

MAR/C LiPo Disposal Policy

Effective Date 07/01/2023

With the increased reliance on LiPo batteries to power our model airplanes. We as members of the model airplane community, have created the need to dispose/recycle unwanted or damaged batteries. Proper disposal of said batteries requires that the battery be rendered unusable with a total voltage of **Zero Volts (0v)**.

MAR/C is an all-volunteer club. The sheer volume of batteries being deposited in the recycle pails has created a toxic waste situation difficult for an all-volunteer club to handle. It is the opinion of the MAR/C BOD that "Since you bought the battery and had fun using it, you as a member should be responsible for its proper disposal/recycling."

Effective 07/01/2023, MAR/C will no longer provide member battery disposal. To facilitate this policy change, please find below resources and methods for proper disposal of unwanted Po batteries. These methods and resources are the best information that is available to MAR/C BOD at this time. Club members wishing to dispose of LiPo batteries assume all responsibility for the methods used and for the proper disposal of their batteries.

Deactivation Methods

Listed in random order

1. **Salt water bath** - LiPos placed in a bucket with a concentrated solution of salt water will in time discharge. The drawback to this method is the interior contacts on the individual cells can corrode making the total discharge incomplete.
2. **Charger discharge mode** – Some chargers have a discharge mode. These modes usually discharge to a cutoff of 3.3V~3.8V. Other newer "Smart" chargers have a battery kill function. This is a very slow process as the charger turns stored energy into heat. This can be dangerous if done indoors. If your charger does not have a Full Kill function and only drops the voltage to 3.3V~3.8V you may think it is at 0v as your battery checker may not have enough power to function. ISDT does make a battery checker that will function as low as 1v. The best way to verify if the battery is dead is to use a multi meter.
3. **LiPo Killers-**
 - a. ISDT FD-200 – This is a moderately priced and very well made LiPo discharger. It has a heavy aluminum case and heat sink to dissipate heat and a fan to add more cooling.
 - b. Drone style LiPo Killers – the drone product suppliers have produced a number of very small and inexpensive (cheap) LiPo killers. These units are intended for 3&4s batteries, but will work on larger batteries. It takes about 2 days to kill a 6s with one. The voltage draw is very low, so the time to kill the battery is long, but the heat generated is low enough to be fairly safe.

4. **Lightbulb LiPo Killers** – a very simple method for voltage drawdown is to solder the appropriate battery connector to a length of wire and solder the other end to the contact point on a 12volt RC or low voltage outdoor landscape halogen bulb. Once again heat is produced so care must be taken. Monitor the discharge as the battery may puff.
5. **Radial Ceramic Resisters** – Solder the two leads on a 150 ohm 2 w ceramic resister to the leads on the appropriate battery connector. Apply heat shrink tubing for a finished appearance. Remember the resister will get hot.

Always place your battery in a fireproof container on a fireproof surface when discharging.

Resources for Information

1. <https://oscarliang.com/uruav-lipo-killer/> Great info source-make your own LiPo Killer
2. <https://www.rcarstars.com/rc-maintenance-blog/how-to-dispose-of-puffed-rc-lipo-batteries#:~:text=Once%20fully%20discharged%2C%20a%20LiPo,drop%20off%20your%20LiPo%20pack> more DIY info
3. <https://www.getfpv.com/lipo-killer-0v-battery-discharger.html> Inexpensive LiPo Killer
4. <https://www.racedayquads.com/products/lipo-killer-safe-lipo-discharger-disposer-xt60>
5. info@rcbattery.com Great source of info, very responsive to questions.

Facilities for disposal

Batteries must be at 0v

1. **Lowes/Home Depot** – Fully discharged batteries can be disposed of at these big box stores. They have collection boxes (usually near the check-out stands) where you can leave your battery once you place it in a plastic bag. No charge.
2. **Batteries Plus** – Fees may apply.
3. **Hazardous waste disposal locations** – King County
https://kingcountyhazwastewa.gov/?gclid=CjwKCAjw1YCKBhAOEiwA5aN4AVH9zOSmm_ULHvOe6pSQkZfsfdMwWbk94PAdeZlyHZGYPZiONbopNhoCYAcQAvD_BwE
Snohomish County <https://snohomishcountywa.gov/477/Hazardous-Waste>