Batteries

TYPE	General Description	Comments	Care and Charging	Pro's	Con's
Lead Acid	Sealed Lead Acid Gelled Electrolyte 2 Volts per Cell Typical sizes 6 Volt or 12 Volt 3 or 6 Cells in a molded plastic case	Most widely used battery in club Good for low to moderate current use 4.5 Ahr Battery 4.5 Ahr at 1/4 Amp 3 Ahr at 1 amp 2 Ahr at 3 amps 6V 4.5 Ahr = 720 g	Charge immediately after use Limit charging voltage to avoid loss of Electrolyte short term 1.24 volts/cell Long term 1.15 volts/cell Recharge every 3 to 4 months of storage	Heavy Makes Good ballast Least expensive Long Lasting/dependable No noticeable Self Discharge	Capacity reduced with each use 150 or so Deep Discharge Cycles will reduce capacity to near 0 Capacity reduced with heavier current
NiCd	Nickel-Cadmium 1.2 Volts per Cell Sold as single cells or packs Cells are flashlight battery size Size range from AAA to D and F Typical Packs from 1 to 8 cells	For years widely used in cars and planes Good for heavy current draw 4.5 Ahr pack will provide 20 to 30 amps with little or no loss of Ahr	Immediate charging not necessary discharge to 0.9 Volts/cell For Storage Fully Charge before use	Lighter weight than same capacity Lead Acid Provides higher current without loss of capacity	Cadmium toxic Requires special disposal Self discharge Memory
NiMH	Nickel-Metal Hydride 1.2 Volts per Cell Sold as single cells or packs Cells are flashlight battery size Size range from AAA to D and F Typical Packs from 1 to 8 cells	Replacing NiCd in cars and planes Good for heavy current draw 4.5 Ahr pack will provide 20 to 30 amps with little or no loss of Ahr 7.2V 5 Ahr = 422 g	Immediate charging not necessary Charge to 50% for storage Fully Charge before use	Lighter weight than same capacity NiCd Provides higher current without loss of capacity No Memory Problem	Self Discharge
LiPo	Lithium-ion Polymer 3.7 Volts per Cell Sold as packs usually 2 or more cells	Newest Type 4.5 Ahr pack can provide 50 to 100 amps or more ESC Must turn off at 3.0 volts/cell 7.4 V 5 Ahr = 275 g http://www.rchelicopterfun.com/rc-lipo-batteries.html	Charge with special LiPo charger Keep Cells balanced Voltage must be limited to 4.2 volts across each cell Charge to 50% (3.85V/cell) for Storage Fully Charge before use	Very Light 1/2 weight of NiCd Very high Current capability	Fire Hazard!! Must use Compatible charger Must use Compatible speed control Most Expensive