INTRODUCTION

Please read the entire users guide before using the wheel. For the newest version of this guide or for miscellaneous questions, please consult the official representative for the country in which you reside or consult our website www.last-bikes.com.

CAUTION - In the case of non-compliance with these instructions, the function of the product will be impaired, which may lead to injuries with serious consequences, and the loss of the product guarantee.

INTENTIONAL USE

Last wheels are designed to be used on bicycles only. They are not designed for the bicycle discipline trial nor for use on a tandem nor for single speed cross country riding.

IMPORTANT

• Before every use, check the function of your rear wheel hub. Make sure that the freewheel and engagement connection function impeccably. Should there be any mal-function, the wheel hub must not be used. In such a case, the problem must be repaired before use. If you are not in a position to repair the hub, contact a professional bike mechanic.

• Before every use, check the wheels for play, cracks and deformations. In case of any of these the wheel must be repaired before use.

• Check the spoke tension at least once a week or every 5 rides. Too high or too low spoke tension will lead to damage on the wheel. If you are in doubt about the correct spoke tension ask a professional bike mechanic.

• **CAUTION** - After every accident, crash or excessive ride check your entire wheel and organize replacement of damaged parts instantly.

• **CAUTION** - Make sure the wheel fits with your fork and your frame. Front is 20 mm x 110 mm through axle. Rear is 135 mm axle with 10 mm bolts. Use only comaptible tires, tubes and rim tape. Do not use more then 4 bar = 58 PSI tire pressure.

• **CAUTION** - Do not use rim brakes on either the front or rear wheel. The rims have no wear indicators and may suffer from unexpected wall breaking when used too long with rim brakes.

• New hubs have a higher rolling resistance than used hubs, because the grease has not yet been evenly distributed and the seals have not yet been bedded in.

• Disregarding these instructions will limit the function of the freewheel and can lead to injury or other severe consequences and the loss of the product warranty.

• **CAUTION** - Do not use shorter axle bolts. Use bolts with at least 800 N/mm² tensile strength. Tighten bolts to max. 35 Nm. Do not over tighten the bolts to prevent wheel slippage, use chain tensioners instead. Over tightening will harm the structure of the hub.

• **CAUTION** - The chainline of the hub is 50 mm. Adjust your sprocket accordindly, so the chain runns straight. Otherwise the driver will show excessive wear on the teeth.

• **CAUTION** - Chains lengthen after months of use. This leads to load concentration on a single tooth of the driver. Change your chain before it is worn out to protect the teeth of your driver.

• Spoke length is 258 mm for all spokes, nipples use 4,3 mm wrench, which is similar to the Shimano size and T20 torx .

• Do not use high pressure water jets to clean the wheels.

• Maintenance work and repairs must be carried out by professional bike mechanics or similar qualified persons using the available special tools. For maintenance work and repair instructions refer to the technical manual of the Zakk (V1-V1.1) and Carmen (V1) hubs which can be downloaded from or website www.last-bikes.com.

MAX. 35 NM TORQUE

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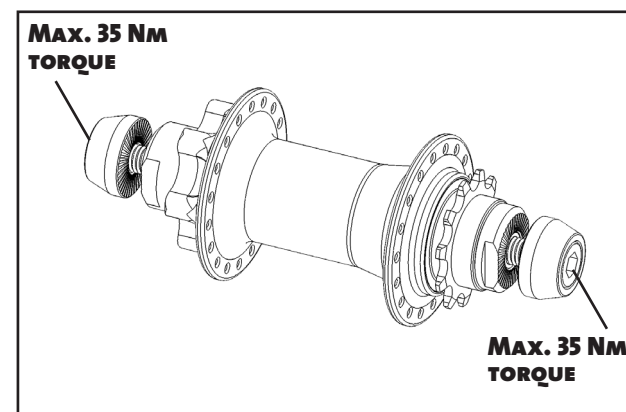
MAINTENANCE OF THE WHEEL

Maintenance of the rear and front wheel must be carried out at least once a year. When used under extreme conditions (heavy rain, mud, transport in the rain etc.) the free-wheel should be serviced more often. Regular maintenance of the wheel helps to ensure a longer life and optimum running performance for years. In the case of exposure to water under excessive pressure (e.g. high-pressure cleaners), water may penetrate into the hub. This may damage the hub. Do not use any solvents or detergents.

WARRANTY TERMS

Please visit our website for the latest version of the warranty terms.