



Learning About AGM Batteries

By [Robert Kravitz](#)

June 06, 2013

Ever since Cadillac introduced the electric starter motor in 1912, lead acid batteries have been the natural choice to crank-start automobile engines. These batteries have their limitations, however, especially when used to power professional cleaning equipment. Overall, they simply are not robust enough for the "start-stop" functionality often necessary with equipment such as floor machines. Fortunately, an alternative is available.

More and more manufacturers of professional cleaning equipment are now powering their machines with absorbed glass mat (AGM) batteries. Although they may be heavier than some conventional batteries, these batteries offer longer life, easier maintenance and greater capacity. However, AGM batteries do require some special care in order to maintain all of their features and benefits and keep them operating effectively.

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According to Daniel Frimml, technical service coordinator for Tornado Industries, AGM batteries were invented during the late 1970s and used in military aircraft, telecommunications systems, traffic signals and other devices beginning in the mid-1980s.

AGM batteries differ from lead-acid batteries, the type found in automobiles and traditionally used to power large equipment. AGM Batteries do not have a flooded cell in which a large volume of diluted acid (referred to as electrolyte) fills the cell cavity around and over the positive and negative plates. Instead, the electrolyte in AGM batteries is completely absorbed in spun-glass microfiber mats that act as separators and insulators between the positive and negative plates. This design makes these batteries spill-proof.

"One of the big benefits of AGM batteries is that they tend to deliver high currents [of power] on demand and offer a relatively long service life," says Frimml. "Some AGM batteries can also discharge down further than lead-acid batteries, meaning the equipment will run longer between charges."

According to Frimml, some of the other benefits of AGM batteries include:

- Greater vibration resistance than traditional batteries, reducing battery vibration failures.
- No need to add water to the battery to replenish the electrolyte.

- Spill-proof and leak-proof design, which promotes safety and reduces costs by preventing corrosion of cables, batteries and housing.
- Great mounting flexibility; these batteries can be mounted in almost any position (except inverted), allowing for more housing options in cleaning equipment.
- They are non-venting, this allows them to be used in confined or poorly ventilated locations.

In addition, according to Frimml, "While very high temperatures can negatively impact the performance and life of an AGM battery, cold temperatures typically do not. AGM batteries are usually highly resistant to freezing conditions and generally offer longer life in colder climates when compared to more conventional batteries."

One possible disadvantage of AGM batteries, at least initially, is that they can cost more than conventional batteries. "However, because of the longer life cycle these batteries can cost less in the long run," says Frimml. "They also typically last longer with less maintenance and downtime. These benefits can usually more than offset any added initial costs."

Care Concerns

While AGM batteries are considered a technological advancement over more conventional batteries and are likely to prove beneficial for use in professional cleaning equipment, they do have some special care and maintenance needs. For instance, AGM batteries are highly sensitive to overcharging, which can reduce their life span.

In addition, cleaning pros should always use chargers designed specifically for AGM batteries. "In many cases, the manufacturers of cleaning equipment that use AGM batteries will supply a charger, or the charger will be built into the actual cleaning machine," says Frimml. "Using a roll-around shop charger to recharge an AGM battery can cause serious battery damage, usually resulting in overcharging in a few hours."

Frimml adds that when charging an AGM battery, it must be set, not only for AGM, but also according to the battery manufacturer's instructions. "Different manufacturers want their batteries charged a certain way and that is why they specify certain charging curves (methods) to be used with certain batteries."

Some manufacturers also suggest that AGM batteries must always be stored in a "charged" condition. That means cleaning workers should always recharge the battery after use and before putting the machine away.

Frimml also advises that cleaning pros take a few minutes to read any manufacturer's information regarding their machine's AGM battery, including recharging instructions. "These are actually very hardy, durable and dependable batteries. A few minutes reading this information can prove well worth the time," adds Frimml.

AGMs as a Trend

AGM batteries are likely to play an even bigger role in powering JanSan equipment in years to come. This is especially true now that more and more JanSan manufacturers are looking for ways to eliminate power cords in equipment such as vacuum cleaners and extractors. This design change gives cleaning pros much more flexibility and versatility when performing a variety of cleaning tasks.

Most JansSan equipment manufacturers now consider AGM batteries to be a better choice for cleaning equipment than conventional batteries. But their acceptance by cleaning pros will depend on educating users regarding their proper care — which is, fortunately, relatively easy to do.

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