

MAHLE X20
Battery Care & Maintenance



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MAHLE X20 Battery Care & Maintenance

1. Overview

MAHLE SmartBike Systems does use high quality cells for both, inner- and external batteries. We do this to get the most out of our minimalistic battery following our LIGHT, SPORT, SMART premise.

The battery of the system and its capacity will decrease over time, but the system is ready to work the same way all along its lifetime. The battery is protected to keep its discharge capacity during all this time.

The components are designed for long term, and they require following some simple and understandable guidelines in their use and handling. Do you want to extend the lifespan of your MAHLE eBike system? Follow the advice that we will show you here and you will enjoy your eBike during uncountable rides!

2. Update to the latest software

Always make sure your device is using the latest version of the system. You can find all the updates here:



mahle-smartbikes/activecharger/

Check your email regularly, we will keep you updated with the latest version!

3. Storage

Do not leave batteries unused for extended periods of time, either in the bike or in the storage.

- The storage temperature should stay ideally around 20°C (room temperature) and with a relative humidity of less than 80%. It is important to avoid exceeding a temperature of 25°C, as doing so may cause irreversible damage to the battery. Therefore, it is essential to monitor and control the storage environment to prevent any potential damage to the battery.

- o Store the battery or eBike and the charger always in a dry and cool environment, away from any heating source, flammable materials, flame accelerator or corrosive gas.

- o Don't expose the battery to cold temperatures for extended periods of time.

- If you are going to store the battery or eBike for **long term**, make sure to keep **their State of Charge (SOC) level between 30% and 60% to avoid accelerated deterioration of your battery.**

Never store the battery or eBike (long term) with SoC below 30% or over 90%.

- If the battery is still under warranty period (24 months), it is unnecessary to apply supplementary charging as the battery has an automatic shutdown mode, which is activated after its last usage. However, if the shutdown mode is activated, it is recommended to check the State of Charge of the battery every six months and implement an additional charge when necessary to avoid excessive discharge.

Not following these advices might have a direct impact on the battery life.
It is important to follow these storage advices.

4. Recommendations during the use of the Ebike

- To minimize the wear of its components, we recommend maintaining the charge of the battery between 20% and 80% of its capacity.
- Once battery is depleted (State of Charge at 0%) make sure you charge it back as soon as possible to an adequate level for storage or use. Remember that it may take some time for the eBike to be able to turn on when the battery is charging after it has reached 0%. Do not worry. Is totally normal.
- If you regularly use high levels of assistance, the discharge of the battery is faster and consequently the useful life of the components will be shortened with respect to using low levels of assistance, where the discharge is made in a lower and more progressive way.
- When starting an activity, we recommend not using the maximum assist right away – your battery needs to reach its ideal operating temperature first.
- Never clean your battery or your eBike with pressure water, this may break the water tightness. You can use a damp cloth for your eBike or rinse it with an adequate soap and a soft brush. Be careful when reaching sensitive areas like the Charging Point or other connectors.

5. Charging

The MAHLE System includes its charger that establishes a direct connection with the MAHLE X20 internal and external batteries, supplying the correct charging current and the ideal balancing of the cells.

- Use only original MAHLE SmartBike Systems chargers to charge originals MAHLE SmartBike Systems batteries. Any misuse of these devices can lead to personal injuries or system damages.
- Connect the charger directly to a power source.
- Never use extension cords.
- Avoid reverse charging (share battery or pass power from another device via cable or wirelessly).
- Do not use for non-rechargeable batteries, as they can overheat and break.
- The charger is not intended to charge automobile batteries.
- Inspect the charger before every use for possible damage of the charger, the wire or and charging plug. **Do not cover the charger while charging.**
- Never charge a battery which is potentially damaged or does have a defect.
- Make sure the charging socket and plug are not wet or humid before connecting and charging the battery.
- If the eBike or the battery are excessively cold, please wait until the warmed up before charging the system.
- Do not incinerate, disassemble, or short circuit batteries. Do not charge the batteries near to a heat source or flammable materials.
- For any cleaning operation disconnect the charger and all general power supply.

During the charging process:

- Charging a battery from 95% to 100%, is a process that besides causing a long wait, it could reduce the battery's overall capacity in its useful life considerably.
- Do not leave the charger connected to the bicycle continuously, doing so it could accelerate the degradation of the battery life. Ideally, do not leave the charger connected to the bicycle for more than 5 hours.
- Make sure that the charging is taking place in a dry environment at room temperature. The charger is designed for indoor use only. Do not expose it to wet conditions, rain, or snow.
- Bear in mind that every time you charge the battery it will degrade. A charging process from 0 to 100% is considered a charging cycle. Charging 5 times from 80 to 100% equals a full charge cycle.

6. Warranty policy

We strive to deliver excellent quality in our products every day, which enables us to provide the following warranty and coverage terms.

