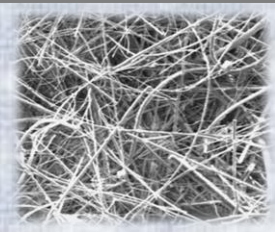
HAWKER® Headlines

Summer 2022 edition

Quick Tips!

AGM is an acronym for absorbed glass material.
It's a microfiber mesh sheet that's placed between each plate in an AGM lead-acid battery. It performs two functions:

1. ***it serves as a plate separator, and***
2. ***it's the medium that holds the electrolyte.***



Answer to question from last issue:

Can charger output voltage that is too low degrade an AGM battery?

Yes**, it can drastically reduce battery life!* You see, as a lead-acid battery drains, small soft **lead-sulfate** ($PbSO_4$) crystals form on the negative and positive plates. Initially, that's not a problem because the lead-sulfate can be reconverted back to its original components (via recharging). But, if a partially or fully drained battery is allowed to remain in a low state of charge for weeks or months, larger hardened **lead-sulfation** crystals form which cannot be reconverted…as such, those areas on the plates are rendered **unserviceable!** Now the battery won't be able to provide the full CCAs or amp hours. *So what's the problem with low voltage charging*? Well, **low voltage charging won't completely de-sulfate the plates**…that's because there's not enough polarization of the plates to completely convert lead-sulfate back into its separate components (sponge lead on the negative plates, lead dioxide on the positive plates, and soluble sulfate). **For reference**, with **shallow-cycle discharges** (e.g., engine start), continuing to recharge the battery with low voltage will **reduce battery life by 50 to 66%**. With ***deep-cycle discharges (e.g., silent watch), the same scenario will ***reduce battery life by 80 to 90%***. That's why the recommended corrective maintenance charge voltage (when charging a single 12-volt AGM battery) should be between 14.4 to 15.0 VDC, and the preventive maintenance charge voltage should be between 13.5 to 14.1 VDC. ***Never*** use a recharge voltage ***less than 13.50 VDC*** on AGM batteries…you'll regret it.

Did you know:

Cranking Amps (CA) is a standard battery industry rating referring to the amount of cranking power that a fully-charged battery has for engine start *when the battery is at the freezing temperature of water*. Specifically, **it's the amount of amps that a nominal 12-volt battery can deliver at 32°F (0°C) for 30 seconds while still maintaining at least 7.2 volts** (that's 1.2 volts per cell)**.** For example, the *Hawker® ARMASAFE™ Plus* battery has a CA rating of ***1550 amps***.

Training:

Fee-fi-fo-fum,
I can't tell if this battery is recoverable or done.
Don't despair Sergeant Jack….
Be it healthy, or be that it appear dead,
your Hawker® FSR can help with lead.
Contact us for free on-site training!

Next Issue:
Is there a calculation I can use to determine the "approximate recharge time" for pure-lead AGM batteries, like the Hawker® and Odyssey® brands?

Questions?

Visit our website at *www.hawkerbattery.com*
Call us at *877.485.1472*

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