



Trevor Boundy <trevor@boundy39.com>

Battery Charging/Discharging Rules

1 message

Tandy Walker <rdb435021@icloud.com>
 To: Tandy Walker <rdb435021@icloud.com>

Tue, May 11, 2021 at 2:22 AM

A recent charging failure with my transmitter's NiMH battery pack has caused me to reevaluate how I charge/discharge the battery packs in my R/C electric models. For the past week I have been corresponding with several expert SAM electric model fliers to develop what I believe to be an acceptable set of rules for charging and discharging LiPo and NiMH battery packs used to power electric motors and radio equipment, respectively. After considerable dialog and a number of iterations with the experts, the final results of my reevaluation are summarized in the table below for your benefit as well.

Battery Charging/Discharging Rules	<i>5/10/21</i>
LiPo Packs	
Charge Rate at 1C with cutoff at 4.2 V/Cell	
Discharge to ~ C/2 using charger's Storage Mode with 3.84 V/Cell cutoff	
<i>Note: C/2 X (4.2 X No. of Cells) must be less than charger's Max Discharge Power</i>	
NiMH Packs	
<i>Note: Peak-Detection Charge/Discharge with 4mV Delta-Peak Sensitivity</i>	
Tx & Rx Charge Rate at 0.45C using Smart Charger	
Tx 8AA 2000 mAh Discharge Rate = 500 mA** with 1.0 V/Cell Cutoff (8V) ~ 240 min	
Rx 5AAA 950 mAh Discharge Rate = 300 mA* with 1.0 V/Cell Cutoff (5V) ~ 190 min	
Rx 5AA 2000 mAh Discharge Rate = 500 mA** with 1.0 V/Cell Cutoff (5V) ~ 240 min	
<i>* Based on normal Rx & servo current drain during flight</i>	
<i>** Based on 4 hour discharge time limit</i>	
<i>Note: Use ACE dmyc Charger with a manual timed cutoff</i>	
Tx & Rx Slow Charge Rate: 14 Hours at C/10	

I believe the rules for NiMH battery packs also apply to NiCd battery packs, although I no longer use them.....Tandy