VOLTZ LiPo Care

Break-In Procedure

Voltz LiPo packs are robust and do not need a complicated break-in procedure. We recommend that the first 5 uses are limited to 1C charge rates, and that pilots use throttle management to avoid long periods of max-rate discharge during the first 5 flights.

Discharge

Analysis of damaged packs show that nearly 70% of packs returned by users have suffered from "capacity over-discharge" conditions. This simply means that the pack has been ran for too long, allowing the resting voltage to fall below nominal voltage. This type of damage is visible upon cell inspection at the factory. Every type of battery has a minimum recommended discharge level, it is best practice to always leave 20% of the rated capacity in the pack at the end of a flight. To avoid capacity over-discharge, we recommend the setting of an appropriate cut-off voltage (LVC) and the use of a transmitter flight timer. The appropriate voltage cut-off will depend on how high the max and average discharge rates are. For very high discharge applications, something around 3.2V (or even lower) may be acceptable. For standard aerobatic flight, start at 3.4V to 3.5V/cell, and set your timer to 4 minutes initially, then note the amount of milliamps charged back into the pack on the next charge. For example, If the pack is 1000mAh, you should not be adding more than 800mAh during a charge cycle, meaning that 200mAh remain at the end of the flight (20% of capacity).

Charge

All Voltz packs can be charged at a maximum rate of 5C. However, given the negligible difference in charge time between 5C and the recommended 3C rate, we believe 3C to be the ideal max charge rate for any high-performance LiPo pack. We strongly recommend the use of a quality-brand charger, such as the Voltz 101K or the Voltz 6250 chargers as some generic brand chargers have been known to use poor components, and may therefore not control charge voltage properly. Voltz chargers are very accurate and have a very robust balancing circuitry making them ideal when charging at higher rates.

Please be sure that charging is always done in such way that in case of fire, no damage or injury can occur. Keep LiPos well separated (minimum 2 meters or 6 feet) from flammables, and always use a brick enclosure or "LiPo sack" to insure that any possible fire can be contained. We strongly discourage charging within or near living spaces, or inside automobiles. Never leave your LiPo unattended while charging.

Temperature

For best performance and cycle life, Voltz battery packs should have a resting temperature above 10 °C (50 °F) at the beginning of a Flight, or before charging. Keep the batteries inside your vehicle or a warmer of some kind on very cold days. On hot days , allow your packs to cool before charging. Never exceed 57.2 °C (135°F) when flying your Voltz packs to insure cell life and performance.

Physical

Never cause indentations to the covering of the pack, or cells underneath. Do not use a ball-point pen to write on the pack, use a felt-tip pen with light pressure instead. When installing packs in a model, ensure that they are protected from impact and pressure damage, use foam casing if possible. Do not over-tighten hold down straps. Straps should be cloth (Velcro) as opposed to hard plastic, such as zip ties. External damage to any Lipo pack can cause salt formations that can reduce performance, and in more severe cases can cause fire during charging. Impact damaged packs should be fully discharged, and disposed of immediately.

Storage

LiPo packs should never be stored fully charged. Batteries are best stored in a cool, dry environment (2~20 °C or 37~68 °F).