer for this important check up. The bike needs regular check ups every next 2000 km.



Be careful when using front brake in slippery and gravel surfaces. Also applying too much front braking force while turning can cause a dangerous skid.

RAY-1 Model: The rear shock has two ways of adjustment. The preload ring adjusts the tension of the coil and rebound control knob by "+" and "-" marks adjusts ideal rebound effect. For details and maintenance refer to DNM 22-AR shock manual comes with your bike

WARNING! Riding your bike with kickstand in down position can be dangerous. Always keep it up before riding. You can adjust the length of your kickstand leg. Simply twist the leg counterclockwise and pull or push it for proper length. Then twist it clockwise to lock it.

Using fenders is an easy way to protect yourself from water splashes. We offer specially designed fenders. Make sure to have yours. To install them you need to carefully adjust the braces and leave enough space for brakes and tires to function properly.

RAY-1 Model: Proper adjustment of the derailleurs is very important for a safe and smooth function. Set the lower and higher limit screws correctly to avoid accidental chain fall.

Keep your disc brakes clean and adjust them after every 200 miles. Because of some pad wear and cable stretching it is necessary. Please refer to the disc brake manual for more details.

Disc brakes have great power and very effective when you need it. Braking function in recumbents is somehow different from regular bikes. Practice braking in different conditions roads and surfaces. Keep the disc clean from sand, mud and oil. For details refer to the disc brake manual of your bike.

Features, options and accessories

Your Maxarya recumbent has many great features. Its transmission system using MidDrive is unique and offers great stability and control. We constantly upgrade our bikes and make many new upgrades available.

We are constantly upgrading and refining our products and introduce new parts and accessories...here are some of the newset items:

- LOCBUSTR folding stem mechanism
- Newly redesigned more comfortable seat
- Adjustable kickstand
- Carrier rack
- New water bottles and cages
- Compact high pressure pump
- New high riser handlebar
- Compact bicycle tool
- Compact keyless lock
- Utility computer/light clamp
- Seatbag
- New stem quick release
- ...



Warranty

Your new Maxarya recumbent bicycle frame is guaranteed against any manufacturing defects for a period of seven (7) years from the date of purchase.

All other parts including seat, fork, suspension and cosmetics are warranted for one full year from the date of purchase.

This warranty applied only to the original owner. Based on this warranty Maxarya will repair or replace the defective frame or other parts with the same or similar item.

Damage caused by accident, misuse, do-it-yourself repairs or any other changes to the basic elements of the bike is not covered by this warranty.

Depending on the circumstances, all shipping costs including insurance may be at the expense of the owner.

The warranty application form must be filled and mailed to Maxarya within one month from the date of purchase.

For detailed information about the limited warranty of your new bicycle please see the warranty registration form comes with your bike.

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