Duration of the warranty

As MAHLE Smartbike Systems we guarantee that the drive system and all the electrical components of the purchased bicycle are free of defective materials and will function without any limitations for a duration of two years or 500 cycling charges, whichever comes first.

Your responsibilities

Before your first use, please read the manual or manuals provided. They contain important information regarding safety, assembly, use and maintenance. It is important to read them carefully to avoid any issue with warranty claims. MAHLE also recommends using the MY SMARTBIKE APP to link your bike to the phone and activate your bike. This registration is not required to take advantage of this guarantee but doing so will allow MAHLE to better serve you in the future.

Geographic coverage

The warranty coverage extends to E-Bikes and components distributed globally. It is imperative to acknowledge that our entitlements outlined in this warranty exist independently and supplementary to your legal rights as a buyer of this product, which may differ based on the country, state, or region of purchase. This warranty does not affect those legal rights.

MAHLE global warranty covers our products at the level of standard warranty offered in the country in which it is used, meaning that if a product is purchased in a specific country "A" and moved to a different country "B" receives the warranty coverage provided by country "B".

To gain a comprehensive understanding of your rights, it's recommended that you refer to the laws of your state, province, or country. If you are covered by consumer protection laws or regulations in your country of purchase or residence, this warranty is in addition to those rights and remedies.

Warranty Coverage

In the event of a fault or malfunction in the drive system and its components (battery included), MAHLE will address defects related to material and/or manufacturing faults that are promptly reported and detected within 24 months after the purchase of the bike or aftermarket component from the Dealer, Distributor or OEM. Without invoice or any proof of purchase, MAHLE reserves the right to refuse the warranty claim.

Depending on the case and if applicable, MAHLE will take the necessary actions (i.e., providing new parts collecting the components, analyzing them, and repairing them). Thus, MAHLE can collect the component claimed to be defective and conduct an analysis to determine if the use and maintenance performed was appropriate, according to the MAHLE's instructions. If it is found that the use and maintenance was not carried out properly, MAHLE reserves the right to charge the responsible party for the logistics, analysis costs incurred and/or the replacement of the product in case it was replaced in advance. However, if it is confirmed that the component was maintained correctly, warranty will apply.

The warranty will apply if:

- The product is correctly maintained and does not exhibit any physical damage or indications of wear and tear resulting from usage that is not consistent with its intended purpose or that is inconsistent with the instructions provided by MAHLE. Any damages arising from usage that deviates from the recommended guidelines may not be covered by the warranty.
- The product does not show any characteristics that suggest unauthorized repairs, tampering, or modification of any of the product's components or parts by repair shops that are not authorized by MAHLE. Any indications of such interventions may void the warranty.
- The serial number of the products remains clearly visible and unaltered.
- The invoice is provided to the warranty claim.

Warranty exclusions

This warranty does not cover the following:

- If there are damages resulting from improper use, transportation of products, accidents, falls, incorrect assembly, natural disasters (such as earthquakes, fires, flood, or other external causes) neglecting maintenance, or failing to follow the instructions for usage, storage, updating and charging as outlined in instructions of MAHLE. Additionally, the natural wear and tear of MAHLE batteries and the loss of their capacity due to regular use, charging, and storage are not covered under this warranty.
- If a replacement part is needed, it doesn't reset the original warranty period. For example, if the bike that is 6 months old needs a replacement part, it will still have 18 months of warranty coverage left from the original purchase date, not 24 months (2 years).
- If the fault or error occurs outside the warranty period, the warranty will not be applied.
- If the battery has got already 500 battery cycles, the warranty will not be applied. The cycles can be checked through our APP and our Dashboard.
- Continued abusive operation such as storage out of the described specification (longer time than specified; temperatures out of range).
- Log data not available (fully or partially damaged).
- MAHLE is not responsible for direct, special, incidental, or consequential damages resulting from any breach of warranty or condition, or under any other legal theory, including but not limited to loss of use; loss of revenue; loss of actual or anticipated profits (including loss of profits on contracts); loss of the use of money; loss of business; loss of opportunity; loss of goodwill; loss of reputation.

7. Warranty Process

In the event of an alleged defect covered by this warranty, please directly contact your Dealer (ideally the store where the product was purchased). Ensure you have prepared the following information before contacting your Dealer, as MAHLE will require this information to process the warranty request:

- Bike serial number. It can be found on the frame of the bike or in a bike diagnosis (by using the MySmartbike APP).
- Invoice of the bike (or invoice of the aftermarket product in case there is any).
- Detailed description of the defect. Please also include if possible:
 - 1) Type of failure or error code** (i.e., intermittent assistance, pink flashing light, assistance cannot be changed, error code #1...).
 - 2) Pictures, videos, or proof of the defect.**

If applicable, you can also contact MAHLE directly for any inquiries or questions you may have:
<https://mahle-smartbike.com/contact/>

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