

## **Sulfation – Why it may be killing your battery**

It has long been known that Water Sport vehicle as well as other application lead-acid batteries, sealed AGM or flooded (wet cell-filler caps), when used infrequently, lose power and have shorter lives than those used on a more regular-daily basis. Why should this be? It is counter-intuitive. Something else must be going on that is not seen or readily understood. The major “unseen” is “sulfation”, a build-up of lead sulfate crystals causing “bad things” to begin happening leading to loss of cranking power, longer charging times, excessive heat build-up leading to “boil out”, shorter running times between charges and lastly, dramatically shorter battery life. It is however, not the only reason a battery fails.

Because there are numerous causes of battery failure, it is difficult to determine the present “health” of a failing battery. It is long known and widely accepted that the single largest cause of early battery failure is “sulfation”. It is however not the only cause. The job of a VDC Electronics or any company concerned with helping extend the usefulness of batteries, is to accurately guide the user in determining whether desulfating his battery will bring it back to “good” health. There are conditions that exist that render a battery beyond “recover”. These cannot be easily determined, without destroying the battery in the process. Thus, at times, desulfating it won’t make it “good” again. Do we just tell the owners of the hundreds of thousands of batteries that can be “saved” from early failure, due to sulfation, to not even “give it a shot”? Seven (7) years of producing more than forty thousand (40,000) charger-maintainer-desulfator units per year, tells us we should not stop our efforts. Can we do a better job? We can always do a better job, so long as we continue to have the desire and knowledge to do so.

Conclusion: de-sulfating batteries, via high frequency-high energy electronic pulses works at removing sulfate from any type lead-acid battery, sealed or wet cell. By doing so, otherwise healthy batteries, those which have lost no more than 20% of their power\*, can expect improvement to an 85% or greater level of performance. As with our own bodies, prevention beats rehab, every time. With BatteryMINDers’ ability to fully charge, without ever overcharging, no matter how long left connected, there is no reason sulfation should ever become an issue. Further, without sulfation ever reaching damaging levels and the battery never subjected to overcharging, life and performance can be expected to be several folds better than any battery left to self-discharge, as is typical of so many water sport vehicle batteries. *“The proper use of a non-Aircraft Specific BatteryMINDER ensures the longest performance life of any Water Sport vehicle battery, sealed or wet (filler caps). Our unconditional Guarantee and 5-year full parts and labor warranty, should tell most that, we ‘walk the walk’”.*

\*As determined by electrolyte specific gravity and/or no load battery voltage after “resting” battery for 10-12 hours.