HAWKER® Headlines

Summer 2024 edition

Quick Tips!

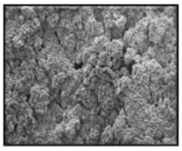
Generally, when fast (a.k.a., recovery) charging a single 12-volt ***Hawker®***, an ideal ***charger should have an output voltage between 14.4 to 15.0 VDC***. The optimal constant voltage is 14.7 VDC when the battery's temperature is at 77° F. Under normal conditions (when the **battery's** temperature is at or above 68° F), *it's not recommended to use a charger whose output voltage is* **less than 14.15 VDC or exceeds 15.0 VDC.**

Answer to question from last issue:

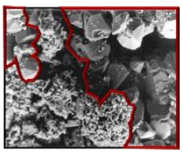
Are "lead-sulfate" and "lead-sulfation" the same thing?

No! Lead-sulfate is a soft, relatively formless chemical compound composed of lead and sulfate ions. It's created as a natural by-product of releasing chemically-stored electrons in the battery. You see, *as a lead-acid battery is discharged, the sulfate ions from the electrolyte solution attach to the negative lead plates. For each sulfate molecule that attaches to the negative lead plate…2 electrons are released to flow through the electrical system…and lead-sulfate is formed.* (On the positive lead-dioxide plates, lead-sulfate also forms after the dioxide is released from its covalent bond with lead.) Since **lead-sulfate is soft and amorphous** (lacking a distinct crystalline structure) it's **easily dissolved back into the electrolyte during the recharging process**. On the other hand, **permanent lead-sulfation** is a condition where the lead-sulfate has hardened into a defined structure (a regular, repeating crystalline pattern). Unfortunately, once this happens those areas of the plates are rendered "dead" as the sulfate **cannot be dissolved back into the electrolyte**. As such, cold cranking amps (CCAs) and ampere-hours (Ah) are permanently reduced. As hardening of more lead-sulfate continues…eventually the lead-acid battery becomes unfit for duty. So, how can you improve the life of your battery? It's simple…use your battery but recharge it! In fact, **never leave a lead-acid battery in a discharged condition**!!

lead



lead & lead-sulfation



lead-sulfation

Did you know:

Bren-Tronics, Inc. Intelligent Military Batteries & Charging Systems™

that ***Bren-tronics®*** is now part of the **EnerSys®** family? They're a leading manufacturer of rechargeable batteries for the military and other markets, including directed energy, robotics, and high energy applications. Bren-Tronics® is a one-stop shop for its customers' energy needs from R&D to comprehensive testing, including certification, first article, and UN safety testing, as well as manufacturing. **Visit:** *bren-tronics.com*

Training:

Experiencing short battery life? Need a solution?
Call your Hawker® battery
Field Support Representative (FSR) today for
***free Battery Maintenance and Recovery Training*!**
at 877.485.1472

Next Issue:
I hear that Hawker® batteries are AGM…what is that?

Questions?

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