

Tip for New Hams: Emergency Battery Basics for HT Radios

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Most HT radios today are supplied with a built-in rechargeable lithium-ion battery. This is a wonderful convenience for day-to-day use, especially if the radio has a charging cradle and can left switched on when not in use, thus maintaining the battery and able to receive incoming calls. But what do you do when hydro is out and the charger can no longer maintain the radio battery? The answer is an accessory available for many HT radios that replaces the standard rechargeable battery with a holder for AA or AAA batteries -- your emergency backup batteries.

BUT... the battery cells that you have carefully stored in your emergency supply kit may not be of much help if they are the wrong type of battery for their intended use. Chances are your emergency batteries are AA or AAA cells and there are many brands and models to choose from. But among these choices there are some major differences in battery chemistry and capabilities. Making the right choices when buying batteries will pay off when they are needed in an emergency.

Choose non-rechargeable **alkaline** cells if you want to guarantee that batteries, even after ten years in your emergency kit, will produce a powerful beam for a few hours in your flashlight. The inexpensive, so called "heavy duty" batteries have very low energy and will burn out quickly. Most rechargeable AA batteries are also not a good choice for emergency back-up kits because they self-discharge in storage, usually within a year or less and much sooner when very warm.

However, alkaline batteries are not the best choice for powering a two-way radio or other applications that use energy very quickly (video or mechanical devices). Most alkaline cells will be exhausted very quickly in high power devices. However, non-rechargeable **lithium** cells can handle the high drain of power-hungry devices and have a very long shelf-life. These are now widely available in AA and AAA sizes.

Most types of rechargeable cells can also handle high drain applications, but self-discharge is an issue, as noted above, unless you get the more expensive types designed for ultra-low self-discharge, such as Sanyo Eneloop. Even so, if they have been stored in your emergency kit you have to remember to top up the charge every year or two so they will be ready when needed.

So when you are shopping for battery cells for your emergency kit, don't be misled by the information on the packaging. Any brand-name alkaline cells will last a very long time in storage and work fine in low-drain devices such as flashlights. Batteries for high drain devices come at a higher cost, your best choices being disposable lithium cells or special rechargeable cells that hold power up to three years.