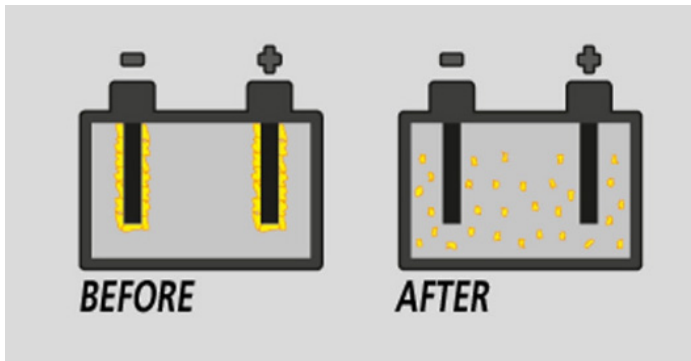




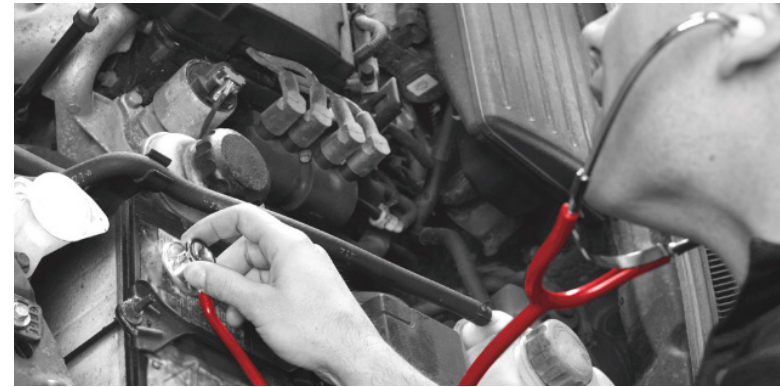
Battery maintenance

It is essential to know about those situations that can hinder battery performance: one of these is sulfation, which can degenerate battery performance until it is no longer usable. The concept of desulfation therefore arises, a process that returns battery operation, lengthens its life and eliminates the need for early replacement.

The same chemical reaction on which lead battery operation is based, in addition to supplying electric energy, creates an electrochemical condition that progressively degenerates the battery components and ends up in a loss of energy storage. During discharging, the lead plates (electrodes) react with the electrolytic acid solution and create lead sulphate crystals. These crystals deposit on the surface of the plates, which stops the electrochemical process from working correctly, which in turn degenerates battery performance; this situation is called "sulfation".



Battery sulfation is caused by many different things, but the battery remaining for long periods without being used, and therefore subjected to self-discharging, is probably the most common. In addition, the continually growing number of devices in today's vehicles that constantly require energy even when the engine is switched off, for example alarm systems, can cause the battery to discharge progressively and create the conditions for sulfation.



When a battery is recharged, these crystals should be re-absorbed by the electrolytic solution, and normal conditions should return, but excessive accumulation makes crystal dissolving difficult, which damages correct battery operation.

The term "desulfation" therefore introduces a forced process that replaces the initial density of the electrolyte solution with the application of special current impulses that disaggregate these crystals (breakage of the molecule bonds between the lead ions and the acid sulphate ions), which restores battery conditions.