



Battery Technology for Transportation Applications

Trojan's OverDrive AGM 31™

Designed as a heavy-duty cycling battery, Trojan Battery's OverDrive AGM 31™ is engineered to withstand the rigors and abuse of deep-discharge applications such as powering hotel loads commonly used by drivers. OverDrive also offers the increased cranking power to start the engines of today's commercial trucking fleets with 730 cold cranking amps (CCAs), while also delivering the long duration energy storage required for heavy-duty driver comforts and other auxiliary power applications.

OverDrive incorporates a series of innovative design features that enhance performance and its overall life. With its advanced heavy-duty thick plate construction, high-density paste and rugged polypropylene case, OverDrive can withstand the harsh conditions common in over-the-road trucking applications. The unique sunburst array design of its heavy-duty corrosion resistant grid ensures peak starting performance by channeling the battery's power to its focal point of charge, enabling it to provide 730 CCAs. Trojan understands the importance of getting the most out of a deep-cycle battery, which is why we have dedicated more than 85 years of engineering to develop the right battery for the right commercial trucking application.

Trojan's OverDrive & Deep Discharge Demands

Trojan identified several years ago the need for specific deep-cycle technologies to effectively support deep-discharge applications such as electric APUs and hotel loads. Operators are challenged to effectively manage both APUs and hotel loads without having to constantly replace batteries, so Trojan engineered and developed its OverDrive AGM 31™ battery specifically to address these needs. OverDrive also offers the increased cranking power to start the engines of today's commercial trucking fleets with 730 cold cranking amps (CCAs).

Trojan's OverDrive battery has been successfully used in these severe environments for many years which demonstrate that the right battery components, such as robust plates, effective paste formulation, and grid designs play an important part in extending the life and performance of a deep-cycle battery. Trojan also is the only battery manufacturer in North America offering the transportation market a true deep-cycle battery specifically designed and dedicated to supporting these demanding auxiliary applications, with the ability to provide 730 cold cranking amps.

Battery Technology & "Engine Off" Performance

Today's economy is forcing companies to watch their expenses very closely and cut costs where necessary. In the trucking industry, it's important to understand that unless a truck is outfitted

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with the right-sized alternator to effectively charge the primary or auxiliary battery system, their expenses will continue to go up because frequent battery replacements will continue to occur. By upgrading a truck's alternator and using a high-performance 500-cycle vs. 250-cycle battery, a company will extend the amount of time between battery replacements.

While high-quality batteries may require a slightly larger up-front investment cost, they will pay for themselves in the long run with fewer premature battery failures that require battery replacements. While using lower cycle life batteries may seem a more cost-effective strategy, it actually will cost more in the long run due to frequent battery replacements, not to mention the need to pull trucks off the road in order to replace the batteries. A trucking company will lose thousands of dollars each day a truck is off the road and in the shop to replace failed batteries that operate hotel loads.

Charge Issues

"Charge anxiety" is the result of having an alternator that is not the right size to properly charge the high-capacity batteries needed to effectively operate hotel loads, electric APU systems or liftgates. If an alternator does not provide enough power to charge a 31 AGM battery, the battery will prematurely fail by allowing it to "walk down", i.e. comparatively filling a gas tank with 5% to 10% less fuel every day. To avoid this, trucking company must ensure that the alternators used on their trucks are the proper size to effectively charge the batteries on board, be it the primary battery bank or auxiliary battery bank. Also, trucking companies must ensure that their trucks are outfitted with a battery that has the proper capacity to handle the combined electrical loads, such as inverters, electric APUs or lift gates. This is a simple fix to ensure reliable operation of these systems, but unfortunately it is often not done which results in premature battery failure.

In addition, many trucking companies have gone away from long haul to more regional operations. Because the lengths of hauls are shorter, the truck's alternator is unable to fully recharge the batteries that operate the many on-board electrical systems, forcing a truck to come off the road to replace the failed battery which, in turn, results in lost revenue.

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