

BATTERY LIFE AND SOLAR

There is reportedly enough reactive material in lead-acid batteries to keep them operating reliably for eight to 10 years-or even longer. However, most batteries cannot go the distance. Average battery life, depending on usage, is six to 48 months. According to a recent study, only 30% of all batteries reach the 48-month point.

Sulfation hurts batteries Sulfation buildup accounts for 80% of all batteries that prematurely die. This occurs when sulfur molecules in the battery acid discharge to the point where they begin to crystallize and coat the battery's lead plates. The more the plates are coated, the less energy they can accept or release. Before long, they become so coated that the battery dies.

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“How does sulfation drain a battery ?”

A trickle charge (**or GCS SOLAR KIT**), commonly associated with lead acid batteries, is a low-level electrical charge applied to a battery that roughly equals its rate of discharge. A trickle charge device typically incorporates a float mechanism (**GCS solar controller**) that prevents overcharging and can be left connected to a battery for indefinite periods of time.

Anyone with a second mode of transportation, recreational vehicle or boat knows the aggravation of going to use it only to find a dead battery. A standard charger can re-charge an undamaged battery in two to five hours, but this is a hassle (**and costs money**). A jump start might work too, but none of these methods helps to reverse the negative effects that repeated discharging has on a battery. A new battery kept on a trickle charge (**or GCS solar kit**) when not in use will not only be ready to go at a moment's notice, but batteries that go through fewer discharge cycles last longer, (**easily double life time**) stretching your dollar.

During the course of a battery's life, it will develop sulfation. Lead sulfate becomes crystallized on the surface of the lead plates inside the battery, preventing the battery from taking a full charge or operating at full capacity. **The more often a battery fully discharges** and sits in a discharged state, the worse the sulfation becomes until the battery can no longer hold a charge and needs replacement. If a sulfated battery sits long enough, the crystals grow to such an extent that they will eventually bow the battery case and finally crack it. Keeping a new battery healthy by feeding it a trickle charge (**with GCS solar kit**) greatly reduces the rate of sulfation, extending battery life (**by 2-3 times**).

A trickle charge uses very little electricity, but in some cases an A/C outlet isn't handy or practical. For these situations you might consider a [solar panel](#) trickle charger (**like the GCS solar kit**).

Solar panel chargers are also designed to prevent overcharging, but are not designed to charge dead batteries.

(We added our comments above in (..), to make it easier to understand the tremendous benefit of our golf cart solar kit for the batteries.