
UNDERSTANDING THE TERM 'MAINTENANCE FREE' WITH REGARD TO SEMI SEALED FLOODED BATTERIES

The term 'Maintenance Free' is to some extent a misnomer in as much as any lead acid battery will require charging, occasional checking of connections and cleaning. However, provided a battery is able to meet the requirements of international specifications in respect of the water loss test it is permissible to refer to the battery as being maintenance free.

Maintenance free batteries incorporating flooded technology when used for SLI (starting, lighting, ignition) applications in automobiles are capable of functioning without requiring water to be added for the normal expected life provided that the charging system is operating within the correct parameters and is not overcharging the battery. Under such conditions the battery may be effectively regarded as a sealed unit.

Because the battery relies on a reservoir of electrolyte sufficient to last the expected life, should the battery have a longer life than that expected (i.e. more than 4 years) it is possible that, even with correct charging, sufficient water will be lost to allow the electrolyte level to drop to dangerously low levels. This exposes the inter-cell welds to a corrosive atmosphere and should the weld fail there is the possibility of an explosion because the connection is not below the electrolyte level. Where levels have dropped to this extent it is essential to either add distilled water or replace the battery.

Where faulty charge regulation results in overcharge of the battery the electrolyte levels will drop prematurely resulting in the same hazardous conditions as described above. First National Battery products have the advantage of being designed to allow the removal of the seal so that water can be added where such abuse has occurred.

Similar batteries suitable for cycling, load shedding and standby applications such as the Excis or Leisure range have the same limitations as automotive but are even more reliant upon the correct charge regime being applied because of their continuous connection to load or charge.

Source: C J Hardman
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