

APPENDIX B: HOW LONG WILL MY ELLIPTIGO BIKE LAST?

The short answer is: we don't know exactly how long your ElliptiGO bike will last, but we do know that it will not last forever.

As discussed above, the lifespan of any given component on your ElliptiGO bike varies with a range of factors, including rider weight, frequency of riding, duration of rides, riding surface, intensity of riding, style of riding, climactic conditions when riding and in storage, and diligence with maintenance and servicing.

Because it is impossible to predict exactly how long any given component will remain serviceable, it is important for you to be able to spot the signs of component aging so you can prevent a catastrophic failure from a component that is under stress after its useful service life. What is equally important for you to know is that some components can show no signs of stress or damage before giving out, so it is critical to have a professional bicycle mechanic inspect your ElliptiGO bike periodically to ensure everything is in good working order.

We recommend having your ElliptiGO bike inspected by a professional after every 50 hours of riding if you are an average weight rider (175 pounds) using the ElliptiGO bike for exercise on well-maintained paved roads and average around 12-15 mph when riding. That's about every 10 weeks if you ride an hour a day, five days a week. If you are a heavier rider, frequently engage in significant climbing or high-speed descending, or ride on poorly maintained roads, you should have the ElliptiGO bike checked more frequently. Again, you should inspect the bike before and after every ride, the 50 hour rule of thumb is for periodic inspections by professional bike mechanics.

These professional inspections can be critical for identifying failing parts early so you can avoid the extreme hazards that accompany a catastrophic failure of a component during use. A professional bicycle mechanic will be very familiar with the operation of almost all of the components on your ElliptiGO bike and be able to spot damage or accelerated aging more easily than someone who is not a trained bicycle mechanic. This is why they can

identify problems early-on and then advise you regarding the best way to handle them.

At the end of the day, like most things in life, your safety and experience with the ElliptiGO bike are in your hands. When used properly, the ElliptiGO bike will provide you with many years of enjoyable outdoor low-impact exercise. If you pay attention to the bike and its components, keep them clean and in good working condition, inspect them before and after each ride, and have your bike inspected frequently by a professional mechanic, you should be able to derive the full value from the system. If you neglect to maintain the bike, rarely inspect the components, fail to keep the bike clean and the drive train lubricated, or pay no attention to signs of damage or excessive wear, you will likely experience problems with the bike that could lead to a catastrophic event happening while riding.

ElliptiGO Bikes with Composite Drive Arms

As discussed above, we have designed the ElliptiGO bike to provide a high-performance exercise experience. There are many considerations that go into creating such a design, including safety, weight, stiffness, ride comfort, and aesthetics. We chose to construct the drive arms from a composite material called "carbon fiber" because of the superior stiffness to weight ratio this material delivers as compared to metals such as steel, aluminum, and titanium. However, there are some significant differences you should be aware of regarding how composites like carbon fiber behave as compared to metals.

The biggest difference between the behavior of carbon fiber and common metals during periods of extreme stress is that metals tend to bend or deform well before they break, often providing a warning sign that a metal part has been overly fatigued. Carbon fiber parts, on the other hand, neither bend nor deform prior to breaking. When overloaded beyond their capacity, they usually just snap in a single catastrophic failure. This is important for you to understand because the drive arms are the things you are standing on when you ride the ElliptiGO bike and if one of them breaks, you will almost certainly suffer a fall and be seriously injured or killed.

These drive arms have been designed to withstand the fatigue associated with their intended use by a rider who weighs less than 250 pounds fully-laden. If you misuse the ElliptiGO bike, collide with another object, or are involved in a crash, you can damage the drive arms to the point of breaking them. Although breaking your drive arms is bad, damaging them without breaking them could be even worse because a damaged drive arm can catastrophically fail during regular use without warning. Consequently, you must be on the lookout for signs that your drive arms are damaged so you can replace them and avoid serious injury or death from a drive arm failure during normal use.

Damaged carbon fiber can be identified by observing visual signs of cracking or delamination, hearing creaking or other noises when the carbon fiber flexes, or feeling a lack of stiffness in the part.

Cracks

Cracks can come in any size, but regardless of how small a crack is, you should not ride an ElliptiGO bike with a crack in the drive arm. Once a crack has formed it will continue to grow and splinter over time and use, eventually resulting in a catastrophic failure of the part. Cracks can be found during a thorough visual inspection of the drive arms. Pay particular attention to the sections of drive arm immediately in front of and behind the foot platforms, as these are the areas under the greatest amount of stress during operation. Again, never ride on a drive arm that has a crack, regardless of the size. Instead, contact service@elliptigo.com for a replacement drive arm.

Delamination

Your carbon fiber drive arm is comprised of several thin layers of carbon fibers bonded together by epoxy. Delamination describes the condition where the carbon fiber layers separate from each other. Delamination can have a number of causes, many of which do not require abusing the part. Regardless of why the delamination occurred in the first place, the result is that it can greatly reduce the strength of the part and put the rider at risk of an unexpected catastrophic failure that can result in serious injury or death. Consequently, you should never ride on a drive arm or other component

that shows signs of delamination. Instead, contact service@elliptigo.com for a replacement drive arm, or your component dealer for a replacement component.

There are several different visual indicators that can be signs of delamination. The most common sign of delamination is a cloudy discolored area forming on the surface of the part. Undamaged carbon fiber should appear glossy black or gray. Examine your new drive arms to get a good picture of what undamaged carbon fiber looks like. If an area on your drive arm begins to look cloudy, this is a sign of delamination.

The second most common visual sign of delamination is slight deformations in the part itself. When you receive your new ElliptiGO bike, become familiar with the smooth lines of the drive arms. During your regular inspections, pay attention to these lines to see if there has been any change to them, especially a single bulge, bump or depression in the part. If you find something unusual this could be a sign of delamination. Before riding, take the ElliptiGO bike to a professional bicycle mechanic or ElliptiGO technician for inspection. When in doubt, contact service@elliptigo.com for a replacement drive arm.

In addition to visual signs, there are audible indicators of delamination. When riding listen for any creaking or popping sounds coming from the drive arms. Your drive arms should be quiet. If a drive arm is creaking under load, that is a strong indicator that it is damaged and could fail catastrophically during normal operation. Even if you can't see any signs of delamination or cracking, a creaking drive arm must be replaced. Do not ride the ElliptiGO bike; instead, immediately contact service@elliptigo.com for a replacement drive arm.

Finally, when inspecting your drive arms, use your fingernail to strike the carbon fiber at regular intervals and listen to the sound that is generated. It should be a nice, sharp sound every time you strike the surface. If one area returns a different sound, especially one that is muted, this is an indicator that delamination is occurring inside the part. Upon discovering this, you should take your ElliptiGO bike to a professional bicycle mechanic or ElliptiGO technician for further evaluation.