



## **Battery Charging & Maintenance Questions and Answers**

**Question:** Do I just add the acid to a new battery and it is ready to go?

**Answer:** yes, but that battery will only deliver 70 to 80% of its capacity and experience a short service life. Batteries that have not been properly prepared before installation on a vehicle typically fail early, often just after the warranty has expired, or result in vehicle starting problems just when you are nowhere near help.

BEFORE being installed in the vehicle a new battery should be filled with clean battery acid (sulphuric acid of the correct density for the battery - battery acid for MF+sealed motorcycle batteries has a higher density than standard battery acid), and left to stand for at least 30 minutes (the larger the battery the longer it should stand) and then fully charged to the recommended voltage. The initial activation of the battery determines how well and how long it will continue to perform.

\*Please note that because of their design type, AGM Batteries will start to absorb acid immediately when filled, therefore giving out the false perception that there is not enough acid in the supplied acid pack(s). Because the acid pack(s) that are supplied with this type of battery are pre-measured for each individual part number and is a specific gravity which is required to activate AGM type batteries, the acid pack(s) that are included with the battery must be used in the activation process.

**Question:** Do factory activated batteries need charging?

**Answer:** ALL batteries self-discharge, faster in adverse temperature conditions (below 32°F / 0°C, above 95°F / 35°C) and the more the battery discharges the more lead sulfate is created. If this is left to float freely in the electrolyte, crystals are formed that attach to the plates, causing further discharge which in turns creates more lead sulfate.

**Stored batteries should be maintained at full charge or at least periodically recharged to remain 100% effective.**

**Question:** Will the vehicle's charging system recharge a deeply discharged battery?

**Answer:** A vehicle's charging system has been designed to supply power to the electrical system at a voltage not exceeding 14.5V. The voltage is the set parameter, and does not necessarily imply any current, as this depends on the resistance of the battery. The vehicle's charging system will therefore not deliver sufficient charge to effectively reverse sulfation in a deeply discharged battery that has developed high resistance due to a degree of sulfation. This means that the battery is always going to present starting problems, usually at the most inconvenient times. Sulfation is like a virus, if left unchecked, it spreads, so a battery left in this state is destined to live a short life.

**Question: Is it true that the larger the battery is, the higher the current rating the charger has to be, or otherwise it will not maintain the battery?**

**Answer:** To maintain a battery without causing damage or loss of electrolyte, voltage is the critical factor, not current. Once the battery is fully charged it requires a few milli-amps to overcome its own resistance (which causes self-discharge). Connected devices such as an alarm, trip computer etc. may add to the current draw, but it should still remain in the low milli-amp range.

**Question: Should a fully charged battery not be charged again until the voltage drops below a certain level?**

**Answer:** Lead-acid batteries last longest **if maintained at the fully charged level, especially when not in use.**

So, the key to how long it lasts mostly depends on how the battery is treated when it is not used. A fully charged battery will generally maintain an adequate charge for a month, if it is not too warm and if no external current draining devices are connected, or if the current draw due to a vehicle alarm, computer etc. is normal. However, it is recommended that the battery of any vehicle fitted with an alarm, computer etc., and left to stand for a long period of time should be supported by a good maintenance charger.

Batteries have a finite life. If allowed to cycle between discharged and fully charged, the overall life of the battery is reduced.