

Vostok 1500 User Tips



1. Maximizing your range

The standard range for the Vostok 1500 with one battery pack is 75 km. This is calculated for a normal driving cycle in city conditions, reaching the max speed of 45 km/h. The range will vary similarly as it does in gasoline vehicles, depending on the driving style, the route and other external factors. In order to maximize the driving distance, you need to consider these things about the Vostok 1500:

2. Three Power Mode Switch

Vostok 1500 features a drive system with 3 power levels which modulate the electric current that is effectively fed into the motor whilst driving. Switching to the lower power levels will help to save energy and increase the range per charge. The drive system is powerful enough to reach top speed in flat grounds under power level 2, and most of the times level 1 is sufficient to keep up with the pace of the traffic within residential areas. Max power (level 3) is only suggested for climbing slopes. Using a lower power level will keep the motor within the maximum efficiency working levels. At the same time it will help modulate the driving style, with smoother transitions between acceleration and braking stages, improving the overall efficiency and range.

3. Regenerative motor braking

This functionality of the drive system reverses the function of the motor while pulling the brake lever switching it into a generator. The motor opposes to the kinetic energy of the vehicle, producing a braking force, and transforming it into electric current that is used to charge the battery pack. A modulated driving style with soft braking will help to convert the maximum possible braking force into electricity. Abrupt braking will make use of the traditional friction brakes, wasting the opportunity to use the kinetic energy to re-charge the battery, and reducing the maximum range that can be obtained. This effect will be especially important when driving in terrains with elevation changes; smoothly driving and braking can help recovery whilst going downhill as some of the extra energy will be needed to climb the hills.

4. Stop and go

A route with frequent stops will negatively affect the driving range per charge. The same economic driving rule also applies to gasoline vehicles.

5. Driving with 2 battery packs

Using 2 battery packs will have a positive effect on the total driving range (in this case, $1+1 > 2$). As each of the packs will be working on a lower current rate, the total available effective energy for each pack will increase, resulting in a longer working time and bigger range. However, for this positive effect to happen, the charge level on both packs need to be balanced. Using a fully charged pack with a half empty one will have a negative effect. It is recommended to fully charge both packs before using them to ensure a balanced status throughout the full cycle.

6. Battery and charge

The lithium ion cells in the Vostok 6032 battery pack enables us to offer an outstanding performance together with the most convenient using requirements. The pack is designed to be used and charged without worries throughout the whole product life maintaining great performance levels.

6.1. Battery pack life cycle

The pack is designed to be fully charged and discharged more than 700 times whilst still keeping more than 80% of the original capacity. Enabling you to drive up to more than 50,000 km with your Vostok 1500 before you can notice a real drop in the driving range. And even after that, the pack can still be charged and discharged up to 1,500 times keeping the driving performance with a reduced range.

6.2. Charging the battery

The battery is charged in two phases, first under constant current up to a voltage of 71.4 V, and then under constant voltage until fully charged. Use only the original Vostok charger provided with the battery pack to ensure a safe charging.

6.3. Cutoff voltage

The working voltage of the battery pack will gradually decrease when using it. When it reaches 55v (which corresponds to a 15% charge status) the red battery charge pilot in the dashboard will turn on. When the voltage drops to 52v the battery pack will be fully unloaded.

6.4. Partial charges and discharges

Unlike older battery technologies, lithium ion batteries have no memory effect, meaning that they always keep the maximum capacity no matter at what level they are plugged into charge or plugged off. Actually, charging before the pack reaches the cutoff voltage will help increase the battery pack life. It is recommended to plug in the battery pack for charge when the Vostok 1500 has been left unused for a period of time.

6.5. Charge and discharge current

The electric current is the rate at which the battery capacity is consumed. The Vostok 6032 pack is designed to work under a max current of 40a to enable the drive system and motor to deliver the maximum power. Using the lower power levels of the drive system together with a modulated driving style will require smaller current rates, which will have a positive effect both on the driving range per charge and the battery pack life cycle. In a similar way, using the slow charging mode will help keep the battery pack in a better condition for a longer time.