



Bill Marden The Care and Feeding of the Lead Acid Battery

Many of you doubtless know more than I of the care and maintenance of batteries. If so, read no further! For the rest of us, who rely on our batteries to power almost everything, I hope you may get something out of my ramblings.

In 1895 Joshua Slocum sailed out of Gloucester with only whale oil, some wood, and a few candles to show his presence at night or in fog, but nowadays every yacht has an engine starting battery designed to give a burst of high amperage (200-400 amps). This battery is usually 12 or 24 volt, providing a DC power source, and lead acid – a sensitive thing in which to store your power. Just sitting idle at the dock doing nothing it will lose in the order of 1% of its charge daily. Starting batteries do not take well to full or nearly full discharge – my estimate is that in the vicinity of 20% of the battery's future capacity can be lost if it is allowed to become completely discharged.

When charging any lead acid battery take great care not to bring near it any spark or fire or it will blow up in your face, covering you with acid. Hydrogen is a byproduct of the charging and one of our most explosive gases. During charging, dissociation takes place, producing hydrogen and sulphate ions, so don't let a spark explode your battery. If you do it will bite you. We now have sealed batteries which largely alleviate the problem, but it's better to know what can happen and sometimes does.

We also have to thank the golf industry, which needed something more than bigger drivers and funny putters to attract people to the golf course. The more urgent requirement was to get rid of the infernal combustion engine with its smell and fumes. Electricity was the only way to go, and golf had to invent a new battery which could work all day and be charged all night. The golf cart was thus born. No big problems with designing the cart, but a new type of battery had to be invented which could be used all day until completely discharged and charged up again at night. So we have golf cart engineers to thank for their wonderful invention, the deep cycle battery.

Our deep water sailor now had a battery which he could not easily destroy. It could be completely discharged over and over – all that was required was a source of electrons to feed it. My experience has been that you can get years of service out of these deep cycle cells. Further improvements have now come from the golf cart people – larger, heavier deep cycle batteries which will also serve as a starting battery if and when required. I for one have two of the latest deep cycle units for ship's power, and one sealed top quality starting battery.

The boat's battery box has now become infinitely more useful than it was at the turn of the century, but with any battery be careful not to lay a wrench across the terminals by accident. Impressive fireworks will occur if you do.

(Bill is believed to be our most senior member, turning 96 on 1 June this year. He last wrote for Flying Fish 2013/1, about purchasing a Hans Christian 38 in California and transporting her back to his home in Texas.)



Houses are but badly built boats, so firmly aground that you cannot think of moving them. They are definitely inferior things, belonging to the vegetable, not the animal, world, rooted and stationary, incapable of transition. The desire to build a house is the tired wish of a man content thenceforward with a single anchorage. The desire to build a boat is the desire of youth, unwilling yet to accept the idea of a final resting place.

Arthur Ransome, *Racundra's First Cruise*

