BATTERY SAFETY GUIDELINES

Lithium polymer or Lipo batteries are commonly used these days in a wide range of RC, applications such as, Model Planes, Drones, RC cars etc…
If you use a Lipo battery you need have a clear understanding on how to handle these batteries safely to avoid any injury. Using a Lipo battery incorrectly will create a high probability of property damage, collateral damage, and potentially cause the battery to catch fire causing serious injury.

How To Handle Lipo Batteries Safely

Lipo batteries are fairly robust however, they can also be fairly fragile if mishandled. Most of this is common sense but below are a few points to help you.

- Never alter, puncture or impact Batteries or related components.
- Never keep sharp objects near Lipos. This may cause a hole in the pack and can lead to a fire.
- Never immerse the battery in water or allow it to get wet.
- Avoid dropping batteries, dropping Lipos can cause the battery cell to crush causing an internal short which may lead to fire.
- Never put batteries in your pocket or non fireproof bags this may cause the battery to short circuit.
- Never store batteries inside a Vehicle.
- Never directly connect the terminals with metal objects. This will short-circuit Batteries, resulting in heat and electrical discharge.
- Never store loose Batteries together, the Batteries' terminals may contact one another causing a short circuit.
- Never expose Batteries to extreme temperatures or direct sunlight. The temperature range must be between 40-120° F (4-49° C).
- Heat kills Lipos, the hotter a battery gets, the shorter the lifespan will be. Never charge a battery that is still warm after usage, and never use a battery that is still warm from charging.
- Always verify voltage of Batteries before use, this is especially important for packs that have been out of service for greater than six (6) months.
- Always charge/store Batteries in a non-conductive, fireproof container or bag.
- For best practice store standard lipo batteries at 3.80 volts +/- .05 volts per cell. Or at the manufacturer's suggested storage voltage for non standard chemistry's (Lifepo4, Lihv)

- Ensure that all cells in a battery maintain the same voltage across all cells at all times.

Charging

- Always ensure you are using the correct charger for the specific battery type you are trying to charge. Example: If you are charging a Lipo battery, only use a charger designed for Lipo batteries. If the charger can support different battery types, ensure you select the correct type. Failure to do so may cause a re, which may result in personal injury and property damage.
- Always charge batteries at a rate of 1c (one (1) times the capacity unless specified by the manufacturer.
- Always use a compatible balanced mode charger, specifically designed for the chemistry of battery you are using.
- Always charge Batteries in an open area away from flammable materials, liquids and surfaces.
- Never charge Batteries inside of the model.
- Never charge the battery inside a Vehicle.
- Never charge Batteries that are too hot to the touch (above 100° F). DO NOT handle Batteries until they are cool.
- Never charge a battery that shows signs of puffing.
- If you start seeing any physical changes to the battery while charging example puffing, STOP charging immediately and dispose of the battery responsibly.
- Never charge a battery pack that has been punctured or damaged.
- Never let the positive and negative battery leads touch each other. It can lead to cell ballooning, cell damage, fire or an explosion.
- Always set the charger to proper cell count and/or voltage listed on Batteries' labels.
- Always charge batteries at a rate of 1c (one (1) times the capacity unless specified by the manufacturer
- Always check the voltage of Batteries before each charge session in order to ensure they are at or above the minimum safe starting voltage. If starting voltage is below recommended levels than Batteries have been over discharged or have experienced a failure and should NOT be charged
- Never overcharge Batteries beyond the capacity listed on Batteries labels.

- If you notice your LiPo battery pack is swelling while charging, stop the charging process immediately, put the battery in a safe non-flammable metal container and observe it.

Discharging

- Never discharge Batteries at amperage rates higher than specified on Batteries' labels
- Never allow the temperature of Batteries to exceed 120°F / 49°C during discharge. Adequate cooling for Batteries is required.
- Never leave battery unattended during the discharging process, always monitor the process constantly and react to potential problem that may occur.
- Never discharge Batteries to voltage below which they are rated by the manufacturer when measured under load(connected to the vehicle or a charger capable of discharge). Batteries discharged to a voltage lower than the lowest approved voltage may be damaged, resulting in loss of performance and potential fire when batteries are charged.
- Never discharge battery to a level below 3V per cell under load.
- Always use a proper balance discharger when discharging your batteries
- If you start seeing any physical changes to the battery while discharging example puffing, STOP charging immediately and dispose of the battery responsibly.

Disclaimer.

The advice given above is general in nature and you are responsible for the safety of your batteries. RCBattery.com are not responsible for any direct, indirect, special, or consequential damages and personal injuries, including that to life, and health, resulting from the customer's application and use of Batteries sold by RCBattery.com